State of Hawaii
Department of Transportation

US DEPARTMENT OF TRANSPORTATION

Maritime Administration
Port Infrastructure Development Program (PIDP)

Kapalama Container Terminal – Gaining Regenerative and Efficient Energy Needs Project

Appendix F: HEPA Documentation

Please find supporting documentation at this link:
http://www.kctinfo.com/learn/updates/

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
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IN REPLY REFER TO:
HAR-EP
4853.15

August 12, 2014

TO: THE HONORABLE JESSICA WOOLEY, DIRECTOR
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
DEPARTMENT OF HEALTH

FROM: FORD N. FUCHIGAMI, INTERIM DIRECTOR
DEPARTMENT OF TRANSPORTATION

SUBJECT: KAPĀLAMA CONTAINER TERMINAL AND TENANT RELOCATIONS FINAL ENVIRONMENTAL IMPACT STATEMENT, HONOLULU HARBOR, O'AHU - JOB H. C. 10298

The Department of Transportation hereby transmits the *Kapālama Container Terminal and Tenant Relocations Final Environmental Impact Statement* (FEIS) for publication of a notice of availability in the next edition of *The Environmental Notice.* It is our understanding that your office will evaluate the FEIS for compliance with the Section 11-200-23, Hawai'i Administrative Rules (HAR), and Chapter 343, Hawai'i Revised Statutes, and make a recommendation to the Governor regarding acceptance of the FEIS. The project is situated at the following Tax Map Keys (TMK) in the Honolulu District on the Island of O'ahu:

Kapālama Site: TMK 1-2-25: 02, 09, 12, 16, 17, 30, 40, 42, 44 to 47, 49 to 53, 55, 58 to 68, 71, 73, 74 to 78, 80, 82, 83, 86, 88, 92, 94, 97, 98, 108 to 112, and portions of 11 and 54; and TMK 1-5-32: portions of 2, 8 and 43.

Piers 24-28 Site: TMK 1-5-38: 11, 17, 55, 72, 73, 74 and portions of 1, 4 and 5.

Also enclosed is a distribution list for the verification of the Office of Environmental Quality Control (OEQC) under Section 11-200-20, HAR. Electronic copies of the FEIS will be distributed to the agencies, organizations and individuals on the distribution list in the form of a compact disc (CD).

Finally, enclosed is a completed OEQC Publication Form, two copies of the FEIS, an Adobe Acrobat PDF file of the same, and an electronic copy of the publication form in MS Word. Simultaneous with this letter, we have submitted the summary of the action in a text file by electronic mail to the OEQC.

If there are any questions, please have your staff contact Mr. Dean Watase of our Harbors Engineering Planning Section at 587-1883.

Enclosures

AGENCY ACTIONS
SECTION 343-5(B), HRS
PUBLICATION FORM

Project Name: Kapālama Container Terminal and Tenant Relocations
Island: O'ahu
District: Honolulu

TMK: Kapālama site: 1-2-25: 02, 09, 12, 16, 17, 30, 40, 42, 44 to 47, 49 to 53, 55, 58 to 68, 71, 73, 74 to 78, 80, 82, 83, 86, 88, 92, 94, 97, 98, 108 to 112, and portions of 11 and 54; and 1-5-32: portions of 2, 8 and 43; and Pier 24-28 site: 1-5-38: 11, 17, 55, 72, 73, 74, and portions of 1, 4 and 5.

Permits: U.S. Department of the Army Permit (Clean Water Act Section 404); Marine Protection Research and Sanctuaries Act, Section 103 Permit; Rivers and Harbors Act, Section 10 and 14 Permits; Clean Water Act, Section 401 – Water Quality Certification; Coastal Zone Management (CZM) Federal Consistency Certification; and National Pollutant Discharge Elimination System (NPDES) Permit.

Proposing/Determination Agency:

State of Hawai'i
Department of Transportation, Harbors Division
79 S. Nimitz Highway
Honolulu, Hawai'i 96813

Contact: Carter Luke, Engineering Program Manager
(808) 587-1862

Accepting Authority:

Governor of Hawai'i designate OEQC.

Consultant: Belt Collins Hawaii LLC
2153 North King Street
Honolulu, Hawai'i 96819

Contact: Joanne Hiramatsu
(808) 521-5361

Status (check one only):

__DEA-AFONSI — Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of DEA, a completed OEQC publication form, along with an electronic word processing summary and a PDF copy (you may send both summary and PDF to oeqc@doh.hawaii.gov); a 30-day comment period ensues upon publication in the periodic bulletin.

__FEA-FONSI — Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and a PDF copy (send both summary and PDF to oeqc@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.

__FEA-EISPN — Submit the proposing agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and PDF copy (you may send both summary and PDF to oeqc@doh.hawaii.gov); a 30-day consultation period ensues upon publication in the periodic bulletin.

__Act 172-12 EISPN — Submit the proposing agency notice of determination on agency letterhead, an OEQC publication form, and an electronic word processing summary (you may send the summary to oeqc@doh.hawaii.gov). NO environmental assessment is required and a 30-day consultation period upon publication in the periodic bulletin.

__DEIS — The proposing agency simultaneously transmits to both the OEQC and the accepting authority, a hard copy of the DEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the DEIS (you may send both the summary and PDF to oeqc@doh.hawaii.gov); a 45-day comment period ensues upon publication in the periodic bulletin.

_X_FEIS — The proposing agency simultaneously transmits to both the OEQC and the accepting authority, a hard copy of the FEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the FEIS (you may send both the summary and PDF to oeqc@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.

__ Section 11-200-23 Determination — The accepting authority simultaneously transmits its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS to both OEQC and the proposing agency. No comment period ensues upon publication in the periodic bulletin.

__Section 11-200-27 Determination — The accepting authority simultaneously transmits its notice to both the proposing agency and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is not required. No EA is required and no comment period ensues upon publication in the periodic bulletin.

__Withdrawal (explain)

Summary (Provide proposed action and purpose/need in less than 200 words. Please keep the summary brief and on this one page):

The State of Hawai'i Department of Transportation, Harbors Division, is proposing to develop a new container terminal at the former Kapalama Military Reservation (Kapālama site) in Honolulu Harbor to increase existing overseas container terminal capacity for the state. The Proposed Action consists of the development of a new pier with berthing capacity for two container ships and an approximately 94-acre container yard with necessary support buildings, entry and exit gates, security fencing, parking, gantry cranes, container-handling equipment, on-site utilities, outdoor lighting, and other ancillary facilities. Improvements will also include widening an adjacent slip for inter-island barges and strengthening a pier for heavy loading and unloading operations. A direct access connection to an adjacent inter-island barge service at Auiki Street would provide efficient container transfers for neighbor island shipments and reduce traffic impacts on local streets. The truck ingress and egress for the container yard will be located on Sand Island Access Road. Also, the Proposed Action will include land improvements associated with Piers 24 through 28 to accommodate maritime-dependent operators currently at the Kapālama site.

The Proposed Action is needed to accommodate the anticipated demand of overseas cargo volumes associated with projected growth of the state of Hawai'i through 2039. Demolition at the Kapālama site is expected to begin in 2014. Construction will begin after the design is finalized and permits are secured.

KAPĀLAMA CONTAINER TERMINAL AND TENANT RELOCATIONS

Final Environmental Impact Statement

State Department of Transportation
Harbors Division

KAPĀLAMA CONTAINER TERMINAL AND TENANT RELOCATIONS

Final Environmental Impact Statement

August 2014

State Department of Transportation
Harbors Division

DEPARTMENT OF TRANSPORTATION · STATE OF HAWAII ·

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If there are any questions, please have your staff contact Mr. Dean Watase of our Harbors Engineering Planning Section at 587-1883.

Enclosures

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Prepared by Belt Collins Hawaii LLC.

Acronyms and Abbreviations

AAQS	Ambient Air Quality Standards
ACHP	Advisory Council on Historic Preservation
ACS	American Community Survey
ACT	Aloha Cargo Transport
AGL	above ground level
AIS	aquatic invasive species
ANS	aquatic nuisance species
ANSI	American National Standards Institute
BLNR	Board of Land and Natural Resources (State of Hawaiʻi)
BMP(s)	Best Management Practice(s)
BTEX	benzene/tolene/ethylbenzene/xylenes
BWS	Honolulu Board of Water Supply
CAA	Clean Air Act
CDUP	Conservation District Use Permit
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CIC	Clean Islands Council
City	City and County of Honolulu
CO	carbon monoxide
CO_2	carbon dioxide
COC	contaminants of concern
COPC	Containment of Potential Concern
CT	Census Tract
CWA	Clean Water Act of 1977
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Act of 1972
DA	Department of the Army
DAR	Division of Aquatic Resources (State Department of Land and Natural Resources)
dB	decibel
dBA	decibels, A-weighted scale
DBEDT	Department of Business, Economic Development and Tourism (State of Hawaiʻi)
DHS	U.S. Department of Homeland Security
DLNR	Department of Land and Natural Resources (State of Hawaiʻi)

DNL	day-night sound level
DOA	Department of Agriculture (State of Hawaiʻi)
DOD	U.S. Department of Defense
DOE	Department of Education (State of Hawaiʻi)
DOH	Department of Health (State of Hawaiʻi)
DOT-A	Department of Transportation, Airports Division (State of Hawaiʻi)
DOT-H	Department of Transportation, Harbors Division (State of Hawaiʻi)
DPP	Department of Planning and Permitting (City and County of Honolulu)
DU	Decision Units
EA	Environmental Assessment
EAL	Environmental Action Levels
EFH	Essential Fish Habitats
EHE	Environmental Health Evaluation
EHMP	Environmental Hazard Management Plan
EIS	Environmental Impact Statement
EISPN	Environmental Impact Statement Preparation Notice
EMS	Emergency Medical Services (City and County of Honolulu)
EO	Executive Order(s)
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act of 1973
ESA	Environmental Site Assessment
F	Fahrenheit
FAA	Federal Aviation Administration
FAQ	Frequently Asked Questions
FAR	Federal Aviation Regulations
FEMA	Federal Emergency Management Agency
FHA	Federal Housing Administration
FIRM	Flood Insurance Rate Map(s)
FONSI	Finding of No Significant Impact
FR	Federal Register
FWCA	Fish and Wildlife Coordination Act
GHG	greenhouse gas
GHGRP	Greenhouse Gas Reporting Program
GWP	global warming potential
H_2S	hydrogen sulfide
HABS	Historic American Buildings Survey
HAR	Hawaiʻi Administrative Rules
HART	Honolulu Authority for Rapid Transit

HCC	Honolulu Community College
HCDA	Hawai‘i Community Development Authority
HCM	Highway Capacity Manual
HECO	Hawaiian Electric Company
HEERO	Hazard Evaluation and Emergency Response Office (State of Hawai‘i)
HEPA	Hawai‘i Environmental Policy Act
HFFC	Hawaii Fueling Facilities Corporation
HFD	Honolulu Fire Department
HFM	Hawaiian Flour Mill
HHUG	Hawaii Harbors Users Group
HIA	Honolulu International Airport
HISC	Hawai‘i Invasive Species Council
HRS	Hawai‘i Revised Statutes
HTCO	Hawaiian Telcom
HUD	U.S. Department of Housing and Urban Development
HVOC	halogenated volatile organic compounds
IBC	International Building Code
IC Plan	Institutional Controls Plan
IDPP	Iwilei District Participating Parties
IPCC	Intergovernmental Panel on Climate Change
JBPHH	Joint Base Pearl Harbor-Hickam
KDA	Kapālama Development Area
KMR	Kapalama Military Reservation
kV	kilovolt
lbs/sf	pound(s) per square foot
Leq	equivalent sound level
LID	Low Impact Development
LOS	Level of Service
LUC	Land Use Commission (State of Hawai‘i)
LUO	Land Use Ordinance
MARSEC	Maritime Security
MBTA	Migratory Bird Treaty Act
MEP	maximum extent practical
METC	Marine Education and Training Center (University of Hawai‘i)
MHHW	mean higher high water
µPa	micropascal
MLCD	Marine Life Conservation District
MLLW	mean lower low water

MMA	Marine Managed Areas
MMPA	Marine Mammal Protection Act
$MMTCO_2Eq$	million metric tons of carbon dioxide equivalent
MPA	Marine Protected Areas
MPRSA	Marine Protection, Research and Sanctuaries Act
MS4	Municipal Separate Storm Sewer System
msl	mean sea level
MSRC	Marine Spill Response Corporation
MUS	Management Unit Species
NAAQS	National Ambient Air Quality Standards
NAS	National Airspace System
NEC	Network Enterprise Center
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service (National Oceanic and Atmospheric Administration)
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTAS	National Terrorism Advisory System
O_3	ozone
OCCL	Office of Conservation and Coastal Lands (State of Hawaiʻi)
OEQC	Office of Environmental Quality Control
OHA	Office of Hawaiian Affairs (State of Hawaiʻi)
OMPO	Oahu Metropolitan Planning Organization
ORMP	Ocean Resources Management Plan (State of Hawaiʻi)
OTWC	Oceanic Time Warner Cable
OU1C	Operating Unit 1 C
PAH	polynuclear aromatic hydrocarbons
Pb	lead
PCB	polychlorinated byphenyls
PFM	Pendleton Flour Mill
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter up to 2.5 microns in diameter
PPE	personal protection equipment
PSI	Pacific Shipyards International

PTS	permanent threshold shift
PUC	Public Utilities Commission
PVC	polyvinyl chloride
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Conditions
RHAA	Rivers and Harbors Appropriation Act
RMS	root mean square
RO/RO	roll-on/roll-off
ROI	region of influence
ROW	right of way
SB	Senate Bill
SHPD	State Historic Preservation Division
SLUC	State Land Use Commission
SMA	Special Management Area
SOEST	School of Ocean and Earth Science and Technology (University of Hawaiʻi)
SO_2	sulfur dioxide
SPCC	Spill Prevention, Control and Countermeasure
SPS	Sewage Pump Station
State	State of Hawaiʻi
SVOC	semi-volatile organic compounds
SWMP	Storm Water Management Plan
TEU(s)	twenty-foot equivalent unit(s)
TMDL(s)	Total Maximum Daily Load(s)
TMK	Tax Map Key
TPH-D	total petroleum hydrocarbons as diesel
TPH-G	total petroleum hydrocarbons as gasoline
TPH-O	total petroleum hydrocarbons as oil
TPH-R	total petroleum hydrocarbons as residual
TTS	temporary threshold shift
TWSC	two-way stop controlled
UH	University of Hawaiʻi
UNFCCC	United Nations Framework Convention on Climate Change
U.S.	United States
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service

USGS	U.S. Geological Survey
UST	underground storage tanks
VA	U.S. Department of Veterans Affairs
VOC	volatile organic compound
WQC	Water Quality Certification
WWTP	Wastewater Treatment Plant

SUMMARY SHEET

SUMMARY SHEET

NOTICE

The original Draft Environmental Impact Statement (EIS) for the proposed "Kāpalama Container Terminal" project ~~has been~~was updated and ~~is being~~ re-issued as Second Draft EIS because design has progressed and more specific information on the project ~~is now~~was available. ~~This updated document is now being circulated for public review and comment. When the public review period is completed, a~~This Final EIS ~~will be~~has been prepared for acceptance by the Governor and will be published in *The Environmental Notice* by the State Office of Environmental Quality Control.

PROJECT NAME
Kapālama Container Terminal and Tenant Relocations

PROPOSING AGENCY
State of Hawai'i Department of Transportation, Harbors Division (DOT-H)

LOCATION
Honolulu Harbor, Honolulu District, Island of O'ahu

TAX MAP KEY
Kapālama site: 1-2-25: 02, 09, 12, 16, 17, 30, 40, 42, 44 to 47, 49 to 53, 55, 58 to 68, 71, 73, 74 to 78, 80, 82, 83, 86, 88, 92, 94, 97, 98, 108 to 112, and portions of 11 and 54; and 1-5-32: portions of 2, 8 and 43.

Pier 24-28 site: 1-5-38: 11, 17, 55, 72, 73, 74, and portions 1, 4 and 5.

PROPOSED ACTION
The State of Hawai'i Department of Transportation (DOT), Harbors Division (DOT-H) is proposing to develop a new overseas container terminal in Honolulu Harbor, O'ahu, which is the port for all container cargo entering and exiting the State of Hawai'i. This action would increase the port's existing container terminal capacity to accommodate projected future cargo volumes. Because State funds and land would be used, the *Kapālama Container Terminal and Tenant Relocations Environmental Impact Statement* (EIS) has been prepared in accordance with the Hawai'i environmental impact statement law, Hawai'i Revised Statutes (HRS), Chapter 343,

and its implementing rules, Hawai‘i Administrative Rules (HAR) Title 11, Chapter 200.

The Proposed Action is the construction and operation of a new overseas container terminal at the Kapālama site in Honolulu Harbor. Approximately 94 acres on the west side of Honolulu Harbor would serve as the site for the container yard with necessary support buildings, entry and exit gates, security fencing, parking, gantry cranes and container-handling equipment, on-site utilities, potential off-site associated utilities and entry/exit intersection improvements, outdoor lighting, a DOT-Highways weigh station, and other ancillary facilities. On the waterfront, a pier would be constructed with berthing capacity for two container ships. In the existing slip on the east side of the site, dredging is proposed to widen the slip from approximately 256 feet to approximately 300 feet to accommodate future wider inter-island cargo vessels at Piers 40 and 41. Along with the slip widening, improvements are proposed for the pier support system at Pier 40 to accommodate the heavy cargo loading and unloading operations anticipated for the area. Further details are presented in Chapter 2.

In addition to the development of a new overseas container terminal and piers at the approximately 94-acre site, the Proposed Action also includes improvements ~~on land~~ associated with Piers 24 through 28 to potentially accommodate maritime-dependent operators currently at Kapālama. These potential operators include: Pacific Shipyards International (PSI), which would be located landside of Piers 24 through 26, and Atlantis Submarines, which would be located landside of the end of the slip containing Piers 26 and 27.

The total cost for the Proposed Action at the Kapālama site is estimated to be $266 million, which would be financed entirely by the State of Hawai‘i through revenue bonds and revenues from harbor tariffs and leases.

SIGNIFICANT BENEFICIAL AND ADVERSE IMPACTS, INCLUDING INDIRECT AND CUMULATIVE IMPACTS

Potential direct, indirect, and cumulative impacts have been evaluated and are documented in the EIS for the following resources or issues: land use; land ownership; public health and safety; roadways and traffic; utilities; public facilities and services; topography, geology, and soils; hydrology; natural hazards; climate and air quality; noise; visual resources; marine environment; terrestrial flora and fauna; cultural resources; and socioeconomics. Of these resources and issues evaluated, the following impacts are potentially significant.

- **Marine Environment.** The proposed construction (dredging, excavating, and filling activities) along the waterfront and in the harbor could significantly and adversely impact specific species and habitat that have established and/or adapted to the marine environment in this manmade harbor. Coral would necessarily be removed and the habitat it provides for fish would be lost, at least until any natural re-colonization occurs. Fragmentation of biological material, including invasive species (five sponges observed in the project area and a marine algae not observed but recorded in Honolulu Harbor), could disperse to areas outside the harbor and colonize.

- **Socioeconomics.** The proposed construction and operational activities could significantly and beneficially impact the socioeconomic environment. With or without the Proposed Action, overseas cargo volumes would increase with the anticipated growth of the state. A new modernized cargo container terminal at the Kapālama site would improve handling and transfer efficiencies, thus avoiding additional costs associated with the following: land transfer of overseas cargo to inter-island vessels, handling and management of cargo within existing terminal areas, and increased risk of accidents associated with denser terminal area operations. The cost avoided with the Proposed Action is estimated at $4.3 million per year.

  The Proposed Action is also estimated to provide 998 person-years of direct jobs over a two-year construction period and 1,676 indirect and induced jobs, along with a rough estimate of 400 jobs for container terminal operations.

Noise is not expected to be significant with the Proposed Action in the industrial harbor area and with respect to State noise rules; however, with the proposed change, impulsive type noises are anticipated to be audible and could result in complaints from residents. From the Kapālama site, noise complaints could come from Kalihi Kai residents. While less likely, nighttime noise emanating from Piers 24–28 could result in noise complaints from residents located over 1,800 feet away in Downtown Honolulu. Nighttime noise emanating from Piers 20, 22 and 23 could also result in noise complaints from residents located approximately 1,000 feet away in Downtown Honolulu. For these reasons, possible measures to minimize noise are presented in Chapter 3.

PROPOSED MITIGATION MEASURES

As the Proposed Action involves dredging and filing in harbor waters, a Department of the Army permit will be required from the U.S. Army Corps of Engineers (USACE) for dredging and filling activities to comply with Section 404 of the federal Clean Water Act (CWA) and Section 10 of the federal Rivers and Harbors Appropriation Act. USACE will need to satisfy its other federal agency obligations through the National Environmental Policy Act (NEPA) environmental documentation review, including Section 7 consultation under the Endangered Species Act (ESA) and consultation under the Magnusson-Stevens Fishery Conservation and Management

Act for Essential Fish Habitat (EFH). The mitigation that results from these consultations will serve to minimize impacts on specific regulated species and the marine environment as a whole. The following species have been identified or may occur in the project area and are listed on the federal ESA threatened and endangered species list or are candidate species: threatened green sea turtle (*Chelonia mydas*), endangered hawksbill turtle (*Eretmochelys imbricate*), endangered humpback whale (*Megaptera novaengliae*), Hawaiian monk seal (*Monachus schauinslandi*), and one candidate species of coral (*Montipora patula*). While none of the 33 species of fish observed in the project area are believed to be currently managed within EFH, consultation under the Magnuson-Stevens Act for EFH as required for the coral reef ecosystem will minimize any impacts to EFH.

Mitigation measures to reduce fragmentation of invasive species and to prevent their dispersal are identified in Chapter 4.

ALTERNATIVES CONSIDERED

Various alternatives to the Proposed Action were considered and are described in Chapter 2, but only the Proposed Action and one other Alternative Action met the purpose and need for the project and were carried forward for further analysis in this EIS. The Alternative Action evaluated in the EIS proposes the construction of a deck and piles system to retain the water within Snug Harbor. This design would provide a continuous main pier along the waterfront to support two berths and would cost approximately $368 million, approximately $102 million or 38 percent more than the Proposed Action ($266 million).

The third alternative considered in this EIS is the No Action Alternative. Under the No Action Alternative, the Kapālama site would be vacant and the existing deteriorating structures would be removed under separate actions. Snug Harbor would not be filled (its pier facilities would continue to be available for marine research vessel mooring, and the waters and marine resources within the slip would continue to exist). The No Action Alternative provides the baseline condition from which the other alternatives are compared.

UNRESOLVED ISSUES

~~No unresolved issues have been identified.~~ A determination by the FAA on whether or not the height of the cranes would cause an aeronautical hazard is still pending. The future operator of the Kapālama site will need to mitigate impacts to airspace if the cranes pose a hazard.

COMPATIBILITY WITH LAND USE PLANS AND POLICIES, AND A LISTING OF PERMITS AND APPROVALS

The Proposed Action and alternatives are consistent with federal and state environmental and land use policies and plans, including DOT-H’s long-range master plans for Honolulu Harbor and the current State Administration's "New Day" initiative to modernize commercial harbors. Reviews, permits, and approvals anticipated for the project are listed below and are described in Chapter 5 of this document.

- Fish and Wildlife Coordination Act of 1980
- Endangered Species Act (ESA), Section 7 consultation (National Marine Fisheries Service [NMFS] and possibly U.S. Fish and Wildlife Service [USFWS])
- Essential Fish Habitat (EFH) consultation (NMFS)
- National Historic Preservation Act (NHPA), Section 106 consultation (State Historic Preservation Officer)
- National Environmental Policy Act (NEPA)
- Clean Water Act (CWA), Section 404 permit (USACE)
- CWA, Section 401, Water Quality Certification (Department of Health [DOH])
- CWA, Section 402, National Pollutant Discharge Elimination System (NPDES) permit (DOH)
- Rivers and Harbors Act, Section 10 permit (USACE)
- Rivers and Harbors Act, Section 14 permit (USACE)
- Marine Protection Research and Sanctuaries Act, Section 103 permit (USACE with U.S. Environmental Protection Agency concurrence)
- National Flood Insurance Program (City and County of Honolulu Land Use Ordinance)
- Navigable Airspace Analysis (U.S. Department of Transportation, Federal Aviation Administration [FAA])
- Chapter 343, Hawai'i Revised Statutes (HRS), Environmental Review (Office of Environmental Quality Control [OEQC])
- Hawai'i Coastal Zone Management Federal Consistency Review (Office of Planning)

Purpose and Need 1

CHAPTER 1
PURPOSE AND NEED

1.1 INTRODUCTION AND PROJECT DESCRIPTION

The State of Hawai‘i, Department of Transportation, Harbors Division (DOT-H) is responsible for administering the State-owned and controlled commercial harbors system in Hawai‘i. These deep-draft harbors are used by commercial cargo, passenger, and fishing vessels. DOT-H is responsible for the control, management, use, and regulation of the commercial harbors and their improvements.

In 1997, DOT-H developed the *Oahu Commercial Harbors 2020 Master Plan* (hereafter referred to as the 2020 Master Plan) as an update to the *Honolulu Waterfront Master Plan* (OP 1989). The 2020 Master Plan is a conceptual plan that addresses Honolulu and Kalaeloa Barbers Point Harbors as dependent harbors, and functions as a long-range guide for the development and enhancement of those commercial facilities. The cornerstone project of the above referenced plan includes the redevelopment of the former Kapālama Military Reservation (KMR) site (referred to as “Kapālama site” in this document) into an overseas container terminal to increase existing container terminal capacity in Honolulu Harbor, O‘ahu and meet the anticipated growth in the state and maritime industry (see Figure 1-1).

The Kapālama site, most of which was acquired by the State of Hawai‘i (State) from the United States (U.S.) Army in 1993 is bound by Kapālama Basin and Kalihi Channel on the south, Servco Pacific Inc. and Sand Island Access Road on the west, Auiki Street and Young Brothers Limited on the north, and Pier 41 on the east (see Figure 1-2). The 94-acre site has been occupied by the University of Hawai‘i (UH) Marine Center, Pacific Shipyard International, Island Movers, Atlantis Submarines, and numerous other smaller tenants. Existing tenants are being vacated by early 2014, as the existing structures, built in the late 1930s into the 1940s, have outlived their potential useful life and require ongoing maintenance. Therefore the buildings will be demolished before the proposed action is implemented. The State Historic Preservation Division (SHPD) determined and notified via correspondence on June 20, 2007 and December 12, 2011, that demolition of the buildings at KMR will have “no adverse effect” (see Appendix H). In addition, demolition of structures is an exempt action for DOT-H provided that the buildings are not on a historic site. All tenants (the majority of whom are on month-to-month revocable permits) have been notified. A few of the tenants are maritime-oriented with waterfront facilities. These tenants may potentially be relocated to other sites in the harbor according to a schedule coordinated with the DOT-H. Demolition of the buildings are not part of the proposed action and has been planned by the DOT-H for a number of years.

Figure 1-1. Honolulu Harbor, O'ahu

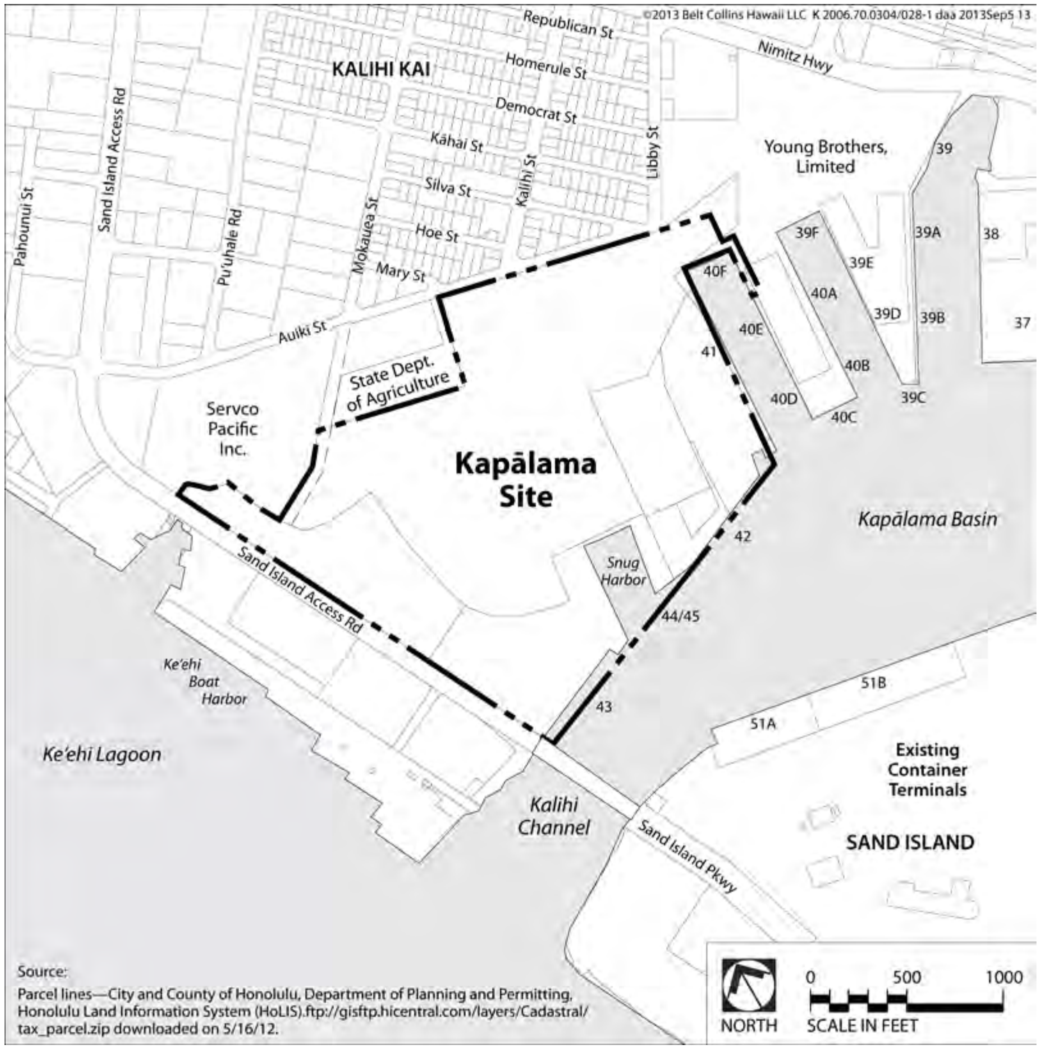


Figure 1-2. Kapālama Site

The Proposed Action consists of the development of an approximately 94-acre container yard with necessary support buildings, entry and exit gates, security fencing, parking, gantry cranes and container-handling equipment, on-site utilities, outdoor lighting, DOT-H weigh station, and other ancillary features. On the waterfront, a pier would be constructed with berthing capacity for two container ships. Construction of this main pier would require dredging along the waterfront and in the harbor channel to achieve the desired water depth for the docking ships.

On the east side of the proposed container yard, the existing slip between Piers 40 and 41 would be widened from 256 feet to 300 feet to accommodate the wider, 4-by-1 inter-island vessels (barges that measure up to 400 feet in length by up to 100 feet in width) expected within the project's planning horizon. The proposed widening would require dredging the Pier 41 side and reconstructing Pier 41. A single vessel slip behind Pier 41 would be removed and incorporated in the Pier 41 reconstruction. At the adjacent inter-island cargo facility, located to the east side of the proposed container yard, improvements would be made to pavement surfaces which conditions have been compromised (e.g., asphalt quality and spalling) and to allow direct access between the proposed container yard and the existing inter-island cargo facility. Installation of additional piles and replacement of the existing deck at Pier 40 (west side) would structurally improve the foundation or support of the pier for roll-on/roll-off (RO/RO) cargo operations. Total improvement cost for the Proposed Action at Kapālama is estimated to be approximately $266 million (2013 estimate), to be financed entirely by the State through revenue bonds and revenues from harbor tariffs and leases.

HRS Chapter 343

This Environmental Impact Statement (EIS) has been prepared in accordance with Hawaiʻi Revised Statutes (HRS) Chapter 343 and its implementing rules, Hawaiʻi Administrative Rules (HAR) Title 11, Chapter 200, because State funds and lands would be used. The direct, indirect, and cumulative effects of proposed development of the Kapālama site have been evaluated. ~~The effects of tenant moves are addressed in the cumulative impact section of this EIS, with the exception of the moves by Pacific Shipyards International (PSI) and Atlantis Submarines. While not dependent upon the Proposed Action,~~ Probable impacts from PSI's and Atlantis Submarines' potential relocation and dependence on being on the waterfront ~~have made them part of the Proposed Action~~have been evaluated or summarized in the environmental consequences sections of this EIS.[1]

Second Draft EIS

Since publication of the original Draft EIS for the Kapālama Container Terminal in the December 23, 2012 issue of *The Environmental Notice*, construction design on the proposed action has progressed. The initial phases of the work produced preliminary design concepts and construction information that lead to detailed construction documents on the DOT-H proposed improvements. Specific design information is now available for federal, state, and city and county agencies to use in evaluating environmental impacts and permit applications. Updated project information is also being made available to the public for review and comment through this Second Draft EIS. More specific details on the project will enable agencies to conduct a more

[1] Existing maritime-dependent tenants/operators (i.e., operators that require direct access to the waterfront) on the Kapālama site would potentially relocate to another location within Honolulu Harbor. While the relocation of these maritime operators is not dependent upon the development of the Kapālama site, the relocations and associated improvements within Honolulu Harbor are subject to HRS Chapter 343. Two of the three operators that will be relocated are included in this document for planning purposes (PSI and Atlantis Submarines). ~~Although included in this document PSI and Atlantis Submarines will be responsible for complying with HRS Chapter 343 for their specific operations and with submerged land lease requirements.~~ A third operator (UH Marine Center) ~~is being~~was assisted by DOT-H ~~to~~ and prepared an HRS Chapter 343 document for the Marine Center move to Piers 34 and 35.

thorough environmental evaluation and result in less uncertainty regarding probable impacts. These project updates include three major changes in the Second Draft EIS:

(1) The main pier would be moved inland of the initial proposed pier face by approximately 51 feet, and construction would involve use of sheet piles creating a bulkhead design rather than a revetment and pile system for pier support as initially proposed. Estimated dredging volumes have been revised and are more precise, and the area of proposed dredging is now only along the waterfront of the project site and outside of the harbor’s federal project area.

(2) Access into the container terminal has been revised. The exit truck gate on Sand Island Access Road has been consolidated with the entry truck gate at the UH Snug Harbor access, and the proposed driveway for employee/customer vehicles on Auiki Street at the Mary Street intersection has been revised to two different locations further east on Auiki Street.

(3) An approximately 16,400 sq. ft. section of Pier 40 is proposed for strengthening and stabilization to accommodate RO/RO cargo handling operations. Additional piles would be installed between existing piles, and the deck would be replaced with thicker panels.

Each of these updates has been described in Chapter 2 and environmentally evaluated in Chapters 3 and 4 with further discussions on probable impacts in Chapters 5 through 8 where appropriate. Figure 2-3 presents a site plan of the updated Proposed Action.

In addition, transfers of dry-bulk cargo from Pier 20 to the silos and storage areas at Pier 23 would increase in frequency from two to three times per year, as assumed in the land use, noise, and cumulative impacts analyses in the original Draft EIS, to 12 times per year. This facilitates the possible option of a second operator using the facilities. Changes have been made to the impacts sections of this updated document.

Since review of the original Draft EIS, recent developments affecting the project include:

- Governor’s approval of Senate Bill No. 1207, H.D. 2, C.D. 1 exempts DOT-H from the Conservation District permitting and site plan approval requirements for work involving submerged lands used in state commercial harbors, and
- Federal Aviation Administration (FAA) Form 7460-1 was resubmitted for the proposed crane heights at the Kapālama site, presenting site coordinates of the new pier location. A preliminary determination by the FAA was made and, subsequently, a request by DOT-H was submitted to FAA for further study.

Additionally, included in this Second Draft EIS are three comment letters/emails with response letters/emails which were not included in the original Draft EIS.

1.2 PURPOSE, NEED, AND OBJECTIVES

Background information for contextual purposes is presented in section 1.2.1 to understand and appreciate the purpose, need, and objectives that follow in sections 1.2.2 through 1.2.4. The purpose, need, and objectives are derived from the goals and interests of the State of Hawaiʻi (Governor's office), DOT-H, and the Hawaiʻi Harbors Users Group (HHUG). Documents expressing such goals and interests include the following:

- *Honolulu Waterfront Master Plan* (Office of State Planning 1989);
- *Final Master Plan Report, Kapalama Development Project* (DOT-H 1991);
- *Oahu Commercial Harbors 2020 Master Plan* (DOT-H 1997);
- *Hawaii Harbors Users Group Report* (HHUG) *on Port Facilities and Development Priorities* (HHUG 2005);
- *Kapalama Planning Final Report* (DOT-H 2007);
- *Harbors Modernization Plan* (DOT-H and HHUG 2007);
- *Development Plan for Relocation of Kapalama Military Reservation Tenants, Honolulu Harbor, Hawaiʻi* (DOT-H Jun 2010); and
- *A New Day in Hawaiʻi* (Office of the Governor 2010).
- *Kalihi-Pālama Action Plan* (DPP 2004)

These plans are further described in Chapter 5 of this document.

1.2.1 Background

In the central Pacific Ocean, Hawaiʻi is an island archipelago located over 2,000 miles from the nearest continental coast (see Figure 1-3). As a result, its residents pay for the geographic isolation with a nearly absolute dependence on ocean surface transportation for their sustenance. Eighty percent of all consumer goods are imported into Hawaiʻi. Its commercial harbors system (Figure 1-4) receives and processes 98.6 percent of these imports (DBEDT ORB 1994). Ocean transportation thus is Hawaiʻi's lifeline to the world, supporting every facet of the local economy: tourism, construction, national defense, agriculture, and all other industries. No other state in the union is as dependent on ocean transportation as Hawaiʻi.

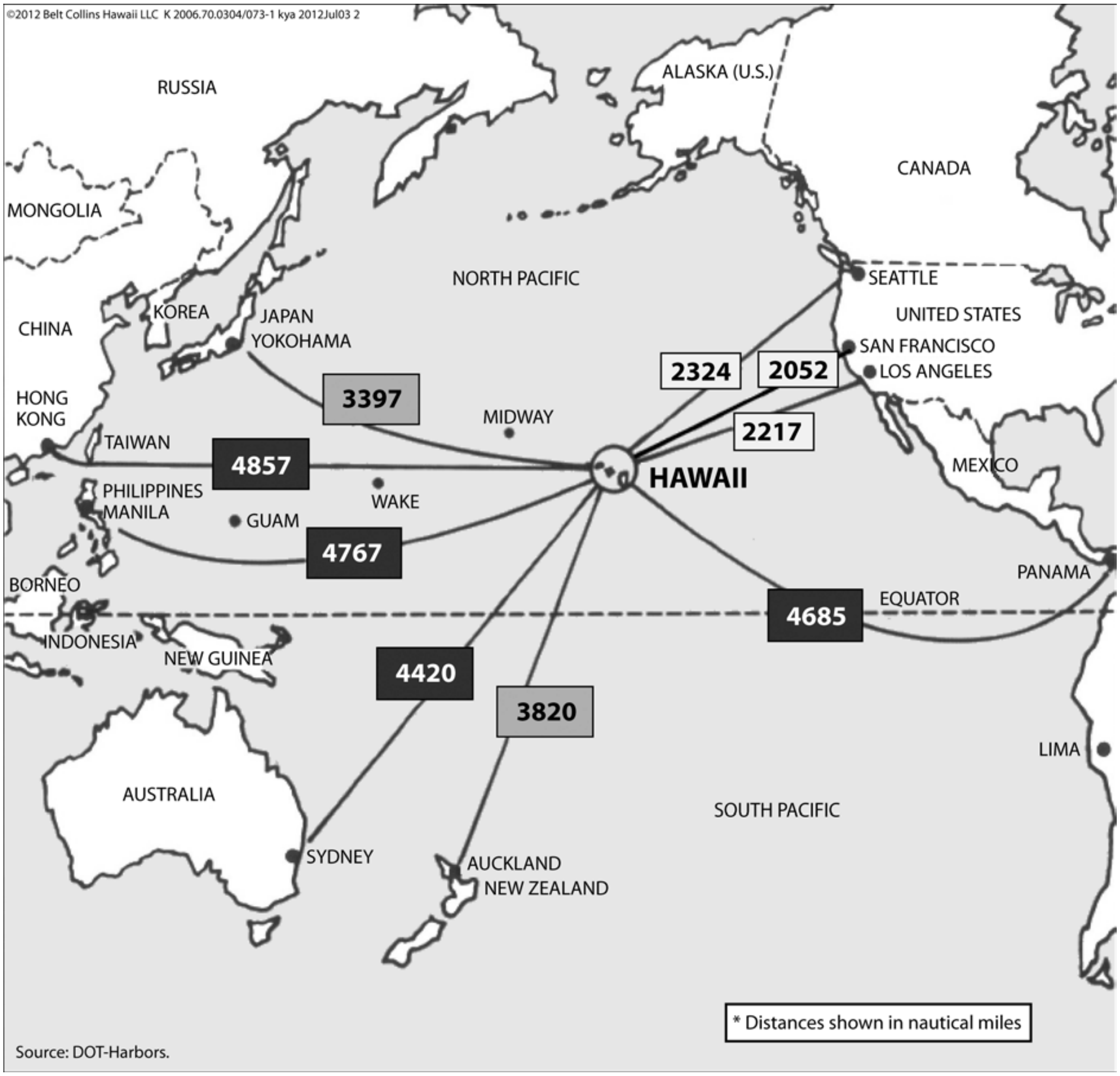


Figure 1-3. Hawai'i's Mid-Pacific Location

Hawai'i has imported and will continue to import the necessary basics, such as food, clothing, consumer goods, fuel, and raw materials, to support its growth. An efficient commercial harbors system is critical to support these needs. To ensure continued and unimpeded movement of cargo in and out of the state, as well as between the islands, the commercial harbors system must be expanded and improved to keep up with the corresponding economic and resident population growth.

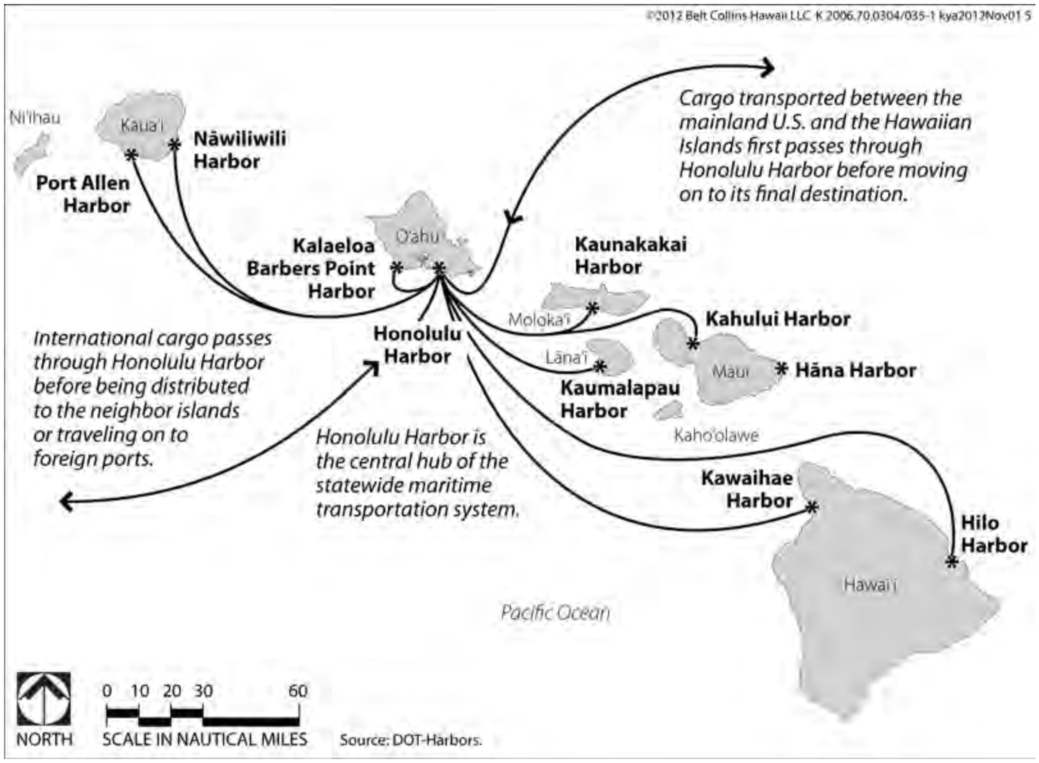


Figure 1-4. Hawai'i Commercial Harbors System

Honolulu Harbor has served as Hawai'i's main port of entry for cargo from around the world since the late-18th century. Today, Honolulu Harbor continues to be the hub of ocean transportation activities for the state, where on O'ahu 70 percent of the state's population (Census 2010) resides and 67 percent of the islands' business activities (Census 2011) are conducted.

Harbor Users

Presently, Honolulu Harbor includes over 30 major berth facilities with over five linear miles of mooring space and over 200 acres of container yard. Major types of cargo that pass through the harbor include:

OVERSEAS CONTAINERS (DOMESTIC AND FOREIGN). Most cargo moving through the harbor is containerized. Containers arriving at the harbor are generally unloaded from the ship or barge and temporarily stored in the container yard of the terminal. From the container yard, the containers may be reloaded to a barge for other overseas destination, trucked to another facility for inter-island destinations, or picked up by consignees on O'ahu.

AUTOMOBILES. Automobiles arrive in containers or onboard ships with RO/RO capabilities.

Neobulk. Includes lumber, steel, construction equipment and vehicles, and newsprint that are loaded on shipping racks.

BREAK BULK/GENERAL CARGO. Includes almost any type of small lot commodity which can be shipped on a pallet as an individual unit.

DRY BULK. Includes grain, sugar, cement, scrap metal, sand, and coal.

LIQUID BULK. Includes jet fuel, gasoline, diesel, fuel oil, ethanol, liquefied petroleum gas (LPG), chemicals, and molasses.

INTER-ISLAND CARGO. Consists primarily of commodities shipped through various inter-island shippers. The largest of these shippers is Young Brothers who operates from Piers 39 and 40.

Other Harbor Users

In addition to the cargo industry, the harbor is also home to commercial fishing and passenger vessel activities.

COMMERCIAL FISHING. Fishing operations include fish loading, storage, vessel repair, etc. These are accommodated primarily at Kewalo Basin and Piers 15 through 18. Honolulu Harbor's Domestic Commercial Fishing Village, at Piers 36 through 38, is a facility used to process the day's catch.

CRUISE SHIPS. Cruise ships visit Honolulu Harbor approximately 11 times per month. Pier 2 is the primary berthing pier for inter-island cruise lines, and Piers 10 and 11 are the primary berthing piers for foreign cruise ships.

EXCURSION VESSELS. These vessels are smaller in size than the foreign and inter-island cruise ships. Excursion cruises last for a few hours. Most operate out of Kewalo Basin, but a few operate out of Honolulu Harbor.

Honolulu Harbor

As the port of entry for the state commercial harbors system, significant investments have been made at Honolulu Harbor, including waterfront improvements, new distribution centers, State Department of Agriculture (DOA) inspection facilities, and harbor support operations and infrastructure upgrades.

Transported cargo has been increasingly containerized through the years because of inherent efficiencies. Containerized cargo throughput is measured in twenty-foot equivalent units (TEUs).[2] As the port of entry for the state, during the peak of the economy, Honolulu Harbor accommodated shipments of approximately 900,000

[2] TEU = a container with the approximate dimensions of 8 feet wide by 20 feet long by 8 feet high . The larger common containers measure approximately 8 feet wide by 40 feet long by 8 feet high (equivalent to 2 TEUs).

TEUs per year overall from the U.S. West Coast and other points overseas. Upon arrival at Honolulu Harbor, container and other cargo are distributed and delivered by inter-island cargo services to the neighbor islands. Similarly, export cargo is consolidated in Honolulu Harbor and then shipped to overseas ports.

Because of space constraints, on-site cargo handling density in Honolulu Harbor is higher than any other U.S. West Coast harbor. The number of U.S. mainline vessel TEUs handled at Honolulu Harbor per terminal acre annually in 2005 was over 7,000 (HHUG 2007). This compared with around 4,000 TEUs per acre for Seattle, Tacoma, and Oakland, and around 5,000 for Los Angeles and Long Beach. Operating at this high density requires costly ground-stacking and multiple handling of containers. For the existing container terminals at Sand Island, a wheeled container operation (containers stored on wheeled chassis or trailers) is preferred.

Historically, cargo growth at Honolulu Harbor's Sand Island Terminals has increased at an average annual compounded rate of 2.2 percent. This growth rate is based on the direct linehaul (i.e., service between Honolulu and the U.S. mainland) growth in containerized cargo between 1985 and 2011. Although recent throughput has slowed as a result of economic conditions, long-term economic and population growth trends, which translate to long-term increased demand for consumer goods and the shipment of these goods in containers, will require additional terminal capacity in the harbor.

DOT-H projected the theoretical capacity of the Sand Island Terminals to be approximately 950,000 TEUs per year (see Figure 1-5). With the anticipation that the volume of TEUs currently passing through Honolulu Harbor would catch up to its long-term growth rate, and that the growth in demand for consumer goods continues to reflect the State Department of Business, Economic Development and Tourism's (DBEDT) overall growth forecast, the capacity of the harbor's existing Sand Island Terminals would be reached within several years (Figure 1-5).

If no new capacity of significance is developed by 2020, the movement and handling of cargo would effectively be constrained with substantial impacts on Hawai'i's economy, including loss of jobs and income, foregone business revenues and taxes, and potential shortages of goods (HHUG 2007). The cargo distribution and delivery system involves a large network of sub-industries, including trucking companies, wholesalers, packaging operations, and distribution centers. These businesses employ workers and pay business taxes. Based on long-term trends, by 2030, the loss of real gross state product could amount to $50 billion; Hawai'i consumers and exporters could be subject to 18 percent higher shipping costs (HHUG 2007). Notably, cargo congestion in the harbor creates uncertain and substantial delays and increased operational costs that hinder Hawai'i's economy.

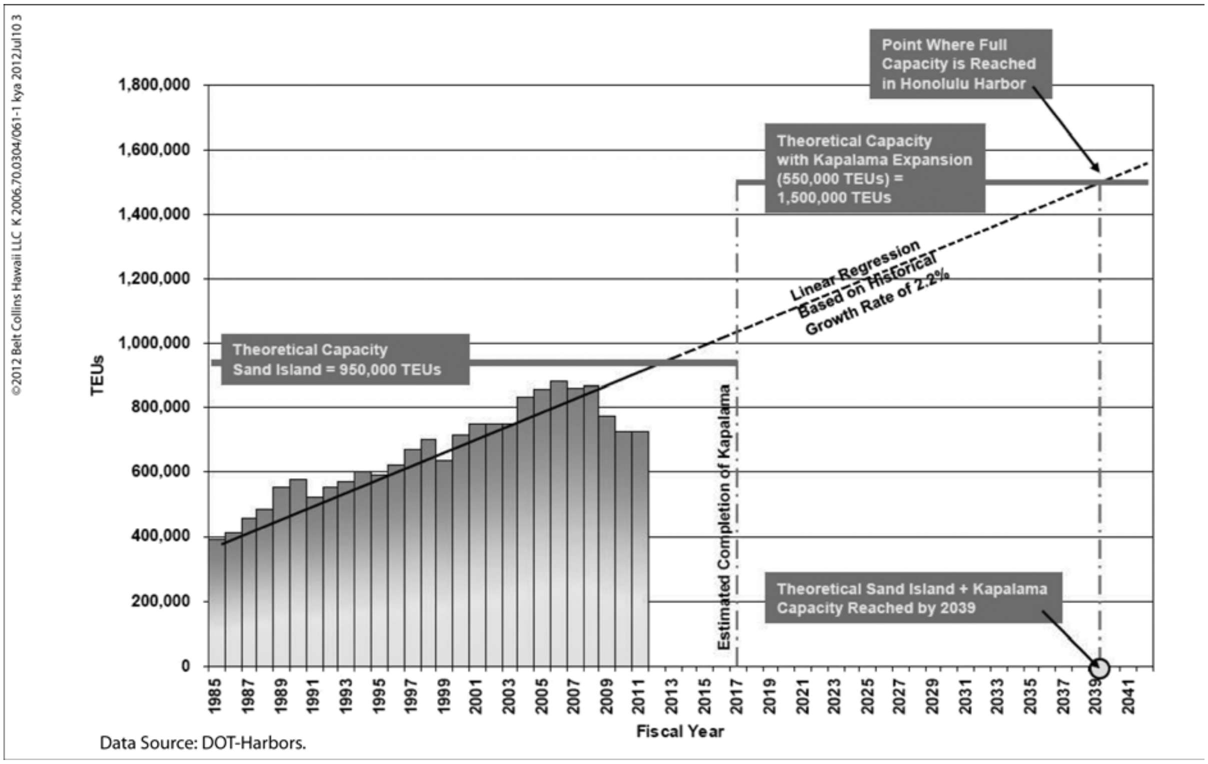


Figure 1-5. Projected Cargo Volumes for Sand Island Terminals

Expansion of container terminal capacity in Honolulu Harbor is necessary to assure sustained economic growth. With a long-term 20-year planning horizon for harbor improvements to meet future needs, the capacity of container terminals must increase by approximately 58 percent. At the current annual growth rate in cargo volume of 2.2 percent, container terminal capacity in Honolulu Harbor would need to increase by 550,000 TEUs or from approximately 950,000 TEUs to approximately 1,500,000 TEUs. A throughput volume of this amount would require a new major container terminal site within the harbor.

Considering the land constraints of an island state and its highly land-constrained harbors, the availability of the 94-acre Kapālama waterfront site presents an ideal and unique opportunity to satisfy the anticipated overseas container terminal demand, at least through 2039.

1.2.2 Purpose

The purpose of DOT-H's Proposed Action is to develop a new container terminal in Honolulu Harbor with sufficient ship berthing and landside container storage space to increase existing overseas container terminal capacity. This purpose includes dredging, filling, and new construction of waterfront piers and draft depths needed to support the container terminal operations (excluding areas within the U.S. Army

Corps of Engineers' [USACE's] jurisdiction for dredging); increasing the handling and transportation efficiencies associated with over-land and inter-island distribution; and decreasing distribution risks associated with dependence on the Sand Island Bridge connecting the overseas cargo terminals, all currently located on Sand Island, with consumers and inter-island distributors on mainside. Implementation of the project is part of the current State Administration's "New Day" initiative to modernize its commercial harbors.

1.2.3 Need

The Proposed Action is needed to accommodate the anticipated demand of overseas cargo volumes associated with projected growth of the state of Hawaiʻi through 2039.

1.2.4 Objectives

As the port of entry to the state, Honolulu Harbor has the infrastructure and access to distribution networks necessary to support expanded capacity. It serves as the hub of the hub-and-spoke system for overseas cargo distribution to the neighbor islands. DOT-H objectives for the Proposed Action are as follows:

- Increase overseas cargo handling capacity in Honolulu Harbor an additional 50 percent or 550,000 TEUs per year to accommodate demand projected through 2039. This necessarily requires a two-berth layout, based on a 245,000 TEUs to berth capacity planning factor (550,000 TEUs/245,000 TEUs per berth = 2.24 berths). The associated land-side (container yard) area requirement for a two-berth facility is 72 acres.[3] A single-berth facility is insufficient to meet near-term needs because it increases the likelihood of a berth occupancy rate of 60 percent or greater, which leads to vessel rescheduling, sub-optimal vessel utilization, and less likelihood of adding more vessel calls, which translates into an increase in costs. (Note: Berth occupancy below 40 percent creates few problems or delays to vessels; occupancy from 40 to 60 percent forces some vessels to be re-scheduled, which may sub-optimize vessel use and limit the ability to efficiently add more vessel calls; occupancy from 60 to 80 percent leads to periodic berthing delays and sub-optimal vessel scheduling; and occupancy at or above 80 percent is not achievable as a practical matter because such rates would create large vessel queues. [HHUG 2005]).

- Improve traffic conditions by providing adequate street access and capacity for large volumes of container trucks that travel to and from the container terminal. To maintain ~~Efficient~~efficient container terminal operations, provide expeditious

[3] An analysis was conducted by DOT-H to estimate container area requirement to support berthing area for two ships. See Appendix B.

and ~~require timely~~ safe access for entering and departing ~~the~~ container trucks through efficient ~~yard through~~ gates and special queuing lanes.

- Improve distribution efficiencies over land and to inter-island vessels by moving overseas container terminal operations next to inter-island operators. Overseas containers are currently unloaded from vessels at Sand Island, transported by trucks (over land) through local streets to mainside inter-island cargo operators.
- Reduce distribution risks associated with existing overseas containers received on Sand Island. Should the two-lane roadway that bridges the channel between Sand Island and Oʻahu's mainside be unavailable, over-land distribution to the inter-island cargo operators and Oʻahu distribution destinations would be cut off.
- Utilize the unprecedented opportunity presented with the availability of the former KMR, a 94-acre harbor site.
- Minimize costs on overseas goods shipped to Hawaiʻi.
- ~~Safety~~ To minimize safety risks to harbor operators, ~~by providing the~~ provide sufficient space ~~for harbor operators to optimize container handling efficiencies~~to maneuver and securely handle containers.
- Improve the adjacent inter-island cargo slip to accommodate wider (100-foot-wide) vessels anticipated during the operational period (through 2039).
- Improve the existing deteriorated Pier 41 and strengthen Pier 40 for use by inter-island vessels. Inter-island vessel use of Pier 41 would be needed to distribute the increased volume of overseas cargo (all resulting from the state's economic and population growth).
- Minimize air emissions contributing to potential degradation of air quality and greenhouse gases at the project site. Provide on-site electrical power/support for electric cranes and vessels. This would allow vessels in berth to use electricity rather than fossil fuels, a process called "cold-ironing." This action would be necessary because the vessel's onboard combustion of fuel is shut down and the vessel "goes cold."
- Support the State's effort to minimize the risk of invasive species spread by providing space for an inspection, quarantine, and treatment facility on the Kapālama site for DOA.

1.3 PUBLIC INVOLVEMENT

1.3.1 Introduction

Early consultation is the most important element of the Hawaiʻi Environmental Policy Act (HEPA) process. Section 11-200-15, Hawaiʻi Administrative Rules (HAR) requires that the proposing agency consult appropriate agencies, citizen groups, or individuals. Scoping and other outreach procedures to identify environmental concerns to be addressed in the EIS are described in sections 1.3.2 and 1.3.3, respectively. Input received through consultation is summarized in section 1.3.4. The Draft EIS distribution and public review process are described in section 1.3.5.

1.3.2 Scoping

Scoping for the Kapālama container terminal project was an early and open process for actively and constructively involving agencies (federal and state), organizations, stakeholders, and the public in helping to determine the environmental concerns to be addressed in the EIS. The following activities, described below, were conducted during scoping: meetings and interviews, publication and distribution of an EIS preparation notice (EISPN), and four public informational meetings.

Meetings and Interviews

Meetings and interviews were conducted with the following agencies and other stakeholders.

Federal Government

- Federal Aviation Administration
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service

State of Hawaiʻi

- Department of Agriculture
- Department of Land and Natural Resources, Division of Aquatic Resources
- Department of Land and Natural Resources, Office of Conservation and Coastal Lands
- Department of Transportation, Highways Division
- Department of Transportation, Airports Division
- Office of Environmental Quality Control
- Office of Hawaiian Affairs
- University of Hawaiʻi at Manoa

Stakeholders

- Atlantis Submarines
- Hawaii Harbors Users Group
- Hawaiian Flour Mill
- Horizon Lines
- Island Movers
- Matson Navigation Company
- Mokauea Fishermen's Association
- Pacific Shipyard International
- Sause Brothers
- Servco Pacific
- Young Brothers, Limited

EIS Preparation Notice

On November 23, 2011, the EISPN was published by the State Office of Environmental Quality Control (OEQC) in its *Environmental Notice.* The notice announced that an EIS would be prepared for the proposed Kapālama container terminal project. The EISPN included a description of the proposed action and alternatives and potential impacts. Copies of the EISPN were mailed to interested parties for review and comment (see Appendix A for a copy of the EISPN and the distribution list). The EISPN distribution included 27 government/institutional agencies (federal, state, and county), 3 elected officials, and 11 community organizations, special interest groups and other stakeholders. Of the 40-plus parties who received the EISPN by mail, 20 provided comments (see Appendix A for copies of comment and response letters). Several parties requested to be placed on the mailing list for the Draft EIS in order to comment on the project when the Draft EIS became available for public review. Other commenters offered project information to be included in the DEIS, requested compliance with existing government regulations, and asked that the EIS address potential impacts on marine resources, terrestrial flora and fauna, overland transportation systems, water quality, potential floods, traffic, and utilities.

Public Meetings

Two public informational meetings were held to inform the public about the project and to gather community input. The first meeting was held on July 19, 2011 at Pu'uhale Elementary School in Kalihi near the Kapālama site. Two sessions were held to accommodate different schedules, one starting at 2:30PM and the second starting at 6:30PM. Approximately 70 people attended the first session. They included area residents, tenants on the Kapālama property, government agency representatives, and other interested parties. Approximately 20 people attended the second session, predominantly Kapālama tenants and residents from the neighboring community.

Primary concerns voiced during the sessions included the following: crane heights and possible impact on navigable airspace, project financing and implementation, the date when tenants would be required to vacate the Kapālama site, traffic, noise, alternative sites for the container terminal, and work area safety.

The second public meeting was held on May 10, 2012 at Honolulu Harbor's Pier 19. The purpose was to provide an update on the project and EIS preparation. This meeting also had two sessions which were well attended. Approximately 70 people attended the first session. These were primarily representatives from agencies as well as businesses operating in the project area. Approximately 20 people attended the second session, predominantly area residents. Concerns and issues regarding project financing, traffic, noise, and navigable airspace were again raised. Cultural resources were brought up for the first time. Concern about the eviction date for the Kapālama property was not as pronounced as in the first public meeting, since tenants were by now well advised of the proposed development and timeline.

DOT-H made special outreach efforts to inform as many community members as possible about the scheduled public meetings. Typical announcements for such meetings involve publishing a meeting notice in a local newspaper and mailing a notice to stakeholders. For the public meetings, DOT-H published newspaper notices, sent mail-outs to stakeholders, and also ran radio announcements on the air for five days. In addition, DOT-H staff walked through the Kalihi Kai community distributing flyers to residents and businesses.

1.3.3 Other Outreach

Project Website

A project website was launched in June 2011. It includes the following pages: Introduction, Proposed Action and Alternatives, Purpose and Need, Planning Process, Schedule, Documents, Frequently Asked Questions (FAQs), and Contacts. The website address is www.kapalamaeis.com. There are links to current news and latest information from DOT-H and State OEQC. The website is regularly updated and has a contact box for the public to ask questions or express concerns.

Neighborhood Board Meeting

On March 21, 2012, State DOT representatives presented an update on the Kapālama project to the Kalihi-Palama Neighborhood Board No. 15. Neighborhood board meetings are held monthly and include progress reports from city agencies on public projects and services in the area, as well as reports from others on planned public and private sector projects. The public is invited to attend these meetings and ask questions or provide comments. Concerns raised at the March 21 meeting included potential traffic impacts, noise, impacts to Mokauea Island, and a possible alternative location of the container terminal at Kalaeloa Barbers Point Harbor.

1.3.4 Summary Of Input From Consultations

Agency input was predominantly requests for information to be included in the EIS in order for the agencies to review project impacts. Stakeholder input generally included information about their operations, which was used to describe proposed activities and assess their environmental impacts. Issues and concerns identified during the meetings/interviews are summarized below.

Proposed Action/Alternatives

- Establish a biosecurity facility and identify a space for inspection, quarantine, and treatment services at the Kapālama site.
- Establish and identify a space for a U.S. Customs and Border Protection station at Kapālama site.
- Provide DOT-H weighing stations at the new terminal.
- Analyze filling and dredging requirements for pier construction.
- Develop alternatives to filling in harbor waters.

Land Use/Land Ownership

- Discuss maintenance of existing access rights.

Public Health and Safety

- Disclose hazardous materials condition on the property.
- Evaluate impact of proposed gantry cranes on navigable airspace.

Roads and Traffic

- Study impact on local streets, traffic, and pedestrian safety.
- Identify potential off-site road improvements to benefit proposed action.

Air Quality

- Assess air pollution from proposed action.
- Assess emissions from ships.

Noise

- Identify noise impact on nearby residences.

Visual Resources

- Describe visual appearance from surrounding neighborhood and region.
- Consider potential for glare from outdoor lighting in container yard.

Marine Environment

- Conduct a quantitative survey of marine biological resources along the project waterfront.

- Identify existing coral and coral reef ecosystems.
- Analyze construction impacts on water quality and endangered marine species.
- Comply with USACE requirements for in-water work.
- Assess potential spread of invasive marine species in ships' hulls and ballasts.

Terrestrial Flora and Fauna

- Evaluate impact of outdoor lighting on Newell shearwaters.
- Assess potential spread of invasive terrestrial species from cargo.
- Implement upgraded biosecurity inspection facilities for State harbors system.

Cultural Resources

- Identify early fishponds in project area.
- Retain/preserve cultural information gained from site excavations.
- Recognition of former KMR.

1.3.5 Draft EIS Distribution And Public Review

DOT-H prepared a distribution list for the Draft EIS and submitted it to OEQC for review and verification, in accordance with Section 11-200-21, HAR. The distribution list included agencies and other stakeholders involved during the scoping and Draft EIS preparation process (see Appendix A).

For the Second Draft EIS, an updated distribution list (see Appendix A) was prepared and submitted to OEQC for review and verification.

Publication of the original Draft EIS initiated a required 45-day public review and comment period. Section 11-200-18, HAR requires the proposing agency to provide point-by-point responses to each substantive question, comment, or recommendation received in writing during the comment period.

In this Second Draft EIS, comment letters received on the original Draft EIS are included in Appendix A with DOT-H's response letters. Revisions to the text of this document have been made as needed in response to substantive comments.

The Final EIS will incorporate comments received during the Second Draft EIS public review period, including any revisions to the document as needed.

Proposed Action and Alternatives 2

CHAPTER 2
PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

An analysis was conducted to define the proposed action and the alternatives to be evaluated in this Environmental Impact Statement (EIS), in compliance with the requirements of the State of Hawai‘i (State) Revised Statutes (HRS) Chapter 343 and its implementing rules, Hawai‘i Administrative Rules (HAR) 11-200. The alternatives analysis also meets anticipated requirements of the project’s Department of the Army permit for the federal scope of the project, specifically those relating to the National Environmental Policy Act (NEPA) and Clean Water Act (CWA) Section 404(b)(1) Guidelines.

The first step in organizing the range of alternatives developed during the planning process involved categorization. The following categories were ultimately used: alternative locations, alternative waterfront configurations, and alternative site ingress/egress for land transportation. These alternatives were then compared to the purpose, need, and objectives of the project (see section 1.2), which were derived over the course of almost 25 years by the Governor’s office, State Department of Transportation, Harbors Division (DOT-H), and the Hawaii Harbors Users Group (HHUG). To help identify additional alternatives to meet the purpose, need, and objectives of the project, the working draft was distributed to federal agencies in Honolulu, including the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (USACE), for input and comments on the alternatives.

The CWA Section 404(b)(1) Guidelines prohibit discharges of dredged or fill material if a practicable[1] alternative to the proposed discharge exists that would have less adverse impacts on the aquatic ecosystem, as long as the alternative does not have other significant adverse environmental consequences.[2] Hence, the next step of the alternatives analysis involved identifying alternatives to meet the CWA Section 404(b)(1) Guidelines. Specifically, DOT-H examined practicable alternatives to the proposed discharge, that is, not discharging into the waters of the U.S. or discharging

[1] The term practicable means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes (40 Code of Federal Regulations [CFR] §230.3[q]).

[2] 40 CFR §230.10(a)

into an alternative aquatic site with potentially less damaging consequences.[3] Identifying such alternatives was challenging considering the purpose, need, and objectives of the proposed project. In particular, the following objectives limited the proposed maritime site to the former Kapalama Military Reservation (KMR) property.

- *Increase overseas cargo handling capacity in Honolulu Harbor to accommodate projected demand through the year 2039*. This necessarily requires a two-berth waterfront site with a minimum 72-acre container yard. Honolulu Harbor is the only harbor in the state receiving direct container shipments from outside the state, and the Kapālama site is the only section in the harbor that has such waterfront space available.
- *Reduce distribution risks associated with current reliance on the bridge between Sand Island and mainside.* All commercial overseas containers are currently received on Sand Island, and all distribution over land or over water (via inter-island vessels) must be first transported over this bridge.
- *Improve distribution efficiencies over land and to inter-island vessels by moving overseas container terminal operations next to inter-island operators*. The Kapālama site is strategically located adjacent to the state's largest inter-island cargo operator.

The alternatives considered in this EIS ranged in site location options, waterfront configuration options (including alternatives to filling Snug Harbor), and site access location options. They were evaluated in terms of the project purpose, need, and objectives. The Proposed Action and two alternatives were carried forward for further evaluation, in compliance with HRS Chapter 343, NEPA, and CWA Section 404(b)(1) requirements. The Alternative Action was determined to meet the stated purpose, need, and objectives. Both Chapter 343 and NEPA require analysis of the No Action Alternative.

- Proposed Action (section 2.2). Under the Proposed Action, a new container terminal would be developed at the Kapālama site in Honolulu Harbor and would involve filling Snug Harbor to create the main pier for two berths.
- Alternative Action—No Fill of Snug Harbor (section 2.3). This alternative was identified to minimize the impact of fill on the area's aquatic ecosystem. A table comparing dredging/fill volumes required for construction of the Proposed Action and Alternative Action is presented later in this chapter.

[3] 40 CFR §230.5(c)

- No Action Alternative (section 2.4). Under this alternative, neither the Proposed Action nor the Alternative Action would occur.

Section 2.5 discusses the alternatives that were considered but were not carried forward for further analysis in this EIS, including reasons why the alternatives were dismissed.

2.2 PROPOSED ACTION

The Proposed Action is the construction and operation of a new overseas container terminal at the Kapālama site in Honolulu Harbor. The estimated timeline for implementation, tenant relocations, construction activities, and operational activities of the action are presented in this section. As explained in section 1.1, more specific information is available for this updated version of the Second Draft EIS, resulting in several design changes described herein. These design changes are not expected to affect the overall project purpose, timeline, or tenant relocations.

Compared to the Proposed Action container terminal layout presented in the original Draft EIS, DOT-H updated layout (shown in Figure 2-3 on page 2-9) has changed as follows:

- The main pier face has been located inland by approximately 51 feet, which results in revised estimates of dredging and excavation volumes.
- A bulkhead design with sheet piles is proposed for the main pier rather than a revetment and pile system for pier support as initially anticipated.
- Truck access into the container terminal from Sand Island Access Road has been revised to provide a single gate for both entry and exit, whereas the original Draft EIS showed separate entry and exit gates. Secondary auto access for employees and customers are provided at two locations rather than one on Auiki Street.
- An approximately 16,400 sq. ft. portion of Pier 40 (shown as Pier 40E in Figure 2-3) would be structurally strengthened to accommodate roll-on/roll-off (RO/RO) cargo handling operations. This is an added project element.

In addition, transfers of cargo from Pier 20 to the silos and storage areas at Pier 23 would increase in frequency from two to three times per year, as assumed in the cumulative, land use, and noise impacts analyses in the original Draft EIS, to possibly 12 times per year. This facilitates the possibility of a second operator using the facilities.

2.2.1 Timeline

The Proposed Action is intended to meet the anticipated demand of overseas cargo associated with Hawai‘i’s growth. Project site preparation would occur as soon as 2014, after environmental and land use permits and approvals are obtained and existing tenants vacate the site. Actual construction of the main pier and container terminal is anticipated to occur through the year 2016. Operational activities would follow and are projected and evaluated through the year 2039 for purposes of this EIS.

2.2.2 Tenant Relocations

As presented in Chapter 1, existing non-maritime tenants will vacate the Kapālama site by early 2014, with or without the Proposed Action. A historic architectural survey was conducted at the former KMR site and submitted to the State Historic Preservation Division (SHPD). SHPD determined and notified via correspondence on June 20, 2007 and December 12, 2011 (see Appendix H), that demolition of the former military buildings at Kapālama will have “no adverse effect”. The existing buildings, which are aging and often require maintenance, will be demolished prior to implementation of the proposed action. Demolition of structures is an exempt action for DOT-H provided that those structures are not on or part of a historic site as designated in the National Register or Hawai‘i Register as provided for in the National Historic Preservation Act of 1966, Public Law 89-665, or HRS Chapter 6E. Possible tenant relocations made part of the Proposed Action are those maritime-dependent operators (i.e., operators that require direct access to the waterfront) whose relocation timeframe coincides with the Proposed Action.

The present locations of these maritime-dependent operators are shown in Figure 2-1 and named below.

- Pacific Shipyards International (PSI)
- Atlantis Submarines
- University of Hawai‘i (UH) Marine Center (addressed under a separate HRS Chapter 343 document)

Figure 2-2 shows the proposed maritime tenant relocations. The UH Marine Center, part of the School of Ocean and Earth Science Technology (SOEST), would potentially move from the Kapālama site to Piers 34 and 35 and potentially to the Honolulu Community College (HCC) Marine Education Training Center (METC) on Sand Island. However, because the timing and financing of these moves are proceeding on different schedules, the effects of these actions are being evaluated in separate environmental documents. The overall relocation effort by the UH Marine Center was addressed in a separate Chapter 343, HRS, Environmental Assessment. Indirect and cumulative impacts of the Proposed Action on the UH Marine Center is addressed in this EIS.

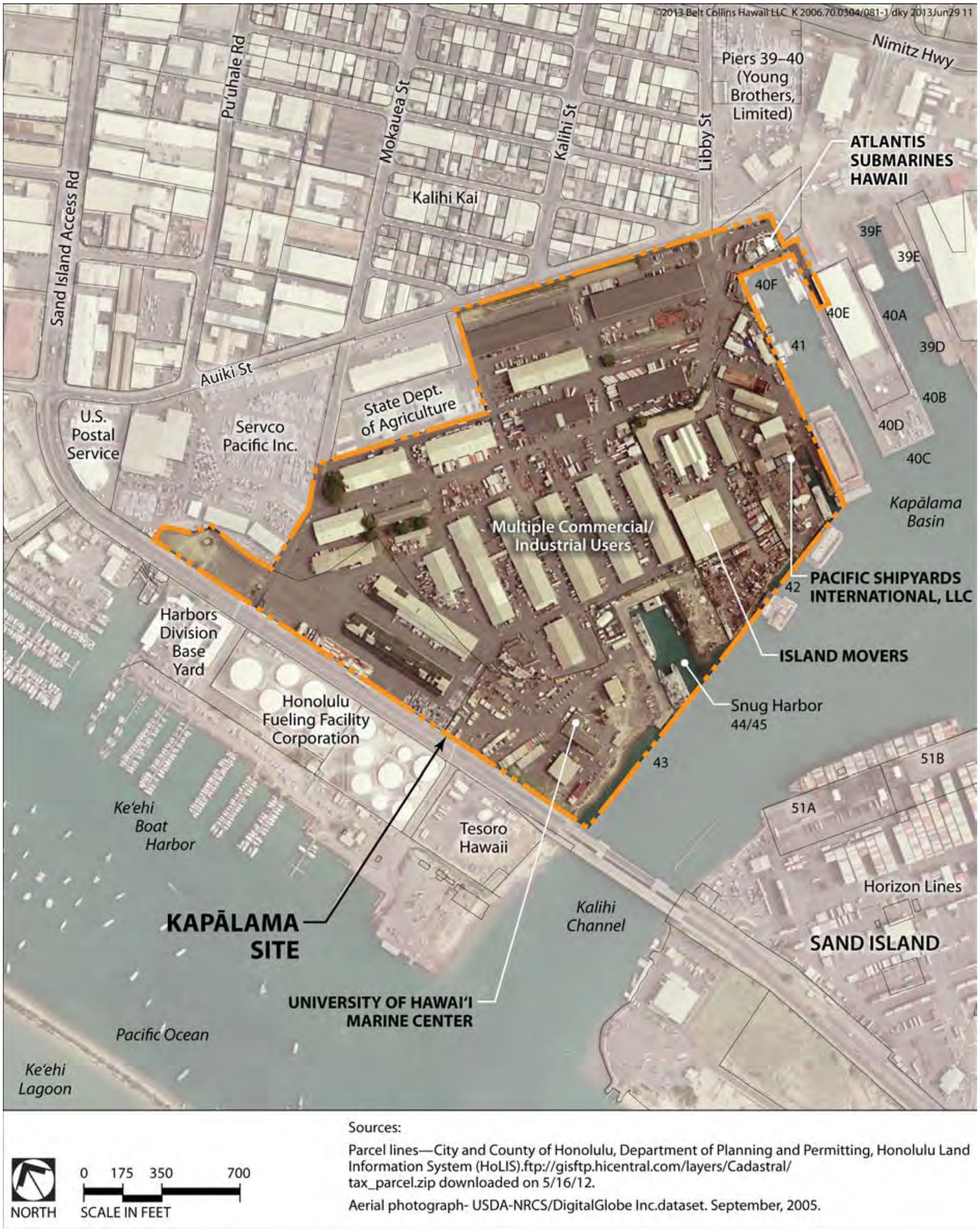


Figure 2-1. Existing Kapālama Site

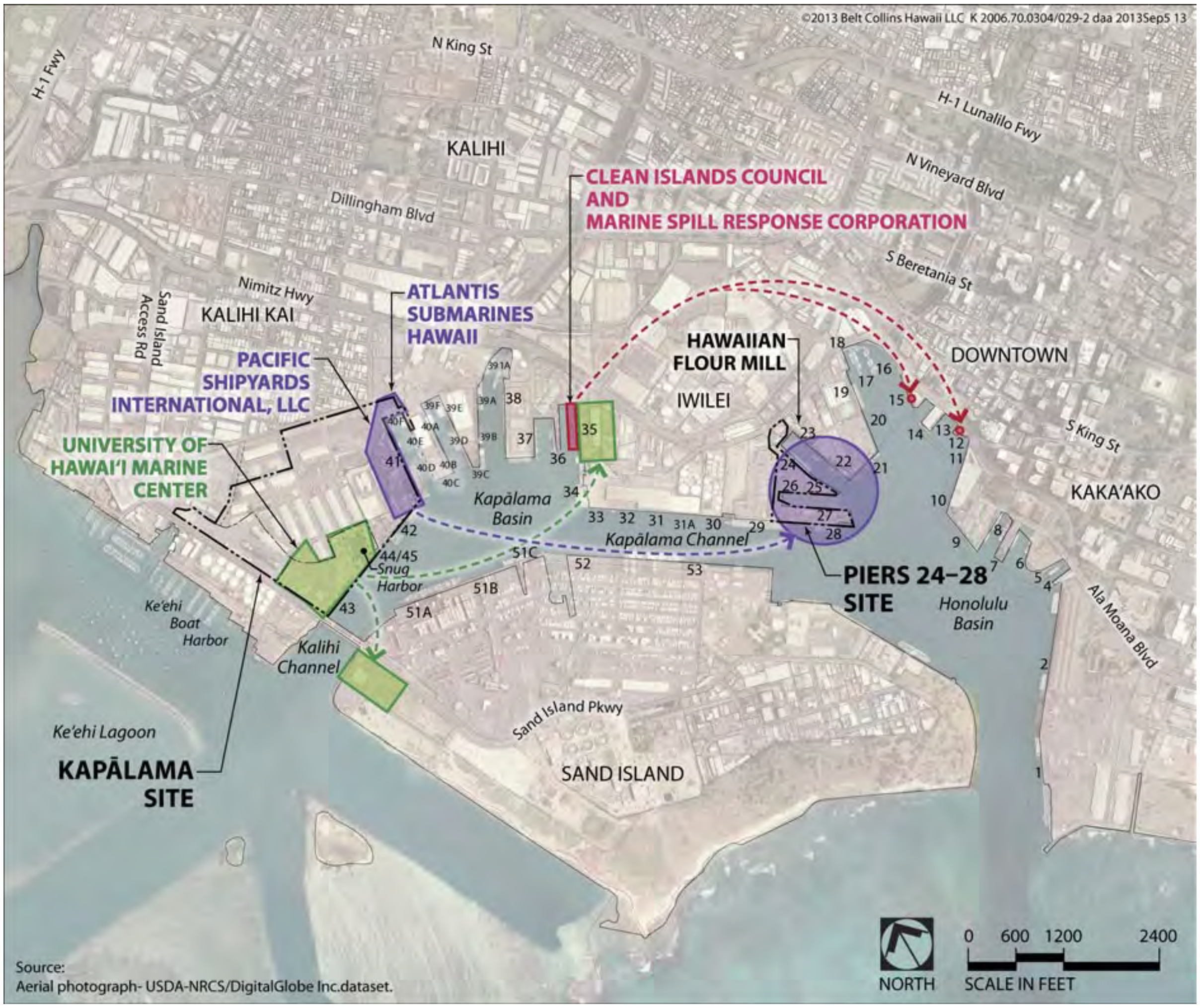


Figure 2-2. Maritime Tenant Relocations

The relocation of UH Marine Center's research operations from the Kapālama site to Piers 34 and 35 will require the existing tenants, Clean Islands Council and Marine Spill Response Corporation, to vacate their current location and relocate to Piers 12 and 15, respectively. The timing of this action is based on the UH Marine Center move and, as a result, a separate HRS Chapter 343 document has been prepared for the Clean Islands Council and Marine Spill Response Corporation. The educational operations of the UH Marine Center would move to the HCC-METC facilities on Sand Island. Relocation to this site has been evaluated in a separate HRS Chapter 343 document.

PSI and Atlantis Submarines would potentially move from Piers 40 and 41 to Piers 24 through 28. PSI would potentially be located at Piers 24 to 26, and Atlantis would potentially move to Piers 26 and 27. The move to Piers 24–28 are part of the Proposed Action evaluated in this EIS.~~; however use of submerged lands and~~

~~operations conducted in the water will need further environmental analysis based on the nature of the tenant's use and actions.~~

The potential move by PSI and Atlantis Submarines from the Kapālama site to Piers 24–28 site would occur at a site that is predominantly vacant. Three buildings are located in the northern corner of the site. PSI has indicated its desire to use at least two of these buildings for administrative and operations support purposes. If this occurs, the existing maritime-dependent tenant, Sause Brothers, may utilize other buildings in the area or relocate their office space outside of Honolulu Harbor. The non-maritime tenant of the other building, Bella Pietra, will relocate on its own to another site on the island.

PSI's exclusive use of the pier area of the new site would include the mooring of two large floating work platforms or drydocks along Piers 24 and 25. The placement of these drydocks along these piers would occupy a major portion of the slip between Piers 22/23 and 24/25 and, as a result, Hawaiian Flour Mill (HFM) would be unable to use Piers 22/23 for its shipments of raw wheat grain to its dockside silos.[4] Hence, PSI's potential relocation and proposed drydocks would eliminate the ability of Piers 22/23 tenant to use its berth area for dockside activity. In part because of the infrequent shipments of raw wheat grain, approximately two to three times per year, HFM plans to berth its ships at Pier 20 and convey grain over land to its silos at Piers 22/23. In addition, after the drydocks are repositioned, DOT-H would be unable to use this area for lay berths except for the smallest harbor crafts.

As Pier 20 would be open to other harbor users, a potential shipper may be engaged to use storage facilities at Pier 23 and consequently to berth its ships at Pier 20. As a result, the harbor user would need to transport its cargo from Pier 20 to Pier 23 by truck or conveyor belt. Shipments of possible dry-bulk cargo may arrive more frequently than planned by HFM, probably at a rate of one per month rather than two or three times a year. The unloading process may occur over six to seven consecutive days, 24 hours per day.

The relocation of UH Marine Center's research operations from the Kapālama site to Piers 34 and 35 will require the existing tenants, Clean Islands Council and Marine Spill Response Corporation, to vacate their current location and relocate to Piers 12 and 15, respectively. The timing of this action is based on the UH Marine Center move and, as a result, a separate HRS Chapter 343 document has been prepared for the Clean Islands Council and Marine Spill Response Corporation. The educational operations of the UH Marine Center would move to the HCC-METC facilities on Sand Island. Relocation to this site has been evaluated in a separate HRS Chapter 343 document.

[4] HFM also imports refined flour in 20- to 24-foot long containers and 25- and 50-pound bags.

2.2.3 Construction Activities

Construction of the new container terminal, which is estimated to cost approximately $266 million,[5] would involve dredging of approximately 360,000 cubic yards of material and 18,000 cubic yards of excavation to create sufficient draft depths for overseas vessels and to provide wider berthing space for inter-island barges and filling (sea level to sea bottom) of approximately 68,500 cubic yards of existing man-made harbor (Snug Harbor) to create approximately 1.7 acres of land for the container yard. Other activities would include new pier construction, reconstruction, and strengthening; demolition and removal of existing pavement, and infrastructure; and construction of new container yard facilities. The latter would include grading, paving, installing utilities, building new structures, and installing equipment. In addition, improvements to the adjacent inter-island cargo site and possible improvements to the intersections on Sand Island Access Road at the Kapālama site entry/exit gates are included in this action, along with improvements to ~~the landside~~ areas of Piers 24–28 for potential maritime operators identified in section 2.2.2. The results of construction activities associated with the Proposed Action at the Kapālama site and adjacent inter-island cargo site are reflected in Figure 2-3. Figure 2-4 illustrates the areas to be improved at ~~the landside area of~~ Piers 24–28 as part of the Proposed Action.

[5] The $266 million is an Order of Magnitude estimated cost based on the most current design. As the design progresses, this cost may change.

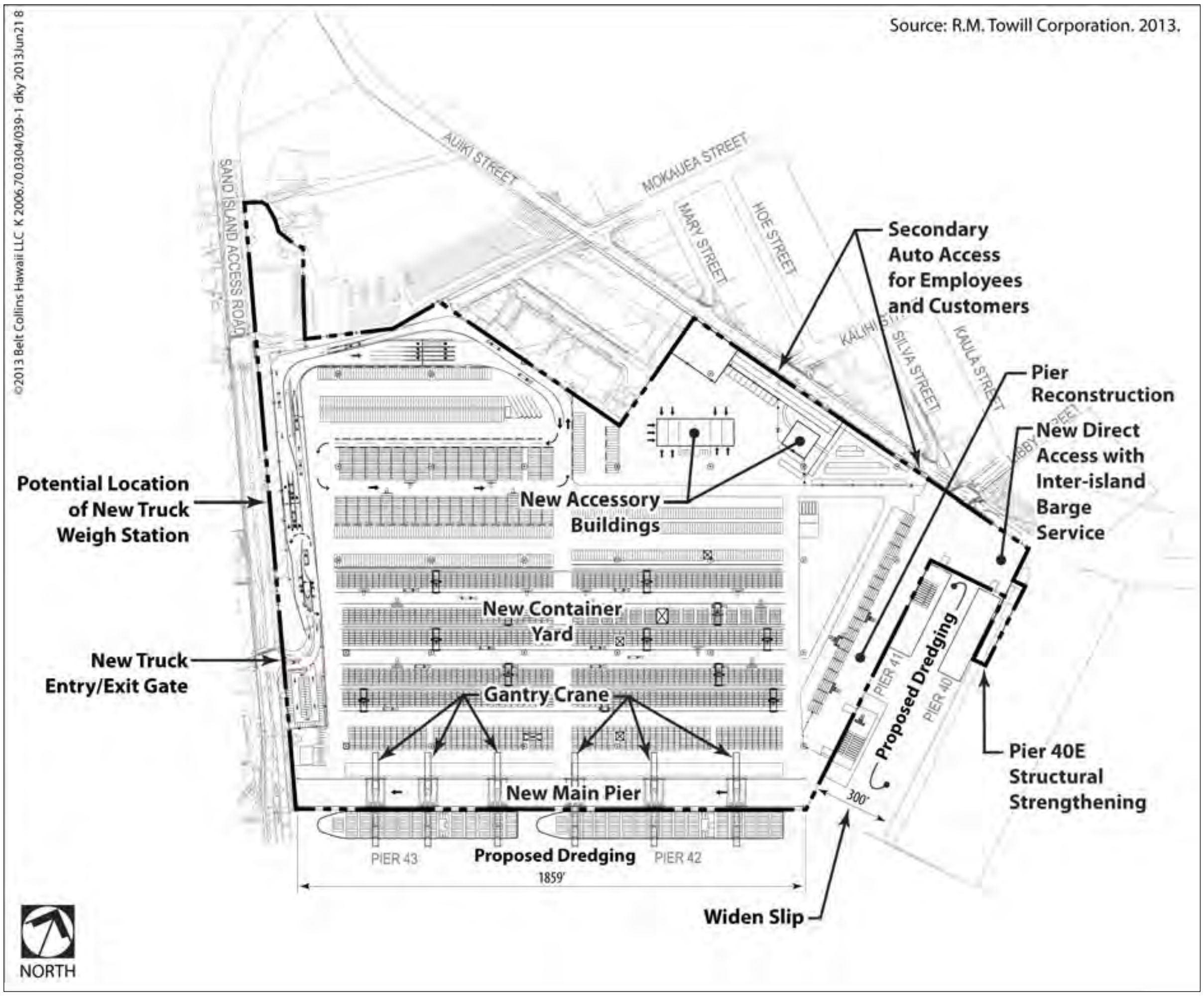


Figure 2-3. Proposed Action—Kapālama Container Terminal Layout

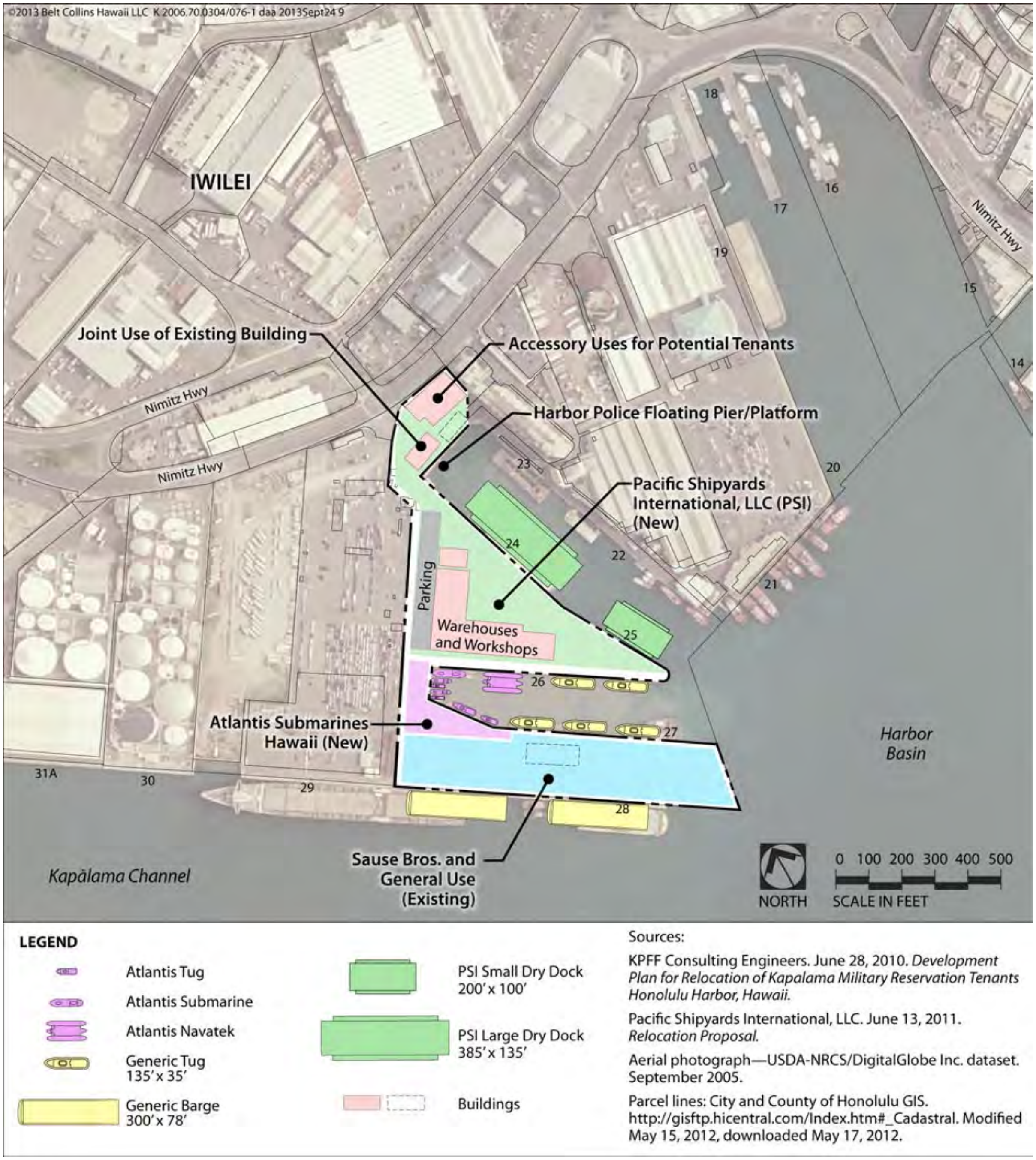


Figure 2-4. Proposed Action—Pier 24–28 Improvements

To avoid construction delays and ensure protection of human health and the environment, the site-specific Environmental Hazard Management Plan (EHMP) currently in development and consistent with Hawaii Revised Statutes (HRS) Chapter 128D, shall be reviewed and approved by the Department of Health, Hazard Evaluation and Emergency Response (HEER) office. This plan will be implemented to manage and report impacted soils or groundwater that may be encountered during construction activities.

Specifically, construction activities under the Proposed Action would include the following:

Dredging and Excavation

To accommodate the existing and future (modernized) vessels carrying shipping containers, construction dredging to 40 feet below mean lower low water (MLLW) at the waterfront of the Kapālama site would provide sufficient draft depths.[6] While hydrographic and dredge material studies would be completed in the design stage (subsequent to this EIS), it is roughly estimated that approximately 378,000 cubic yards of material would be dredged and other material excavated around Piers 41, 42, and 43 (see Figure 2-5). Of this total, approximately 360,000 cubic yards would be dredged marine sediment located below the mean higher high water (MHHW) mark, and the remaining approximately 18,000 cubic yards would be excavated material above the marine sediment and part of the project site fastland. Disposal of the dredged marine sediment is currently proposed for re-use as fill in Snug Harbor, onsite, and/or at an approved off-shore ocean disposal site. Testing of the marine sediments will first occur to assess (and with the approval of the appropriate agencies) whether the material is suitable for re-use on the site and/or for ocean disposal. The fastland excavated material would be either reused on-site, disposed at an approved upland disposal site, or a combination of the two. Any dredged sediment that receives negative test results would be disposed at an approved upland site.

The existing slip between Piers 40 and 41 would be widened from 256 feet to 300 feet and dredged, as necessary, to a depth of approximately 30 feet. A recent bathymetry map (USACE 2007) shows the general depth in the slip to be approximately 31 feet to 33 feet, with shallower depths adjacent to Pier 41 where dredging would be required. After widening the slip and reconstructing Pier 41, the net increase in water area at this location would be approximately 0.6 acre.

Filling

To provide a two-berth configuration, the existing 1.7-acre Snug Harbor would be filled. This man-made slip was constructed in the 1940s for the military with the deck portion completed in the 1970s for the UH Marine Center. Fill from dredging would be used to the extent practicable. Import fill (fill from off-site sources) would be used as needed. A total of approximately 68,500 cubic yards of marine sediment would be needed to fill Snug Harbor. Fill would also be required over the container

[6] Based on a USACE June 15, 2007 soundings survey map, dredging will be required to achieve the design berth depth of -40 feet MLLW, since existing elevations along the new pier range from a depth of 0 feet MLLW to -40 feet MLLW. Routine maintenance dredging within Honolulu Harbor by USACE has attempted to maintain the depths in the federal project area within the harbor at-40 feet MLLW.

yard site to maintain a minimum top-of-deck elevation of approximately 10 feet MLLW on the property.

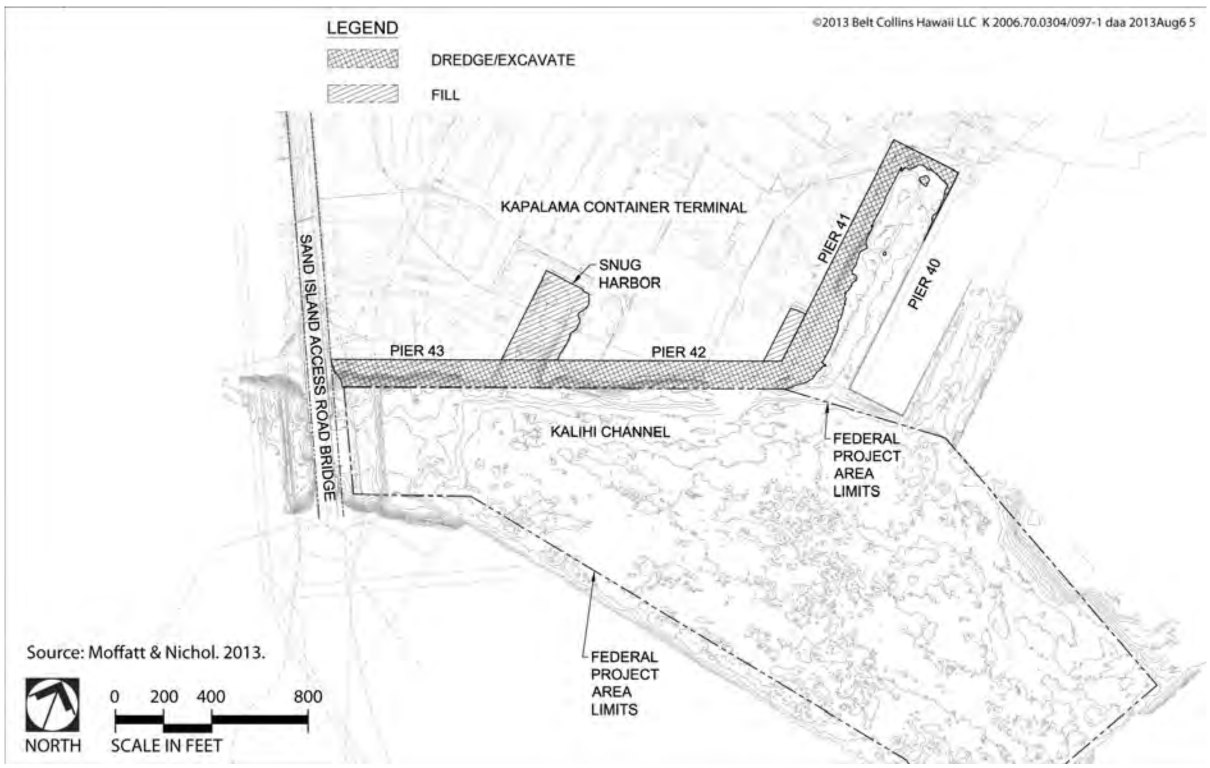


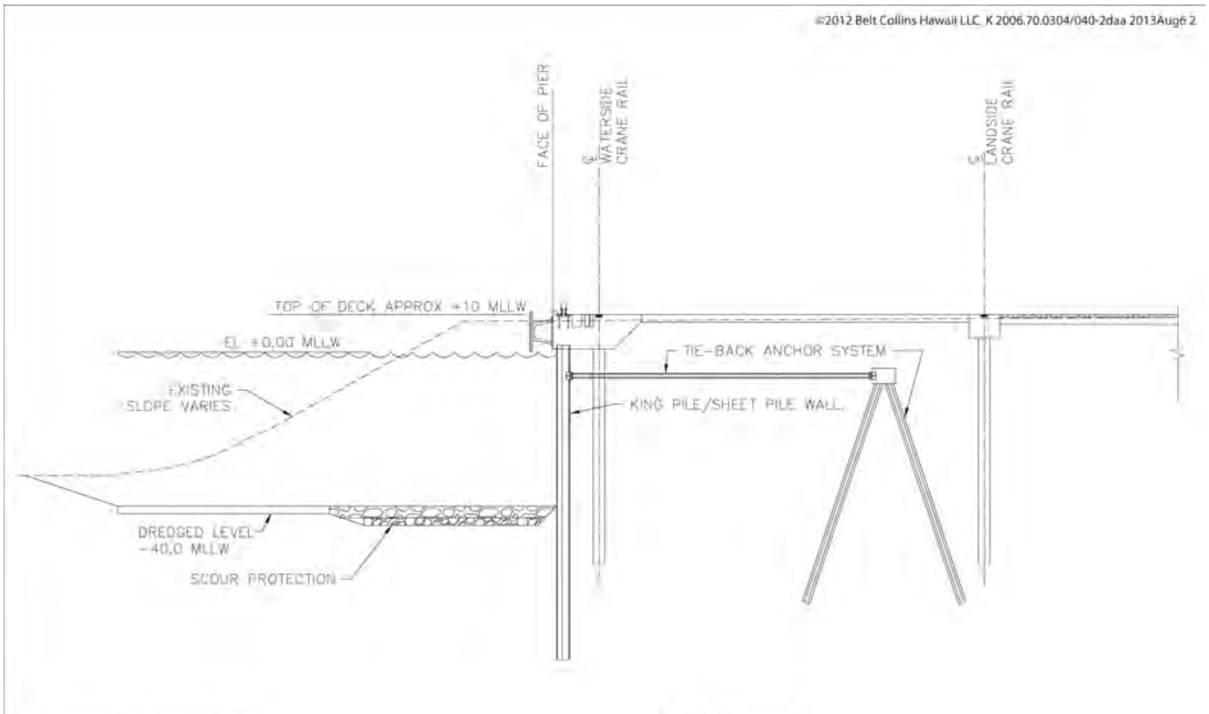
Figure 2-5. Conceptual Dredging and Fill Areas

New Main Pier

A new main pier, approximately 1,860 feet long with crane rails, utilities, bollards, hatches, and associated equipment, would be constructed by the State to accommodate two berths, identified as Piers 42 and 43 in Figure 2-3. (Note: Piers 44 and 45 are located in Snug Harbor.) Three pier design options were considered: deck and piling system with revetment, bulkhead, or combination bulkhead with piling system.

The bulkhead option has been selected (see Figure 2-6). It consists of vertical sheet piles constructed 51 feet inland from the existing pier face. Less dredging/excavation and fewer structural components would be required than for the deck and piling system option. A tie-back anchor system will be installed to hold the sheet piles in place. A bulkhead toe protection comprised of quarry run rock and other rock material would be placed along the base of the sheet piles for protection against scour.

As described earlier, the face or waterfront edge of the pier would be located approximately 51 feet further inland from the pier face shown in the original Draft EIS. Construction methodology and cost estimates are provided in this document for the preferred bulkhead design.



Source: Moffatt & Nichol. 2013

Figure 2-6. Typical Wharf (Bulkhead System) For Kapālama Container Terminal Section

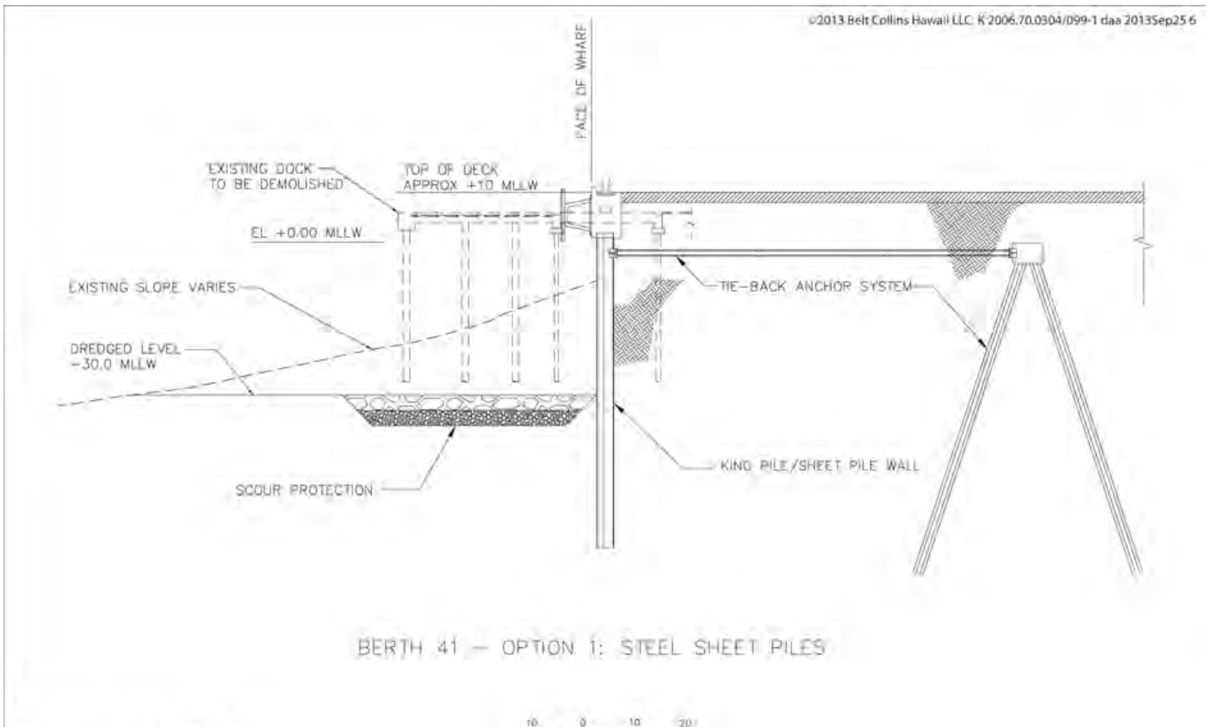
Installation of the cranes will be the responsibility of the tenant or container terminal operator. The rail system for the cranes will be constructed by the State, but turned over to the operator on a lease and as an easement. The operator will be responsible for maintenance and repair of the rail system.

Pier 41 Reconstruction

At the eastern side of the Kapālama site, Pier 41 would be reconstructed for future use by an inter-island cargo operator. After demolition, excavation, and dredging to widen the existing slip between Piers 40 and 41, Pier 41 would be reconstructed. [7]Widening would add approximately 0.6 acres of slip area between Piers 40 and 41. Reconstruction of Pier 41 would involve a bulkhead wall. See Figure 2-7.

[7] DOT-H will conduct a Phase II environmental site assessment at Pier 41. Tenants will be required to remediate Pier 41 as required by law and as part of their potential relocation if constituents of concerns or hazardous substances are present.

Construction of the bulkhead would involve driving steel king and sheet piles and backfilling with dredged or other suitable material. The interconnected sheet piles can be installed by using a barge-mounted diesel hammer, a hydraulic impact hammer, and/or vibratory hammer. The sheet piles are typically tied back to concrete deadman anchors or to a sheet pile anchor wall. A bulkhead toe protection comprised of quarry run rock and other rock material would be placed along the base of the sheet piles for protection against scour.



Source: Moffatt & Nichol. 2013

Figure 2-7. Typical Wharf (Bulkhead System) For Pier 41

Pier 40 Structural Strengthening

At the northern end of Pier 40, structural strengthening would be performed to a section of the pier deck and foundation (see Figure 2-8). New concrete piles would be installed among the existing piles behind an existing concrete sheet pile facing wall to strengthen the foundation for the pier that services cargo loading and unloading (RO/RO) operations. Approximately 16,400 square feet of concrete deck panels would be initially removed to allow pile driving for the new piles to be done. Replacement of the removed sections of deck with a new higher-capacity deck would then complete the pier improvement.

New Container Yard

To provide a container yard with a capacity of 550,000 TEUs, at least 72 acres are required. Additional acreage would provide room for ancillary improvements, including support buildings to accommodate supplemental marine operations, automobile processing office, conflict resolution office, associated harbor activities, etc. With the Proposed Action, adequate acreage is available to accommodate these needs.

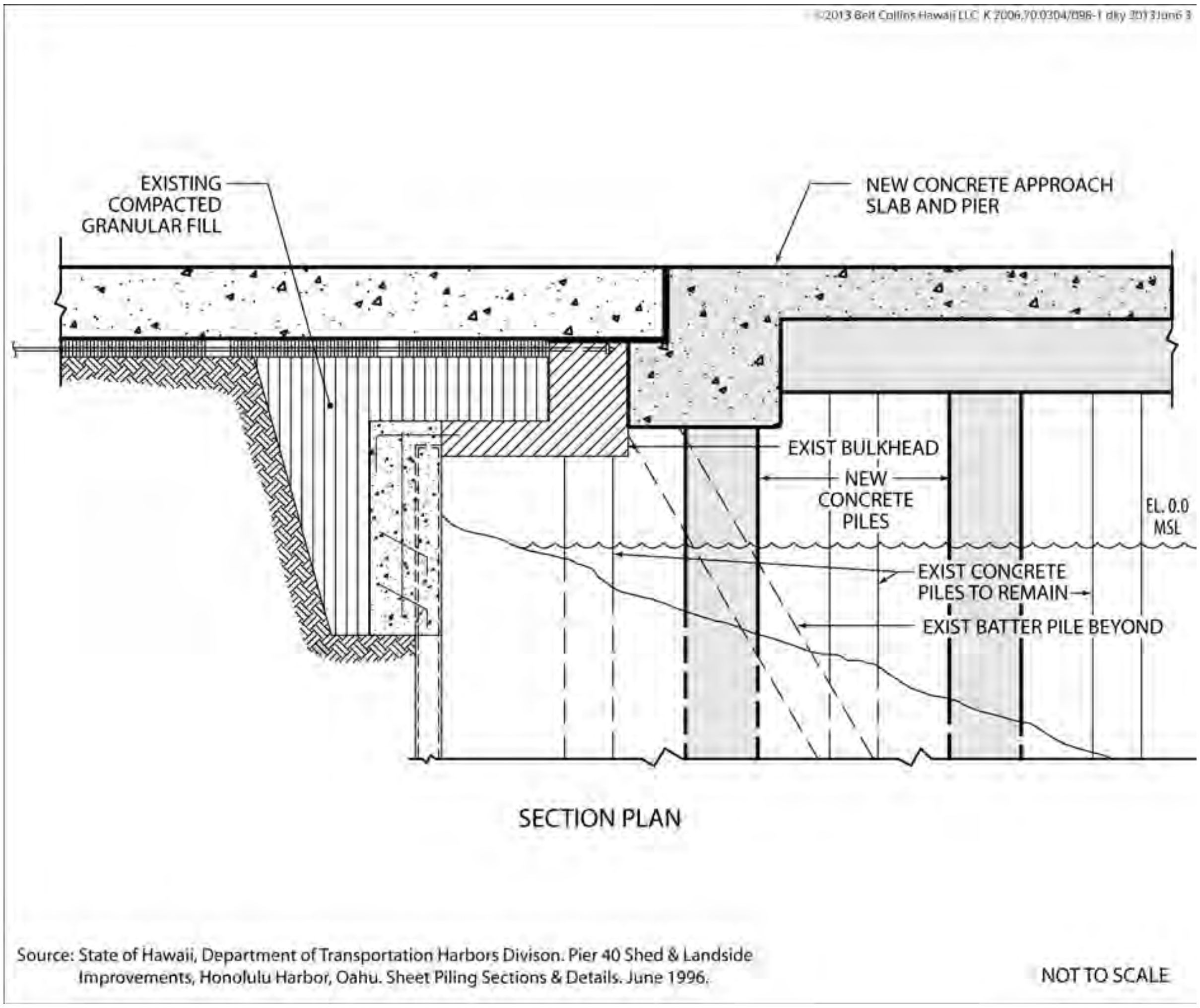


Figure 2-8. Pier 40 Structural Strengthening

Standard improvements within the container yard would include entry and exit truck gates, DOT-Highways Division truck weigh station, queuing lanes to stage truck traffic, perimeter and other fencing to secure the terminal and meet security requirements, secondary access and parking for employees and the public, gantry cranes and other container-handling equipment, on-site utilities including lighting and security systems, and potential associated off-site utility improvements to serve the site and potential required off-site roadway and entrance intersection improvements. Further, a direct internal access connection with gate would be provided with the adjacent inter-island cargo facility. As indicated above, the updated Proposed Action provides a single truck entry/exit gate on Sand Island Access Road. The Proposed Action also includes removing existing easements that no longer will serve the function of the proposed container terminal including the extinguishment of the portion of Easement 6 that traverses the Kapālama site.

Truck Weigh Station

A truck weigh station is proposed along Sand Island Access Road on the outbound lane between the proposed Kapālama Container Terminal truck entry/exit gate and Auiki Street. The truck weigh station will have the following components:

- Dynamic scale which will be located at the proposed Kapālama Container Terminal exit gate on Sand Island Access Road.
- Stop light controls to indicate if a truck is overweight. The light will be located immediately after the dynamic scale.
- Truck turn area to process overweight trucks.
- Static scale located within the truck processing area.
- Facilities to process overweight trucks.

The weigh station will be designed and constructed by DOT, Highways Division.

Allocation of a Site for State of Hawai'i, Department of Agriculture

A site would be allocated for use by the State Department of Agriculture (DOA) to support an on-site biosecurity inspection, quarantine, and treatment services facility. At the time of Second Draft EIS publication, the area to be allocated is approximately 1.5 to 2.5 acres within the Kapālama site. DOA would be responsible for the funding, scheduling, operations, maintenance, and development of the new facility.

U.S. Customs and Border Protection

Current plans call for use of the proposed container terminal by a domestic operator. In the future, the container terminal may be partially used by or shared with an operator carrying foreign cargo. Hence, a U.S. Service Port station for foreign cargo inspection would be needed within the terminal area. Details of the facility, including location, type of spaces and required equipment, would be developed during the project planning and design stages. Financing, development, and lease requirements of the facility would be the responsibility of the U.S. Government.

Utilities

Electrical utilities would be developed to provide cargo vessels berthed at the proposed Piers 42 and 43 with shore-to-ship power (cold-ironing), power to gantry cranes moving cargo on and off the vessels (with the option of electric gantry cranes), and general site power. Other utilities, including potable water, wastewater, and telecommunications, would be sized and improved accordingly. Outdoor lighting will conform to fully shielded or fully cutoff fixtures to comply with night sky and migratory species federal laws. Construction of an on-site electrical power substation may be required. A utility corridor crosses the channel near the Sand Island Bridge. This utility corridor consists of communications, electric, sewer, and water lines. The utilities would be adjusted to accommodate the new pier face location. Fuel lines occur along Auiki Street and internal roads within the Kapālama site. These fuel lines may be relocated.

Surface Improvements

At the eastern end of the container terminal site adjacent to the existing inter-island cargo facility, improvements would be made to deteriorating pavement surfaces (e.g., asphalt and spalling) to strengthen pavement surfaces for RO/RO cargo operations, and to allow direct access between the proposed container yard and inter-island cargo facility.

Pier 24-28 ~~Landside~~ Improvements

To accommodate the potential relocation of PSI and Atlantis from the existing Kapālama site to Piers 24–28, the following landside improvements would be made by the tenants: resurfacing of pavement; installation of underground utility lines; renovation and construction of administration, operations, repair and maintenance buildings; and addition of ancillary facilities including employee and guest parking and security systems. Tenants will be responsible for mitigation of light pollution by installing downward facing lighting fixtures. PSI will coordinate with Harbor Police so that access is provided to not impede emergency operations.

The landside of Piers 24 to 26 is already paved but requires resurfacing for PSI's potential operations. Improvements to the pavement surface would be the responsibility of the new tenant. An existing warehouse currently occupied by Bella Pietra may be available for renovation and can be used for the new tenant's administrative operation. Bella Pietra will be relocating to another site on the island outside of Honolulu Harbor. It is contemplated that two floating work platforms or drydocks would be secured in place along Piers 24 and 25, eliminating the use of Pier 23 by its tenant. PSI will have exclusive use of Piers 24 and 25.~~The use of submerged lands and operations are not contemplated as part of the tenant's potential relocation effort in this EIS.~~

The slip between Piers 26 and 27 would potentially be occupied by Atlantis. Although the piers are under the jurisdiction of DOT-H, any improvements to the landside section of the piers would be the new tenant's responsibility. Atlantis may resurface the existing pavement but is expected to transfer its existing buildings and facilities from Kapālama to the new site. ~~The use of submerged lands is not contemplated as part of the tenant's potential relocation effort in this EIS.~~

Pier 28 is currently being used as a universal berth by Sause Bros. Ocean Towing Co., Inc. and other marine vessels. Sause Brothers is a marine transportation services operator that provides ocean towing as well as shipyard services. Minor surface improvements to accommodate the continued use of landside operations at Pier 28 are expected to occur. No work in water is planned around this pier.

2.2.4 Operational Activities

Container cargo vessels typically call on Honolulu Harbor several times a week. At the dock, container cargo is unloaded by gantry cranes and temporarily stored in the container yard until picked up by commercial truckers for delivery to customers around the island. Other containers are transported to an inter-island barge terminal for shipment to the neighbor islands.

A breakdown of the above activities indicates the following operations per berth expected at the proposed container terminal:

- 2.4 vessel or ship calls per peak week
- 2 to 3 cranes per berth
- 2 to 3 shifts per 24-hour day for vessel (unloading) operations
- 1,700 to 1,800 lifts (containers unloaded) per call
- 25 lifts per gantry crane per hour
- 35 hours mean berth occupancy time

Based on existing container practices in the harbor, operational procedures at the new container terminal would be as follows. Containers would be unloaded from the cargo ship by gantry cranes, transported on wheeled chassis to the storage yard, parked, and later picked up on truck by the customer. Other containers would be grounded or stacked by top-pick vehicles or rubber-tired gantry cranes. Side-pick vehicles may also be used to stack containers up to a maximum of five high, based on current labor restrictions.

Two container terminals currently operate on Sand Island. Matson Navigation Company, which operates on the larger site, stores approximately 80 to 90 percent of its containers on wheeled chassis. The remainder of the containers is on grounded stacks. Horizon Lines, which operates on a smaller site, has approximately 80 percent of its containers on grounded stacks. The remainder of the containers is on wheeled chassis.

The new container terminal would operate using a wheeled-base operation in order to maximize cargo handling efficiency. Truckers favor wheeled-base operations over grounded (stack) operations because wait times are less.

The busiest pick-up times for the container trucks are expected to be early in the morning on two separate days of the week when a cargo ship is in port. A second busiest pick-up time on the same day would occur later in the day. Trucks would pick up their loads and leave the terminal in 20 to 24 minutes.

2.3 ALTERNATIVE ACTION—NO FILL OF SNUG HARBOR

This alternative would be similar to the Proposed Action but excludes the 68,500 cubic yards of fill in the existing man-made Snug Harbor. The location of the proposed main pier is along the same waterfront as described in the Proposed Action, which is approximately 51 feet inland of the existing waterfront and is also a bulkhead system with the exception of Snug Harbor. This Alternative Action addresses provisions of the CWA that call for minimizing impacts to U.S. waters.

Table 2-1 summarizes and compares effects of the Proposed Action, Alternative Action, No Action Alternative (discussed in section 2.4), and other waterfront-related alternatives (discussed in section 2.5) that were considered but not further evaluated in the EIS. The table characterizes in-water work in the harbor, including dredge and fill quantities, as well as water surface areas gained or lost.

Because the surface area (approximately 1.7 acres with a waterfront length of approximately 200 linear feet) represented by Snug Harbor is needed to provide the required operational area for two ships (a total of approximately 1,860 linear feet) and to optimize container handling efficiencies (minimizing costs and safety risks), this alternative includes construction of an extensive deck over the water within Snug Harbor. The deck would allow the main pier of the container yard to extend along the full length of the site's main waterfront (see Figure 2-9).

Table 2-1. Comparison of Dredge and Fill Volumes and Effects on Surface Water Associated With Waterfront Improvement Alternatives

Alternatives Evaluated in EIS	Dredged/ Excavated (in CY)	Fill (in CY)	Loss of Surface Water Area (in acres)	Creation of New Surface Water Area (in acres)	Net Surface Water Area Loss/Gain (in acres)
Proposed Action (Filling of Snug Harbor)	378,000	68,500	2.83	2.67	- 0.16
Alternative Action (No Fill of Snug Harbor-Construction of Deck)	378,000	10,950	0	2.67	+ 2.67
No Action Alternative	0	0	0	0	0
Alternatives Not Further Evaluated in EIS					
Angled Waterfront Configuration	364,300	269,783	4.18	3.95	- 0.22
Retention of Snug Harbor	Partial	0	0	0.6	+ 0.6
Partial Filling of Snug Harbor	Partial	34,250	1.0	0.6	- 0.4

Notes:

1) Measurements in this table for quantities and surface areas were taken from the edge of existing piers and uncovered shorelines.
2) Fill includes volume of material to fill Snug Harbor from harbor bottom to elevation of container yard pavement.
3) CY = cubic yards
4) The quantities shown for the No Fill Alternative for Snug Harbor involve some slight volumes for the installation of pilings required to support the deck and a revetment. Final design has not been completed to determine the number and size of piles, to be constructed in Snug Harbor.
5) The creation of new water areas refers to the effect of widening the slip between Piers 40 and 41 by 44 feet and the movement of Piers 42 and 43 approximately 51 feet inland from main pier face shown in the original Draft EIS.
6) The pier face for the Proposed and Alternative Actions are located approximately 51 feet inland from the pier face of the alternatives not carried forward.

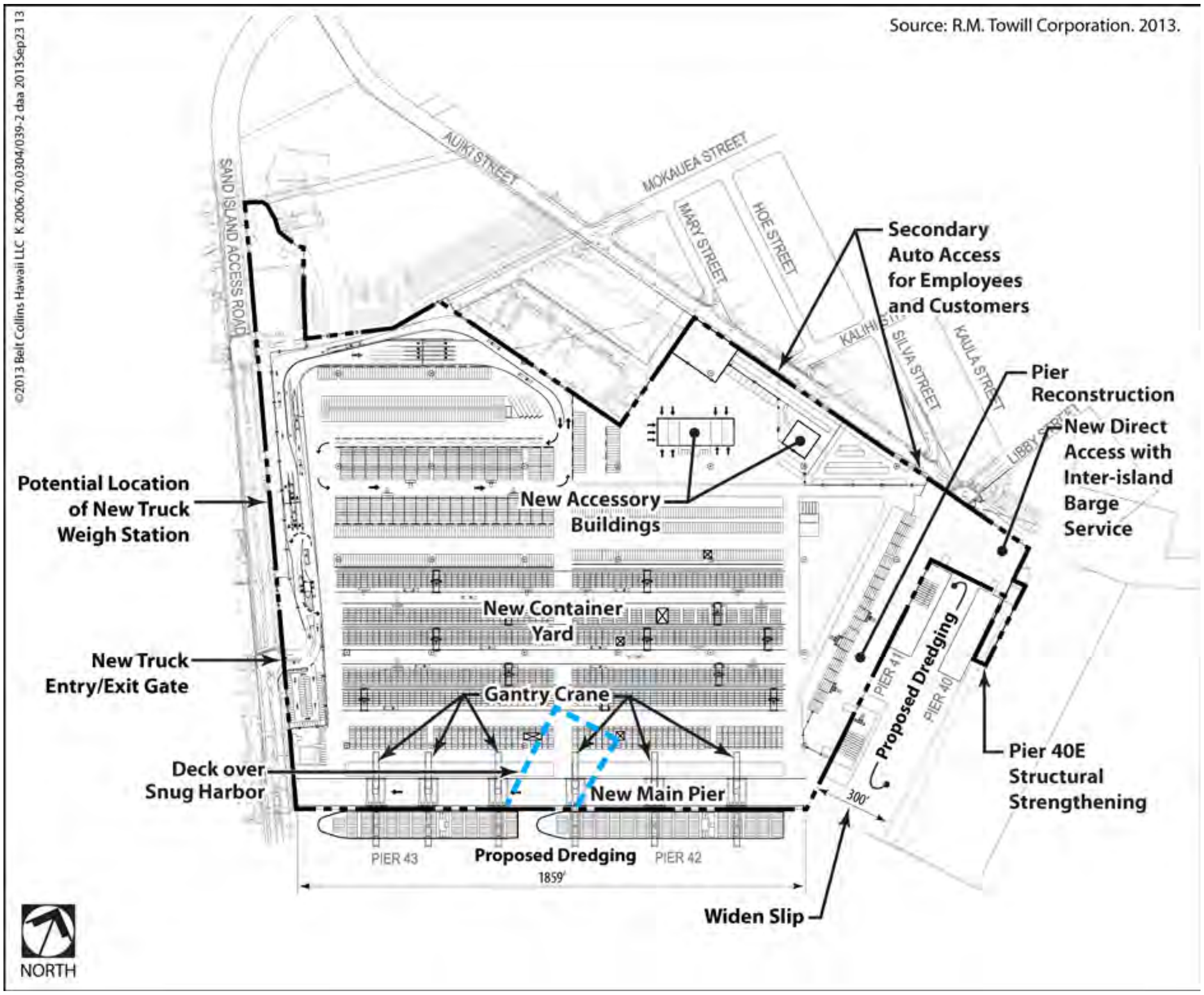


Figure 2-9. Alternative Action—Typical Main Pier Section over Snug Harbor

Use of the pier's full length would allow the rail system for the gantry cranes to extend in a straight-line fashion. This would provide the full length of landside needed to operate the cranes for two ships, allow maximum maneuverability along the waterfront, and optimize container handling efficiencies in the terminal. Under the Alternative Action, the main pier face would remain at approximately the same location as the Proposed Action waterfront, which is moved approximately 51 feet inland from main pier face shown in the original Draft EIS.

The construction cost for this alternative with the deck over Snug Harbor is approximately $369 million (cost of Proposed Action is approximately $266 million). The long-term cost for this alternative includes not only the cost of operating and maintaining the container terminal as in the Proposed Action, but also the cost of routine maintenance of the deck and water quality beneath the deck at Snug Harbor. In the latter case, water in the covered slip would need to be circulated and kept free of debris.

The bulkhead system proposed for the main pier would be the same as the Proposal Action consisting of a bulkhead design. However, Snug Harbor will consist of a concrete deck over the water supported by vertical and battered concrete piles. The shoreline beneath the deck would be reinforced with an armor rock revetment to provide a stable shoreline profile as well as to absorb wave energy in the harbor when vessels travel past the Kapālama site. The sub-base for the revetment would include a layer of quarry run rock.

All other improvements described in section 2.2 for the Proposed Action would be part of the Alternative Action. Activities during operations would be the same.

2.4 NO ACTION ALTERNATIVE

Under this alternative, neither the Proposed Action nor the Alternative Action would occur. The waterfront area of the Kapālama site would remain in its present condition, Snug Harbor would not be filled (its pier facilities would continue to be available for marine vessel mooring, and the waters and marine resources within the slip would continue to exist), the maritime tenants being evaluated under the Proposed Action (PSI and Atlantis Submarines) would still relocate, but the development of the site with piers and a container terminal would not occur. All existing tenants would be vacated, existing structures would be demolished, and the site would be cleared under separate actions to protect public health and safety (existing non-maritime buildings are in poor condition). These actions are in accordance with DOT-H's list of exempt classes of actions, pursuant to the implementing rules of HRS Chapter 343.

The Kapālama site is zoned by the City and County of Honolulu (City) as I-3 Waterfront Industrial. Should the site not be redeveloped into a container terminal with pier improvements, the City's current zoning allows for other maritime–related uses, such as warehouses, base and storage yards, centralized mail/package handling facilities, maritime-related vocational training/ sales/construction/maintenance and repair, wholesale and retail establishments dealing primarily in bulk materials delivered to or by ships or by ships and trucks in combination, public uses and structures, and truck terminals.

Under the No Action Alternative, consumer growth and demand for products coming through the harbor would not change. Hence, evaluation of the No Action Alternative would involve considering the effects of trying to meet anticipated overseas container cargo demand without the Proposed Action.

The existing container terminals on Sand Island would continue to accommodate existing and increasing future incoming cargo volumes and as a result would experience escalated congestion in container movement and storage in the yard. This situation has raised serious concerns about safety and welfare by the operators and container handlers.

2.5 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD FOR ANALYSIS

The process used to determine the reasonable range of alternatives evaluated in this EIS, described in section 2.1 was based on screening the alternatives with the project's purpose, need, and objectives. Environmental issues and community concerns were also considered. The Proposed Action and Alternative Action met the purpose, need, and objectives, as stated in Chapter 1. The alternatives that were screened out and not further considered for evaluation in this EIS include: alternative locations for the container terminal and for tenants PSI and Atlantis Submarines (section 2.5.1), alternative waterfront configurations (section 2.5.2), and alternative ingress/ egress for land transportation (section 2.5.3).

2.5.1 Alternative Locations

Mainside Honolulu Harbor

Within Honolulu Harbor (mainside), various sites were reviewed but dismissed from further consideration. Over 95 percent of the harbor's waterfront is presently occupied by existing tenants. Only approximately 1,500 linear feet of waterfront is currently available for new uses, and of that total, the longest continuous available frontage is approximately 500 linear feet. A fully functional container terminal, large enough for at least two container ships, would require at least 1,860 linear feet of waterfront (DOT-H 2013).

Only with the availability of the former KMR property is a new container terminal in Honolulu Harbor a possibility.

Sand Island Container Terminal Expansion

A study (DOT-H August 2006) prepared in 2006 reviewed the possibility of expanding an existing container terminal on Sand Island. One option was to expand the Horizon Lines container yard toward the ocean (Figure 2-10). There was sufficient land area on the *makai* side of the terminal to add up to 20 to 24 acres to the operator's existing 38-acre site. This option, however, would have involved extensive infrastructure cost to realign Sand Island Access Road around the *makai* boundary of the expanded site.

It should be noted that this option included two versions: one involving realignment of Sand Island Bridge, as well as a portion of Sand Island Access Road abutting the

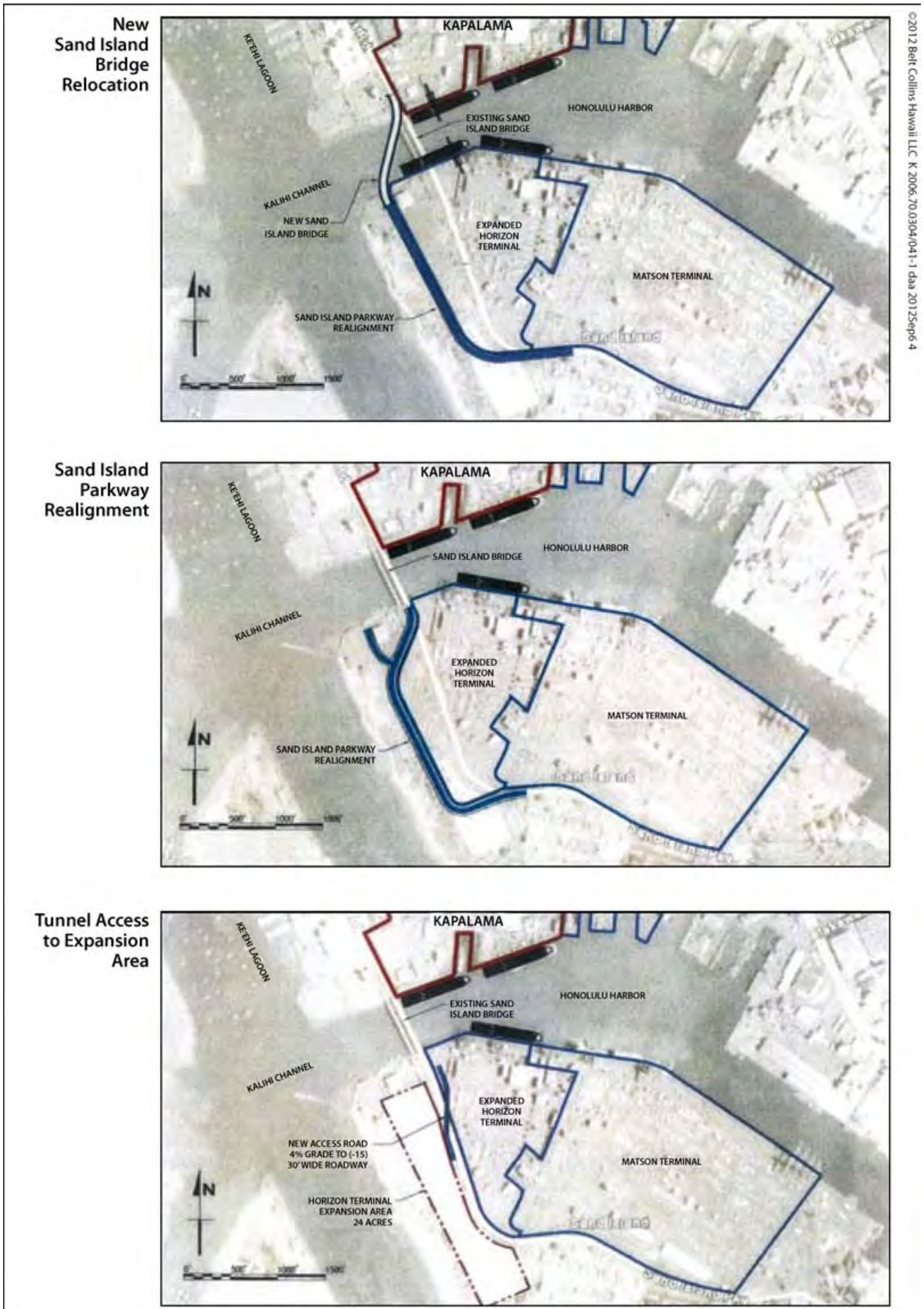
Horizon Lines site; and a second version involving realignment of only Sand Island Access Road abutting the Horizon Lines site (see Figure 2-10).

In the first version, realignment of the bridge would have allowed increased water frontage for two berths rather than one, which is presently allowed. This version would have involved substantial work in the water with associated environmental concerns due to construction of the realigned bridge in the harbor channel and the channel's connection to the ocean. Traffic coordination would be required while construction on the bridge occurs.

In the second version, no bridge realignment would be necessary, and as a result, no work in the channel waters would be required. This version, however, would not provide capacity for a second berth on the waterfront and meet the project's objective for two berths.

The 2006 study also considered the option of including the 24 acres on the *makai* side of Sand Island Parkway to the Horizon site without realigning the road (see Figure 2-10). With the parkway remaining in place, construction of a tunnel would be required to establish a connection to the *makai* site and to facilitate continuous and uninterrupted access between the two properties.

The construction cost and timing of the tunnel would add to the development budget and project schedule for the container yard expansion, but not as much as for the bridge and road realignment option. Tunneling beneath Sand Island Access Road would involve substantial subsurface activity below mean sea level. If trenching is the method of tunnel construction, the project would generate significant traffic impacts requiring approved traffic mitigation measures.



Source: JWD Group. A division of DMJM Harris. 2006.

Figure 2-10. Alternative Sites on Sand Island

The alternative of expanding container terminal operations on Sand Island was not further considered because it does not meet DOT-H's objective to "reduce distribution risks associated with existing overseas containers being received on Sand Island" (section 1.2.4). Anything that impedes overland distribution of goods to the inter-island cargo operators and to O'ahu customers (e.g., supermarkets) could have an adverse impact due to the just-in-time operations at Honolulu Harbor. This alternative would continue to present a risk to the distribution of supplies should the two-lane roadway from Sand Island to the mainside be compromised. The relatively small area available for increased site use, up to 24 acres, is also not adequate and does not meet DOT-H's objective for providing sufficient capacity through the 2039 planning horizon.

Kalaeloa Barbers Point Harbor

The purpose of the Proposed Action is to develop a container terminal with sufficient ship berthing and landside container storage space to increase overseas container terminal capacity in Honolulu Harbor. The need for this additional container terminal space has long been identified in the State's long-range plans for Hawai'i's main port of entry. Consequently, consideration of such a new facility at Kalaeloa Barbers Point Harbor was readily dismissed, as this alternative is not consistent with the project's purpose.

Further, a new container terminal at Kalaeloa Barbers Point Harbor does not meet the objective to locate overseas container terminal operations next to inter-island operators to improve over-land and inter-island distribution. Presently, there are no inter-island container barge operators at Kalaeloa Barbers Point.

In addition, the west O'ahu harbor, which is intended to be a niche port that handles dry- and liquid-bulk cargos, also has a number of physical constraints that make the use of the harbor for container ships inappropriate and infeasible, including lack of berthing space for new container ships, lack of background lighting conditions that make Kalaeloa a daylight-only navigation harbor, and a narrow harbor entrance which should be 100 feet wider. For more details on the harbor's constraints, see Appendix A which contains DOT-H's presentation at a public meeting in May 2012.

Maritime-Dependent Tenant Relocations

PACIFIC SHIPYARD INTERNATIONAL. In exploring relocation options, PSI and DOT-H considered several sites other than Piers 24–28, including sites within and outside of Honolulu Harbor:

Alternative Site 1: Sand Island between Sand Island Bridge and Pier 51A.

Alternative Site 2: Oceanfront site on Sand Island near Kalihi Channel.

Alternative Site 3: Kalaeloa Barbers Point Harbor.

Alternative Sites 1 and 2 would require extensive improvements and infrastructure upgrades and result in possible delays for PSI to move to its new home. Alternative Site 3, Kalaeloa Barbers Point Harbor, was briefly considered but quickly dismissed, as it was found to have inadequate space for PSI's berthing requirements, and sea conditions in the harbor are not consistently stable for the company's dry dock operations.

ATLANTIS SUBMARINES. Since the operations of Atlantis Submarines would not be in direct conflict with the proposed container terminal, consideration was given to keep the operator at its current site on Pier 40F. However, such a location—between the proposed overseas container terminal and inter-island cargo terminal—was determined to be inappropriate and not ideal for the visitor-oriented recreational operator. The movement of containers would need to navigate around Atlantis if they were to stay at Pier 40F. The Atlantis operations are not compatible with container yard operations.

2.5.2 Alternative Waterfront Configurations

Angled Waterfront Configuration

This alternative considered a two-berth configuration that would maximize the length of each berth to accommodate potentially larger ships (Figure 2-11). The concept for this alternative included filling of Snug Harbor, along with additional excavation and dredging (relative to that in the Proposed Action) in the adjacent section of the port (see Table 2-1). This alternative was readily dismissed from further consideration for three main reasons: (1) it would not meet the objective of optimizing container handling efficiencies, as the angled main pier creates an overlapping handling area in the container terminal area, (2) it would reduce the terminal operating area by approximately 4.2 acres, and (3) it would not meet the objective of minimizing costs on overseas good shipped to Hawaiʻi and minimizing safety risks to harbor operators by providing space (Pier 41 improvements) for inter-island cargo operators to optimize container handling efficiencies.

Single Berth Waterfront Configuration

This alternative considered the use of one berth for the proposed container terminal. As described above, a one-berth container terminal would not meet the purpose and need for the project, which calls for a facility with a capacity for 550,000 TEUs per year to accommodate anticipated cargo volumes associated with the state's projected growth. Such a requirement dictates a need to develop a two-berth facility, based on 245,000 TEUs to berth capacity planning factor.

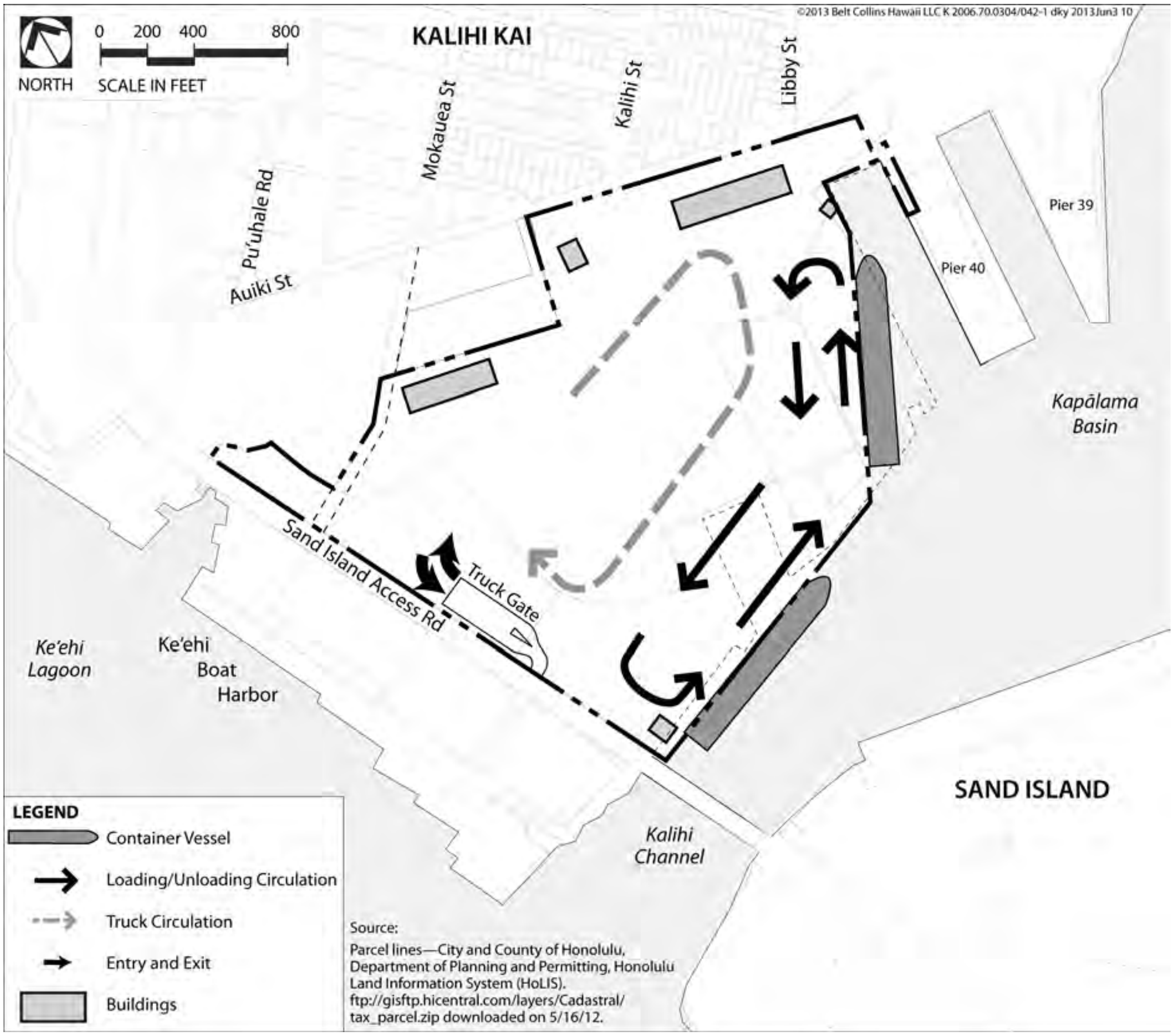


Figure 2-11. Angled Waterfront Configuration

Retention of Snug Harbor

This alternative considered retaining Snug Harbor (slip) and constructing the container terminal's main pier on either side of the slip. The water area and existing piers within the slip would remain intact and be available for general harbor use (see Table 2-1). The terminal's new pier on the east side of Snug Harbor would be approximately 950 feet in length and on the west side, approximately 650 feet in length.

Although the longer main pier (east of slip) would be adequate in terms of linear berth space to accommodate the typical container ships that call on Honolulu Harbor, the shorter main pier (west of slip) would be inadequate. Snug Harbor's central location would hinder unloading/loading operations with two or even one ship in mooring because gantry cranes operate on rails that run the full length of the berthed ships to allow cranes from one berth to move along the rails to assist at the other berth.

Snug Harbor's location would also interfere with truck movements involved in the waterfront unloading/loading process, as well as access to logistical container storage areas behind the gantry crane operations.

The project objective to develop a two-berth terminal at Kapālama to accommodate 550,000 TEUs per year would not be met with a one-berth facility as proposed with this alternative. Further, the central location of Snug Harbor along the waterfront would severely restrict container handling and therefore efficiency, which conflicts with one of the main objectives of the Proposed Action. For these reasons, retaining Snug Harbor in its current state was not considered further.

Partial Filling of Snug Harbor

This alternative considered filling a portion of Snug Harbor to minimize the loss of slip area for marine vessels and maximize the landside area of the waterfront for the container yard. The northern and western sides of Snug Harbor contain the port's auxiliary piers. The eastern side is deteriorated; only pilings remain after years of idleness. Occasionally, a vessel may be moored at the pilings.

Partial filling could occur on the east side of Snug Harbor to cover the pilings and attain the original design configuration of the slip. The fill, approximately 7,000 cubic yards, would reduce the water area in the slip from 1.7 acres to 1.5 acres (see Table 2-1) but would allow the pier on the east side to be completed, creating approximately 300 linear feet of new berthing space. It would also add approximately 40 feet to the length of the new main pier along Kalihi Channel, east of Snug Harbor.

Similar to the Retention of Snug Harbor Alternative, there would only be one and not two berths of adequate length on the waterfront, and Snug Harbor would severely restrict container handling and therefore operational efficiency, which would conflict with one of the main objectives of the Proposed Action.

Consideration was also given to partially filling Snug Harbor by approximately fifty percent and placing a deck over the remaining portion to maintain a two berth pier face. However, design and maintenance of this alternative would add significant construction cost (because of the need for stabilization of the pier face and additional piles required for the deck), but would not add significant environmental benefit. For example, since Pier 41 would be moved approximately 44 feet landward and Piers 42 and 43 would be moved approximately 51 feet landward, significant additional water surface area will be added to the harbor. This new water area will largely replace the water area being lost at Snug Harbor, and therefore negate the purpose of the alternative. As a result of these conclusions, the alternative was not further considered.

Main Pier Alignment Along Existing Waterfront

The original development concept for the container terminal consisted of a main pier alignment that generally followed the physical boundary of the project waterfront. This pier concept was presented in the original Draft EIS. As more information on the project became available, design of the pier alignment was revised (fill of Snug Harbor was carried over from original design) and has become the design for the Proposed Action of this Second Draft EIS.

Construction of the original main pier design would basically be at the edge of the water, and as a result, the cargo ships would be berthed partially within the federal project area. The federal project area within the harbor depicts the safe navigational area. Having a ship berthed within the navigational area poses a potential safety issue for the movement of ships.

Analysis of this alternative also included a review of marine vessels maneuvering in the navigable areas of the harbor. The narrowness of the Kalihi Channel at the Sand Island Access Road bridge is a maneuvering constraint, creating a hazardous condition for vessel accessing or mooring at the west end of the harbor's Kapālama Basin. Relocating the main pier inland as provided in the Proposed Action would widen the channel and provide additional maneuvering space.

2.5.3 Alternative Ingress/Egress for Land Transportation

Alternative truck entry and exit locations for the Kapālama site were considered in layout plans for the new container terminal. These alternative locations would normally be an internal circulation design issue, but their connections to the abutting public street system would have different effects on the surrounding community. For that reason, alternative truck entry and exit gate locations were considered.

Auiki Street Entry/Exit

In this alternative, the truck entry and exit gates are located on Auiki Street, which is closer to Nimitz Highway than the gates on Sand Island Access Road as provided in the Proposed Action (Figure 2-12). Additionally, the gates on Auiki Street would be more accessible from multiple points along Nimitz Highway (Pu'uhale Road, Mokauea Street, Kalihi Street, and Libby Street).

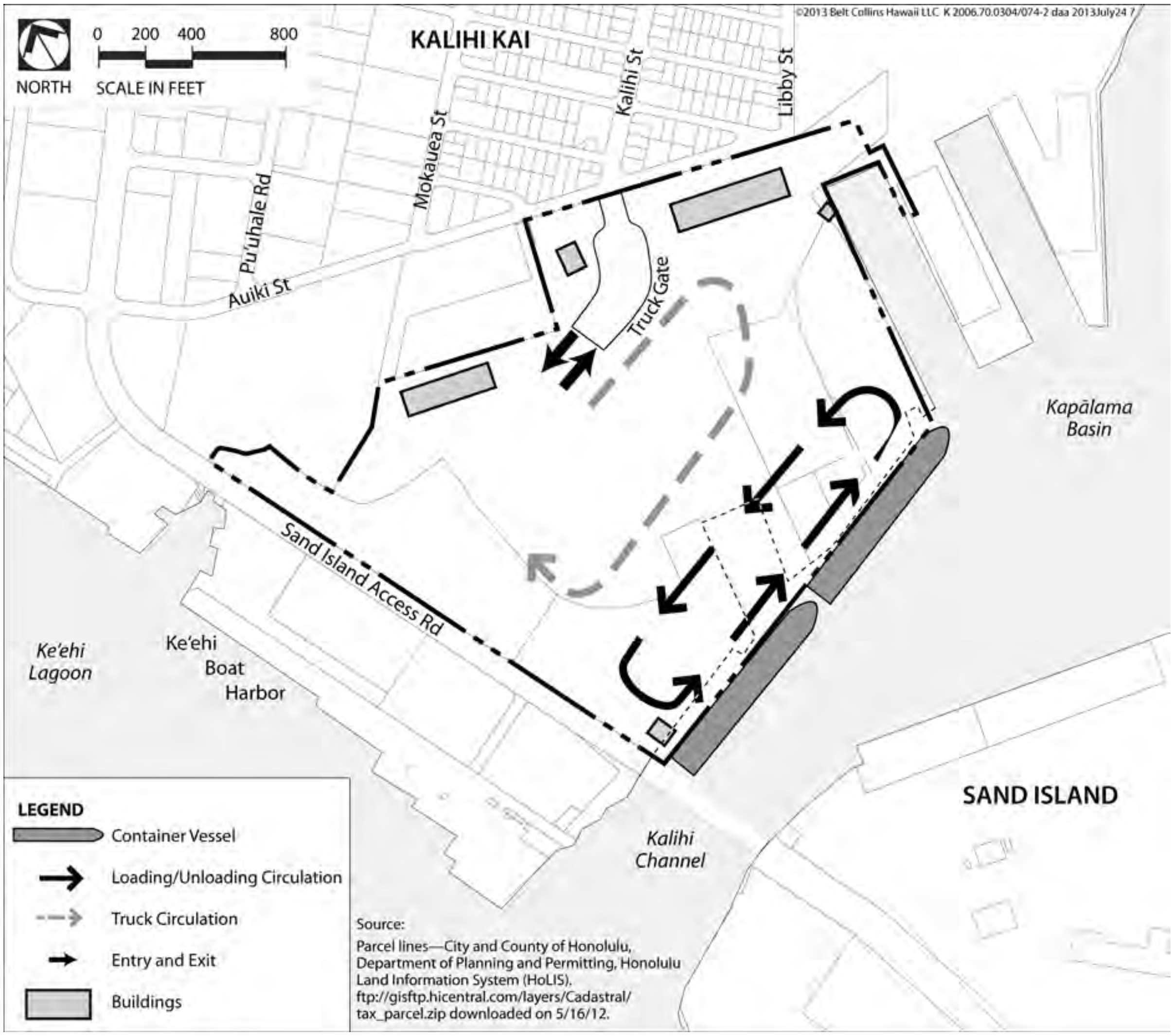


Figure 2-12. Auiki Street Access

From a circulation standpoint, the multiple access/departure points provide flexibility and efficiency in the travel route. From a traffic and safety standpoint, they would be problematic. Connecting streets from Nimitz Highway traverse a neighborhood of mixed uses consisting predominantly of light industrial and commercial uses and a scattering of residential apartments in the neighborhood's eastern section. Traffic on these streets can be heavy at various times throughout the day. On-street parking makes the travelway on some of these streets narrower with less capacity. The presence of residences in the area creates potential conflicts, including hazards to pedestrians.

As a result of community input and this alternative not meeting the project objective to improve traffic conditions for efficient overland container deliveries, this alternative was not further considered.

Auiki Street Entry/ Sand Island Access Road Exit

To minimize truck traffic on connecting streets, this option locates the entry gate on Auiki Street and the exit gate on Sand Island Access Road (Figure 2-13). Even if a reverse route is proposed, i.e., entry gate on Sand Island Access Road and exit gate on Auiki Street, traffic impact from this option on the adjacent neighborhood would be substantially less than if both gates were installed on Auiki Street. The reduction in truck traffic through the connecting streets would lessen the burden on the streets' carrying capacity and less wear and tear on road pavement. While the benefits are clear in terms of lower volume of truck traffic in the neighborhood, the potential hazard of mixing truck traffic with pedestrian use is still a concern. This potential hazard is difficult to measure and would require monitoring and continued public awareness.

As a result of community input on potential traffic conflicts and safety concerns, this alternative was not further considered.

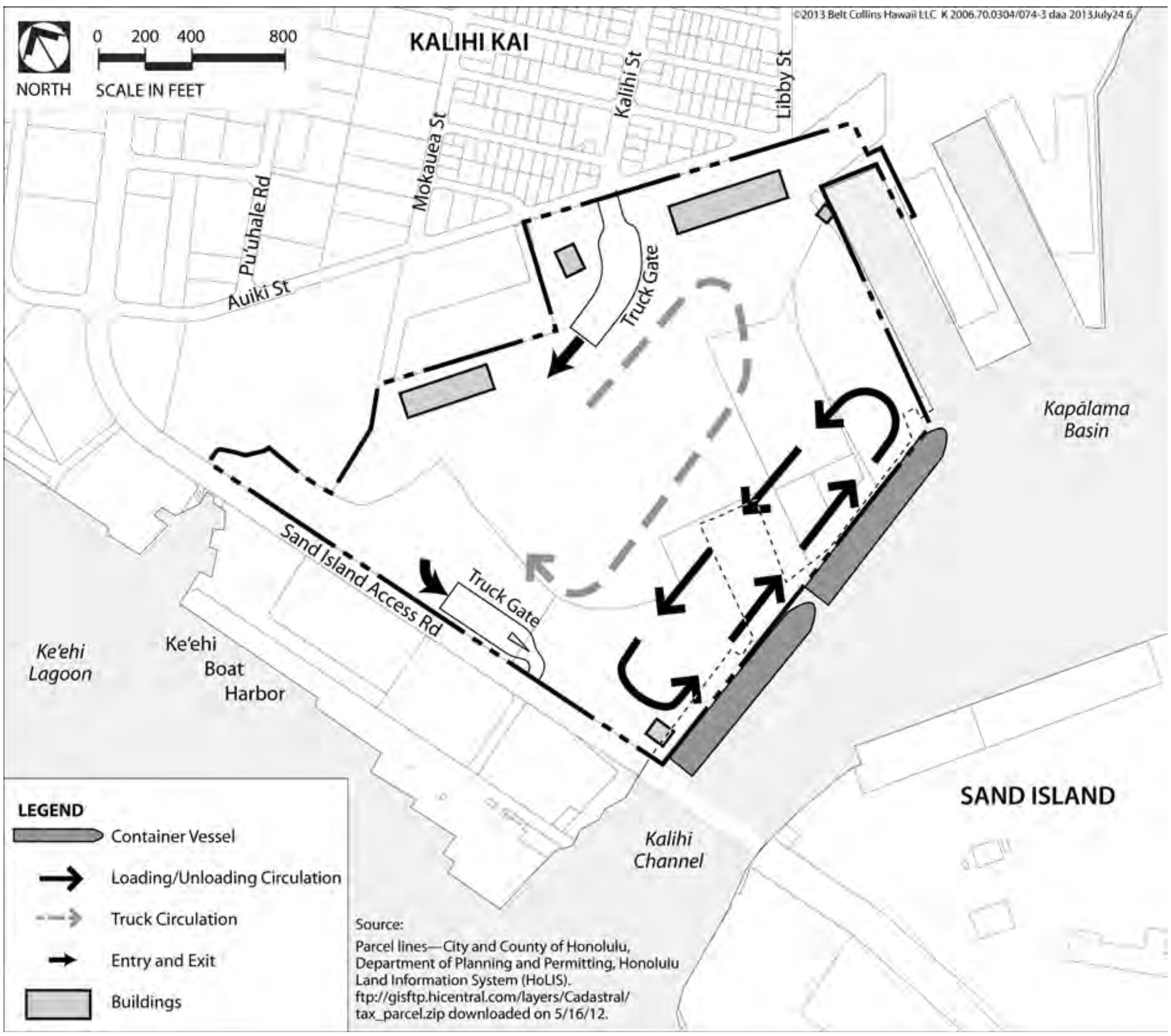


Figure 2-13. Auiki Street Entry/Sand Island Access Road

Affected Environment and Potential Consequences: Physical Environment

3

CHAPTER 3
AFFECTED ENVIRONMENT AND POTENTIAL CONSEQUENCES: PHYSICAL ENVIRONMENT

3.1 INTRODUCTION

Chapters 3 and 4 describe the affected environment (existing/baseline conditions) at the Kapālama and Pier 24–28 sites,[1] disclose potential environmental consequences of each alternative, and propose mitigation measures if needed. Chapter 3 addresses resources/issues in the physical environment (listed below), while Chapter 4 addresses issues/resources in the biological, flora, fauna, cultural resources, and socioeconomics environment.

- Land Use
- Land Ownership
- Public Health and Safety
- Roadways and Traffic
- Utilities
- Public Facilities and Services
- Topography, geology, and soils
- Hydrology
- Natural Hazards
- Climate and Air Quality
- Noise Environment
- Visual Resources

In each section, two items are identified in the introduction: (1) factors considered in evaluating impacts, including but not limited to applicable statutes and regulations designed to avoid or minimize impacts; and (2) the region of influence (ROI), that is, the geographic extent being evaluated for each resource or issue. The ROI may vary for each resource/issue and when evaluating direct versus indirect and cumulative impacts.

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[1] For purposes of this EIS, identification of existing conditions establishes the baseline in the environment from which changes in the affected area caused by the proposed action are measured.

3.2 LAND USE

This section describes existing land uses at the Kapālama site, Pier 24–28 site and in the surrounding areas and then analyzes the project's land use compatibility with those areas. The extent of the impact is first determined by whether the proposed activities are allowable within the designated State of Hawai'i (State) land use district or City and County of Honolulu (City) zoning district. The analysis then determines the proximity of the proposed activities to other land uses in the immediate vicinity. The ROI for the Kapālama site encompasses the neighboring Kalihi Kai residential area. The ROI for the Pier 24–28 site encompasses the residential areas across Nimitz Highway. ~~This Environmental Impact Statement (EIS) does not contemplate the tenant's actual use of Piers 24–28, but analyzes what the anticipated use would be. All new tenants at Piers 24–28 with their site improvements, building needs, and use of any water/submerged lands will be required to comply with the Hawai'i Revised Statutes (HRS) Chapter 343 and secure all applicable land use and environmental agency permits and approvals.~~

3.2.1 Kapālama Site

3.2.1.1 Affected Environment

3.2.1.1.1 Existing Land Uses

The Kapālama site includes a range of uses. The major harbor-dependent uses are located along the waterfront. These uses include:

- a visitor-oriented ocean recreation company (Atlantis),
- a shipyard repair company (Pacific Shipyards International [PSI]), and
- an ocean research facility (University of Hawai'i [UH] Marine Center).

Behind this tier of harbor-dependent uses are smaller commercial-industrial tenants in separate individual warehouses that were part of the former Kapalama Military Reservation (KMR). The tenants in the warehouses will relocate and the aging structures, which have outlived their potential useful life, will be demolished. Construction of the proposed container terminal would later commence when all environmental documents have been approved and all appropriate permits have been secured.

The project site includes submerged lands at Snug Harbor and along the southern property line that abuts the Kalihi Channel. Figure 3-1 shows uses of the project site.

The Kapālama site is zoned I-3, Waterfront Industrial zone. See Figure 3-2. The intent of zone I-3 "…is to permit a full range of facilities necessary for successful and efficient performance of port functions. It is intended to exclude uses which are not only inappropriate but which could locate elsewhere." The submerged areas of the property are within the P-1, Restricted Preservation zone where the zoning intent is "…to include State designated conservation district" (City Land Use Ordinance [LUO]). See Chapter 5 for more information.

Figure 3-1. Kapālama Site Existing Land Use

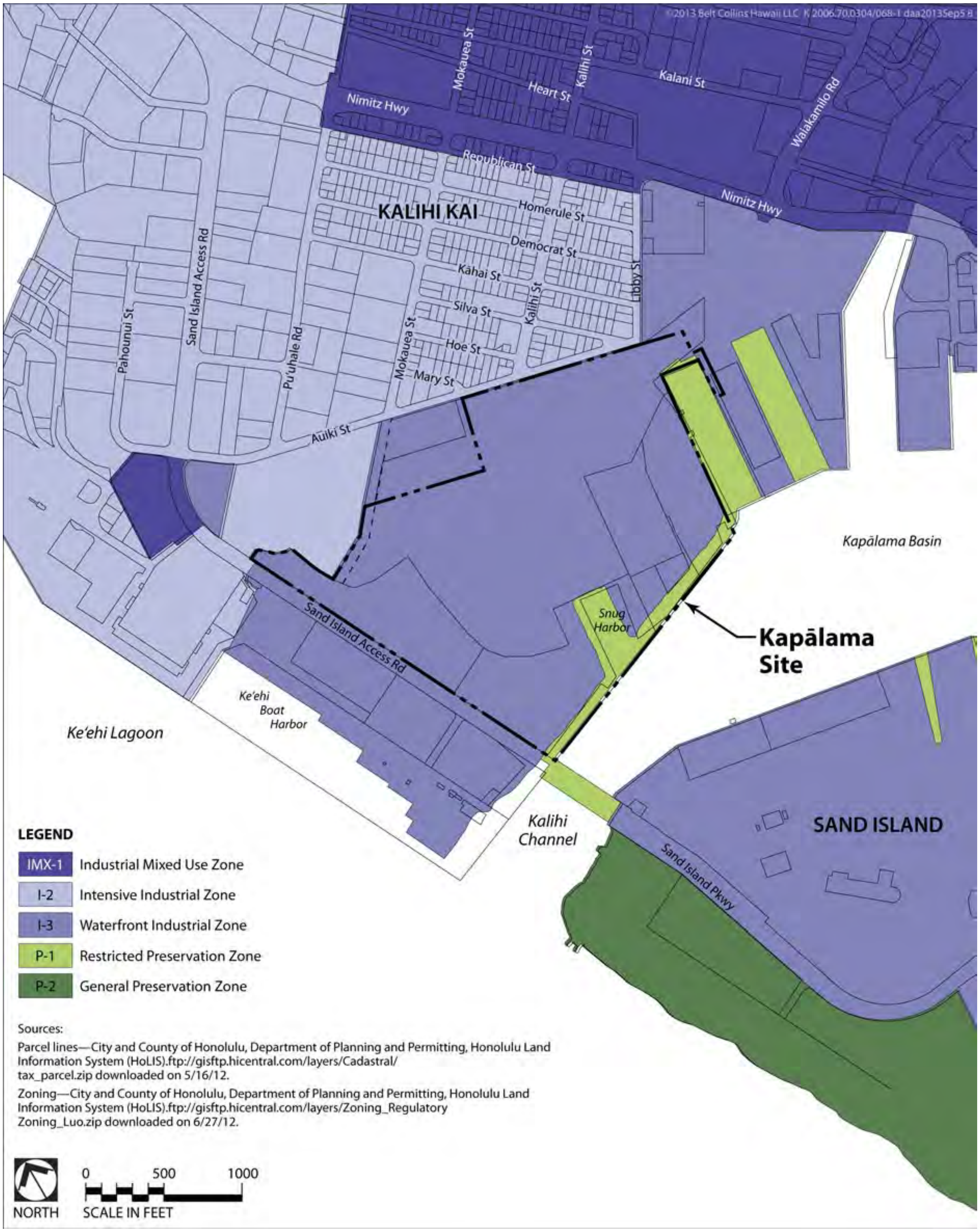

Figure 3-2. Kapālama Site Zoning

3.2.1.1.2 Surrounding Land Uses

The uses surrounding the Kapālama site include the following:

- North side: The Servco Pacific automotive center, Plant Quarantine Branch of the State Department of Agriculture (DOA), an adjacent distribution warehouse (Building T-904 fronting the DOA facility on Auiki Street), and the Kalihi Kai neighborhood. Kalihi Kai, which is located on the north side of Auiki Street, includes commercial and industrial properties interspersed by apartments and residential properties. A police union hall is located on Auiki Street across from the project site.
- East side: Young Brothers facility at the Inter-island Cargo Terminal (Piers 39–40);
- South side: Kalihi Channel and the Sand Island container terminal facilities of Horizon Lines LLC and Matson Navigation Company;
- West side: Sand Island Access Road, State Department of Transportation, Harbors Division (DOT-H) base yard, fuel storage facilities of the Hawaii Fueling Facilities Corporation (HFFC) and Tesoro Hawaii Corporation Sand Island Terminal.

Ke‘ehi Boat Harbor is located ~~northeast~~ west of the Kapālama site. The boat harbor is used by boaters, fishermen and their families, and boaters residing on board. Boat harbor facilities include: 389 berths, boat ramp, vessel washdown, and a harbor office. Offshore moorings include 202 mooring and dinghy docks.[2] Located north of the boat harbor are the privately-owned Keehi Marine Center and the La Mariana Sailing Club.

Zoning around the Kapālama site includes I-3, Waterfront Industrial zone, and I-2, Intensive Industrial zone. Within the I-3 zone are the Inter-island Cargo Terminal to the east, the Horizon Lines and Matson Navigation cargo terminals to the south, and Honolulu Harbor’s base yard and bulk fuel storage area to the west. The intent of the I-3 zoning, as discussed earlier, is to support the port functions.

Within the I-2, Intensive Industrial zone, are the Servco Pacific and Kalihi Kai properties. The intent of the I-2 zone, according to the City’s LUO, is “…to set aside areas for the full range of industrial uses necessary to support the city. It is intended for areas with necessary supporting public infrastructure, near major transportation systems and with other locational characteristics necessary to support industrial centers. It shall be located in areas away from residential communities where certain

[2] Hawaii Sailing and Boating Source. Keehi Boat Harbor/Lagoon, O‘ahu. http://www,hawaiiboatingsource.com/safeharbor/59-keehi-boat-harbor.html. Accessed May 23, 2012.

heavy industrial uses would be allowed."[3] See Figure 3-2. See Chapter 5 for further discussion.

The Kalihi Kai area along Nimitz Highway is zoned IMX-1, Industrial-Commercial Mixed Use. The intent of this designation is "…to provide for areas of diversified business and employment opportunities by permitting a broad range of uses, without exposing nonindustrial uses to unsafe and unhealthy environments."[4]

3.2.1.2 Environmental Consequences

Proposed Action

Construction Impacts

Prior to construction, needed approvals for the project will be secured. During construction, short-term impacts such as dust, noise, and runoff from the construction site will be addressed through implementation of Best Management Practices (BMPs) and other management measures. Upon completion of the project, any damage to Sand Island Access Road or Auiki Street adjacent to the project site that are caused by construction activities will be repaired and the roads restored to their pre-construction condition.

Operational Impacts

The issue of land use compatibility is relevant during operations. For the Proposed Action, the entire Kapālama site would be in waterfront industrial use that is consistent with its location in the harbor and the site's I-3 zone. Container terminal operations are not expected to adversely affect nearby Kalihi Kai establishments since I-2 and I-3 zones both involve industrial activities. The scale of activities would differ as the Kalihi Kai businesses are smaller establishments operating on smaller lots. Existing Kalihi Kai residential uses situated near Auiki Street and lower Kalihi Kai have evolved into a non-conforming use status in this designated industrial–oriented neighborhood.

Mitigation Measures

No mitigation is required.

Alternative Action

Similar to the Proposed Action, there would be no impact. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

[3] City Land Use Ordinance (LUO).

[4] City Land Use Ordinance (LUO).

3.2.2 Piers 24–28

3.2.2.1 Affected Environment

3.2.2.1.1 Existing Land Uses

The Pier 24–28 site is located within Honolulu Harbor and nearly one mile away from the Kapālama Site. The site entry is at the intersection of Nimitz Highway and Pacific Street. See Figure 3-3.

The Pier 24–28 site includes the waterfront and back area for Piers 24, 25, 26, 27, and 28. The present users of the site are described below:

- Pier 24 landside: Bella Pietra, a natural stone company, presently occupies a building (Tax Map Key [TMK] 1-5-038:055) for their sales and showroom near the entrance at Nimitz Highway. The company sells a variety of stones, e.g. marble, granite, etc, that are imported to Hawaiʻi for residential and commercial uses.
- Pier 24 dockside: The Harbor Police and Sause Brothers. Ocean Towing Company share a building at Pier 24 (TMK 1-5-038:017). Sause Brothers has provided tug, barge and ocean transportation services to the state since 1966.[5]
- Piers 24, 25 and 26: These piers are used as lay berths for tugs, barges, and general storage.
- Pier 27/28: These piers are lay berths used by Sause Brothers and other vessels. The Sause Brothers maintains a repair shop at the site. The Kapālama Channel is on the seaward side (Pier 28) of the pier.
- The Pier 24-28 site is designated I-3, Waterfront Industrial zone, by the City's LUO. The intent of I-3, according to the LUO, is "…to set apart and protect areas considered vital to the performance of port functions and to their efficient operation. It is the intent to permit a full range of facilities necessary for successful and efficient performance of port functions. It is intended to exclude uses which are not only inappropriate but which could locate elsewhere."[6] See Figure 3-4.

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5 www.sause.com/index.php?page=history.

6 Chapter 21 Section 21-3.10(f) Hawaiʻi Administrative Rules (HAR).

Figure 3-3. Pier 24–28 Existing Land Use

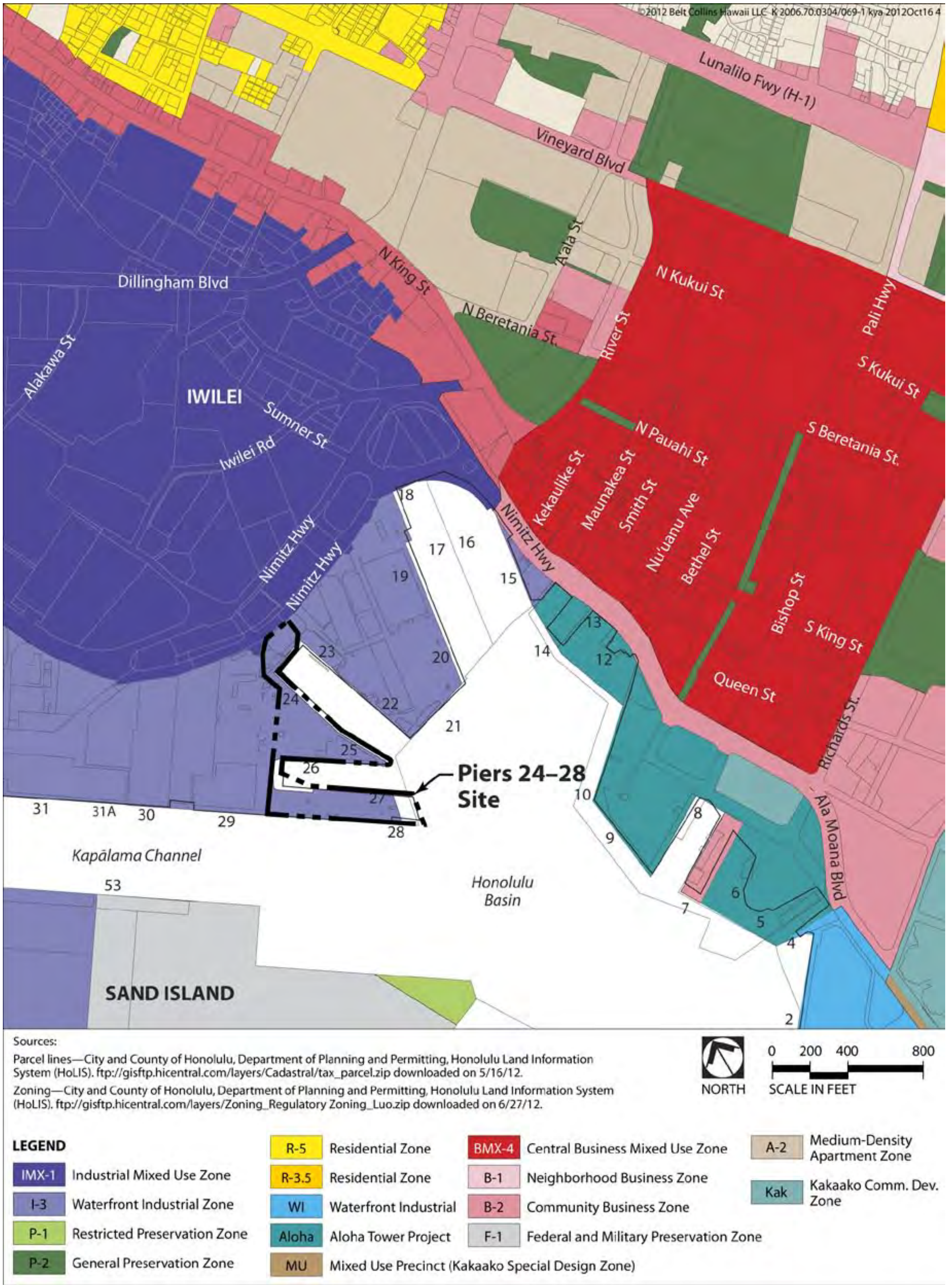

Figure 3-4. Pier 24–28 Zoning

3.2.2.1.2 Surrounding Land Uses

The uses surrounding the Pier 24–28 site are as follows:

- North side: The site is bordered on the north by Nimitz Highway, Pacific Street, and several commercial uses that are part of the Iwilei industrial-commercial area.
- East side: The flour mill, silos, and warehouse of the Pendleton Flour Mill (PFM), dba Hawaiian Flour Mill (HFM) are located at Piers 22 and 23 where they receive dry-bulk cargo shipments from large cargo vessels about every four or five months. The company imports raw wheat grain, bulk source refined flour, and pre-bagged flour. The raw grain is milled at the pier facility where 75 percent is used for refined flour and 25 percent is used for dairy feed either locally or exported to Asia. HFM operates the only flour mill in the State.[7]
- South side: The Kapālama Channel and Honolulu Harbor Basin are on the south side of Pier 28.
- West side: Pier 29 is presently occupied by Aloha Cargo Transport (ACT) which is a division of Northland Services Marine Transportation. ACT provides ocean transport services from Seattle to Honolulu and interconnecting barge services to Kaua‘i, Maui, Hawai‘i, Moloka‘i, and Lāna‘i. ACT recently moved to Pier 29 from Pier 1 at the east end of Honolulu Harbor.[8] (TMK 1-5-037:001 and 1-5-038:002)

The Iwilei area that abuts the site at Nimitz Highway and Pacific Street is zoned IMX-1, Industrial-Commercial Mixed Use. The intent of this designation is "…to provide for areas of diversified business and employment opportunities by permitting a broad range of uses, without exposing nonindustrial uses to unsafe and unhealthy environments."[9] See Figure 3-4.

On the east side beyond the HFM facilities are industrial, commercial, and residential properties. The residential properties include midrise and highrise residential projects along Nimitz Highway in downtown Honolulu. They are approximately 1,800 to 2,400 feet from Piers 24–28 and zoned BMX-4, Central Business Mixed Use. See Figure 3-3.

7 DOT-Harbors and PFM Meeting, January 10, 2012.

8 www.northlandservices.com.

9 City Land Use Ordinance (LUO).

3.2.2.2 Environmental Consequences

Proposed Action

For the Proposed Action, the relocation of PSI or similar operator and Atlantis to Piers 24-28 would have the following effect on the land uses at Pier 24-28:

- Bella Pietra may be displaced and may relocate to another site elsewhere on the island.
- The vessels delivering dry-bulk cargo to HFM's silos at Piers 22 and 23 and the Harbor Police vessels berthing at the head of the slip potentially may be restricted or lose access to those piers by the presence of two potential dry docks operated by the new tenant at Piers 24 and 25. Alternative provisions are being developed to accommodate HFM cargo delivery at Piers 19 and/or 20. Meanwhile, the new tenant at Piers 24 and 25 would need to coordinate continued access for the Harbor Police vessels to access their existing berths at the head of the slip.

Construction Impacts

During construction, short-term impacts such as dust, noise, and runoff from the construction site would be addressed through implementation of BMPs and other management measures.

Operational Impacts

The issue of land use compatibility is relevant during operations. The relocated PSI or similar operator and Atlantis operations would be consistent with the permitted uses of the I-3, Waterfront Industrial zone. Further, they will comply with regulatory requirements (e.g. HRS Chapter 343, National Pollutant Discharge Elimination System [NPDES] permits, BMPs, and spill containment procedures) to prevent or minimize operational impacts.

Mitigation Measures

No mitigation is required by DOT-H for the land-based activities. Each specific tenant will be required to employ mitigation measures if its operation is in non-compliance with State and/or federal regulations.

Alternative Action

Similar to the Proposed Action, there would be no impact. No mitigation is required for the land-based activities.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.3 LAND OWNERSHIP

3.3.1 Kapālama Site

3.3.1.1 Affected Environment

The Kapālama site, which is comprised of a number of parcels, is owned by the State Department of Land and Natural Resources (DLNR). DOT-H has managerial control of the site, except for a 11.3-acre section along Sand Island Access Road which is under the managerial control of DOT-Airports Division (DOT-A) and a 21.2 acre parcel that is pending Executive Order issuing the parcel to DOT-H for managerial control. See Figure 3-5.

DOT-H currently issues land leases and monthly revocable permits for building spaces in the existing warehouses in the Kapālama site. The tenants in the existing warehouses include a number of small light industrial, construction contractors and commercial businesses. The warehouse tenants will relocate and the vacated aging structures, which have outlived their potential useful life, will be demolished. Construction of the proposed container terminal would later commence when all appropriate permits are approved. Other major land tenants at the Kapālama site, particularly on the waterfront, are PSI, Atlantis, Island Movers, and the UH Marine Center. These tenants will also move and will be done in coordination with the availability of their new relocation site.

Tax map parcels for the site represent current and past property areas. The current tax maps show the following TMKs for the Kapālama site: TMK 1-2-25: 02, 09, 12, 16, 17, 30, 40, 42, 44 to 47, 49 to 53, 55, 58 to 68, 71, 73, 74 to 78, 80, 82, 83, 86, 88, 92, 94, 97, 98, 108 to 112 and portions of 11 and 54; and TMK 1-5-32: portions of 2, 8 and 43. See Figure 3-6 and Figure 3-7.

3.3.1.1.1 Ceded Lands

The Hawai'i State Constitution provides that certain lands granted or later conveyed to the State by the United States as part of the Admissions Act of 1959 will be held in public trust for Native Hawaiians and the general public. There are two parcels of land identified as ceded land on the Kapālama site. These parcels include the 11.28-acre parcel of the DOT-A and 13.23-acre parcel around Snug Harbor. See Figure 3-5 (DOT-H 1993).

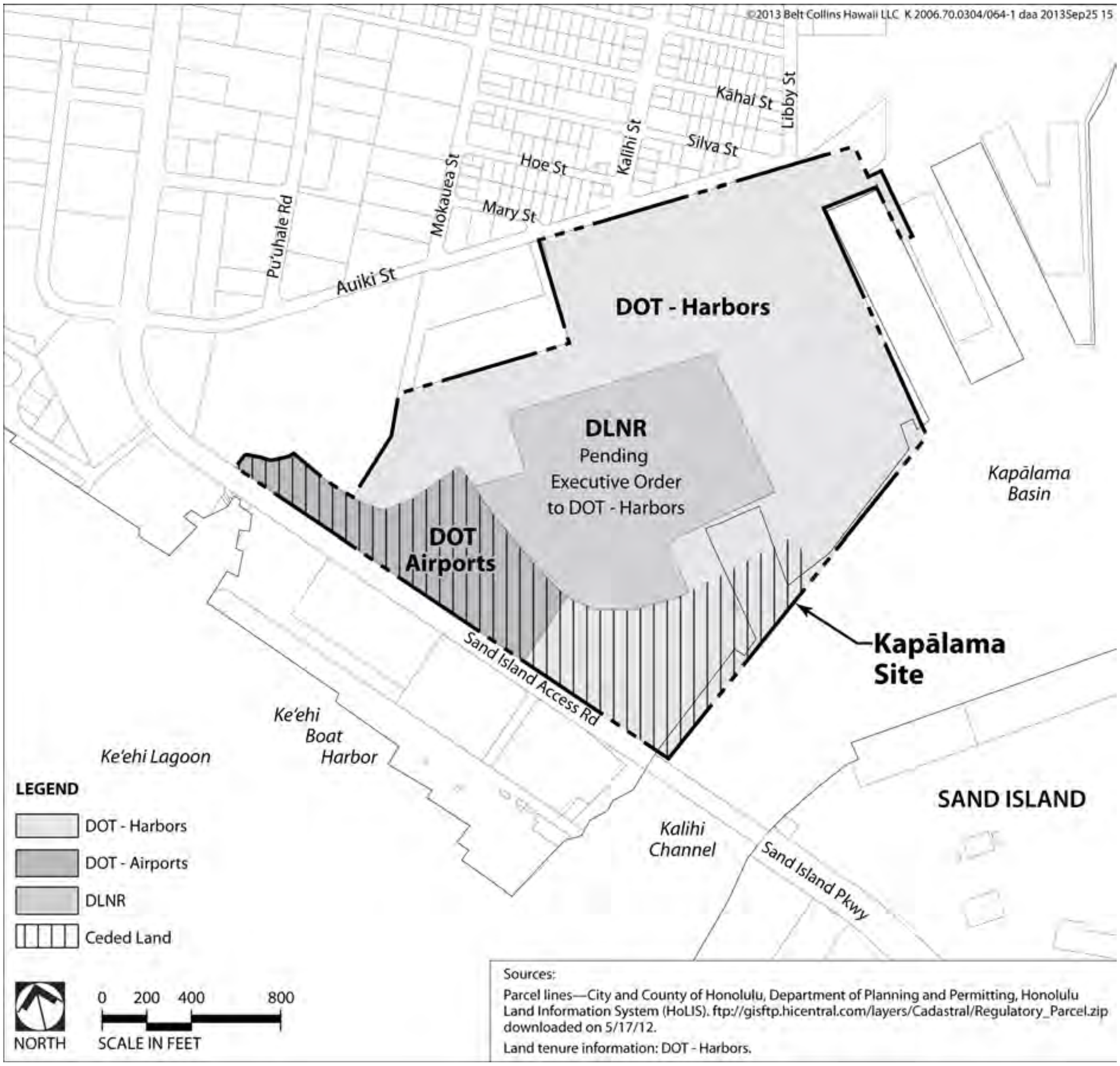

Figure 3-5. Kapālama Site Land Tenure

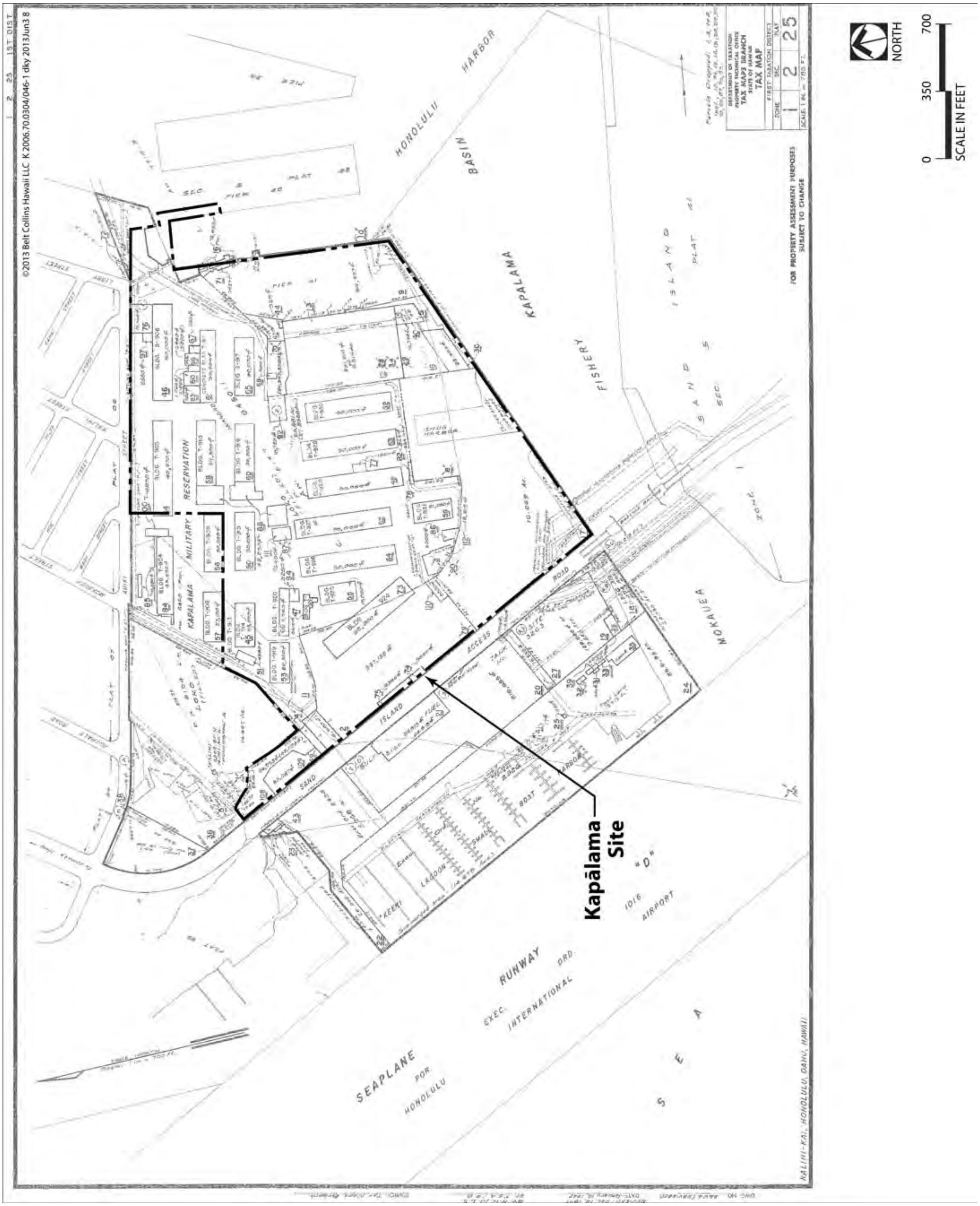

Figure 3-6. Kapālama Site TMK 1-2-25

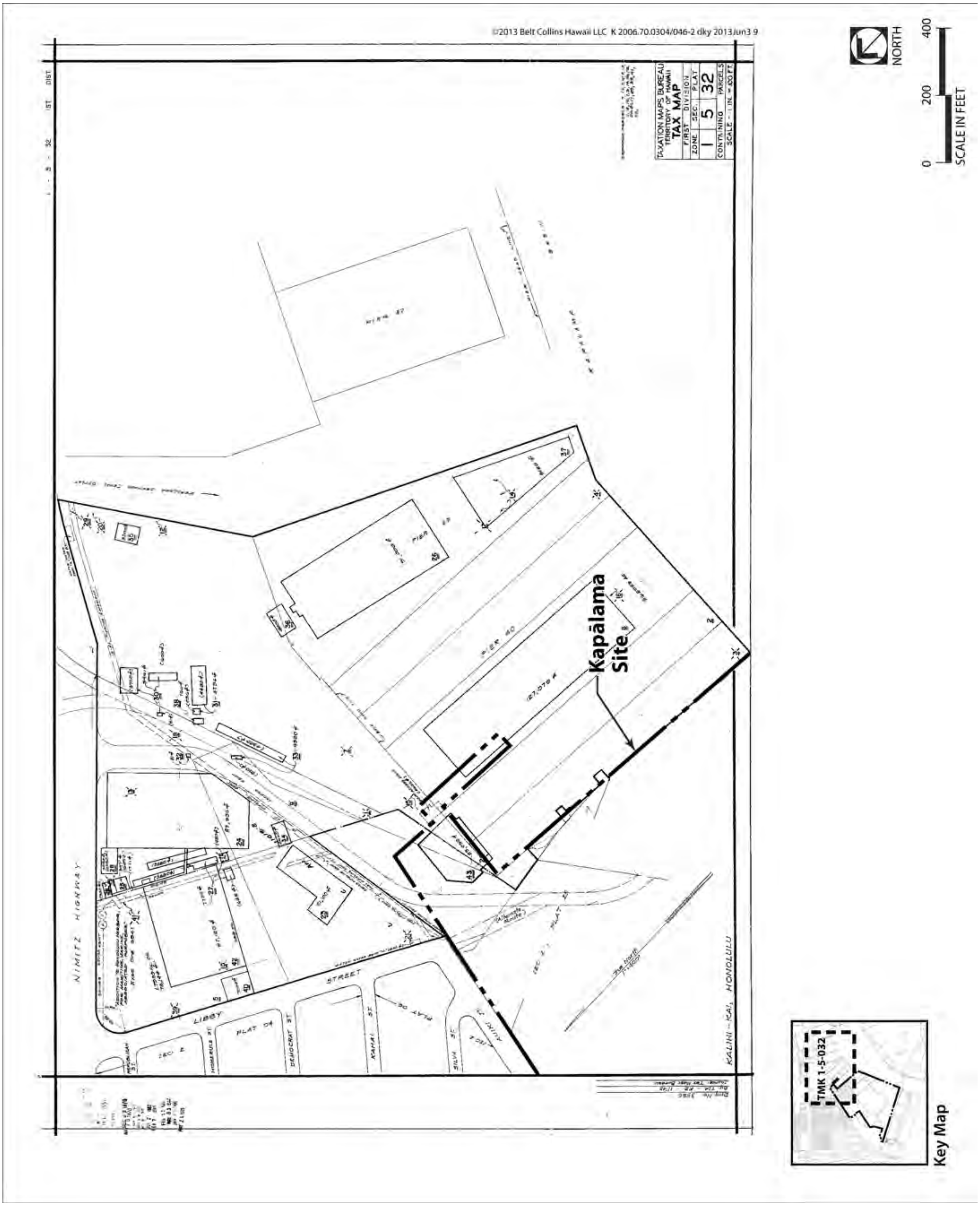

Figure 3-7. Kapālama Site TMK 1-5-32

3.3.1.1.2 Easements

The Kapālama site is traversed by a number of easements for access, fuel pipeline, drainage and utility purposes. These include, among others, Easement P-1 along Auiki Street for fuel pipeline purposes and Easement K-11 for transmission of source energy. See Table 3-1 which lists easements identified from various tax maps and subdivision maps. The identification, location, and status of these easements are expected to be further verified by a title search.

Table 3-1. Easements at Kapālama Site

Easement	Purpose
Easement 1	See DPP File No. 2001/SUB-139
Easement 5 (30 feet wide)	For access purposes
Easement 6A/6B	Perpetual Non-Exclusive Easement for joint use access purposes in Favor of Servco Pacific, Inc.
Easement 7	For temporary joint use access purposes
Easement F-1 (3 feet wide)	NA
Easement Parcel R-1	For access purposes
Easement Parcel R-2 (Alternate)	For access purposes
Easement P-1	For fuel pipeline purposes in favor of Standard Oil Company of California
Easement P-2	For fuel pipeline purposes in favor of Standard Oil Company of California
Easement P-3 (15 feet wide)	For fuel pipeline purposes in favor of Standard Oil Company of California
Easement D-1	For drainage purposes (box culvert)
10-foot wide perpetual easement	For overhead pole line purposes
Easement S-1	For sewer line purposes
Easement K-11 (15 feet wide)	For transmission of source of energy (energy corridor)
Easement 4	For electric line
Easement E-1 (10 feet wide)	For HECO power line
Easement A (Validation in progress by U.S. Army)	For communication cable purposes (portion of JTS cable)
Easement C	For communication cable
Perpetual non-exclusive easements	For water line purposes
25-foot wide perpetual non-exclusive easement	For electrical transmission line
Easement H	For drainage purposes (box culvert)

Source: City Tax Plat Map 1-2-25 and Subdivision Map 2006/SUB-160.
HECO = Hawaiian Electric Company
DPP = City Department of Planning and Permitting

Two easements are currently used by Servco Pacific to access their property. Servco auto carriers (trucks) enter from Auiki Street via a permanent access easement (Easement 6A/6B) and exit onto Sand Island Access Road via a temporary easement (Easement 7). See Figure 3-8 Easements 6A/6B and 7 at the Kapālama Site.

According to a quitclaim deed of record, Servco's temporary easement ended when the U.S. Army transferred the land to the State in 1993. The State is now the full owner of this access and is not subject to adverse possession.

Easement 7 is located in a part of the Kapālama site controlled by DOT-A. DOT-H has secured a commitment for the DOT-A's land in the form of a long-term lease. As lessee, DOT-H will not be permitted to issue a permanent easement to Servco for access onto Sand Island Access Road, but is making arrangements to allow Servco to continue use of the easement on a temporary basis until 2014 when the last short-term tenants vacate the Kapālama site.

The status of Easement 6A/6B over the Kapālama site may also change as part of the project's development process. The DOT-H has informed Servco of its intention to extinguish Servco's interest in Easement 6B located between Easement 7 and Easement 6A (Figure 3-8).[10] The portion of Easement 6B that is subject to this action presently traverses the container terminal's truck exit route. Depending upon the length of time (resulting in possible construction delays) and success of the negotiations, condemnation may be an option.

The other portion of Easement 6 (Easement 6A) between Auiki Street and Easement 6B will remain as a permanent access easement available to Servco, the DOA, and the current tenants of Building T-904. Also, Servco will continue to have access to Auiki Street from its existing driveway across Puʻuhale Street.

On the eastern side of the DOA property is a "paper" access (pole portion of DOA's existing flag lot) to Auiki Street. No physical vehicular driveway or road occupies this paper access.

3.3.1.1.3 Governor's Executive Orders

Under HRS Section 171-11, Governor's Executive Orders (EO) have been issued by past Governors that set aside some of the lands at Kapālama for harbor use, including EO No. 3013 (Piers 41 and 42), EO No. 3457 (Piers 39 and 40), EO No. 3947 (former KMR Phase IIB lot) and EO No. 4206 (Marine Expeditionary Center). EO No. 4074/4075 was issued to transfer a portion of EO No. 3947 to DOA for its plant quarantine facility (Figure 3-9).

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[10] Easement 6A occurs over land owned by the State of Hawaiʻi. Servco has an access interest within Easement 6A. At a meeting on July 30, 2012, DOT-H advised Servco that the State intends to extinguish Servco's interest in the easement.

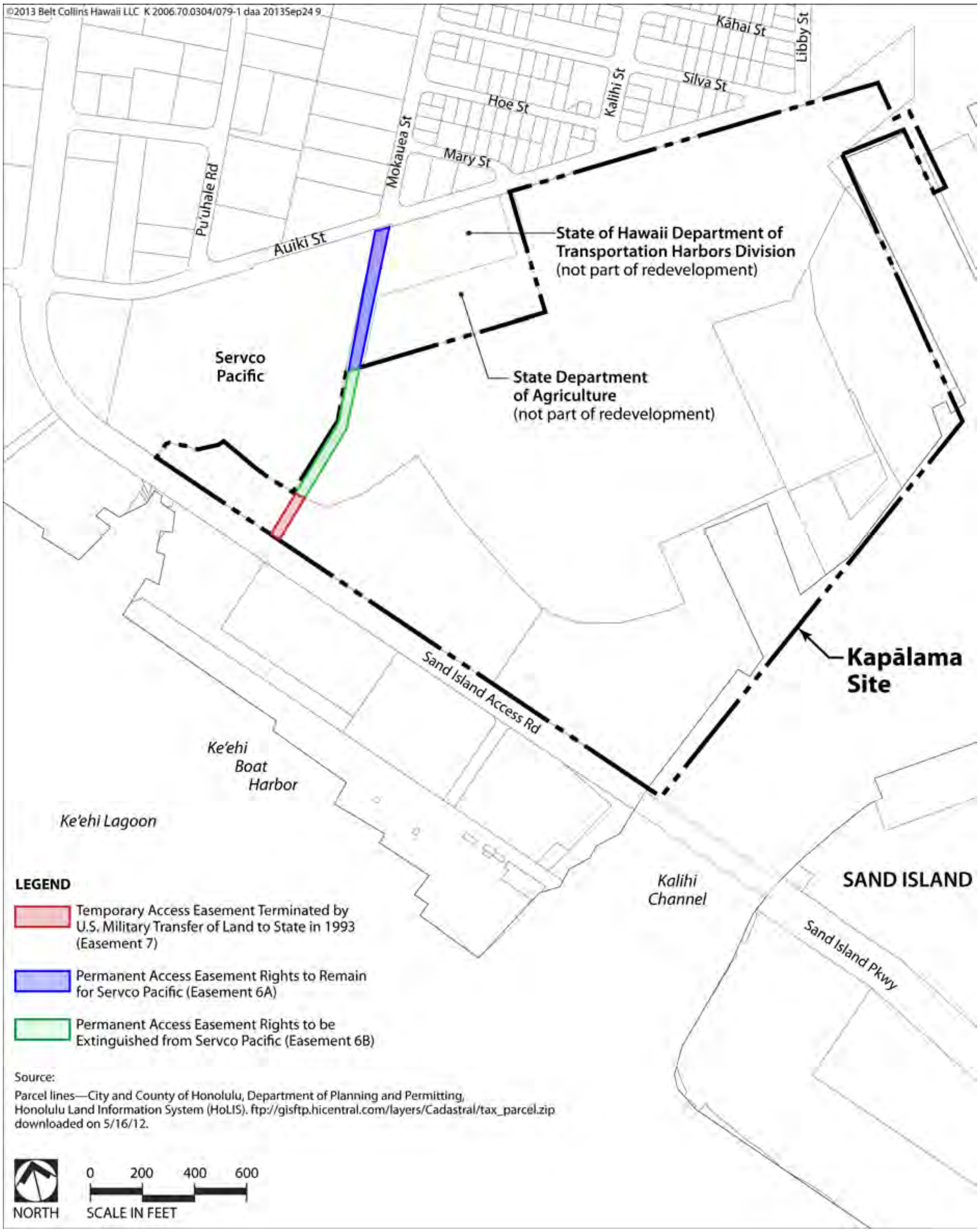

Figure 3-8. Kapālama Access Easements

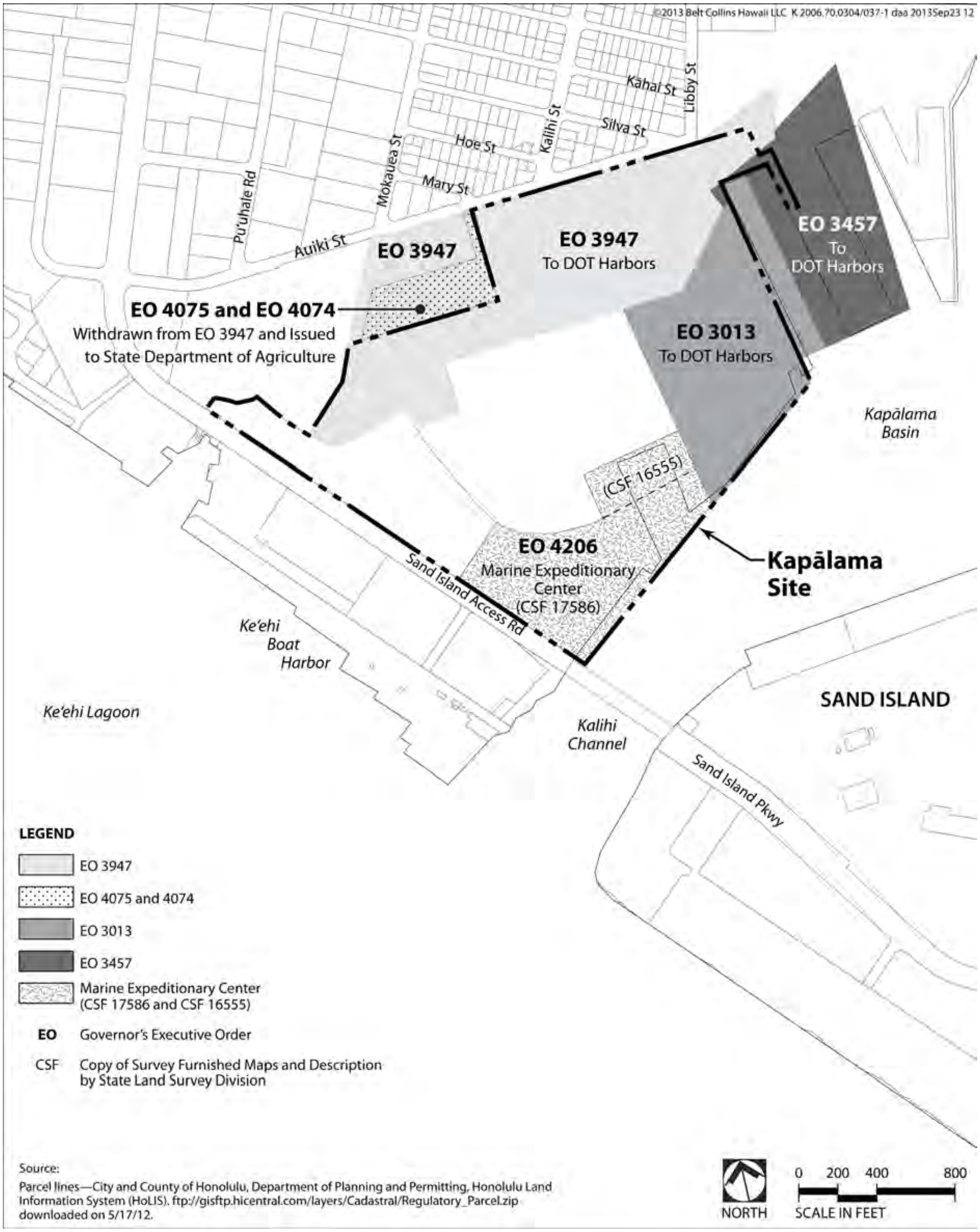

Figure 3-9. Kapālama Site Executive Orders

State EO No. 3201, issued in 1983, set aside public lands for the Honolulu International Airport (HIA) and included an avigation easement that extends over the Kapālama site and Kalihi Channel.

Near the Snug Harbor access, there is a narrow strip of land that was leased to UH. Once the land is withdrawn from the UH lease an EO will be issued to give DOT-H managerial control of the land.

3.3.1.2 Environmental Consequences

Proposed Action

Construction Impacts

No impacts on land ownership would occur. All tenants under revocable permits and lessees are scheduled by early 2014 to vacate their existing, predominantly aging buildings which have outlived their potential useful life. Those buildings will be demolished and removed from the property. Construction of the proposed container terminal would later commence when all appropriate permits are approved.

Additionally, arrangements are currently being made by DOT-H to integrate the DOT-A parcel into the new container terminal site. The various access, fuel pipelines, and infrastructure easements would be verified and modified, as required, to accommodate final site design. The portion of access Easement 6 over the Kapālama site will be extinguished prior to construction, and the remainder of Easement 6 will still be available to current users to access Auiki Street. Servco Pacific, one of the users of Easement 6, will also have continued access to Auiki Street from its existing driveway at Puʻuhale Street.

Ownership of the Kapālama site, throughout this process, will remain with the State.

Operational Impacts

No impacts on land ownership would occur. Prior to operation of the new facility, leases and other land tenureships for the operations of the facility would be implemented.

Ownership of property, throughout this process, will remain with the State.

Mitigation Measures

No mitigation is required.

Alternative Action

Similar to the Proposed Action, there would be no impacts. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.3.2 Piers 24-28

3.3.2.1 Affected Environment

The Piers 24–28 site, which is owned by the State of Hawai'i and delegated to DOT-H for management and control by Governor's Executive Order 2903, has revocable permits and property leases to Pendleton Flour Mills, LLC, Sause Brothers, Dewain A. Dedrick, Maritime License Center, Inc., and Uaukewai Diving, Salvage & Fishing Inc. The TMK for this site is 1-5-38: 11, 17, 55, 72, 73, 74, and portions of 1, 4, and 5. See Figure 3-10.

3.3.2.2 Environmental Consequences

Proposed Action

Construction Impacts

No impacts on land ownership would occur. Prior to construction, lease arrangements with existing tenants would be reconsidered and leases with the new tenants arranged. Throughout this process, the property will remain with the State.

Operational Impacts

No impacts on land ownership would occur. Prior to operations, lease arrangements with the new tenants would be completed. The property will remain with the State.

Mitigation Measures

No mitigation is required by DOT-H for the land-based activities. Each specific tenant will be required to employ mitigation measures if its operation is in non-compliance with State and/or Federal regulations.

Alternative Action

Similar to the Proposed Action, there would be no impacts. No mitigation is required for the land-based activities.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

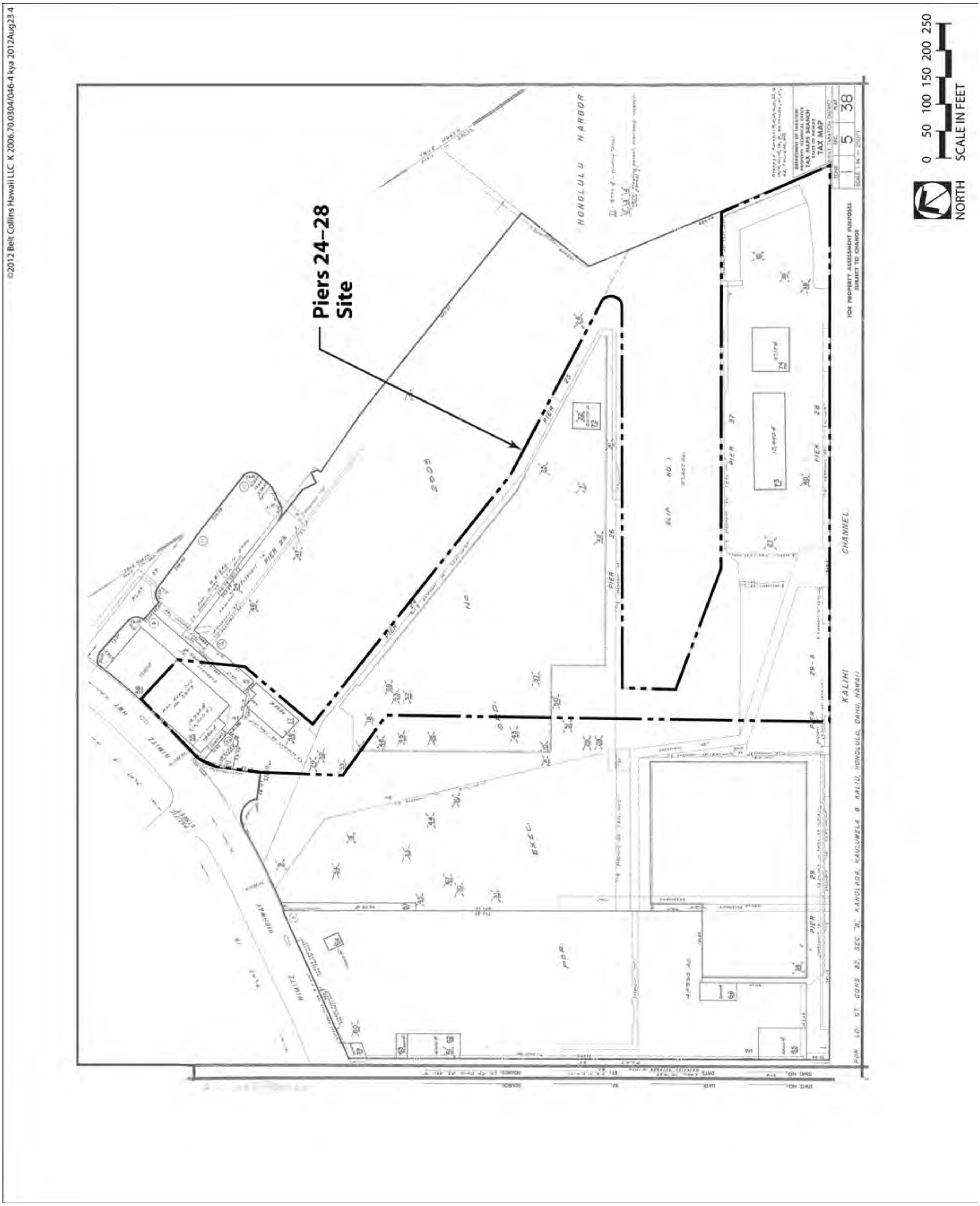

Figure 3-10. Piers 24–28 TMK

3.4 PUBLIC HEALTH AND SAFETY (NAVIGABLE AIRSPACE; HAZARDOUS SUBSTANCES/ MATERIALS/ WASTE AND PETROLEUM)

This section addresses risks to public health and safety associated with navigable airspace and hazardous substances/materials/waste and petroleum.

3.4.1 Navigable Airspace

Considering that the largest airport in the State is located approximately one mile west of the proposed project site, navigable airspace is discussed herein. HIA is a joint-use airport serving military and civilian aircrafts. Joint Base Pearl Harbor-Hickam (JBPHH)[11] bounds the airport to the west.

3.4.1.1 Kapālama Site

3.4.1.1.1 Affected Environment

The National Airspace System (NAS) is a complex aviation system made up of airports, airway routes, airlines, and people (pilots, flying public). The Federal Aviation Administration (FAA) manages the NAS, which controls airspace from ground level up to 60,000 feet above mean sea level (msl). FAA rules and regulations protect the safe and efficient use of airspace, including controlled airspace.

The NAS can be described in two parts. One part deals with navigable airspace, which is defined as the “airspace above the minimum altitudes of flight prescribed by regulations under this subpart and subpart III of this part, including airspace needed to ensure safety in the takeoff and landing of aircraft” (49 U.S. Code (USC) Section 40102). This could be thought of as the flying portion of airspace. Navigable airspace is controlled in accordance with their designations, e.g., Class A or special use airspace. The second part of the NAS addressed herein pertains to surface structures relative to defined imaginary surfaces that extend from runways.

Imaginary Surfaces

Imaginary surfaces for civil airports such as HIA are established with relation to the airport and to each runway. Following is a description of the various Code of Federal Regulations (CFR) Title 14 Part 77 imaginary surfaces, as shown in Figure 3-11. Figure 3-12 also provides other views of the imaginary surfaces.

[11] In January 2010, installation management functions for Hickam Air Force Base and Naval Station Pearl Harbor were officially merged to Joint Base Pearl Harbor-Hickam (JBPHH) under the 2005 Defense Base Closure and Realignment Commission Report.

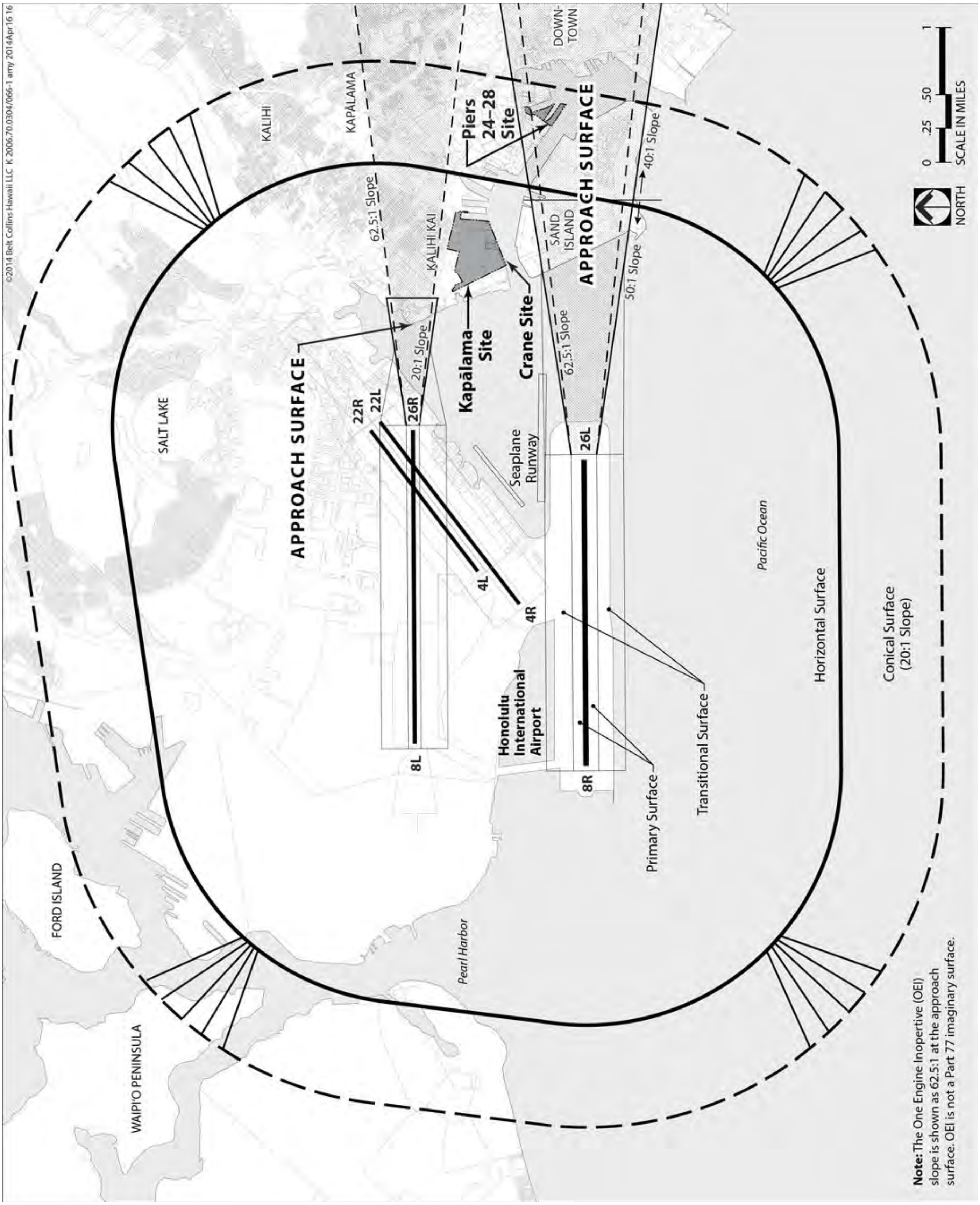

Figure 3-11. HIA Part 77 Imaginary and One Engine Inoperative Surfaces for Runways 26R and 26L

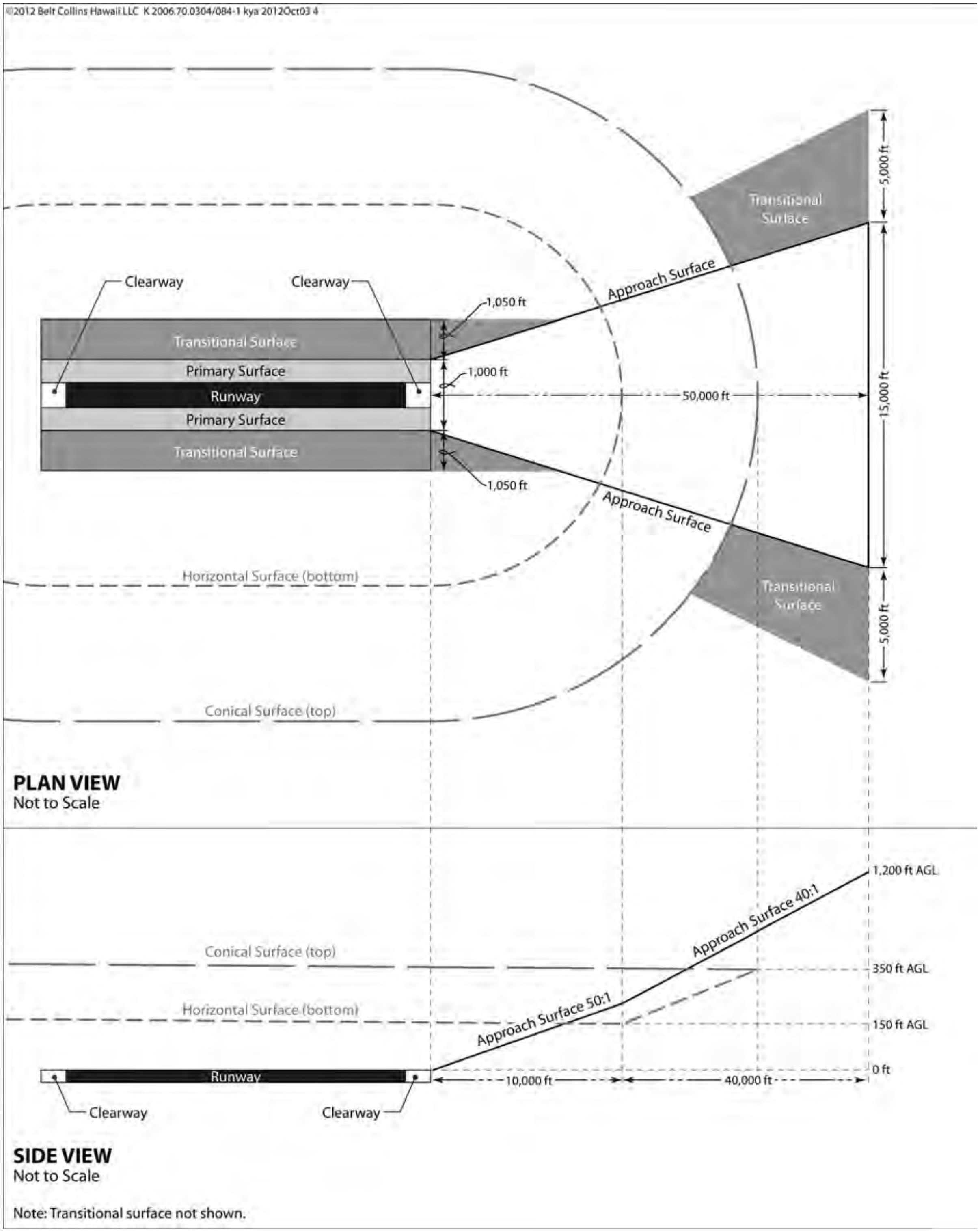

Figure 3-12. FAA Part 77 Imaginary Surfaces Plan and Side View

PRIMARY SURFACE. A surface longitudinally centered on a runway. The width of the primary surface varies with the type of runway. The width can range from 250 feet to 1,000 feet. The 1,000-foot width is applied to the HIA runways.

TRANSITIONAL SURFACE. A surface extending outward and upward at right angles to the runway center at a slope of 7 to 1. This surface limits the height of structures perpendicular to the runway.

HORIZONTAL SURFACE. A horizontal plane 150 feet above the established airport elevation. The perimeter is delineated by swinging arcs from the center of each end of the runway primary surface, connecting the adjacent arcs by lines tangent to those arcs. The arc radius is either 5,000 feet or 10,000 feet depending on the type of runway. The 10,000-foot radius is applied to the HIA runways. This surface is set at 163 feet above MSL.[12]

CONICAL SURFACE. A surface extending outward and upward at a slope of 20 to 1 from the horizontal surface perimeter. The slope goes out to a distance of 4,000 feet. The height of the conical surface is 200 feet above the horizontal surface.

APPROACH SURFACE. A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based on the type of approach available or planned for that runway end. The width, length, and slope of the approach surface vary depending on the existing or planned use for that runway end.

Objects Affecting Navigable Airspace

Under 14 CFR Part 77, the FAA is also responsible for evaluating objects affecting navigable airspace. The regulations define notification requirements, procedures, and standards for the assessment. The process allows FAA to identify potential hazards in advance of construction or use, hence preventing or minimizing impacts to the safe and efficient use of navigable airspace.

Construction or alteration situations that would require notifying FAA are detailed in 14 CFR Part 77.9 and briefly summarized as follows:

- any construction or alteration that would exceed an imaginary 100:1 slope within 20,000 feet for the nearest runway,

[12] Airport elevation is considered to be 13 feet above msl. This is based on the highest point of the airport's runways.

- an object that is 200 feet above ground level (AGL), ~~or above the established airport elevation within three nautical miles of the airport reference point,~~[13] or
- any object that penetrates into a runway imaginary surface.

3.4.1.1.2 Environmental Consequences

Proposed Action

Construction Impacts

The potential impacts of pile drivers, dredging cranes, and construction cranes would be reviewed under the FAA navigable airspace review process established under 14 CFR Part 77. This agency review identifies whether a proposed structure would be an obstruction within HIA's navigable airspace. It would indicate a need for the operator to prevent or minimize adverse impacts to the safe and efficient use of that airspace.

As the heights of the construction equipment are not yet known, no determination can be made as to whether the FAA process established under 14 CFR Part 77 is required. Once the contractor is selected and the construction equipment is known, an applicable FAA Form 7460-1, Notice of Proposed Construction or Alteration, will be filed and processed under 14 CFR Part 77.

Operational Impacts

The potential impact of any container-handling gantry crane on navigable airspace around HIA will be reviewed through the FAA review process established under 14 CFR Part 77.

As part of DOT-H's planning efforts for the Kapālama project, an FAA Form 7460-1 was submitted in April 2012 for gantry crane heights of approximately 200 feet. Heights were based on existing cranes in use at Sand Island. In September 2012, DOT-H received FAA's determination of a Notice of Presumed Hazard. Initial findings of this study indicate that the structure as described exceeds obstruction standards and/or would have an adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities. Pending resolution of the issues, the structure is presumed to be a hazard to air navigation. If the structure were reduced in height so as not to exceed 155 feet AGL (163 feet above MSL), it would not exceed obstruction standards and a favorable determination could subsequently be issued.

To pursue a favorable determination on the approximately 200-foot high cranes, further study by FAA is necessary. "Further study" entails distribution to the public for comment, may extend the study period up to 120 days, and the outcome could be

~~[13] The airport reference point is the location of the approximate center of the airport (FAA Circular 150/5300-13 Airport Design).~~

dependent upon public comment. During this public review, One Engine Inoperative[14] departure analysis was brought up for consideration and has become public record.

The DOT-H acknowledges FAA's initial findings and will pursue development plans consistent with such findings should project approval be obtained. However, in the interest of providing the maximum flexibility for prospective operators of the site, DOT-H submitted in November 2012 a request to FAA for "further study" on the approximately 200-foot high cranes. With that submittal, updated coordinates for the crane location were included. Although the new coordinates represented a refinement in the crane location, FAA determined they were inconsistent with the original coordinates and terminated DOT-H's request for "further study."

Still committed to providing the maximum flexibility for prospective operators at the Kapālama site, DOT-H re-filed FAA Form 7460-1 in February 2013 for the same crane heights of approximately 200 feet with the revised location coordinates. In May 2013, FAA completed review of the submitted form and issued a Notice of Presumed Hazard with the same conditions as stated in the September 2012 notice. As before, DOT-H has requested "further study" to be completed for the new coordinates. The study has been circulated to the public and ~~is currently under FAA evaluation~~that process ended on August 3, 2013. In May 2014 the FAA determined that additional information was required for the airport runway at Honolulu International Airport in order to complete their determination. As of this date, no final determination from FAA has been received. The determination from FAA is only valid for 18 months.

Ultimately, in regard to FAA's review of the approximately 200-foot cranes, the operator of the container terminal will be responsible for submitting the appropriate FAA Form 7460-1 for determination of hazard or no hazard to air navigation. Any additional associated permits or approvals will also be the responsibility of the operator.

Mitigation Measures

No additional mitigation is required. The heights of the new cranes would follow FAA's final navigable airspace recommendations.

Alternative Action

Construction and operational impacts, along with associated mitigation under the Alternative Action would be similar to the Proposed Action.

[14] Emergency flight procedure to be used in the event of a complete loss of power to one engine. (Transportation Research Board. 2010. Understanding Airspace, Objects, and Their Effects on Airports [ACRP Report 38])

No Action

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.4.1.2 Piers 24–28

3.4.1.2.1 Affected Environment

The affected environment is the same as that described under section 3.4.1.1 Kapālama site.

3.4.1.2.2 Environmental Consequences

Proposed Action

No significant impacts to airspace or imaginary surfaces would occur. No tall structures exceeding 163 feet msl would be constructed or used.

Mitigation Measures

No mitigation is required by DOT-H for the land-based activities. Each specific tenant will be required to employ mitigation measures if its operation is in non-compliance with State and/or Federal regulations.

Alternative Action

Similar to the Proposed Action, there would be no impacts. No mitigation is required for the land-based activities.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.4.2 Hazardous Substances/Materials/Waste And Petroleum

This section addresses risks to public health and safety associated with hazardous substances/materials/waste and petroleum. The ROI is the immediate area where construction is planned and where operations would occur, including areas downstream that could potentially be affected in the event of a spill (receiving waters in the harbor).

3.4.2.1 Kapālama Site

3.4.2.1.1 Affected Environment

The Kapālama site has accommodated a range of uses. Since the 1940s, the site has been in waterfront commercial and industrial use. Specific uses have included the U.S. Army's Support Command Logistics and Maintenance Installation (established in 1941) as a major military port and quartermaster warehousing facility to handle shipping requirements for the Army during World War II; use of the Pier 41 area by a dredging and construction company (1957 to 1968), use of the Pier 41 area by shipyard companies (1968 to present), and use of the Snug Harbor area by a university marine research center. Easements for energy transmission lines are also present and discussed in more detail in section 3.6, Utilities. Prior to these waterfront uses, during the 1930s and 1940s, portions of the site were reportedly used as a municipal dump (DOT-H 2005).

Hazardous substances/materials/waste and petroleum at the site have been assessed, investigated, and remediated to various specific extents since the 1980s. An Enhanced Preliminary Assessment was prepared by the U.S. Army in 1990 to present findings concerning the environmental conditions and recommendations for possible further action at KMR. It was conducted in preparation of property disposition under the Base Closure Program (USATHAMA 1990). Similar assessments to reflect the evolving nature of the environmental site assessment (ESA) process and the change in uses of KMR were conducted by the current land owner, the State, and specific lessee(s). The description of the affected environment in this section is based on the latest Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Phase I ESA[15] and associated reassessments, and a Phase II ESA specifically for the Pier 41 area. To follow-up on the findings and recommendations presented in the Phase I ESA and reassessments, the DOT-H has initiated a Phase II site investigation.

In 2005, DOT-H conducted a Phase I ESA to evaluate existing conditions within and around the Kapālama Development Area (KDA), to assess KDA's environmental history, and to identify the Recognized Environmental Conditions (RECs). RECs are defined as "…the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. (ASTM E 1527 – 00)." (DOT-H March 2006) The Phase I ESA covered the following: (1) the former KMR Area, (2) Pacific Shipyards area, (3) Island Movers area, and (4) UH Marine Center at Snug Harbor.

[15] Including additional substances as specified within the Phase I ESA documents.

The review of regulatory records and site history, included interviews, as well as review of identified and documented past RECs. The Phase I ESA identified several on-site and off-site RECs as well as on-site and off-site historical RECs (DOT-H March 2006).

In 2003, a Phase II ESA was prepared by Pacific Shipyards International, LLC, to provide information regarding the presence of potential petroleum contamination at the Pier 41 parcel (TMK 1-2-025: 009) (PSI 2003). This was a follow-up to two previous studies: Phase I ESA for TMK (1)-1-2-25: parcel 9 (Northern Portion) and Phase I ESA for the same parcel 9 (Southern Portion). Site investigations included surface penetrating radar to investigate the presence of underground storage tanks (USTs), 10 soil borings, installation of 6 monitoring wells, and the collection of soil and groundwater samples. No definitive patterns indicative of USTs were found. The analysis indicated the presence of total petroleum hydrocarbons as diesel (TPH-D) and total petroleum hydrocarbons as oil (TPH-O) in one soil sample and TPH-D in another soil sample. The sample containing TPH-D and TPH-O was further analyzed for benzene/ toluene/ethylbenzene/xylenes (BTEX), polynuclear aromatic hydrocarbons (PAHs), halogenated volatile organic compounds (HVOCs), polychlorinated byphenyls (PCBs), total cadmium, and total lead. The soil sample containing TPH-D was further analyzed for BTEX and PAHs. All soil samples had constituent concentrations either below method detection limits or below the State Department of Health (DOH) Tier 1 Action Levels for soil in areas where drinking water source is not threatened, with the exception of sample 2013.B1.2 in which benzo(a)pyrene concentration exceeded the DOH Tier 1 Action Level. TPH concentrations in groundwater samples were all below method detection limits (PSI 2003).

In 2006, a KDA Reassessment document was prepared as a follow-up to the 2005 Phase I ESA to update site activities and tenants and/or their respective remedial actions. The reconnaissance, together with interviews revealed:

- The nature of operations for business old and new has not changed.
- The presence and severity of RECs was either the same or better, but generally improved compared to observations made in 2004.
- New RECs were identified; however, they were generally similar to those identified in the 2005 Phase I ESA, though not as extensive or as many (DOT-H March 2006).

In 2013, DOT-H had a Phase I Environmental Site Assessment (ESA) prepared for the Kapālama site. This Phase I ESA researched the property's environmental history by reviewing historical maps, photographs, building permits, zoning records, and other available documents, including those provided by the property owner and the State Department of Health. Site reconnaissance was also conducted to look for "…stained soil, dead or stressed vegetation, hazardous materials, electrical transformers and capacitors, aboveground storage tanks (ASTs) and underground storage tanks (USTs), disposal areas, maintenance areas, groundwater wells, sumps, storm drains, and cesspool sewers.” (Element Environmental, LLC. July 2013).

As a subsequent step, DOT-H intends to prepare a Phase II ESA that “…investigates environmental concerns identified during the Phase I assessment of the site and to further identify potential environmental issues that will need to be addressed during design and construction of the new Kapālama Container Terminal Yard.” A work plan has been prepared for DOT-H that describes the work procedures and methods that will be used for the Phase II ESA. This work plan sets out the scope of the Phase II ESA, develops a conceptual site model for the assessment, and establishes the Containment of Potential Concern (COPCs) and the Decision Units (DUs) to be used for sampling. (Element Environmental, LLC. July 2013).

The work plan states that the Phase II ESA will include environmental concerns that need to be addressed during the construction of the proposed container facility. These environmental concerns, according to the work plan, would include, among other items, “…free product; contaminated soil, groundwater, sediment, and/or concrete; storage tanks (ASTs and USTs); active and/or abandoned underground fuel pipelines; leaking polychlorinated biphenyl (PCB) containing transformers; and buried solid waste…” The Phase II ESA would determine if COPCs are present and, if present, their characteristics. A determination if additional work is warranted based upon COPCs with “…detected…concentrations above the HDOH Tier I Environmental Action Levels (EALs) for commercial/industrial (C/I) Land Use (site-specific EALs)…” Based on these findings, an Environmental Hazard Evaluation (EHE) and an Environmental Hazard Management Plan (EHMP) will be prepared for future construction activities and/or use the site. (Elements Environmental, LLC. July 2013)

Environmental Permits at Pier 41

Water quality and hazardous materials associated with the waterfront industrial facilities at Pier 41 are regulated by federal and state agencies through permits and rules and regulations enforced by periodic inspections of the facility and its reports and records. A review of agency inspection reports at Pier 41 between 1997 and 2012 provides an indication of the range of compliance issues from waterfront industrial activities.

WATER QUALITY

Discharge of storm water runoff, non-contact cooling water, and dry dock cycling (lowering and raising) water from land-based and dry dock areas into the harbor waters is regulated by an NPDES permit from the State Department of Health (DOH) under its water quality standards and water pollution rules (HAR Chapter 11-54 and

11-55), as a program authorized to administer the U.S. Environmental Protection Agency (EPA) Clean Water Act (CWA) NPDES program in Hawai'i.

NPDES related inspections of the facilities at Pier 41 between 2000 and 2012 found compliance issues with report and record keeping that included incorrectly completed discharge monitoring reports, reports unavailable for inspection, and reports without certification statements. Inspections also observed multiple examples of housekeeping problems that could potentially affect water quality. These inspections observed non-conformance with regulatory requirements (e.g., as inadequate secondary containment for liquid waste container storage areas, improperly labeled containers) as well as indications of pollutant discharge to soil and water (e.g. oil stains in dock pavement, sand blast grit leaking from rusted storage wall, sand blast grit in dock areas and in receiving waters, rusted dry dock decks not containing rinse water, and an abandoned marine rail rusting in the water). Issues noted with sampling and reporting protocols included use of uncalibrated pH meters, incomplete chain of custody for samples from sampling location to analytical laboratory, and inadequate pH testing protocol. One inspection noted that the levels of lead, copper, zinc, and cadmium in water samples were in excess of the permit limits.

HAZARDOUS WASTE

Hazardous waste generated from industrial activities at Pier 41 is regulated by the EPA under the Resource Conservation and Recovery Act (RCRA), as amended, and DOH under its hazardous waste rules (HAR Chapter 11-260 to 11-280).

The hazardous waste and used oil inspections at Pier 41 between 1997 and 2012 found a range of compliance issues, including problems with documentation (e.g. failure to file a biennial report as a hazardous waste generator and no documentation of weekly inspection of hazardous water storage area), missing hazardous waste manifests, nonconformance with labeling and storage of hazardous waste (e.g. improper labeling of hazardous waste storage containers, no accumulation start dates on hazardous waste containers, no secondary containment of liquid waste storage area), exceeding the 90-day storage limit for hazardous waste, and lack of an emergency response plan and related procedures. One inspection resulted in a complaint and order for illegal disposal of hazardous waste in excess of the 90-day limit without a permit (items stored for 106 days and 168 days).

SITE MITIGATION

A Phase II Environmental Site Assessment is being conducted in accordance with ASTM E1903-11 standard practice for the Kapālama site. The tenants who will be relocated from the area will be responsible for cleaning up their site per the ESA recommendations when they vacate.

3.4.2.1.2 Environmental Consequences

Proposed Action

Construction Impacts

No significant risks to public health and safety from hazardous substances/ materials/waste and petroleum would occur prior to the Proposed Action during demolition of existing structures at the Kapālama site and under the Proposed Action. Compliance with existing laws and regulations, and any further site remediation recommendations identified in the Phase II ESA currently being conducted would be implemented to prevent the public and workers from exposure to hazardous substances/materials/wastes and petroleum that would significantly impact human health. Contractors will be responsible for proper handling and disposal of contractor-generated hazardous waste and will follow any restrictions identified as a result of the above studies and made part of the design documents.

Operational Impacts

No significant risks to public health and safety from hazardous substances/ materials/waste and petroleum would occur under the Proposed Action. Compliance with existing applicable laws and regulations associated with the handling and management of hazardous materials and waste would prevent or minimize risks to public health and safety.[16]

Mitigation Measures

Mitigation measures would be identified after the Phase II ESA is completed. Depending on the nature and extent of any contaminant, such measures could include design and engineering methods that are made part of the Proposed Action.

Alternative Action

Construction Impacts

Construction impacts under the Alternative Action would be similar to the Proposed Action.

Operational Impacts

Operational impacts under the Alternative Action would be similar to the Proposed Action.

Mitigation Measures

Mitigation measures would be identified in the same manner as described under the Proposed Action.

[16] Applicable laws and regulations include, but is not limited to, regulated waste activities under the Resource Conservation and Recovery Act (RCRA) of 1976 and the National Pollutant Discharge Eliminated System (NPDES) permit program authorized under the Clean Water Act of 1970 and as subsequently amended.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.4.2.2 Piers 24–28

3.4.2.2.1 Affected Environment

A portion of the Pier 24–28 area is in the south part of the Iwilei District, a district which has been used for storage and distribution of petroleum products since the early 1900s. This approximately 315-acre district is bounded by the Nuʻuanu Drainage Canal to the east, Dillingham Boulevard and North King Street to the north, Kapālama Drainage Canal to the west, and Honolulu Harbor to the south (HEERO 2009).

The Iwilei District Participating Parties (IDPP) is working to remediate the impacts to soil and groundwater caused by past releases of petroleum hydrocarbons from historic storage tanks and below ground pipelines that are no longer in use within the Iwilei District[17] The IDPP was formally established in 2001 after DOH determined that (1) petroleum releases needed to be investigated as an area-wide project and that (2) investigations should be conducted through a cooperative effort by: facilities where contamination was previously found or past releases were believed to have occurred, facilities connected by fuel pipelined, and facilities believed to be contributors based on their business activities (TRC 2003). Based on numerous investigations of petroleum-related contaminants of concern (COCs), the IDPP identified volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) in soil and groundwater, SVOCs in soil, certain metals in soil, petroleum hydrocarbons and methane in soil gas, and separate phase hydrocarbons in groundwater. Human and ecological risk evaluations were conducted and based on these findings, the Iwilei District was divided into three areas: Operating Unit 1, 2, and 3. Operating Unit 1 (OU1) (TRC 2003). Subsequently, OU1 was subdivided and the area that intersects the Pier 24-28 area is Operating Unit 1 C (OU1C), an 18.5-acre area located between Piers 24 and 29 (Figure 3-13).

Based the results of IDPP investigations, remediation planning, and remedy implementation work (e.g., separate phase hydrocarbon recovery) that has been completed for OU1C and as documented in the EHMP, COCs pose a low hazard to human health and the environment because there is practically no exposure to them (SESI 2011). The following IDPP-related COCs by media were identified at OU1C.

[17] http://sesinconline.net/pages/SOQs/remed/39C%20Honolulu%20Harbor_Strategic%20Plan%20-%2017.pdf, accessed October 20, 2012.

Figure 3-13. OU1C Area at Piers 24–28

- **SOILS.** Separate phase hydrocarbons, total petroleum hydrocarbons quantified as gasoline (TPH-G), diesel (TPH-D), residual (TPH-R), benzo(a)pyrene equivalents, benzene, toluene, and xylene. Other non-IDPP COCs[18] identified as potential hazards are arsenic, beryllium, and lead.
- **GROUNDWATER.** Separate phase hydrocarbons, benzene, ethylbenzene, toluene, xylenes, naphthalene, and methyl tert butyl ether.
- **SOIL GAS.** TPH-G, benzene, ethylbenzene, toluene, xylenes, and methane.

As documented in the EHMP, the IDPP has or is implementing the following engineered remedies to mitigate potential hazards:

- **STORM DRAIN REPLACEMENT AT PIER 26.** The new storm drain has mitigated the migration of very small quantities of separate phase hydrocarbons along the previously damaged drain to the harbor at Pier 26.
- **STORM DRAIN REPLACEMENTS AT PIER 24.** These new storm drains mitigate the potential for future migration of separate phase hydrocarbons along previously damaged storm drains to the harbor in the Pier 24 area.
- **SEPARATE PHASE HYDROCARBON EXTRACTION WELLS IN THE NORTHERN PORTION OF OU1C AND NEAR PIER 24.** Both existing wells and the installation of new extraction wells are intended to reduce the amount of potentially mobile separate phase hydrocarbons in the area where the maximum amounts occur relatively near the harbor walls.
- **NEW HARBOR WALL AND HARBOR WALL SEALING NEAR THE END OF PIER 24.** These measures would be precautionary and intended to provide barriers to any potential future separate phase hydrocarbon migration into harbor waters where the maximum amounts of separate phase hydrocarbon occur relatively near the harbor walls.
- **SHEET PILE WALL JOINT SEALING ALONG PIERS 25 AND 29 TO RENDER WATERTIGHT.** These precautionary measures are intended to provide barriers to potential future separate phase hydrocarbon migration into harbor waters, and have been completed.

Additionally, DOT-H is planning to construct a thick concrete cap over much of the southern portion of OU1C as part of a Capital Improvement Project. This will provide additional protection against exposure to surface soils under the cap.

[18] COCs not related to past petroleum releases, as defined in the Enforceable Agreement between IDPP and the State DOH.

Potential hazards associated with COCs remaining after engineered remedies are implemented are addressed by the Institutional Controls Plan (IC Plan) (HEERO 2009). Future activities in the OU1C area must comply with the IC Plan and include the following (SESI 2011):

- Obtaining and hiring competent resources to review and understand how the requirements of the IC Plan apply and obtaining and evaluating the relevant background information on site conditions and the engineered remedies. IDPP and DOH are available to provide assistance in locating relevant information.
- Obtaining sufficient information for complete environmental due diligence relevant to planned work or land use.
- Preparing and implementing appropriate site-specific health and safety plans and protocols that address potential worker exposure issues related to planned work.
- Assessing and selecting appropriate control measures and obtaining appropriate approvals from DOH and other governmental entities keeping in mind that: (1) the Hazard Criteria are based on generalized site conditions and hazard exposures; and (2) actual site conditions can differ from these general assumptions and need to be accounted for in specific site plans.
- Obtaining information, such as the functional requirements and location and descriptions of the existing or planned engineered remedies, and determining which if any would be impacted by the proposed development, construction and property use. IDPP and DOH will be available to assist in making these determinations.
- Communicating and coordinating with IDPP and DOH in order to provide or obtain pertinent information.

Other than the IDPP-related documents referenced above, no other environmental documents were identified for the Pier 24–28 land area.

3.4.2.2.2 Environmental Consequences

Proposed Action

Construction Impacts

As identified in the EHMP, hazards to workers and the environment could develop in the event below ground construction activities (e.g., excavation of soil and associated groundwater) are improperly managed, and hazards associated with soil gas could result with modifications to building interior ground floors, subsurface utilities in or connecting to existing buildings, or the construction of new buildings. In addition to hazards associated with toxicity, explosive hazards can occur as methane is generated by the bio-degradation of separated phase hydrocarbons. To mitigate potential hazards, Institutional Controls have been established for Soil Management Zones,[19] Groundwater Management Zones, and Soil Gas Control Zones[20] over OUC1, and are implemented by the IDPP.

No significant risks to public health and safety from hazardous substances/ materials/waste and petroleum would occur under the Proposed Action. The DOT-H is coordinating with IDPP. Mitigation measures established in the EHMP, particularly Institutional Controls, and any future updates will be made part of the planning and incorporated into the design of any construction to support the Proposed Action. Prior to construction, studies would be conducted to verify if hazardous building materials are present and incorporated into the design to ensure the proper disposition of any hazardous material from Piers 24-28. Investigations to determine the potential presence of subsurface contamination would be conducted by the new tenants prior to trenching or excavation activities. Potential risks to workers involved in grading or trenching activities would be mitigated by proper planning and use of personal protective equipment (PPE). Compliance with existing applicable laws and regulations will also serve to prevent impacts.

Contractors will be responsible for proper handling and disposal of contractor-generated hazardous waste and will follow any restrictions identified as a result of the above studies and made part of the design documents.

Operational Impacts

No significant risks to public health and safety from hazardous substances/ materials/waste and petroleum would occur under the Proposed Action. Proposed operations would be planned and coordinated with IDPP and DOH, and the IC Plan would be followed. Compliance with existing applicable laws and regulations associated with the handling and management of hazardous materials and waste would also serve to prevent impacts.

Shipyard and dry dock activities, like construction activities, include potential sources of pollutants from materials used, stored, or generated during the repair and maintenance work on land or on the dry docks. These pollutants may be discharged into the harbor waters during storm water runoff or during the raising and lowering of the dry docks. (EPA Region IX and HDOH. July 6, 2010. NPDES Compliance Evaluation Inspection (CEI) Report)

[19] Soil Management Zones are defined as areas where concentrations of IDPP-related COCs in soil have exceeded the Hazard Criteria.

[20] Soil Gas Control Zones are defined as areas where soil gas could pose a potential hazard to indoor air in new buildings, below ground excavations, and construction of new underground utilities.

For its proposed facilities and activities, the shipyard company would be responsible for securing all of the required permits and approvals. Among these would be an NPDES permit to meet the requirement of the EPA under the CWA and DOH water quality standards and water pollution rules under HAR Chapter 11-54, respectively. The NPDES permit would include, among other items, a best management practices plan, monitoring and reporting procedures, and designated personnel for compliance with the permit and regulations. (PSI 2011. Project Relocation Proposal)

In addition, the shipyard would need to submit a Notification of Regulated Waste Activity (EPA Form 8700-12) for waste products regulated by the EPA under RCRA and DOH under its amended hazardous waste rules (HAR 11-260). Blasting and painting activities would be regulated by DOH under its fugitive dust rules (HAR 11-60.1-33). (PSI 2011. Project Relocation Proposal)

Mitigation Measures

No additional mitigation required by DOT-H for the land-based activities. Each specific tenant will be required to employ mitigation measures if its operation is in non-compliance with IDPP requirements and State and/or Federal regulations.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No additional mitigation is required for the land-based activities.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.5 ROADWAYS AND TRAFFIC

Roadways and traffic in the vicinity of the project area (the ROI) were evaluated by analyzing a total of eleven key intersections within one-half mile of the project area. See Figure 3-14. Traffic at a twelfth intersection (Intersection 9) was counted for future traffic modeling purposes. Details of the analysis are included in Appendix C. Findings are summarized herein.

Traffic conditions in this analysis are characterized by using the Level of Service (LOS) methodology. This methodology provides a quantitative means to describe traffic flow and is based on the Transportation Research Board's 2010 Highway Capacity Manual (HCM 2010). The LOS range from excellent free-flowing conditions (LOS A) to very congested conditions (LOS F). Table 3-2 defines each LOS and provides the average delay per vehicle.

Table 3-2. LOS Definitions

Level of Service	Average Delay Per Vehicle	
	At Unsignalized Intersections	At Signalized Intersections
A	Up to 10 seconds	Up to 10 seconds
B	>10 and ≤15 seconds	>10 and ≤20 seconds
C	>15 and ≤25 seconds	>20 and ≤35 seconds
D	>25 and ≤35 seconds	>35 and ≤55 seconds
E	>35 and ≤50 seconds	>55 and ≤80 seconds
F	>50 seconds	>80 seconds

Source: Highway Capacity Manual 2010.

The minimum accepted LOS in urban areas for peak hour traffic is typically considered to be LOS D. However, due to declining public resources and various engineering and environmental challenges of implementing roadway improvements, conditions worse than LOS D are not considered "unacceptable" and may not require mitigation.

3.5.1 Kapālama Site

3.5.1.1 Affected Environment

The existing traffic conditions are based on field observations conducted in October and November 2011 and in April 2013. Traffic counts were scheduled to coincide with typical container terminal operation days and avoid special events or holidays. Traffic counts were recorded in 15-minute intervals. Figure 3-14 shows the location of the twelve manually counted intersections. Eight of the twelve intersections were controlled by a traffic signal system, while the other four were unsignalized stop controlled intersections. At the unsignalized intersections, "STOP" signs are located on the minor street approach, allowing the street with higher traffic volumes to proceed with minimal delay. For intersection 9 on Sand Island Parkway and the main entrance into the Horizon terminal, only the vehicles entering and exiting the terminal were counted to determine the traffic generation volumes of the existing terminal. This intersection is not included in the LOS analysis.

Table 3-3 summarizes existing conditions at the intersections during the morning (AM) and afternoon (PM) peak hours. The analysis indicates that one of the eleven intersections studied operated at LOS E during at least one of the peak hours.

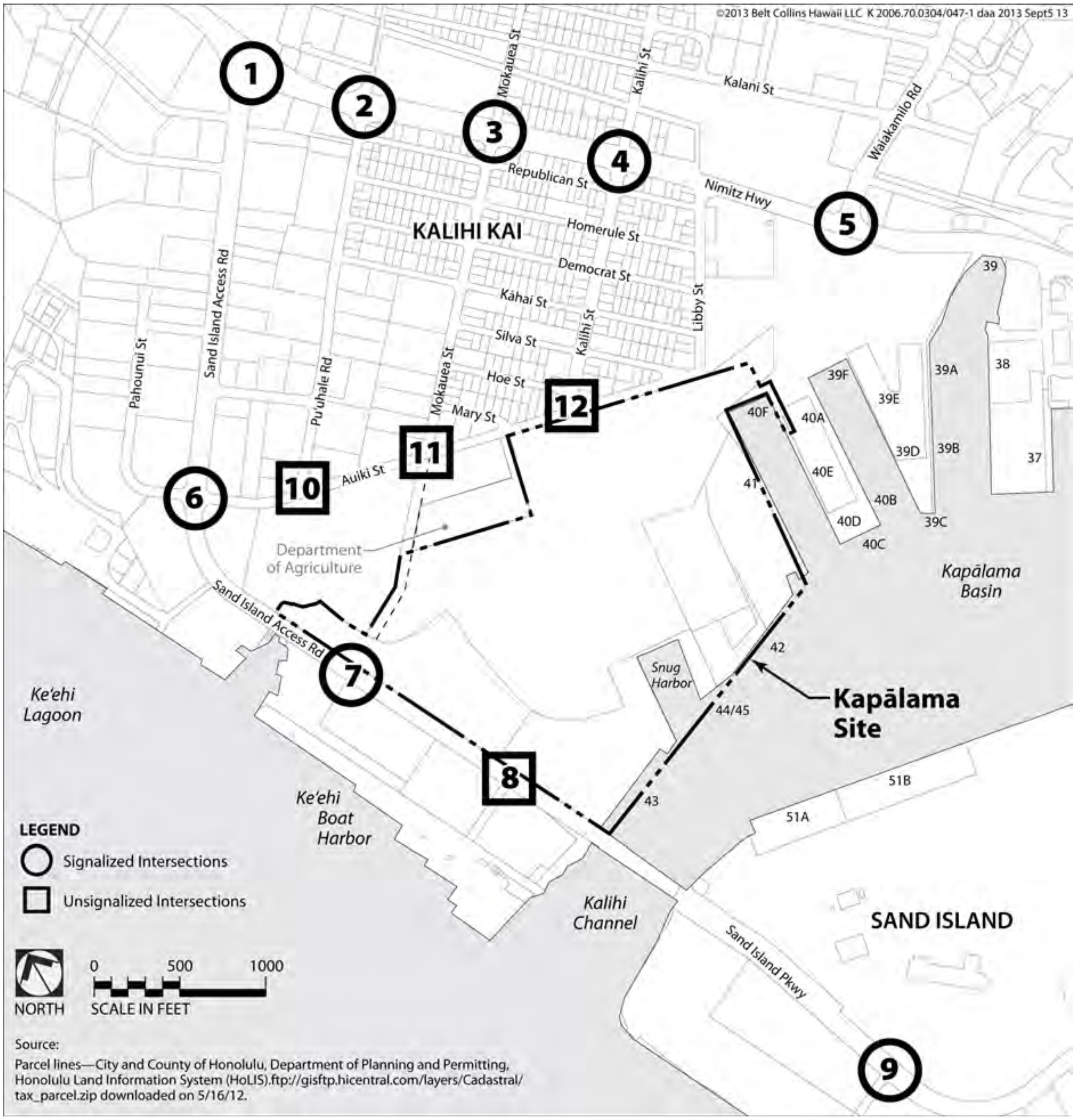

Figure 3-14. Traffic Count Locations

Pedestrians and bicyclists were also counted at the intersections; their numbers were minimal (less than 60 pedestrians and 10 bicyclists per hour). Most pedestrians on Auiki Street were observed parking their vehicles on the street and walking to work or walking to or from a bus stop to their place of work. On Nimitz Highway, there were a few more pedestrians since there are several bus routes and many stops along Nimitz Highway. Schools are also located *mauka* of Nimitz Highway, so a few students were observed crossing the highway.

Table 3-3. Existing Traffic Operating Conditions (LOS)

Intersection	Control[1]	AM Peak Hour	PM Peak Hour
1) Nimitz Highway & Sand Island Access Road	Signal	D	D
2) Nimitz Highway & Puuhale Road	Signal	D	D
3) Nimitz Highway & Mokauea Street	Signal	C	D
4) Nimitz Highway & Kalihi Street	Signal	D	D
5) Nimitz Highway & Waiakamilo Road	Signal	D	D
6) Sand Island Access Road & Auiki Street	Signal	C	D
7) Sand Island Access Road & Road No. 2	Signal	C	C
8) Sand Island Access Road & UH Snug Harbor Access	Unsignalized	E	C
10) Auiki Street & Pu‘uhale Road	Unsignalized	C	D
11) Auiki Street & Mokauea Street	Unsignalized	C	C
12) Auiki Street & Kalihi Street	Unsignalized	B	C

1 Intersections are controlled by a traffic signal or "STOP" sign on minor approach. For unsignalized intersections, LOS for the worst movement is reported.

2 The heaviest traffic volumes of the day were observed for each intersection and analyzed for both morning and afternoon peaks. The heaviest volumes for all the intersections may not have coincided exactly on a specific hour, however all morning peak hours occurred between 6:00 a.m. and 8:30 a.m. and all afternoon peak hours between 3:00 p.m. and 5:30 p.m.

The City Department of Transportation Services, Public Transit Division, operates TheBus, a public transit system that includes a route through Kalihi Kai. The route travels along Kalihi Street, Auiki Street, Sand Island Access Road, Nimitz Highway and then connects with Mokauea Street to a route that goes northeast up ‘Ālewa Heights. On the weekdays, during daylight hours, buses run approximately every 40 to 75 minutes.

Although Sand Island Access Road has a dedicated bicycle lane, very few bicyclists were observed traveling along this roadway.[21] Even fewer bicyclists were observed on Auiki Street, which does not have a designated bike lane.

3.5.1.2 Environmental Consequences

The incremental change in the LOS between the No Action Alternative ("Future Baseline")[22] and the Proposed Action ("Future with Project") is used to determine

[21] A total of 10 bicyclists were counted.

[22] The No Action Alternative (Year 2039) conditions were determined by removing traffic from existing tenants expected to vacate the old warehouses on the project site and applying growth factors projected by existing studies. One of these studies, titled *Transportation Technical Report, Honolulu High-Capacity Transit Corridor Project*, anticipates traffic in the area to increase 0.64 percent annually.

potential impacts on traffic. Project impacts were identified using the criteria shown in Table 3-4.

Table 3-4. Potential Impact on Traffic

No Action Alternative (Future Baseline)	Proposed Action (Future with Project)	Project Impact
LOS D or better	LOS D or better	No
LOS D or better	LOS E or F	Yes
LOS E or F	LOS E or F	No

Proposed Action

Construction Impacts

Prior to construction, a traffic management plan (TMP) will be prepared and submitted to the City for review and approval. During construction, the approved TMP will be implemented. Construction-related traffic would be short-term and is not expected to create a significant adverse impact. The number of construction vehicles traveling to and from the site would generate less vehicular traffic than the existing tenants. Also, in comparison to the average daily volume along Sand Island Access Road, the number of trucks is not expected to exceed daily traffic by more than 5 percent.

Minimum impacts on traffic would occur within neighborhood streets as project construction would not involve any major work activity within the adjacent streets. Improvements within the shoulder area of Sand Island Access Road would be required to connect the proposed truck entrance/exit gate to the State right-of-way (ROW). Modifications or restriping of the center auxiliary lane would be needed to allow adequate left-turn movement from Sand Island Access Road into the container terminal yard. Additionally, two driveways from the Kapālama site would be constructed onto Auiki Street, requiring work in the street sidewalk and curb area. TheBus service would not be impacted.

Operational Impacts

Table 3-5 provides the LOS analysis for the Proposed Action conditions during the morning (AM) and afternoon (PM) peak hours. Three of the eleven intersections are expected to operate at acceptable conditions (LOS D or better). Seven of the remaining eight analyzed intersections are not expected to be notably impacted by the Proposed Action. Most of the increase in traffic is due to the natural growth of the area. Only one of the analyzed intersections (Sand Island Access Road and UH Snug Harbor Access) is expected to be significantly impacted by the new container terminal entrance/exit driveway.

The Proposed Action would result in a change in traffic volumes through the intersections along Nimitz Highway, but not enough to change their LOS from if there were no Proposed Action. It is noted that the Puuhale Street, Mokauea Street, and Kalihi Street intersections on Nimitz Highway would have the most added traffic.

Table 3-5. LOS Summary of Intersections With and Without Proposed Action by 2039

Intersection	Control	AM Peak Hour			PM Peak Hour		
		Existing	2039 No Action	2039 Proposed Action	Existing	2039 No Action	2039 Proposed Action
1) Nimitz Highway & Sand Island Access Road	Signal	D	E	E	D	D	D
2) Nimitz Highway & Puuhale Road	Signal	D	D	D	D	F	F
3) Nimitz Highway & Mokauea Street	Signal	C	D	D	D	F	F
4) Nimitz Highway & Kalihi Street	Signal	D	E	E	D	F	F
5) Nimitz Highway & Waiakamilo Road	Signal	D	E	E	D	D	D
6) Sand Island Access Road & Auiki Street	Signal	C	D	D	D	D	D
7) Sand Island Access Road & Road No. 2	Signal	C	E	E	C	C	C
8) Sand Island Access Road & UH Snug Harbor Access	Unsignalized	E	D	F	C	C	F
10) Auiki Street & Pu‘uhale Road	Unsignalized	C	C	C	D	E	E
11) Auiki Street & Mokauea Street	Signal (future)	C	A	A	C	B	B
12) Auiki Street & Kalihi Street	Unsignalized	B	C	C	C	D	D

Note: Updated plans for the container terminal show a combined entrance/exit truck gate on Sand Island Access Road at the UH Snug Harbor Access intersection and two driveways for employee and customer access on Auiki Street, one at Kalihi Street and one at Silva Street. For unsignalized intersections, LOS for the worst movement is reported. The future of Auiki Street and Mokauea Street intersection includes a traffic signal by the City.

The study intersections along Sand Island Access Road and Auiki Street (except for the Sand Island Access Road/UH Snug Harbor Access intersection) would have a reduction in traffic volume due to internal routing of truck traffic. The reduction in traffic is slight and not enough to improve the overall LOS for these intersections. The reduction in traffic, however, is still an improvement.

As noted, container trucks traveling to the inter-island cargo service would use an internal connection within the Kapālama site to reach the adjacent inter-island barge terminal. As a result, the Proposed Action would reduce the amount of truck trips on public roads between the two terminals.

The traffic signal at the intersection of Sand Island Access Road and Road No. 2 would not be warranted and control of that intersection should be by “STOP” signs on the minor street approaches. The analyses found that very long delays could result for these minor street movements but capacity would be sufficient for the expected volumes.

The Sand Island Access Road and UH Snug Harbor Access intersection showed an increase in traffic volume and a substantial decrease in LOS. This intersection is proposed to be the main entry/exit truck gate for the Kapālama Container Terminal. Further analysis of this intersection looked at signalization for this main gate since all trucks would be entering the Kapālama site at this location. The analysis of the future with project conditions indicated LOS B and LOS C for the unsignalized intersection on the southbound left turn approach turning into the container yard (see Appendix C-2); however this does not take into consideration that additional time may be needed for the trucks to make the sharp turn into the property or how quickly they process through the gate. Since signalization also requires a warrant analysis, which is based upon the volume of traffic on both the main road and the minor road, a modification to equate trucks to passenger car equivalent lengths may be needed to be included in order to meet the requirements.

The proposed improvements at this main entry gate should include the installation of traffic signal conduits for future use. If and when signalized, the signal at this intersection should be interconnected with other signals along Sand Island Access Road to provide less interruption to through traffic and to provide better flow into and out of the project site.

Appropriate intersection sight distances should be provided at all access points to the Kapālama site. Parking restrictions may be required near the new driveways along Auiki Street to provide adequate sight distance for vehicles at those access points.

Taking into consideration the traffic safety conditions, the proposed action provides separate entrances for passenger vehicle and truck traffic to minimize impacts to the existing roadways. Passenger vehicle traffic would utilize Kalihi Street and the Auiki Street entrance, which carries more passenger cars; while the trucks would utilize Sand Island Access Road, which currently handles more truck traffic. Increases in traffic on these streets are expected, however the increase in traffic volume is not expected to significantly impact pedestrian safety therefore no mitigation measures are being proposed.

Access to the Servco property adjacent to the Kapālama site would also be limited to Auiki Street at the Servco driveway across Puʻuhale Street and the Mokauea Street intersection. Impacts to these intersections would be mitigated by the installation of a traffic signal at the Mokauea Street intersection, which is currently being installed by the City. The signal would benefit turning movements at the intersection as well as help improve pedestrian safety with the inclusion of crosswalks. Additionally, improvements to the approach grade on the Servco driveway and the Mokauea Street intersection would provide safer travelling through the ingress/ egress access for Servco's auto carriers.

Mitigation Measures

The changes in use at the Kapālama site will require changes in intersection control at the intersection of Sand Island Access Road and Road No. 2. At the existing signalized intersection with Road No. 2, traffic signals will no longer be warranted and the existing traffic signal should be removed, with the intersection reverting to "STOP" sign control for the minor street approaches. Increased truck movements at the Sand Island Access Road and UH Snug Harbor Access intersection, while not satisfying normal warrants for signalization. Plans for improvements at this intersection should be coordinated with the State DOT Highways Division, and the intersection should be signalized when needed for safety and/or warranted by the volume of traffic.

Impacts to pedestrians and bicyclists are not expected to be significant, as a result no mitigation measures are proposed.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. Similar mitigation as above is recommended

No Action Alternative

Under the No Action Alternative, no container terminal would be built. No traffic related impacts would occur. Existing traffic would continue to increase with the area's natural growth. No mitigation is required as no Proposed Action will occur.

3.5.2 Piers 24–28

3.5.2.1 Affected Environment

A traffic assessment for Pier 29, which was performed for the *Final Environmental Assessment of the Construction of Pier 29 Container Yard (2009),* provided information about the peak hour and average daily traffic at the key intersection for the Pier 24–28 site—Nimitz Highway and Pacific Street (DOT-H 2009). No traffic counts were performed at this intersection.

3.5.2.2 Environmental Consequences

Proposed Action

Construction Impact

Construction-related traffic would be short-term and not expected to create a significant impact on traffic volumes of surrounding roadways. The number of trucks and passenger vehicles associated with construction work is not expected to exceed 5 percent of the daily traffic volume at the Nimitz Highway and Pacific Street intersection.

Operational Impacts

No significant traffic impacts would occur as a result of the relocation of PSI or similar operator and Atlantis Submarines. The area is already developed; hence, vehicle trips associated with the Proposed Action would replace some of the vehicle trips from the existing Pier 24–28 tenants. Further, any additional traffic generated by the Proposed Action is expected to be insignificant in comparison to the volume of vehicles traveling along Nimitz Highway. Traffic generated by PSI or similar operator and Atlantis Submarines employees is expected to occur before the peak hours of 7:15AM to 8:15AM and 4:15PM to 5:15PM at the Nimitz Highway and Pacific Street intersection. This tenant traffic would not significantly impact traffic on Nimitz Highway.

Mitigation Measures

No mitigation is required.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.6 UTILITIES

Impacts on utilities are evaluated based on the capacity of existing systems and facilities to accommodate any increase in demand or service associated with the Proposed Action and alternatives, as well as the need to construct new on-site and possible off-site system facilities. The ROI differs for each utility. For most utilities (potable water, wastewater, storm drainage, electrical, telecommunications), the ROI is typically regional. For solid waste disposal, the ROI is island-wide since the H-POWER waste-to-energy facility, municipal solid waste landfill, and construction and demolition landfill on O‘ahu serve the entire island.

3.6.1 Kapālama Site

3.6.1.1 Affected Environment

3.6.1.1.1 Water

The Honolulu Board of Water Supply (BWS) provides water service to the Kapālama site. The water is supplied by the BWS source and distribution system. There are two points of connection to the BWS water system. One connection is a pair of 8-inch diameter compound water meters connected to the existing 12-inch diameter water line located within the Auiki Street ROW near the intersection with Kalihi Street. The other connection is an 8-inch meter and backflow preventer connected to the existing 16-inch diameter water line located within the Sand Island Access Road ROW, approximately 200 feet north of the Sand Island Bridge (see Figure 3-15). There are existing off-site fire hydrants within the ROWs of both adjacent roadways and existing on-site fire hydrants at the Kapālama site.

3.6.1.1.2 Sewer

On-site domestic wastewater generated within the project site discharges from 6-inch and 8-inch diameter sewer laterals to sewer manholes on the existing 24-inch diameter City sewer main within the Auiki Street ROW (see Figure 3-15). The 24-inch diameter sewer eventually discharges at the Hart Street Sewage Pumping Station (SPS). The SPS pumps the wastewater beneath Honolulu Harbor to the Sand Island Wastewater Treatment Plant (WWTP) for treatment and disposal.

3.6.1.1.1 Storm Drainage

The on-site drainage system consists of inlets and drain pipes ranging from 12 inches to 24 inches in diameter that discharge at the piers directly to the Kapālama Basin, or indirectly through the City's drainage system that discharges to Ke‘ehi Lagoon. Two large box drains are located within the general project area: a 10-foot by 4-foot box drain that flows south along Libby Street and discharges storm water into Honolulu Harbor near Pier 41; and a 7-foot by 5-foot box drain that flows southwest along Mokauea Street, then westward along Auiki Street, and finally beneath the Servco Pacific property to the point of discharge into Ke‘ehi Lagoon (see Figure 3-15).

3.6.1.1.2 Electrical/Telecommunications

The off-site electrical power generation and transmission systems are operated by the Hawaiian Electric Company (HECO). Three substations provide service to the project area: (1) Kapālama Substation in Kalihi Kai; (2) Sand Island Substation on Sand Island; and (3) Sand Island WWTP Substation, on the east side of the WWTP.

The Kapālama substation is the primary source of off-site electrical power. HECO's off-site transmission and distribution system consists of uninsulated aerial cables attached to joint (shared with other utilities) overhead poles located: (1) adjacent to the southern boundary of the project site on the west side of Sand Island Access Road; (2) along Auiki Street adjacent to the northern boundary of the project site; and (3) through the project site adjacent to the access road for the existing DOA facility.

The primary off-site electrical point-of-connection to the Kapālama site is located adjacent to Auiki Street near the intersection of Kalihi Street. A second off-site electrical point-of-connection is located adjacent to Sand Island Access Road for a portion of the facilities currently leased to the UH School of Ocean and Earth Science and Technology (SOEST).

Telecommunications

Off-site telecommunications utilities for the project site are provided by Hawaiian Telcom (HTCO) and Oceanic Time Warner Cable (OTWC). The off-site telecommunications utilities consist of overhead cables attached to utility poles located along Sand Island Access Road and along Auiki Street. HTCO provides service to the project site from its Kalihi Central Office on Kalihi Street. OTWC provides service to the project site from localized power supplies. HTCO and OTWC each have multiple overhead points-of-connection along periphery of the site and adjacent to the access roadway for the adjacent DOA facilities.

HTCO also maintains military communication cables that cross the southwest corner of the site (see Figure 3-15). The Network Enterprise Center (NEC), formerly known as the Army Directorate of Information Management, has off-site underground "Signal Corps" cables within easements that transect the project site. One NEC cable terminated at the former telecommunications building for telecommunications service within the project site. The NEC had indicated that one cable may also cross the site to provide service to the western side of Ke'ehi Lagoon.[23]

[23] Personal communication. Steve Sakai with NEC, 2012.

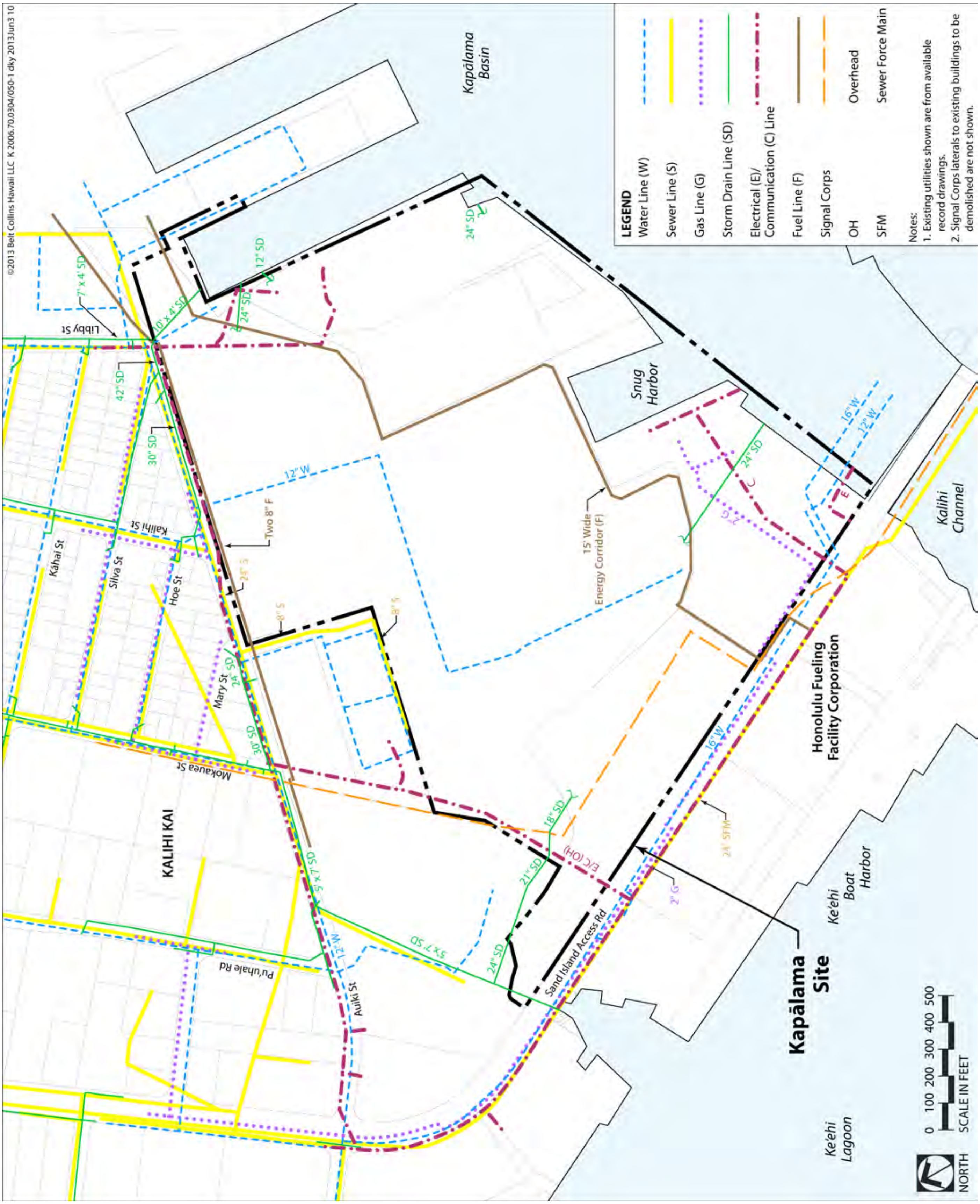

Figure 3-15. Kapālama Site Existing Utilities

3.6.1.1.3 Roadway Light Systems

Existing street lights are located along Auiki Street and Sand Island Access Road. The street lights on Auiki Street are mounted on wooden poles and interconnected by overhead power lines. The Auiki Street lighting system is owned and maintained by the City. The highway lights along Sand Island Access Road are also mounted on wooden poles, but are interconnected by underground power lines. The Sand Island Access Road lighting system is owned and maintained by DOT.

3.6.1.1.4 Gas/Petroleum

On-site gas service is currently provided by a 2-inch diameter gas line connected to a meter adjacent to the Sand Island Access Road, located approximately 300 feet north of the Sand Island Bridge (see Figure 3-15). There are no gas lines along Auiki Street except for a 250-lineal-foot segment east of Kalihi Street, which appears to provide service to a lot across Auiki Street from the Kapālama site.

A 15-foot-wide fuel line corridor easement that extends from the HFFC facility located on the west side of Sand Island Access Road to Nimitz Highway in the vicinity of Pier 41 bisects the project site. Two Chevron oil lines are located along Auiki Street: one adjacent to and one south of the fence line within an oil line easement (see Figure 3-15). The HFFC fuel line corridor and the oil lines do not supply petroleum fuel to the project site.

3.6.1.1.5 Solid Waste Disposal

Solid waste is currently collected by private waste collection companies. Typically, solid waste is transported to the City's H-POWER plant for waste energy recovery or to the City's Waimanalo Gulch Sanitary Landfill for disposal. Waste from construction and demolition activities is transported to the PVT Landfill in Nānākuli.

3.6.1.2 Environmental Consequences

3.6.1.2.1 Water

Proposed Action

Construction Impacts

The Proposed Action would require reconstruction of on-site water lines and appurtenances in compliance with new tenant facilities' requirements and current codes. The on-site water system would be reconfigured to correspond with the new site building configuration. Existing on-site water lines will be removed. Removal of existing and construction of new below-ground water utilities may include excavation, temporary stockpiling of material, pressure testing of utilities with water, disinfection of potable water lines, compaction of embankment material to fill excavations, and repaving in compliance with DOH regulations.

On-site fire hydrants may be required by the Honolulu Fire Department (HFD) for new structures that are more than 150 feet from existing hydrants in the adjacent roadway ROWs.

The on-site water system may either use the same points-of-connection to the public utility water system or new points-of-connection. BWS approval would be required prior to reactivating existing or constructing new points-of-connection to the BWS water system. BWS approval for compliance with BWS and HFD requirements, including on-site fire protection, cross-connection control, and backflow prevention, would be required prior to issuance of building permits for the proposed structures.

Off-site water lines that cross Kalihi Channel in the harbor adjacent to the Sand Island Access Road Bridge would require adjustments to accommodate the potential use of sheet piles in construction of the project's main pier. Adjustments would occur primarily around the sheet piles and landside of the pier.

Construction impacts would be minimized by implementation of BMPs and compliance with applicable City and DOH permits and approvals.

Operational Impacts

The Proposed Action is not anticipated to adversely impact the public utility water system. After existing maritime tenants relocate from the Kapālama site and approximately 100,000 square feet of existing maritime buildings are demolished, domestic water demand from the site is expected to be zero. Construction of the proposed container terminal is expected to include approximately 50,000 square feet of new structures to the site. Commensurate with the net decrease in building area (pre-demolish of maritime buildings compared with container terminal construction), domestic water demand is expected to decrease.

Fire flow demand should be identical, since design requirements are based on a single fire event and the general land use remains unchanged. The sufficiency of water system capacity is usually governed by fire flow demand peak flow rates that are typically much higher in magnitude than potable demand peak flow rates. BWS stated in their EIS preparation notice response letter of November 29, 2011 and Draft EIS response letter of January 8, 2013 that the existing water system is adequate to accommodate the Proposed Action at Kapālama. However, adequacy is based upon available information at the time, and final water availability is decided when the building permit is submitted for approval.

BWS assesses Water System Facilities Charges for resource development, transmission, and daily storage for new or increased water demands. Since water demands are anticipated to decrease, new facilities charges are currently not anticipated.

Mitigation Measures

No mitigation is required.

Alternative Action

Construction Impacts

Construction activities would be similar to those under the Proposed Action.

Operational Impacts

The Alternative Action would similarly have no adverse impact to the public water utility system. The BWS affirmation of the adequacy of the existing public water utility system would equally apply to the Alternative Action.

Mitigation Measures

No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.6.1.2.2 Sewer

Proposed Action

Construction Impacts

No significant impacts on the sewer system would occur with construction under the Proposed Action. The Proposed Action would require reconstruction of on-site sewer utilities in compliance with new tenant facilities' requirements and current codes. The on-site sewer system would be reconfigured to correspond with the new site building configuration and likely use the same points of discharge to the City sewer system. City approval would be required for new discharges to any new or existing points of connection to the City sewer system.

Existing on-site sewer lines will be removed. Existing sewer manholes would be demolished and filled in to minimize subterranean void spaces. Removal of existing and construction of new below-ground sewer utilities may include dewatering, excavation, temporary stockpiling of material, pressure testing of utilities with water, compaction of embankment material to fill excavations, and repaving. Construction impacts would be minimized by compliance with applicable City and DOH permits and approvals.

Operational Impacts

The Proposed Action is not anticipated to adversely impact the public sewer system. Based on the preceding reduction in existing building area from 100,000 square feet to 50,000 square feet, the Proposed Action is anticipated to result in decreased wastewater discharge rates. The City approved a Sewer Connection Permit on November 21, 2012 for the demolition of approximately 100,000 square feet of existing maritime structures and, under the Proposed Action, the reconstruction of approximately 50,000 square feet of new structures. The Proposed Action does not include provisions for ship discharge of wastewater.

Mitigation Measures

No mitigation is required.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.6.1.2.3 Storm Drainage

Proposed Action

Construction Impacts

No significant impacts on storm drainage would occur with construction under the Proposed Action. The Proposed Action would require reconstruction of on-site drainage lines, drain inlets, and other collection structures, as well as appurtenances in compliance with new tenant facilities' requirements and current codes. The on-site drainage system would be reconfigured to correspond with the new site configuration and likely use the same points of discharge to Kapālama Basin or the City drainage system. DOT-H or City approval would be required for new discharges to any new or existing points of connection to the respective drainage systems.

The Honolulu Harbor has a Small Municipal Separate Storm Sewer System (MS4) permit issued under HAR 11-55, Appendix K. The permit includes construction and post-construction requirements that are addressed in the Honolulu Harbor Storm Water Management Plan (SWMP) and apply to all projects within Honolulu Harbor. The SWMP is currently undergoing revisions, including revision to the post construction BMP program. All construction projects will be required to go through a post construction BMP review to ensure that peak runoff volume and flow is reduced to the maximum extent practicable (MEP) and storm water runoff pollution is reduced to the MEP.

Temporary erosion control and water quality BMPs will be incorporated as required during construction to protect and maintain existing off-site drainage facilities, such as those along Auiki Street.

Existing on-site drain lines will be removed. Removal of existing and construction of new below-ground drainage utilities may include dewatering, excavation, temporary stockpiling of material, compaction of embankment material to fill excavations, and repaving. Construction impacts would be minimized given compliance with applicable City and DOH permits and approvals.

Operational Impacts

The Proposed Action would repave the existing pavement surface for storing of shipping containers. The Proposed Action would include BMPs to meet the City's NPDES MS4 permit requirements or DOT-H's MS4 permit requirements, depending on the system to which the on-site drainage system is connected.

Mitigation Measures

No mitigation is required.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

There would be no operational or construction impacts under the No Action Alternative. No mitigation is required.

3.6.1.2.4 Electrical/Telecommunications

Proposed Action

Construction Impacts

No significant impacts on electrical systems would occur with construction under the Proposed Action. The existing HECO off-site 46 kilovolt (kV) and 12 kV overhead transmission mains that transect the project site may be relocated along the perimeter of the project site to lessen on-site development constraints and increase space utilization.

Off-site electrical systems may be constructed within the project site to provide on-site service. It is anticipated that HECO would install a transformer to step down the transmission voltage and switchgear to provide protection to minimize outages and protect off-site HECO main circuits. The system would consist of metal cabinets placed on concrete pads and concrete-encased polyvinyl chloride (PVC) conduits.

No significant impacts on telecommunications systems would occur with construction under the Proposed Action. Telephone and cable television service would be extended to the property from the existing off-site overhead lines in adjacent public roadway ROWs. Separate service conduit laterals would be provided for HTCO and OTWC. All conduits would be connected to a HTCO handhole or manhole before rising up the existing overhead pole in accordance with Joint Pole Committee rules.

The NEC Signal Corps telecommunication lines would no longer provide any on-site service because the former telecommunications building would no longer exist under the No Action Alternative.

Construction of on-site electrical and telecommunications systems for the Proposed Action would consist of underground concrete-encased PVC conduits and manholes. Both electrical power and telecommunications are typically installed within a common trench and located, where feasible, within roadways, pavement areas, or open spaces to allow for unrestricted maintenance. These facilities would be designed and constructed per design codes and respective utility policies. Installation of on-site lighting and traffic signal improvement would similarly require the installation of concrete-encased PVC conduits and manholes for power and signal cables.

Off-site electric/communication lines located in a utility corridor that crosses Kalihi Channel along the Sand Island Access Road Bridge would require adjustments to accommodate the potential use of sheet piles in construction of the project's main pier. Adjustments would occur primarily around the sheet piles and landside of the pier. Potential construction impacts from excavation, underground utility installation, backfill, and paving will be minimized by compliance with applicable regulatory requirements and implementation of BMPs.

Operational Impacts

The Proposed Action would increase off-site electrical demand; telecommunications demand would decrease. HECO has indicated that the existing Kapālama Substation has adequate capacity to meet anticipated power needs. Additional off-site electrical power and telecommunications infrastructure would be required to extend new service connections to the project site.

HECO and HTCO are regulated by the Public Utilities Commission (PUC). Regulated public utilities are required to extend off-site utility service to supply public demand. Although OTWC is not a PUC-regulated utility, its policies for off-site utility development are similar. OTWC provides service when the anticipated revenue from the prospective service connections would exceed expenditures within a reasonable payback period. Therefore, the Proposed Action is not anticipated to adversely affect off-site electrical and telecommunications capacity.

Development of the site as a container yard capable of 24-hour operation would require the installation of area lights throughout the parcel to provide adequate illumination for safe operation of the articulated trucks and container lifts. Based on recent designs at other DOT-H facilities, a high-mast lighting system would be proposed for most of the container yard. The high-mast poles would be equipped with lowering assemblies to facilitate the maintenance of the fixtures. For areas along the property border but inside the project site, shorter poles and fixtures would be proposed to prevent glare into the adjacent properties. The fixtures would be shielded and directional to prevent upward light emissions and thereby minimize attractions to shearwaters. Illumination of the container yard and access driveways would be based on Illuminating Engineering Society (IES)/American National Standards Institute (ANSI) criteria. For a discussion of impacts related to outdoor lighting, see section 3.13, Visual Resources.

Mitigations Measures

No mitigation is required.

Alternative Action

Construction Impacts

Construction impacts for the Alternative Action would be identical to the Proposed Action.

Operational Impacts

Operational impacts for the Alternative Action would be identical to the Proposed Action.

Mitigation Measures

No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.6.1.2.5 Gas/Petroleum

Proposed Action

Construction Impacts

No significant impacts on gas/petroleum systems would occur with construction under the Proposed Action. Existing on-site gas lines will be removed. If the operator requires gas service, new service laterals and meters would be constructed in accordance with current City codes. Construction of new below-ground gas lines may include excavation, temporary stockpiling of material, compaction of embankment material to fill excavations, and repaving. Construction would be accomplished in compliance with applicable permit requirements.

Operational Impacts

The quantity of gas, if required, is anticipated to be very small and have negligible impact to off-site supplies. There are no anticipated impacts to the HFFC fuel corridor and the Chevron oil lines because the Proposed Action does not preliminarily include construction of any permanent structure over the existing fuel line alignments. Should final plans call for structures over the lines, plans will be made to relocate or remove the lines from the container yard area.

The Proposed Action would likely utilize barges to deliver heavy fuel oil and tanker trucks to deliver marine gas oil to ships berthed at the Kapālama site. Terminal facilities may require tanker truck delivery and on-site storage tanks for diesel, unleaded fuel and propane gas. Storage tanks would need to comply with EPA Spill Prevention, Control and Countermeasure (SPCC) regulations and HFD fire protection ordinances.

Mitigation Measures

No mitigation is required.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.6.1.2.6 Solid Waste Disposal

Proposed Action

Construction Impacts

No significant impacts on solid waste disposal would occur with construction under the Proposed Action. Prior to construction of the container terminal under the Proposed Action, approximately 100,000 square feet of existing buildings (maritime-dependent tenants) would be demolished and removed from the site. More than half of the buildings are light-frame construction. Some construction waste, such as concrete floor slabs, could be recycled on site as embankment material or for use as structural fill. Prior to recycling materials, the materials would be tested for suitability. In the unlikely event that a material is found to be hazardous, the material would be disposed of properly, in accordance with federal regulations.

Depending on recycling diversion rates, the amount of construction waste could be in the order of magnitude of about 5,000 tons, which is based on a solid waste generation rate of 50 pounds per square foot (lbs/sf) for light-frame construction and 150 lbs/sf for heavy-frame construction.

City projections, based on historical records, estimate that 1.7 million tons of waste would be generated in 2012. It is estimated that the Proposed Action would generate about 0.3 percent of the annual estimated total solid waste tonnage.

Waste would be hauled by dump trucks to the PVT Landfill, a private construction and demolition solid waste landfill in Nānākuli. This could result in about 120 round trips by truck, depending on the capacity of the trucks and the diversion rates.

Operational Impacts

The domestic waste generation would increase relative to the No Action Alternative due to the increase in number of employees on site. As appropriate, the container terminal operator would implement recycling to reduce the volume of solid waste generated during operations and impacting H-POWER facility and landfills.

Mitigation Measures

No mitigation is required by DOT-H. Each specific tenant will be required to employ mitigation measures if its operation is in non-compliance with State and/or Federal regulations.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.6.2 Piers 24–28

The Proposed Action includes the potential relocation of PSI and Atlantis Submarines from the Kapālama site to Piers 24–28. For the purpose of assessing utility impacts, the PSI improvements are presumed to involve approximately 50,000 square feet of new buildings, and the relocation of Atlantis Submarines is presumed to require 10,000 square feet of new building area. PSI or similar operator and Atlantis will be responsible for any improvements to the site including replacement or installation of utilities and renovation or construction of new administration, operations, and/or support structures or buildings on the property. As the new tenants complete their relocation and building plans, detailed information will be available on their planned site improvements.

3.6.2.1 Affected Environment

3.6.2.1.1 Water

The existing points of connection to the BWS water system are a 12-inch diameter water main within the Nimitz Highway ROW and a 16-inch diameter water main within the Pacific Street ROW. Existing domestic water service to the site is provided through an 8-inch diameter on-site water lateral connected to the 12-inch diameter BWS water main within the Nimitz Highway ROW. Existing fire protection water service is provided through an on-site 10-inch diameter water lateral connected to the 16-inch diameter BWS water main within the Pacific Street ROW. There are BWS water meters at each point of connection. Connection to the BWS system and maintenance will be the responsibility of each tenant. Refer to Figure 3-16.

3.6.2.1.1 Sewer

The existing on-site sewer system consists of 8-inch and 6-inch diameter gravity lines and a 4-inch diameter pressure sewer lines. Piers 24 through 26 are serviced by gravity sewer lines that are conveyed to an on-site sewer pumping station located near Pier 24. Piers 27 and 28 are serviced by gravity sewer lines that are conveyed to an on-site sewer pumping station located at Pier 27. All on-site gravity and pumped sewers in the vicinity of Piers 24–28 discharge to the public sewer system at two City sewer manholes located within the Nimitz Highway ROW. Both of these manholes discharge through off-site 8-inch diameter sewer laterals to the 54-inch diameter sewer interceptor also located within the Nimitz Highway ROW. The 54-inch diameter sewer eventually discharges at the Hart Street SPS, which pumps the wastewater to the Sand Island WWTP for treatment and disposal. Connection to the City's sewer system and maintenance will be the responsibility of each tenant.

3.6.2.1.2 Storm Drainage

The existing on-site drainage system consists of inlets and drain pipes ranging from 3 inches to 24 inches in diameter. The drainage system discharges at numerous locations along the piers into Honolulu Harbor (see Figure 3-16).

Figure 3-16. Pier 24–28 Existing Utilities

3.6.2.1.3 Electrical/Telecommunications

Electrical

HECO's existing substations serving this area are: (1) Kapālama Substation, located in Kalihi Kai; and (2) Iwilei Substation, located at the corner of Kaʻaahi Street and Dillingham Boulevard. The Iwilei Substation is the primary source of electrical power for Piers 24–28. HECO's off-site facilities serving Honolulu Harbor consists of 11.5 kV overhead lines within the Nimitz Highway ROW. A system of underground cables and ducts distribute on-site power throughout the Pier 24–28 area. Connection to the HECO's electrical system and maintenance will be the responsibility of each tenant.

Telecommunications

HTCO's and OTWC's existing off-site facilities are co-located on the Nimitz Highway overhead line that also supports HECO's facilities. HTCO serves the Pier 24–28 area from its Alakea Central Office. OTWC provides service to Piers 24–28 from localized power. HTCO and OTWC distribution lines are routed on-site within the Pier 24–28 area through a system of underground cables and ducts. DOT–H project H.C. 10354 Pier 29 Container Yard has constructed a new duct system with provisions to extend electric and telecommunications service to Piers 24–28. Connection to the off-site telecommunications system and maintenance will be the responsibility of each tenant.

Lighting

Piers 24-28 area is presently illuminated at night by a mixture of various downward-facing lighting fixtures mounted on wooden overhead utility poles or steel light poles. Except for access driveways and parking lots, installation and maintenance of site and area lighting within each tenant area is the responsibility of the tenant and shall comply with environmental regulations.

3.6.2.1.4 Gas/Petroleum

There is no gas or petroleum service to the Pier 24–28 site.

3.6.2.1.5 Solid Waste Disposal

See description in section 3.6.1.1.5.

3.6.2.2 Environmental Consequences

3.6.2.2.1 Water

Proposed Action

Construction Impacts

No significant impacts on water systems would occur with construction under the Proposed Action. Use of Piers 24-28 would require reconstruction of on-site water lines and appurtenances by the new tenants, compliance with current codes, and upgrade of the on-site water system to comply with fire flow standards. These improvements would include a new connection to the BWS water system with new water meters and backflow preventers.

Existing on-site water lines may be removed if in conflict with other new utilities. Removal of existing and construction of new underground water lines may include excavation, temporary stockpiling of material, pressure testing of utilities with water, disinfection of potable water lines, compaction of embankment material to fill excavations, and repaving. Construction impacts would be minimized given compliance with applicable City and DOH permits and approvals.

Operational Impacts

Operational impacts of the Proposed Action on the public utility water system would need to be assessed by the BWS. Additional engineering studies would be required to determine the impact of the expanded on-site system capacity on the BWS water system. Off-site improvements, such as an upsized or relief water line, would need to be incorporated in the Proposed Action if required by BWS during final design review. BWS approval of all proposed water system improvements is required prior to City approval of building permits. According to the BWS, the Proposed Action is subject to the BWS Cross-Connection Control and Backflow Prevention requirements prior to the issuance of a building permit. When water is made available for the project, the applicant will be required to pay BWS's Water System Facilities Charge.

Mitigation Measures

No mitigation is required.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.6.2.2.2 Sewer

Proposed Action

Construction Impacts

No significant impacts on the sewer system would occur with construction under the Proposed Action. Use of Piers 24-28 would require reconstruction of on-site sewer utilities by the new tenants and compliance with current codes. The new system would consist of gravity sewer laterals, pressure sewers and sewage pumping stations, and would likely use the same point of discharge to the City sewer system. The City approved a Sewer Connection Permit on November 21, 2012 for the Proposed Action, which includes the potential relocation of PSI and Atlantis Submarine personnel to Piers 24–28.

Existing on-site sewer lines may be removed if in conflict with other new utilities. Existing sewer manholes would be demolished and filled in to minimize subterranean void spaces. Removal of existing and construction of new underground sewer lines may include excavation, temporary stockpiling of material, pressure testing of utilities with water, compaction of embankment material to fill excavations, and repaving. Construction impacts would be minimized given compliance with applicable City and DOH permits and approvals.

Operational Impacts

The City Department of Planning and Permitting (DPP) stated that there was sufficient off-site sewer capacity in response to a preliminary request for connection made in 2009 as part of a relocation feasibility study (DOT-H 2010). There would be no adverse operational impacts.

Mitigation Measures

No mitigation is required.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.6.2.2.3 Storm Drainage

Proposed Action

Construction Impacts

No significant impacts on storm drainage would occur with construction under the Proposed Action. Use of Piers 24-28 would require reconstruction of on-site drainage lines, drain inlets, and other collection structures, as well as appurtenances by the new tenants and compliance with current codes. The new drainage system would be reconfigured to correspond with new site configuration and likely use the same points of discharge to the harbor. DOT-H approval would be required for new discharges to any new or existing points of connection to the drainage system.

Honolulu Harbor has a Small MS4 permit issued under HAR 11-55, Appendix K. The permit includes construction and post-construction requirements that are addressed in the Honolulu Harbor SWMP and apply to all projects within Honolulu Harbor. The SWMP is currently undergoing revisions, including revision to the post construction BMP program. All construction projects will be required to go through a post construction BMP review to ensure that peak runoff volume and flow is reduced to the MEP and storm water runoff pollution is reduced to the MEP.

Existing on-site drain lines may be removed if in conflict with other new utilities. Removal of existing and construction of new below-ground drainage utilities may include dewatering, excavation, temporary stockpiling of material, compaction of embankment material to fill excavations, and repaving. Construction impacts would be minimized given compliance with applicable City and DOH permits and approvals.

Operational Impacts

The Proposed Action would not substantially increase impervious surface area. As a result, an increase in surface runoff volume or peak flow rate is not expected. The Proposed Action would include BMPs to meet the NPDES MS4 permit requirements for DOT-H.

Mitigation Measures

No mitigation is required.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.6.2.2.4 Electrical/Telecommunications

Proposed Acton

Construction Impacts

No significant impacts on electrical/telecommunication systems would occur with construction by the new tenants under the Proposed Action. The on-site electrical and telecommunications systems would consist of concrete-encased PVC conduits and manholes, typically installed within a common trench and located within roadways, pavement areas, or open spaces to allow for unrestricted maintenance access. HECO would also require the installation of switchgear within the project site to isolate and protect the off-site power system from the local on-site power system. Installation of on-site lighting would similarly require the installation of concrete-encased PVC conduits and manholes for power and signal cables. Illumination of the access driveway and parking lots would be based on IES/ANSI criteria and would utilize fixtures with cut-off optics. Potential construction impacts from the excavation, underground utility installation, backfill and paving of the preceding underground electrical and telecommunication utilities would be minimized by compliance with applicable regulatory requirements and implementation of BMPs.

Operational Impacts

The Proposed Action would not adversely affect off-site electrical or telecommunications system capacity. Electrical and telecommunications service to the project site would be extended underground by the new tenants to their facilities on Piers 24–28 from the duct system recently constructed under the Pier 29 Container Yard. For a description of impacts related to outdoor lighting, see section 3.13, Visual Resources.

Mitigation Measures

No mitigation is required.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.6.2.2.5 Gas/Petroleum

Proposed Action

Construction Impacts

No gas or petroleum utilities are proposed for the Proposed Action; therefore, there would be no impact on gas or petroleum utilities.

Operational Impacts

No gas or petroleum utilities are proposed for the Proposed Action; therefore, there would be no impact on gas or petroleum utilities.

Alternative Action

Similar to the Proposed Action, no proposed gas or petroleum utilities are planned for construction and operations under the Alternative Action; therefore there would be no impact on gas or petroleum utilities. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.6.2.2.6 Solid Waste Disposal

Proposed Action

Construction Impacts

No significant impacts on solid waste disposal would occur with construction under the Proposed Action. Piers 24–28 is largely a paved open area. The Proposed Action would include construction debris from construction of new facilities on the property. The amount of construction waste is expected to be negligible compared to the estimated 1.7 million tons per year of waste generated within the City.

Construction of the Proposed Action would result in a few truckloads of solid waste. Construction-related traffic impacts due to trucks hauling solid waste to the PVT Landfill would be minimized by scheduling these trips during non-peak hours. In addition, reuse of construction materials would reduce the volume of solid waste from demolition.

Operational Impacts

PSI performs primarily repair and maintenance services and Atlantis Submarines recharges and maintains their vessels, which likely generate relatively little quantities of solid waste in comparison to other industrial activities. No net impact would occur because existing operations are being transferred from one location to another within Honolulu Harbor and will comply with current federal and state labor, health, and environmental laws and regulations. Recycling would serve to reduce the volume of waste sent to the H-POWER facility and the City landfill.

Mitigation Measures

No mitigation is required.

Alternative Action

Similar to the Proposed Action, no proposed gas or petroleum utilities are planned for construction and operations under the Alternative Action; therefore there would be no impact on gas or petroleum utilities. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.7 PUBLIC SERVICES

This section presents an evaluation of how the Proposed Action and alternatives may affect the following public services: police/security, fire protection services and medical and emergency services. The analysis of police/security, fire, and medical/emergency services focuses on whether existing services or facilities have the capacity to accommodate anticipated changes due to the Proposed Action and alternatives.

The ROI varies depending on the service or facility being analyzed. The Kapālama site and Pier 24–28 site services are generally located within the same ROI.

3.7.1 Affected Environment

3.7.1.1 Police/Security And Fire Protection

Police and security services in Honolulu Harbor and vicinity are provided by the Department of Transportation Harbor Patrol, the U.S. Coast Guard, and the Honolulu Police Department (Districts 1 and 5). Fire protection is provided by HFD's Kalihi Kai, Central, Kaka'ako, and Waterfront (Pier 15) Fire Stations.

3.7.1.2 Medical and Emergency Services

Hospital care facilities within relatively close proximity to Honolulu Harbor are Queen's Medical Center in downtown Honolulu, Straub Clinic and Hospital at King Street/Ward Avenue, and Kaiser Permanente Medical Center in Moanalua. Emergency services are provided by the City's Emergency Medical Services Division (EMS). Private ambulance companies also provide emergency services.

EMS District 1 covers the project area. The ambulances are stationed at Queen's Medical Center and Kuakini Medical Center. EMS also has two rapid Response Paramedic units, with one unit per district. The HFD provides response to medical emergencies with personnel trained at the first responder level (EMS 2012).

3.7.2 Environmental Consequences

3.7.2.1 Police/Security And Fire Protection

Kapālama Site and Piers 24–28

Proposed Action

No construction or operational impacts are anticipated as police, harbor security, and fire protection services already cover the project sites. The Proposed Action would result in few buildings and large open work yards bounded by security fences. These provisions require less demanding security surveillance and emergency response. The construction contractor is expected to provide security for its own equipment and supplies during construction. An access route through the container yard to structures or buildings will be provided as required by HFD. As part of BWS's approval to service the project site, it will require that adequate fire flow is available in the area's water system for fire protection.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.7.2.2 Medical and Emergency Services

Kapālama Site and Piers 24–28

Proposed Action

No significant construction or operational impacts are anticipated under the Proposed Action. A number of medical and emergency facilities are located in the project vicinity to adequately accommodate any medical or emergency needs during project construction and long-term operations.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.8 TOPOGRAPHY, GEOLOGY, AND SOILS

This section describes the topography, geology and soils at the Kapālama and Pier 24–28 sites. For land-based construction, the ROI includes the development footprint and, with regard to erosion and runoff, receiving waters.

3.8.1 Kapālama Site

3.8.1.1 Affected Environment

3.8.1.1.1 Topography

The topography of the Kapālama site is fairly level, sloping about 0.5 percent from the center both south toward Honolulu Harbor and north toward Auiki Street (USATHAMA 1990).

Ground elevations range from about four to nine feet above msl. Elevations along the waterfront range from about four to seven feet above msl (USATHAMA 1990). Along the south side, the waterfront is an approximate four-foot-high shoreline of earth and rubble subject to erosion. The remainder of the shoreline, including Snug Harbor and Pier 41, is lined with improved piers.

3.8.1.1.2 Geology

The Kapālama site was formed by two basaltic volcanoes: the Waiʻanae Range on the west and the Koʻolau Range on the east. Lava flows created the land between the two ranges while stream and marine erosion and submersion carved the island's land forms and coastal plains (Stearns 2001).

Pre-1920s maps show the Kapālama site as a submerged nearshore area consisting of the Ananoho and Auiki Fishponds (DOT-H February 2007a). The Kapālama site is presently fill land configured along the waterfront to accommodate Honolulu Harbor.

3.8.1.1.3 Soils

The U.S. Department of Agriculture (USDA) Soils Report (1972) categorizes the Kapālama site's soil type as "[f]ill land, mixed," consisting of dredged material from the ocean or hauled from nearby areas, garbage and other imported material (SCS 1972). These soils are well drained, have low to moderately low permeability, rarely flood or pond, and are found in urban areas usually near airports, housing areas, and industrial facilities.

Dames & Moore prepared a geotechnical report as part of the Final Physical and Economic Feasibility Study of a Multi-Level Container Staging and Distribution Center. That report "… indicates that the Kapālama Development Complex was once part of a fringing reef formation in an area known as Kalihi-Kai. The report notes that a 1930s geological map shows that fish ponds were located at this site. The ponds were filled in the late 1930s with coral and limestone fill material. Snug Harbor was constructed in 1940 for military use. Previous investigations for the site were reviewed in the report and data on borings were researched. Conclusions about the subsurface conditions were that 'borings indicate the site is underlain by coral gravel fill over varying thickness of soft compressible lagoonal soil. The lagoonal soil overlies a coral formation.' A possible contour of the coral surface was plotted for this research. Along with further geotechnical studies, this preliminary information may assist in the determination of possible foundation requirements for future development of the project site" (DOT-H 1993).

3.8.1.2 Environmental Consequences

Proposed Action

Construction Impacts

Potential impacts during construction would be avoided or minimized by compliance with applicable regulations and building codes, including the NPDES permit program for erosion and sediment control and dust control measures required by the DOH (HAR 11-60.1). BMPs would be incorporated as part of the Proposed Action. Construction impacts would also be avoided or minimized through compliance with appropriate siting, planning, and design standards, including the International Building Code (IBC). Geotechnical engineering studies would be conducted to identify appropriate design requirements.

Landside construction would involve demolition, grading, paving, trenching for utilities, equipment installation, and building construction. Construction activities would be completed in compliance with geotechnical engineering recommendations, which would be specific to the project design. Soil settlement, erosion, or expansion is not anticipated with the implementation of applicable geotechnical engineering practices during design and construction.

Construction of the piers would require dredging, excavation of materials, installation of earth retaining and lateral support systems, dewatering, and subgrade preparation. Fill from excavation work would be used to the extent practicable to minimize the amount of fill from off-site sources to construct the proposed piers. Approximately 132,000 cubic yards of appropriate structural fill is required for the improvements. The diversion of a small portion of dredged material would be largely limited to coastal areas due to the high salt concentrations in the marine sediments. Saline sediments would limit the regrowth of vegetation and potentially percolate soluble salt into the underlying groundwater.

Dredging impacts are discussed in section 4.2, Marine Environment.

Due to the relatively level topography, soil erosion potential during construction would be minimal. City construction permits would require the implementation of BMPs to minimize the potential for soil transport and fugitive dust emissions. State-issued NPDES permits would mandate the implementation of BMPs to any dewatering discharge, if required. As discussed above, construction-related impacts would also be avoided or minimized through compliance with applicable regulatory and NPDES permit requirements as well as engineering design standards prior to, during, and after construction.

Operational Impacts

Once construction is completed, container terminal operations would not significantly alter the topography, geology, or soils of the site.

Mitigation Measures

No additional mitigation is required.

Alternative Action

Construction Impacts

Construction impacts under the Alternative Action would differ from the Proposed Action as less fill (no fill of Snug Harbor) would be required (see Table 2.1).

Operational Impacts

As with the Proposed Action, once construction is completed, container terminal operations would not alter the topography, geology, or soils of the site.

Mitigation Measures

No mitigation is required.

No Action Alternative

Construction Impacts

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.8.2 Piers 24–28

3.8.2.1 Affected Environment

3.8.2.1.1 Topography

The Pier 24–28 site is fairly level at an elevation of about five feet above msl.

3.8.2.1.2 Geology

The Pier 24–28 site, as with the Kapālama site, is part of the pre-historic volcanic process that created the coastal plains of O‘ahu. Like most of Honolulu Harbor, the Pier 24–28 site is on fill land and was once a nearshore area.

3.8.2.1.3 Soils

According to the USDA Soils Report (SCS 1972), the Pier 24–28 site, like most of the Honolulu Harbor waterfront, is fill land comprised of dredged sediment and/or garbage and other material. These soils are well drained, have low to moderately low permeability, rarely flood or pond, and are found in urban areas usually near airports, housing areas, and industrial facilities.

The Final Environmental Assessment for Pier 29 (adjacent to Piers 24–28) describes Pier 29's soil and geology as "….granular fill occur below the pavement from two to five feet. Below the fill material lagoonal deposits consisting of soft to very soft sandy silt occur between 10 to 15 feet. Coralline material occurs below the sandy silt. Groundwater was encountered at depths of 5.4 to 6.6 feet below the existing pavement or ground surface. It was also observed that the groundwater was tidally influenced (CH2M Hill, 2004)." (DOT-H 2009, pages 12-13.)

3.8.2.2 Environmental Consequences

Proposed Action

Construction Impacts

Office, shop, maintenance, and infrastructure improvements would be constructed under the Proposed Action. Construction would involve excavation for the footings and foundations of the new buildings, trenching for utility lines, as well as grading and paving. These activities would be completed in compliance with geotechnical engineering recommendations, which would be specific to the proposed project design. Soil settlement, erosion, or expansion is not anticipated with the implementation of applicable geotechnical engineering practices during design and construction. Due to the relatively level topography soil erosion potential during construction would be minimal. Construction-related impacts would also be avoided or minimized through compliance with applicable regulatory requirements and engineering design standards, as discussed above. No significant impacts on the topography or soils would occur with construction under the Proposed Action.

Operational Impacts

The new facility operations would not alter the site topography or soils; therefore, no significant impacts would occur.

Mitigation Measures

No additional mitigation is required.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.9 HYDROLOGY

This section describes site hydrology (surface water and groundwater) for the Proposed Action. Factors considered in the evaluation of hydrology include site changes that would affect surface water and groundwater. The ROI is the Kapālama site, Pier 24–28 site, and the area's receiving waters.

3.9.1 Kapālama Site

3.9.1.1 Affected Environment

3.9.1.1.1 Surface Water

The Kapālama Basin to the south of the site and Ke'ehi Lagoon to the west of the site are receiving waters closest to the Proposed Action. Honolulu Harbor is listed in EPA's 303(d) list as an impaired water body[24], but total maximum daily loads (TMDLs) have not yet been established. A zone of mixing, which is also regulated by the State under HAR 11-54, is located adjacent to the site in Kapālama Basin. Ke'ehi

[24] As listed under Clean Water Act Section 303(d), http://iaspub.epa.gov/waters10/attains_state.report_control?p_state=HI&p_cycle=2006&p_report_type=T.

Lagoon is designated Class A marine water, which mean they are protected for recreational purposes and aesthetic enjoyment, and regulated by the State under *Title 11 Hawai'i Administrative Rules (HAR), Department of Health, Chapter 54 Water Quality Standards.*

The existing site consists of paved areas and buildings. Surface runoff generally sheet flows south toward the Kapālama Basin, or is collected by drain inlets and piped to Kapālama Basin or Ke'ehi Lagoon. The underground drainage system is discussed in section 3.6, Utilities.

3.9.1.1.2 Groundwater

There is no potable groundwater resource within the Kapālama site. The groundwater beneath the Kapālama site is highly brackish and unsuitable for potable use.

3.9.1.2 Environmental Consequences

Proposed Action

Construction Impacts

Project design provisions and compliance with NPDES permit requirements would control storm water runoff impacts during construction. Implementation of these BMPs to control, treat, or reduce runoff (before entering nearby surface waters via drain inlets or sheet flow) would occur before construction begins and remain until permanent BMPs are in place. With proper installation of these BMPs, no substantial impacts on surface water quality is expected. No impacts on potable groundwater resources are anticipated.

Operational Impacts

Development of the new container yard would not substantially increase impervious surface areas since the area is already developed. Therefore, an increase in surface runoff is not expected. The project is also expected to meet, to the MEP, Low Impact Development (LID) standards adopted by the City on December 12, 2012, and effective on June 1, 2013. These standards set requirements for implementation of BMPs that infiltrate, treat, or propose off-site mitigation measures. Due to the close proximity to the water table and requirements for the Proposed Action, many retention and biofiltration treatment control BMPs would be infeasible. However filter media installed in trench drains and drain inlets could provide some filtration before entering the storm drain. Provided that the project will follow these standards and with implementation of BMPs and other measures required under the NPDES permit program, it is anticipated there would be no substantial impacts on surface water quality. No impacts on potable groundwater resources are anticipated.

Mitigation Measures

No additional mitigation is required.

Alternative Action

Construction Impacts

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.9.2 Piers 24–28

3.9.2.1 Affected Environment

3.9.2.1.1 Surface Water

Honolulu Harbor, which is the nearest surface water body and the receiving water for the Proposed Action, is listed in the EPA's 303(d) list as an impaired water body[25], but TMDLs have not yet been established.

The existing site consists primarily of paved areas and a few buildings. The site is relatively flat. Surface runoff is collected by drain inlets and discharged into the harbor. The underground drainage system is discussed in section 3.6, Utilities.

3.9.2.1.2 Groundwater

There is no potable groundwater resource within the Pier 24–28 site. The groundwater beneath the Pier 24–28 site is highly brackish and unsuitable for potable use.

3.9.2.2 Environmental Consequences

Proposed Action

Construction Impacts

Project design provisions and compliance with NPDES permit requirements would control storm water runoff impacts during construction. Implementation of these BMPs to control, treat, or reduce runoff (before entering nearby surface water via

[25] As listed under Clean Water Act Section 303(d), http://iaspub.epa.gov/waters10/attains_state.report_control?p_state=HI&p_cycle=2006&p_report_type=T.

drain inlets or sheet flow) would be installed before construction begins and remain until permanent BMPs are in place. With proper installation of these BMPs no substantial impact on surface water quality is expected. No impact would occur on groundwater resources.

Operational Impacts

The Proposed Action would not substantially increase impervious surface area since the area is currently developed. Therefore, an increase in surface runoff is not expected. With implementation of BMPs and other measures required under the NPDES permit program, no substantial impact on surface water quality would occur. No impacts on potable ground water resources are anticipated.

Mitigation Measures

No additional mitigation is required.

No Action Alternative

Construction Impacts

No construction-related impacts on hydrology are anticipated with the No Action Alternative.

Operational Impacts

No changes to hydrology are anticipated with the No Action Alternative.

Mitigation Measures

No mitigation is required for the No Action Alternative.

3.10 NATURAL HAZARDS

This section addresses tsunami, flood hazard, earthquake, hurricane, and risks associated with climate change at the Kapālama and Pier 24–28 sites as they relate to the Proposed Action. Impacts are determined by how potential hazards or risks are minimized by implementation of management measures, including but not limited to applicable construction and design standards, as well as disaster preparedness and evacuation procedures and instructions from the State Department of Defense, Civil Defense Division, and City Department of Emergency Management. The ROI for natural hazards is Honolulu Harbor.

3.10.1 Kapālama Site

3.10.1.1 Affected Environment

3.10.1.1.1 Tsunami

A tsunami is a series of waves with great speed and long wave length generated in the ocean by earthquakes, volcanic actions, and landslides.

In port facilities, a tsunami event can flood and damage on-shore port facilities, create strong currents that may affect ships in the harbor entrances, and create large water surges that may affect moored ships and ships underway (DOT-H 1999). Historically, tsunami runup has not been a serious problem at Honolulu Harbor. Recorded tsunami runup heights on the coast between Ala Moana Park and Pearl Harbor have typically been 5 feet or less (DOT-H 1998).

Facility siting and design measures can be implemented to minimize damage due to tsunami wave action.

In 2010, the City's Department of Emergency Management issued updated tsunami inundation maps. Current scientific techniques and technology were used to update the maps issued in 1991 by the UH's Tsunami Inundation Mapping Project.

For the Kapālama site, the new maps show evacuation areas along the waterfront of Piers 41 to 45. See Figure 3-17.

3.10.1.1.2 Flood

Land areas affected by surface flooding are identified on the Federal Insurance Rate Maps (FIRMs) prepared by the Federal Emergency Management Agency (FEMA). The maps, based on flood studies, identify flood hazard areas and flood elevations. See Figure 3-18.

The majority of the Kapālama site is in Flood Zone X, which is outside of the 0.2 percent annual chance of flood. Portions of the site along the Kapālama Basin are within Flood Zone AE, which is within the 1 percent annual chance of flood and where the base flood elevations of 6 to 10 feet have been determined.

The shoreline of the UH Marine Center site from the Sand Island Access Bridge to Snug Harbor is within Zone VE (El 10). This shoreline area is within the 1 percent annual chance of flood and is susceptible to wave action. The base flood elevation for this Zone VE has been determined to be 10 feet.

Figure 3-17. Kapālama Site Tsunami Evacuation Zones

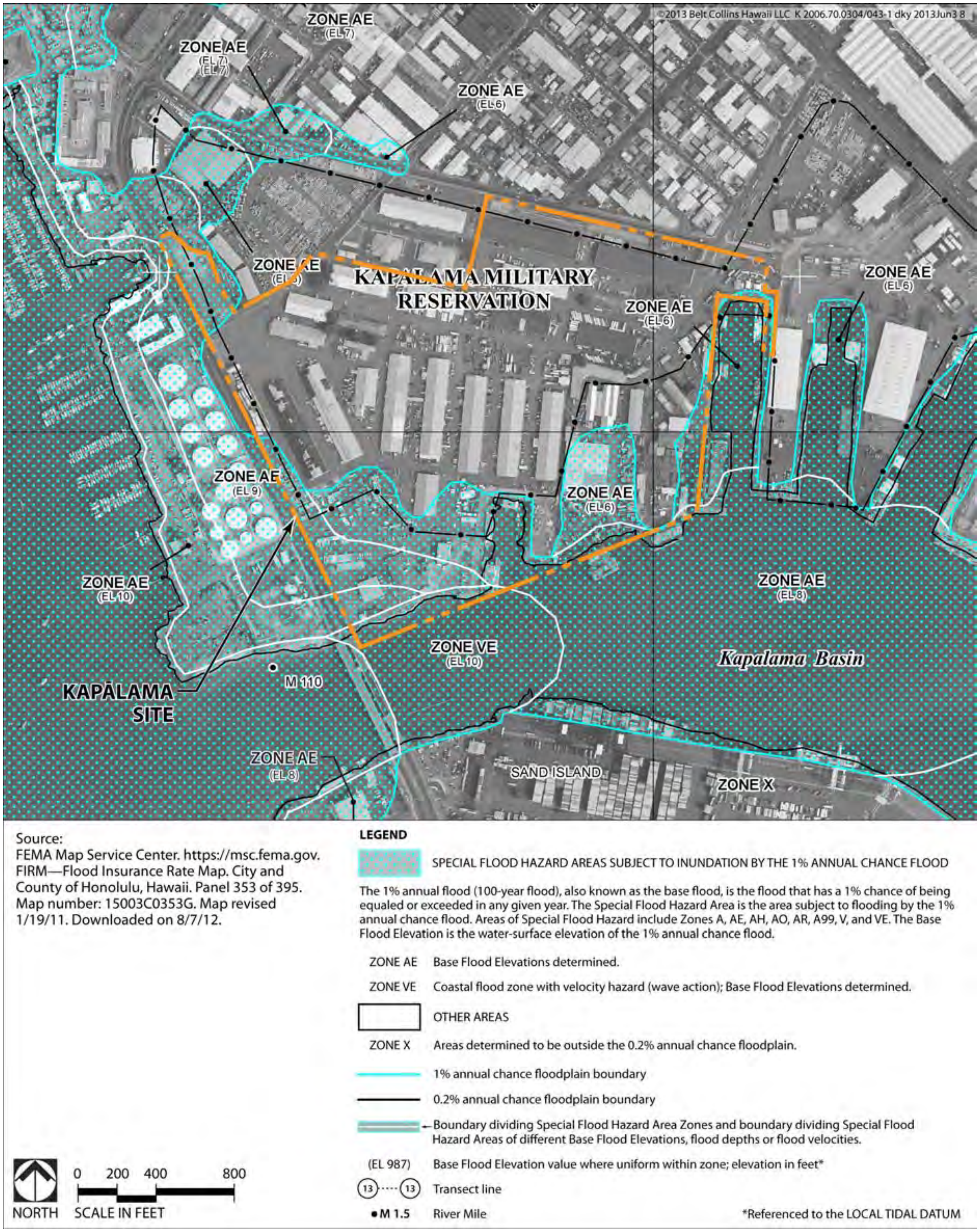

Figure 3-18. Kapālama Site Flood Maps

3.10.1.1.3 Earthquake

The Island of Oʻahu is subject to earthquake activity. The most recent earthquakes occurred offshore in 2010 and 2011. In 2010, the U.S. Geological Survey (USGS) reported a 3.6-magnitude earthquake in the Kaiwi Channel east of Oʻahu. The 2011 earthquake (4.0-magnitude) had an epicenter south of Oʻahu. According to the USGS, the only other recent earthquakes near Oʻahu occurred in 2002 (3.9-magnitude) and 1980 (4.0-magnitude), both offshore (Star-Advertiser 2010, 2011).

The IBC provides design criteria to address potential earthquake damages. Proposed facilities would be designed and constructed in accordance with site-specific geotechnical and structural engineering investigations and comply with the IBC seismic design criteria.

3.10.1.1.4 Hurricane

Hurricanes are strong tropical winds with wind speeds greater than 74 miles per hour. They often come with heavy rains and, depending on the wind speeds, can damage on-shore buildings and structures and vessels within the harbor.

The USGS identifies the storm hazard in the vicinity of Honolulu as 4 on a scale of 1 to 4, with 4 being “high” (Fletcher et al. 2002). The IBC includes design criteria to allow buildings to withstand prescribed minimum wind loads.

3.10.1.1.5 Climate Change

Global warming was addressed by the State’s Ocean Resources Management Plan (ORMP) Working Group in 2009. In its report to the State Legislature, the Working Group stated: “…Some key vulnerabilities for U.S. islands due to climate change include: availability of freshwater, exposure to coastal hazards including sea level inundation, and negative impacts of climate change to coastal and marine ecosystems.” (OP 2009).

For ports and harbors management, the ORMP Working Group identified risks associated with climate change. The following are relevant to the Proposed Action:

- “Submersion of harbor infrastructure due to sea level rise and flooding.
- Weakened drainage systems that remove storm water runoff from harbor facilities.
- Increased potential for the spread of diseases and other public safety issues due to flooding conditions.

- Delayed shipments, higher shipping costs, and loss of operational time due to flooding conditions at cargo terminals."[26]

DOT-H is engaged in efforts to develop adaptation strategies to address the long-term impacts of climate change. This includes collaborating with other agencies (DOT is a member of both the ORMP Policy Group and ORMP Working Group) and incorporating climate change adaptation into harbor master plans and designs.

The Oahu Metropolitan Planning Organization (OMPO) issued a study in 2011 that assessed the climate change risk for five Oʻahu transportation assets (Honolulu Harbor, HIA Area, Kalaeloa Area, and bridges at Waikiki. The assessment was based on five climate change variables (sea level rise, storm surge, rainfall, wind velocity, and air temperature) for three time periods (baseline definitions from 1970-2000, 2050, and 2100). The assessment also included a socioeconomic assessment based on nine variables (societal value of asset, level of use, degree of redundancy, cost to replace, economic loss, environmental impacts, cultural value, loss of life, and recovery time needed) (OMPO 2011). The study noted that Honolulu Harbor's high value is due to Hawaiʻi's dependence on its commercial harbor infrastructure, i.e., 80 percent of Hawaiʻi goods are imported and 98 percent of that arrives via the commercial harbor system. See Table 3-6.

Table 3-6. Socioeconomic Importance Assessment for Honolulu Harbor

Socioeconomic Variable	Assessment
Societal Value of Asset	High
Level of Use	High
Degree of Redundancy	Low
Cost to Replace	High
Economic Loss	High
Environmental Impacts	Low-Moderate
Cultural Value	Low
Loss of Life	Low
Recovery Time Needed	High

Source: OMPO. November 2011. *Transportation Asset Climate Change Risk Assessment.* Page 19.

The climate change risk assessment for Honolulu Harbor is shown in Table 3-7. The study predicted high risk for storm surges during both time periods, 2050 and 2100.

[26] Office of Planning, Department of Business, Economic Development & Tourism, Report to the Legislature In Response to Act 20 Special Session 2009 Relating to Global Warming. Attachment A, Page 17.

Table 3-7. Climate Change Risk Assessment for Honolulu Harbor

Climate Change Variable	Risk Level in Year 2050	Risk Level in Year 2100
Sea Level Rise	Low Vulnerability, Low Structural Impact	Moderate Vulnerability, Moderate Structural Impact
Storm Surge	High Vulnerability, High Structural Impact	High Vulnerability, High Structural Impact
Wind	Low Vulnerability, Low Structural Impact	Moderate Vulnerability, Moderate Structural Impact
High Intensity Rainfall	Low Vulnerability, Low Structural Impact	Moderate Vulnerability, Moderate Structural Impact
Air Temperature	Low Vulnerability, Low Structural Impact	Low Vulnerability, Low Structural Impact

Source: Source: Oahu Metropolitan Planning Organization, Transportation Asset Climate Change Risk Assessment (November 2011). Pages 21-23.

- Sea level rise: For 2050, a predicted 1-foot sea level rise would impact the southern ocean-facing shore of Sand Island and have minimal impact on Honolulu Harbor. For 2100, a predicted 3-foot sea level rise would result in significant land loss at Sand Island and Sand Island Access Road. The area between Snug Harbor (Piers 44 and 45) and Pier 41 might also be flooded.[27]

- Storm surge: A storm surge model was used to evaluate six-areas[28] based on a Category 4 storm about 100 miles west of the harbor and a resultant sea level surge of about 3 to 10 feet at current MSL elevation. The most severe surge impact was predicted for the Young Brothers Piers 39/40, due to its low elevation and proximity to Nuʻuanu Stream. The study noted "…the planned Kapālama Container Terminal may be highly vulnerable to storm surge" (OMPO 2011).

- Wind: The potential risk of increased wind velocity was based on predicted impact to gantry cranes designed to withstand a 120 mph hurricane (Category 3 hurricane). In 2050 and 2100, the risk levels were low and moderate, respectively, based on a wind velocity increase up to 25 percent in 2100.

- High intensity rainfall: The study predicted rainfall in 2050 and 2100 to decrease in amount overall and frequency, but to occur as high-intensity, heavy rainfall events. The moderate risk assessment in 2100 is due to the predicted heavy rainfall coupled with the predicted higher sea level.

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[27] The elevation for the new cargo terminal is expected to be at approximately 10 feet, i.e., about 2 feet higher than the existing Sand Island cargo terminals, which is above the 3-foot sea level rise predicted for the year 2100.

[28] Sand Island, Young Brothers Piers 39/40, Piers 1/2 Fort Armstrong, the Sand Island WWTP, the new Kapālama Container Terminal, and the HDOT Harbors Division Offices next to Pier 12.

- Air temperature: The study predicted a small increase in temperature (1.6 degrees Fahrenheit [F]) between 2000 and 2100. Therefore, a low risk assessment was given to air temperature change.

The integrated risk assessment of climate change and socioeconomic variables is shown in Table 3-8. The study assessed Honolulu Harbor as having a high risk level for both 2050 and 2100 based on the high vulnerability to storm surges for both years and to the high socioeconomic importance of Honolulu Harbor. The study also noted “In addition, HDOT Harbors Division is planning to build a 70-acre container terminal yard at the former Kapalama Military Reservation, and this new asset may be affected by both sea level and storm surge” (OMPO 2011).

Table 3-8. Integrated Risk Assessment for Honolulu Harbor

Transportation Asset	Risk Level in Year 2050	Risk Level in Year 2100
Honolulu Harbor	HIGH	HIGH

Source: Source: Oahu Metropolitan Planning Organization, Transportation Asset Climate Change Risk Assessment (November 2011). Page 24.

3.10.1.2 Environmental Consequences

Proposed Action

Construction Impacts

Significant impacts from natural hazards would be minimized under the Proposed Action. Heavy storms, tsunamis, and other natural hazards may disrupt construction work, damage buildings and equipment, and create debris and sediment runoff. Existing disaster preparedness and evacuation procedures would be implemented for personnel safety and to minimize impacts from those hazards (DOT-H March 2010).

Operational Impacts

Significant impacts from natural hazards would be minimized under the Proposed Action. Site development would be designed with respect to risks from known natural hazards and climate change to minimize impacts. Examples follow:

- For tsunami hazards, waterfront portions of the Kapālama site are within the evacuation zone. Facility siting and design measures would be implemented as needed to minimize damage due to tsunami wave action.

- For flood hazards, the 1 percent annual chance of flood area (or 100-year floodplain) is generally along the waterfront. No building would be developed in this area. Improvements would comply with applicable regulatory requirements.

- For earthquake hazards, facilities would be designed based on site geotechnical and structural engineering investigations and comply with IBC seismic design requirements.
- For hurricane hazards, buildings would be designed to comply with IBC requirements.
- Potential impacts associated with climate change are being addressed through long-range planning as described above and in Chapter 6 Cumulative Impacts of this document. Greenhouse gas emissions from the Proposed Action and Alternative Action would not be sufficient to have any appreciable impact on climate change.

The occurrence of storms, tsunami, and earthquakes may disrupt normal daily operations of the container terminal and in some cases cause damage to structures, equipment, and other facilities. Existing disaster preparedness and evacuation procedures would be implemented for personnel safety and to minimize impacts. The procedures include notifying terminal operators, tenants, and construction projects to secure pipelines, cranes, containers; hazardous material, facilities, equipment and loose materials and to evacuate all non-essential personnel prior to a disaster event (DOT-H March 2010).

Mitigation Measures
No additional mitigation measures are required.

Alternative Action
Construction Impacts
Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No additional mitigation is required.

No Action Alternative
No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.10.2 Piers 24–28

3.10.2.1 Affected Environment

3.10.2.1.1 Tsunami

The USGS identifies tsunami hazards in Honolulu as 4 on a scale of 1 to 4, with 4 being “high”. The entire Pier 24–28 site is within the tsunami evacuation zone (Figure 3-19).

Figure 3-19. Pier 24–28 Tsunami Evacuation Zones

3.10.2.1.2 Flood

The majority of the Pier 24–28 site is in Flood Zone X, which is outside of the 0.2 percent annual chance of flood. The waterfront edge of the pierheads and bulkheads are within the Flood Zone AE, which is the area within the 1 percent annual chance of flood and where the base flood elevation of 5 feet has been determined. See Figure 3-20.

3.10.2.1.3 Earthquake

See description in section 3.10.1.1.3.

3.10.2.1.4 Hurricane

See description in section 3.10.1.1.4.

3.10.2.1.5 Climate Change

The OMPO climate change study in 2011 included an analysis of climate change impacts on Honolulu. The study placed a high socioeconomic value on the harbor asset and estimated the following for the climate change variables for the years 2050 and 2100:

- Sea level rise: Low vulnerability and low structural impact in 2050. Moderate vulnerability and moderate structural impacts in 2100.
- Storm surge: High vulnerability, High structural impact in both 2050 and 2100.
- Wind: Low vulnerability and low structural impact in 2050. Moderate vulnerability and moderate structural impact in 2100.
- High intensity rainfall: Low vulnerability, Low structural impact in 2050, and moderate vulnerability and moderate structural impact in 2050 and 2100.
- Air temperature: Low vulnerability, low structural impact in 2050. Low vulnerability, low structural impact in 2100.

The integrated risk assessment for the Honolulu Harbor was rated high in both the years 2050 and 2100 due to the island's dependence on imported goods, most of which enter through the Honolulu Harbor.

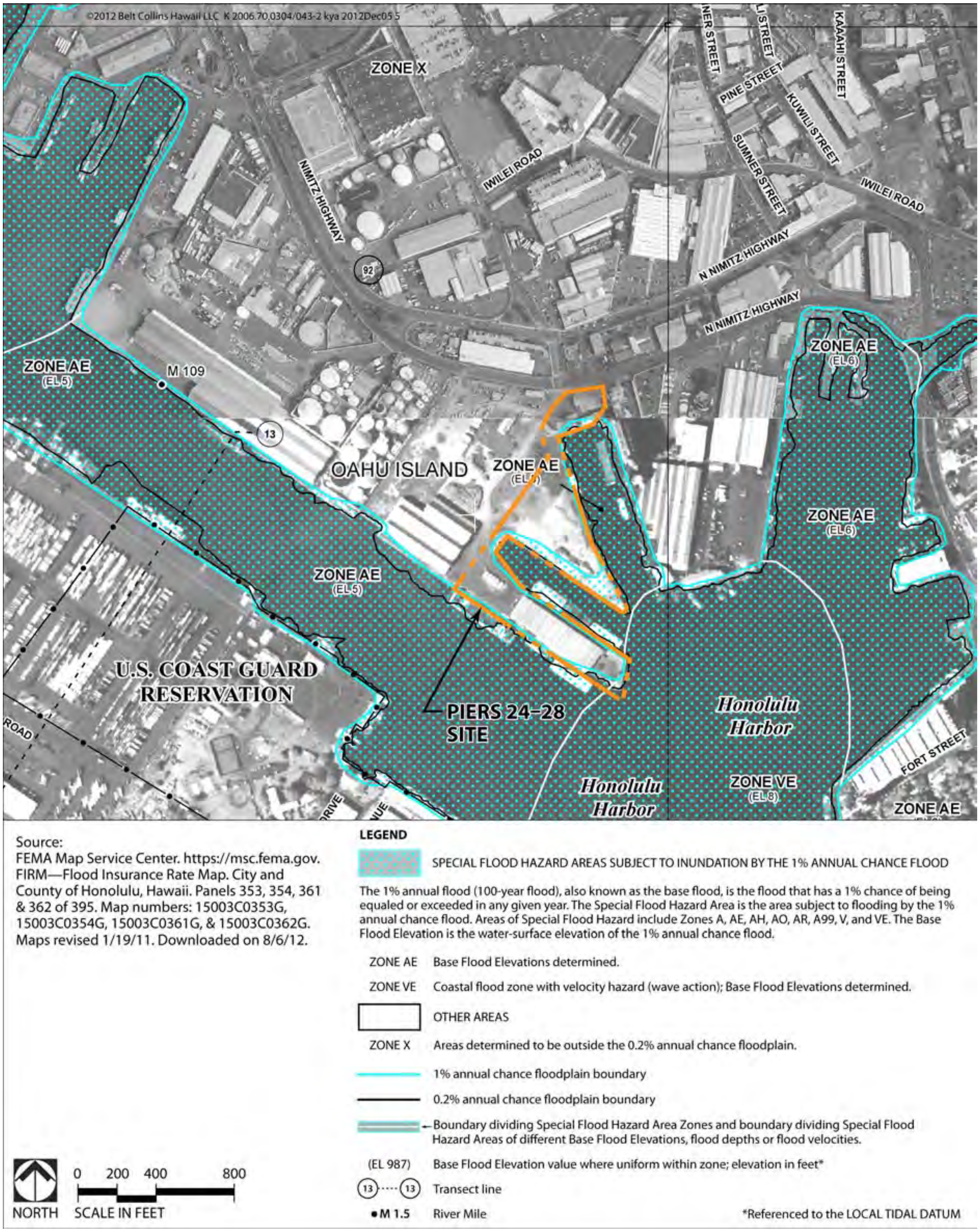


Figure 3-20. Pier 24–28 Flood Map

3.10.2.2 Environmental Consequences

Proposed Action

Construction Impacts

Construction impacts at Piers 24–28 would be similar to those at the Kapālama site. Existing disaster preparedness, response, and evacuation procedures would be followed.

Operational Impacts

Operational impacts at Piers 24–28 would be similar to those at the Kapālama site. Site development would be designed with respect to risks from known natural hazards and climate change to minimize risks of impacts. Examples follow:

- For tsunami hazards, the entire Pier 24–28 site is within the evacuation zone. Facility siting and design measures can be implemented, as needed, to minimize damage due to tsunami wave action.
- For flood hazards, the 1 percent annual chance of flood area (or 100-year floodplain) is generally along the waterfront. Buildings, as currently proposed, would be outside of this zone. In addition, no change in elevations along the pier edges are anticipated.
- For earthquake hazards, buildings would be designed based on site geotechnical and structural engineering investigations and would comply with IBC seismic design requirements.
- For hurricane hazards, facilities would be designed to comply with IBC requirements.
- Potential impacts associated with climate change are being addressed through long-range planning, as described above in section 3.10.1.1.5 and in Chapter 6 Cumulative Impacts.

The occurrence of storms, tsunami, and earthquakes may disrupt normal daily operations of the tenants and in some cases cause damage to structures, equipment, and other facilities. Existing disaster preparedness and evacuation procedures would be implemented for personnel safety and to minimize impacts. The procedures include notifying tenants and construction projects to secure pipelines, cranes, containers; hazardous material, facilities, equipment and loose materials and to evacuate all non-essential personnel prior to a disaster event (DOT-H March 2010).

Mitigation Measures

No additional mitigation is required.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.11 CLIMATE AND AIR QUALITY

The ROI for air quality generally depends on the source and type of pollutant being evaluated. The immediate project area and the regional (state) area are considered in this evaluation.

As required by the Clean Air Act (CAA), EPA has established the National Ambient Air Quality Standards (NAAQS), 42 USC §7409, 40 CFR Part 50 for the following pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 microns in diameter (PM_{10}), particulate matter up to 2.5 microns in diameter ($PM_{2.5}$), ozone (O_3), and lead (Pb). The CAA also established primary and secondary standards. Primary standards set limits to protect public health, and secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. Most of the secondary standards are the same as the primary standards, with the addition of the 3-hour SO_2 concentration. There is currently no primary NAAQS for 3-hour SO_2. Hawaiʻi has an ambient air standard for hydrogen sulfide (H_2S), in addition to the pollutants identified above. Table 3-9 lists the federal and State standards.

The State is in attainment of the NAAQs and also meets the State AAQS. Exceptions include exceedances of the NAAQS for SO_2 because of natural events—Kilauea volcano—and exceptional events—New Year's Eve fireworks. As the entire state is in attainment of the NAAQS, emissions from the Proposed Action are not subject to the General Conformity Regulations, 40 CFR Parts 51 and 93, pursuant to section 176(c) of the CAA (Federal Register [FR] 2010).

The issues of climate change and greenhouse gases (GHGs) are global considerations that are addressed in Chapter 6, Cumulative Impacts.

Table 3-9. Air Quality Standards

Air Pollutant	Averaging Time	Standards		
		Hawai‘i State Standard	Federal Primary Standard[1]	Federal Secondary Standard[2]
Carbon Monoxide (CO)	1-hour 8-hour	9 ppm 4.4 ppm	35 ppm 9 ppm	None
Lead (Pb)[4]	Calendar Quarter	1.5 µg/m³	1.5 µg/m³	0.15 µg/m³
Nitrogen Dioxide (NO_2)	1-hour[5] Annual	None 0.04 ppm	100 ppb 53 ppb	None 53 ppb
Ozone (O_3)	8-hour	0.08 ppm	0.075 ppm	0.075 ppm
$PM_{2.5}$	24-hour Annual	None	35 µg/m³ 15 µg/m³	35 µg/m³ 15 µg/m³
PM_{10}	24-hour Annual[3]	150 µg/m³ 50 µg/m³	150 µg/m³ —	150 µg/m³ —
Sulfur Dioxide (SO_2)	1-hour[6] 3-hour 24-hour Annual	None 0.5 ppm 0.14 ppm 0.03 ppm	75 ppb None 0.14 ppm 0.03 ppm	0.5 ppm
Hydrogen Sulfide	1-hour	0.025 ppm	None	None

Notes:

1 Primary Standards set limits to protect public health, including the health of “sensitive” populations such as asthmatics, children and the elderly

2 Secondary Standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

3 Due to lack of evidence linking health problems to long-term exposure to coarse particle pollution, EPA revoked the annual PM10 standard effective December 17, 2006. However, the State still has an annual standard.

4 Due to almost non-detectable levels, ambient air monitoring for lead was discontinued in October 1997 with EPA approval. However, since 2003 lead continues to be measured as part of the Air Toxics monitoring program.

5 Effective January 22, 2010.

6 Effective June 2, 2010.

ppm = parts per million by volume, µg/m³ = micrograms per cubic meter of air

Source: Department of Health, State of Hawai‘i. September 2011. *State of Hawai‘i Annual Summary 2010 Air Quality Data.* State standards HAR §11-59; Federal standards 40 CFR Part 50.

3.11.1 Kapālama Site

3.11.1.1 *Affected Environment*

Weather observations recorded at HIA, located one mile west of the Kapālama site, have been used to characterize climatological conditions in the Honolulu Harbor area.

TEMPERATURE. From 1997 to 2010, the average annual temperature at HIA was of 78˚ F (DBEDT 2010). The extreme temperatures were from 53˚ F (1998) to a high of 94˚ F.

TRADE WINDS. The Hawaiian Islands wind conditions are heavily influenced by its location in the Pacific Ocean. A high-pressure system known as the North Pacific High or Anticyclone is located northeast of Hawaiʻi. Winds spiral out of this system in a clockwise direction. This constitutes the trade winds that blow over the islands from a northeastern direction. These trade winds consistently blow over 80 percent during the summer (May through September) and 50 to 80 percent during the winter (October through April). Because of Hawaiʻi's location, persistent trade winds, and low concentration of industrial pollutants, Hawaiʻi air quality meets or exceeds standards.

MOBILE AND STATIONARY AIR EMISSIONS. Sources of mobile emissions for Honolulu Harbor include: vessels, vehicles, material handling equipment such as gantry cranes, forklifts, and generators. There are two power plants nearby, the Honolulu Power Plant and the Emergency Power Facility[29] located at HIA. Sources of natural emissions include the ocean, wind-blown dust, and SO_2 from volcanoes on the island of Hawaiʻi.

AIR QUALITY. DOH maintains two monitoring stations in the area. The closest is at 1039 Sand Island Parkway near the Sand Island State Recreation Area. This station monitors for $PM_{2.5}$ and O_3 from vehicle traffic. A second air monitoring station is located two miles away at 1250 Punchbowl Street, on the roof of DOH's office building. This station monitors for SO_2, carbon dioxide (CO_2), PM_{10}, PM_2. Based on air quality data from these stations, all Federal and State standards are being met.

3.11.1.2 *Environmental Consequences*

Proposed Action

Construction Impacts

Construction-related air emissions would not be significant because they would be short term and controlled through implementation of required controls. Air

[29] The Emergency Power Facility will be a 10 MW power plant fueled with biodiesel.

emissions from construction would consist primarily of fugitive dust and diesel-powered equipment and vehicles. As required by HAR 11-60.1-33, fugitive dust would be controlled during demolition, earthmoving, and truck transport. As applicable, permits under HAR 11-60.1 would be obtained by the operator of the regulated stationary source equipment used for construction, e.g., portable diesel generators.

Operational Impacts

Operational air emissions would be generated from container trucks and other vehicles, diesel-powered equipment and generators, and arriving/departing vessels. With the Proposed Action, the new container terminal would be designed to provide the option that vessels moored at berth could be powered by shore-based electricity rather than vessel-based fossil-fuel burning generators/engines. Other operations that would serve to reduce or minimize air emissions, relative to the No Action Alternative, would include the use of low-sulfur fuel, use of electric powered gantry cranes (rather than traditional diesel-powered engines that typically sit high atop the crane), and use of electric-powered vehicles and equipment where possible. As applicable, permits under HAR 11-60.1 would be obtained by the operator of the regulated stationary source equipment. Such permits and their requirements serve to meet Ambient Air Quality Standards (AAQS).

Use of shore-based electrical power will reduce localized air emissions and impacts to air quality in the localized project area. Indirect emissions from island-wide grid generators, e.g., Kahe generating station, used to provide electrical power to the project site would be controlled as specified with its stationary source operating permit and would not significantly impact air quality in the area of the generating station.

With the anticipated reduction in fossil-fuel emissions that would occur with this modernized container terminal, any associated odors with combustion would also be reduced.

Mitigation Measures

No additional mitigation is required should the container terminal operator employ the environmental-friendly equipment, including electric-powered vehicles and equipment, described above.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No additional mitigation is required.

No Action Alternative

Under the No Action Alternative, the Kapālama container terminal would not be developed and existing wharves and terminals would need to accommodate the increase in overseas container cargo. As existing equipment and technology would be used within existing limited container terminal areas, air emissions and GHGs would increase. While increases would occur, regulated emissions would not significantly impact air quality because the permitting process prevents such impacts from occurring, and GHGs would not have an appreciable impact on climate change relative to global GHG (as referenced in Chapter 6, Cumulative Impacts).

3.11.2 Piers 24-28

3.11.2.1 Affected Environment

The affected environment at Piers 24–28 is characterized in section 3.11.1.1.

3.11.2.2 Environmental Consequences

Proposed Action

Construction Impacts

Construction-related air emissions would not be significant because they would be short-term and controlled through implementation of required controls. Air emissions from construction would consist primarily of fugitive dust and diesel-powered equipment and vehicles. As required by HAR 11-60.1-33, fugitive dust would be controlled during demolition, earthmoving, and truck transport. As applicable, permits under HAR 11-60.1 would be obtained by the operator of the regulated stationary source equipment used for construction, e.g., portable diesel generators.

Operational Impacts

Operational air emissions would be generated from vehicles, any diesel-powered equipment and generators, and arriving/departing vessels. As applicable, permits under HAR 11-60.1 would be obtained by the operator of the regulated stationary source equipment. Such permits and their requirements serve to meet AAQS.

Mitigation Measures

No additional mitigation is required.

Alternative Action

Construction and operational impacts under the Alternative Action would be the same as the Proposed Action. No additional mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.12 NOISE ENVIRONMENT

Noise Measurement

Noise impacts are dependent on (1) sound pressure measured in decibels (dB) and usually based on an A-weighted scale (dBA), which simulates the range of sound that is audible by the human ear; (2) the distance to the receptor; (3) the medium present between the source and the receptor; and (4) the period of exposure. A sound level of 0 dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech has a sound level of approximately 60 dB at 3 feet. A jackhammer has a sound level of approximately 100 dB at 33 feet. Sound levels between 120 dB and 140 dB can be felt as pain. The minimum change in the sound level that an average human ear can detect is about 3 dB. On average, a person perceives a doubling (or halving) of the sound's loudness when there is a 10 dB change in sound level. Energy produced by these sound pressures averaged over a defined period of time is the equivalent sound level (Leq).

The day-night sound level (DNL) is another average commonly used to characterize background environmental noise and for relating the acceptability of the noise environment for various land uses. DNL represents the 24-hour averaged sound level with nighttime sound levels (10PM to 7AM) increased by 10 dB prior to computing the 24-hour average. DNL values in urbanized areas typically range between 50 and 75 DNL. In comparison, the typical range of intermittent noise events may have maximum sound level meter readings between 75 and 105 dBA (see Appendix D).

Federal agencies generally consider a level of 65 dBA DNL or lower acceptable for exterior residential noise. These agencies include FAA, U.S. Department of Defense (DoD), Federal Housing Administration, Housing and Urban Development (FHA/HUD), and Veterans Affairs (VA). These noise level standards only apply when federal land or funds are being used. While not legally enforced, the 65 dBA DNL sound level provides a benchmark for assessing impacts to nearby residences.

Permissible Sound Levels

DOH, in HAR 11-46, defines maximum permissible sound levels and provides for protection, control, and abatement of noise pollution from stationary noise sources and agricultural, construction, and industrial equipment. The levels were established to ensure appropriate noise levels. These levels are shown in Table 3-10 and are not to be exceeded more than 10 percent of the time in a 20-minute period without a permit or variance. Maximum permissible sound levels apply to excessive noise sources emanating within the specified zoning district and at any point at or beyond (past) the property line of the premises in a manner deemed appropriate by the Director of DOH. The maximum permissible sound levels are determined by the zoning district of the noise source.

Table 3-10. Maximum Permissible Sound Levels

Zoning District	Zone Description	Daytime (7AM to 10PM)		Nighttime (10PM to 7AM)	
		Stationary Noise	Impulsive Noise	Stationary Noise	Impulsive Noise
Class A	Residential, conservation, open space, or similar	55 dBA	65 dBA	45 dBA	55 dBA
Class B	Multi-family residential, business, commercial, or similar	60 dBA	70 dBA	50 dBA	60 dBA
Class C	Agriculture, country, industrial, or similar	70 dBA	80 dBA	70 dBA	80 dBA

Stationary noise: Any mechanical source of noise fixed in or on a station, course, or mode within any premises including but not limited to mechanical air conditioning units, exhaust systems, generators, compressors, pumps, or other similar equipment.

Impulsive noise: Any sound with a rapid rise and decay of sound pressure level, lasting less than one second, caused by sudden contact between two or more surfaces, or caused by a sudden release of pressure, including but not limited to any hammering, pile driving, and explosion.

Source: HAR 11-46 Community Noise Control.

Honolulu Harbor is zoned industrial, Class C, which includes all areas equivalent to lands zoned agriculture, country, industrial, or similar type. All components of the Proposed Action are located within industrial zones; therefore the Class C levels are the applicable State requirement. As shown in Table 3-10, the maximum permissible sound level for Class C is 70 dBA for both daytime hours (7AM to 10PM) and nighttime hours (10PM to 7AM). Maximum impulsive noises are 80 dBA for day and night.

In the Class B zone, which includes multi-family residential, business, commercial, or similar type zones, the maximum permissible sounds levels for stationary sounds are 60 dBA in daytime hours (7AM to 10PM) and 50 dBA in nighttime hours (10PM to 7AM). Maximum impulsive noise levels are 70 dBA in daytime hours and 60 dBA in nighttime hours. As noted above, the permissible sounds levels are determined by the zone of the noise source, therefore the Class B levels are not mandated for the Proposed Action. While not legally enforced, the Class B permissible sound levels provide benchmarks for assessing impacts to nearby non-industrial uses.

Noise computer modeling and predictive studies were conducted to evaluate the potential noise impacts in the ROI of the project area—the surrounding neighborhoods of three areas: the new Kapālama container yard, the future PSI facility at Piers 24 and 25, and the future HFM operations at Pier 20. Potential noise from the Proposed Action was modeled or evaluated to determine whether noise impacts may be significant (exceed State maximum permissible sound levels). Possible mitigation is identified for nearby populations most susceptible to noise, e.g., residences and schools or where noise has been identified as an issue in scoping and consultations and is anticipated to be a concern. Noise studies are presented in Appendix D, and the findings are summarized herein.

3.12.1 Kapālama Site

3.12.1.1 Affected Environment

The Kapālama site includes a variety of industrial and commercial users whose activities generate noise. Waterfront activities include shipyard repair, and berthing and maintenance of ocean research and recreational vessels. Approximately 80 to 90 tenants operate primarily commercial or light industrial activities within the structures on the site. In the adjacent areas, industrial harbor users are located to the east, mixed-use residences and industrial users are to the north (in Kalihi Kai) and northwest, small boat harbors and fuel storage tanks are to the west, and industrial harbor users are across the Kalihi Channel to the south. Other sources contributing to ambient or background noise include aircraft bound to or from HIA; street traffic along Auiki Street, Sand Island Access Road; and harbor activities.

The nearest residences are located across Auiki Street, which is adjacent to and north of the Kapālama site. The nearest school is Puʻuhale Elementary School, approximately 2,000 feet (more than 1/3-mile) to the north of the site boundary, just past Nimitz Highway.

3.12.1.2 Environmental Consequences

Proposed Action

Construction Impacts

Temporary construction noise would be unavoidable. With mitigation measures identified in the DOH noise permit or variance, as applicable, impacts would be minimized.

The noisiest construction activities are anticipated with site preparation and include the use of excavators, pavers, graders, dump trucks, jackhammers, concrete mixers, sheet pile hammering, and pile driving. Offshore construction noises would be generated by dredging activities and vessels supporting pier construction. During construction, estimated to take place from 2014 to 2016, noise levels may temporarily exceed DOH maximum permissible levels, requiring a permit or variance from DOH.

Noise impacts from construction activities would also propagate through the water, primarily from sheet and pile driving. See section 4.2, Marine Environment, for information on potential impacts of underwater noise on protected animal species.

Operational Impacts

Operational noise from the proposed container terminal and its operating equipment is expected to be within the State's maximum permissible sound levels for the applicable Class C zone, however operational sounds would be audible at nearby residences and would exceed the State's permissible levels for Class B areas. The loudest sounds would be impulsive type noise, which would be audible at nearby residences and could be a source of complaints. For these reasons, possible mitigation measures have been identified for impulsive noises, as described below.

Container terminal activities would operate at various times and levels, 24 hours a day, seven days a week. Noise generating activities would include vehicle movements, vehicle safety devices (such as horns and the "beep" sound emitted when backing up), heavy equipment operations, power generators/engines, ship loading and unloading, cranes, forklifts, other gantry equipment, and other mechanical equipment such as generators and ship and tugboat engines. Impulsive type noises would include containers striking other containers or the pavement, and banging noise from forklifts and other equipment hitting containers. Banging noises are expected to generate the loudest noises, and avoidance would be the only means to mitigate this effect.

The nearest residential community, Kalihi Kai, is adjacent to and north of the Kapālama site. Three locations in the community were modeled and the nearest one, Location G (a second-story residence on Auiki Street, which fronts the Kapālama site), is discussed herein. See Figure 3 of Appendix D. At this location, State maximum permissible sound levels for the applicable Class C zone are expected to be met with the Proposed Action. However, the sound levels are expected to exceed the State's maximum levels for a Class B zone for both stationary and impulsive sounds. Model results indicate they would be within 70 dBA for steady state noise and 80 dBA for impulsive type noise. [30]

Model results indicate that stationary noises would occur in a range between 48 and 62 dBA. The loudest stationary sound is the top hanger, with a range between 51 and 62 dBA. Model results indicate that most impulsive noises would occur in a range between 47 and 62 dBA at Location G. Impulsive noises include beeper noise (backup alarms), in a range between 47 and 59 dBA, and banging noise, in a range between 61 and 74 dBA. Based on these model results and measured background

[30] Steady state noise is estimated to be less than 65 dBA (Figure 20 of Appendix D) with the use of diesel engines used to power the cranes situated at a height of 208 feet above ground level. However, the Proposed Action could use as an alternative electrical engines rather than diesel engines to eliminate the steady state source of noise.

noise levels (nighttime), noise from proposed nighttime container handling operations are likely to be audible unless such operations are limited to less than 50 dBA at Auiki Street. The high frequency beeper type backup alarms would need to be less than 35 dBA to be inaudible.

The nearest school is Puʻuhale Elementary School, approximately 2,100 feet (more than 1/3-mile) to the north of the site boundary (just past Nimitz Highway). Puʻuhale Elementary is approximately 1,900 feet to the north of Location G. The inverse square law for hemispherical spreading of sound dictates that sound will reduce by approximately 3 to 10 dBA every 1,000 feet, with the exact rate of decrease dependent on a number of variables. While modeling was not conducted for Puʻuhale Elementary School, sounds levels will likely be within the State's permissible levels for Class B zone daytime levels of 60 dBA for stationary sounds and 70 dBA for impulsive sounds.

Mitigation Measures

HAR 11-46 provides controls for limiting noise during construction activities. These rules restrict construction noise during the hours before 7AM and after 6PM Monday through Friday, 9AM to 6PM on Saturday, and Sundays and holidays. In addition to time limitation, other typical mitigation measures include noise mufflers on gas powered equipment and night work restrictions to include activities with less noise.

Mitigation measures for pile driving will be analyzed in a future study during the U.S. Army Corps of Engineers (USACE) permit process and could include limiting the number of piles installed per day, and the use of air/bubble curtains or other available sound attenuating technologies to dampen the sounds from pile driving in the water. Any mitigation will be identified through consultations with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) as such consultations are required to obtain necessary permits and approvals from the USACE and EPA for dredging and in-water work. This is discussed in section 4.2, Marine Environment.

DOT-H and its contractors would work with the community to identify appropriate mitigation measures for any noise permit or variance and/or provide notification of work schedules to communicate periods of noisier activity.

Measures to minimize impulsive type noise could include the following:

- Construct sound attenuation barriers/wall. A continuous wall along Auiki Street with a height of 25 feet would achieve approximately 7 dBA sound reduction. With the wall, banging noise is estimated to range between 54 and 68 dBA (compared to about 61 to 74 dBA without the wall). Other impulsive noise would range between 40 and 55 dBA (compared to about 47 to 62 dBA without the wall). This measure would reduce stationary and impulsive sounds to below the

State's Zone B maximum permissible levels for daytime hours, however both sound types would still exceed the nighttime maximum permissible levels.

The Highway Noise Policy and Abatement Guidelines (DOT Highways Division, April 25, 2011, with corrections dated November 29, 2011) for roadway vehicle noise sources (steady state noise), which is not directly applicable to the vehicular noise sources from the Proposed Action, provides guidance for the use of noise sound walls. The policy sets a 7 dBA reduction goal. Based on model results, a continuous wall along Auiki Street with a height of 25 feet would be needed to achieve the 7 dBA reduction. Using DOT Highways Division's noise policy guidelines for feasibility and reasonableness, the 25-foot high wall should not cost more than $60,000 per benefitted resident. Because the total number of benefitted residences is estimated at 35, the cost of the wall should not exceed $2,100,000 to be considered under the DOT Highways Division policy.

- Site noisier activities farther away from the residential community. Avoid use of the north section of the site closest to the existing residences for overnight stacking of empty and full containers that are moved to/from cargo vessels. Use the north section of the site for daytime loading (pick-up) and unloading (deliveries) by off-site tractor trailers. The increased distance between residences and sound producers would decrease noise levels at the residences. As an example of the potential benefit, modeling indicates that banging noise at Location G occurred at 74 dBA when originating 800 feet away, 68 dBA when originating 1,200 feet away, and 61 dBA when occurring 2,200 feet away.

- Use the quietest equipment available that also meets operational needs. One example that is under consideration is the use of electrical engines in place of diesel engines to power gantry cranes. This measure would eliminate audible sound from the gantry cranes at the nearest residences. Another option is sound attenuation kits for the gantry cranes diesel engines, which can reduce the sound output by approximately 10 dBA. Use broadband noise backup alarms rather than commonly used high-frequency beeper type backup alarms. The broadband noise alarm emits the same sound in dBA as the high frequency alarm. However, because it is more difficult for the human ear and brain to detect a broadband noise than it is to detect a coherent and unique high-frequency noise, the audible range may be reduced by a factor of three. The broadband alarm should also include automatic controls that adjust the sound level based on background sound levels.

- Include sound attenuation treatments to all fixed machinery so that steady state noise levels do not exceed 50 dBA during the nighttime hours and 60 dBA during the daytime at the nearest residence. This would make the noise levels consistent with State's permissible levels for Class B areas and would decrease likelihood of residential noise complaints.

Should noise be a concern for residents after the operations begin, sound level measurements can be conducted to determine sound levels. The State's Class B zone permissible levels and FHA/HUD noise standard for residences can be used as guides for determining if further mitigation is needed. If noise exceeds these levels, mitigation could include sound attenuation treatment in the form of closure and air conditioning for the affected residence(s).

Alternative Action

Impacts and mitigation measures would be similar to the Proposed Action. In regards to construction impacts, pile driving could be of longer duration under the Alternative Action, as additional piles would be needed to create the deck over Snug Harbor.

No Action Alternative

Under the No Action Alternative, a new container yard and pier would not be constructed. Noise levels would increase with the increase in truck trips between Sand Island and the inter-island vessel operators on the mainside of Honolulu Harbor, as the number of containers handled would continue to increase.

3.12.2 Piers 24–28

3.12.2.1 Affected Environment

Piers 24–28 (Figure 1-1) are located near the intersection of Nimitz Highway and Pacific Street. This area includes waterfront activities such as vessel berthing and office/administrative uses. The area is surrounded by waterfront industrial uses to the east and west, industrial mixed use activities to the north (in Iwilei), and the harbor to the south. The adjacent Nimitz Highway to the north is the predominant source of noise in the vicinity. Based on 2010 counts, an estimated 4,500 to 6,500 vehicles use this stretch of road per hour (peak hour).

The nearest residences to the Pier 24–28 site are located approximately 1,800 feet to the east in Chinatown and Downtown Honolulu (at River Street). No schools are in the vicinity.

3.12.2.2 Environmental Consequences

Proposed Action

Construction Impacts

Temporary construction noise is not anticipated to be significant in the surrounding industrial areas where the predominant source of noise would be from vehicles on Nimitz Highway. Construction is expected to occur from 2014 to 2015 or 2016. At the nearest residences, approximately 1,800 feet to the east, noise levels from construction are estimated to range between 44 dBA and 56 dBA. Adverse impacts from the construction noise are not expected to occur due to the large buffer distances (at least 1,800 feet) from the project site to the closest residences.

Operational Impacts

Operational noise at Piers 24-28 from the proposed shipyard and associated vehicles on Nimitz Highway is expected to be within the State's maximum permissible sound levels for the applicable Class C zone, however operational sounds would be audible at nearby residences and would slightly exceed the State's permissible nighttime levels for Class B areas. Because certain types of shipyard operations could generate complaints from residences in Downtown Honolulu during the nighttime and early morning periods, possible mitigation measures have been identified.

For the purpose of this noise evaluation, shipyard activities were presumed to operate at various levels 24 hours a day. Noise generating activities include needle gun operations, chipping and hammering operations, indoor sandblasting, outdoor dust collectors, and water blasting.

The nearest residences to the Pier 24–28 site are located approximately 1,800 feet to the east in Chinatown and Downtown Honolulu (at River Street). Noise from the Proposed Action is not expected to exceed the State's Class C zone maximum permissible sound level of 70 dBA (daytime and nighttime). However, the noise is expected to exceed the State's Class B zone nighttime maximum permissible sound level of 50 dBA, but it would not exceed the daytime level of 60 dBA. The loudest sounds would be produced by pneumatic chipping and hammering operations and would range from 46.4 to 53.8 dBA at the nearest residences. Noise complaints could result at night because nighttime background noise levels may be lower than Proposed Action noise levels.[31] For these reasons, mitigation has been identified.

The additional 100 vehicle trips per hour associated with the Proposed Action are estimated to increase baseline (future No Action) project noise by less than 0.1 dBA. Such a change would be very difficult to detect or measure.

Mitigation Measures

Possible mitigation has been identified to prevent nighttime complaints from residents approximately 1,800 feet away. The noise from indoor sandblasting will need to be contained or attenuated to at least the same level that is provided by the existing building at Pier 41. Mitigation would involve conducting sound level measurements (at the nearest residence during the quietest periods of the nighttime and/or early morning hours when shipyard work is anticipated to occur) to determine whether background levels are 50 dBA or less. If less, the total noise level

[31] Minimum background noise levels at the residences are estimated to range from 48 to 51 dBA. Proposed Action noise levels are estimated to range from 46.0 to 53.5 dBA.

associated with nighttime shipyard work could be attenuated so as not to exceed 50 dBA at the nearest residence (the State's Class B zone nighttime maximum permissible level). If measured background levels are greater than 50 dBA, nighttime shipyard noise levels could operate so as not to exceed the measured minimum background level.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.12.3 Hawaiian Flour Mill

3.12.3.1 Affected Environment

HFM currently uses Piers 22 and 23 to berth dry-bulk cargo ships containing grain, unload the grain, and transport the grain via conveyor to its silos at Pier 23. These operations currently occur at four to five month intervals (approximately two or three times a year); under the Proposed Action these operations may increase to one month intervals (approximately 12 times a year) Unloading operations occur continuously for possibly one week until the dry-bulk cargo ship is completely unloaded. Future ship-unloading operations are expected to occur at Pier 20.

The nearest residences are located in the Harbor Village Apartments, approximately 1,000 feet northeast of Pier 20 in Downtown Honolulu. No schools are in the vicinity.

3.12.3.2 Environmental Consequences

Proposed Action

Construction Impacts

No construction activities and therefore no noise would occur.

Operational Impacts

Operational noise from the proposed dry-bulk cargo ship unloading operations at Pier 20 is expected to be within the State's maximum permissible sound levels for the applicable Class C zone, however operational sounds would be audible at nearby residences and would exceed the State's permissible levels for Class B areas.. Because certain types of operations could cause complaints from residents in Downtown Honolulu, possible mitigation measures have been identified.

Under the Proposed Action, HFM would use Pier 20 for dry-bulk cargo unloading operations. It is anticipated HFM would use trucks to transport the grain from the cargo ships to the silos. These operations would occur over several 24-hour periods. Noise-generating activities would include truck traffic, crane operations transferring grain from ship to truck, and a small front end loader used to transfer grain to the conveyor system.

The nearest residences to the Pier 20 site are located approximately 1,000 feet to the east in Chinatown and Downtown Honolulu (at River Street). Noise from the Proposed Action is not expected to exceed the State's Class C zone maximum permissible sound level of 70 dBA (daytime and nighttime). However, the noise is expected to exceed the State's Class B zone nighttime maximum permissible sound levels (50 dBA for stationary sounds and 60 dBA for impulsive sounds), but it would not exceed the daytime maximum levels (60 dBA for stationary sounds and 70 dBA for impulsive sounds). Model results indicate that the stationary noises would occur in a range between 44 and 57 dBA at the nearest residences. The loudest sounds from stationary sources would be produced by the grain hopper and would range from 53 to 57 dBA. Model results indicate that the impulsive noises would occur in a range between 44 and 66 dBA at the nearest residences. The loudest sounds from impulsive sources would be produced by the impact noises from the grain hopper operations and would range from 62 to 66 dBA. Predicted noise levels exceed the State's nighttime maximum permissible for Class B areas for both stationary (50 dBA) and impulsive (60 dBA) sounds. For these reasons, mitigation has been identified.

Mitigation Measures

Possible mitigation has been identified to prevent nighttime complaints from residents approximately 1,000 feet away. The following have been identified as potential mitigation measures:

- If horns are audible during the quietest nighttime period at the nearest residence, use lights or radio frequency devices. This change would eliminate noise that is predicted to occur in range from50 to 59 dBA at the nearest residences.
- If beeper type backup alarms are audible during the quietest nighttime period at the nearest residence, use broadband noise backup alarms rather than commonly used high-frequency beeper type backup alarms. The broadband noise alarms emit the same sound in dBA as the high frequency alarm, but because it is more difficult for the human ear and brain to detect a broadband noise than it is to detect a coherent and unique high-frequency noise, the audible range may be reduced by a factor of three. The broadband alarm should also include automatic controls that adjust the sound level based on background sound levels.

- Minimize engine speed to the lowest rpm possible for tractor trailer trucks, and attempt to not exceed a noise level of 80 dBA at 50 feet during the nighttime hours.
- Outfit the grain hoppers used on the pier or on the trucks with resilient bumpers to minimize noise during contact between the hopper and the clamshell bucket. This change would reduce the loudest sounds from the Proposed Action.

If noise complaints occur as a result of nighttime dry-bulk cargo unloading operations at Pier 20, and HFM is not able to reduce noise to acceptable levels of approximately 50 dBA at the complainant's location (see description of mitigation for Piers 24 and 25), restrictions in the hours of the nighttime dry-bulk cargo unloading operations may need to be considered.

Alternative Action
Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative
No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.13 VISUAL RESOURCES

This section describes existing views and visual resources in the project vicinity and evaluates potential visual impacts of the proposed development at the Kapālama site and at Piers 24-28. The potential for visual impact is determined by the presence of important views from certain points that would be changed by the container terminal and shipyard development. These includes views from the shoreline (for example, from public beach parks) looking toward the ocean, along the shoreline, and toward the mountains, as well as views from upper valley and mountain areas. Views from the mountains may be from scenic lookouts. Views from public roadways are also considered when analyzing visual impacts.

The ROI for visual impacts includes adjacent public roadways, nearby public parks, areas surrounding Honolulu Harbor, and upland areas from which the Kapālama and Pier 24-28 sites are visible. Areas within Honolulu Harbor are not considered part of the ROI. The two sites are located in a working harbor, and it is not necessary to evaluate views of harbor facilities such as buildings and equipment from other parts of the harbor.

3.13.1 Kapālama Site

3.13.1.1 Affected Environment

The proposed container terminal is located in the midst of an industrial area. Views of the Kapālama site from adjacent roadways (Auiki Street, Sand Island Access Road) are characterized by large warehouse-type buildings, electrical power poles and lines, containers, and vehicles. There are no important views on the site itself.

The Kapālama site is visible from the Sand Island container terminal across the channel, but views of the Kapālama site from the public roadway on Sand Island are generally blocked by buildings, containers, and other facilities.

The Kapālama site is not visible from Sand Island State Recreation Area. Buildings and trees located north of the park almost completely block views toward the existing container terminal. One of the Matson cranes is briefly visible at one point as one drives through the park. Part of Sand Island State Recreation Area, located near the park entrance, looks across the harbor toward downtown Honolulu. The Kapālama site is not visible to park users at this location. From this point, there are distant views of Iwilei (for example, the flour mill silos on Nimitz Highway). The Kapālama site is located too far to the west to be visible.

Like the rest of Honolulu Harbor, the Kapālama site is visible from certain upland areas. However, viewers may not be able to differentiate particular facilities in the harbor, with the exception of the large cargo-handling (gantry) cranes on Sand Island.

3.13.1.2 Environmental Consequences

Proposed Action

Construction Impacts

Any visual impacts to neighboring or upland areas during construction would be temporary and, therefore, not significant.

Operational Impacts

With the proposed development, views of the Kapālama site would change. Existing buildings, which are currently the most dominant features, would have been demolished and the site vacant. The site's appearance would be characterized by a paved yard, containers, large cargo-handling cranes at the waterfront, and administration buildings. At night, the container yard would be illuminated with lighting. Facilities most visible from outside the property boundaries would include the cranes and lighting. These changes in appearance would be most apparent from Auiki Street and Sand Island Access Road. Visibility of the gantry cranes to the businesses and residences on Auiki Street would be minimized by their waterfront location. The appearance of these cranes from other areas would be similar to the appearance of the existing Sand Island terminal cranes. Two issues are discussed below: potential visual impacts on Sand Island State Recreation Area, and potential impacts of site/area lighting at night on both neighboring and upland areas.

SAND ISLAND STATE RECREATION AREA. As described above, users at Sand Island State Recreation Area have a limited view of areas located north and northwest of the park, except from the area near the park entrance. The beach and campsites are oriented toward the ocean, looking south and southeast. Since the large cranes at the Sand Island terminals are barely visible from the park, cranes at the Kapālama site would similarly not represent a significant change in views from the park.

SITE AND AREA LIGHTING. Proper illumination is required in the container yard during evening operations. Lighting would be visible from nearby and upland areas. However, the use of high mast lighting would minimize the amount of light cast beyond the property boundaries. Furthermore, light fixtures would be shielded to direct light downward.

Mitigation Measures

No mitigation is required to preserve views from Sand Island State Recreation Area.

The following measures may be considered during design of the area lighting system to minimize visual impacts:

1. Locate high-mast lighting poles as far from the Auiki Street boundary as practicable. For perimeter lighting, consider aiming floodlights toward the center of the container yard. In addition to the site layout, consider alternatives with and without internal louvers. If required, internal louvers could serve to block views of light sources from neighboring properties.
2. If Maritime Security (MARSEC) regulations require a setback of the container yard from publicly accessible roadways, this perimeter could be used as an additional buffer between the illuminated area and adjacent roadways.
3. Where feasible, locate buildings along the Auiki Street perimeter to block some of the area light from the Kalihi Kai neighborhood.
4. Depending upon the height of the planned perimeter fencing, install slats in the fence mesh or shade cloth attached to the fence.
5. Limit the area where night operations are required to the center of the container yard or closer to the Sand Island Access Road boundary.
6. Minimize light spillage from the container inspection facility with roofing, half-height walls, or similar provisions.
7. Establish operational hours to limit the amount of area lighting required during the late evening and earlier morning hours.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

3.13.2 Piers 24–28

3.13.2.1 Affected Environment

Piers 24–28 are located in the midst of an industrial area. Views from the adjacent roadway (Nimitz Highway) and from buildings located across the roadway are characterized by harbor facilities. There are no important views on the site itself.

Piers 24–28 and their environs are visible from a portion of Sand Island State Recreation Area located near the park entrance. From this vantage point, a park user looks across the harbor toward downtown Honolulu and has distant views of Iwilei (for example, the flour mill silos on Nimitz Highway).

Like the rest of Honolulu Harbor, Piers 24–28 are visible from certain upland areas, but specific facilities may not be discernable given distance and development density.

3.13.2.2 Environmental Consequences

Proposed Action

Construction Impacts

Visual impacts to neighboring or upland areas during construction would be temporary and, therefore, not significant.

Operational Impacts

Improvements at Piers 24–28 would not include any facility with a high profile. The change in appearance of the site from outside the boundaries would be minimal, consistent with other industrial activities in Honolulu Harbor. As with the Kapālama site, illumination would be required during night operations. Downward-projecting lighting fixtures would minimize impacts of stray light on residences located across Nimitz Highway or upland areas. When night operations are not required, area lighting would be curtailed.

Mitigation Measures

Some of the mitigation measures listed above for the Kapālama site may be considered to further minimize impacts of night lighting for land-based activities.

No Action Alternative

No impact.

4 Affected Environment and Potential Consequences: Biological, Cultural, and Socioeconomic Environment

CHAPTER 4
AFFECTED ENVIRONMENT AND POTENTIAL CONSEQUENCES: BIOLOGICAL, CULTURAL, AND SOCIOECONOMIC ENVIRONMENT

4.1 INTRODUCTION

The following resources/issues are analyzed in this chapter:

- Marine Environment
- Terrestrial Flora and Fauna
- Cultural Resources
- Socioeconomics

4.2 MARINE ENVIRONMENT

This section describes the in-water environment fronting the Kapālama site, where pier improvements and dredging are proposed, and the in-water environment fronting Piers 24–28, where potential relocation of Pacific Shipyards International (PSI) and Atlantis Submarines operations is proposed. The survey of the marine environment was conducted prior to the September 9, 2013 molasses spill where approximately 233,000 gallons (1,400 tons) of molasses were released into Honolulu Harbor at Pier 52. A post-spill survey has not been conducted to date, but the benthic conditions are expected to be very different from pre-spill conditions.

Water depths in the immediate vicinity of the Kapālama site range from approximately 13 feet below mean lower low water (MLLW) at the waterfront edge to approximately 43 feet below MLLW at the middle of the channel. Water depths within Snug Harbor are in the range of 25 to 31 feet below MLLW. At the waterfront edges of Piers 24–28, depths range from approximately 23 to 38 feet below MLLW (USACE 2007).

Waters within Honolulu Harbor are protected from the south swell and Kona storm waves by Sand Island. The harbor is not exposed to prevailing northeast tradewind waves and the winter North Pacific swell. Although tidal influences (mean tide range is 1.2 feet) and ship wakes occur within the harbor, conditions are typically calm except during local storms or hurricanes (DOT-H Jun 1998). Honolulu Harbor receives surface runoff via sheet flow and drainage outlets and from Kapālama and Nuʻuanu Streams.

Water quality in Honolulu Harbor is categorized by the DOH as "impaired." A water body is considered impaired if (a) water quality does not meet established water quality standards, or (b) the designated use described in Chapter 11-54, Hawaiʻi Administrative Rules (HAR) is not being achieved. Water in Honolulu Harbor is impaired for turbidity, total nitrogen, and chlorophyll α during the dry season based on data from two sampling stations on nearby Sand Island (HM 2007 Appendix E). The June/July 2012 study referenced above reported that water clarity throughout most of the survey area was limited to two to four meters, with high concentrations of suspended particular material throughout the water column.

Past surveys have reported several areas within Honolulu Harbor supporting some growth of stony corals. Corals were reported growing around the intake and discharge basins of the Honolulu Generating Station at Piers 6 to 8, in the harbor entrance off the Sand Island shore across from Fort Armstrong, between Piers 12 and 15 (up to 25 percent cover on the sloping bottom of Pier 12), and on pilings around Pier 1 (up to a maximum of 10 to 15 percent coral cover). The mouth of Kapālama Stream has been characterized as "barren" in comparison with a number of other sites surveyed in the harbor (DBEDT 1994).

A quantitative and qualitative assessment was conducted to describe the existing marine biotic communities within the Proposed Action area (see Appendix E). As in-water work (dredging and filling) would occur at the Kapālama site, a quantitative assessment was carried out for that area. At Pier 24, a quantitative assessment was also conducted where the larger of two potential drydocks would be berth. With no dredging or other in-water work proposed except for possible placement of spuds from the two drydocks at Piers 24 and 25, a qualitative assessment was carried out in the waters off Piers 25 to 28. Marine environmental surveys of the Kapālama site and Pier 24–28 site were conducted in June and July of 2012 to document the existing marine biotic community structure, and a follow-up survey was carried out in November 2012 at Piers 41 and 42, which had not been included in the original surveys (see Appendix E).

Environmental consequences are evaluated based on: potential impacts on threatened and endangered marine species listed under the Endangered Species Act of 1973 (ESA), as amended; impacts on marine habitats, specifically coral reefs;[1] impacts on Essential Fish Habitats (EFH) managed and protected under 1996 amendments to the Magnusson-Stevens Fishery Conservation and Management Act; impacts on marine species regulated by the State of Hawai'i (State), Department of Land and Natural Resources (DLNR), Division of Aquatic Resources (DAR); impacts due to alien marine species; and existing management measures designed to avoid, minimize, or prevent such impacts.

The region of influence (ROI) for the Proposed Action is the marine waters in Honolulu Harbor fronting the Kapālama and Piers 24–28 sites—specifically those areas where in-water construction work is planned.

Coral Assessment Methodology

The procedures for assessing reef coral community structure in the areas of the Kapālama site potentially affected by construction of the new container terminal were originally based on censusing corals within belt transects spaced at regular intervals along the wharfs and piers. Such censusing includes counts of individual coral colonies with mid-points within the transect belt, along with estimates of one-dimensional colony length. Such belt transects cover only a portion of the whole community, and thus to obtain estimates of the entirety of community structure, transect data must be subjected to statistical treatment that extrapolates from parts to the whole. As such statistical extrapolation inherently contains an unknown level of uncertainty, estimates of coral abundance using this method cannot provide an exact census of community attributes. Preliminary inspection of the subject area indicated that coral coverage was patchy and heterogeneous. Thus, projections of total community composition from transect data covering only a subset of the area would unavoidable contain an unknown level of uncertainty regarding the quantification of survey results.

Following preliminary inspections, and in order to eliminate such uncertainty in these data, it was deemed feasible to expand the width of transects to include all of the submerged surfaces of the wharves and piers fronting the project site. As the term "transects" typically infers subsets of a community, such a label is not accurate when an assessment includes a total community. Hence, the designation of survey areas were changed from "transects" to "sectors," each of which was contiguous with neighboring sectors. As a result, the final data set produced a complete census of the areas of interest with essentially no uncertainty.

Quantitative *in-situ* evaluation of stony corals was accomplished by measuring the length of the longest axis in centimeters of each coral colony. This method employed in the QUEST program, uses a 1.6-meter PVC rod marked with colored tape to designate the boundaries of seven size-classes (<2 centimeters, >2≤5 centimeters,

[1] Federal Executive Order (EO) 13089, Coral Reef Protection, 1998.

>5≤10 centimeters, >10 ≤20 centimeters, >20≤40 centimeters, >40≤80 centimeters, and >80≤160 centimeters). A category of >160 centimeters was also included as extending beyond the end of the rod, but no corals of this size were encountered. Measurements were made by a two-person dive team, with one diver holding the rod over the longest axis of each colony, while another diver recorded presence within the size-class and species on waterproof data sheets. With replicate examination of all areas by two investigators, observation and measurements of all coral colonies were considered to be complete. In cases where multiple colonies appeared to have coalesced into a single amalgamated colony with no distinct margin, the amalgamated structure was considered a single colony. In cases where large colonies had experienced partial mortality creating bare areas between living tissue, the investigator determined by best judgment if the remaining living tissue was the remnants of the single older colony, or from recent settlement of multiple new colonies on the bared limestone substratum. Working in a team fashion to record size-class data proved to be an efficient method for rapid, yet thorough documentation of the whole survey area.

4.2.1 Kapālama Site

4.2.1.1 Affected Environment

The Kapālama site study area was divided into 12 sectors, A to L, as shown in Figure 4-1 to conduct quantitative surveys. Although no work is planned in Sector A, located across the channel from the Kapālama site, it was included in the study area to provide baseline data. Several of the larger sectors were divided into sub-sectors. Quantitative surveys were conducted of the following: (1) coral communities, (2) non-coral macro-invertebrate communities, (3) algal communities, and (4) fish communities.

Physical Structure

The physical structure of the study area has been created by human activity, in the form of dredged channels, piers, and pilings. Sectors A, B, and F consist of undeveloped dredged shorelines with narrow flat shelves that abut the shoreline and terminate in a steep slope that extends to the channel floor. In Sector A, a portion of the shoreline consists of large boulders. In Sector B, the shelf and slope structure grades into a rubble bed beyond the Sand Island Bridge. Biotic settlement in all areas of dredged shoreline, particularly corals, is more pronounced on shelves than on slopes.

The entire harbor floor adjacent to the study area consists of deposits of fine-grained silty mud pocked with openings from burrowing fauna.

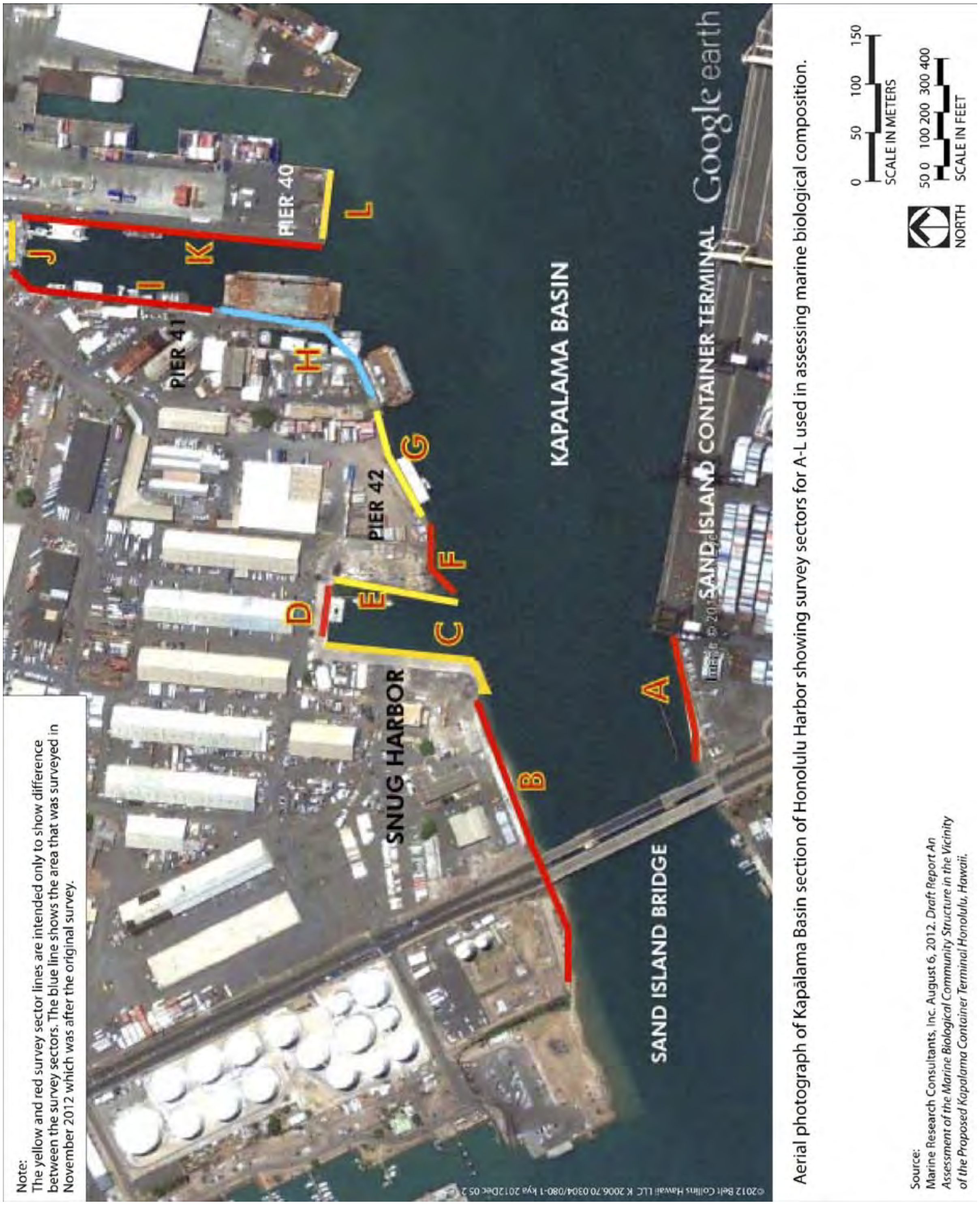


Figure 4-1. Marine Biological Survey Sectors, Kapālama Site

At Sectors C, D, E, H, I, and J, concrete pilings extend into the mud of the harbor floor. Virtually all surfaces of the pilings are encrusted with remnant mollusk shells that form a settlement substratum for other invertebrates. Partially submerged piles in Sector E provide habitat for some of the largest coral colonies within the area. The juncture of Sectors E and F contains pilings and a dredged shelf/slope region similar to Sectors A and B. These conditions provide habitat for a diverse aggregation of reef fish. Further to the east, Sector F consists of undeveloped dredged shoreline.

Solid vertical corrugated metal sheet piling covered with remnant mollusk shells are found in Sectors K and L. Suspended sediment in this area appears to be less than in the sectors closer to Snug Harbor.

Biotic Community Structure

Coral Communities

Coral colonies were observed on hard substratum throughout the Kapālama site survey area. While high sedimentation is considered detrimental to corals, several species of coral are able to successfully colonize non-natural environments characterized by high levels of suspended and settling particulates. Exposure to light is another limiting factor for observed coral and most other macro-invertebrates. At Kapālama, corals are generally limited to the outer facing surfaces of pilings exposed to direct sunlight for at least part of the day.

Quantitative evaluation of coral in Sectors A to L yielded a total count of 5,668 coral colonies, with counts ranging from a low of 92 in Sector D to a high of 1,201 in Sector K. Total counts in individual size classes ranged from a low of 0 (>160 centimeters) to a high of 1,682 (>2<5 centimeters), with larger size classes (>40 centimeters) occurring predominantly in Sectors B, E, and K. Eleven species of coral were encountered; the number of species within sectors ranged from four (Sector B) to nine (Sector K). Table 2 in Appendix E-1 summarizes counts of total coral colonies of all species by size class. Table 3 in Appendix E-1 summarizes counts of total coral colonies of all species combined by size class in each survey sector. Corals in the largest size classes (>80≤160 centimeters and >160 centimeters) were found in sectors B, D, E, F, G, J, K, and L, although only a single coral colony in these size classes was counted in sectors D and F.

The November 2012 survey of Piers 41–42 (Sector H) covered berthing sites for dry docks and boats. As Sector H had the highest density of large vessels moored for extended periods, biotic colonization of the pier faces was lowest of any other survey sector at the Kapālama site. The continued presence of moored vessels appears to restrict light, hence restricting the development of larger colonies such as those found elsewhere. Quantification of coral colony abundance in Sector H by size class is shown in Appendix E-2.

Following tabulation of colonies by size class per sector, biodiversity indices of community structure were calculated (summarized in Table 2, Appendix E-1).

- Swartz's index of species dominance, defined as the number of species that accounts for 75 percent of the colonies, ranged from 1 (Sector F) to 4 (Sector K). Three species accounted for about 85 percent of the total observed colonies: *Pocillopora damicornis*, *Leptastrea purpurea*, and *Porites lobata* (listed in order of abundance). *Pocillopora damicornis*[2] and *Porites lobata* were the only coral species to occur in every survey sector. The fourth and fifth most abundant coral were *Montipora patula* and *M. capitata,* respectively. *Montipora patula* is a candidate species for ESA listing (see discussion below). See Table 5 in Appendix E-1 and Table 1 in Appendix E-2 for summaries of counts of coral colonies by species and size class.

- The Shannon-Wiener diversity index, which takes into account relative abundance of species and includes both species richness (number of species) and evenness (distribution), ranged from a low of 0.67 (Sector C) to a high of 1.61 (Sector K). Communities with a large number of species that are evenly distributed are the most diverse, and communities with few species that are dominated by one species are the least diverse. As shown in Table 3 in Appendix E-1, higher diversity is found in Sectors K, A, E. J, L, and I (in descending order).

While all coral species occurring in the area are considered resistant to high loading of particulate material, individual species are adapted to particular physical conditions. *Pocillopora damicornis* exists on the dredged channel shelves of Sectors B and F, while colonies of *Montipora* spp. exists on vertical surfaces of pilings on west-facing piers in Sectors E and K. (East facing piers in Sectors C and I have relatively few large colonies.)

Skeletal remains of large colonies were observed in several survey areas. These remains are evidence of past episodic events in the harbor that elevated stress levels to the point of complete mortality of living communities, for example, heavy sediment loads due to storms.

In 2009, the Center for Biological Diversity petitioned National Marine Fisheries Service (NMFS) to list 82 species of reef building corals under ESA.[3] After completing a formal status review and a public engagement process, NMFS issued a proposal on November 30, 2012 to list 66 of the 82 species. Three of these coral species occur in Hawaiʻi, including one species observed in the June/July 2012 and November 2012 surveys. *Montipora patula* (457 colonies; 8.06% of total) is proposed for threatened

[2] *P. damicornis*, a lace coral that is very unique, is not found in this growth form, size and abundance in most places in Hawaiʻi.

[3] Nine of the 82 coral species are found in Hawaiʻi.

species status. One of the most common corals observed in Hawai‘i on naturally occurring reefs, *Montipora patula* was observed throughout the harbor, often in large colonies. Although this species of coral is being proposed as threatened, it is one of the most prevalent species in Hawai‘i.

Macro-Invertebrate Communities

The Kapālama site study area is characterized by a high density of sponges, tunicates, bivalves, and bryozoans. Forty-four species of non-coral macro-invertebrates were identified (see Table 7 in Appendix E-1). Of these 44 species, 13 were introduced species. Abundance and diversity were highest for sponges. The red encrusting sponge *Porbus amaranthus* was present in every sector, occurring in large colonies on pilings and smaller colonies on rock outcroppings. Tunicates were the next most abundant group, occurring in large numbers throughout the sectors composed of pilings. Of note was the relative lack of living mollusks, with only three species occurring abundantly. Virtually all of the exposed hard surfaces were encrusted with a layer of dead mollusk shells.

Overall, invertebrates are far more abundant on piers and pilings than on dredged shorelines of Sectors A and B. The cement piling substratum has very high densities of macro-invertebrates, showing little variation between sectors. Habitats within Sectors A, B, F, and G—characterized by very high sedimentation on narrow rocky shelves and slope—contain smaller, compact colonies of sessile macro-invertebrates and lower abundance of macroflora.

Algal Communities

Frondose algae are scarce at all survey locations, indicating that physical conditions in the harbor are not conducive to algal growth. Only three species were observed, including *Dictyosphaeria cavernosa* (the most common), *Dictyota* sp., and *Codium edule. D. cavernoa* was observed on a concrete pile in Sector C and on sheet piling in Sector K. The other species were observed in Sector C.

Fish Communities

The June/July 2012 and November 2012 surveys showed substantial variability in both the number of fish species and individuals observed within different sectors. A total of 1,793 individuals, comprised of 33 species, were counted in the Kapālama site survey area. The largest numbers of fish were observed in Sectors B and G. The lowest numbers were observed in Sectors D, J, and L. Overall, the numbers of fish observed in sectors composed of concrete piles (C, D, I, J) were lower than counts in sectors consisting of dredged shoreline. The highest densities and more diverse assemblages were observed on flatter dredged reef shelves and slopes. Few or no fish were observed on the mud/silt of the harbor floor.

The ring-tailed surgeonfish (*Acanthurus blochii*) was the most frequently observed fish, occurring in all sectors. Other frequently observed species included the convict surgeonfish (*Acanthurus triostegus*), yellow tang (*Zebrasoma flavescens*), Hawaiian white-spotted toby (*Canthigaster jactator*), damselfish (*Dasyllus ablisella*), threadfin butterfly fish (*Chaetodan auriga*), and raccoon butterfly fish (*Chaetodon lunula*). Tables 8 and 9 in Appendix E-1 and Table 2 in Appendix E-2 list fish species by sector, abundance, and estimated size. It is noted that the entire survey area is a restricted access zone experiencing little or no fishing pressure.

Invasive Species

Thirteen introduced species of macro-invertebrates were identified in the surveys, primarily as part of fouling communities on piers and pilings. Four of these species are classified under Management Class 4 (species that are established; impacts unclear) in the State Aquatic Invasive Species (AIS) Management Plan (DAR 2003). The four species include two sponges, *Mycole armata* and *Haliclona caerulea*, and two bryozoans, *Amathia distans* and *Schizoporella errata.*

Introduced marine invertebrates have arrived in Hawaiʻi through hull fouling and from ballast water and solid ballast from ships, establishing communities in marine and brackish waters. Aside from sponges, almost all of the recorded introduced species at the Kapālama site are widespread in the Hawaiian Islands. Introduced sponges are mainly confined to several harbors and to embayments such as Kāneʻohe Bay (Eldredge 2001).

While not recorded during the surveys for this project, the invasive barnacle *Chthamalus proteus* was recorded in Snug Harbor in 2006 (USGS 2006; Eldredge 2001). *C. proteus* is classified as Management Class 3 (species that are established; potential for impacts—no known effective or practical control techniques). *C. proteus* has been reported on all of the main Hawaiian Islands, mostly in harbors and along the south shore of Oʻahu (Global Invasive Species Database, 2007). It potentially threatens to alter natural substrates through dense colonization, which could lead to habitat conversions, a change in settlement patterns of native species, and exclusion of benthic algal grazers such as ʻopihi (limpets).

No introduced or invasive marine algae were found at the Kapālama site. *Kappaphycus* spp., an invasive algal species, was recorded in Honolulu Harbor in 2002 (Smith et al., 2002) but was not seen during the surveys conducted for this project.

One species of introduced fish was observed during the surveys. The black snapper (*Lutjantus fulvus*) was found at Sectors F and G (Pier 42) and Sector I (Pier 41). This species is established in coastal waters of Hawaiʻi but not abundant. It is classified under Management Class 4 in the State's AIS Management Plan referenced above.

Regulated Species

STATE OF HAWAIʻI REGULATED MARINE FISHES AND INVERTEBRATES. DAR lists a variety of "regulated" marine fishes and invertebrates. Several regulated fish species were observed during the June/July 2012 surveys, including a school of āholehole (*Kuhlia xenura*) in Sector G and parrotfish (*Scarus psittacus*) in Sectors A, B, I, and L. The only listed invertebrates were observed in Sector A: a single octopus (*Octopus cyanea*) and several sea urchins (*Echinothrix diadema*).

STATE OF HAWAIʻI REGULATION OF CORAL. The State regulates coral in several ways. Hawaiʻi Administrative Rule (HAR) Title 13, Department of Land and Natural Resources, Subtitle 4, Fisheries, Part V Protected Marine Fisheries Resources, Chapter 95, Rules Regulating the Taking and Selling of Certain Marine Resources (HAR 13-95) prohibits taking, breaking, damaging, or selling any stony coral or coral to which marine life is attached from waters of the State. In addition, the State regulates/protects corals located within Marine Managed Areas (MMAs), which are specific geographic areas designated by statute or administrative rule. Marine Protected Areas (MPAs), a subset of MMAs, focus on protection, enhancement, and conservation of habitat and ecosystems, including coral reefs. Marine Life Conservation Districts (MLCDs) are a form of MPAs. Most MLCDs in Hawaiʻi are located in coastal waters featuring coral reef habitat.

THREATENED AND ENDANGERED SPECIES. No ESA-listed species were observed in the study area during the surveys. Although neither were observed, the threatened green sea turtle (*Chelonia mydas*) and endangered hawksbill turtle (*Eretmochelys imbricate*) may potentially occur within Honolulu Harbor. Populations of the endangered humpback whale (*Megaptera novaengliae)* winter in the Hawaiian Islands from December to April. As the survey was conducted during the summer, whales were absent from Hawaiian waters. The endangered Hawaiian monk seal (*Monachus schauinslandi*) commonly hauls out of the water onto sandy beaches. Although there is a potential for monk seals to enter the harbor, there are no beaches to serve as haul-out sites.

The humpback whale and monk seal are also protected under the Marine Mammal Protection Act (MMPA).

One coral species, *Montipora patula*, being proposed for listing as threatened under ESA was observed at the Kapālama site.

ESSENTIAL FISH HABITAT (EFH). EFH is defined as those waters and substrate necessary for federally managed species to spawn, breed, and/or grow to maturity. EFH have been designated for all federally managed species referred to as Management Unit Species (MUS), as required by the Magnuson-Stevens Fishery

Conservation and Management Act.[4] EFH is administered by the National Oceanic and Atmospheric Administration's NMFS. The marine water column and seafloor in the study area is designated as EFH, specifically coral reef ecosystem MUS, Bottomfish MUS, Crustacean MUS, and Pelagic MUS. According to the NMFS,[5] all fish identified in the Fish Communities section of this Environmental Impact Statement (EIS) are MUS, particularly coral reef ecosystem MUS. This MUS includes the coral themselves. Notably, the area corals, harbor bottom, seagrass, water column, and artificial marine structures are the EFH for the coral reef ecosystem MUS species.

4.2.1.2 Environmental Consequences

Proposed Action

Construction Impacts

During construction, Best Management Practices (BMPs) would be implemented for erosion and sediment control, as required under National Pollutant Discharge Elimination System (NPDES) permits. Storm water runoff would be contained on-site. In compliance with various federal statutory and regulatory authorities, measures would be implemented to prevent or reduce the discharge of pollutants to storm water through proper material handling, storage, and disposal, and training of contractors and subcontractors. Spill prevention control procedures would be in place to reduce the occurrence of spills, stop sources of spills, contain and clean up spills, and properly dispose of spill materials.

In-water construction activities at the Kapālama site would have varying impacts on biotic communities, including potentially significant impacts on specific species. Specific species, quantities, and species locations affected by the project construction will be identified in the U.S. Army Corps of Engineers (USACE) permit application review process, particularly when construction and dredging plans are completed and submitted for agency review. Appropriate mitigation measures are expected to be developed during the USACE review process.

Biotic communities in the affected area are summarized below by the sectors established in the marine biological surveys (see Figure 4-1 for the sector locations), followed by an evaluation of in-water construction noise impacts on protected marine species, and an evaluation of the construction-related impacts relative to the spread of invasive species.

- **SECTOR A.** No construction is planned in Sector A. Further, this sector would not be affected by construction activity across the channel, especially with implementation of mitigation measures to minimize impacts during dredging

[4] NOAA EFH Fact Sheet, *Essential Fish Habitat and Consultation,* EFH is described in detail in the Western Pacific Fishery Management Council's Fishery Ecosystem Plans, available at www.wpcouncil.org.

[5] NMFS letter, dated February 7, 2013, to State of Hawai'i DOT-H.

operations. This sector was included in the surveys to provide baseline data because of its proximate location across the channel from the project.

- **SECTORS B, C, D, E, F AND G.** These sectors, with a total length of approximately 2,700 feet, cover the area to be improved for berthing of two container ships and possible re-alignment of underwater utility lines. Activities would include dredging, excavation, fill, pier construction, and utility re-alignment. Coral colonies and sessile macro-invertebrates located on vertical pilings and within the dredge limits on the edge of the dredged channel wall and shelf would be lost to provide adequate depth for the ships to reach the new pier. Excavation into the fastland of the site is required to construct and place the pier at least 100 feet from the federal project line. With the filling of Snug Harbor, all coral colonies and macro-invertebrates in Sectors C, D, and E would be lost. Coral counts in the sectors varied, with the lowest counts recorded in Sector D. Larger size classes were recorded in Sectors B and E. Biodiversity indices for coral are low in Sectors B, C, D, F, and G. One coral candidate species being considered for ESA-listing, *Montipora patula,* was observed in Sectors D, E, F, and G—a total of 97 colonies found mostly in Sectors E, F, and G. Considering these factors, impacts would be relatively greater in Sector E (a west-facing pier) and Sector F (dredged shelf). It is noted that all coral species occurring in the area are resistant to high loading of particulate material.

  In addition, there is a potential for remaining coral colonies (those not lost or removed during dredging and excavation) to be affected by sedimentation during in-water work. Corals could also be affected by sedimentation from construction of the container terminal (land-side construction). Implementation of BMPs would minimize sedimentation impacts. Periodic water quality monitoring during construction would be evaluated against baseline data to evaluate the effectiveness of dredging BMPs. There would be little or no impact on algal communities, which are scarce at all locations surveyed.

  Regarding potential impacts on fish communities, the largest numbers of fish were observed during the surveys in Sectors B and C, the lowest in Sector E. Two species on the DLNR list were observed: āholehole (*Kuhlia xenura*) in Sector G and parrotfish (*Scarus psittacus*) in Sector B. As they are free-swimming, compared to sessile corals and macro-invertebrates, fish are less likely to be affected during construction activities and able to find suitable habitat at nearby locations.

- **SECTORS H, I, J, K. AND L.** These sectors, with a total length of approximately 2,900 feet, cover the area where the slip between Piers 40 and 41 would be widened. Activities would involve dredging, excavation, and pier construction and the loss of coral colonies and macro-invertebrates found on pilings. It should be noted that relocating selected coral resources is being considered as possible mitigation. Sector H had the lowest biotic colonization of all sectors at the Kapālama site. Sector K had the highest number of coral colonies counted in the June/July 2012 and November 2012 surveys, as well as larger size classes. Of the 11 species encountered in the surveys, nine were found in Sector K, which has the highest biodiversity indices in the total study area. To widen the slip between Piers 40 and 41, construction would occur on the east-facing pier (Pier 41), thereby minimizing impacts on coral colonies and macro-invertebrates in Sector K (west-facing pier). There would be little or no impact on algal communities. Fish counts were relatively low in these sectors (lowest counts overall were in Sectors D, J, and L). Six individual parrotfish on the DLNR list were observed in Sector I. Therefore, impacts on fish communities *during constructio*n would be minimal for the same reasons given above. As with the sectors described above, there is a potential for impacts on ESA-listed green sea turtles and hawksbill turtles.

Approximately 400,000 cubic yards of maintenance dredging adjacent to Piers 42 and 43 to a depth of 40 feet MLLW and in the slip between Piers 40 and 41 are required to provide adequate depth in the harbor water for mooring of the container ships and in the slip for mooring of the inter-island barges (see Figure 2-5), while approximately 73,600 cubic yards of clean material would be required as fill for Snug Harbor. In the adjacent harbor water fronting the Kapālama site (in the USACE's federal project area[6]), maintenance dredging would be required to provide usable depth for vessels berthing at the Kapālama terminal. USACE, which has responsibility for the federal project area, undertakes periodic maintenance dredging there. It is uncertain when USACE will perform the next maintenance work, as availability of funding is in question. Should maintenance dredging in the federal project area be needed before the next Corps dredging project, the State Department of Transportation, Harbors Division (DOT-H) may assist in moving the effort forward.

The dredging and pier reconstruction of Pier 40 would be conducted by DOT-H since no portion of this improvement is located in the federal project area.

Mechanical or hydraulic methods may be used for both the new dredging and maintenance dredging. Hydraulic methods would need to be supplemented with cutter heads at the end of the suction terminus to remove hard substrates that may be encountered in the new dredging of the slip between Piers 40 and 41. The method of dredging may be determined by suitability for the type of sediment or the availability of equipment.

The dredged material would most likely be disposed of in the south Oʻahu disposal site, a rectangular area approximately 1.5 miles wide and 2 miles long with a bottom

[6] The federal project area in Honolulu Harbor consists of the USACE's maintenance dredge area within the port.

depth of approximately 400 meters, located about 4 miles offshore from the mouth of Pearl Harbor. The south Oʻahu disposal site has been used for the disposal of 90 percent of the dredged material in the state (USGS 2000) and is the designated site for the disposal of dredged material from Pearl Harbor, Honolulu Harbor, and Barbers Point Harbor (EPA 1980). It is the sole remaining disposal site offshore of Oʻahu.

With respect to dredged material (sediment), significant impacts on the marine environment would be averted because sediment testing, water quality monitoring, and evaluation of construction methods will be conducted to obtain permits and approvals required under the Marine Protection, Research, and Sanctuaries Act (MPRSA) and Clean Water Act (CWA) Section 404. The USACE, with the U.S. Environmental Protection Agency's (EPA's) concurrence, is responsible for authorizing these permits and approvals.

NOISE DURING CONSTRUCTION. In-water construction at the Kapālama site—in particular, sheet piles and pile driving for the piers—has the potential for underwater sound pressure impacts on protected marine mammals and sea turtles. No protected species were observed at any of the sectors during the surveys. However, since green sea turtles and hawksbill turtles may potentially occur in the harbor and it is possible for marine mammals to be present, there is a potential for impacts on these species during construction activities.

Underwater sound pressure levels from marine sheet piles and pile driving vary depending on the size of the pile, size and type of equipment (e.g., impact hammer or vibratory driver/extractor), water depth, and geotechnical conditions which determine how difficult it is to drive a pile. Temperature, salinity, and pressure affect the speed of sound traveling through water. Cumulative underwater sound impacts are also a factor, for example, ambient noise in the harbor from vessels and other sources combined with construction noise. Sound in water is typically measured in units of root mean square (RMS) acoustic pressure in micropascals (μPa), or decibels (dB). Because the sheet piles will be constructed on land prior to excavating the shoreline area fronting the pier, the noise from driving sheet piles may not be as loud as it would be if the sheet piles were driven in water.

Previous studies provide marine pile driving sound data from various projects in northern California (CALTRANS 2007). After specific site investigations and engineering design have been completed for the Kapālama project, this database supplemented by planned in-water acoustical studies and modeling can be used to estimate underwater sound levels from the construction activity and develop sound attenuation measures, if needed. Specific mitigation measures would be identified in the USACE permit application review and approval process. Notably, measurements of near-source (10-meter) unattenuated sound pressures for in-water pile driving (various pile types and sizes) using an impact hammer at various water depths are in a range of peak average sound pressure levels from 185 to 220 dB, and RMS sound pressure levels from 170 to 205 dB. Unattenuated sound pressure measurements of in-water pile installation using a vibratory driver/extractor (various pile types and sizes and water depths) are in a relatively lower range: peak average sound pressure levels from 165 to 195 dB, and RMS sound pressure levels from 150 to 180 dB.

Marine mammals can suffer permanent hearing loss, called permanent threshold shifts (PTS) or temporary hearing loss, referred to as temporary threshold shifts (TTS). In-water thresholds potentially relevant to the proposed project are as follows (dB RMS):

- PTS (injury) could result from exposure to any sound at levels of:
  - 180 dB (any sound) for cetaceans (whales and dolphins)
  - 190 dB for pinnipeds (seals)

- TTS and behavioral effects such as masked communication and avoidance of the area could result from exposure to sound levels of:
  - 160 dB for impulsive sound (impact pile drivers) for all marine mammals
  - 120 dB for non-impulsive (continuous) sound from vibratory drivers or drills for all marine mammals

These thresholds were derived for marine mammals but are currently also used for sea turtles (Air Force 2000).

PTS would be considered Level A Harassment under the 1994 amendments to the Marine Mammal Protection Act, i.e., any act with the potential to injure a marine mammal. TTS would be categorized as Level B Harassment, defined as any act with the potential to disturb a marine mammal by causing disruption of behavioral patterns, including but not limited to migrating, breathing, nursing, breeding, feeding, or sheltering, but which does not have the potential to injure the animal.[7]

As disclosed above, no marine mammals or sea turtles were observed during the surveys. In January 2012, two humpback whales entered Honolulu Harbor, but this was recognized as a highly unusual event. Monk seals are unlikely to frequent the harbor due to the lack of beaches suitable for hauling out. However, green sea turtles and hawksbill turtles may potentially occur in the harbor, with green sea turtles being more likely given their larger population numbers.

Further discussions on marine acoustical impacts from in-water construction activity at the Kapālama site and ambient noise levels in the harbor will be provided by a marine acoustical study in support of the USACE permit application.

[7] National Marine Fisheries Service. Reference Section: Definitions. http://swr.nmfs.noaa.gov/deter/reference_section.htm. Accessed October 13, 2012.

RISK OF SPREAD OF INVASIVE SPECIES DURING CONSTRUCTION. Dredging and filling activities are likely to result in the fragmentation of biological material, with the negative impact of invasive species dispersing and regenerating from fragments. If allowed to move through the water column or along the sea floor, these fragments have the potential to disperse to areas outside the harbor and colonize areas where the species are currently not present. Invasive species observed at the Kapālama site that regenerate through fragmentation and are currently restricted in distribution in Hawaiʻi include all five introduced sponge species documented in the surveys, as well as the invasive marine algae *Kappaphycus* spp, which has been recorded in Honolulu Harbor but not within the survey area. Details of the marine invasive species evaluation are provided in Appendix G.

Operational Impacts

Potential impacts on marine biota from storm water discharge and hazardous materials at the Kapālama site during operation of the container terminal would be avoided or minimized through compliance with management measures, including regulatory requirements and standard operating procedures.

The risk of spread of invasive species during operations would continue to be prevented or minimized through compliance with existing management measures. The risk of spread of invasive species associated with operations is addressed as a cumulative impact in Chapter 6, because the Proposed Action would not introduce additional overseas vessels and containers. The Proposed Action would enable the State Department of Agriculture (DOA) to develop a biosecurity facility, which would serve to support efforts to mitigate invasive species.

Mitigation Measures

Measures to mitigate impacts during in-water work—including the loss of corals, increased sediment deposition during dredging and filling, and impact on ESA-listed sea turtles—would be developed during the USACE permitting process and the USACE's ESA Section 7 and Magnuson-Stevens Act (for EFH) consultation processes. Such measures could include monitoring prior to pile driving activities and/or establishing appropriate stand-off distances (safety radius/exclusion zone) to avoid or minimize construction-related impacts on sea turtles.

Measures to reduce fragmentation of invasive species during dredging and filling activities and to prevent the dispersal of fragments were evaluated for the Proposed Action and could include the following. Details are presented in Appendix G.

- Reduce the falling velocity of buckets on mechanical dredges, especially before seafloor impact, to minimize both fragmentation and dispersion.
- Reduce travel speed of buckets to prevent spillage of dredged sediment.

- When using a hydraulic dredge, avoid moving the head faster than it can pump sediment to prevent suspension of fragments into the water column.

- Use silt curtains for the full duration of the dredge/fill work to prevent dispersal of fragments outside the immediate area. Silt curtains must cover the full depth of the water column to contain the dispersion of fragments. Sponges are negatively buoyant and likely to fall to the sea floor and roll with water movement. Fragments of algae float and could be found on the water surface. Prior to silt curtain removal, remove biological fragments from the seafloor and surface along the silt curtain. For example, a diver could use a suction pump to remove the fragments from the sea floor and surface. Surface fragments could also be scooped up with a fine mesh net.

- Monitor water quality during construction to evaluate changes from pre-construction baseline conditions.

- Until properly disposed of, store dredged sediment in a way that prevents both runoff and biological fragments from being washed back into coastal areas.

- Conduct pre-dredging sediment surveys to determine whether there are areas with toxic materials. If areas with high toxic concentrations are found, conduct additional surveys to delineate these areas. Dredged materials with high toxic concentrations would have to be segregated from other dredged materials, and handled in accordance with applicable regulations.

Alternative Action

Construction Impacts

Construction impacts under the Alternative Action would be similar to the Proposed Action with one exception. Under the Alternative Action, a deck would be constructed over Snug Harbor. The deck would require piles for support, and installation of the piles could have impacts similar to those discussed above (sedimentation, acoustic impacts on marine fauna). If Snug Harbor is not filled, fewer coral and macro-invertebrate communities at Sectors C, D, and E would be affected. There is a potential to reduce impacts to coral colonies in Sector E, with its higher biodiversity indices and larger class sizes. (As an east-facing pier, Sector C is characterized by low coral abundance and low biodiversity indices.)

However, over the long-term, with reduced sunlight under the deck, remaining coral colonies in Snug Harbor are unlikely to thrive. The deck may not eliminate light completely, but it may reduce it below a threshold limit required for coral growth. Reef building corals are always found in areas where there is available light. The comparison of coral abundance on east-facing piers with west-facing piers in the study area illustrates this point. Furthermore, one of the events of sufficient magnitude to completely overwhelm coral defense mechanisms—besides storms—

is the long-term mooring of vessels which restrict light for a period sufficient to result in complete mortality. Constructing a deck over Snug Harbor rather than completely filling the harbor would reduce the initial loss of coral colonies, but may reduce light below a threshold limit required for coral growth.

Dredging in the existing harbor waters in front of the new pier would be similar to the Proposed Action.

Operational Impacts

Operational impacts under the Alternative Action would be similar to the Proposed Action.

Mitigation Measures

Mitigation measures would be the similar to those described above for the Proposed Action.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

4.2.2 Piers 24–28

4.2.2.1 Affected Environment

No in-water construction work is proposed at Piers 24–28 except for the placement of spuds to support the drydocks at Piers 24 and 25. Quantitative investigations were conducted in the area fronting Pier 24 where the larger drydock is proposed. Qualitative investigations were conducted in the remaining locations at for Piers 25–28 (see Figure 4-2). Potential tenants will be required to comply with State and Federal regulations and permitting procedures for any in-water construction.

Physical Structure

The physical structure at Piers 24–28 is similar to that of the pier areas at the Kapālama site, characterized by concrete pilings encrusted with remnant mollusk shells and skeletal remains of dead coral colonies, as well as a dredged shoreline. At the end of Piers 27–28 is an area consisting of a dredged section of shallow reef platform. Large boulders on the edge of the platform provide a complex habitat for reef fish and coral settlement. The harbor floor at the end of Piers 27–28 consists of a more solid sand-mud substratum compared to the silt-mud substratum found elsewhere throughout the Kapālama Basin. With less sediment deposition, water quality is improved in this area.

Figure 4-2. Marine Biological Survey Sectors, Pier 24-28 Site

Biotic Community Structure

Coral Communities

Qualitative surveys of the Piers 24–28 site revealed a different coral community structure than observed at the Kapālama site. In particular, pilings at Piers 24 and 26 contain skeletal remains of large colonies either completely or partially devoid of living tissue. These remnants suggest either events of sufficient magnitude to completely overwhelm coral defense mechanisms, or the long-term mooring of vessels which restricted light for a period sufficient to result in complete mortality.

The dredged edges of the reef platform at the end of Piers 27–28 provide habitat for extensive growth of corals, including large colonies of *Porites lobata* and vertical sheets of overlapping plates of *Montipora* spp.

Quantitative evaluation of coral communities at Pier 24 showed a total count of 158 coral colonies, mainly in the size range of between 2 to 20 centimeters. *Leptastrea purpurea* was by far the most abundant species (118 colonies), found growing on concrete piles. (See Table 2 in Appendix E for a list of the seven coral species counted at Pier 24.) *Montipora patula,* the coral candidate species proposed for ESA listing (threatened status), was observed at Pier 24. Coral conditions at Pier 25 are described in terms of the above qualitative survey that was conducted at the Piers 24–28 site.

Macro-Invertebrate Communities

Twenty-seven species of non-coral macro-invertebrates were identified at Piers 24–28 (see Table 7 in Appendix E). Of the 27 species, 10 were introduced. Sponges and tunicates were the most abundant. No mollusks or urchins were observed in this sector.

Algal Communities

No frondose algae were observed in the Pier 24–28 vicinity. A small patch of the native Hawaiian seagrass, *Halophila hawaiiana*, was observed on the harbor floor adjacent to the dredged channel wall at the junction of Piers 27–28.

Fish Communities

During the June/July 2012 surveys, the most abundant fish communities were observed in the vicinity of the juncture of Piers 27 and 28, where the structural composition of the channel floor most closely resembles natural reef. A total of 224 individuals comprised of 21 species were counted here. Several species found to be abundant at the Kapālama site were also abundant in this area, including surgeonfish and damselfish (see Tables 8 and 9 in Appendix E). At Pier 24, where the larger of the two drydocks is proposed for mooring, reef fish diversity and abundance appears to be very low, with only seven fish counted in the survey: one barracuda *(Sphyraena barracuda)* and six surgeonfish *(Acanthurus dussumieri*).

Invasive Species

Ten introduced species of macro-invertebrates were identified in the survey, primarily as part of fouling communities on piers and pilings. Of these, two are classified under Management Class 4 in the State's AIS Management Plan: the sponge *Mycale armata* and the bryozoan *Amathia distans*. No introduced or invasive fish or marine algae were recorded during the surveys of the project site.

Regulated Species

STATE OF HAWAIʻI REGULATED MARINE FISHES AND INVERTEBRATES. Species on DLNR's list observed at this site included a single papio (*Caranx melamphygus*) and eight parrotfish (*Scarus psittacus*) at Pier 28.

THREATENED AND ENDANGERED SPECIES. No ESA-listed species were observed at the Pier 24–28 site. The discussion above for the Kapālama site also applies to the Pier 24–28 site.

4.2.2.2 Environmental Consequences

Proposed Action

Construction Impacts

No significant impacts on the marine environment would occur with construction under the Proposed Action. In-water work at this site would be limited to the placement of spuds at Piers 24 and 25 to support the two drydocks. This work would have little or no impact on seagrass or coral communities, as the Piers 24/25 sector is possibly comprised mainly of concrete pilings with skeletal remains of coral colonies, either completely or partially devoid of living tissue. The project would not involve removal of these pilings. Potential tenants will be required to comply with State and federal regulations and permitting procedures for any in-water construction.

No in-water construction is planned with the potential for underwater sound pressure impacts on marine fauna.

With no dredging or filling activities, the fragmentation of biological material from invasive species and their subsequent dispersal and regeneration are unlikely.

Impacts of land-side work on marine biota would be avoided or minimized by implementation of management measures, as described above for the Kapālama site.

Operational Impacts

The presence of a drydock at Piers 24 and 25 during operations would reduce or eliminate sunlight needed for coral growth, although it is noted that Piers 24 and 25 are east-facing (with less exposure to light as an existing condition), and vessels are frequently moored here. Over time, whatever coral exists on the pilings, including the species proposed for ESA listing, would be affected by reduced exposure to sunlight. However, given the sparse nature of resources in this sector and the predominance of skeletal remains, the drydocks would have minimal impact on coral communities.

No significant impacts on the marine environment would occur with shipyard operations under the Proposed Action. Potential impacts on marine biota at the Pier 24–28 site during operation of Pacific Shipyard and Atlantis Submarines would be addressed through compliance with management measures, including regulatory requirements and standard operating procedures. Storm water discharge would be avoided or minimized through compliance with NPDES permit conditions. Hazardous material spills would be avoided or minimized through implementation of pollution prevention measures.

Vessels that are brought to Piers 24–28 for repair and maintenance may be from overseas ports. These vessels may collect invasive species on their hull bottoms and from ballast water and solid ballast taken on by the vessels. The risk of spread of invasive species would continue to be prevented or minimized through compliance with existing management measures. The risk of spread of invasive species associated with operations is addressed as a cumulative impact in Chapter 6.

Mitigation Measures

No mitigation is required by DOT-H. Each specific tenant will be required to employ mitigation measures if its operation is in non-compliance with State and/or Federal regulations. Any in water work would probably require a marine assessment to minimize impacts on living marine organisms.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

4.3 TERRESTRIAL FLORA AND FAUNA

This section describes terrestrial plants and animals at the Kapālama and Piers 24-28 sites. The information is based on a survey conducted by SWCA in June 2012; the survey report is presented in Appendix F. An invasive species evaluation was also conducted by SWCA in August 2012 and is presented in Appendix G.

Environmental consequences are evaluated based on their potential impacts on threatened and endangered terrestrial species listed under ESA and the Migratory Bird Treaty Act (MBTA) of 1918 as amended; impacts due to invasive species; and existing management measures designed to avoid, minimize, or prevent such impacts. The ROI consists of the two project sites.

4.3.1 Kapālama Site

4.3.1.1 Affected Environment

The Kapālama site is a heavily disturbed area due to ongoing industrial activity. It is mostly covered in asphalt concrete with numerous warehouses and other buildings.

Flora

The Kapālama site does not contain any critical habitat for threatened or endangered plants, as designated by the U.S. Fish and Wildlife Service (USFWS) under the ESA. In addition, no state or federally listed threatened or endangered plant species, or rare native Hawaiian plant species, were observed during the SWCA survey (see Appendix F).

The survey identified 105 plant species on the Kapālama site, five of which are considered native to the Hawaiian Islands. These indigenous species, which are common in disturbed coastal areas, include moa (*Psilotum nudum*), kipukai (*Heliotropium curassavicum*), milo (*Thespia populnea*), and ‘uhaloa (*Waltheria indica*).

Much of the site is paved and without vegetation. Sparse vegetation occurs as ornamental plants near buildings or weedy non-native grasses and herbaceous plants that are common in disturbed coastal areas. Naturally growing plants are found in cracks in concrete and in shady areas near equipment and buildings. Buffelgrass (*Cenchrus ciliaris*), swollen finger (*Chloris barbata*), and Natal redtop (*Melinis repens*) are abundant here. Other non-native herbaceous species found throughout the site or in isolated patches include *Bidens alba var. radiate*, *Flaveria trinervia*, coat buttons (*Tridax procumbens*), *Heliotropium procumbens*, hairy spurge (*Euphorbia hira*), prostrate spurge (Euphorbia prostrate), Florida beggarweed (*Desmodium tortuosum*), and creeping indigo (*Indigofera hendecaphylla*). The shoreline at Piers 44/45 contains a dense thicket of red mangrove (*Rhizophora mangle*) and scattered ironwood trees (*Casurina equisetifolia*).

Fauna

The Kapālama site does not contain any critical habitat and is not near any critical habitat for ESA-listed vertebrate or invertebrate species. The proposed project is not likely to impact nesting or feeding habitat of any native bird species.

The SWCA survey observed 12 birds during the June 2012 survey of the Kapālama site. Of these, two are native birds (white tern [*Gygis alba*] and cosmopolitan black-crowned heron [*Nycticorax nycticorax*]) and one is a migratory bird (ruddy turnstone [*Arenaria interpres*]). All three are protected by the MBTA. The white tern is listed by the State as threatened on the island of Oʻahu.

Although not observed during the survey, other native seabirds may potentially occur at the site. These include the wedge-tailed shearwater (*Puffinus pacificus*), Newell's shearwater (*Puffinus auricularis newelli*), Pacific golden plover (*Pluvialis fulva*), wandering tattler (*Heteroscelus incanus*), and sanderling (*Calidris alba*). These birds are protected under the MBTA, and Newell's shearwater is both State and federally listed as threatened.

Other possible animals that occur include cats (*Felis catus*), mongooses (Herpestes javanicus), rats (*Rattus* spp.), mice (*Mus musculus*), non-native geckos (*Gekkonidae*), wasps, and Sonoran carpenter bees (*Xylocopa sonorina).* No Hawaiian hoary bats were observed and the likelihood of their presence is small.

In sum, no federally listed threatened, endangered, or candidate bird, mammal, or insect species were observed at the Kapālama site or vicinity during the survey. The survey report does note, that for foraging seabirds, like the great frigate bird and the white tern, that if measures are emplaced to maintain water quality during the construction of the project, there should be no effect on the distribution of their prey or the foraging abilities of these species.

Invasive Species

Weedy non-native grasses and herbaceous plants are common throughout the Kapālama site. Details of the terrestrial invasive species evaluation are presented in Appendix G.

4.3.1.2 Environmental Consequences

Proposed Action

Construction Impacts

No significant impacts on terrestrial flora and fauna would occur with construction under the Proposed Action. No ESA-listed plant species would be affected by the proposed construction. Potential impacts to shorebirds would be temporary, as alternate roosting areas are available close by. For foraging seabirds, like the great frigate bird and the white tern, with measures in place to maintain water quality during the construction, there should be no effect on the distribution of their prey or the foraging abilities of these species. Water quality would be maintained through compliance with NPDES permit requirements.

Invasive, weedy, non-native grasses and herbaceous plants are common throughout the Kapālama site and widespread on Oʻahu. Hence, their control is not expected to result in a significant decrease in their number or distribution, and the primary goal would be to minimize the potential for introducing new invasive species to the area. To avoid unintentional introduction of new invasive species to Oʻahu, all construction equipment and vehicles arriving from outside of the island of Oʻahu would be washed and inspected prior to entering the project area. Inspection and cleaning activities would be conducted at a designated location. Revegetation or landscaping in the yard area by hydroseeding and/or outplanting would be certified weed-free or inspected prior to revegetation. Details of implementation are presented in Appendix G.

Operational Impacts

Newell's and wedge-tailed shearwaters may become disoriented when flying over the container terminal at night if there is increased outdoor lighting on the site. Downward orientation and shielding of outdoor lights would be incorporated into the project to prevent upward light emissions and thereby minimize attraction to shearwaters.

Shorebirds, such as the ruddy turnstone, would lose their roosting area along the shoreline between Sand Island Access Road and Piers 44–45, but displaced birds would find alternate roosting areas in the vicinity, e.g., at Keʻehi Lagoon.

With the Proposed Action, the DOA would be able to develop the biosecurity facility needed to help prevent the spread of invasive species. The biosecurity facility would include an inspection building (Phase 1) consisting of inspection bays with consolidation/ deconsolidation capability for neighbor islands cargo, and a Treatment Area building (Phase 2) with treatment capabilities for import/export goods. Establishment of a DOA biosecurity facility at the new container terminal would improve intervention efforts.

Mitigation Measures

No additional mitigation needed. The USACE, if a Department of the Army Permit is required, will be satisfying its ESA Section 7 obligation with USFWS. Should additional mitigation be identified in that process, it will be made part of the Proposed Action. All tenants shall comply with the outdoor lighting requirements.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required. With the No Action Alternative, DOA would not have a location to establish the biosecurity facility, prolonging the wait for additional services the facility intends to implement, including invasive species prevention/ mitigation measures.

4.3.2 Piers 24–28

4.3.2.1 Affected Environment

The Piers 24–28 site has been heavily disturbed by industrial activities. The site does not contain any USFWS-designated critical habitat for threatened or endangered plants. No state or federally listed threatened, endangered, or candidate endangered plant species, or rare native Hawaiian plant species, were observed during the SWCA survey (Appendix F). All tenants will be required to comply with State and federal regulations and permitting procedures for any in-water construction.

The survey identified 46 plant species; only two are native Hawaiian species, moa and ʻuhaloa. The two plants are common in disturbed coastal areas throughout the Hawaiian Islands.

The survey identified 8 bird species, of which three are native (great frigate bird, white tern, black-crowned night heron) and protected under the MBTA. The white tern is also listed by the State as threatened on the island of Oʻahu.

Due to the lack of natural shoreline and vegetation, no migratory birds are expected here. Wedge-tailed shearwater and Newell's shearwater were not observed during the survey but may potentially occur at the site.

SWCA observed 6 introduced bird species that are common in the urban environment of Oʻahu. The survey also observed a mouse (*Mus musculus*). Rats (*Rattus* spp.) are likely present but were not observed. No insects, reptiles, or amphibians were observed. Hawaiian hoary bats were not expected due to lack of trees.

4.3.2.2 Environmental Consequences

Proposed Action

Construction Impacts

Of eight bird species, three native species were observed at Piers 24-28. All three native species are protected by MBTA. No federally listed threatened, endangered, or candidate endangered animal species were observed. No state or federally listed threatened, endangered, or candidate endangered plant species, or rare native Hawaiian plant species, were recorded at the site during a survey by SWCA in 2012. Potential impacts to shorebirds would be temporary, as alternate roosting areas are available nearby. For foraging seabirds, like the great frigate bird and the white tern, with measures in place to maintain water quality during the construction, there should be no effect on the distribution of their prey or the foraging abilities of these species. Water quality would be maintained through compliance with NPDES permit requirements.

During construction, to avoid unintentional introduction of invasive species to Oʻahu, all construction equipment and vehicles arriving from outside of the island of Oʻahu would be washed and inspected prior to entering the project area. Inspection and cleaning activities should be conducted at a designated location.

If Piers 24–28 is to include revegatation or landscaping in the open work area by hydroseeding and/or outplanting, the off-site source should be certified weed-free or inspected prior to revegetation to avoid invasive species, noxious weeds, or diseased plants.

Shielding of outdoor lights would be incorporated into the project to prevent upward light emissions and thereby minimize attraction to shearwaters.

Operational Impacts

Newell's and wedge-tailed shearwaters may become disoriented when flying over Piers 24–28 at night if there is increased outdoor lighting on the site. Downward orientation and shielding of outdoor lights would be incorporated into the project to prevent upward light emissions and thereby minimize attraction to shearwaters.

Mitigation Measures

No additional mitigation needed by DOT-H. The USACE, if a Department of the Army Permit is required, will be satisfying its ESA Section 7 obligation with USFWS. Should additional mitigation be identified in that process, it will be made part of the Proposed Action. All tenants will be required to employ mitigation measures if its operation is in non-compliance with State and/or federal regulations.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

4.4 CULTURAL RESOURCES

Cultural resources include deposits or artifacts giving evidence of cultural activity in the past, human burials, historic properties, and resources still in use for traditional cultural practices. Historic properties are identified in HAR 13-198 as any building, structure, object, district, or site that is significant in the history, architecture, archaeology, or culture of the state, its communities, or the nation. Under the

National Historic Preservation Act (NHPA), historic properties are assessed for significance in terms of criteria in 36 Code of Federal Regulations (CFR) Part 60.4. Sites that meet eligibility criteria may be listed on the State or National Register of Historic Places (NRHP), or both.

Hawai'i Revised Statutes (HRS) Chapter 6E directs State agencies to consult with the State Historic Preservation Division (SHPD) before beginning any project that may affect historic property or a burial site. An historical property [8]may be assessed as significant by possessing "integrity of location, design, setting, materials, workmanship, feeling and association" and meet any of five criteria:

A. Association with events that contributed to our history;

B. Association with the lives of people important in our past;

C. Embodying the characteristics of a type, period or method of construction, or the work of a master, or high artistic value;

D. Yielding information about history or prehistory; or

E. Importance to the Native Hawaiian people or any other ethnic group of the state through association with cultural beliefs, practices, events or accounts important to the group's history and cultural identity. (HAR §13-275-6)[9]

Significance assessments are to be submitted to SHPD for concurrence. If a historical property or burial site would be affected by a project, a detailed mitigation plan is to be developed and carried out. Mitigation may involve preservation, recordation, data recovery and/or ethnographic documentation. If a property is found to be significant under criterion E, consultation must occur with appropriate ethnic organizations or persons, including, for Native Hawaiians, the Office of Hawaiian Affairs (OHA) (HAR §13-275-8).

For archaeological resources, historic buildings, human burials, and other traditional cultural resources (e.g., sacred sites and other places which may or may not include physical remains), the ROI consists of the Kapālama and Piers 24–28 site. For traditional cultural practices, the ROI is Honolulu Harbor and vicinity, including nearby Ke'ehi Lagoon and Mokauea Island.

8 The first four criteria are also used for NRHP.

9 The first four criteria are also used for NRHP.

4.4.1 Kapālama Site

4.4.1.1 Affected Environment

Honolulu has been a center of political and economic activity in Hawaiʻi since the time of Kamehameha I. Until about 1920, the Kapālama site consisted of fishponds and tidal flats. The area that now stretches from the Honolulu Airport Reef Runway, along Keʻehi Lagoon, to Sand Island has been transformed from a series of fishing sites and ponds to a mix of industrial, commercial, and recreational uses. Fishing persists in Keʻehi Lagoon but is not allowed within Honolulu Harbor.

The information in the section applies to the Kapālama site and the Piers 24–28 site. This account of archaeological resources and cultural sites and practices is based on earlier studies of the Kapālama site and of Honolulu Harbor. Earlier studies illuminate cultural practices in the general area, particularly fishing and boating on the Keʻehi side of Sand Island, rather than in the harbor. For those studies, cultural specialists sought to find informants on traditional practices and interviewed several fishermen along the Sand Island shoreline. For this EIS, OHA was consulted and informal discussions were conducted with Joni Bagood and Kehaulani Kupihea of the Mokauea Fishermen's Association in June 2012.

Figure 4-3 shows the area around the Kapālama site on a map issued in 1899 with today's streets superimposed. The site extends from a narrow band of shoreline, through two fishponds, and into the water. Sand Island and the land surrounding Sand Island Access Road were developed from areas once under water, along with a small and isolated "Quarantine Island" farther out from land.

Archaeological Resources (Before the Territorial Period)

A fishery official reported in 1905 that the Auiki and Ananoho fishponds were in commercial use.[10] The fishponds and tidal flats were extensively filled from the 1920s through the mid-1940s. No records of salvage archaeology from that period have been noted. Maps suggest that the Army had finished filling in the Kapālama Military Reservation (KMR) site by 1943, but did not build the warehouses now on the site until later.

[10] John N. Cobb, cited in IARII (Athens and Ward), 2002. The two fishponds are recognized in the State Inventory of Historic Places (SIHP) as site 50-80-14-73.

Source: David Rumsey Historical Map Collection. *Hawaii Oahu 1899.*
http://rumsey.geogarage.com/maps/g3707000.html. Downloaded on May 22, 2012.

Figure 4-3. Area Surrounding the Kapālama Site in 1899

The Kalihi area was populated and cultivated for centuries. After the Great Mahele[11], *kuleana* lands were recognized at Kaluapuhi, a site near the intersection of Auiki Street and Sand Island Access Road. Lands in Kalihi Kai were allotted to royalty and their close associates. Queen Kalama had a houselot award in Pu'uhale near Loko Auiki.

Archaeological studies in Kalihi Kai have had limited results:

- Reconnaissance of a parcel near the intersection of Sand Island Access Road and Auiki Street did not result in any finds. [12]
- A burial was discovered in 1997 at Pier 40 by Hawaiian Dredging. The site was on the pre-contact coastline.[13]
- Sediment cores from the Kapālama site were recovered and analyzed in two studies. For the first study, two sites were at Auiki fishpond, two at Ananoho, and one (within the Kapālama site, facing Pier 41) outside the fishponds (IARII 2002) (Figure 4-4) However, the soil had been so thoroughly disturbed in the course of

[11] In the mid-19th century, all lands were divided among the king, the high chiefs, and the government through a process called the Mahele. Commoners were allowed to claim lands that they used and occupied (called *kuleana*) though the Land Commission process.

[12] Hammatt 1986, as reported in Hammatt and Shideler 2007.

[13] SIHP Site 50-80-14-5581.

filling that pre-contact layers could not be identified to date the initial construction of the ponds. A follow-up study took two cores from the Ananoho fishpond site (from locations within the KMR area) and reached the same conclusion (IARII 2002). SHPD concluded:

"… you have determined that the proposed Honolulu Harbors redevelopment project will not adversely affect archaeological resources at the former Kapālama Military Reservation. We concur with your determination of effect. You also recommend that no further archaeological work is needed for either Auiki or Ananoho Fishponds. We concur with this recommendation."[14]

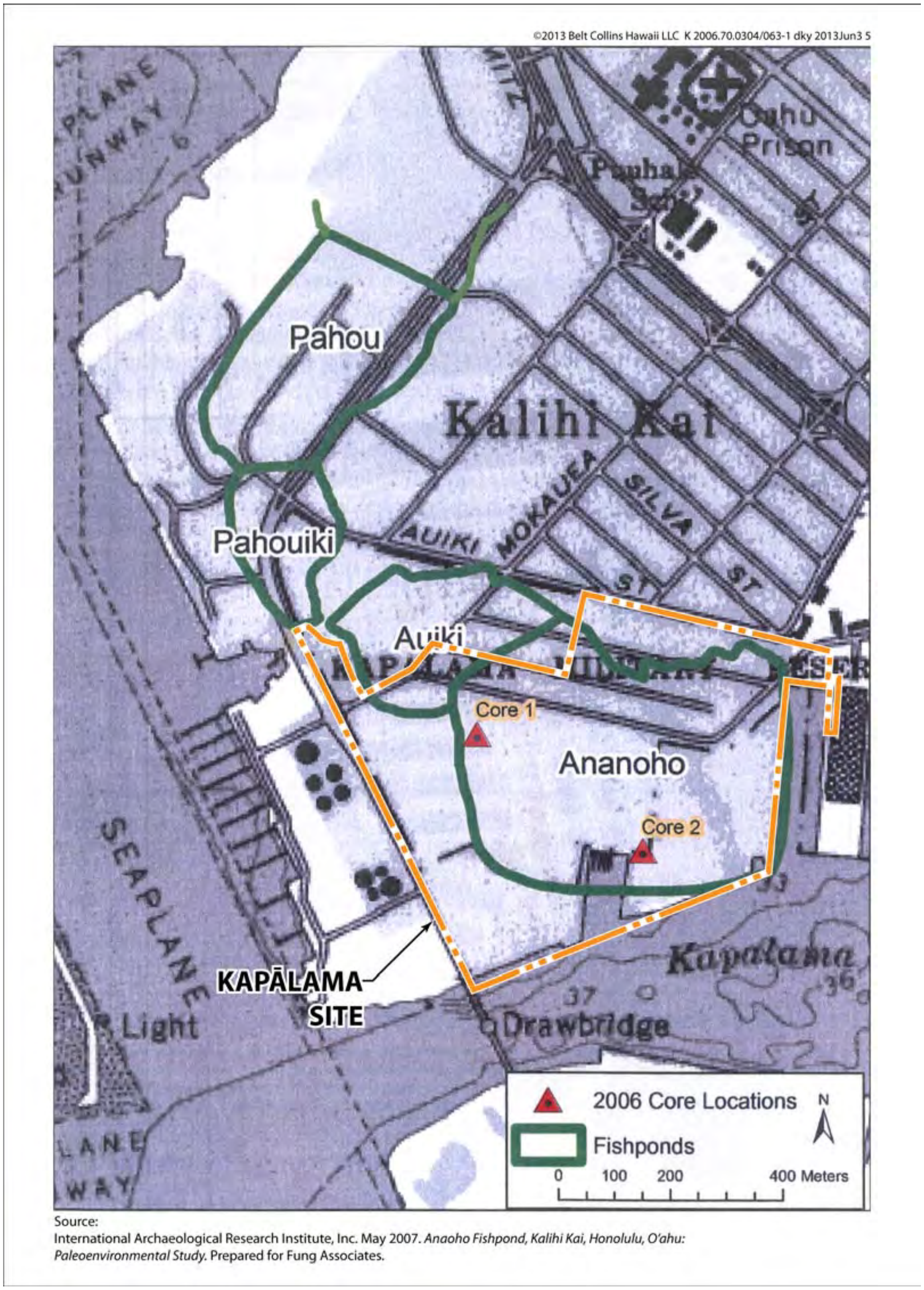
Historic Structures (Territorial Period)

This section summarizes the account of development on the Kapālama site in the historic architectural survey completed in 2007 of the KMR and Hawaiian Dredging lands for the Department of Transportation (Fung 2007).

Hawaiian Dredging Company purchased 560 acres of land along the west side of Kapālama Basin. The land included the Ananoho and Auiki fishponds. By the late 1920s, a channel 20 feet deep and 100 feet wide had been dredged. In 1930, part of Ananoho Fishpond was leased to the City and County of Honolulu (City) as a dump site. In 1939, Hawaiian Dredging built several structures on the site. Some of these continue to be used by PSI.

In 1941, the Army Quartermaster Corps recognized the need for a military terminal and storage site in Honolulu, and contracted with Hawaiian Dredging Company for the construction of piers, a terminal, and warehouses. Some 62 acres were condemned for Army use, and 25.86 acres of additional land were acquired in 1942. By 1945, some 21 warehouse buildings were on the KMR site. KMR served as the leading Army storage site for supplies and equipment during World War II and the Korean War. In 1954, a small mortuary and morgue were added by renovating Buildings 913 and 914. It remained in use as a military mortuary through the Vietnam War.

[14] Letter, M. Chinen to S. Athens, May 24, 2007. Agency log number: 2007.1594.



Source:
International Archaeological Research Institute, Inc. May 2007. *Anaoho Fishpond, Kalihi Kai, Honolulu, O'ahu: Paleoenvironmental Study.* Prepared for Fung Associates.

Figure 4-4. Kapālama Site Fishponds

The KMR site was divided into four lots and sold to the State and local firms (Young Brothers, Ltd. and Servco Pacific Inc.) from 1987 through 1989. DOT-H has long planned to demolish the structures on portions of the former KMR to construct additional cargo handling facilities. It has communicated with SHPD about the treatment of the buildings on the site. SHPD indicated that demolition could proceed (a) once core samples (discussed in section 5.4.2) were taken and analyzed, (b) architectural and ethnographic documentation of the site "as a district and placing KMR in the historic context of both WWII and the Vietnam War" was completed, and (c) attempts were made to find a construction or salvage firm that could salvage windows, doors, or other features of the buildings.[15]

DOT-H commissioned a study to Historic American Buildings Survey (HABS) III standards of the KMR buildings built before 1965. The study covered Buildings 904, 905, 906, 910, 913, 914, 915, 916, 917, 918, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, and 935, and buildings occupied by PSI and Island Movers. The study also dealt with buildings currently occupied by Young Brothers, Ltd. at Pier 40. Documentation included site plans, exterior and interior photographs, and written reports describing physical elements, features, and details of the buildings. Historic records were searched for plans, descriptions, and photographs of KMR. Interviews were conducted with two persons who had served at KMR.

The warehouses at the Kapālama site have been leased on an "as is" basis. Leases will end by early 2014, and the structures will be demolished soon thereafter.

Cultural Practices

The ponds and tidal flats at Kalihi Kai once were extensively fished. In addition to the named ponds with high banks, smaller *pu'uone* ponds with dune banks were developed nearby or at the mouth of streams. These often belonged to commoners.[16] Fishing areas were also recognized by the Board of Land Commissioners. It is clear that Kai o Mokauea, the Mokauea fishery, extended to the current Kalihi Channel on its western side. The eastern boundary may have been along Loko Ananoho.

Salt was made in ponds near the fishponds to the northwest of the Kapālama site. Out to sea, the reef provided fish and shellfish. The reef was dry at low tide, so it was possible to walk to some of the offshore islets. Also, travelers could walk and swim between Honolulu and Pu'uloa (Pearl Harbor), avoiding the much longer trip along the coast. Residents of Mokauea Island traveled by canoe daily and carried water from Pu'uhale to their homes.[17]

Mokauea Island was inhabited in 1975 but claimed by the State. Residents were evicted and their homes burned. After protests, a lease was negotiated and members

15 Letter, Melanie A. Chinen, Administrator, SHPD, to Sandra Pfund, April 3, 2006, SHPD log no. 2006.0829, included in the Fung Associates report.

16 Maly and Maly 2003, cited in Hammatt and Shideler 2007.

17 Oppenheimer [Napoka] 1976.

of the local community rebuilt their homes. The Mokauea Fishermen's Association, with help from volunteers, has worked to clear the island of debris and to redevelop a fish pond. The restoration effort has been continued and extended by Kai Makana, a group dedicated to ocean education.[18] Mokauea is now both home to a few families and the site for educational programs.

Sand Island Recreation Area and Keʻehi Lagoon are actively used for fishing. Outrigger canoe paddling, the official State sport, has found a home at the Keʻehi Lagoon Beach Park, used by canoe clubs as a launch site for practices, races, and regattas. Clubs also store canoes and launch them near the boat ramp on the Sand Island side of the bridge to the island.

A study in 2008 compiled testimony of extensive fishing from the Keʻehi side of Sand Island but no fishing in the harbor (DOT-H November 2008). For this EIS, OHA was consulted, and informal discussions were conducted with Joni Bagood and Kehaulani Kupihea of the Mokauea Fishermen's Association in the summer of 2012.

As an active port, Honolulu Harbor is subject to federal security regulations enforced by the U.S. Coast Guard's (USCG's) Captain of the Port. No swimming or diving in the harbor is permitted. Areas actively used for cargo operations are fenced, and admission is controlled.

In sum, fishing and related cultural practices have been important in and near the Kapālama site for many years. Fishing continues to be important to Honolulu residents to this day, but Honolulu Harbor waters are no longer used for this activity.

4.4.1.2 Environmental Consequences

Proposed Action

Construction Impacts

The Proposed Action would not significantly impact cultural resources, including cultural practices. SHPD restated its determination of "no adverse effect" on archaeological resources in response to the EIS preparation notice (EISPN) (letter dated December 12, 2011). Its letter of April 3, 2006 (see Appendix H-1) spelled out mitigation measures and reached a determination of "'effect, with proposed mitigation commitments' (or 'no adverse effect') per Chapter 6E-8 (HRS)." SHPD's review of the project considered properties listed and eligible (by nomination) for listing on the Hawaiʻi Register of Historic Places and National Register of Historic Places. If human remains or subsurface archaeological resources are encountered during construction, work at the site in question would stop, and SHPD would be contacted in accordance with State law and rules.

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[18] For details of history and current volunteer activity, see http://www.kaimakana.org/mirp.htm.

The warehouses built in the mid-1900s on the Kapālama site will have been demolished before the Proposed Action occurs. DOT-H has already documented their use and appearance.

Operational Impacts

From the historic and existing use descriptions in Chapter 4.4 of this document, no operational impacts on cultural resources or practices are expected.

Mitigation Measures

No additional mitigation measures are needed. Mitigation measures for historic structures include documentation, which has been completed, and an attempt to salvage intact architectural features. That attempt would be made during demolition.

Alternative Action

Construction Impacts

Construction impacts would be similar to the Proposed Action.

Operational Impacts

No operational impacts on cultural resources or practices are expected.

Mitigation Measures

As with the Proposed Action, no additional mitigation measures are required.

No Action Alternative

With no development at the Kapālama site and no change in use, there would be no construction or operational impacts. No mitigation is needed.

4.4.2 Piers 24–28

4.4.2.1 Affected Environment

Piers 24–28 are currently developed and in use for maritime activities. They are part of the controlled harbor area, in which access by the public at large is limited and activities such as fishing and swimming are banned. For a summary of cultural resources and practices, see section 4.4.1, Kapālama Site. All tenants will be required to comply with State and Federal regulations and permitting procedures for any in-water construction.

4.4.2.2 *Environmental Consequences*

Proposed Action

Construction Impacts

Construction of new landside facilities at the Piers 24–28 site is not expected to affect cultural resources or practices.

If human remains or subsurface archaeological resources are encountered during construction, work at the site in question would stop, and the State Historic Preservation Division would be contacted in accordance with State law and rules.

Operational Impacts

No operational impacts on cultural resources or practices are expected.

Mitigation Measures

No additional mitigation is required by DOT-H. All tenants will be required to employ mitigation measures if its operation is in non-compliance with State and/or federal regulations.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

4.5 SOCIOECONOMICS

This section evaluates how the Proposed Action and alternatives would affect or contribute to changes in economic and social conditions, including demography, community cohesion, and economic or community wellbeing. The significance of an impact is determined by the amount of change anticipated, as compared to the No Action Alternative. For this assessment, the ROI ranges from the community surrounding Honolulu Harbor to the entire state.

4.5.1 Affected Environment

The account of existing socioeconomic conditions addresses both the Kapālama and Piers 24–28 site. Potential impacts are discussed below separately for each site.

4.5.1.1 *State Of Hawaiʻi and Island Of Oʻahu*

Hawaiʻi depends on its ports far more than any other state. Honolulu Harbor is the entry point for nearly all the freight to Hawaiʻi and the transfer point for cargo to and from the neighbor islands.

The City and County of Honolulu (island of Oʻahu) is home to 70 percent of the state population. It is the economic center and transportation hub of Hawaiʻi. Both the state and the island economy depend on efficient and low-cost freight movements through Honolulu Harbor.

The leading Hawaiʻi maritime carrier, Matson Navigation Company, pioneered the conversion of cargo shipments from bulk to container loads, starting in the 1950s. Containerization has greatly lowered the cost and time involved in cargo movement, increased the variety of products available in the islands, and lowered the costs to consumers. In Hawaiʻi containerization and cargo handling has evolved over decades into a highly mechanized process integrated with information systems for shippers, carriers, and recipients, thus reducing the need for expensive Hawaiʻi land (warehousing) and labor.

Between 2006 and 2008, approximately 900,000 twenty-foot equivalent units (TEUs)[19] annually moved through Honolulu Harbor. Volumes declined through 2009 but have since stabilized. DOT and maritime stakeholders have recognized since the 1990s that a new container-handling area would soon be needed (DOT-H 1997, DOT-H September 1997, HHUG 2005, HHUG 2007).

The largest industries in Hawaiʻi (in terms of employment and wages) are tourism and national defense. Both depend on container shipment for supplies that support their operations. Even plantation agriculture in Hawaiʻi has largely converted from bulk shipping, with high value-added products traveling by container (packaged specialty sugar) and air freight (high-value pineapples).

4.5.1.2 Area Near The Project Sites

The area surrounding the Kapālama site is largely industrial. Kalihi Kai, north of Auiki Street, has a mix of small businesses, warehouses, and residential buildings. The narrow streets are crowded during the day by parked cars of workers. Nearby, Sand Island Access Road conveys truck traffic to and from the container yards on Sand Island, and serves a mix of businesses in the Kalihi Kai area. Sand Island Access Road ends at Nimitz Highway, which connects Honolulu's central business district to the airport and the Māpunapuna industrial area. Honolulu Harbor extends along Nimitz Highway. While many of the older piers serve smaller vessels, Pier 29 has been refurbished for overseas barge traffic, Piers 37 and 38 serve as the center of the fishing industry, and Piers 39 and 40 house Young Brothers, the leader in inter-island cargo traffic. See Figure 2-2 for pier locations.

[19] TEU is the standard measure of container volume. A standard container, or one TEU, is 20feet by 8 feet by 8 feet. The longer containers, 40 feet by 8 feet by 8 feet, equal two TEUs.

Sand Island faces the project sites across the harbor. It includes two operating container yards, the base for USCG maritime activity, an industrial area, and on the seaward side, a State recreation area. It is linked to the mainside by Sand Island Bridge. The bridge has been fixed in place since the second span was built, so no ship traffic can pass between Honolulu Harbor and Keʻehi Lagoon. Keʻehi Lagoon has a small boat harbor, a separate small boat launch ramp, additional moorings, and space used for outrigger canoe activities. The small boat harbor has nearly 600 slips and off-shore moorings. A small community lives on Mokauea Island in the lagoon off Sand Island.

The project sites are within the Kalihi-Palama Neighborhood Board (No. 15) area, as shown in Figure 4-5. Neighborhood Board No. 15 has a population of approximately 38,000. Social characteristics of the immediate area near the Kāpalama site were derived in part from U.S. Census data, Honolulu Census Tract (CT) 59, which includes the blocks between the project sites and Dillingham Boulevard, and the area along Sand Island Access Road before the bridge to the island. In 2010, CT 59 had a household population of 1,892 persons, most of whom lived between Nimitz Highway and Auiki Street.[20] The Piers 24–28 area is within CT 57, along with all of Sand Island. The area inland from Piers 24–28, across Nimitz Highway, largely consists of industrial and commercial/office uses.

Census data are available from the 2010 Census, which was designed as an enumeration of all residents, and from the American Community Survey (ACS). Currently, the decennial census deals only with a short set of questions about persons and households. Data on employment, income, commuting, and many other topics are compiled through the ACS. The ACS is an annual sample survey. When samples from multiple years are combined, data can be reported for small areas such as CTs.

Three distinct zones of concern have been identified for the social impact analysis. The zones and associated reasons for concern follow.

- The Kalihi Kai area between Auiki Street and Nimitz Highway. This area could be affected by a change in the volume and type of traffic, depending on the plan for the yard layout and access.

- Sand Island Access Road and nearby tenants. This area could also be affected by changes in traffic patterns.

[20] The Census counts people as in households or "group quarters." In Census Tract 59, the Oʻahu Community Correctional Center, north of Nimitz, accounts for nearly all of the group quarters population. Its inhabitants are considered outside the area of interest for this study, so the analysis deals, where possible, only with the population in households. Also, for most of the 2006 to 2010 period, no group quarters were included in any American Community Survey samples.

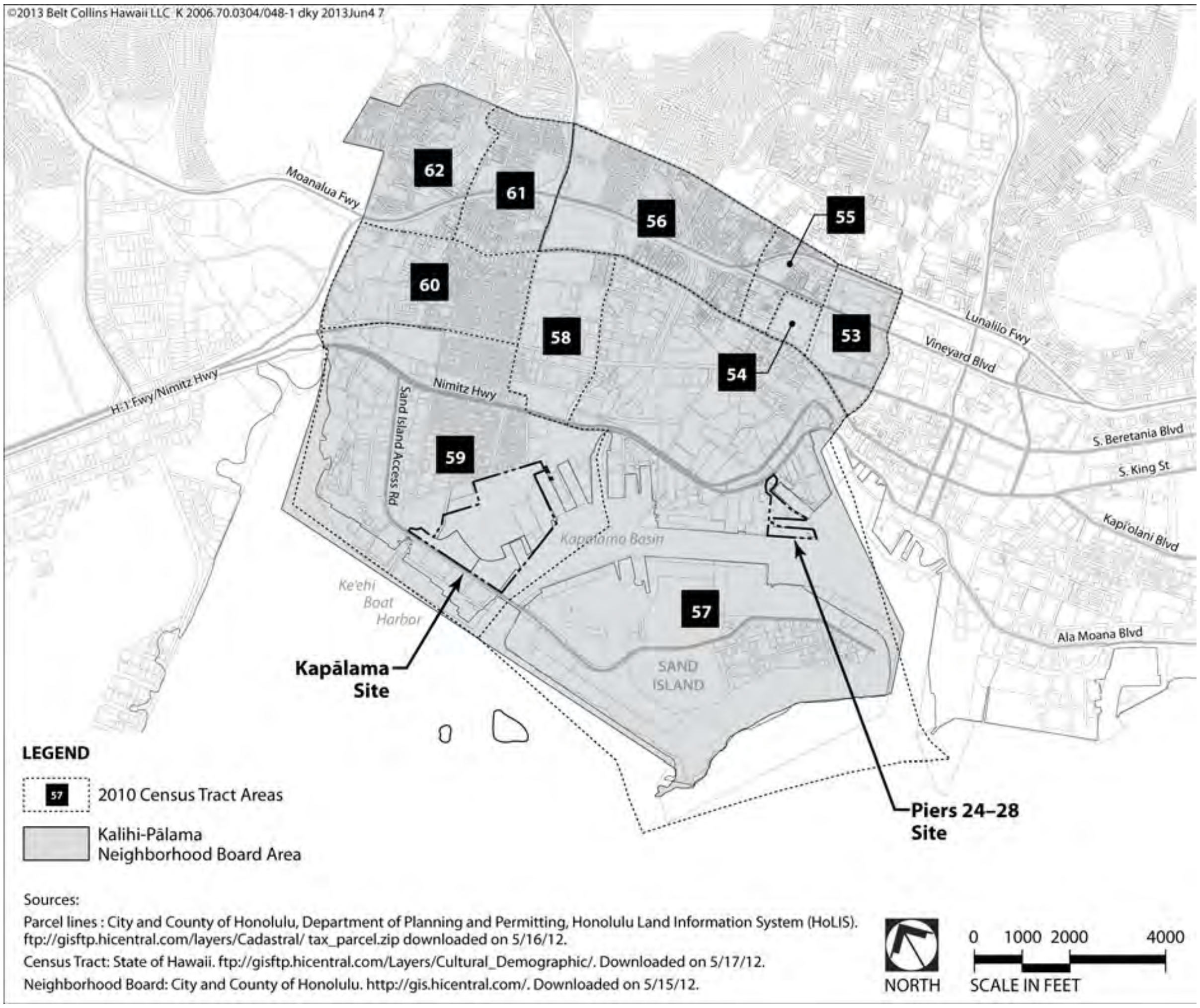

Figure 4-5. Kalihi-Palama Neighborhood Board Area and Census Tracts

- Residential areas in downtown Honolulu. These areas could experience changes in noise levels due to the move of PSI and Atlantis to Piers 24–28. (Nimitz Highway and commercial establishments along the highway separate the Piers 24–28 area from residential communities. Therefore, potential social impacts of the PSI move would be associated with possible noise impacts, rather than from direct involvement with existing communities.)

4.5.1.3 Local Economy

Many in the CT 59 population have modest incomes (as shown in Table 4-1). The median household income was estimated to be about two-thirds of the islandwide median. The percentage of households relying on food stamps is greater than the islandwide percentage, and few households have retirement income. Unemployment is low at 1.2 percent.

Table 4-1. Household Income

Survey-based data collected 2006 to 2010: Income is for most recent year, in 2009 $	City and County of Honolulu	Census Tract 59	Census Tract 57
Median Household Income	$70,093	$47,284	$35,294
Share of Households With			
Earnings	83.4%	91.7%	80.3%
Social Security	30.4%	29.0%	11.1%
Retirement Income	23.0%	12.2%	8.0%
Supplemental Security	3.3%	5.7%	7.1%
Cash Public Assistance	3.3%	5.5%	0.0%
Food Stamps	6.6%	12.2%	11.6%

SOURCE: American Community Survey, 2006 through 2010, downloaded from American FactFinder (www.census.gov).

The industries with the largest workforce among CT 59 residents are hotels and food service. However, the industries with the largest employment in the immediate area are transportation, construction, and wholesale trade.[21] Local industry depends on workers who commute from other parts of Oʻahu, far more than on the local area resident workforce (Table 4-2).

Table 4-2. Employment

Survey-based data collected 2006 to 2010	City and County of Honolulu	Census Tract 59	Census Tract 57
Estimated Working Age Population	752,343	1,603	1,946
Estimated Civilian Labor Force	462,843	983	1,223
Employed	439,701	971	988
Unemployed	23,142	12	235
Unemployment Rate	5.0%	1.2%	19.2%
Share of Employed, by Industry			
Agriculture, forestry, fishing and hunting, and mining	0.8%	0.0%	1.1%
Construction	7.2%	7.2%	10.4%

21 Economic census data for Zip Code Tabulation Area 96819 for 2009 posted at www.census.gov. This area is much larger than CT 59. However, no data on employment within Census Tracts (as opposed to employment of residents of those tracts) has been reported since the 2000 Census.

Table 4-2. Employment

Survey-based data collected 2006 to 2010	City and County of Honolulu	Census Tract 59	Census Tract 57
Manufacturing	3.5%	3.6%	5.2%
Wholesale Trade	2.9%	9.0%	0.9%
Retail Trade	11.1%	4.7%	12.4%
Transportation and Warehousing, and Utilities	6.0%	6.2%	7.8%
Information	2.1%	0.0%	1.0%
Finance and Insurance, and Real Estate and Rental and Leasing	7.2%	0.9%	10.1%
Professional, Scientific, and Management, and Administrative and Waste Management Services	10.2%	14.8%	8.8%
Educational Services, and Health Care and Social Assistance	21.7%	14.1%	13.2%
Arts, Entertainment, and Recreation, and Accommodation and Food Services	13.6%	32.3%	21.0%
Other Services, Except Public Administration	9.5%	3.2%	6.4%
Public Administration	4.3%	3.9%	1.7%

SOURCE: American Community Survey, 2006 through 2010, downloaded from American FactFinder (www.census.gov).

4.5.1.4 *Population and Households*

Table 4-3 provides information for the City and County of Honolulu as a whole, CT 59 (including the Kapālama site), and CT 57. CT 57 covers the Piers 24–28 site and much of the remaining harbor/industrial area.

Table 4-3. Population Characteristics, 2010

	City and County of Honolulu	Census Tract 59	Census Tract 57
Population	953,207	3,353	2,148
Under 5	61,261	134	100
5 to 18	149,239	1,224	950
18 to 64	604,217	1,776	887
65 and over	138,490	219	211
Share of Population			
Under 5	6.4%	4.0%	4.7%
5 to 18	15.7%	36.5%	44.2%

Table 4-3. Population Characteristics, 2010

	City and County of Honolulu	Census Tract 59	Census Tract 57
18 to 64	63.4%	53.0%	41.3%
65 and over	14.5%	6.5%	9.8%
Race—alone or in combination with other races			
White	36.8%	16.4%	24.0%
Black or African American	3.4%	3.1%	3.6%
American Indian and Alaska Native	2.1%	0.7%	2.8%
Asian	62.0%	51.6%	59.5%
Native Hawaiian and Other Pacific Islander	24.5%	38.3%	30.3%
Some Other Race	2.3%	2.4%	2.3%
Racial Identifications/Population	1.31	1.12	1.23
Latino Share	12.7%	5.9%	7.3%

SOURCE: 2010 Census downloaded from American FactFinder (www.census.gov).

Table 4-3 shows the local population as of 2010 in relation to the City as a whole. Table 4-4 adds citizenship data from the ACS. Indications of the distinctive demography of CT 59 include:

- A population with relatively few small children and few elders;
- A large Native Hawaiian and Other Pacific Islander population, and a majority Asian population;
- A relatively low incidence of multiple race claims (for Hawai'i);
- A population in which 40 percent were born in Hawai'i and 45 percent were born outside the United States; and
- A quarter of the population without American citizenship.

Table 4-4. Citizenship

Survey-based data collected 2006 to 2010	City and County of Honolulu	Census Tract 59	Census Tract 57
Citizenship			
Native	80.5%	55.2%	70.3%
Born in Hawaiʻi	54.7%	40.1%	38.4%
Foreign-born	19.5%	44.8%	29.7%
Naturalized	11.3%	20.5%	14.3%
Not U.S. citizen	8.3%	24.3%	15.3%

SOURCE: American Community Survey, 2006 through 2010, downloaded from American FactFinder (www.census.gov).

The CT 59 household population (Table 4-5) consists overwhelmingly of renters. Households tend to be larger than the island average.

Table 4-5. Households

	City and County of Honolulu	Census Tract 59	Census Tract 57
Population	953,207	3,353	2,148
Population in Households	917,907	1,892	1,725
Share of Population in households	96%	56%	80%
Households	311,047	609	868
Rented	43.9%	90.8%	82.4%
Average Household Size			
All Households	2.95	3.11	1.99
Owner-occupied	3.11	2.46	2.27
Rented	2.75	3.17	1.93

SOURCE: 2010 Census, downloaded from American FactFinder (www.census.gov).

Information collected by the school nearest the Kapālama project site, Puʻuhale Elementary, brings out more detailed ethnic and economic characteristics of the local population (DOE 2011). The school's 2011 student population is:

- Largely Filipino (52.3 percent), while 18.0 percent are Micronesian and 13.8 percent are counted as Native Hawaiian;[22]

[22] Department of Education (DOE) listings treat each student as having a single ethnicity, and hence differ from the Census's current practice of recognizing more than one racial identification.

- From households with low incomes—78.6 percent qualify for free or reduced-cost meals at school; and
- Comprised of a large group (35 percent) with limited English proficiency.

4.5.1.5 Community Concerns

Minutes of the Kalihi-Palama Neighborhood Board meetings for 2011 and early 2012 were reviewed to learn of community concerns independent of the project. Major issues discussed included:

- **HOMELESS PERSONS AND THEIR BELONGINGS.** Residents were concerned about the presence of many homeless persons. While considerable sympathy was expressed, many speakers were frustrated because sidewalks and other areas were obstructed.
- **SPEEDING AND TRAFFIC.** Some narrow side streets are used as shortcuts to Likelike Highway, creating dangerous conditions. Installation of speed bumps or other control devices was considered but difficult to implement because these are not City streets. In Kalihi Kai, residents reported trucks waiting on City streets to enter the Young Brothers yard. In both cases, the local road system is clearly inadequate to handle growing traffic demand.
- **COST OF PROPOSED GOVERNMENT PROJECTS.** The monthly reports on the Honolulu rail project to the Neighborhood Board usually led to discussions of the public's ability to pay for the rail project. Similarly, a plan for major improvements at Sand Island State Recreation Area was greeted by cost and traffic concerns.
- **POSSIBLE SCHOOL CLOSURES.** Residents of the area opposed possible closure of Likelike or Pu'uhale Elementary School by the State Department of Education (DOE).

Questions were raised about the Kapālama Container Terminal project, and DOT officials were invited to present the project to the Neighborhood Board. Comments pertained to concerns about traffic, noise, possible impacts to Mokauea Island, and the idea of locating the new container yard at Kalaeloa Barbers Point Harbor. One resident was concerned that the project would affect property taxes for nearby properties.

At two public meetings (each with two sessions) convened by DOT for the Kapālama site, major concerns included when existing tenants in the Kapālama warehouses would need to move, traffic congestion and pedestrian safety, and noise due to yard operations and truck movements.

4.5.1.6 Socioeconomic Trends

Both population increase and economic growth are expected to proceed at a slow pace in the next few years. O'ahu's population is forecast to grow by 0.5 percent annually from 2010 to 2035; employment is expected to increase at 0.8 percent annually.[23] The Kalihi-Palama area is expected to see slower changes: 0.4 percent annual population growth and 0.5 percent employment growth.

Population growth on O'ahu is directed by City and State policy towards the Primary Urban Center (stretching from 'Aiea to Kāhala) and the 'Ewa Development Plan area on the west side of the island. In the Honolulu urban area, the increase in population is expected to be accommodated through redevelopment and increased density, especially at locations near transit stations. The planned rail line will run along Dillingham Boulevard, at the inland edge of CT 59. New stations will be located near Middle Street, Mokauea Street, and Honolulu Community College. Current plans call for significant increases in density at the latter site, but no change in building heights at the Kalihi Station, nearest the Kāpalama Container Terminal site (DPP 2012). Eventual (over 20 to 30 years) new development within a half-mile of the Kalihi transit station is seen as involving up to 700 residential units, 27,000 square feet of commercial space, and 700,000 square feet of light industrial and office space. Within the Kalihi transit corridor, this "development potential" amounts to 11 percent of residential growth, seven percent of commercial growth, and 63 percent of light industrial growth. In effect, the forecast is for increasingly dense industrial activity in Kalihi Kai. At other station areas (along the Kāpalama Canal near Dillingham Boulevard, and in Iwilei) transit-oriented development plans call for much taller buildings and more development.[24]

4.5.1.7 Relocation of Kapālama Tenants

Approximately 80 to 90 tenants currently rent space at Kapālama from DOT-H. Tenants are on month-to-month revocable permits. Gross lease rent is about $0.80 per square foot per month. The permits are "as-is" and tenants are responsible for repairs, if needed.[25] Tenants have been put on notice that DOT-H plans to convert the industrial area to a container terminal, and that their occupation at the Kapālama site will end as of early 2014. These communications have allowed tenants time to seek new space and plan their moves.

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23 The forecast is from the DBEDT's 2009 projections for the State and counties. A more recent forecast shows little change in the long term trends. (The 2009 forecast is mentioned here because its results have been allocated to smaller areas by DPP.)

24 The plans discussed here are in draft form; no bill to allow changes in density shown in the plans has been submitted to the Honolulu City Council.

25 Personal communication, Calvert J.T. Chun, Property Management, Harbors Division, Hawai'i State Department of Transportation, June 2012.

Tenants will need to find space elsewhere on the island. As of early 2013, the vacancy rate for Oʻahu industrial areas is 4.5 percent, and the average gross rent is $1.41 per square foot. The Iwilei and Kalihi areas have slightly higher vacancy rates than the island average, but rents are also higher. (The average gross rent in these districts is $1.47 and $1.55 per square foot, respectively.) (CBRE 2013). The current Kapālama tenants will not only pay to relocate but can expect to pay more in rent for new space. On the other hand, that space will likely be maintained in better condition than the Kapālama warehouses, and could be adapted to suit the specific needs of the tenant.

Tenants interviewed for a recent article in the Pacific Business News (PBN 2012) recognized that relocated tenants will pay more for space elsewhere. Brokers suggested that the process would "tighten up" the industrial market, and some tenants might not be able to continue operations at competitive lease rents.

The departure of these tenants at the Kapālama site and subsequent demolition of warehouses (buildings) and site clean-up would occur as a separate action. Therefore, the No Action Alternative, the Proposed Action, and the Alternative Action presume that these tenant departures and building demolition and site clean-up have occurred.

4.5.2 Environmental Consequences

4.5.2.1 Kapālama Site

Socioeconomic impacts would be associated with the on-site construction activities and with operations of the new container terminal at the Kapālama site. The impacts range from ones occurring on-site (such as employment of longshoremen) to ones possibly affecting nearby homes and businesses, to fiscal impacts on revenues gathered by the City and the State.

Proposed Action

Construction Impacts

Construction activities include (a) dredging, excavation, filling, construction of piers, and development of a container yard; and (b) further improvements by tenants to operate the yard effectively. Yard construction and improvements may be done in phases by DOT-H and by tenants, although the bulk of the work would be done initially, once permits are in place and a container yard tenant has been selected.

The total cost of construction of new facilities under the Proposed Action is estimated as $266 million dollars.[26] Based on recent data, it is reasonable to estimate construction employment on a major infrastructure project as generated at a ratio of 3.75 full-time workers per million dollars in infrastructure construction spending (DBEDT 2012). Direct construction employment for the Proposed Action would amount to 998 person-years.

Indirect and induced employment would also be generated by construction. Indirect jobs are created as firms involved in the direct activity, i.e., construction, purchase goods and services in the local economy. Induced jobs are created as direct and indirect workers spend much of their wages in the local economy. These effects, estimated using the State Input-Output Model (DBEDT 2011), would be 1,676 additional person-years of employment.

Wages can be estimated using average wages per industry for construction, and average wages islandwide for indirect and induced jobs.[27] The total wages associated with construction come to $72.2 million for direct construction employment and $79.3 million for indirect and induced employment.

Construction activities could occur over a period of approximately two years. Given that timetable, the average annual employment with the Proposed Action would amount to some 499 direct jobs, and a total of 1,337 direct, indirect, and induced jobs. Hawaiʻi had a total of 39,100 construction jobs as recently as 2007. The total dropped to 28,800 by 2010, or 73.7 percent of the earlier figure. While construction job counts will increase due to work on the Honolulu Rail project and other major projects, the existing labor force is large enough to support the work involved in developing the Kapālama Container Terminal without significant impacts on the overall labor market.

Construction and construction-related spending would generate revenues for the State City, as shown in Table 4-6.

[26] DOT-H estimate based on master plan for Kapālama and changes in bids for construction in the years since that study was published. The costs of environmental remediation and mitigation of impacts on corals are not yet fully known, so the actual cost could be higher than discussed herein. Further, the cost of strengthening Pier 40 is not included to account for its separate improvement schedule and funding source.

[27] State of Hawaiʻi, Department of Labor and Industrial Relations, *2011 Employment and Wages in Hawaiʻi.* Posted at http://hawaii.gov/labor/rs/whats-new/LFR_QCEW_ES2011.pdf. Wages are adjusted to 2013 dollars in line with changes in the Consumer Price Index.

Table 4-6. Government Revenues Associated with Construction at the Kapālama Site

	Proposed Action	Alternative Action
Construction cost estimate [1]	$266.0	$367.5
Construction-related wages[2]	$151.5	$209.3
Excise Taxes to State [3]		
On construction	$10.8	$14.9
On spending by workforce	$3.8	$5.3
Excise taxes to City and County of Honolulu		
On construction	$1.2	$1.7
On spending by workforce [4]	$0.4	$0.6
Income taxes		
Corporate [5]	$0.5	$0.6
Personal [6]	$9.2	$12.7
Total revenues from construction spending		
State of Hawai'i	$24.3	$33.6
City and County of Honolulu	$1.6	$2.2

Notes:

All $ values are for millions of dollars.

1 In millions of 2013 dollars. Figures from earlier years escalated in line with Consumer Price Index.

2 Estimated from average industry wages, as discussed in text.

3 The State collects General Excise Tax (4%) and, on O'ahu, an additional tax for transit (0.5%). Act 247 of 2005 directs the State to retain 10% of the County surcharge for administration costs. Hence, the State share of excise taxes is 4.05% and the City and County share is 0.45%.

4 Excise tax is calculated on disposable income, estimated as 62.6% of wages (from historical spending rates).

5 Corporate income taxes estimated (from historical rates) as 0.17% of revenues (data from 2000).

6 Personal income tax estimated as 6.1% of taxable income (from 2005 data).

In sum, significant beneficial impacts on construction jobs and wages would occur with the Proposed Action construction.

Operational Impacts

The Hawai'i economy is projected to grow over the coming years, and container traffic will increase with it. Development of a new cargo yard is needed to assure efficient container operations.

With more containers in a limited space, the cost and time needed for cargo handling would increase. With limited yard space, the number of containers stacked (as opposed to on chassis) and the height of container stacks would increase. The space available to load, unload, and move containers would decrease. With higher stacks, the number of container movements in the yard would increase. For example, when a trucker comes to haul a container that has been placed in the middle of a stack, it would be necessary to remove containers stacked over it, and place them on the ground nearby, just to get to the desired container, and then restack those containers.

However, if yard space increases along with container traffic, more efficient operations can be conducted. Consequently, cargo handling activities would be more efficient and safe, as discussed below.

EMPLOYMENT. The workforce at the new terminal would include longshoremen, supervisors, maintenance staff, staff handling pick-up and drop-off of vehicles, planners, and administrators. The total workforce onsite when one ship is being loaded and unloaded could number up to 250 persons. If the volume of cargo is large enough, work could continue through two or three shifts.[28]

With two ships in port, the number of terminal workers on-site at any given time could climb to approximately 400 persons.

These numbers are presented in rounded form because the size of the workforce would depend on details of terminal design. New terminals are increasingly planned to take advantage of information systems, reducing time spent generating, checking, and correcting paperwork. Also, some administrative functions could be located off-site, either nearby or at other offices of the terminal operations company.

Since the increase in container handling jobs is due to economic growth, not due to the development of a new terminal, it is not appropriate to treat indirect and induced jobs associated with direct jobs at the terminal as impacts. Accordingly, these are not calculated here.

EFFICIENCY. The operations employment impacts of the Proposed Action, as compared to the No Action Alternative, include efficiency, cost, and safety.

With a new container yard located next to the inter-island terminal, inter-island container traffic could be offloaded onto chassis and moved directly from one yard to the other. The work could be done by longshoremen at little or no additional effort (as compared to unloading containers, then finding and readying them for pick up by truckers). Travel time between container ship and inter-island vessel would be

[28] This estimate derives from discussions with Hawaiʻi Harbor Users Group (HHUG) members in 2009 and 2010 and personal communication by Todd Iida, Terminal Operations Manager, Horizon Lines, Honolulu, June 2012.

greatly reduced. The total cost savings is estimated as growing from about $1.1 million annually in 2016 to $7.1 million in 2039.[29]

POPULATION AND HOUSING. On-site worker population and Oʻahu population and housing are evaluated below.

- **ON-SITE WORKER POPULATION.** Conversion of the Kapālama site to a container terminal would increase the average on-site population from zero (after demolition of existing warehouses) to about 250 persons. As demand increases, this number could increase. However, efforts to increase operational efficiency should tend to reduce the time that trucks spend on-site, so the number of drivers on-site at a given time would likely not increase as quickly as cargo volumes. As noted above, the number of terminal employees on-site could reach 400 when cargo from two ships is being handled.

- **OʻAHU POPULATION AND HOUSING.** Development of the Kapālama Container Terminal would have minimal consequences for employment. Hence, it would not support population change or create new demand for housing. To the extent that efficient transport of container cargo increases efficiency and lowers the cost of transporting materials, the project can help to limit increases in the cost of housing materials, and hence the cost of construction in Hawaiʻi. That impact is expected to be beneficial but not significant.

SURROUNDING COMMUNITY. At public meetings held by DOT-H, residents of the surrounding area expressed concerns about noise, traffic, and property values. The first two issues are covered in technical studies (Appendices D and C to this EIS). Socioeconomic impacts can be associated with changes in traffic condition or noise level if a project creates new irritants that impede normal social life. Based on the technical studies, no significant adverse impact on the surrounding community from traffic (section 3.5) is expected.

- **NOISE IMPACTS.** A technical study of noise impacts (see section 3.12 for detailed description of the findings) determined that sound levels are anticipated to be within the applicable State maximum permissible levels. However, sound levels at nearby residences are expected to exceed the State's maximum permissible levels for residential zones. Sound from the Proposed Action would likely be audible at nearby residences and could be the source of complaints. For these reasons, mitigation measures have been identified.

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[29] The costs are based on estimated truckers' time (at 30 minutes for a trucker to move a loaded container and an empty between Piers 51 and 40, a round-trip distance of 3.3 miles) and on diesel costs at current (May 2013) cost per gallon and an average fuel consumption of 5.3 miles/gallon). The volume involved is estimated at, on average, 700 loaded containers/week currently being trucked between these piers, with the volume increasing in proportion to total container volumes in Honolulu Harbor from 2010 to 2039.

- **REAL PROPERTY IMPACTS.** These are not anticipated. Real property values are set by City assessors on the basis of market transactions. Development of the new container terminal would not create a sale value considered in assessing nearby properties, nor would terminal operations have an adverse effect on industrial and commercial activity nearby that could affect values.
- **ENVIRONMENTAL JUSTICE.** Residents of the surrounding community include many low-income and immigrant families. The Kalihi Kai neighborhood has grown up around the harbor as an industrial area, in part dependent on the harbor. The proposed action does not change this fact, and hence no disproportionate impact on that community would arise.

ISLAND AND STATE DEVELOPMENT. The provision of container berthing and yard space to accommodate increasing cargo volumes would be beneficial for the island and state in several ways:

- First, local governments would recoup some of the cost of construction in the form of taxes on income and spending, as estimated above in Table 4-6.
- Second, development of a new container terminal would provide shippers with both space and an incentive to develop procedures that increase efficiency in the yards, and hence control the cost and time associated with their operations in the years to come.
- Third, location of the new terminal next to the interisland cargo terminal would limit or reduce costs of interisland transfers of cargo.
- Fourth, the proposed development would limit the costs of transporting goods from the pierside to consumers in Hawaiʻi. The transport costs on land could be approximately $4 per container higher with the No Action Alternative than with the Proposed Action. The Proposed Action avoids a cost that would presumably be passed on to consumers.
- Finally, development of a container terminal on the mainside of Honolulu Harbor reduces the risk of disruption to commerce if traffic across the Sand Island Bridge were interrupted by any damage to the bridge or obstruction of the roadway.

These factors all contribute to a significant socioeconomic impact of operations with the Proposed Action, i.e., a long-term beneficial increase in efficiency and consequential support for the island and state economies. No significant adverse socioeconomic impact is anticipated under the Proposed Action.

Mitigation Measures

While noise levels from the Proposed Action are anticipated to be within the State's permissible levels, mitigation measures would be needed in order to reduce audible sound at nearby residences and to minimize the likelihood of complaints. Section 3.12.1.2 identifies potential measures that could be employed to reduce noise levels at nearby residences.

Alternative Action

The Alternative Action would differ from the Proposed Action in its construction cost, construction-related economic impacts, and in the efficiency of operations.

Construction Impacts

Construction would be less expensive and would involve less labor with the Proposed Action as compared to the Alternative Action. For the Alternative Action, the estimated cost of construction comes to $369 million. At that cost, the direct construction jobs created would total 1,378 person-years; indirect and induced jobs associated with construction would number 2,315. Wages associated with construction of the Alternative Action come to $99.7 million for direct construction jobs, and $109.6 million for indirect and induced jobs.

As shown in Table 4-6, government revenues associated with construction would be larger with the Alternative Action than with the Proposed Action.

Operational Impacts

Operations at the container terminal would be the same for the Proposed Action as the Alternative Action. Thus, the operating efficiency will be the same for the Proposed and Alternative actions.

Mitigation Measures

No mitigation is required.

No Action Alternative

No change and, therefore, no construction impacts would occur under the No Action Alternative. No mitigation is required.

In the long term, under the No Action Alternative, more containers would be moved in a space that is already constrained. Without port facility improvements, the cost of doing business in the ports would increase, and the Hawaiʻi economy as a whole would need to deal with a higher cost of goods imported or exported. The results include higher costs for consumers and slower economic growth. These costs have been estimated at a system level (HHUG 2007).

The No Action Alternative involves dealing with increasing congestion in existing container yards and on the nearby highways. Table 4-7 lists the assumptions used to develop annualized estimates of these savings. The table shows the total and average annual costs over the period 2016 through 2039. The estimates are based on information from Hawai‘i commercial port experts (from discussions in 2009 and 2011), on federal standards for transportation studies, and current wage and fuel costs. The average cost associated with the No Action Alternative from 2016 through 2039 would be more than four million dollars annually. In other words, timely expansion of Honolulu's container yards would avoid this cost.

Additional costs of the No Action Alternative, not calculated here, include additional wear and tear on port equipment (leading to higher maintenance costs and shorter operating life), similar costs for trucks, and greenhouse gas emissions. All of the costs estimated here for the No Action Alternative can be considered as averted costs for the Proposed Action and Alternative Action.

4.5.2.2 Piers 24–28

Proposed Action

Construction Impacts

The total cost of proposed improvements could come to approximately $5 million. The exact amount would depend on whether new structures or renovated existing ones are used. Using the multipliers discussed above, the impact of construction at this site would come to about 19 direct jobs and would generate an additional 32 indirect and induced jobs. The wage impacts would come to a total of $2.8 million for all construction-related employment.

The State could gain approximately $457,000 from revenues associated with construction at Piers 24–28, while the City would gain a total of approximately $31,000. No significant socioeconomic impact is anticipated from construction activities at Piers 24–28.

Operational Impacts

The major socioeconomic impact associated with new operations at Piers 24–28 consists of the relocation of ship repair and maintenance closer to denser high-rise residential areas. Findings from a noise impact study by Y. Ebisu and Associates (in Appendix D and summarized in section 3.12.2) indicate that operational noise from the shipyard operation is expected to be within the applicable State maximum permissible sound levels. However, sound levels at nearby residences are expected to slightly exceed the State's nighttime maximum permissible levels for residential zones. It is unclear if the nighttime sound levels would exceed existing ambient sound levels. Because certain types of shipyard operations could cause complaints from residences in Downtown Honolulu during the nighttime and early morning periods, potential mitigation measures have been identified (see section 3.12.2.2). Once the two drydocks are repositioned at Piers 24 and 25, the entire slip area between Piers 22/23 and Piers 24/25 will be lost, except for the smallest water crafts, to grain ship operations and use as lay berths. Subsequently, the displacement of the grain ship operations to Piers 19 and/or 20 will in turn displace other vessels that otherwise would berth there. Harbor Police's small water craft is located inside the Piers 22/23 and Piers 24/25 slip area. Access for this water craft to the harbor basin may be lost without coordination between Harbor Police and the potential PSI tenant.

Mitigation Measures

No mitigation is required.

Alternative Action

Construction and operational impacts under the Alternative Action would be similar to the Proposed Action. No mitigation is required.

No Action Alternative

No change and, therefore, no impacts would occur under the No Action Alternative. No mitigation is required.

Table 4-7. Estimate of Increasing Costs of Yard Congestion With No Action Alternative

Costs of No Action are due in part to:

A. Truckers' extra wait time if containers in yard are hard to reach.
Truckers handle an estimated 87% of containers (remainder moving from container yard to barge).

$21.81	Hourly cost of drivers' time (May 2011)	
1,000,000	TEU: containers in Honolulu Harbor, 2010	
1,500,000	TEU: containers in Honolulu Harbor, 2039	
2	average TEU per truck haul	
25	minutes: increase in truckers' wait time per R/T, 2010 to 2039	
	cost, 2016 to 2039	$75,493,017

B. Cost of diesel fuel while trucks are idling (wait time discussed above)

$4.80	Current (2013) cost per gallon	
0.875	Gal per hour Fuel consumption while idling	
	cost, 2016 to 2039	$14,871,983

C. With container yards packed more densely, longshoremen will need to do additional lifts and moves from ground to chassis to get containers to truckers

25%	increase in operations, by 2039	
2	TEU per lift or move on average	
25	moves/hr in TEU (average port crane)	
3	Yard workers affected per move	
$21.73	Average wage (based on transportation workers and crane operators)	
	cost, 2016 to 2039	$6,369,018

D. With dense yards, the risk of accidents for longshoremen increases

$5,009,701	Average annual cost of accidents, Hawaii Harbor System, 2006-2008	
$5,560,142	Cost in 2011 dollars (CPI adjustment)	
350	Acreage, Hawaii Harbor System, 2007	
70	Increased usable acreage with Kapalama	
20%	reduced density, 2016	
	density reduction (with lower accident rate) disappears by 2039	
50%	Share of accidents due to/affected by dense pack conditions	
	cost, 2016 to 2039	$6,672,171
	Total calculated cost, 2016-2039	**$103,406,189**
	Average annual cost	$4,308,591

Sources

Wages: Bureau of Labor Statistics, posted average wages in Honolulu Metropolitan Statistical Area for 2013: http://www.bls.gov/oes/current/oes_26180.htm

Gas Prices: Diesel, average of price at five stations within five miles of container yards, May 30, 2013. www.honolulugasprices.com/index.aspx?fuel-D

Gas consumption: L Gaines, A Vyas and J. Anderson, "Estimation of Fuel Use by Idling Commercial Trucks." Transportation Research Board Paper no. 06-2567. www.transportation.anl.gov/pdfs/TA/373.pdf

Average lifts/hour, container ports (2002 paper; 2012 expert discussion). www.liftech.net/Publications/Cranes/Procurement%20and%20New%20Development/Quay%20Crane%20Productivity%20Paper.pdf. www.linkedin.com/groups/whats-average-crane-lifts-per-1947860.S.94487414

Cost of accidents: data provided by U.S. Department of Labor, Longshore District Office 13 (in 2009)

Relationship to Public Policies and Programs 5

CHAPTER 5 RELATIONSHIP TO PUBLIC POLICIES AND PROGRAMS

5.1 INTRODUCTION

This section addresses the compliance of the Proposed Action with applicable federal, state, and county policies and programs, notably the following:

- State law and implementing rules covering the preparation and processing of this Environmental Impact Statement (EIS).
- Federal laws and executive orders applicable to the proposed work in water.
- State of Hawaiʻi (State) plans providing overall guidance on a number of issues, as well as specific planning documents on harbor development.
- City and County of Honolulu (City) land use plans.

5.2 HAWAIʻI REVISED STATUTES CHAPTER 343

This EIS is prepared in accordance with Hawaiʻi Revised Statutes (HRS) Chapter 343 and its implementation regulations (Hawaiʻi Administrative Rules [HAR] Section 11-200). For the Kapālama project, this law is triggered by the use of State land and funds.

5.3 RELATIONSHIP TO FEDERAL LAWS AND EXECUTIVE ORDERS

While this EIS is written according to HRS Chapter 343 and its implementing rules, it is also designed to satisfy some of the expected content and consultation requirements relating to the need for a Department of the Army (DA) permit.

As the project would involve dredging and filling in harbor waters, a DA permit will be required from the U.S. Army Corps of Engineers (USACE) to comply with Section 404 of the federal Clean Water Act (CWA) and Section 10 of the federal Rivers and Harbors Appropriation Act (RHAA). Therefore, this EIS has also been prepared to provide preliminary information to USACE to facilitate review and processing of the

DA permit application, including consultations to comply with applicable federal requirements such as Section 7 of the Endangered Species Act (ESA), Essential Fish Habitat (EFH) provision of the Magnuson-Stevens Fishery Conservation and Management Act, Executive Order (EO) 13089, Coral Reef Protection, and the National Historic Preservation Act (NHPA).

5.3.1 Conformity With USACE Concerns And Expectations

The project comes under USACE jurisdiction in accordance with Section 404 of the CWA, Section 10 of the RHAA, and Section 103 of the Marine Protection, Research, and Sanctuaries Act. For work involving alteration of the federal project area, Section 408 (Section 14 of the RHAA (33 U.S. Code 408)) approval from the USACE will be required.

USACE will prepare a National Environmental Policy Act (NEPA) environmental assessment (EA) or EIS to evaluate impacts of work under federal jurisdiction. NEPA and HRS Chapter 343 requirements for EA or EIS documents are different. A Hawai‘i EA or EIS is prepared to disclose impacts as early as possible and may be based on early design concepts. A NEPA EIS is expected to be based on more detailed design documents. Consequently, it may not be completely appropriate to assess the relationship of the Proposed Action to federal laws and orders until more extensive design work has been completed. With that caveat, an initial assessment of the project's conformity with USACE's expectations can be made, recognizing that some consultations and analyses will come after the HRS Chapter 343 EIS is finalized.

5.3.2 Summary of Required Federal Approvals And Consultations

Following is a list of federal government consultations and permits that may be required (approving or administering agency in parentheses):

- NEPA
- ESA, Section 7 consultation (National marine Fisheries Service [NMFS] and U.S. Fish and Wildlife Service [USFWS])
- NHPA, Section 106 consultation (State Historic Preservation Officer)
- CWA, Section 404 permit (USACE)
- CWA, Section 401 water quality compliance (State Department of Health [DOH])
- CWA, Section 402 National Pollutant Discharge Elimination System Permit (DOH)
- Rivers and Harbors Act, Section 10 permit (USACE)
- Rivers and Harbors Act, Section 14 permit (USACE)
- Marine Protection Research and Sanctuaries Act, Section 103 permit (USACE with the Environmental Protection Agency [EPA])

- EFH consultation (NMFS)
- Navigable Airspace analysis (Federal Aviation Administration)
- National Flood Insurance Program
- Coastal Zone Management (CZM) Federal Consistency Review (State Department of Business, Economic Development and Tourism [DBEDT], Office of Planning)

In addition, various aspects of the Proposed Action may be subject to other federal requirements, including those relating to hazardous materials and waste. Mitigation measures, if required, will be identified after the Phase II Environmental Site Assessment (ESA) is completed. Depending on the nature and extent of any identified contaminants, such measures could include design and engineering methods that are made part of the Proposed Action.

5.4 HAWAIʻI STATE PLAN

The Legislature in 1978 adopted the Hawaiʻi State Planning Act (Planning Act) as HRS Chapter 226 to establish direction and provide long-range planning for the State. The Planning Act called for the creation of 12 functional plans to set specific objectives, establish policies, and implement actions for a particular field of activity.

The Legislature in 2005 under the Special Session Laws of Hawaiʻi enacted Act 8, which provided for the development of the *Hawaiʻi 2050 Sustainability Plan*. Legislators felt that with the passage of time and new challenges facing the State a thorough review of existing 30-year-old plans would be in the public interest. Legislators recognized that while many key initiatives were accomplished under the Hawaiʻi State Plan and State functional plans, they were simply outdated and needed updating. The intent, however, of the *Hawaiʻi 2050 Sustainability Plan* is not to replace existing State and County plans but to augment and complement them.

The following sections will evaluate the Action in relation to the goals and policies of the (1) Hawaiʻi State Planning Act; (2) State functional plans; and (3) the new Hawaiʻi 2050 Sustainability Plan.

DBEDT (formerly known as the Department of Planning and Economic Development) completed in 1978 a *Hawaiʻi State Plan* to: (1) improve the planning process; (2) increase the effectiveness of government and private actions; (3) improve coordination among agencies and levels of government; (4) provide for the wise use of Hawaiʻi's resources; and (5) guide the future development of the state (DPED 1978).

The Planning Act consists of a series of broad goals, objectives, and policies that serve as guidelines for future long-term growth and development. It further (1) provides a basis for determining priorities and allocating limited resources; (2) seeks to improve coordination of federal, state, and county plans, policies, programs, projects, and regulatory activities; and (3) establishes a system for plan formulation and program coordination to provide for an integration of all major state and county activities.

The Planning Act is divided into three sections: Part I—Overall Theme, Goals, Objectives and Policies; Part II–Planning Coordination and Implementation; and Part III–Priority Guidelines. Part I of the Planning Act consists of three overall themes: (1) individual and family self-sufficiency; (2) social and economic mobility; and (3) community or social well-being. These themes are considered "basic functions of society" and goals toward which government must strive (HRS §226-3).

Part II of the Planning Act primarily addresses internal government policies to help streamline, coordinate, and implement various plans and processes between governmental agencies. It seeks to eliminate or consolidate burdensome or duplicative governmental requirements imposed on business, where public health, safety, and welfare would not be adversely affected.

Part III of the Planning Act establishes overall priority guidelines to address areas of statewide concern (HRS §226-101). The overall direction and focus are on improving the quality of life for Hawai'i's present and future population through the pursuit of desirable courses of action (HRS §226-102).

Table 5-1and Table 5-2 (which starts on page 5-15) present Parts I and III of the Planning Act, and evaluate the Action's conformance to the State's goals and objectives. Part II is not presented, as that section primarily pertains to internal government affairs. Certain sections within Parts I and III that do not pertain to the subject Action have been omitted.

Table 5-1. Hawai'i State Plan – HRS Chapter 226, Part I

SECTION	CHAPTER 226 - PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES	RATING
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE		
226-1	Findings and purpose.	
226-2	Definitions.	
226-3	Overall Theme.	
226-4	State Goals. In order to guarantee, for present and future generations, those elements of choice and mobility that insure that individuals and groups may approach their desired levels of self-reliance and self-determination, it shall be the goal of the State to achieve:	
(1)	A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawai'i's present and future generations.	A

Table 5-1. Hawai'i State Plan – HRS Chapter 226, Part I

SECTION	CHAPTER 226 - PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES	RATING
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE		
(2)	A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well being of the people.	C
(3)	Physical, social, and economic well being, for individuals and families in Hawai'i, that nourishes a sense of community responsibility, of caring, and of participation in community life.	A
CONFORMANCE DETERMINATION: The action appears to fully support HRS Section 226-4 since development of the container yard will enable and encourage economic activity and growth.		
226-5	OBJECTIVE AND POLICIES FOR POPULATION	
(a)	It shall be the objective in planning for the State's population to guide population growth to be consistent with the achievement of physical, economic, and social objectives contained in this chapter;	
(b)	To achieve the population objective, it shall be the policy of this State to:	
(1)	Manage population growth statewide in a manner that provides increased opportunities for Hawai'i's people to pursue their physical, social, and economic aspirations while recognizing the unique needs of each county.	C
(2)	Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires.	C
(3)	Promote increased opportunities for Hawai'i's people to pursue their socio-economic aspirations throughout the islands.	A
(4)	Encourage research activities and public awareness programs to foster an understanding of Hawai'i's limited capacity to accommodate population needs and to address concerns resulting from an increase in Hawai'i's population.	NA
(5)	Encourage federal actions and coordination among major governmental agencies to promote a more balanced distribution of immigrants among the states, provided that such actions do not prevent the reunion of immediate family members.	NA
(6)	Pursue an increase in federal assistance for states with a greater proportion of foreign immigrants relative to their state's population.	NA
(7)	Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.	NA
CONFORMANCE DETERMINATION: Development of additional container yard space in Honolulu Harbor will encourage economic growth and will help control costs of inter-island transshipment.		
226-6	OBJECTIVES AND POLICIES FOR THE ECONOMY - IN GENERAL.	
(a)	Planning for the State's economy in general shall be directed toward achievement of the following objectives:	
(1)	Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai'i's people.	C
(2)	A steadily growing and diversified economic base that is not overly dependent on a few industries, and includes the development and expansion of industries on the neighbor islands.	A
(b)	To achieve the general economic objectives, it shall be the policy of this State to:	

Table 5-1. Hawaiʻi State Plan – HRS Chapter 226, Part I

SECTION	CHAPTER 226 - PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES	RATING
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(1)	Expand Hawaiʻi's national and international marketing, communication, and organizational ties, to increase the State's capacity to adjust to and capitalize upon economic changes and opportunities occurring outside the State.	C
(2)	Promote Hawaiʻi as an attractive market for environmentally and socially sound investment activities that benefit Hawaiʻi's people.	C
(3)	Seek broader outlets for new or expanded Hawaiʻi business investments.	C
(4)	Expand existing markets and penetrate new markets for Hawaiʻi's products and services.	A
(5)	Assure that the basic economic needs of Hawaiʻi's people are maintained in the event of disruptions in overseas transportation.	A
(6)	Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.	C
(7)	Encourage the formation of cooperatives and other favorable marketing arrangements at the local or regional level to assist Hawaiʻi's small-scale producers, manufacturers, and distributors.	A
(8)	Encourage labor-intensive activities that are economically satisfying and which offer opportunities for upward mobility.	C
(9)	Foster greater cooperation and coordination between the government and private sectors in developing Hawaiʻi's employment and economic growth opportunities.	A
(10)	Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.	C
(11)	Maintain acceptable working conditions and standards for Hawaiʻi's workers.	C
(13)	Provide equal employment opportunities for all segments of Hawaiʻi's population through affirmative action and nondiscrimination measures.	C
(14)	Encourage businesses that have favorable financial multiplier effects within Hawaiʻi's economy.	C
(15)	Promote and protect intangible resources in Hawaiʻi, such as scenic beauty and the aloha spirit, which are vital to a healthy economy.	C
(16)	Increase effective communication between the educational community and the private sector to develop relevant curricula and training programs to meet future employment needs in general, and requirements of new, potential growth industries in particular.	C
(17)	Foster a business climate in Hawaiʻi - including attitudes, tax and regulatory policies, and financial and technical assistance programs - that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry.	C
CONFORMANCE DETERMINATION: The action supports orderly development of Hawaiʻi's industries.		
226-7	OBJECTIVES AND POLICIES FOR THE ECONOMY - AGRICULTURE	
(a)	Planning for the State's economy with regard to agriculture shall be directed towards achievement of the following objectives:	
(1)	Viability of Hawaiʻi's sugar and pineapple industries.	NA
(2)	Growth and development of diversified agriculture throughout the State.	A

Table 5-1. Hawaiʻi State Plan – HRS Chapter 226, Part I

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(3)	An agriculture industry that continues to constitute a dynamic and essential component of Hawaiʻi's strategic, economic, and social well-being.	A
(b)	To achieve the agriculture objectives, it shall be the policy of this State to:	
(1)	Establish a clear direction for Hawaiʻi's agriculture through stakeholder commitment and advocacy.	A
(2)	Encourage agriculture by making best use of natural resources.	C
(3)	Provide the governor and the legislature with information and options needed for prudent decision making for the development of agriculture.	NA
(4)	Establish strong relationships between the agricultural and visitor industries for mutual marketing benefits.	NA
(5)	Foster increased public awareness and understanding of the contributions and benefits of agriculture as a major sector of Hawaiʻi's economy.	NA
(6)	Seek the enactment and retention of federal and state legislation that benefits Hawaiʻi's agricultural industries.	NA
(7)	Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawaiʻi's producers and consumer markets locally, on the continental United States, and internationally.	C
(8)	Support research and development activities that provide greater efficiency and economic productivity in agriculture.	NA
(9)	Enhance agricultural growth by providing public incentives and encouraging private initiatives.	NA
(10)	Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.	NA
(11)	Increase the attractiveness and opportunities for an agricultural education and livelihood.	C
(12)	Expand Hawaiʻi's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.	C
(13)	Promote economically competitive activities that increase Hawaiʻi's agricultural self-sufficiency.	C
(14)	Promote and assist in the establishment of sound financial programs for diversified agriculture.	NA
(15)	Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.	NA
(16)	Facilitate the transition of agricultural lands in economically nonfeasible agricultural production to economically viable agricultural uses.	NA
CONFORMANCE DETERMINATION: The action supports orderly development of Hawaiʻi's industries		

Table 5-1. Hawaiʻi State Plan – HRS Chapter 226, Part I

SECTION	CHAPTER 226 - PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES	RATING
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226-8	OBJECTIVE AND POLICIES FOR THE ECONOMY - VISITOR INDUSTRY.	
(a)	Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawaiʻi's economy.	
(b)	To achieve the visitor industry objective, it shall be the policy of this State to:	
(1)	Support and assist in the promotion of Hawaiʻi's visitor attractions and facilities.	A
(2)	Insure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawaiʻi's people.	C
(3)	Improve the quality of existing visitor destination areas.	NA
(4)	Encourage cooperation and coordination between the government and private sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.	NA
(5)	Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawaiʻi's people.	NA
(6)	Provide opportunities for Hawaiʻi's people to obtain job training and education that will allow for upward mobility within the visitor industry.	NA
(7)	Foster a recognition of the contribution of the visitor industry to Hawaiʻi's economy and the need to perpetuate the aloha spirit.	C
(8)	Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawaiʻi's cultures and values.	C
CONFORMANCE DETERMINATION: The action appears to support the goals of HRS Section 226-8 by encouraging the orderly development of container facilities serving Oʻahu and supporting inter-island shipments.		
226-9	OBJECTIVE AND POLICIES FOR THE ECONOMY – FEDERAL EXPENDITURES.	
(a)	Planning for the State's economy with regard to federal expenditures shall be directed towards achievement of the objective of a stable federal investment base as an integral component of Hawaiʻi's economy;	
(b)	To achieve the federal expenditures objective, it shall be the policy of this State to:	
(1)	Encourage the sustained flow of federal expenditures in Hawaiʻi that generates long-term government civilian employment.	NA
(2)	Promote Hawaiʻi's supportive role in national defense.	C
(3)	Promote the development of federally supported activities in Hawaiʻi that respect state-wide economic concerns, are sensitive to community needs, and minimize adverse impacts on Hawaiʻi's environment.	C
(4)	Increase opportunities for entry and advancement of Hawaiʻi's people into federal government service.	NA
(5)	Promote federal use of local commodities, services, and facilities available in Hawaiʻi.	C
(6)	Strengthen federal-state-county communication and coordination in all federal activities that affect Hawaiʻi.	NA

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(7)	Pursue the return of federally controlled lands in Hawaiʻi that are not required for either the defense of the nation or for other purposes of national importance, and promote the mutually beneficial exchanges of land between federal agencies, the State, and the counties.	NA
CONFORMANCE DETERMINATION: Federal agencies, including the military branches, depend on Honolulu's container terminals for supplies and equipment. Development of container yards helps to control transshipment costs to and from the Neighbor Islands, and hence makes products from all of Hawaiʻi as well as overseas available for federal purchasers.		
226-10	OBJECTIVE AND POLICIES FOR THE ECONOMY – POTENTIAL GROWTH ACTIVITIES.	
(a)	Planning for the State's economy with regard to potential growth activities shall be directed towards achievement of the objective of development and expansion of potential growth activities that serve to increase and diversify Hawaiʻi's economic base.	
(b)	To achieve the potential growth activity objective, it shall be the policy of this State to:	
(1)	Facilitate investment and employment in economic activities that have the potential for growth such as diversified agriculture, aquaculture, apparel and textile manufacturing, film and television production, and energy and marine-related industries.	A
(2)	Expand Hawaiʻi's capacity to attract and service international programs and activities that generate employment for Hawaiʻi's people.	NA
(3)	Enhance and promote Hawaiʻi's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts.	NA
(4)	Accelerate research and development of new energy- related industries based on wind, solar, ocean, and underground resources and solid waste.	NA
(5)	Promote Hawaiʻi's geographic, environmental, social, and technological advantages to attract new economic activities into the State.	NA
(6)	Provide public incentives and encourage private initiative to attract new industries that best support Hawaiʻi's social, economic, physical, and environmental objectives.	A
(7)	Increase research and the development of ocean-related economic activities such as mining, food production, and scientific research.	NA
(8)	Develop, promote, and support research and educational and training programs that will enhance Hawaiʻi's ability to attract and develop economic activities of benefit to Hawaiʻi.	NA
(9)	Foster a broader public recognition and understanding of the potential benefits of new, growth-oriented industry in Hawaiʻi.	C
(10)	Encourage the development and implementation of joint federal and state initiatives to attract federal programs and projects that will support Hawaiʻi's social, economic, physical, and environmental objectives.	NA
(11)	Increase research and development of businesses and services in the telecommunications and information industries.	NA
CONFORMANCE DETERMINATION: Development of additional container yard space in Honolulu Harbor will encourage economic growth and will help control costs of inter-island transshipment.		

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226-10.5	OBJECTIVES AND POLICIES FOR THE ECONOMY – INFORMATION INDUSTRY.	Omitted
226-11	OBJECTIVES AND POLICIES FOR THE PHYSICAL ENVIRONMENT – LANDBASED, SHORELINE, AND MARINE RESOURCES.	
(a)	Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:	
(1)	Prudent use of Hawai'i's land-based, shoreline, and marine resources.	A
(2)	Effective protection of Hawai'i's unique and fragile environmental resources.	C
(b)	To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:	
(1)	Exercise an overall conservation ethic in the use of Hawai'i's natural resources.	C
(2)	Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.	C
(3)	Take into account the physical attributes of areas when planning and designing activities and facilities.	C
(4)	Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.	C
(5)	Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.	NA
(6)	Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai'i.	C
(7)	Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.	C
(8)	Pursue compatible relationships among activities, facilities, and natural resources.	C
(9)	Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.	A
CONFORMANCE DETERMINATION: Development of additional container yard space in Honolulu Harbor will encourage economic growth and will help control costs of inter-island transshipment. The proposed container yard will be built following best practices for environmental impact management.		
226-12	OBJECTIVE AND POLICIES FOR THE PHYSICAL ENVIRONMENT – SCENIC, NATURAL BEAUTY, AND HISTORIC RESOURCES.	
(a)	Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawai'i's scenic assets, natural beauty, and multi-cultural/historical resources.	C
(b)	To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to:	
(1)	Promote the preservation and restoration of significant natural and historic resources.	C
(2)	Provide incentives to maintain and enhance historic, cultural, and scenic amenities.	NA

Table 5-1. Hawai'i State Plan – HRS Chapter 226, Part I

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(3)	Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.	NA
(4)	Protect those special areas, structures, and elements that are an integral and functional part of Hawai'i's ethnic and cultural heritage.	C
(5)	Encourage the design of developments and activities that complement the natural beauty of the islands.	C
CONFORMANCE DETERMINATION: Development of additional container yard space in Honolulu Harbor will encourage economic growth and will help control costs of inter-island transshipment.		
226-13	OBJECTIVES AND POLICIES FOR THE PHYSICAL ENVIRONMENT – LAND, AIR, AND WATER QUALITY.	
(a)	Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives:	
(1)	Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources.	A
(2)	Greater public awareness and appreciation of Hawai'i's environmental resources.	C
(b)	To achieve the land, air, and water quality objectives, it shall be the policy of this State to:	
(1)	Foster educational activities that promote a better understanding of Hawai'i's limited environmental resources.	C
(2)	Promote the proper management of Hawai'i's land and water resources.	A
(3)	Promote effective measures to achieve desired quality in Hawai'i's surface, ground, and coastal waters.	A
(4)	Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai'i's people.	C
(5)	Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.	NA
(6)	Encourage design and construction practices that enhance the physical qualities of Hawai'i's communities.	NA
(7)	Encourage urban developments in close proximity to existing services and facilities.	NA
(8)	Foster recognition of the importance and value of the land, air, and water resources to Hawai'i's people, their cultures and visitors.	C
CONFORMANCE DETERMINATION: Development of additional container yard space in Honolulu Harbor will encourage economic growth and will help control costs of inter-island transshipment.		
226-14	OBJECTIVE AND POLICIES FOR FACILITY SYSTEMS – IN GENERAL.	
(a)	Planning for the State's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.	A
(b)	To achieve the general facility systems objective, it shall be the policy of this State to:	
(1)	Accommodate the needs of Hawai'i's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.	A

Table 5-1. Hawai'i State Plan – HRS Chapter 226, Part I

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(2)	Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.	C
(3)	Ensure that required facility systems can be supported within resource capacities and at reasonable cost to the user.	C
(4)	Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.	C
CONFORMANCE DETERMINATION: Development of additional container yard space in Honolulu Harbor will encourage economic growth and will help control costs of inter-island transshipment.		
226-15	OBJECTIVE AND POLICIES FOR FACILITY SYSTEMS -- IN GENERAL.	NA
226-16	OBJECTIVE AND POLICIES FOR FACILITY SYSTEMS – WATER.	NA
226-17	OBJECTIVES AND POLICIES FOR FACILITY SYSTEMS – TRANSPORTATION.	
(a)	Planning for the State's facility systems with regard to transportation shall be directed towards the achievement of the following objectives:	
(1)	An integrated multi-modal transportation system that services statewide needs and promotes the efficient, economical, safe, and convenient movement of people and goods.	A
(2)	A statewide transportation system that is consistent with and will accommodate planned growth objectives throughout the State.	A
(b)	To achieve the transportation objectives, it shall be the policy of this State to:	
(1)	Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter;	A
(2)	Coordinate state, county, federal, and private transportation activities and programs toward the achievement of statewide objectives;	A
(3)	Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties;	A
(4)	Provide for improved accessibility to shipping, docking, and storage facilities;	A
(5)	Promote a reasonable level and variety of mass transportation services that adequately meet statewide and community needs;	A
(6)	Encourage transportation systems that serve to accommodate present and future development needs of communities;	A
(7)	Encourage a variety of carriers to offer increased opportunities and advantages to inter-island movement of people and goods;	A
(8)	Increase the capacities of airport and harbor systems and support facilities to effectively accommodate transshipment and storage needs;	A
(9)	Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification;	A
(10)	Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawai'i's natural environment;	C

Table 5-1. Hawai'i State Plan – HRS Chapter 226, Part I

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(11)	Encourage safe and convenient use of low-cost, energy-efficient, non-polluting means of transportation;	C
(12)	Coordinate intergovernmental land use and transportation planning activities to ensure the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives; and	A
(13)	Encourage diversification of transportation modes and infrastructure to promote alternate fuels and energy efficiency.	NA
CONFORMANCE DETERMINATION: CONFORMANCE DETERMINATION: Development of additional container yard space in Honolulu Harbor will encourage economic growth and will help control costs of inter-island transshipment.		
226-18	OBJECTIVES AND POLICIES FOR FACILITY SYSTEMS – ENERGY	
(a)	Planning for the State's facility systems with regard to energy shall be directed toward the achievement of the following objectives, giving due consideration to all	
(1)	Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;	NA
(2)	Increased energy self-sufficiency where the ratio of indigenous to imported energy use is increased;	NA
(3)	Greater energy security in the face of threats to Hawai'i's energy supplies and systems; and	NA
(4)	Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use.	NA
(b)	To achieve the energy objectives, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable energy services to accommodate demand.	NA
(c)	To further achieve the energy objectives, it shall be the policy of this State to:	
(1)	Support research and development as well as promote the use of renewable energy sources;	NA
(2)	Ensure that the combination of energy supplies and energy-saving systems is sufficient to support the demands of growth;	NA
(3)	Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits;	NA
(4)	Promote all cost-effective conservation of power and fuel supplies through measures including: (A) Development of cost-effective demand-side management programs; (B) Education; and (C) Adoption of energy efficient practices and technologies;	C
(5)	Ensure to the extent that new supply-side resources are needed, the development or expansion of energy systems utilizes the least-cost energy supply option and maximizes efficient technologies;	C
(6)	Support research, development, and demonstration of energy efficiency, load management, and other demand-side management programs, practices, and technologies;	NA
(7)	Promote alternate fuels and energy efficiency by encouraging diversification of transportation modes and infrastructure;	NA

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(8)	Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications; and	C
(9)	Support actions that reduce, avoid, or sequester Hawai'i's greenhouse gas emissions through agriculture and forestry initiatives.	NA
CONFORMANCE DETERMINATION: The development of new harbor-oriented infrastructure has a negligible impact on the demand side of energy and no impact on the supply side. However, development of additional container yard space in Honolulu Harbor that will encourage economic growth and will help control costs of inter-island trans-shipment.is consistent with the intent of the Energy Functional Plan.		
226-18.5	OBJECTIVES AND POLICIES FOR FACILITY SYSTEMS – TELECOMMUNICATIONS.	NA
226-19	OBJECTIVES AND POLICIES FOR SOCIO – CULTURAL ADVANCEMENT – HOUSING.	NA
226-20	OBJECTIVES AND POLICIES FOR SOCIO – CULTURAL ADVANCEMENT – HEALTH.	NA
226-21	OBJECTIVE AND POLICIES FOR SOCIO–CULTURAL ADVANCEMENT – EDUCATION.	NA
226-23	OBJECTIVE AND POLICIES FOR SOCIO-CULTURAL ADVANCEMENT – LEISURE.	NA
226-24	OBJECTIVE AND POLICIES FOR SOCIO-CULTURAL ADVANCEMENT – INDIVIDUAL RIGHTS AND PERSONAL WELL-BEING.	NA
226-25	OBJECTIVE AND POLICIES FOR SOCIO – CULTURAL ADVANCEMENT – CULTURE.	NA
226-26	SECTION 226-26 OBJECTIVES AND POLICIES FOR SOCIO – CULTURAL ADVANCEMENT – PUBLIC SAFETY.	
(a)	Planning for the State's socio-cultural advancement with regard to public safety shall be directed towards the achievement of the following objectives:	
(1)	Assurance of public safety and adequate protection of life and property for all people.	C
(2)	Optimum organizational readiness and capability in all phases of emergency management to maintain the strength, resources, and social and economic well-being of the community in the event of civil disruptions, wars, natural disasters, and other major disturbances.	C
(3)	Promotion of a sense of community responsibility for the welfare and safety of Hawai'i's people.	NA
(b)	To achieve the public safety objectives, it shall be the policy of this State to:	
(1)	Ensure that public safety programs are effective and responsive to community needs.	NA
(2)	Encourage increased community awareness and participation in public safety programs.	NA
(c)	To further achieve public safety objectives related to criminal justice, it shall be the policy of this State to:	
(1)	Support criminal justice programs aimed at preventing and curtailing criminal activities.	NA
(2)	Develop a coordinated, systematic approach to criminal justice administration among all criminal justice agencies.	NA
(3)	Provide a range of correctional resources which may include facilities and alternatives to traditional incarceration in order to address the varied security needs of the community and successfully reintegrate offenders into the community.	NA

Table 5-1. Hawai'i State Plan – HRS Chapter 226, Part I

SECTION	CHAPTER 226 - PART I. OVERALL THEME, GOALS, OBJECTIVES AND POLICIES	RATING
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(d)	To further achieve public safety objectives related to emergency management, it shall be the policy of this State to:	
(1)	Ensure that responsible organizations are in a proper state of readiness to respond to major war-related, natural, or technological disasters and civil disturbances at all times.	NA
(2)	Enhance the coordination between emergency management programs throughout the State.	NA
CONFORMANCE DETERMINATION: Orderly development of capacity for handling container freight promotes efficient means of moving supplies and equipment inter-island during times of crises or emergency.		
226-27	OBJECTIVES AND POLICIES FOR SOCIO-CULTURAL ADVANCEMENT – GOVERNMENT.	NA

Table 5-2. Hawai'i State Plan – HRS Chapter 226, Part III

SECTION	CHAPTER 226 - PART III. PRIORITY GUIDELINES	RATING
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE		
226-101	Establishes overall priority guidelines to address areas of statewide concern.	
226-102	Overall direction. The State shall strive to improve the quality of life for Hawai'i's present and future population through the pursuit of desirable courses of action in five major areas of statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice, and quality education.	A
226-103	ECONOMIC PRIORITY GUIDELINES	
(a)	Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawai'i's people and achieve a stable and diversified economy:	A
(1)	Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.	A
(A)	Encourage investments which:	
(i)	Reflect long term commitments to the State;	C
(ii)	Rely on economic linkages within the local economy;	A
(iii)	Diversify the economy;	A
(iv)	Reinvest in the local economy;	C
(v)	Are sensitive to community needs and priorities; and	
(vi)	Demonstrate a commitment to provide management opportunities to Hawai'i residents.	NA
(2)	Encourage the expansion of technological research to assist industry development and support the development and commercialization of technological advancements.	NA

Table 5-2. Hawai'i State Plan – HRS Chapter 226, Part III

SECTION	CHAPTER 226 - PART III. PRIORITY GUIDELINES	RATING
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE		
(3)	Improve the quality, accessibility, and range of services provided by government to business, including data and reference services and assistance in complying with governmental regulations.	NA
(4)	Seek to ensure that state business tax and labor laws and administrative policies are equitable, rational, and predictable.	NA
(5)	Streamline the building and development permit and review process, and eliminate or consolidate other burdensome or duplicative governmental requirements imposed on business, where public health, safety and welfare would not be adversely affected.	NA
(6)	Encourage the formation of cooperatives and other favorable marketing or distribution arrangements at the regional or local level to assist Hawai'i's small-scale producers, manufacturers, and distributors.	NA
(7)	Continue to seek legislation to protect Hawai'i from transportation interruptions between Hawai'i and the continental United States.	NA
(8)	Provide public incentives and encourage private initiative to develop and attract industries which promise long-term growth potentials and which have the following characteristics:	NA
(A)	An industry that can take advantage of Hawai'i's unique location and available physical and human resources.	A
(B)	A clean industry that would have minimal adverse effects on Hawai'i's environment.	C
(C)	An industry that is willing to hire and train Hawai'i's people to meet the industry's labor needs at all levels of employment.	C
(D)	An industry that would provide reasonable income and steady employment.	C
(9)	Support and encourage, through educational and technical assistance programs and other means, expanded opportunities for employee ownership and participation in Hawai'i business.	NA
(10)	Enhance the quality of Hawai'i's labor force and develop and maintain career opportunities for Hawai'i's people through the following actions:	
(A)	Expand vocational training in diversified agriculture, aquaculture, information industry, and other areas where growth is desired and feasible.	NA
(B)	Encourage more effective career counseling and guidance in high schools and post-secondary institutions to inform students of present and future career opportunities.	NA
(C)	Allocate educational resources to career areas where high employment is expected and where growth of new industries is desired.	NA
(D)	Promote career opportunities in all industries for Hawai'i's people by encouraging firms doing business in the State to hire residents.	NA
(E)	Promote greater public and private sector cooperation in determining industrial training needs and in developing relevant curricula and on-the-job training opportunities.	NA
(F)	Provide retraining programs and other support services to assist entry of displaced workers into alternative employment.	NA
(b)	Priority guidelines to promote the economic health and quality of the visitor industry:	

Table 5-2. Hawai‘i State Plan – HRS Chapter 226, Part III

SECTION	CHAPTER 226 - PART III. PRIORITY GUIDELINES	RATING
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE		
(1)	Promote visitor satisfaction by fostering an environment which enhances the aloha spirit and minimizes inconveniences to Hawai‘i's residents and visitors.	C
(2)	Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access.	NA
(3)	Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair, and maintenance of visitor facilities.	NA
(4)	Encourage visitor industry practices and activities which respect, preserve, and enhance Hawai‘i's significant natural, scenic, historic, and cultural resources.	NA
(5)	Develop and maintain career opportunities in the visitor industry for Hawai‘i's people, with emphasis on managerial positions.	NA
(6)	Support and coordinate tourism promotion abroad to enhance Hawai‘i's share of existing and potential visitor markets.	NA
(7)	Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.	NA
(8)	Support law enforcement activities that provide a safer environment for both visitors and residents alike.	NA
(9)	Coordinate visitor industry activities and promotions to business visitors through the state network of advanced data communication techniques.	NA
(c)	Priority guidelines to promote the continued viability of the sugar and pineapple industries:	
(1)	Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries.	NA
(2)	Continue efforts to maintain federal support to provide stable sugar prices high enough to allow profitable operations in Hawai‘i.	NA
(3)	Support research and development, as appropriate, to improve the quality and production of sugar and pineapple crops.	NA
(d)	Priority guidelines to promote the growth and development of diversified agriculture and aquaculture:	
(1)	Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.	NA
(2)	Assist in providing adequate, reasonably priced water for agricultural activities.	NA
(3)	Encourage public and private investment to increase water supply and to improve transmission, storage, and irrigation facilities in support of diversified agriculture and aquaculture.	NA
(4)	Assist in the formation and operation of production and marketing associations and cooperatives to reduce production and marketing costs.	NA
(5)	Encourage and assist with the development of a waterborne and airborne freight and cargo system capable of meeting the needs of Hawai‘i's agricultural community.	A

Table 5-2. Hawai‘i State Plan – HRS Chapter 226, Part III

SECTION	CHAPTER 226 - PART III. PRIORITY GUIDELINES	RATING
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE		
(6)	Seek favorable freight rates for Hawai‘i's agricultural products from inter-island and overseas transportation operators.	NA
(7)	Encourage the development and expansion of agricultural and aquacultural activities which offer long-term economic growth potential and employment opportunities.	C
(8)	Continue the development of agricultural parks and other programs to assist small independent farmers in securing agricultural lands and loans.	NA
(9)	Require agricultural uses in agricultural subdivisions and closely monitor the uses in these subdivisions.	NA
(10)	Support the continuation of land currently in use for diversified agriculture.	NA
(e)	Priority guidelines for water use and development:	
(1)	Maintain and improve water conservation programs to reduce the overall water consumption rate.	NA
(2)	Encourage the improvement of irrigation technology and promote the use of nonpotable water for agricultural and landscaping purposes.	NA
(3)	Increase the support for research and development of economically feasible alternative water sources.	NA
(4)	Explore alternative funding sources and approaches to support future water development programs and water system improvements.	NA
(f)	Priority guidelines for energy use and development:	
(1)	Encourage the development, demonstration, and commercialization of renewable energy sources.	NA
(2)	Initiate, maintain, and improve energy conservation programs aimed at reducing energy waste and increasing public awareness of the need to conserve energy.	NA
(3)	Provide incentives to encourage the use of energy conserving technology in residential, industrial, and other buildings.	NA
(4)	Encourage the development and use of energy conserving and cost-efficient transportation systems.	C
(g)	Priority guidelines to promote the development of the information industry:	
(1)	Establish an information network that will serve as the catalyst for establishing a viable information industry in Hawai‘i.	NA
(2)	Encourage the development of services such as financial data processing, products and services exchange, foreign language translations, telemarketing, teleconferencing, a twenty-four-hour international stock exchange, international banking, and a Pacific Rim management center.	NA
(3)	Encourage the development of small businesses in the information field such as software development, the development of new information systems and peripherals, data conversion and data entry services, and home or cottage services such as computer programming, secretarial, and accounting services.	NA
(4)	Encourage the development or expansion of educational and training opportunities for residents in the information and telecommunications fields.	NA

Table 5-2. Hawai‘i State Plan – HRS Chapter 226, Part III

SECTION	CHAPTER 226 - PART III. PRIORITY GUIDELINES	RATING
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE		
(5)	Encourage research activities, including legal research in the information and telecommunications fields.	NA
(6)	Support promotional activities to market Hawai‘i's information industry services.	NA
226-104	POPULATION GROWTH AND LAND RESOURCES PRIORITY GUIDELINES.	
(a)	Priority guidelines to effect desired statewide growth and distribution:	
(1)	Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawai‘i's people.	NA
(2)	Manage a growth rate for Hawai‘i's economy that will parallel future employment needs for Hawai‘i's people.	NA
(3)	Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State.	NA
(4)	Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate.	NA
(5)	Explore the possibility of making available urban land, low-interest loans, and housing subsidies to encourage the provision of housing to support selective economic and population growth on the neighbor islands.	NA
(6)	Seek federal funds and other funding sources outside the State for research, program development, and training to provide future employment opportunities on the neighbor islands.	NA
(7)	Support the development of high technology parks on the neighbor islands.	NA
(b)	Priority guidelines for regional growth distribution and land resource utilization:	
(1)	Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.	NA
(2)	Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.	NA
(3)	Restrict development when drafting of water would result in exceeding the sustainable yield or in significantly diminishing the recharge capacity of any groundwater area.	NA
(4)	Encourage restriction of new urban development in areas where water is insufficient from any source for both agricultural and domestic use.	NA
(5)	In order to preserve green belts, give priority to state capital-improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a noncontiguous new urban core.	NA
(6)	Seek participation from the private sector for the cost of building infrastructure and utilities, and maintaining open spaces.	NA
(7)	Pursue rehabilitation of appropriate urban areas.	NA
(8)	Support the redevelopment of Kaka‘ako into a viable residential, industrial, and commercial community.	NA

Table 5-2. Hawai'i State Plan – HRS Chapter 226, Part III

SECTION	CHAPTER 226 - PART III. PRIORITY GUIDELINES	RATING
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE		
(9)	Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized.	NA
(10)	Identify critical environmental areas in Hawai'i to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreational shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources.	NA
(11)	Identify all areas where priority should be given to preserving rural character and lifestyle.	NA
(12)	Utilize Hawai'i's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations.	NA
(13)	Protect and enhance Hawai'i's shoreline, open spaces, and scenic resources.	NA
226-105	CRIME AND CRIMINAL JUSTICE. PRIORITY GUIDELINES IN THE AREA OF CRIME AND CRIMINAL JUSTICE.	NA
226-106	AFFORDABLE HOUSING. PRIORITY GUIDELINES FOR THE PROVISION OF AFFORDABLE HOUSING.	NA
226-107	QUALITY EDUCATION. PRIORITY GUIDELINES TO PROMOTE QUALITY EDUCATION.	NA

5.5 HAWAI'I CLIMATE CHANGE INITIATIVE: ACT 286 OF 2012

The State of Hawai'i recognizes the importance of climate change. Act 286 of 2012 amended the State Planning Law (HRS Chapter 226) to include climate change adaptation as one of seven areas of statewide concern crucial to the quality of life. Ten priority guidelines were adopted. These deal with outreach, stewardship, monitoring and the development of knowledge and strategies that integrate climate change adaptation into state activities. Two are especially relevant to the present action:

> (5) Encourage the preservation and restoration of natural landscape features, such as coral reefs, beaches and dunes, forests, streams, floodplains, and wetlands, that have the inherent capacity to avoid, minimize, or mitigate the impacts of climate change.
>
> (6) Explore adaptation strategies that moderate harm or exploit beneficial opportunities in response to actual or expected climate change impacts to the natural and built environments.

Development of the container terminal would involve the removal of some corals that have grown in the harbor. This loss will be mitigated, with the specific mitigation identified in consultation with federal resource agencies in the course of application for a USACE permit. The Proposed Action would conform to goal (5).

Development of a new container terminal on the island of O‘ahu, rather than Sand Island, would reduce dependence on the Sand Island Access Road and bridge, and hence lower the risk of harm to the island economy and environment that could result from any impacts of climate change on that vulnerable link. Development of the terminal hence actively supports goal (6).

5.6 STATE FUNCTIONAL PLANS

The Planning Act called for the creation of functional plans to set specific objectives, establish policies, and implement actions for a particular field of activity. These functional plans further identified those organizations responsible for carrying out the actions, the implementing timeframe, and the proposed budgets. The specific areas covered by the functional plans include (1) agriculture, (2) conservation lands, (3) education and higher education (4) employment, (5) energy, (6) health, (7) historic preservation, (8) housing, (9) human services, (10) recreation, (11) tourism, (12) transportation, and (13) water resource development.

The functional plans directly relevant to the Department of Transportation, Harbors Division's (DOT-H's) action for commercial harbor improvements are discussed in the following sections. It is important to note that while these plans are considered to be the current "official" State functional plans, they were last updated in 1990 and 1991. Hence, a deviation from the original goals of the plan may have occurred due to local, national, or world events or other unforeseeable factors.

5.6.1 State Agricultural Functional Plan (1991)

Goals of the Plan

The *State Agricultural Functional Plan* seeks to ultimately increase the overall level of agricultural development in Hawai‘i. At the time the plan was written, the two fundamental objectives were to (1) ensure the continued viability of Hawai‘i's sugar and pineapple industries, and (2) encourage the continued growth and development of diversified agriculture throughout the State. Diversified agriculture has helped to partially offset declines in sugar and pineapple. The total value of crop and livestock sales reached a total of $595 million, exceeding for the first time the level reached in 1990 (DBEDT 2010). Currently, seed crops account for more than $200 million of that total.

The functional plan for agriculture also set objectives to develop capabilities to convert Hawai‘i-grown crops into potential new value/added products for the local community, visitor industry, and export markets. The goal was to promote and develop a diverse range of products and programs focusing on niche marketing, such as ag-tourism, and to assist in the development of diversified agriculture.

Conformance with the Goals of the Plan
The current action will support the continuing movement of agricultural supplies and product by assuring adequate space for cargo to or from overseas and by making transshipment of cargo between overseas and inter-island carriers more efficient.

5.6.2 State Conservation Functional Plan (1991)

Goals of the Plan
The *State Conservation Lands Functional Plan* addresses the impacts of population growth and economic development on Hawai‘i's natural environment and provides a framework for the protection and preservation of former forest reserves, shorelines, and submerged lands. The objective of the plan is to provide for a management program allowing the judicious use of the State's natural resources balanced with the need to protect them. The State's Office of Conservation and Coastal Lands (OCCL) is the lead authority for management of conservation areas.

Conformance with the Goals of the Plan
The harbor area on submerged State-owned land lies within the Resource subzone of the Conservation District. The proposed development area at Honolulu Harbor is encumbered with various EOs to DOT-H. The objective of the Resource Subzone, as set forth in Section 13-5-13, HAR, is to develop, with proper management, areas to ensure sustained use of the natural resources of those areas.

Senate Bill (SB) No. 1207, H.D. 2, C.D. 1, passed the Hawai‘i State Legislature and was approved by the Governor in May 2013. This new legislation exempts DOT-H from the Conservation District and Site Plan approval requirements for any work involving submerged lands in state commercial harbors.

5.6.3 State Tourism Functional Plan (1991)

Goals of the Plan
The 1991 *State Tourism Functional Plan* focused on six issues: (1) the positive and negative impacts of tourism growth on the community; (2) physical development in terms of product quality, product diversity, land use planning, adequate infrastructure, and visitor use of public services; (3) environmental resources and cultural heritage; (4) community, visitor, and industry relations; (5) employment and career development; and (6) effective marketing.

The plan primarily sought to strengthen tourism, while developing other industries to diversify the State's economic base in order to reduce its vulnerability from the fluctuations of a single market.

Conformance with the Plan

The action generally conforms with the goals and objectives of the plan by helping to facilitate transportation of goods to, from, and among the islands for visitors and residents alike.

5.6.4 State Transportation Functional Plan (1991)

Goals of the Plan

The 1991 *State Transportation Functional Plan* sought to (1) construct facility and infrastructure improvements in support of Hawai'i's thriving economy and growing population base; (2) develop a transportation system balanced with an array of new alternatives; (3) implement Transportation Systems Management to maximize the use of existing facilities and systems; (4) foster innovation and use of new technology in transportation; (5) maximize joint efforts with the private sector; (6) pursue land use initiatives which help reduce travel demand; (7) encourage resident quality-of-life improvements through improved mobility opportunities and travel reduction.

Conformance with the Plan

The action fully supports the State's Transportation Plan by contributing to a balanced transportation system.

5.6.5 Hawai'i 2050 Sustainability Plan

The Hawai'i State Legislature in 2005 sought answers to the long-term future of our state and the pressing issues facing our people. Under the Special Session Laws of Hawai'i 2005, the Legislature enacted Act 8, which provided for (1) the development of a sustainability plan to address the vital needs of Hawai'i through the year 2050, and (2) the establishment of the Hawai'i Sustainability Task Force under the guidance of the Office of the State Auditor (HSTF 2008).

Concerns over the "steady deterioration of public infrastructure, lack of affordable housing, continued reliance on a service-based economy, the vulnerability of Hawai'i in a volatile global energy market, possible interruptions in travel and critical food supplies, threats to our fragile island ecosystems, and the ever increasing numbers of residents and visitors" were vital issues that needed to be addressed. Questions were raised about the direction, the long-term limits of growth, and the need to plan and act to assure a preferred future for the people of Hawai'i. Moreover, the task force addressed a most basic question: What is the state's carrying capacity?

The 2050 Plan recognized that tourism, defense, construction, and agriculture have been the foundation of our economy and likely to continue to be economic drivers in the future. Tourism alone generates an estimated 20 percent of all economic activity and a quarter of the state's tax revenue. While most residents support keeping the level of tourism and military activity the same, they also want a more diverse, sustainable, and resilient economy to expand our economic base beyond current industries.

The 2050 Plan recognized that diversified agriculture, knowledge- and innovation-based industries would offer quality employment and greater diversity to our economy, but that the replacement of one sector of the economy with another in the same way that the visitor industry supplanted agriculture would not be a solution. The creation of greater resiliency in the economy would mean buying locally produced goods and services. However, as an island state, becoming totally economically self-sufficient would not be a possibility, but there are many products that residents could purchase locally to reduce dependence on outside sources.

The 2050 Plan called for a quality transportation system that links people to places and provides opportunities for social interaction, recreation, and community engagement. A system that enables the flow of commerce would ensure that businesses could transport their goods and services to their destination in a timely and cost-effective way.

The action directly contributes to the improvement of transportation infrastructure, and thereby helping move goods in a timely and cost-effective way.

5.7 STATE LAND USE DISTRICT—THE LAND USE LAW

The Hawai'i State Legislature determined in 1961 that a statewide zoning system was needed to protect Hawai'i's valuable land from development that provided a short-term gain for a few and resulted in a long-term loss to the income and growth potential of the state's economy. Accordingly, the Legislature established an overall framework of land-use management and adopted the Land Use Law under HRS Chapter 205. The law placed all lands in the State in one of four land-use districts: Urban, Agricultural, Conservation, or Rural (the Rural District was added in 1963), and established the Land Use Commission (LUC) under HRS Section 205-1. DOT-H lands are designated urban.

Section 205-2 (b) of the Land Use Law states that "Urban districts shall include activities or uses as provided by ordinances or regulations of the county within which the urban district is situated." Commercial harbors are designated Urban.

As described in section 5.6.2, submerged lands—harbor waters—are designated in the Conservation District. Conservation District Use Permits are required for new development in these waters. DOT-H presides over most of the harbors due to the crucial role that commercial ports have on our island state.

SB No. 1207, H.D. 2, C.D. 1, passed the Hawaiʻi State Legislature and was approved by the Governor in May 2013. This new legislation exempts DOT-H from the Conservation District and Site Plan approval requirements for any work involving submerged lands in state commercial harbors.

5.8 HAWAIʻI COASTAL ZONE MANAGEMENT PROGRAM

The Hawaiʻi CZM Program was established in 1977 as a result of the CZM Act of 1972 and federal CZM Program. The objectives and policies of the Hawaiʻi CZM Program, which are intended to manage, develop, and protect resources of the coastal zone, are set forth in HRS Chapter 205A. The CZM area is defined as all lands of the State and all waters extending to the limits of the State's police power. The State DBEDT, Office of Planning is the lead agency responsible for conducting a continuing review of actions by State and county agencies for compliance with HRS 205A. Key objectives and policies of the CZM statute are summarized in Table 5-3.

Table 5-3. Coastal Zone Management – HRS Chapter 205A

SECTION	CHAPTER 205A - 2 Objectives and Policies	RATING
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE		
(1)	Recreational Resources	
	Provide coastal recreational opportunities accessible to the public.	NA
	Improve coordination and funding of coastal recreational planning and management.	NA
	Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area.	NA
(2)	**Historic Resources**	
	Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.	C
	Identify and analyze significant archaeological resources.	A
	Maximize information retention through preservation of remains and artifacts or salvage operations.	C
	Support state goals for protection, restoration, interpretation, and display of historic resources.	C

Table 5-3. Coastal Zone Management – HRS Chapter 205A

SECTION	CHAPTER 205A - 2 Objectives and Policies	RATING
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE		
(3)	**Scenic and Open Space Resources**	
	Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.	C
	Identify valued scenic resources in the coastal zone management area.	NA
	Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline.	C
	Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources.	C
	Encourage those developments that are not coastal dependent to locate in inland areas.	NA
(4)	**Coastal Ecosystems**	
	Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.	C
	Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources.	C
	Improve the technical basis for natural resource management.	NA
	Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance.	C
	Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs.	NA
	Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.	NA
(5)	**Economic Uses**	
	Provide public or private facilities and improvements important to the State's economy in suitable locations.	A
	Concentrate coastal dependent development in appropriate areas.	A
	Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area.	A

Table 5-3. Coastal Zone Management – HRS Chapter 205A

SECTION	CHAPTER 205A - 2 Objectives and Policies	RATING
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE		
	Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when: (i) Use of presently designated locations is not feasible; (ii) Adverse environmental effects are minimized; and (iii) The development is important to the State's economy.	A
(6)	**Coastal Hazards**	
	Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.	NA
	Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards.	NA
	Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards.	C
	Ensure that developments comply with requirements of the Federal Flood Insurance Program.	C
	Prevent coastal flooding from inland projects.	NA
(7)	**Managing Development**	
	Improve the development review process, communication, and public participation in the management of coastal resources and hazards.	C
	Use, implement, and enforce existing laws effectively to the maximum extent possible in managing present and future coastal zone development.	NA
	Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements.	NA
	Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.	C
(8)	**Public Participation**	
	Stimulate public awareness, education, and participation in coastal management.	C
	Promote public involvement in coastal zone management Processes.	C
	Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities.	C
	Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.	NA
(9)	**Beach Protection**	
	Protect beaches for public use and recreation.	NA

Table 5-3. Coastal Zone Management – HRS Chapter 205A

SECTION	CHAPTER 205A - 2 Objectives and Policies	RATING
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE		
	Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion.	C
	Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities.	NA
	Minimize the construction of public erosion-protection structures seaward of the shoreline.	C
	Prohibit private property owners from creating a public nuisance by inducing or cultivating the private property owner's vegetation in a beach transit corridor.	NA
	Prohibit private property owners from creating a public nuisance by allowing the private property owner's unmaintained vegetation to interfere or encroach upon a beach transit corridor.	NA
(10)	**Marine Resources**	
	Promote the protection, use, and development of marine and coastal resources to assure their sustainability.	C
	Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial.	C
	Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency.	C
	Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone.	NA
	Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources.	NA
	Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.	NA
CONFORMANCE DETERMINATION: The Proposed Action conforms to and supports HRS Section 205A-2 since development of the container terminal will advance the economic uses objectives and policies of the CZM law and will follow best management practices to protect the coastal and marine environments. It will also conform extensively to the CZM's historic resources, scenic and open space, coastal ecosystems, and public participation policies.		

NOTE: In HRS 205A, objectives are listed for each topic, and the policies are listed separately, by the same topic order. In the above table, they are combined.

5.9 HAWAIʻI OCEAN RESOURCES MANAGEMENT PLAN

The Hawaiʻi Ocean Resources Management Plan (ORMP), updated in July 2013, sets forth guiding principles and recommendations for the state to achieve comprehensive and integrated ocean and coastal resources management. The Office of Planning, Coastal Zone Management (CZM) Program is responsible for the review and update of the ORMP as well as with the coordination of the overall implementation of the plan.

The 2013 ORMP has established 13 Management Priorities under three Perspectives as follows:

Perspective 1: Connecting Land and Sea

Management Priority #1	Appropriate Coastal Development
Management Priority #2	Management of Coastal Hazards
Management Priority #3	Watershed Management

Perspective 2: Preserving our Ocean Heritage

Management Priority #4	Marine Resources
Management Priority #5	Coral Reef
Management Priority #6	Ocean Economy
Management Priority #7	Cultural Heritage of the Ocean

Perspective 3: Promoting Collaboration and Stewardship

Management Priority #8	Training, Education, and Awareness
Management Priority #9	Collaboration and Conflict Resolution
Management Priority #10	Community and Place-Based Ocean Management Projects
Management Priority #11	National Ocean Policy and Pacific Regional Ocean Initiatives

The goals of Management Priorities #1, #4, #5, #6 and #7 have relevance to Kapālama's Proposed and Alternative Actions.

MANAGEMENT PRIORITY #1, GOAL C: Expand options to protect existing developments from further coastal erosion.

RESPONSE: The Proposed and Alternative Actions will involve waterfront improvements within an established commercial harbor. The waterfront of the project site is not subject to significant coastal erosion. The design of the waterfront improvements will meet Hawaii State Department of Transportation, Harbors Division requirements and U.S. Army Corps of Engineers' approval.

MANAGEMENT PRIORITY #4, GOAL A: Promote protection and sustainable use of marine resources.

RESPONSE: The State Department of Health categorizes the water quality in Honolulu Harbor as "impaired." A marine biotic survey was conducted to determine existing aquatic resources in the harbor waters around the project. Impacts on the marine biota will be avoided or minimized by complying with existing management measures, including regulatory requirements and standard operating procedures. Specific mitigation measures for the in-water construction impacts will be developed during the Endangered Species Act Section 7 and Magnuson-Stevens Act Essential Fish Habitats consultations and U.S. Army Corps of Engineers permitting processes.

MANAGEMENT PRIORITY #4, GOAL D: Minimize the likelihood of aquatic invasive species introductions and spread, into and within Hawai'i, from sources associated with vessels.

RESPONSE: The Proposed and Alternative Actions will not interfere with DLNR's responsibility for preventing the introduction of alien aquatic organisms and carrying out the destruction of them through the regulations of ballast water discharges and hull fouling organisms. Further, the Proposed and Alternative Actions will enable the development of a biosecurity facility at Kapālama, which would support efforts to mitigate invasive species.

MANAGEMENT PRIORITY #5, GOAL C: Implement an effective day-use moorings program that minimizes impacts to coral reef ecosystems and user conflicts.

RESPONSE: The Proposed and Alternative Actions will involve commercial vessels in Honolulu Harbor but not vessels within the jurisdictional waters of the Department of Land and Natural Resources, Division of Boating and Ocean Recreation.

MANAGEMENT PRIORITY #6, GOAL C: Ensure a healthy shipping industry that uses ocean and coastal resources sustainably.

RESPONSE: The Proposed and Alternative Actions are intended to provide expanded facilities on an existing waterfront industrial-zoned property to accommodate projected increased shipment of containers to Hawai'i.

MANAGEMENT PRIORITY #7, GOAL A: Preserve cultural heritage of the ocean and protect Native Hawaiian rights for access and gathering in ocean and on coastline, and protect ocean and coastal resources upon which Native Hawaiian cultural practices depend.

RESPONSE: The Kapālama site is comprised primarily of fill land and was under military control from the 1940s till about the 1990s when the State obtained complete ownership or jurisdiction of the area for harbor use. As an active commercial harbor in the U.S., Honolulu Harbor is subject to federal security regulations enforced by the U.S. Coast Guard. For the safety of the public and security of the harbor no swimming or diving in the harbor is permitted. Areas actively used for cargo operations are fenced and admissions are controlled. Fishing continues to be an active activity in the islands and in the area, but Honolulu Harbor waters are no longer used for this activity.

~~In December 2006, the Hawai'i CZM Program, Office of Planning, published the *Hawai'i Ocean Resources Management Plan (ORMP)*. Staff from the State Department of Land and Natural Resources (DLNR) advises that the goals and objectives of the plan should be addressed in all environmental assessments and impact statements. This assessment is presented in Table 5-4 with the understanding that the ORMP is currently being updated.~~

~~Table 5-4. Hawaii Ocean Resources Management Plan~~

~~A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE~~	~~RATING~~
~~ILLUSTRATIVE RESULTS INDICATORS FOR MANAGEMENT GOALS AND STRATEGIC ACTIONS UNDER PERSPECTIVE 1~~	
~~Improve coastal water quality by reducing land-based sources of pollution~~	~~NA~~
~~Reduce soil erosion from upland forest ecosystems and conservation lands~~	~~NA~~
~~Reduce pollutant loads from residential, agricultural, and commercial uses in priority watersheds~~	~~NA~~
~~Protect beaches, wetlands, and coastal communities from shoreline erosion and other coastal hazards~~	~~NA~~
~~Develop and implement a comprehensive and integrated shoreline policy that addresses the impacts of chronic and episodic coastal hazards~~	~~NA~~
~~Develop a Hawai'i beach and shoreline management plan with specific management measures to address coastal erosion and other hazards in priority coastal areas~~	~~NA~~
~~Encourage appropriate coastal-dependent development that reduces risks from coastal hazards and protects coastal and cultural resources~~	~~C~~
~~Improve and ensure maintenance and appropriate use of environmental infrastructure~~	~~C~~
~~Repair leaking sewers in priority watersheds~~	~~NA~~
~~Reduce the number of individual wastewater disposal systems in the coastal environment~~	~~NA~~
~~Reduce unpermitted storm-water discharges to the sewers in priority watersheds~~	~~NA~~
~~Provide appropriate waste management infrastructure to support commercial and recreational marine facilities~~	~~NA~~
~~ILLUSTRATIVE RESULTS INDICATORS FOR MANAGEMENT GOALS AND STRATEGIC ACTIONS UNDER PERSPECTIVE 2~~	
~~Management Goals and Strategic Actions Illustrative Results Indicators~~	
~~Minimize the introduction and spread of marine alien and invasive species into and throughout archipelagic waters~~	~~NA~~
~~Establish wastewater-discharge restricted zones and conditions for commercial vessels in archipelagic waters~~	~~NA~~

~~**Table 5-4. Hawaii Ocean Resources Management Plan**~~

~~A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE~~	~~RATING~~
~~Improve the health of coral reef resources for sustainable traditional, subsistence, recreational, and commercial uses~~	~~NA~~
~~Strengthen and expand marine protected area management~~	~~NA~~
~~Develop ecosystem-based approaches for nearshore fisheries management~~	~~NA~~
~~Establish and institutionalize approaches for restoring, operating, and preserving ancient Hawaiian coastal fishponds for the benefit of coastal communities around the State~~	~~NA~~
~~Improve enforcement capacity and voluntary compliance with existing rules and regulations for ocean resource protection~~	~~NA~~
~~Enhance public access and appropriate coastal-dependent uses of the shoreline~~	~~NA~~
~~Enhance and restore existing public shoreline areas and scenic vistas~~	~~NA~~
~~Establish new shoreline areas for public and appropriate coastal-dependent uses~~	~~NA~~
~~Promote appropriate and responsible ocean recreation and tourism that provide culturally informed and environmentally sustainable uses for visitors and residents~~	~~NA~~
~~Develop community-based frameworks and practices for identifying and mitigating ocean recreational use conflicts~~	~~NA~~
~~Develop responsible and sustainable ocean-based tourism~~	~~NA~~
~~Encourage cutting edge and appropriate ocean science and technology with safeguards for ocean resource protection~~	~~NA~~
~~Promote alternative ocean energy sources~~	~~NA~~
~~Plan and develop sustainable commercial aquaculture in coastal areas and ocean waters to diversify and expand Hawai'i's economy and provide locally produced sources of seafood~~	~~NA~~
~~Expand ocean science and technology~~	~~NA~~
~~ILLUSTRATIVE RESULTS INDICATORS FOR MANAGEMENT GOALS AND STRATEGIC ACTIONS UNDER PERSPECTIVE 3~~	
~~Management Goals and Strategic Actions Illustrative Results Indicators~~	~~NA~~

5.10 HRS CHAPTER 6E, HISTORIC PRESERVATION

HRS Chapter 6E-8 states that "[b]efore any agency or officer of the state or its political subdivisions commences any project which may affect historic property, aviation artifact, or a burial site, the agency or officer shall advise the department [DLNR, SHPD] and allow the department an opportunity for review of the effect of the proposed project on historic properties, aviation artifacts, or burial sites … especially those listed on the Hawai'i register of historic places. The proposed project shall not be commenced, or in the event it has already begun, continued, until the department shall have given its written concurrence." The State Historic

Preservation Division (SHPD) is provided an opportunity to review and comment on the Draft EIS for this Master Plan.

Section 4.4 discusses the reviews that have already occurred, the mitigation measures identified by SHPD for development at the Kapālama site, and the steps to be taken to implement those measures.

5.11 HAWAIʻI WATER POLLUTION LAW

The Hawaiʻi Water Pollution Law[1], which provides a comprehensive regulatory program for discharges of pollution to the waters of Hawaiʻi, establishes the National Pollutant Discharge Elimination System (NPDES) permit program required under CWA, as amended. Permits covered under this program are issued by DOH. DOH is responsible for reviewing and approving project compliance with HRS Chapter 342D (water pollution), HAR Chapter 11-55 (Water Pollution Control), and HAR Chapter 11-54 (Water Quality Standards).

The Proposed Action is expected to generate discharges of stormwater runoff from its construction site to State surface waters and as a result would require an NPDES Permit (see section 5.3)

5.12 PLANS FOR DEVELOPMENT OF THE HONOLULU WATERFRONT

5.12.1 Honolulu Waterfront Master Plan

Honolulu grew as an island port town, and the waterfront is the city's face to the world, the linchpin of all industrial activity and transportation, and an important recreational resource. Jurisdiction over the waterfront is shared by the U.S. Coast Guard, State agencies (DOT-H and Department of Transportation, Airports Division [DOT-A], Hawaiʻi Community Development Authority [HCDA], Aloha Tower Development Corporation) and the City.

5.12.1.1 Goals Of The Plan

The purpose of the *Honolulu Waterfront Master Plan* (OP 1989), produced for the Governor's Office of State Planning in 1989, was three-fold:

1 HRS Chapter 342D.

- To identify and articulate "a long-range vision for the Honolulu Waterfront that is fiscally responsible but also innovative, challenging and responsive to the current and future needs of Hawai‘i's residents";
- To assure orderly and achievable phasing of improvements in a way that minimizes disruption; and
- To maximize public benefits associated with the improvement of State-owned lands (OP 1989).

The Waterfront Plan treats maritime uses as a first priority, but also deals extensively with recreational uses and urban development.

5.12.1.2 Conformance With The Plan

Forecasts for the Waterfront Plan identified a need for an additional 40 to 50 acres of container yard space by 2010. The plan calls for redevelopment of the Kapālama property as a "full-scale modern containerized cargo terminal." The plan recognized that this action would call for relocation of University of Hawai‘i (UH) facilities.

Development of the Kapālama terminal follows the 1989 plan's goals of meeting the needs of Hawai‘i's people, of orderly phasing of improvements, and of increasing the public benefits from the use of State lands. The Waterfront Plan called for terminal development by 2010; the Proposed Action is, from that perspective, late in realizing the Plan's objectives.

5.12.2 O‘ahu Commercial Harbors 2020 Master Plan

5.12.2.1 Goals Of The Plan

The DOT-H develops long-term master plans for its facilities serving each of the major islands of the state. The 2020 Master Plan for O‘ahu dealt with Honolulu Harbor, Barbers Point Harbor, and Kewalo Basin. It was developed by planning groups comprised of agency representatives and maritime stakeholders, after a technical study of port facilities requirements. It was approved by the Governor in 1997, with the explicit support of the directors of five State departments.

Objectives of the plan were to:

- Plan development of O‘ahu's commercial harbors, facilitating cargo shipments for the state and its people;
- Optimize the use of land and water resources for marine cargo, passenger and fishing;

- Provide terminals, other resources, and access to serve the port system in an efficient, safe and secure manner; and
- Minimize impacts on environmental quality and recreational opportunities.

The recommended plan covered twenty major topics. Key elements of the 2020 plan included:

- Provide container terminal space at Pier 1, Kapalama Military Reservation (KMR), and Piers 51–53 on Sand Island;
- Provide six container berths at Pier 1, KMR and Sand Island;
- Re-open Kalihi Channel for large vessels, relieving congestion at the main channel entrance and in the turning basins; and
- Improve roadways to assure access to the commercial harbor areas, in co-ordination with the Highways Division's plans for improvements along Nimitz Highway. The roadway recommendations included a tunnel to replace the Sand Island Bridge or a new bridge high enough to all vessels to pass under it.

The KMR terminal was the first improvement considered by the Planning Committee for the 2020 plan.

5.12.2.2 Conformance With The Plan

The Proposed Action implements a key recommendation of the 2020 plan. The map showing future uses of the land and nearby waters of Honolulu Harbor identifies the KMR site for overseas container use. It also indicates that the pier face should be moved some 100 feet inland. This recommendation was to support movement of ships between Kapālama Basin and Kalihi Channel when container vessels were berthed at the KMR pier nearest the Kalihi entrance to the harbor.

The Proposed Action conforms to the plan. However, the plan's recommendation on pier location (and thereby the width of the channel between KMR and Sand Island) is no longer included. The proposed replacement of the Sand Island Bridge has not occurred, for financial and technical reasons. As a result, the extra channel width is not needed.

5.12.3 Summary of Required State Permits And Approvals

Following is a summary list of State government permits and approvals that may be required for implementation of the Proposed Action (approving agency in parenthesis):

- Chapter 343, HRS, Environmental Review

- Hawai‘i CZM Federal Consistency Review (Office of Planning)
- Section 401 of CWA, Water Quality Certification (DOH)
- NPDES Permit (DOH)

5.13 CITY GENERAL PLAN AND REGIONAL DEVELOPMENT PLAN

State law and county charter require each county to prepare and adopt a long-range general plan to guide the overall future development of the county. HRS Chapter 46 grants the counties certain powers and responsibilities. Among them is the power to regulate land development through zoning, which must be based on a general plan.

A plan usually provides guidance for land use regulations, the location and character of new development and facilities, and planning for county and State facilities and services. Updates of a general plan occur from time to time and the document becomes law through the adoption of an ordinance by the county council. Ordinances usually amend, repeal or supplement the municipal code; provide zoning specifications; or appropriate money for specific purposes.

In addition, each county prepares plans at the regional level. These plans are intended to establish more detailed policies, strategies, and implementing actions in support of the general plans. Evaluations of the county general plans in this section are followed by discussion of the appropriate regional plan.

5.13.1 General Plan for O‘ahu

Of the following sections contained in *O‘ahu's General Plan*, Section 2 - Economic Activity, and Section 5 - Transportation and Utilities will be discussed.

1 Population
2 Economic Activity
3 Natural Environment
4 Housing
5 Transportation and Utilities
6 Energy
7 Physical Development and Urban Design
8 Public Safety
9 Health and Education
10 Culture and Recreation
11 Government Operations and Fiscal Management

The sections relevant to this EIS are discussed in Table 5-4. The entire *City and County of Honolulu General Plan* can be found at http://honoluludpp.org/planning/OahuGeneralPlan/.

Table 5-4. Honolulu General Plan

Honolulu General Plan	Rating
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE	
ECONOMIC ACTIVITY	
OBJECTIVE A To promote employment opportunities that will enable all the people of Oʻahu to attain a decent standard of living.	
Policy 1: Encourage the growth and diversification of Oʻahu's economic base.	A
Policy 2: Encourage the development of small businesses and larger industries which will contribute to the economic and social well-being of Oʻahu residents.	C
Policy 3: Encourage the development in appropriate locations on Oʻahu of trade, communications, and other industries of a nonpolluting nature.	C
Policy 4: Encourage the development of local, national, and world markets for the products of Oʻahu-based industries.	C
Policy 5: Encourage the wider distribution of available employment opportunities through such methods as shortening the work week and reducing the use of overtime.	NA
Policy 6: Encourage the continuation of a significant level of Federal employment on Oʻahu.	NA
OBJECTIVE B To maintain the viability of Oʻahu's visitor industry.	NA
Policy 1: Provide for the long-term viability of Waikīkī as Oʻahu's primary resort area by giving the area priority in visitor industry related public expenditures.	NA
Policy 2: Provide for a high quality and safe environment for visitors and residents in Waikīkī.	NA
Policy 3: Encourage private participation in improvements to facilities in Waikīkī.	NA
Policy 4: Prohibit major increases in permitted development densities in Waikīkī.	NA
Policy 5: Prohibit further growth in the permitted number of hotel and resort condominium units in Waikīkī.	NA
Policy 6: Permit the development of secondary resort areas in West Beach, Kahuku, Mākaha, and Lāʻie.	NA
Policy 7: Manage the development of secondary resort areas in a manner which respects existing lifestyles and the natural environment, and avoids substantial increases in the cost of providing public services in the area.	NA
Policy 8: Preserve the well-known and widely publicized beauty of Oʻahu for visitors as well as residents.	NA
Policy 9: Encourage the visitor industry to provide a high level of service to visitors.	NA
OBJECTIVE C To maintain the viability of agriculture on Oʻahu.	
Policy 1: Assist the agricultural industry to ensure the continuation of agriculture as an important source of income and employment.	C

Table 5-4. Honolulu General Plan

Honolulu General Plan	Rating
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE	
Policy 2: Support agricultural diversification in all agricultural areas on O‘ahu.	C
Policy 3: Support the development of markets for local products, particularly those with the potential for economic growth.	A
Policy 4: Provide sufficient agricultural land in ‘Ewa, Central O‘ahu, and the North Shore to encourage the continuation of sugar and pineapple as viable industries.	NA
Policy 5: Maintain agricultural land along the Windward, North Shore, and Wai‘anae coasts for truck fanning, flower growing, aquaculture, livestock production, and other types of diversified agriculture.	NA
Policy 6: Encourage the more intensive use of productive agricultural land.	NA
Policy 7: Encourage the use of more efficient production practices by agriculture, including the efficient use of water.	NA
Policy 8: Encourage the more efficient use of non- potable water for agricultural use.	NA
OBJECTIVE D To make full use of the economic resources of the sea.	
Policy 1: Assist the fishing industry to maintain its viability.	NA
Policy 2: Encourage the development of aquaculture, ocean research, and other ocean-related industries	NA
Policy 3: Focus the development of ocean related economic activities in the Northwestern Hawaiian Islands on those which are compatible with preserving the area's unique environmental, marine, and wildlife assets.	NA
OBJECTIVE E To prevent the occurrence of large scale unemployment.	
Policy 1: Encourage the training and employment of present residents for currently available and future jobs.	NA
Policy 2: Make full use of State and Federal employment and training programs.	NA
Policy 3: Encourage the provision of retraining programs for workers in industries with planned reductions in their labor force.	NA
OBJECTIVE F To increase the amount of Federal spending on O‘ahu.	
Policy 1: Take full advantage of Federal programs and grants which will contribute to the economic and social well-being of O‘ahu's residents.	A
Policy 2: Encourage the Federal government to pay for the cost of public services used by Federal agencies.	C
Policy 3: Encourage the Federal government to lease new facilities rather than construct them on tax-exempt public land.	C
Policy 4: Encourage the military to purchase locally all needed services and supplies which are available on O‘ahu.	C
OBJECTIVE G To bring about orderly economic growth on O‘ahu.	
Policy 1: Direct major economic activity and government services to the primary urban center and the secondary urban center at Kapolei.	NA

Table 5-4. Honolulu General Plan

Honolulu General Plan	Rating
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE	
Policy 2: Permit the moderate growth of business centers in the urban-fringe areas.	NA
Policy 3: Maintain sufficient land in appropriately located commercial and industrial areas to help ensure a favorable business climate on O'ahu.	NA
Policy 4: Encourage the continuation of a high level of military-related employment in the Hickam-Pearl Harbor, Wahiawā, Kailua-Kanē'ohe, and 'Ewa areas.	NA
TRANSPORTATION AND UTILITIES	
OBJECTIVE A To create a transportation system which will enable people and goods to move safely, efficiently, and at a reasonable cost; serve all people, including the poor, the elderly, and the physically handicapped; and offer a variety of attractive and convenient modes of travel.	
Policy 1: Develop and maintain an integrated ground-transportation system consisting of the following elements and their primary purposes:	NA
a. Public transportation-for travel to and from work, and travel within Central Honolulu;	NA
b. Roads and highways-for commercial traffic and travel in nonurban areas;	NA
c. Bikeways-for recreational activities and trips to work, schools, shopping centers, and community facilities; and	NA
d. Pedestrian walkways-for getting around Downtown and Waikīkī, and for trips to schools, parks, and shopping centers.	NA
Policy 2: Provide transportation services to people living within the 'Ewa, Central O'ahu, and Pearl City-Hawai'i Kai corridors primarily through a mass transit system including exclusive right-of-way rapid transit and feeder-bus components as well as through the existing highway system with limited improvements as may be appropriate.	NA
Policy 3: Provide transportation services outside the 'Ewa, Central O'ahu, and Pearl City-Hawai'i Kai corridors primarily through a system of express- and feeder-buses as well as through the highway system with limited to moderate improvements sufficient to meet the needs of the communities being served.	NA
Policy 4: Improve transportation facilities and services in the Ewa corridor and in the trans-Ko'olau corridors to meet the needs of 'Ewa and Windward communities.	NA
Policy 5: Improve roads in existing communities to reduce congestion and eliminate unsafe conditions.	NA
Policy 6: Consider both environmental impact as well as construction and operating costs as important factors in planning alternative nodes of transportation.	C
Policy 7: Promote the use of public transportation as a means of moving people quickly and efficiently, of conserving energy, and of guiding urban development.	NA
Policy 8: Make available transportation services to people with limited mobility: the young, the elderly, the handicapped, and the poor.	NA
Policy 9: Promote programs to reduce dependence on the use of automobiles.	NA
Policy 10: Discourage the inefficient use of the private automobile, especially in congested corridors and during peak-hours.	NA
Policy 11: Make public, and encourage private, improvements to major walkway systems.	NA
Policy 12: Encourage the provision of separate aviation facilities for small civilian aircraft.	NA

Table 5-4. Honolulu General Plan

Honolulu General Plan	Rating
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE	
Policy 13: Facilitate the development of a second deep-water harbor to relieve congestion in Honolulu Harbor.	NA
OBJECTIVE B To meet the needs of the people of O‘ahu for an adequate supply of water and for environmentally sound systems of waste disposal.	
Policy 1: Develop and maintain an adequate supply of water for both residents and visitors.	NA
Policy 2: Develop and maintain an adequate supply of water for agricultural and industrial needs.	NA
Policy 3: Encourage the development of new technology which will reduce the cost of providing water and the cost of waste disposal.	NA
Policy 4: Encourage a lowering of the per-capita consumption of water and the per-capita production of waste.	NA
Policy 5: Provide safe, efficient, and environmentally sensitive waste-collection and waste- disposal services.	NA
Policy 6: Support programs to recover resources from solid-waste and recycle wastewater.	NA
Policy 7: Require the safe disposal of hazardous waste.	NA
OBJECTIVE C To maintain a high level of service for all utilities.	
Policy 1: Maintain existing utility systems in order to avoid major breakdowns.	NA
Policy 2: Provide improvements to utilities in existing neighborhoods to reduce substandard conditions.	NA
Policy 3: Plan for the timely and orderly expansion of utility systems.	NA
Policy 4: Increase the efficiency of public utilities by encouraging a mixture of uses with peak periods of demand occurring at different times of the day.	NA
OBJECTIVE D To maintain transportation and utility systems which will help O‘ahu continue to be a desirable place to live and visit.	
Policy 1: Give primary emphasis in the capital-improvement program to the maintenance and improvement of existing roads and utilities.	NA
Policy 2: Use the transportation and utility systems as a means of guiding growth and the pattern of land use on O‘ahu.	NA
Policy 3: Encourage the study and use of telecommunications as an alternative to conventional transportation facilities.	NA
Policy 4: Evaluate the social, economic, and environmental impact of additions to the transportation and utility systems before they are constructed.	C
Policy 5: Require the installation of underground utility lines wherever feasible.	NA
Policy 6: Seek improved taxing powers for the City and County in order to provide a more equitable means of financing transportation and utility services.	NA

The City Department of Planning and Permitting (DPP) has begun a "focused update" process for the General Plan. The update will deal with objectives and policies related to Oʻahu's overall growth, the economy, affordable housing, and sustainability. No specific changes in policy have been proposed. Under the heading of sustainability, concern has been expressed with regard to the effects of sea level rise on Hawaiʻi. This issue has been considered closely in the planning for the Kapālama Container Terminal, as discussed in section 3.10.

The Proposed Action conforms with the vision and goals of the City General Plan as a means to support continuing economic growth for Oʻahu.

5.13.2 Primary Urban Center Development Plan (2003)

The *Primary Urban Center Development Plan* (2003), covering the Honolulu Harbor area, is one of eight regional plans based on the Oʻahu General Plan that establish more detailed policies to shape growth in the urban core of the island. The *Primary Urban Center Development Plan* identifies five major vision elements:

- Honolulu's natural, cultural, and scenic resources are protected and enhanced.
- Livable neighborhoods have business districts, parks and plazas, and walkable streets.
- The PUC offers in-town housing choices for people of all ages and incomes.
- Honolulu is the Pacific's leading city and travel destination.
- A balanced transportation system provides excellent mobility.

The Proposed Action addresses the fourth of these elements, including the following specific actions named in the plan as implementing that element:

- Enhance Honolulu Harbor and harbor-related uses: Reserve lands adjacent to the harbor for harbor-related uses.

- Support industrial uses in Kalihi-Pālama industrial districts: Support existing mixed-usages in the industrial districts of Kalihi-Kai and Kapālama, as well as existing commercial uses along the Nimitz, Dillingham, King, Kalihi, and Waiakamilo corridors.

The Plan also recognizes that "expanded shore facilities" in the harbor will handle increased container freight.

The Proposed Action contributes to the orderly economic growth of Honolulu and, hence, is in conformity with the vision of Honolulu as the Pacific's leading city in the *Primary Urban Center Development Plan.*

5.13.3 Kalihi-Pālama Action Plan (2004)

The Kalihi-Pālama Action Plan is a Special Area Plan funded by the City. Such plans are intended to give communities the opportunity to define the identity, function, organization, and character of their specific neighborhoods in accordance with the general planning framework provided by their area's Development or Sustainable Communities plan. The Plan identifies a regional vision: "Our vision for the future of Kalihi is one of pride and multi-cultural harmony; of living and working together; of preserving our treasures for young and old. We see a Kalihi that is visually, economically, and socially inviting; a place that promotes our natural beauty from mountain to ocean."

The Plan views the harbor area in the Kalihi-Palama area as valuable port facilities:

> These port facilities should be maintained for maritime uses and not developed for retail commercial or residential uses, except for the areas near downtown Honolulu. Streets should be improved to accommodate large vehicles and to provide adequate parking and walkways for both businesses and residents. Overhead utilities should also be placed underground and infrastructure upgraded to current standards. The State's Oʻahu Commercial Harbors 2020 Master Plan should be implemented.

As emphasized in section 5.12.2, the Proposed Action is a major component of the Oʻahu Commercial Harbors 2020 Master Plan. The Proposed Action redevelops part of the waterfront for maritime use. As such, it conforms with the Kalihi-Pālama Action Plan's vision.

5.13.4 City Land Use Ordinance

State law identifies the duties of the DOT-H, and explicitly directs the Department to pursue those duties as its mission warrants:

> Notwithstanding any law or provision to the contrary, the department of transportation is authorized to plan, construct, operate, and maintain any commercial harbor facility in the State, including, but not limited to, the acquisition and use of lands necessary to stockpile dredged spoils, without the approval of county agencies. (HRS 266-2 (7) (b))

Consequently, City land use regulations do not apply to development of the Kapālama Container Terminal. All construction proposed will meet the purposes of assuring the health, safety and welfare of users that guide building, electrical, plumbing, and fire codes.

Section 21-9.10 of the Land Use Ordinance (LUO) has been set up under the U.S. National Flood Insurance Act of 1968, as amended, and the U.S. Flood Disaster Protection Act of 1973, as amended. It provides the rules and regulations for development in the flood zones identified in the Federal Emergency Management Agency's Flood Insurance Rate Maps (FIRM). The Proposed Action will be developed in compliance with the provisions of Section 21-9.10, and mitigation techniques will be applied, where required, to protect structures from potential flood impacts.

5.13.5 Special Management Area

Although the Special Management Areas (SMAs) originated under the federal CZM and Hawai'i CZM Programs, the counties in Hawai'i regulate and administer the SMAs in their respective jurisdictions. For O'ahu, the SMA in Honolulu Harbor is along the coastline seaward of Sand Island Access Road and inland boundary of Sand Island. As a result, the Kapālama and Pier 24–28 sites are outside of the SMA boundary and not subject to SMA Rules and Regulations of the City.

5.13.6 Shoreline Setback

In addition to the SMA authorized under the CZM Act and HRS, Chapter 205A, there is also a statewide shoreline setback regulation that generally prohibits within the shoreline setback area any construction or activity that may adversely affect beach processes, public access along the shoreline, or shoreline open space. DLNR is vested with the authority to determine the location of the shoreline and the counties are authorized to enforce the land use restrictions in the setback areas.

Existing records at the State Survey Office indicate that the shoreline (for shoreline setback purposes) is located at the mouth of Honolulu Harbor.[2] The shoreline follows the edge of Kalihi Channel to the seaward edge of the Sand Island Access Road bridge. It crosses Kalihi Channel along the bridge's seaward edge and then comes back out on the opposite side of the channel following the shoreline of Sand Island.

The Kapālama site is located on the opposite side of the Sand Island Access Road bridge within Honolulu Harbor and outside of the shoreline setback area.

[2] Telecommunication with Land Survey Division, Hawai'i State Department of Accounting and General Services, on October 30, 2012.

Cumulative Impacts 6

CHAPTER 6
CUMULATIVE IMPACTS

6.1 INTRODUCTION

Cumulative impacts are those that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. They can result from individually minor but collectively significant actions taking place over a period of time.[1]

Considering the resources affected by the Proposed Action and alternatives, other actions (projects) that could incrementally impact the same resources were identified. Such actions/projects include past and present actions on the Kapālama site and Piers 24–28 site, and past, present, and future actions/projects not related to the Proposed Action but with potential for cumulative impacts. Some of these projects are physically outside of Honolulu Harbor, but affect a similar resource or resources.

6.2 ACTIONS AND PROJECTS CONSIDERED IN THE CUMULATIVE IMPACT ANALYSIS

6.2.1 Past and Present Actions On The Kapālama And Piers 24–28 Site

Past Use of Kapālama Military Reservation (KMR) by the U.S. Army/Federal Government and Transfer of Property to the State of Hawaiʻi

This past action is identified because associated activities, up to the time of transfer in 1993, have affected site conditions and associated resources. The conditions may have been modified with subsequent use of the site by State of Hawaiʻi (State) tenants (see following action). Site conditions arising from past KMR activities are characterized in the "affected environment" sections of this Environmental Impact Statement (EIS).

[1] Hawaiʻi Administrative Rules (HAR) §11-200.

Past and Present Use of the Kapālama Site by State Tenants

These actions are identified because associated activities have affected site conditions and associated resources between 1993 and the present. The conditions of relevant resources are characterized in the "affected environment" sections of this EIS.

Past and Present Use of Piers 24–28 Site by State Department of Transportation, Harbors Division (DOT-H) Tenants

These actions are identified because associated activities have affected site conditions and associated resources. Site conditions arising from past tenant activities, estimated to have occurred since 1910, are characterized in the "affected environment" sections of this EIS.

Kapālama Site Warehouses: Tenant Relocations then Building Demolition

Existing tenants will vacate the Kapālama site by early 2014 with or without the Proposed Action. Potential tenant relocations made part of the Proposed Action include Pacific Shipyards International (PSI) and Atlantis Submarines. These two relocations are those maritime-dependent operators who are working with the DOT-H to obtain a waterfront site in Honolulu Harbor at Piers 24–28, which is part of the proposed action. All non-maritime tenants, which are primarily on month-to-month revocable permits and not part of the proposed action, will relocate outside the harbor's waterfront and elsewhere on the island. The warehouses will be demolished soon after the relocations are completed and the buildings vacated. SHPD has already determined via letters dated June 20, 2007 and December 12, 2011 that demolition of the buildings at KMR will have "no adverse effect". Demolition of the buildings has been planned for a long time. In addition, demolition of structures is an exempt action for DOT-H provided that the buildings are not on a historic site, which they are not.

University of Hawai'i Marine Center Relocation

A separate Environmental Assessment (EA) is being prepared for this action. The University of Hawai'i School of Ocean and Earth Science and Technology (UH SOEST) is relocating its Marine Center research operations from Kapālama's Snug Harbor to Piers 34 and 35. At the new site, improvements would include renovations to an existing building, improvement to on-site utilities, resurfacing of an existing pavement area, and provision of additional parking. Other improvements would include construction of a new fence and installation of a new box culvert. The Marine Center's research vessels would be moored along Piers 34 and 35.

The Marine Center's educational operations would relocate from Snug Harbor to the Honolulu Community College Marine Education and Training Center (METC) outside of Honolulu Harbor on the western end of Sand Island. Plans for this relocation are further in the future and have no definite timetable. As with the Marine Center's research operations, a separate EA will be prepared for this action when it is ready to move forward.

Clean Islands Council/Marine Spill Response Corporation (CIC/MSRC)

CIC/MSRC is planning to move to Piers 12 and 15 from Piers 34 and 35. Improvements which would be required at Piers 12 and 15 to accommodate the new tenants include new berthing and mooring structures. While the DOT-H is preparing a separate EA for this move, the action and its potential impacts are being recognized in this EIS.

Hawaiian Flour Mill (HFM)

With the proposed move of PSI from the KMR area to Piers 24 to 26, PSI's drydocks would locate along Piers 24 and 25 thus constraining existing grain cargo ship operations at Piers 22/23. Consequently, HFM is planning to relocate its current grain cargo ship berth from Piers 22/23 to Pier 20. This move would separate the grain cargo ship from existing storage silos, so present plans include the use of trucks to transfer HFM's grain from the ship to its silos via an internal harbor route through Piers 20/23. This activity would occur two or three times per year. Shipments of possible dry-bulk cargo may arrive more frequently than planned by the tenant, probably at a rate of one per month rather than two or three times a year.

It is noted that Pier 20 would be used by other shippers aside from HFM as part of the harbor's service to accommodate cargo shipment and operations to and on the island.

Sause Brothers

PSI plans to occupy Piers 24 to 26 and at least two of three existing buildings on the property. The Sause Bros., which conduct water-dependent operations, presently occupy one of the buildings and would relocate to another building(s) within the harbor or outside of Honolulu Harbor. Planning for the relocation is currently in progress. The other building, to be occupied by PSI, is presently being used by Bella Pietra, A Natural Stone Design Center. This non-maritime enterprise will, on its own, relocate to another facility elsewhere on the island.

Hawaiʻi Harbors Modernization Plan

The Hawaiʻi Harbors Modernization Plan is a comprehensive, system-wide harbor modernization plan that addresses current and projected shipping requirements through a financially feasible development program implemented in an expeditious time period. Goals include: provide a harbor system that addresses critically needed improvements and promotes harbor user operational efficiencies; provide a harbor system with expanded capacity to accommodate Hawaiʻi's projected growth in cargo volume; and ensure Hawaiʻi's continued economic growth through improved harbor infrastructure.

For O‘ahu Island, the Modernization Plan identifies development of the former KMR and improvements at Kalaeloa Barbers Point Harbor, specifically:

- Construction of a deep-draft pier at Kapālama with berthing capacity to accommodate two container ships.
- Development of a new 70-acre container yard at Kapālama with necessary paved area, gates, buildings, and off-site improvements, as well as direct connection to the Young Brothers inter-island barge operating yard.
- Construction of Kalaeloa west harbor utilities infrastructure.
- Construction of a new dedicated fuel pier at Kalaeloa.

6.2.2 Other Past, Present, And Future Actions/Projects Considered In The Cumulative Impact Analysis

Aloha Cargo Transport (ACT) Relocation
An opening ceremony was held in May 2012 to mark the beginning of ACT's move from Pier 2 to Pier 29. Ground improvements to Pier 29 consisted primarily of pavement resurfacing, underground utilities, and outdoor lighting. Service at the site started in June 2012.

Honolulu Marine Floating Drydock in Kalihi Channel
The proposed small boat shipyard with a 135-foot finger pier and floating drydock is located on the waterfront facing the Kalihi Channel, makai of the Sand Island Access Road Bridge. While an EA was prepared for this project in 2007, cumulative impacts are being considered in this EIS. The State Board of Land and Natural Resources (BLNR) approved a Conservation District Use Permit (CDUP) for the project in May 2009. Construction has not started.

U.S. Army Corps of Engineers (USACE) Maintenance Dredging
The USACE is responsible for maintenance dredging of the federal project area within Honolulu Harbor. The next maintenance dredging is scheduled in the next few years, but may be delayed depending on available federal funding. If this routine operation proceeds in the short-term, it may require coordination with the proposed dredging for the pier improvement of the Proposed Action. Maintenance dredging by USACE would restore the authorized depths throughout Honolulu Harbor of between minus 35 feet to minus 40 feet. Either the USACE or others would deepen this area.

In addition, USACE is responsible for new dredging of the federal project area. A section of the federal project area from the Sand Island Bridge to approximately 450 feet into Honolulu Harbor at the Kalihi channel is currently authorized to minus 35 feet. DOT-H has requested USACE for a new dredging project in this area that would increase the federally authorized depth to minus 40 feet. Either the USACE or others would deepen this area.

Foreign Trade Zone Expansion at Pier 2

Plans have been announced for the expansion of the existing Foreign Trade Zone facility at Pier 2. The expansion will improve special customs services to U.S. companies engaged in international trade. Included in the expansion is a new conference center to facilitate conferences, seminars, and evening gatherings.

Honolulu Rail Transit Project

Construction on the City and County of Honolulu's (City's) 20-mile rail transit project started in May 2012. The first segment of the $5.17 billion project (HART 2012) is starting from East Kapolei and will continue towards downtown Honolulu and Ala Moana. During construction, the project will involve the creation of approximately 10,000 jobs annually throughout the Hawai'i economy. At its peak, the rail transit project might involve as many as 6,000 construction jobs, and potentially affect the availability of construction labor and materials islandwide.

In August 2012, the Hawai'i State Supreme Court ruled that the City must conduct a complete archaeological study for the 20-mile line before the new rail system can be built. The archaeological study was recently completed and construction of the rail system has commenced. Each project will require construction labor, equipment, material, and supplies. If the extensive rail project uses a large proportion of available construction resources on the island, this could be problematic for the Kapālama project if remaining resources are in short supply.

City Wastewater System Upgrades

The City entered into a Consent Decree filed in federal court on December 17, 2010 to upgrade major components of its wastewater collection and treatment system. The Consent Decree requires that the City install a valve system at the Hart Street Sewage Pumping station by December 31, 2014 to facilitate the transfer of pumped flows to the backup force main sewer if necessary. The Consent Decree also requires that the City upgrade the Sand Island Wastewater Treatment Plant to comply with secondary treatment standards, as defined in 40 Code of Federal Regulations (CFR) 133, by December 31, 2035.

In February 2011, BLNR approved CDUP OA-3566 for a dual force main system between the Ala Moana Wastewater Pump Station in Kaka'ako and the Sand Island Wastewater Treatment Plant on Sand Island. Plans call for installing two 60-inch parallel pipes across Honolulu Channel (Fort Armstrong Channel) of Honolulu Harbor by underground directional drilling. Although construction has not yet started, completion is expected to meet the Consent Decree deadline in 2014.

Construction of the required City wastewater improvements will involve the use of available labor, equipment, materials, and supplies. Major projects occurring at the same time would be competing for available construction resources. If the timetable for these projects is different, then there would be less of a supply and scheduling problem.

Honolulu Sea Water Air Conditioning Project

Honolulu Seawater Air Conditioning, LLC is proposing to develop a seawater air conditioning system in downtown Honolulu. The system would consist of seawater intake and return pipes extending offshore from a pump station onshore in the Kakaʻako district, chilled water distribution pipes to customer buildings in downtown Honolulu, and a staging area for pipe assembly along the western (oceanside) shore of Sand Island and in the adjoining channel in Keʻehi Lagoon. The project is designed to reduce Oʻahu's dependence on imported oil for electrical generation, reduce potable water consumption, reduce sewage generation, and reduce use of ozone depleting substances and chemicals used in maintaining existing air conditioning systems. Construction is expected to begin by the end of 2013 with completion scheduled for mid 2015.[2] Deployment of the pipelines from Sand Island and placement in their offshore location are expected to occur over a few days at the latter end of the construction period. Coordination will be required with the Harbor Master in scheduling the transport of the pipelines across the harbor channel to the placement sites.

Major Residential Projects

Koa Ridge, a planned residential community of 3,500 homes in Waipiʻo, Oʻahu, and Hoʻopili, a planned residential community of 11,700 homes in ʻEwa, Oʻahu, were recently approved by the State Land Use Commission (SLUC). These major projects are currently proceeding through the entitlement process, seeking zoning approval from the City. Final details of their development plans will continue to be refined.

In Kakaʻako, in urban Honolulu, the Hawaiʻi Community Development Authority (HCDA) is soliciting bids for a residential tower at 690 Pohukaina Street that could include 1,000 units. Master plans by the Howard Hughes Corporation and Kamehameha Schools allow for construction of as many as 3,750 more units nearby. Also in Kakaʻako, recent announcements have been made on other condominium-residential projects being planned for the area.

Although it is reasonable to expect that these projects will be constructed in phases, the magnitude of their overall size represents a significant undertaking that could have major impacts on the construction industry. The use of construction resources to implement the projects could affect the availability of such resources for other construction projects.

[2] Honolulu Seawater Air Conditioning, LLC, company representative Scott Higa, May 21, 2013.

6.3 ANALYSIS OF CUMULATIVE IMPACTS

An analysis of cumulative impacts was completed for the identified resource areas, which include: roadways and traffic; utilities; hydrology (surface runoff); climate and air quality (including greenhouse gases); noise; visual resources; terrestrial flora and fauna; and socioeconomics. Some resources/issues were not presented in this section as they are not inherently cumulative and evaluated in Chapters 3 and 4, or because they are not affected by or affect other projects. These resources/issues include: land use; land ownership; public health and safety; public facilities and services; topography, geology, and soils; cultural; and natural hazards.

6.3.1 Roadways And Traffic

The traffic analysis for this project estimated future traffic volumes on adjacent roads to the year 2039, the year the container yard would be in full operation and at capacity. This traffic analysis in Chapter 3 is inherently cumulative, including anticipated urban population growth and associated increases in traffic volume in the project vicinity. The traffic study was based on assumptions regarding several of the actions listed above, including those involving the relocation of existing businesses.

The Honolulu rail transit project, which would run along Dillingham Boulevard and Nimitz Highway near the Kapālama site, may affect traffic volumes on these roadways. However, the Proposed Action and Alternative Action would not contribute significantly to these cumulative impacts.

6.3.2 Utilities

There are no other planned projects that would adversely impact utilities in the Kapālama vicinity. The building demolition and site cleanup of the Kapālama site however, which is a separate project, would impact solid waste disposal. The building demolition and site cleanup would remove existing non-maritime buildings that total approximately 840,000 square feet in area. Some construction waste, such as concrete floor slabs, could be recycled on site as embankment material or for use as structural fill. Depending on recycling diversion rates, the amount of construction waste could be in the order of magnitude of about 20,000 tons, which is about 1.2 percent of the annual estimated total solid waste tonnage. The cumulative impact with the Proposed Action would be about 1.5 percent of the annual estimated total solid waste tonnage, which is relatively minor.

Construction hauling impacts of the non-marine buildings would not be cumulative because this separate action is anticipated to occur prior to the Proposed Action.

6.3.3 Hydrology

Development of various projects in Honolulu Harbor have the potential to cumulatively increase surface runoff during construction. However, with implementation of Best Management Practices (BMPs) as conditions of project-specific National Pollutant Discharge Elimination System (NPDES) permits, impacts would be avoided or minimized. There would be little or no cumulative increase in surface runoff during operations. Existing conditions in areas to be redeveloped are mainly paved surfaces and buildings, to be replaced by new pavement, structures, utilities, etc.

6.3.4 Climate And Air Quality

This section analyzes cumulative impacts of the Proposed Action in the context of state and federal policies addressing climate change and greenhouse gases (GHGs).

6.3.4.1 Climate Change (Including GHGs)

Climate change refers to changes in the mean and/or variability of climate properties that can be identified, e.g., using statistical tests, by changes, that persist for an extended period, typically decades or longer (IPCC 2007). The rise in global air temperatures and its association with the rise in anthropogenic (man-made) GHGs, primarily through the burning of fossil fuels, has led to the identification of climate change as an issue of great importance. As concluded by the Intergovernmental Panel on Climate Change (IPCC), most of the warming in recent decades is very likely the result of human activities (EPA 2012). Since 1900, the earth's average surface temperature has increased by about 1.2 to 1.4 degrees Fahrenheit (F) (EPA 2012).

Without GHGs, it is estimated that temperatures would be about 60 degrees F cooler (EPA 2012). GHGs include carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Each of these gases have its own global warming potential (GWP) to trap heat in the atmosphere relative to CO_2. Methane has 21 times the warming potential than CO_2, so it has a GWP of 21; CO_2's GWP is 1. Using these GWPs and the quantities of each gas, the gases can be aggregated and expressed in million metric tons of carbon dioxide equivalent ($MMTCO_2Eq$).

Projections of GHG concentrations and temperature in time suggest adverse effects of varying proportions due to alteration in the balance of energy transfers between the atmosphere, space, land, and oceans. In Hawai'i, the following changes have been observed: air temperature has risen; rainfall and stream flow have decreased; rain intensity has increased; sea level and sea surface temperatures have increased; and the ocean is acidifying (Fletcher 2010). Sea level rise can accelerate and expand erosion along beaches. Certain research indicates that a rise of three feet above the 1990 level could occur by the end of the 21st century (Vermeer 2009 and Fletcher

2009). While geographic variability exists and more monitoring and studies are needed, sea level rise is expected to continue.

Initiatives have been developed at both federal and state levels to address climate change. For purposes of this EIS, initiatives regarding GHG inventories and climate change adaptation planning are described below.

GHG Inventories. In general, inventories provide the quantification needed to establish and identify target reductions to stabilize GHG concentrations and to prevent dangerous influences on climate.

In 1992, the U.S. signed and ratified the United Nations Framework Convention on Climate Change (UNFCCC), which includes the ultimate objective of achieving stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Further, the UNFCCC identifies that such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner (EPA 2012). The latest U.S. inventory estimates that total U.S. GHG emissions in 2010 were 6,821.8 $MMTCO_2Eq$. The energy sector, primarily fossil fuel combustion, represented 83.6 percent of this total. Other sectors contributing lesser amounts are: industrial processes, solvent and other product use, agriculture, land use and land-use change, forestry, and waste. Between 2009 and 2010, total U.S. GHG emissions increased 3.2 percent, primarily as a result of an increase in energy consumption across all sectors and much warmer summer conditions resulting in an increase in electricity demand. Since 1990, U.S. GHGs have increased an average of 0.5 percent per year (EPA 2012).

The latest Hawai‘i inventory indicates total GHG emissions in 2007 of 24.27 $MMTCO_2Eq$. Marine transportation contributed 10 percent of all GHGs (2.16 $MMTCO_2Eq$). This compares to 20 percent (4.47 $MMTCO_2Eq$) for ground transportation, 22 percent (4.83 $MMTCO_2Eq$) for aviation transportation, and 40 percent (8.76 $MMTCO_2Eq$) for electric power.

No national, state, or local reporting or controls are imposed on GHG emissions from the sources considered in this cumulative impact analysis. However, federal and State of Hawai‘i directives and plans suggest that reporting and controls are likely to affect some of these sources under other requirements in the near future.

- With Executive Order (EO) 13514, October 5, 2009, the President established an integrated strategy toward sustainability in the federal government and made the reduction of GHG emissions a priority for federal agencies. The EO requires agencies to conduct and submit comprehensive inventories of GHG emissions, and to develop agency-wide targets for emissions reductions (FEMP 2012).

- With the promulgation of 40 CFR Part 98, referred to as the Greenhouse Gas Reporting Program (GHGRP) on October 30, 2009, large GHG emissions sources in the U.S. were required to report GHGs. Reporting is at the facility level, except for certain suppliers of fossil fuels and industrial GHGs. The 2010 data set was released in January 2012 and is being evaluated by the U.S. Environmental Protection Agency (EPA) for use in improving the UNFCCC-compliant inventory.
- At the State of Hawaiʻi level, the Global Warming Solutions Act (Act 234, Session Laws of Hawaiʻi 2007) established a policy to achieve statewide GHG emissions levels at or below those in 1990 by January 1, 2020. It also established a GHG emissions reduction task force to prepare a work plan and regulatory scheme to achieve the statewide GHG limits. The *Hawaii Greenhouse Gas Inventory: 1990 and 2007* (DBEDT 2008), an update of previously estimated 1990 GHG emissions and inventory of 2007 GHGs, was a product of Act 234. While rules to meet the 2020 GHG emission limit have not yet been promulgated,[3] draft rules have been developed by the State Department of Health (DOH). DOH plans to hold public hearings in the within the next couple of months, respond to public comments, and expedite the rule-making process.[4]

ADAPTATION PLANNING. State and federal governments have issued directives to manage the effects of climate change in both the short and long term.

- At the State level, Act 286, Session Laws of Hawaiʻi 2012, encourages collaboration and cooperation among county, state, and federal agencies, policy makers, businesses, and other community partners to plan for the impacts of climate change and avoid, minimize, or mitigate loss of life, land, and property of future generations. Act 286 amends the Hawaiʻi State Planning Act (Hawaiʻi Revised Statutes [HRS] Chapter 226) to include climate change adaptation priority guidelines.
- At the federal level, EO 13514 directs agencies to evaluate risks and vulnerabilities to manage climate change effects on the agency's operations and mission in the short and long term. EO 13514 charges agencies to actively participate in the Interagency Climate Change Adaptation Task Force and mandates the Task Force to develop recommendations for the President on how the policies and practices of federal agencies can be made compatible with and reinforce a national climate change adaptation strategy (CEQ 2011).

[3] Act 234 of 2007 directed the adoption and operation of rules by December 31, 2011.

[4] Personal communication between Mr. Nolan Hirai, Clean Air Branch Acting Manager of the State of Hawaiʻi Department of Health and Ms. Lesley Matsumoto, Belt Collins Hawaii. August 21, 2012.

No significant cumulative impacts on climate change would occur, as the GHG emissions from the Proposed Action and Alternative Action would not be sufficient to have an appreciable impact on climate. Rather, global man-made activities would also need to be considered. With that said, however, implementation of the Proposed Action and Alternative Action would reduce GHG emissions with the increase in efficiency (decrease in fuel use). Specific measures include improved handling operations using electric powered equipment within the yard, elimination of truck travel needed to move cargo from Sand Island to the inter-island barges on mainside, and elimination of vehicle miles traveled represented by the distance between Sand Island and the proposed Kapālama Container Terminal. Similarly, harbor related projects considered in this cumulative analysis should also help in reducing GHGs, as modernization implies use of newer technologies, equipment, and efficiencies.

No significant cumulative impacts from climate change would occur, as plans for adaptation have already been established, e.g., Act 286, Session Laws of Hawaiʻi 2012. Climate change adaptation considerations for the Proposed Action and Alternative Action are addressed in Chapter 3, Natural Hazards.

6.3.4.2 Air Quality

Implementation of the Proposed Action or Alternative Action and other harbor projects considered in this cumulative analysis would reduce regulated air pollutant emissions in Honolulu Harbor. With modernization, increases in handling and transportation efficiencies within and immediately outside of the harbor are expected. The use of newer technologies and equipment, as well as improved efficiencies, would serve to reduce air pollutant emissions. One such example is the possible use of electricity, rather than diesel-powered engines, for gantry cranes. Projects outside Honolulu Harbor may increase air pollutant emissions but are unlikely to cumulatively and significantly affect air quality. Existing air pollution control rules and regulations serve to minimize pollutant emissions, and regional meteorological conditions effectively disperse pollutants.

6.3.5 Noise Environment

The overall sound environment for Honolulu Harbor is characteristically marine industrial. Sources of sounds include gantry cranes, material handling equipment, generators, other mechanical and cargo equipment, vehicle movements, and ships. Of the projects considered in the cumulative assessment, the Kapālama Container Terminal would introduce the greatest change with respect to noise, and the noise impacts would primarily be localized. Cumulative impacts on noise would not be significant.

Other than the container terminal construction, the Honolulu Harbor projects would be either renovations to existing buildings or improvements to the pier being used by the moving tenants. These construction activities are not expected to exceed DOH regulations for construction noise. The noisiest construction activities that would impact areas outside the project boundary are pile and sheet driving, and possibly dredging for the new terminal. For these activities, a permit or variance from the DOH would be acquired prior to construction. Construction for the downtown portion of the Honolulu Rail Transit was expected to be started some time in 2017/2018, with the entire system completed in 2019. Construction for the container yard is expected to start in 2014. However, in August 2012, construction for the rail project was delayed in order to complete an archaeological study along the entire route. No schedule has been published on when construction would resume. This delay would increase the time between the Kapālama terminal and rail construction.

New technologies and equipment used to reduce air emissions and lower energy costs with the proposed terminal development also result in reducing source noise levels. One technology is a process called cold ironing. This allows a ship to draw power from an electric station allowing the ship to not run their engines while in port. Under the Proposed Action and Alternative Action, electric-powered gantry cranes could possibly be used, eliminating noise from diesel generators typically positioned high atop each crane. Another recent development are electric-powered and hybrid ships.

6.3.6 Visual Resources

The overall visual setting of Honolulu Harbor is characteristically marine industrial. Development of the container terminal and other new facilities would not appreciably change the appearance of the harbor, which would continue to include gantry cranes and other structures visible from a distance. Night-time operations would continue, requiring outdoor lighting. With little change in the general view of the harbor, cumulative visual impacts are expected to be minimal.

6.3.7 Marine Environment

The impacts disclosed in Chapter 4 of this EIS are site-specific, based on quantitative and qualitative surveys of marine fauna and flora conducted in June/July 2012 and November. Following is an assessment of potential cumulative impacts.

- **CORAL COMMUNITIES.** The proposed redevelopment would result in removal of old piers and other vertical structures whose surfaces provide habitat for both coral and macro-invertebrate communities. In addition, remaining corals not removed during dredging and excavation could be affected by sedimentation from construction activities. There may be a cumulative loss of coral when effects of the Kapālama project are combined with the effects of other in-water construction projects in Honolulu Harbor and elsewhere in the state.

- **MACRO-INVERTEBRATE COMMUNITIES.** See discussion above for coral communities; the same applies to macro-invertebrate communities.

- **ALGAL COMMUNITIES.** Algal communities were scarce at all locations surveyed for the Kapālama site and the Piers 24–28 site. The Proposed Action would not contribute to cumulative impacts on algal communities.

- **FISH COMMUNITIES.** Chapter 4 identified potential impacts on fish communities in sectors B and C at the Kapālama site and at Pier 27. Fish counts were low at the other locations. There may be cumulative impacts on fish communities when effects of the Kapālama project are combined with effects of other in-water construction projects in Honolulu Harbor and statewide. However, as noted in section 4.2, fish would be able to find suitable habitat at nearby locations.

- **RISK OF SPREAD OF INVASIVE SPECIES.** Approximately 200 introduced species have established communities in marine and brackish waters. In Hawaiʻi's harbors, ships are the main source of invasive species—on hull bottoms and from ballast water and solid ballast taken on by ships. Invasive species here originated largely from the Indo-Pacific region, but also from the tropical western Atlantic and Caribbean regions (Eldredge 2001).

  During dredging and filling activities, fragmentation of biological material could disperse invasive species, enabling regeneration from the fragments. These fragments have the potential to disperse to areas outside the harbor where such species do not yet occur. Measures to reduce fragmentation and prevent dispersal of fragments are suggested in Chapter 4. Implementation of appropriate mitigation measures on all dredging and filling projects with the potential for marine invasive species fragmentation would minimize cumulative impacts.

  During operations, the new Kapālama Container Terminal *per se* would not cause an increase in the introduction of invasive marine species. Rather, the projected increase in cargo volume and, hence, ship arrivals (which would occur with or without the Proposed Action or Alternative Action) pose the potential for more invasive species to be introduced here. The major pathway for aquatic species introductions is ballast water. Compliance with the existing National Invasive Species Act of 1996, as amended, and its implementing regulations prevent the discharge of ballast water and would continue to prevent the spread of aquatic nuisance species (ANS). [5] The project will also comply with the existing State of Hawaiʻi Aquatic Invasive Species (AIS) Management Plan (Department of Aquatic Resources, 2003). In addition, in March 2012, the Coast Guard accepted the final rule for Standards for Living Organisms in Ships' Ballast Water Discharged in U.S.

[5] ANS may displace native species, degrade native habitats, spread disease, and disrupt human social and economic activities that depend on water resources.

Waters. EPA also issued NPDES 2013 Vessel General Permit regulating discharges from commercial vessels, including ballast water, to reduce invasive species and protect the nation's waters from ship-borne pollutants. This general permit applies to commercial vessels greater than 79 feet in length, excluding military and recreational vessels. It will go into effect when the NPDES 2008 Vessel General Permit expires on December 19, 2013.[6]

- **REGULATED SPECIES.** The analysis in Chapter 4 discloses that construction-related impacts on Endangered Species Act (ESA)-listed species are more likely for the threatened green sea turtles than for other protected species. Mitigation measures include monitoring prior to pile driving activities and/or establishing appropriate stand-off distances. Mitigation measures will be developed during the USACE permitting process, the USACE's consultation process under Section 7 of the ESA, and the USACE's consultation process for Essential Fish Habitats (EFH) under the Magnuson Stevens Fishery Conservation and Management Act. These measures will serve to avoid or reduce cumulative impacts on regulated species.

6.3.8 Terrestrial Flora and Fauna

Other than the concern for the risks of spread of invasive species, no other cumulative impacts on terrestrial flora and fauna have been identified. Terrestrial invasive species concerns are presented herein.

Invasive species risks increase each year with the increase in goods and materials entering and leaving the state. The effects on the State economy can be costly. Federal studies estimate total potential annual damage to Hawai'i of between $593 million and $2.14 billion for the brown tree snake, over $200 million per year for the red fire ant, and upwards of $2 million per year for the coqui frog.

Former President Clinton issued EO 13112 in 1999 that directed federal agencies to cooperatively work to prevent the introduction of invasive species and to control and minimize their economic, ecological, and human health impacts. Invasive species was defined as "….an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health" (FR 1999). An alien species "…means, with respect to a particular ecosystem, any species…that is not native to that ecosystem" (FR 1999).

On the State level, the plant quarantine branch of the State Department of Agriculture (DOA) has worked for many years to prevent the entry of unwanted species that are harmful to agriculture, animal or public health, or natural resources.

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[6] http://gcaptain.com/us-coast-guard-lists-ballast-water-treatment-systems-as-alternate-management-systems/ and http://gcaptain.com/epa-finalizes-new-vessel-general-permit-to-protect-us-water-from-invasive-species/

Despite these efforts, many unwanted species have entered the state and caused damage to the islands' agricultural, native species, and the environment. With over 90 percent of consumer food and goods imported into the state, there are many pathways for the introduction of invasive species.

In 2003, the 22nd Legislature passed Act 85 pertaining to controlling invasive species in Hawaiʻi. The Act stated, "The legislature finds that the silent invasion of Hawaiʻi by insects, disease-bearing organisms, snakes, weeds, and other pests is the single greatest threat to Hawaiʻi's economy and natural environment and to the health and lifestyle of Hawaiʻi's people." The act aimed to upgrade the plant quarantine model by introducing the concept of a biosecurity program with multiple layers (DOA 2007):

- Pre-entry measures to minimize pest risks prior to entry;
- Port-of-entry inspections to detect pests upon arrival;
- Post-entry measures to mitigate the establishment of invasive species; and
- Growth of agriculture to reduce dependency on imports.

In 2011, the 26th State Legislature passed Act 202 pertaining to establishment of biosecurity facilities at airports and commercial harbors. The act recognized "…the need for the efficient and secure movement of agricultural commodities into the State, out of the State, and between the islands and important to the long-term health of the State's agricultural industry."…. For commercial harbors, the DOT-H was directed to provide space for biosecurity and inspection facilities at its harbors and work with the DOA to design and construct a biosecurity facility for DOA's use. The intent of the biosecurity was "…to enhance the efficient and safe movement of imported and exported marine cargo…."

Table 6-1 includes high-profile invasive species for the four main islands in the State of Hawaiʻi. These include species that are present only on certain islands, species that are widespread throughout the islands, species not in Hawaiʻi, and Hawaiʻi species not in the continental U.S. The Hawaiʻi Invasive Species Council (HISC) maintains this list. The HISC is composed of federal, state, international, and local agencies and groups that provide policy level initiatives for controlling and eradicating harmful invasive species. It is co-chaired by the State Department of Land and Natural Resources (DLNR) and the DOA. Various species on this list have also been crossed-checked with information from the DOA Plant Pest Control Branch.

Table 6-1. Hawai'i's High-Profile Invasive Species

Invasive Species Name	O'ahu	Maui	Kaua'i	Hawai'i
Africanized honey bee *(Apis melifera scutellata)*	Not present	Not present	Not present	Not present
Apple snail *(Pomacea canaliculata, Pomacea bridgesi, Pomacea paludosa,* and *Pila conica)*	Present	Present	Present	Present
Australian tree fern *(Cyathea cooperi)*	Spreading	Widely cultivated and naturalized	Spreading	Spreading
Barbados gooseberry *(Pereskia aculeate)*	Known from cultivation	Unknown	Unknown	Unknown
Biting flies	Not present	Not present	Not present	Not present
Brown treesnake, aka BTS *(Bolga irregularis)*	Not present	Not present	Not present	Not present
Bush beardgrass *(Andropogon glomeratus var. pumilus)*	Present	None known	None known	Established
Cat's claw *(Caesalpinia decapetala)*	Widespread	One location	Widespread	Present in Kau
Cattail *(Typha latifolia)*	Present	One location	Present	Unknown
Coqui frog *(Eleutherodactylus coqui)*	Limited	Present	Limited	Established
False Kava *(Piper auritum)*	Limited	Present	Limited	Unknown
Fire tree *(Morella faya)*	Established	Present	Present	Established
Fireweed *(Senecio madagascariensis)*	Removed	Present	Removed	Widespread
Fountain grass *(Pennisetum setaceum)*	Controlled	Limited	Limited	Established
Fruit flies (export to US problem)	Established	Established	Established	Established
Giant reed *(Arundo donax)*	Limited	Limited	Limited	Unknown
Gorse *(Ulex europaeus)*	Not present	Infestations	Not present	Infests higher altitude areas
Himalayan blackberry *(Rubus discolor;* syn: *Rubus armeniacus)*	Limited	Limited	None known	Present
Hiptage *(Hiptage benghalensis)*	Present	None known	Present	Unknown
Hookweed *(Hypnea musciformis)*	Present	Present	Limited	Not known
Ivy gourd *(Coccinia grandis)*	Widespread	Localized	Limited	Widespread
Kappaphycus spp. *(K. alvarezii,* and *K. striatum)*	Limited	Not known	Not known	Not known
Lethal yellowing	Not present	Not present	Not present	Not present
Little fire ant *(Wasmannia auropunctata)*	Not known	Present	Limited	Infestation on windward side
Long-thorn kiawe *(Prosopis juliflora)*	Present	None known	Present	Unknown
Miconia *(Miconia calvescens)*	Established	Present	One population	Present
Mongoose *(Herpestes javanicus)*	Established	Established	Verifying	Established
Nettle caterpillar *(Darna pallivitta)*	Present	Present	Present	Present

Table 6-1. Hawai‘i's High-Profile Invasive Species

Invasive Species Name	O‘ahu	Maui	Kaua‘i	Hawai‘i
New Zealand flax *(Phormium tenax)*	Present	Present	Present	Present
Pampas grass *(Cortaderia jubata, Cortaderia selloana)*	Limited	Present	Limited	Established
Plume poppy *(Bocconia frutescens)*	Present	Present	Not present	Infestations
Red Imported Fire Ant *(Solenopsis invicta;* syn: *Solenopsis wagner)*	Not present	Not present	Not present	Not present
Red-vented Bulbul *(Pycnonotus cafer)*	Present	Not known	Not known	Limited
Red-whiskered Bulbul *(Pycnonotus jocosus)*	Present	Not known	Not known	Not known
Rubbervine *(Cryptosegia grandiflora* and *C. madagascariensis)*	Present	Limited	Limited	Limited
Smoke bush *(Buddleja madagaascariensis)*	Present	Present	Spreading	Limited infestation
Glory bush *(Tibouchina)*	Present	Naturalized	Naturalized	Naturalized
Veiled chameleon *(Chamaeleo calyptratus)*	Not known	Not known	Single sighting	Not known
West Nile virus	Not known	Not known	Not known	Not known
Wood rose *(Merremia tuberosa)*	Present	Present	Present	Present

Source: Hawai‘i Invasive Species Council (HISC).
http://www.hawaiiinvasivespecies.org/pests/index.html, accessed June 30, 2012.

The list of pests designated for control or eradication by DOA and that warrant restriction on import and/or inter-island movement are contained in HAR Chapter 4-69-A.

There are several aspects to stopping the spread of invasive species:

- Export intervention: Prevent invasive species in Hawai‘i (such as fruit flies) from reaching the continental U.S. or other areas.
- Import intervention: Prevent invasive species (such as Africanized honey bee, biting flies, brown tree snake, and red imported fire ant) from entering Hawai‘i.
- Inter-island intervention: Prevent invasive species from moving from one island to another island. For example, fountain grass is established on the Island of Hawai‘i, but limited on O‘ahu, Maui, and Kaua‘i.

Cargo containers and their contents provide a pathway for invasive species to enter Hawai‘i or to exit Hawai‘i and enter the continental U.S. Cargo containers in transit to or from the Neighbor Islands, which can allow inter-island movement of invasive species. The inspection effort is a collaborative one involving federal and state agencies.

As part of the Proposed Action and Alternative Action, DOT-H would set aside approximately 2.5 acres at the Kapālama site where DOA could develop a biosecurity facility next to its existing facility. The biosecurity facility would include an inspection building (Phase 1) consisting of inspection bays with consolidation/ deconsolidation capability for neighbor islands cargo, and a Treatment Area building (Phase 2) with treatment capabilities for import/export goods. The harbor biosecurity facility would allow inspection off the port, reduce congestion at the harbor, and provide a climate controlled facility for food safety. DOA would fund development of this facility.

The Proposed Action and Alternative Action would enable the establishment of a biosecurity facility at the Kapālama site that would improve intervention efforts and reduce the cumulative risks associated with the spread of invasive terrestrial species.

6.3.9 Cultural Resources

The fishponds that once covered most of the Kapālama site were filled decades ago, and repeated investigations have been made to learn about them, as described in section 4.4.1.1. The warehouses built before and during World War II at that site have been used until the present. A study to the Historic American Buildings Survey (HABS) III standards has provided detailed documentation of the structures and their past uses. The warehouses will be vacated and demolished soon. The Proposed Action will have no additional impact on cultural resources and practices.

The studies undertaken on behalf of DOT-H have already provided mitigation for changes in the cultural landscape. No additional mitigation is needed.

6.3.10 Socioeconomics

The findings disclosed in Chapter 4, Socioeconomics, are based on a cumulative impacts analysis, with the region of influence (ROI) being the island of Oʻahu and even the entire state. Increased economic throughput and job growth as a result of projects listed above are examples of cumulative impacts discussed in Chapter 4. The operational efficiencies achieved with increased container yard space are the most significant impact of the project, with beneficial effect on the island and state economies.

Of particular interest is the possible cumulative impact of planned projects such as Koa Ridge and Hoʻopili on the construction industry—including the availability of labor, equipment, and materials. Since construction for the new container terminal is projected to begin in 2014, while the various Kakaʻako development projects and the two suburban residential projects are projected to begin further in the future with the possible use of different types of construction labor, no significant cumulative impacts are expected. The availability of labor, equipment, and materials may be cumulatively affected by other projects listed above, but the impact would depend on actual construction schedules and would occur after completion of construction of the Kapālama project.

Summary of Impacts 7

CHAPTER 7
SUMMARY OF IMPACTS

7.1 INTRODUCTION

Table 7-1 summarizes the potential impacts of the Proposed Action and alternatives (including Alternative Action and No Action Alternative), and possible mitigation measures, if needed, as disclosed in this Environmental Impact Statement (EIS). The probable intensity of project impact on the area's resources is shown in parentheses following each phase of the project's development or operation. The intensity of impact is shown as follows:

I = Unavoidable significant impact
II = Significant but mitigatable impact
III = No significant impact; minor impact[1]
IV = No impact or no impact determined

[1] For certain resources, impacts are avoided by compliance with management measures as part of the project, such regulatory requirements, best management practices (BMPs), and/or engineering design.

Table 7-1. Summary of Impacts by Resource Area

Impacts to Resource Area	Proposed Action Probable Impact	Alternative Action Potential Impact	No Action Alternative Potential Impact
Land Use	Construction: (Intensity of Impact: III) No significant impacts. Site is vacant at time of construction.	Construction: (Intensity of Impact: III) Similar to Proposed Action.	Construction: (Intensity of Impact: IV) No impact.
	Operations: (III) No significant impacts. New container yard would be consistent with existing industrial use of the property and compatible with other harbor land uses. Residential uses occur in nearby areas.	Operations: (III) Similar to Proposed Action.	Operations: (IV) No impact.
	Cumulative Impacts: (III)	Cumulative Impacts: (III)	Cumulative Impacts: (IV)
	Mitigation: No mitigation is required.	Mitigation: No mitigation is required.	Mitigation: No mitigation is required.
Land Ownership	Construction: (IV) No impacts. Entire project site is owned by the State of Hawai'i. Right-of-entry will be required for construction on portions of land owned by parties other than Department of Transportation, Harbors Division (DOT-H).	Construction: (IV) Similar to the Proposed Action.	Construction: (IV) No impact.
	Operations: (IV) No impacts. Leases and other land tenureships will be required for long-term use of lands owned by parties other than DOT-H.	Operations: (IV) Similar to the Proposed Action.	Operations: (IV) No impact.
	Cumulative Impacts: (IV)	Cumulative Impacts: (IV)	Cumulative Impacts: (IV)
	Mitigation: No mitigation is required.	Mitigation: Similar to the Proposed Action.	Mitigation: No mitigation is required.
Public Health and Safety	Construction: (II or III, to be determined) No significant risks to public health and safety. At the Kapālama site, a Phase II ESA is being conducted by the DOT-H to identify the nature and extent of any contaminant. Any resulting mitigation measures identified, which could include design and engineering methods, would be made part of the action.	Construction: (II) Similar to the Proposed Action.	Construction: (IV) No impact.

Table 7-1. Summary of Impacts by Resource Area

Impacts to Resource Area	Proposed Action Probable Impact	Alternative Action Potential Impact	No Action Alternative Potential Impact
Public Health and Safety *(cont)*	At the Piers 24-28 site, the DOT-H is coordinating with IDPP, and mitigation measures, particularly Institutional Controls, established in the Environmental Hazard Management Plan (EHMP) and any future updates will be made part of the planning and incorporated into the design of any construction. Activities would be conducted to comply with applicable environmental laws and regulations.		
	Operations: (II or III, to be determined) No significant risks to public health and safety. The Federal Aviation Administration (FAA) review process has been initiated and will be completed by the operator to secure a determination that the proposed crane structures within the area's navigable airspace do not pose an obstruction and are not a hazard to air navigation, under 14 Code of Federal Regulations (CFR) Part 77. At the Kapālama site, a Phase II ESA is being conducted by the DOT-H to identify the nature and extent of any contaminant. Any resulting mitigation measures identified, which could include design and engineering methods, would be made part of the action. At the Piers 24-28 site, the DOT-H is coordinating with IDPP. Mitigation measures, particularly Institutional Controls, established in the EHMP and any future updates will be made part of the planning and incorporated into the design of any operations. Activities would be conducted to comply with applicable environmental laws and regulations.	Operations: (II) Similar to the Proposed Action.	Operations: (IV) No change in impacts.
	Construction: If construction equipment is considered a hazard or obstruction to the airport's navigable airspace, impacts would be temporary for the length of time of construction.	Construction: Same as Proposed Action	Construction: None

Table 7-1. Summary of Impacts by Resource Area

Impacts to Resource Area	Proposed Action Probable Impact	Alternative Action Potential Impact	No Action Alternative Potential Impact
Public Health and Safety *(cont)*	Operations: If tall gantry cranes are used, flight or airline operators may need to recertify their aircraft fleet to meet One Engine Inoperative (OEI) requirements. Financial impacts to operators required to meet new OEI requirements (e.g., maintenance, fuel, load/passenger capacity, purchase new aircraft) are possible. If low-profile cranes are used, there may be no impact to OEI provisions; further studies may be needed.	Operations: Same as Proposed Action	Operations: None
	Cumulative Impacts: Possible increase in air fares and cargo transport fees. Operators may be unable to continue operations at HIA.	Cumulative Impacts: Same as Proposed Action	Operations: None
	Mitigation: If the future operator after consulting with FAA determines that an OEI analysis is needed, an analysis will be prepared and reviewed at that time.	Mitigation: Same as Proposed Action	Mitigation: None
	Cumulative Impacts: II or III, to be determined.	Cumulative Impacts: II or III, to be determined.	Cumulative Impacts: (IV)
~~Public Health and Safety *(cont)*~~	Mitigation. Mitigation measures would be identified after the Phase II ESA at the Kapālama site is completed. Depending on the nature and extent of any contaminant, such measures could include design and engineering methods that are made part of the Proposed Action. At Piers 24-28, ground disturbances could uncover hazardous materials. Tenants will be responsible for appropriate mitigation measures on potential adverse impacts.	Mitigation: No mitigation is required.	Mitigation: No mitigation is required.
Roadways and Traffic	Construction: (III) Construction-related traffic would be short-term and not expected to be significant.	Construction: (III) Similar to the Proposed Action.	Construction: (IV) No impact.

Table 7-1. Summary of Impacts by Resource Area

Impacts to Resource Area	Proposed Action Probable Impact	Alternative Action Potential Impact	No Action Alternative Potential Impact
Roadways and Traffic *(cont)*	Operations: (II) Traffic generated by the Proposed Action would not be significant as notable changes in traffic would be the result of the area's natural growth. Changes in traffic volumes due to the project would not notably decrease the Level of Service at the intersections immediately surrounding the Kapālama site. At the intersections along Sand Island Access Road (SIAR) and Auiki Street, there will be a slight reduction in traffic due to the internal routing of trucks from the container yard to the adjacent inter-island barge terminal. The existing traffic signal at the SIAR/Road No. 2 intersection is not warranted for the Proposed Action, but instead should be considered for the new truck entry/exit gate at the SIAR/Snug Harbor intersection. Also, a traffic light is being installed by the City at the Auiki Street - Mokauea Street intersection to improve area traffic and pedestrian safety. Impact on traffic from Piers 24-28 would be insignificant.	Operations: (II) Similar to the Proposed Action.	Operations: (II) Relative to existing conditions, traffic at seven intersections around Kapālama would degrade to LOS E or F as a result of area's natural growth.
	Cumulative Impacts: II and III as above.	Cumulative Impacts: II and III as above.	Cumulative Impacts: II and IV as above.
	Mitigation: No additional mitigation is required.	Mitigation: No additional mitigation is required.	Mitigation: No mitigation is required.
Utilities	Construction: (III) No significant impacts. Construction would be accomplished in compliance with applicable environmental regulations and permit requirements.	Construction: (III) Similar to the Proposed Action.	Construction: (IV) No impact.
	Operations: (III) No significant impacts. DOT-H will coordinate with City and County of Honolulu (City) agencies and utility companies to bring utility service to the site.	Operations: (III) Similar to the Proposed Action.	Operations: (IV) No impact.
	Cumulative Impacts: (III)	Cumulative Impacts: (III)	Cumulative Impacts: (IV)
	Mitigation: No mitigation is required.	Mitigation: No mitigation is required.	Mitigation: No mitigation is required.
Public Facilities and Services	Construction: (IV) No significant impacts. Existing services or facilities have the capacity to accommodate anticipated changes during construction.	Construction: (IV) Similar to the Proposed Action.	Construction: (IV) No impacts anticipated.

Table 7-1. Summary of Impacts by Resource Area

Impacts to Resource Area	Proposed Action Probable Impact	Alternative Action Potential Impact	No Action Alternative Potential Impact
Public Facilities and Services *(cont)*	Operations: (IV) No significant impacts. Existing services or facilities have the capacity to accommodate anticipated changes with the proposed use.	Operations: (IV) Similar to the Proposed Action.	Operations: (IV) No change in impacts.
	Cumulative Impacts: (IV)	Cumulative Impacts: (IV)	Cumulative Impacts: (IV)
	Mitigation: No mitigation is required.	Mitigation: No mitigation is required.	Mitigation: No mitigation is required.
Topography, Geology and Soils	Construction: (III) No significant impacts. Earthwork and grading would be conducted in compliance with applicable laws, regulations and National Pollutant Discharge Elimination System (NPDES) permit requirements, thus avoiding or minimizing impacts. Fill from excavation work would be used to the extent practicable to minimize the amount of fill from off-site sources needed to construct the proposed container yard and piers.	Construction: (III) Impacts would be less than Proposed Action as less fill would be required.	Construction: (IV) No impact.
	Operations: (IV) No impact. No alteration of topography, geology, or soils expected.	Operations: (IV) No impacts.	Operations: (IV) No impact.
	Cumulative Impacts: III and IV as above.	Cumulative Impacts: III and IV as above.	Cumulative Impacts: (IV)
	Mitigation: No additional mitigation is required.	Mitigation: No additional mitigation is required.	Mitigation: No mitigation is required.
Hydrology	Construction: (III) No significant impacts. Runoff to surface water would be avoided or minimized through compliance with NPDES permit requirements and implementation of BMPs. No impact would occur on potable groundwater resources.	Construction: (III) Similar to the Proposed Action.	Construction: (IV) No impact.
	Operations: (III) No significant impacts. Minimal net increase in impervious surface due to new pavement. With implementation of Low Impact Development (LID) standards, BMPs, and other measures required under the NPDES permit program, no substantial impact on surface water quality would occur. No impact would occur on potable groundwater resources.	Operations: (III) Similar to the Proposed Action.	Operations: (IV) No impact.
	Cumulative Impacts: (III)	Cumulative Impacts: (III)	Cumulative Impacts: (IV)

Table 7-1. Summary of Impacts by Resource Area

Impacts to Resource Area	Proposed Action Probable Impact	Alternative Action Potential Impact	No Action Alternative Potential Impact
Hydrology *(cont)*	Mitigation: No additional mitigation is required.	Mitigation: No additional mitigation is required.	Mitigation: No mitigation is required.
Natural Hazards	Construction: (III) No significant impacts. Disaster preparedness and evacuation procedures, as well as appropriate site designs, would be implemented.	Construction: (III) Similar to the Proposed Action.	Construction: (IV) No impact.
	Operations: (III) No significant impacts. Site development would be designed with respect to risks from known natural hazards and climate change to minimize impacts.	Operations: (III) Similar to the Proposed Action.	Operations: (IV) No impact.
	Cumulative Impacts: (III)	Cumulative Impacts: (III)	Cumulative Impacts: (IV)
	Mitigation: No additional mitigation is required.	Mitigation: No additional mitigation is required.	Mitigation: No mitigation is required.
Climate and Air Quality	Construction: (III) No significant impacts from temporary fugitive dust and diesel-powered vehicle/equipment emissions. Department of Health (DOH) regulatory controls and permit requirements would minimize impacts.	Construction: (III) Similar to the Proposed Action.	Construction: (IV) No impact.
~~Climate and Air Quality *(cont)*~~	Operations: (III) Emissions from diesel-powered equipment and vehicles would not significantly impact air quality. The Proposed Action would be designed so vessels moored at the berths could receive shore-based electricity. Other operations that could serve to reduce or minimize air emissions would include use of low-sulfur fuel, use of electric-powered gantry cranes, and use of electric-powered vehicles and equipment where possible. As applicable, permits under Hawai‘i Administrative Rules (HAR) 11-60.1 would be obtained by operators of regulated stationary source equipment.	Operations: (III) Similar to the Proposed Action.	Operations: (III) Existing container terminals on Sand Island would need to accommodate increase in overseas container volumes. Air emissions and GHGs would increase there, but not significantly because permitting process will control impact.

Table 7-1. Summary of Impacts by Resource Area

Impacts to Resource Area	Proposed Action Probable Impact	Alternative Action Potential Impact	No Action Alternative Potential Impact
Climate and Air Quality *(cont)*	**Cumulative Impacts: (III)** No significant cumulative impacts on climate change would occur, as the greenhouse gas (GHG) emissions from the Proposed Action and Alternative Action would not be sufficient to produce an appreciable impact on climate and would be the same as the No Action Alternative (see Chapter 6, Cumulative Impacts).	**Cumulative Impacts: (III)** Similar to the Proposed Action.	**Cumulative Impacts: III** and IV as above.
	Mitigation: No additional mitigation is required.	**Mitigation:** No additional mitigation is required.	**Mitigation:** No mitigation is required.
Noise Environment	**Construction: (III)** At the Kapālama site, unavoidable, temporary noise impacts would occur. With the use of mitigation measures as identified in the State DOH noise permit or variance, whichever is applied, impacts would be minimized. At Piers 24-28, no significant impacts from construction noise are expected.	**Construction: (III)** Similar to the Proposed Action. Impacts from pile driving, however, could occur over a longer period as additional piles would be needed to create the deck over Snug Harbor.	**Construction: (IV)** Existing container terminals on Sand Island would need to accommodate increase in overseas container volumes. Noise from the terminals would increase in longer durations.
~~Noise Environment *(cont)*~~	**Operations: (III)** Operational noise from the container terminal is expected to be within the applicable State maximum permissible sound levels. However, sound levels may likely be audible at nearby residences and could be the source of complaints. Possible mitigation measures have been identified and include: sound attenuation barriers/wall, selective siting of noisy operations, use of the quietest equipment, use of broadband backup alarms, and sound attenuation treatment on machinery. At Piers 24-28, noise is expected to be within the applicable State maximum permissible sound levels. However, sound levels may slightly exceed the State's nighttime maximum permissible levels for residential zones and could be the source of complaints from residences in Downtown Honolulu. Possible mitigation measures have been identified and include: monitoring noise levels and attenuation of nighttime/early morning shipyard noise.	**Operations: (III)** Similar to the Proposed Action.	**Operations: (III)** Noise levels would increase with the increase in truck trips between Sand Island and the inter-island vessel operators on Sand Island Access Road and Auiki Street, as the number of containers handled would continue to increase.

Table 7-1. Summary of Impacts by Resource Area

Impacts to Resource Area	Proposed Action Probable Impact	Alternative Action Potential Impact	No Action Alternative Potential Impact
Noise Environment *(cont)*	At Pier 20, noise is expected to be within the applicable State maximum permissible sound levels. However, sound levels at nearby residences may exceed the State's maximum permissible levels for residential zones and could be the source of complaints from residences in Downtown Honolulu. Possible mitigation measures have been identified and include: use of lights or radio frequency devices (rather than horns), use of broadband backup alarms, minimize engine speed, and use of resilient bumpers on grain hoppers.		
	Cumulative Impacts: (III)	Cumulative Impacts: (III)	Cumulative Impacts: III and IV as above.
	Mitigation: No additional mitigation is required.	Mitigation: No additional mitigation is required.	Mitigation: No mitigation is required.
Visual Resources	Construction: (III) Visual impacts from construction would be temporary and not significant.	Construction: (III) Similar to the Proposed Action.	Construction: (IV) No impact.
~~Visual Resources~~ ~~*(cont)*~~	Operations: (III) No significant impacts. Distant view of site would be obscured by surrounding industrial uses; view from uplands would be relatively indistinguishable within highly urbanized setting. Outdoor lighting would be visible from adjacent areas.	Operations: (III) Similar to the Proposed Action.	Operations: (IV) No impact.
	Cumulative Impacts: (III)	Cumulative Impacts: (III)	Cumulative Impacts: (IV)
	Mitigation: No mitigation is required. To minimize potential impacts of outdoor lighting, a range of mitigation measures are available, including: use of directional lighting; creation of lighting buffers; fences with slats along the property line; limiting night-time operations to specific areas in the yard and to specific times.	Mitigation: No mitigation is required.	Mitigation: No mitigation is required.

Table 7-1. Summary of Impacts by Resource Area

Impacts to Resource Area	Proposed Action Probable Impact	Alternative Action Potential Impact	No Action Alternative Potential Impact
Marine Environment	Construction: (II) Marine biota would be affected in varying degrees. Potentially significant impacts include loss of coral (mainly on piers and vertical surfaces), disturbance (marine acoustical impacts) to green sea turtles during pile driving, and spread of marine invasive species from fragmentation. The risk of spread of invasive species will be minimized with appropriate safeguard measures.	Construction: (II) Similar to the Proposed Action, except for impacts at Snug Harbor: less loss of coral at least in the short term and less loss of ocean water surface, but not usable for harbor vessels.. Constructing a deck over Snug Harbor rather than completely filling the harbor would reduce the initial loss of coral colonies but may reduce light below a threshold limit required for coral growth. Dredging in the existing harbor waters in front of the new pier would be similar to the Proposed Action.	Construction: (IV) No impact.
	Operations: (III) Impacts on marine biota will be avoided or minimized by complying with existing management measures, including regulatory requirements and standard operating procedures. The Proposed Action would enable DOA to develop a biosecurity facility, which would support efforts to mitigate invasive species.	Operations: (III) Similar to the Proposed Action.	Operations: (IV) No impact.
	Cumulative Impacts: II and III as above.	Cumulative Impacts: II and III as above.	Cumulative Impacts: (IV)
~~Marine Environment~~ ~~*(cont)*~~	Mitigation: Mitigation measures for in-water construction impacts will be developed during the Endangered Species Act (ESA) Section 7 and Magnuson-Stevens Act Essential Fish Habitats (EFH) consultations and U.S. Army Corps of Engineers (USACE) permitting processes.	Mitigation: Similar to the Proposed Action.	Mitigation: No mitigation is required.
Terrestrial Flora and Fauna	Construction: (III) No ESA-listed plant species occur on the property. Potential impacts to shorebirds would be temporary as alternative roosting areas are available nearby. The risk of introduction of new invasive species will be minimized with the measures identified in Chapter 4.	Construction: (III) Similar to the Proposed Action.	Construction: (IV) No impact.

Table 7-1. Summary of Impacts by Resource Area

Impacts to Resource Area	Proposed Action Probable Impact	Alternative Action Potential Impact	No Action Alternative Potential Impact
Terrestrial Flora and Fauna *(cont)*	Operations: (III) Downward oriented outdoor lights will reduce impacts on Newell's and wedge-tailed shearwaters.	Operations: (III) Similar to the Proposed Action.	Operations: (III) Without this development opportunity, the DOA's biosecurity facility would not be developed and would delay efforts to further minimize risks of spread of invasive species.
	Cumulative Impacts: (III)	Cumulative Impacts: (III)	Cumulative Impacts: III and IV as above.
	Mitigation: No additional mitigation identified. Should additional mitigation be identified when USACE satisfies its ESA Section 7 obligation, any mitigation will be made part of the Proposed Action.	Mitigation: No additional mitigation needed.	Mitigation: No mitigation is required.
Cultural Resources	Construction: (IV) No adverse impact. Existing site is vacant prior to construction of the Proposed Action No structures were determined significant for preservation when demolition occurred on earlier occupant buildings. Investigations show no cultural practices occur on or through the site. If human remains or subsurface archaeological resources are encountered during construction, work would stop and SHPD would be contacted in accordance with State law and rules.	Construction: (IV) Similar to the Proposed Action.	Construction: (IV) No impact.
	Operations: (IV) No adverse impact.	Operations: (IV) Similar to the Proposed Action.	Operations: (IV) No impact.
	Cumulative Impacts: (IV)	Cumulative Impacts: (IV)	Cumulative Impacts: (IV)
~~Cultural Resources *(cont)*~~	Mitigation: No mitigation is required.	Mitigation: None.	Mitigation: No mitigation is required.
Socio-economics	Construction: (I) Significant beneficial impacts on construction jobs and wages would occur. The 998 direct jobs and 1,676 indirect and induced jobs would benefit the economy. A few additional jobs would be generated by renovation and new construction at Piers 24-28 as well.	Construction: (I) Similar to the Proposed Action. Economy would benefit more from this alternative which includes 1,378 direct jobs and 2,315 indirect and induced jobs.	Construction: (IV) No impact.

Table 7-1. Summary of Impacts by Resource Area

Impacts to Resource Area	Proposed Action Probable Impact	Alternative Action Potential Impact	No Action Alternative Potential Impact
Socio-economics *(cont)*	Operations: (I) Significant long-term beneficial increase in efficiency and consequential support for the island and State economies. Increased capacity in the harbor's container terminals would increase efficiency of cargo handling. New jobs would be created stimulating further spending and growth in the economy.	Operations: (I) Similar to the Proposed Action, although maintenance of improvements and waters at Snug Harbor could reduce operational efficiency and container throughput.	Operations: (I) Shipment of goods and supplies to Hawai‘i would be constrained by limited capacity of existing container terminals. Cost of doing business in the ports would increase which would translate to higher cost of goods shipped in and out of Honolulu.
	Cumulative Impacts: (I)	Cumulative Impacts: (I)	Cumulative Impacts: I and IV as above.
	Mitigation: No mitigation is required.	Mitigation: No mitigation is required.	Mitigation: No mitigation is required.

Other Considerations 8

CHAPTER 8
OTHER CONSIDERATIONS

8.1 RELATIONSHIPS BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

Section 11-200-17, Hawai'i Administrative Rules (HAR) requires discussion of the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. Short-term and long-term do not necessarily refer to fixed time periods but are viewed relative to environmentally significant consequences of the Proposed Action. This section discusses the extent to which the Proposed Action involves trade-offs among short-term and long-term gains and losses, as well as the extent to which the Proposed Action forecloses future options and/or narrows the range of beneficial uses of the environment.

Short-term impacts would result from construction activities on land and in the waters of the harbor. Short-term construction-related traffic, noise, air quality, and water quality impacts described in this document would not be significant given implementation of required Best Management Practices (BMPs) to avoid or minimize impacts. In addition, there is a potential for short-term impacts on Endangered Species Act (ESA) listed green sea turtles during in-water construction activities such as pile driving. Mitigation would be developed in the ESA Section 7 consultation process. Development of container terminal piers would not foreclose future use of harbor waters by green sea turtles.

The project requires dredging and filling to develop new pier facilities, which would involve removal of existing coral. Most of the coral to be removed is located on old piers and other vertical structures. This impact represents a trade-off between loss of coral resources and enhancing the long-term productivity of Honolulu Harbor. It is recognized that failing to accommodate future growth in cargo demand (No Action Alternative) could lead to negative socio-economic impacts for O'ahu and the rest of the state. The U.S. Army Corps of Engineers (USACE) will be preparing a National Environmental Policy Act (NEPA) compliance document that will address any coral mitigation measures required prior to construction.

8.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES BY THE PROPOSED ACTION

A commitment of resources is considered irreversible when it precludes restoration of those resources to their pre-project condition. Use, consumption, destruction, or degradation of resources resulting from implementation of the Proposed Action, such that those resources cannot be retrieved or replaced in any form, is considered an irretrievable commitment of resources. One issue to be addressed is the use of non-renewable resources during the construction and operational phases of the Proposed Action.

Irreversible and irretrievable commitments of resources during construction include:

- Use of construction materials;
- Excavation and disposal of soil and sediment;
- Use of available space in the construction and demolition landfill;
- Expenditure of funds to finance construction;
- Construction manpower; and
- Use of energy in the form of direct consumption of fossil fuel for vehicles and equipment.

With construction of the piers and dredging to achieve adequate depths, certain marine biota would be irreversibly or irretrievably lost, including coral communities. However, depending on the outcome of ESA Section 7 consultations, loss of coral at the Kapālama site may be mitigated to some extent by the provision of suitable coral habitat at another location.

Fossil fuel would be irreversibly and irretrievably committed during operations to provide electrical power to the container yard.

8.3 PROBABLE ADVERSE ENVIRONMENTAL IMPACTS WHICH CANNOT BE AVOIDED

The Proposed Action, including the required dredging and filling activity, could result in certain unavoidable environmental impacts. Loss of coral and potential impacts on green sea turtles are two examples. Another example is the likelihood that future growth in cargo demand and the resulting increase in ship traffic that the new container terminal is intended to accommodate may foster the spread of invasive species. In addition, noise during operations at the container terminal—particularly at night—may affect nearby area residents. Measures are available to mitigate these impacts to levels that are not significant.

Construction associated with the Proposed Action would generate short-term impacts such as noise, fugitive dust, emissions from vehicles and equipment, traffic congestion, and sedimentation. These impacts cannot be avoided but would be limited to the immediate construction vicinity and managed through implementations of BMPs in accordance with applicable regulations.

8.4 UNRESOLVED ISSUES

~~No unresolved issues have been identified.~~A determination by the FAA on whether or not the height of the cranes would cause an aeronautical hazard is still pending. The future operator of the Kapālama site will need to mitigate impacts to airspace if the cranes pose a hazard.

9 List of Preparers

CHAPTER 9
LIST OF PREPARERS

This Environmental Impact Statement (EIS) for the Kapālama Container Terminal project was prepared for the State of Hawaiʻi Department of Transportation, Harbors Division (DOT-H). The prime consultant for this EIS is Belt Collins Hawaii LLC. The following list identifies the organizations and individuals involved in the preparation of this document.

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APPENDIX A

Public Involvement

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Final Environmental Assessment/Environmental Impact Statement Preparation Notice

A-2
Environmental Impact Statement Preparation Notice Comment Letters

A-3
Environmental Impact Statement Preparation Notice Response Letters

A-4
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FINAL ENVIRONMENTAL ASSESSMENT/ ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

Kapalama Container Terminal
Honolulu Harbor

State of Hawai´i
Department of Transportation
Harbors Division

FINAL ENVIRONMENTAL ASSESSMENT/ ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

Kapalama Container Terminal
Honolulu Harbor

November 2011

Prepared for:

State of Hawai´i
Department of Transportation
Harbors Division

Prepared by:

Belt Collins Hawaii Ltd.
Honolulu, Hawaii

A-1. Environmental Impact Statement Preparation Notice

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ACRONYMS AND ABBREVIATIONS

BMPs	Best Management Practices
CIA	Cultural Impact Assessment
DEIS	Draft Environmental Impact Statement
DLNR	Department of Land and Natural Resources, State of Hawai´i
DOA	Department of Agriculture, State of Hawai´i
DOH	Department of Health, State of Hawai´i
DOT-Harbors	Department of Transportation, Harbors Division, State of Hawai´i
EIS	Environmental Impact Statement
EISPN	Environmental Impact Statement Preparation Notice
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FAA	Federal Aviation Agency
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
HAR	Hawai´i Administrative Rules
HHUG	Hawai´i Harbors User Group
HRHP	Hawai´i Register of Historic Places
HRS	Hawai´i Revised Statutes
KMR	Kapalama Military Reservation
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
TMK	Tax Map Key
UH	University of Hawai´i
U.S.	United States

1 Proposing Agency

The State of Hawai´i (State) Department of Transportation, Harbors Division (DOT-Harbors) is the proposing agency for this action.

2 Accepting Authority

The accepting authority for the Environmental Impact Statement (EIS) is the Governor of Hawai´i or the Governor's authorized representative.

3 Purpose of Environmental Impact Statement Preparation Notice (EISPN)

This EISPN was prepared in accordance with Hawai´i Administrative Rules (HAR) Title 11 Chapter 200, which implements Hawai´i Revised Statutes (HRS) Chapter 343.The intent of this EISPN is to inform interested parties of the project, and to seek agency and public input on issues or resources of concern. Input received as a result of the EISPN that is relevant to the proposed action will be used in developing the Draft Environmental Impact Statement (DEIS), HRS Chapter 343 requirements are applicable to this project because the proposed action will use State land and funds.

4 Project Description

DOT-Harbors is proposing to redevelop the former Kapalama Military Reservation (KMR) property at Honolulu Harbor into a new shipping container terminal to handle current and projected cargo volumes. Formerly owned by the U.S. government, the land was acquired by the State in 1993 for future harbor expansion and improvements.

The approximately 90-acre Kapalama site is bounded on the west by Sand Island Access Road, on the north by Auiki Street, on the east by Young Brothers' inter-island barge terminal, and on the south by the harbor waters of Kapalama Basin (Figure 1). Existing vehicular access is via Sand Island Access Road and Auiki Street.

The DEIS will evaluate direct impacts associated with the proposed action and its alternative actions, as well as indirect and cumulative impacts associated with the construction and long-term operation of the project.

4.1 Purpose and Need for the Project

Hawai´i is the only state in the nation that is completely surrounded by ocean and, as a result, its residents are heavily dependent on ocean surface transportation for their sustenance. Approximately 80 percent of Hawai´i's goods—including food, consumer products, vehicles, fuel, and construction materials—are imported into the state. Of that amount, 98 percent comes through its commercial harbors. Ocean transportation and commercial harbors are Hawai´i's lifeline to the world, supporting every facet of the islands' economy.

As the resident population in the islands continues to grow, and to ensure continued and unimpeded movement of cargo in and out of the state, as well as between the islands, the commercial harbors in Hawai‘i must undergo major expansion and improvements. Through the years, transported cargo has been increasingly containerized. Containerized cargo throughput at the existing Sand Island container terminals is projected to increase at an annual compounded rate of three percent, based on the direct linehaul (service between Honolulu and the mainland) growth in containerized cargo between 1994 and 2005. Although recent throughput has slowed as a result of current economic conditions, long-term growth trends continue to push for increased terminal capacity at Honolulu Harbor.

Existing terminal capacity in Honolulu Harbor, the hub of the state commercial harbor system, has not been recently expanded. If no new capacity is developed in the current projection timeframe, major reductions in service time and increases in cost at the Sand Island terminals are expected. By 2020, the movement and handling of cargo will effectively be constrained with significant impacts on Hawai´i's economy, including lost jobs and income, foregone business revenue and taxes, and potential shortages of goods. By 2030, the loss of real gross state product could amount to $50 million, and consumers could be subject to 18 percent higher shipping costs. Expansion of container terminal capacity in Honolulu Harbor is a high priority to assure that continuing growth in cargo volumes entering the state is accommodated.

4.2 Background

As early as 1989, a container cargo facility was included in the *Honolulu Waterfront Master Plan* on directions from the Office of State Planning.

In 1991, the *Final Master Plan Report, Kapalama Development Project* , was prepared and included a development program for the container terminal operation, State Department of Agriculture facility, and some related-maritime users.

The *Oahu Commercial Harbors 2020 Master Plan*, which was prepared in 1997 and updated the *Honolulu Waterfront Master Plan* and the *2010 Master Plan for Barbers Point Harbor*, ensures Oahu's commercial harbors will be capable of meeting the expanding needs of the State's growing economy through the year 2020.

In 2008, the Hawai´i State Legislature appropriated funds to implement the State's *Harbors Modernization Plan*. The Plan, prepared by DOT-Harbors in partnership with the Hawai´i Harbors User Group (HHUG), included priorities to expand and upgrade statewide commercial harbor facilities to meet the need for increased maritime cargo and passenger service. Recognizing the vital importance of Honolulu Harbor in the state's commercial harbor system, the Plan called for constructing a new container terminal at the former KMR site.

In moving forward with the development of the new container terminal, existing tenants will be required to relocate from the property. The former KMR site is presently occupied by some shipping-related companies, a University of Hawai´i (UH) marine research facility, and a number of small maritime and non-maritime enterprises (Figure 2). All, except a handful, are on month-to-month revocable permits and are on notice for future non-renewal of permit. Those who are not on permits are on leases which are due to expire in the short-term. All of the tenants have been informed of the pending development plan for the property.

The specific date when all tenants must move out of the property has not been firmly established and is dependent on the project's final construction schedule. At a recent public meeting on the project, attendees were told that the tenants could possibly expect relocation notices in 2014. To date, a few major tenants have secured or are in the process of securing

relocation sites elsewhere within the harbor. The UH marine research facility is planning to relocate a major portion of its facility to Piers 34 and 35, and two or three other maritime tenants are planning to relocate to Piers 24 to 28. To accommodate their move, possible dock-side improvements and renovations may be performed.

4.3 Proposed Action

The proposed action calls for the following improvements (see Figure 3):

- Development of an approximately 90-acre container yard with necessary support buildings, fencing and gates, gantry cranes and container-handling equipment, onsite utilities and lighting, and associated off-site improvements, including a direct access connection with the adjacent Young Brothers inter-island barge operation.
- Construction of a deep draft wharf or pier with berthing capacity to accommodate two container ships. This improvement will involve filling in Snug Harbor and dredging in the area fronting the container yard to achieve sufficient water depth at the new wharf.
- Improvements to Piers 40 and 41 to accommodate use for interisland cargo operations.

Operational hours for the new container terminal are anticipated to be from Monday through Sunday, 24 hours per day. Heavy activity in the container yard, however, will depend on when a container ship is in port. Typical peak times or days for existing terminals are Mondays and Thursdays. Additionally, container truck pick-ups and deliveries from the container terminal are expected to occur only during the daytime hours.

4.4 Alternatives Considered

4.4.1 Alternative Yard Configurations

DOT-Harbors considered several layouts/configurations for the new container terminal, including:

- Waterfront wharf alignment:
  - Option 1: Longest possible main berth face; preferred since it serves two vessels simultaneously and provides more container yard area in a favorable layout (Figure 3).
  - Option 2: A two-segmented main berth that permits more total length but reduces container yard area (Figure 5).
- Barge berth alignment:

  Three options were considered for the development of a barge berth along existing Pier 41 at the eastern edge of the proposed container terminal (Figure 6). Young Brothers may eventually operate barges from this berth as an expansion of its existing facility. Hence, adequate clearance is needed between Pier 41 and Pier 40 to facilitate operations of a large barge. The options vary in terms of clearance distance between Piers 41 and 40, length and angle of the main berth, and cargo yard area. Two of the options comprise DOT-Harbors' preferred approach:

- Option 1 - Improvement of Pier 41 berth in its current location with 256 feet of clearance distance with Pier 40.
- Option 2 - Widening of Pier 41 berth area to achieve 300 feet of clearance without sacrificing main berth length or cargo yard area.

- Container terminal truck access:

  Two options for truck access to the terminal were considered. One option is for access from Sand Island Access Road (Figure 3), and the other option is for access from Auiki Street (Figure 4). The Sand Island Access Road is the preferred option to avoid impacts on neighboring mixed-use Kalihi Kai characterized by narrow roads.

4.4.2 Alternative Location

Alternative locations within the harbor are extremely limited given the required land area to operate a fully functional container terminal. Over 85 percent of the waterfront in Honolulu Harbor is already occupied by existing facilities.

Piers 26 to 29 are vacant but are committed to other harbor users. Even if these piers were not committed, the land behind the piers would not be sufficient to accommodate a fully functional container terminal.

4.4.3 No Action

Under the "No Action" alternative, DOT-Harbors would not redevelop the former KMR site into a container terminal. Honolulu Harbor would continue to operate with existing facilities at their existing locations. Future increases in cargo volume would create stress on facilities and infrastructure, with the container terminals operating at overcapacity. This could cause delays in cargo deliveries, increase transportation fuel costs, and increase the cost of consumer products. A modest increase in terminal capacity may be possible through improvements in cargo-handling technology, but not sufficient to meet future needs.

Environmentally, no redevelopment of the Kapalama property would result in no changes to the site's physical and biological conditions and to the harbor waters. Existing land uses on the property would continue to operate unaffected.

Proceeding with the no action alternative would not meet the purpose and need for the project.

4.5 Time Frame

The Final Environmental Impact Statement (FEIS) is expected to be completed in the fall of 2012. Design of the facility will then begin. Once all land use, environmental, and construction permits and approvals as well as financing are secured, construction can commence.

4.6 Funding Source

The proposed improvements, estimated to cost $221 million (2011 estimate), will be paid for by revenue bonds. Potential sources of project funding include harbors revenue bonds, revenue from harbor activities, rentals, and leases. The financial plan for the project includes a combination of scheduled increases in harbor user fees (tariffs) and land leases with minimum annual guarantees.

4.7 Required Permits and Approvals

The State Land Use Law (HRS Chapter 205) established the Land Use Commission and placed all lands in one of four land use districts: Urban, Agricultural, Conservation, or Rural. The commercial harbors in the state are designated in the Urban district. According to HRS Chapter 205-2(b), "Urban districts shall include activities or uses as provided by the ordinances or regulations of the county within which the urban district is situated." Due to the crucial role of the commercial harbors in the islands, DOT-Harbors (rather than the respective counties) has jurisdiction over all commercial harbors.

Development of the container terminal at the Kapalama site will be consistent with applicable federal, state and county land use plans and policies, which will be specifically addressed in the DEIS.

In-water construction will require a U.S. Department of the Army Permit in accordance with the federal Clean Water Act and compliance with the Coastal Zone Management (CZM) Act, Endangered Species Act, and other applicable laws and regulations. A major part of the in-water construction will involve dredging and construction of the new wharf. Depending on the results of a bioassay test, the dredged material will be taken to an ocean disposal site or upland disposal site with approval from the appropriate authorities. Disposal of the dredged material as a fill in Snug Harbor will also be explored.

DOH-established Water Quality Standards are set forth in HAR 11-54. Honolulu Harbor is classified as Class A marine waters. The objective of Class A waters is that their use for recreational purposes and aesthetic enjoyment be protected. Other uses are permitted as long as they are compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters.

A Conservation District Use Permit from the State Board of Land and Natural Resources is expected to be required for construction of the wharf improvement in the harbor water.

Since construction on the project site will occur over an area of one acre or more, a National Pollutant Discharge Elimination Systems (NPDES) Permit will be required. This permit relates to projects that, among others, potentially generate stormwater associated with construction activities resulting in the disturbance of equal to or greater than one acre of total land area.

In summary, the following permits and approvals will be required before construction on the project can begin.

Permits or Approvals	Regulatory Agency
Federal	
U.S. Department of Army Permit	U.S. Army Corps of Engineers
Ocean Disposal of Dredged Material (or)	Environmental Protection Agency/US Army Corps of Engineers
Upland Disposal of Dredged Material	Disposal Site Operator
State	
Section 401 Water Quality Certification	Department of Health
Coastal Zone Management (CZM) Federal Consistency Certification	Office of Planning
Conservation District Use Permit	Office of Conservation and Coastal Lands, Board of Land and Natural Resources
National Pollutant Discharge Elimination Systems (NPDES) Permit	Department of Health

5 Summary of Affected Environment, Potential Impacts, and Proposed Mitigation Measures

The DEIS will discuss the relationship of the proposed action to land use plans, policies, and controls for the affected project area. It will identify and evaluate potential impacts of the proposed action and its alternatives (including no action) and propose mitigation measures to prevent or minimize any adverse impacts. Cumulative impacts will also be addressed in the DEIS. Preliminary information about relevant resource areas is summarized below.

5.1 Existing Land Use

The waterfront section of the Kapalama container terminal site, known as Snug Harbor, is presently occupied by the University of Hawai´i Marine Center. Plans are underway to relocate the Marine Center to another site within the harbor. There are over 80 other tenants who are predominantly on month-to-month revocable permits and are occupying the former military warehouse buildings on the property. A few tenants are in separate structures and are on leases, which are due to expire in the short term.

Businesses on the property are a mix of light industrial and commercial uses. Some are maritime-related businesses which would look to relocate somewhere within the harbor, and the majority of businesses that are non-maritime related and which would look to relocate outside of the harbor area. The State Department of Agriculture has a plant quarantine inspection and treatment facility as well as office spaces on the former KMR property, but are not included in the Kapalama container terminal project site.

Uses in the immediate surrounding area include Young Brothers Limited inter-island cargo operations, fuel storage facilities, Servco Pacific, Ke´ehi Small Boat Harbor, and a mix of land uses in the Kalihi Kai area, predominantly light industrial (e.g., construction base yards,

warehouses, and wholesalers), as well as retail, and some residential. Matson Navigation Company and Horizon Lines, LLC are located on Sand Island across the channel from the project site.

5.2 Land Ownership

The Kapalama container terminal site consists of approximately 90 acres and is bound by Sand Island Access Road on the west, Auiki Street on the north, Pier 40 on the east, and Kapalama Basin on the south. DOT-Harbors is the primary owner of the Kapalama site with the exception of the State Department of Land and Natural Resources (DLNR), which owns the approximately 16-acre Snug Harbor section of the property and DOT-Airports Division, which owns an approximately 11-acre section along Sand Island Access Road. The DLNR waterfront area is presently occupied by the UH Marine Center via a lease. The DOT-Airports land along Sand Island Access Road is occupied by warehouse buildings and vehicle parking and is ceded land.

In the northern section of the Kapalama site, a less than five-acre section with access from Auiki Street is owned by the State and used by the Department of Agriculture (DOA) via Executive Order 4075. This isolated site is not included in the development of the Kapalama container terminal.

Use of State funds and land and the anticipated probable impacts from the proposed action are reasons an EIS is being prepared for this project. Development of the site for a single use and operator may interest DOT-Harbors to consolidate the multiple parcels into a single parcel.

5.3 Geology, Soils, and Topography

In the early 1930s, the shoreline in lower Kapalama, which included two fishponds, was located just makai of Auiki Street, and Sand Island was a shallow reef flat. In subsequent years, the fishponds were filled from the dredging of seaplane runways in Ke´ehi Lagoon and construction of the Kapalama basin in Honolulu Harbor. Snug Harbor was constructed in the mid-1940s for the military, and in 1972, the deck section at Snug Harbor was completed for the University of Hawai´i research facility. The shoreline of the filled land is now located more than 400 feet makai of Sand Island Access Road.

The Kapalama site is relatively level with elevations ranging from approximately 8 feet (above mean sea level) at the Auiki Street boundary to approximately 5 feet (msl) at the waterfront. The property is virtually all paved, and stormwater runoff is by sheetflow to a limited underground stormwater drainage system which discharges into the harbor.

5.4 Terrestrial Biological Resources

Given the developed condition of the property, the presence of terrestrial flora and fauna is sparse. Existing flora includes small patches of grass or groundcover, and existing fauna generally consists of stray domestic animals and low-land urban birds. Threatened and endangered terrestrial species are not known to permanently inhabit the site, but may occur in the vicinity or occasionally pass through the harbor area (e.g., threatened Newell's shearwater, *Puffinus auricularis newelli*).

Adverse direct impacts to terrestrial biota resulting from the proposed action are not expected to be significant. Artificial lights could present a danger to threatened or endangered seabirds that may pass through the Kapalama site. However, the risk of groundings would be reduced by use of shielded lighting on most fixtures at the harbor.

5.5 Marine Environment

Development of the new container terminal will require filling in Snug Harbor and constructing a new wharf along the length of the container yard waterfront. Construction of the wharf will involve dredging in the harbor water and disposal of the dredged material to an appropriate site.

In contrast to the sparse distribution of terrestrial flora and fauna, marine biota within Honolulu Harbor is more probable in abundance and diversity. Threatened and endangered marine species may occasionally occur in or near the harbor water (e.g., threatened green sea turtle, *Chelonia mydas* and endangered Hawai´ian monk seal, *Monachus schauinslandi*. Other protected marine species are also present in the open ocean.

A marine environmental assessment will be conducted and its findings and recommended mitigative measures will be included in the DEIS. The study will include a biota survey, water quality assessment, and sediment testing. It is noted that sediments in the harbor water come not only from runoffs on adjacent harbor facilities but also from flows in streams that discharge into the harbor. Of particular focus, the study will determine whether any threatened or endangered marine species or coral reef ecosystems (presently a candidate for the endangered species list) will be negatively affected, and if that is the case, a quantitative analysis will be performed to determine the type, size, and number of such species in the area.

Results from the sediment testing will determine whether the dredged material is suitable for ocean disposal under federal Environmental Protection Agency (EPA) review or is required for disposal to an approved upland containment site. An alternative to the latter may be shipment of the material to an approved mainland facility.

Pile drivers may be used to install concrete piles and/or sheet piles along the wharf improvement. As a result, marine or underwater noise is expected to be generated and could adversely affect possible threatened or endangered marine life in the area. Construction methodology for the project will be evaluated to determine mitigative measures to minimize underwater noise impacts.

Adverse direct impacts to surface water quality resulting from the proposed action are not expected to be significant. Any generation of sediment plumes is expected to be controlled by Best Management Practices (BMPs) and turbidity control devices, such as silt curtains, cofferdams, etc., to prevent widespread effects in the harbor and drifts to Ke´ehi Lagoon and the open ocean.

5.6 Natural Hazards

According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM) for Honolulu, the Kapalama site is located outside of any significant floodway. A portion of the site is located within the tsunami evacuation zone, as identified by the Hawai´i Civil Defense.

Earthquakes could occur and cause damage to the site depending on the earthquake's epicenter location and magnitude. Most of the earthquakes in the islands occur at the far eastern end of the island chain where rift zones and volcanoes are still active. Facilities will be designed and constructed in accordance with site-specific geotechnical and structural engineering investigations and would comply with applicable seismic design criteria.

5.7 Cultural Resources

Cultural resources include archaeological sites/features and buildings listed on or eligible for listing on the National Register of Historic Places (NRHP) or the Hawai‘i Register of Historic Places (HRHP), as well as traditional cultural practices.

The U.S. Geological Survey maps, prepared by the Department of Engineering, Territory of Hawai´i, during 1927-1928, show two fishponds in the project area: Auiki Pond and Ananoho Pond. These ponds have since been filled and the shoreline extended to the present location to accommodate light industrial and maritime uses. Within the vicinity, the U.S. military took control of a large area of the filled land in 1941 and established the Kapalama Military Reservation (KMR) for use as a logistics support and warehouse facility. Almost all of the buildings that were constructed during their tenure still remain and are currently being used by tenants.

In a recent inventory survey of the former KMR property, the buildings were noted to be constructed primarily in the mid-1940s. These would qualify the structures as “historic” under State law, but from a preservation standpoint they are not architecturally significant nor historically important. The State Historic Preservation Division (SHPD) has issued a letter indicating the proposed harbor improvement would not affect any historically significant feature. A subsequent consultation with SHPD is being planned for the EIS preparation process to confirm the agency’s original assessment of the property.

5.8 Visual and Aesthetic Resources

Visual resources include scenic vistas, scenic overlooks, unique topography, or visual landmarks having scenic value. Honolulu Harbor generally has a developed and industrial appearance with industrial buildings and warehouse structures, paved parking, gantry cranes and container storage yards, service/utility facilities, and minimal trees and other landscaping.

Adverse impacts to visual and aesthetic resources are not anticipated as a result of the proposed action. The appearance of the container terminal will be consistent with the existing maritime industrial setting of the commercial harbor.

5.9 Socio-Economic Setting

The socio-economic environment is a reflection of economic and social factors on the island. The existing socio-economic environment of Kapalama, the Island of O´ahu, and state, including population, economy, and shipping transportation, will be assessed in the DEIS

The draft environmental document will also review the tenant relocation process at the site and its impact on the community.

5.10 Public Health and Safety

A Phase I environmental site assessment (ESA) was conducted by Brewer Environmental Services in 2005 to identify hazardous substances, including petroleum products, that may have been released into structures or into the ground on the property, ground water, or surface water. The ESA was followed up with a Reassessment Report (Environet, Inc., March 27, 2006), involving site reconnaissance and interviews to update tenant occupancy and/or operational changes and tenant compliance issues. The report indicated that the results of the study will serve as a guide for the future development and planning of the project site. The project will be in compliance with applicable laws and regulations to mitigate environmental impacts on the Kapalama property, if any.

Present procedures for screening invasive species from entering the islands through cargo transfer involve the deployment of DOA inspectors at the shipping yards. Containers are checked at the container terminals and at the importers' storage/distribution sites. The State Legislature approved Act 202 this year, which requires DOT-Harbors to assist State DOA in setting up bio-security inspection stations at state commercial harbors. The proposed container terminal at Kapalama will be considered in the planning and implementation of the needed "barrier" for invasive species.

5.11 Air Quality and Noise

Adverse direct impacts to air quality resulting from the development and operations of the new container terminal are not expected to be significant. Emissions associated with construction of harbor improvements would be minimal and temporary. Stationary source emissions large enough to be of any concern are regulated by DOH, as required by HAR 11-60.1. Fugitive dust and earth-moving activities would be minimized in accordance with HAR 11-60.1-33. Potential indirect air quality impacts at the container terminal will be evaluated in the DEIS.

Noise related to normal terminal operations are expected to include container truck movements and back-up maneuvers (beeping warning sounds), gantry crane operations, container lifts (top picks/side picks), and other mechanical equipment, and ship and tugboat engines. In anticipation of noise concerns on major operators in the project, a noise study will be conducted and its findings will be reported in the DEIS.

Adverse impacts to the noise environment resulting from container terminal operations are not expected to be significant. Construction-related noise will be temporary, and activities will be conducted in compliance with state regulations (i.e., noise permit or variance would be obtained, as required). Potential underwater noise associated with wharf construction is discussed in Section 5.5 of this document.

5.12 Circulation and Traffic

The development concepts for the proposed terminal include a container yard with truck access from Sand Island Access Road and, alternatively, truck access from Auiki Street. Depending on which alternative is selected, the impact on adjacent roads would be different. If the container truck gate is located on Sand Island Access Road, traffic on this state road would be affected. If the truck gate is located on Auiki Street, traffic on this city street, as well as the traffic through the Kalihi Kai subdivision, would be affected.

Should the truck gate be located on Sand Island Access Road, traffic impacts on this road is not expected to be significant. This is because most of the traffic generated by the project would not represent an actual increase but rather a relocation of the traffic generator, from

Sand Island to Kapalama on the same road. If the operator of the new facility is considered an existing operator that has expanded its operation to the new site to accommodate the normal cargo volume growth in the harbor, then the associated traffic generation should be considered as part of the normal increase in operations along that same access road and overall traffic in the area.

The internal connection with the adjacent Young Brothers operation will reduce truck traffic on the public roadways. High-efficiency gates will reduce queuing of idling trucks and thus improve traffic flow and reduce congestion on roadways.

A traffic study will assess baseline traffic condition in and around the project area. It will evaluate the truck operational requirements from the container terminal, estimate future increases in ambient traffic from the region and container terminal and its alternatives, and assess how the project's generated trips will impact area traffic. Results of the study will be presented in the DEIS along with any needed mitigation to avoid or minimize those impacts.

Safety concerns will also be addressed regarding potential conflicts between the anticipated truck traffic travelling through the adjacent mixed-use neighborhood and its likely effects on pedestrian and bicycle traffic.

5.13 Airspace

The Kapalama container terminal is located approximately 0.8 mile from Honolulu International Airport and is within the airport’s approach and departure pattern of aircraft. The gantry cranes to be used for loading and unloading containers from the ships may be as high as 208 feet and may pose as an obstruction in the aircrafts’ airspace. An analysis of the potential impact on airspace, using Federal Aviation Administration (FAA) Form 7460-1, will be conducted. Results of the analysis and any proposed mitigation will be provided in the DEIS.

5.14 Infrastructure and Public Services

Honolulu Harbor is heavily industrialized and served by a variety of public services and utilities, including police and fire protection services, water supply, wastewater collection, drainage, electricity, communications, and solid waste collection. Adverse impacts to public services and infrastructure are not anticipated as a result of the proposed action. Container terminal development will not significantly increase demand on the existing shore-side utilities.

Operations of the container terminal will depend to a large extent on diesel or other suitable fuel to operate the container trucks, mobile lifts, and gantry cranes. Electrical power will be required for a portion of the container terminal operation.

6 EIS Determination

The anticipated probable impacts from the proposed Kapalama container terminal call for the preparation of an EIS. This EISPN has been prepared in accordance with Chapter 343, HRS and Title 11, Chapter 200, HAR (Environmental Impact Statement Rules).

7 Public Outreach

Early consultation on the project has been carried out with various agencies and stakeholder groups as part of the scoping process for this project. A public informational meeting was held on July 19, 2011 to provide opportunities for the community to obtain information on the proposed action. A second public meeting is scheduled for the spring or summer of 2012 during the Draft EIS public review period. As a result of these public interactions, substantial input from agencies and the public is being obtained. With the information received through this outreach, the distribution of this EISPN, and subsequent consultations, environmental concerns should be sufficiently identified prior to finalization of the EIS.

Consulted parties, DOT-Harbors' public informational meetings, and the parties to be consulted with distribution of this EISPN are identified below.

7.1 Consulted Parties

The governmental agencies and stakeholder groups consulted to date include the following:

Federal Agencies

U.S. Department of the Army

- Corps of Engineers

U.S. Department of Commerce:

- National Oceanic and Atmospheric Association, National Marine Fisheries Service, Pacific Islands Office

U.S. Department of the Interior:

- U.S. Fish and Wildlife Service, Pacific Islands Ecological Field Service Office

U.S. Department of Transportation

- Federal Aviation Administration

State Agencies

Department of Agriculture:

- Plant Industry Division, Plant Quarantine Branch

Department of Transportation

- Airports Division
- Highways Division

Office of Hawaiian Affairs

Stakeholders

Hawai´i Harbors User Group

Horizon Lines

Matson Navigation Company

Pacific Shipyards

Young Brothers Limited

Other agencies to be consulted in the EIS preparation process:

Federal Agencies

Environmental Protection Agency

7.2 Public Informational Meetings

DOT-Harbors held a public informational meeting for the project on July 19, 2011 in Kapalama. Mailed invitations to agencies and stakeholders, flyers distributed door-to-door, public notice in a major local newspaper, and public announcements from a local radio station were made for the meeting. The meeting offered opportunities for the public to provide input pertaining to resources and issues of concern that should be addressed in the EIS. Attendees were encouraged to share their ideas through both oral comments and written input.

A second public informational meeting is scheduled for the spring or summer of 2012 during the DEIS public review period. At this meeting, members of the audience will have an opportunity for direct interaction with DOT Harbors representatives and the DEIS project team.

7.3 EISPN Distribution List

Governmental agencies, elected officials, media, and special interest/stakeholder groups who will be provided a copy of this preparation notice are listed below.

Federal Agencies
Environmental Protection Agency
Federal Aviation Administration
NOAA-National Marine Fisheries Service
U.S. Fish and Wildlife Service
U.S. Department of the Army, Corps of Engineers

State Agencies
Department of Agriculture
Department of Business, Economic Development and Tourism, Office of Planning
Department of Health
Department of Land and Natural Resources, Land Division
Department of Land and Natural Resources, Historic Preservation Division
Department of Land and Natural Resources, Office of Conservation and Coastal Lands
Department of Transportation, Airports Division
Department of Transportation, Highways Division
Department of Transportation, Statewide Transportation Office
Office of Hawaiian Affairs

University of Hawaii at Manoa
University of Hawaii at Manoa, School of Ocean & Earth Science & Technology

City and County of Honolulu
Board of Water Supply
Department of Design and Construction
Department of Environmental Services
Department of Facility Maintenance
Department of Planning and Permitting
Department of Transportation Services
Fire Department
Police Department

Libraries
Kalihi-Palama Public Library
Liliha Public Library
Salt Lake/Moanalua Public Library

New Media
Honolulu Star Advertiser

Elected Officials
State Senator Suzanne Chun Oakland
State Representative Joey Manahan
Councilmember Romy M. Cachola

Special Interest and Stakeholders Groups
Airline Group
Aloha Cargo Transport
Atlantis Submarines Hawaii
Hawaii Harbors User Group
Horizon Lines
Kalihi-Palama Neighborhood Board
Matson Navigation Company
Pacific Shipyards International
Sause Brothers
Young Brothers Limited

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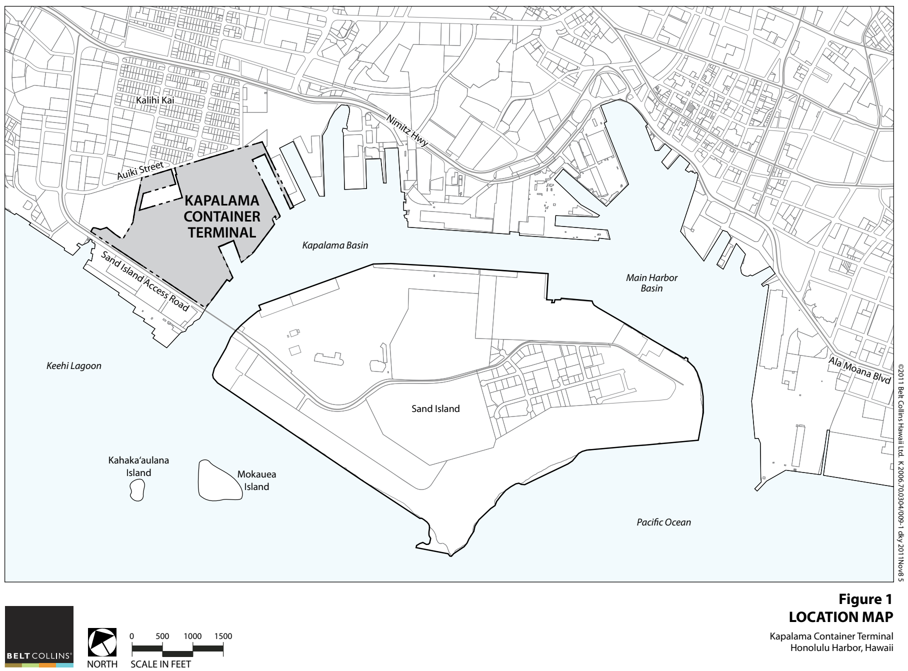


Figure 1
LOCATION MAP
Kapalama Container Terminal
Honolulu Harbor, Hawaii

©2011 Belt Collins Hawaii Ltd. K 2006.70.0304/010-1 dky 2011Nov8 6

Figure 2
EXISTING LAND USE
Kapalama Container Terminal
Honolulu Harbor, Hawaii

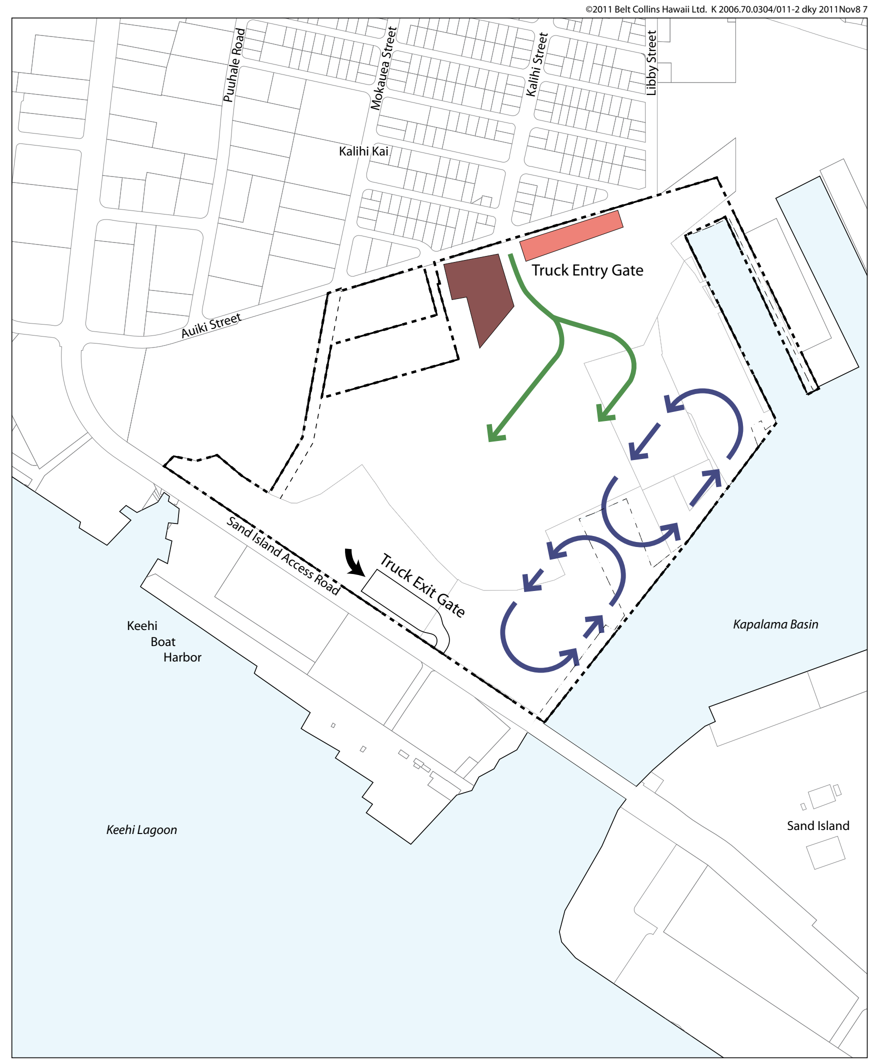
BELT COLLINS

NORTH

0 200 400 600

SCALE IN FEET

Figure 3
PROPOSED CONTAINER TERMINAL
Kapalama Container Terminal
Honolulu Harbor, Hawaii



BELT COLLINS

NORTH

0 200 400 600

SCALE IN FEET

Figure 4
PROPOSED CONTAINER TERMINAL WITH ALTERNATIVE TRUCK ACCESS
Kapalama Container Terminal
Honolulu Harbor, Hawaii

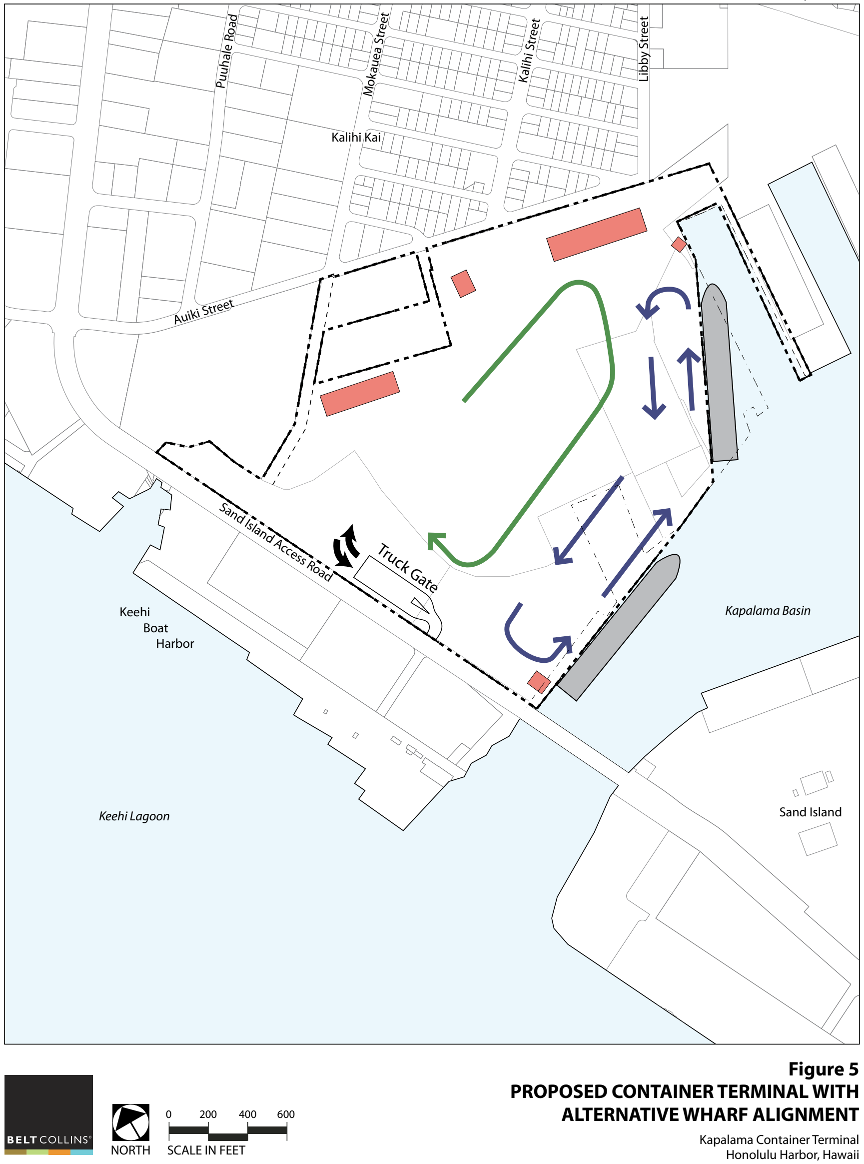


Figure 5
PROPOSED CONTAINER TERMINAL WITH ALTERNATIVE WHARF ALIGNMENT
Kapalama Container Terminal
Honolulu Harbor, Hawaii

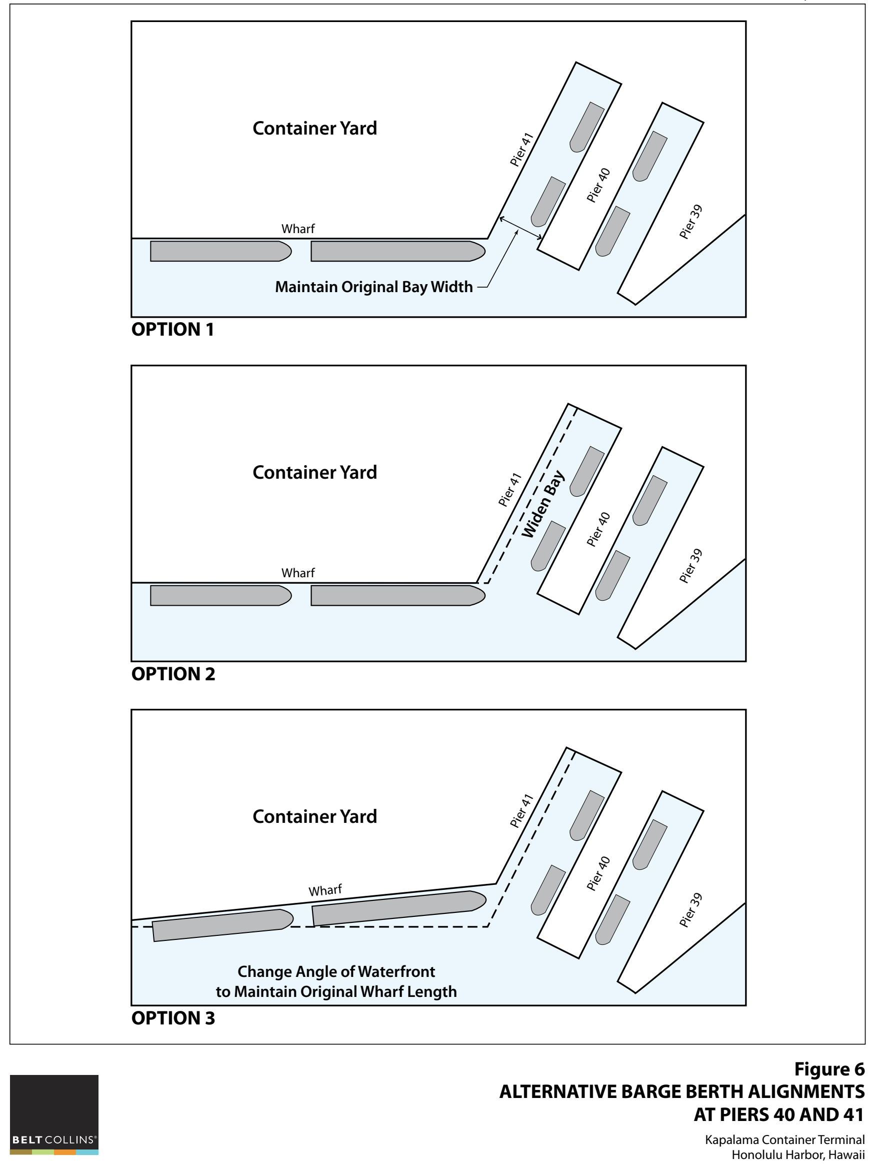


Figure 6
ALTERNATIVE BARGE BERTH ALIGNMENTS AT PIERS 40 AND 41
Kapalama Container Terminal
Honolulu Harbor, Hawaii

DISTRIBUTION LIST FOR
KAPALAMA CONTAINER TERMINAL
ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

November 10, 2011

Federal Agencies
Environmental Protection Agency
Federal Aviation Agency
NOAA-National Marine Fisheries Service
U.S. Coast Guard
U.S. Department of the Army, Corps of Engineers
U.S. Fish and Wildlife Service

State Agencies
Department of Agriculture
Department of Business, Economic Development and Tourism, Office of Planning
Department of Health
Department of Land and Natural Resources, Land Division
Department of Land and Natural Resources, Historic Preservation Division
Department of Land and Natural Resources, Office of Conservation and Coastal Lands
Department of Transportation
Department of Transportation, Airports Division
Department of Transportation, Highways Division
Department of Transportation, Statewide Transportation Office
Office of Hawaiian Affairs
University of Hawaii at Manoa, Marine Center
University of Hawaii at Manoa, SOEST

City and County of Honolulu
Board of Water Supply
Department of Design and Construction
Department of Environmental Services
Department of Facility Maintenance
Department of Planning and Permitting
Department of Transportation Services
Fire Department
Police Department

Elected Officials
State Senator Suzanne Chun Oakland
State Representative Joey Manahan
Councilmember Romy M. Cachola

Special Interest and Stakeholders Groups
Airlines Committee of Hawaii
Aloha Cargo Transport
Atlantis Submarines Hawaii
Hawaii Harbors User Group
Hawaii Pilots Association
Horizon Lines
Kalihi-Palama Neighborhood Board No. 15
Matson Navigation Company
Pacific Shipyards International
Sause Brothers
Young Brothers Limited

News Media
Honolulu Start Advertiser

Libraries
Kalihi-Palama Public Library
Liliha Public Library
Salt Lake/Moanalua Public Library

EISPN Comment Letters

Kapalama Container Terminal EIS

Comment Period: Nov. 23, 2011 to Dec. 22, 2011

Date of Correspondence	Agency/Organization	Summary of Comments	Action Taken
	Federal Agencies		
12-19-11	NOAA	Detailed scope of work for each alternative, marine biological assessment (quantitative description), detailed mitigation measures, Essential Fish Habitat assessment.	Sent acknowledgement letter.
12-22-11	USFWS	Endangered/threatened species, migratory birds, coral reefs, fisheries, non-coral invertebrates, and rare/native species and habitats. NMFS consultation. Threat of invasive species. Bio-security program.	Sent acknowledgement letter.
12-30-11 (via email)	EPA	Asked if project has any NEPA component.	Responded by email.
	State of Hawaii Agencies		
12-21-11	DOT	Statewide Transportation Planning Office - Supports project. No further comments.	Sent acknowledgement letter.
12-19-11	DOT	Highways Division – No comments.	Sent acknowledgement letter.
12-22-11	DOH	Clean Water Branch – Compliance with HAR, Sections 11-54-1.1, 11-54-3, 11-54-4 to 11-54-8 and State's Water Quality Standards. NPDES permit and Section 401 WQC requirements.	Sent acknowledgement letter.
12-22-11 12-28-11	DLNR	DOBOR – No objections to project. Land Division – No comments.	Sent acknowledgement letter.
12-28-11 12-15-11	DLNR	DAR – No objections to project. OCCL – Submerged lands, Resource Subzone, CDUA, identified land use, shoreline survey, boundary interpretation.	Sent acknowledgement letter.
12-12-11	OHA	No substantive comments.	Sent acknowledgement letter.

Date of Correspondence	Agency/Organization	Summary of Comments	Action Taken
12-12-11	SHPD	Concurs with determination of "no adverse effect". . .	Sent acknowledgement letter.
	City and County of Honolulu		
12-21-11	DPP	Relationship of project to public policies, adequacy of sewer line along Auiki Street, reference for DOT exemption from City regulations, stockpiling of dredged material, flood protection requirements, and appropriate truck ingress/egress location.	Sent acknowledgement letter.
12-19-11	DFM	Adequacy of Auiki Street to support weight of heavy truck traffic to project site.	Sent acknowledgement letter.
12-12-11	DTS	Address impact on public transit system.	Sent acknowledgement letter.
11-29-11	BWS	Existing water system is adequate. Coordinate implementation of project with BWS.	Sent acknowledgement letter.
12-9-11	HPD	Project may cause increase in traffic congestion during project construction.	Sent acknowledgement letter.
12-13-11	HFD	Requirements for HFD access roads, fire flow for fire protection, and submittal of civil drawings for review and approval.	Sent acknowledgement letter.
1-18-12	DDC	No comments.	Sent acknowledgement letter.
	Other Agencies/ Organizations		
12-22-11	Servco Pacific Inc.	Continued right to use access easement to Sand Island Access Road, not feasible to use exit via Auiki Street. Welcome meeting on-site to review access conditions.	Sent acknowledgement letter.

Date of Correspondence	Agency/Organization	Summary of Comments	Action Taken
12-22-11 (via email)	Young Brothers, Ltd.	Type of EIS document, expansion needs, development alternatives, economic background information, traffic and street improvements, operations safety risks, consultation and permitting process, operational hours of container terminal, and additional parties to consultation list.	Responded by email.

Comment Letters

A.2. EISPN Comment Letters

Federal Agencies/Officials

RECEIVED

2011 DEC 20 PM 12: 54

BELT COLLINS HAWAII

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Pacific Islands Regional Office
1601 Kapiolani Blvd., Suite 1110
Honolulu, Hawaii 96814-4700
(808) 944-2200 · Fax: (808) 973-2941

December 19, 2011

Glen T. Koyama
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, HI 96819-4554

Dear Mr. Koyama,

The Habitat Conservation Division (HCD) of the NOAA Fisheries Service (NMFS) Pacific Islands Regional Office has reviewed the Environmental Impact Statement Preparation Notice (EISPN) for the development of the new Kapalama Cargo Container Terminal at Honolulu Harbor. We offer the following pre-consultation comments, pursuant to the Essential Fish Habitat (EFH) provision (§305(b)) of the Magnuson Stevens Fishery Conservation and Management Act (MSA;16 U.S.C. 1855(b)).

The project is proposed by the State of Hawaii Department of Transportation, Harbor Division (DOT-Harbors) and involves redevelopment of the former Kapalama Military Reservation property at Honolulu Harbor into a new shipping container terminal. The purpose of the project is to improve the Honolulu Harbor infrastructure to increase capacity to handle predicted increase in ocean transportation of cargo and passengers. The proposed action includes the following: 1) development of an approximately 90-acre container yard with necessary support buildings, fencing and gates, gantry cranes and container-handling equipment, onsite utilities and lighting, and associated off –site improvements; 2) construction of a deep draft wharf and pier with berthing capacity to accommodate two container ships (involving the filling of Snug Harbor and dredging of the area fronting the container yard to depths of 40-45 ft); and 3) improvement to Piers 40 and 41 to accommodate use of interisland cargo operations.

As identified in section 5.5 on page 8 of your EISPN, coral reef resources including coral reef ecosystem EFH are likely present in the harbor and may be adversely affected by the action. To allow us to fully evaluate impact to our trust resources, and to develop conservation recommendations to mitigate impacts, we suggest that the following be included in the draft Environmental Impact Statement (DEIS) for this project:

1) A detailed scope of work (for each alternative) including: construction activities and future operations on land; future operations in-water; construction methods and activities at Piers 40 and 41; construction methods and activities for construction of the deep draft wharf and pier; and the limits of the dredge footprint and volume of dredge material involved in this construction dredging.

2) A marine biological assessment which provides an accurate and quantitative description of marine resources present in the project area (both within the dredge footprint for each alternative, also outside of the dredge footprint if influenced by project construction and operations). The assessment should provide sufficient biological detail to allow for quantification and scaling of any unavoidable impacts to coral reef resources to enable replacement of functions associated with these resources by implementation of compensatory mitigation.
3) A detailed description of the mitigation measures that will be implemented to avoid and minimize impacts to coral reef resources. This would include measures that avoid/reduce impacts to coral reef resources from land based construction and operations such as implementation of low impact development, and from in-water construction and operations such as measures controlling water quality degradation and coral abrasion.

If there is adverse effect to EFH from this project action, a requirement of the EFH consultation (triggered at the time of the Army Corp permit application) is to provide NMFS an "EFH assessment". This EFH assessment must describe the impact to EFH and the mitigation measures proposed to avoid and minimize these EFH impacts. To streamline your process, the EFH assessment can be developed prior to the Army Corp application process and submitted to us within your DEIS in a section of the document clearly labeled as "EFH Assessment". The level of detail in the EFH assessment must be commensurate with the level of threat to EFH from the action. Much, if not all, of the information will likely overlap with information that we have recommended that you provide in the Marine Environment and Marine Impacts sections of the DEIS.

We greatly appreciate your effort to consult with us early. Please don't hesitate to contact Danielle Jayewardene at 808-944-2162 or Danielle.Jayewardene@noaa.gov with questions.

Sincerely,

Gerry Davis (Robert O'Conner)
Assistant Regional Administrator
Habitat Conservation Division

cc: U.S Environmental Protection Agency, Region 9, P.O. Box 50003, Honolulu, HI 96850 Attention: Wendy Wiltse
U.S. Fish and Wildlife Service, Environmental Services, P.O. Box 50088, Honolulu, HI 96850. Attention: Loyal Mehrhoff
State of Hawaii, Department of Land and Natural Resources, Division of Aquatic Resources, P.O. Box 621, Honolulu, HI 96809 Attention: Alton Miyasaka

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850

In Reply Refer To:
2012-CPA-0019

RECEIVED
2011 DEC 28 PM 1:09
BELT COLLINS HAWAII

DEC 22 2011

Mr. Glen T. Koyama
Project Manager
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Subject: Environmental Impact Statement Preparation Notice, Kapalama Container Terminal, Honolulu, Oahu Island, Hawaii

Dear Mr. Koyama:

The U.S. Fish and Wildlife Service (Service) has reviewed the Environmental Impact Statement Preparation Notice (EISPN) for the Kapalama Container Terminal, Honolulu, Hawaii. The proposed project is sponsored by the Hawaii Department of Transportation, Harbors Division. The following comments have been prepared pursuant to the National Environmental Policy Act of 1969 [42 U.S.C. 4321 *et seq.*; 83 Stat. 401], as amended; the Fish and Wildlife Coordination Act (FWCA) of 1934 [16 U.S.C. 661 *et seq.*; 48 Stat. 401], as amended (FWCA); the Endangered Species Act of 1973 (16 U.S.C. 1531et seq.; 87 Stat. 884], as amended (ESA); and other authorities mandating Service concern for environmental values. Based on these authorities, we offer the following comments for your consideration.

Proposed Action

The proposed project involves modifications to the existing Kapalama Container Terminal in order to support an increase in Hawaii resident consumer needs for food, products, vehicles, fuel and construction materials. Approximately 90-acres of the terminal facility will be refurbished with new support buildings, fencing/gates, cranes and equipment, lighting and other offsite improvements. A deep draft wharf or pier will be constructed in order to accommodate two container-sized ships and will include filling in Snug Harbor as well as dredging an area fronting the container yard. Also, improvements to Piers 40 and 41 will be effected in order to accommodate interisland cargo operations.

Important fish and wildlife resources occur throughout the proposed project areas, including the marine environment fronting and adjacent to the Kapalama terminal facility. We recommend the DEIS provide an analysis of the potential for project-related losses of marine ecological functions as a result of proposed plans to fill Snug Harbor and dredge the marine area to accommodate a new wharf or pier and also Piers 40 and 41. The Service recommends that particular attention be given in the Draft Environmental Impact Statement (DEIS) concerning construction-related impacts on endangered and threatened species, migratory birds, coral reefs, fisheries, non-coral invertebrates, and rare and native species and habitats. The DEIS should also discuss the indirect and cumulative effects of these impacts over time in conjunction with projects currently proposed for this end of the harbor (*i.e.*, Kalihi channel shipyard) and propose potential measures to mitigate these impacts.

The DEIS should include an evaluation of the impacts of the proposed action on federally threatened and endangered and candidate species and determine if species are likely to be adversely affected by the proposed action. The information provided in the assessment should support any determination regarding the effects of the terminal facility improvements and the secondary effects of the expansion of the facility on threatened and endangered species. The DEIS should address any potential project-related impacts to listed and other native Hawaii species and propose mitigation measures to avoid and minimize project impacts and determine how to offset unavoidable impacts.

The National Marine Fisheries Service (NMFS) should be contacted regarding the potential for the proposed action to affect listed species under NMFS jurisdiction. In order to facilitate early resolution of any potential conflicts between the proposed activities and endangered and threatened species, we recommend early coordination with NMFS.

The introduction of alien species, whether through the importation and use of project-related equipment and supplies, or with the resulting increase in cargo vessel traffic at the completed container terminal, may cause adverse impacts to fish and wildlife resources. To minimize these risks, the EIS should provide an evaluation for the potential threat associated with the transport and spread of invasive species and include a bio-security program to address these threats. As a result and with the enactment of Act 202 (SLH 2011), it is our understanding DOT-Harbors will be providing much needed assistance to the State DOA with identifying potential harbor space at the Kapalama site on Oahu and participating in the planning, design, and construction of biosecurity, inspection, and treatment facilities at the Kapalama Container Terminal that will ultimately strengthen biosecurity efforts in the State of Hawaii. Continued collaboration such as this will be the key to the protection of our natural resources for future generations.

The Service appreciates the opportunity to comment on the proposed Kapalama Container Terminal project. If you have any questions regarding these comments, please contact Marine Ecologist Kevin Foster by telephone at (808) 792-9420 or Invasive Species Biologist Domingo Cravalho at 808-792-9445.

Sincerely,

for Loyal Mehrhoff
Field Supervisor

cc: ACOE-Honolulu District
NMFS-PIRO-Honolulu
USEPA-Region IX, Honolulu
DOT-Maritime Administration, Washington
DOT-Harbors Division, Honolulu
DAR, Honolulu
CZMP, Honolulu
CWB, Honolulu

Glen Koyama

From:	Carol Sachs [sachs.carol@epa.gov]
Sent:	Friday, December 30, 2011 10:34 AM
To:	mark@marketability.pro; Glen Koyama; kapalamaeis
Subject:	Comment - Kapalama Container Terminal EIS

To: Project Manager

From:
Carol Sachs
sachs.carol@epa.gov

Company/Organization
US Environmental Protection Agency

Message:
We have recieved a copy of the Fish and Wildlife Service's letter. I am wondering if this has any NEPA componants.
Thank you.

Sent from (ip address): 204.47.83.122 (204.47.83.122)
Date/Time: December 30, 2011 8:33 pm
Coming from (referer): http://www.kapalamaeis.com/contact/
Using (user agent): Mozilla/4.0 (compatible; MSIE 7.0; Windows NT 5.1; .NET CLR 2.0.50727)

State Agencies/Officials

NEIL ABERCROMBIE
GOVERNOR

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2011 DEC 29 PM 2: 42

BELT COLLINS HAWAII

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

IN REPLY REFER TO:
STP 8.0688

December 21, 2011

Mr. Glen T. Koyama
Project Manager
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Dear Mr. Koyama:

Subject: Kapalama Container Terminal
Environmental Impact Statement Preparation Notice (EISPN)

The Department of Transportation (DOT) is in full support of the work. DOT staff has no comments to add at this time and will defer until the Draft Environmental Impact Statement (DEIS).

We appreciate your consultation on the harbor project. Should you have any questions or the need to meet with DOT staff, please contact Mr. Elton Teshima of the Statewide Transportation Planning Office at (808) 831-7978.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

NEIL ABERCROMBIE
GOVERNOR

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2011 DEC 21 PM 2: 10

BELT COLLINS HAWAII

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

IN REPLY REFER TO:

HWY-PS
2.0429

December 19, 2011

Mr. Glen T. Koyama
Project Manager
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Koyama:

Subject: Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal
Oahu, Honolulu, Kapalama

Thank you for the opportunity to review and comment on the EISPN for the Kapalama Container Terminal dated November 2011. We understand that the project involves the development of a new container terminal at the former Kapalama Military Reservation site at Honolulu Harbor adjacent to State Route No. 64 (Sand Island Access Road) to allow for added container terminal capacity to meet the growing needs of the harbor users.

At this time, the Highways Division does not have any comments. When the Draft Environmental Impact Statement (DEIS) is available, we request that four (4) copies be provided to the Highways Division for our review.

If you have any questions, please contact Mr. Gary Ashikawa, Systems Planning Manager, Highways Division, Planning Branch, at 587-6336.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

RECEIVED
2011 DEC 27 PM 3: 21
BELT COLLINS HAWAII

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

In reply, please refer to
EMD/CWB

12020PDCL.11

December 22, 2011

Mr. Glen T. Koyama
Project Manager
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Koyama:

SUBJECT: Comments on Environmental Impact Statement Preparation Notice for the Kapalama Container Terminal Kapalama, Island of Oahu, Hawaii

The Department of Health (DOH), Clean Water Branch (CWB), has reviewed the subject document and offers these comments on your project. Please note that our review is based solely on the information provided in the subject document and its compliance with the Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at: http://www.hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf.

1. Any project and its potential impacts to State waters must meet the following criteria:

    a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

    b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

    c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. The DOH-CWB acknowledges that a National Pollutant Discharge Elimination System (NPDES) permit for discharges of storm water associated with construction activities will be obtained for this project.

3. You may be required to obtain additional NPDES permit coverage for discharges of wastewater into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for an NPDES general permit coverage by submitting a Notice of Intent (NOI) form:

    a. Storm water associated with industrial activities.

    Please verify the North American Industrial Classification System (NAICS) United States Structure Code(s) and the corresponding Standard Industrial Classification (SIC) Code(s) for the facility. See http://www.census.gov/epcd/www/naicstab.htm to determine the NAICS Code(s) and corresponding SIC Code(s).

    Facilities with SIC Codes categorized in the Code of Federal Regulations, Title 40 (Protection of Environment), Parts 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi) are required to obtain NPDES permit coverage for the discharges of storm water associated with industrial activities.

    b. Hydrotesting water.

    c. Construction dewatering effluent.

    You must submit a separate NOI form for each type of discharge at least 30 calendar days prior to the start of the discharge activity. The NOI forms may be picked up at our office or downloaded from our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html.

4. For other types of wastewater not listed in Item No. 2 above or wastewater discharging into Class 1 or Class AA waters, an NPDES individual permit will need to be obtained. An application for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. The NPDES application forms may be picked up at our office or downloaded from our website at http://hawaii.gov/health/environmental/water/cleanwater/forms/environmental/water/cleanwater/forms/indiv-index.html.

5. The DOH-CWB acknowledges that a Section 401 Water Quality Certification (WQC) will be obtained for this project.

6. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.

Mr. Glen T. Koyama
December 22, 2011
Page 3

12020PDCL.11

If you have any questions, please visit our website at:
http://www.hawaii.gov/health/environmental/water/cleanwater/index.html, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

Darryl Lum TA FOR

ALEC WONG, P.E., CHIEF
Clean Water Branch

DCL:ml

c: Mr. Glen Koyama, Belt Collins Hawaii Ltd. [via email gkoyama@beltcollins.com]
DOH-EPO #11-255 [via email only]

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 22, 2011

Belt Collins Hawaii Ltd.
Attention: Mr. Glen T. Koyama
2153 N. King Street, Suite 200
Honolulu, Hawaii 96819-4554

via email: gkoyama@beltcollins.com

Dear Mr. Koyama:

SUBJECT: Environmental Impact Statement Preparation Notice (EISPN) for the Kapalama Container Terminal located in Honolulu, Island of Oahu

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from (a) Division of Boating & Ocean Recreation; and (b) Land Division – Oahu District on the subject matter. Should you have any questions, please feel free to call Darlene Nakamura at 587-0417. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosures

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 6, 2011

RECEIVED
2011 DEC 12 P 3:09

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Environmental Impact Statement Preparation Notice (EISPN) for the Kapalama Container Terminal
LOCATION: Honolulu, Island of Oahu
APPLICANT: Belt Collins on behalf of the State of Hawaii, Department of Transportation

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by December 20, 2011.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417. Thank you.

Attachments

(X) We have no objections.
( ) We have no comments.
( ) Comments are attached.

Signed:
Date: 12/12/11

cc: Central Files

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 6, 2011

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Environmental Impact Statement Preparation Notice (EISPN) for the Kapalama Container Terminal
LOCATION: Honolulu, Island of Oahu
APPLICANT: Belt Collins on behalf of the State of Hawaii, Department of Transportation

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by December 20, 2011.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417. Thank you.

Attachments

( ) We have no objections.
(✓) We have no comments.
( ) Comments are attached.

Signed:
Date: 12/9/2011

cc: Central Files

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

December 28, 2011

Belt Collins Hawaii Ltd.
Attention: Mr. Glen T. Koyama
2153 N. King Street, Suite 200
Honolulu, Hawaii 96819-4554

via email: gkoyama@beltcollins.com

Dear Mr. Koyama:

SUBJECT: Environmental Impact Statement Preparation Notice (EISPN) for the Kapalama Container Terminal located in Honolulu, Island of Oahu

Thank you for the opportunity to review and comment on the subject matter. In addition to the comments previously sent you on December 22, 2011, enclosed are comments from the Division of Aquatic Resources on the subject matter. Should you have any questions, please feel free to call Darlene Nakamura at 587-0417. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosures

LD

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

AM ✓
JK ✓

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

12-15-11

December 6, 2011

MEMORANDUM

RECEIVED
DEC 8 2011
AQUATIC RESOURCES

DAR 4152

RECEIVED
LAND DIVISION
2011 DEC 23 P 2:46
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
__Div. of Forestry & Wildlife
__Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Environmental Impact Statement Preparation Notice (EISPN) for the Kapalama Container Terminal
LOCATION: Honolulu, Island of Oahu
APPLICANT: Belt Collins on behalf of the State of Hawaii, Department of Transportation

Transmitted for your review and comment on the above referenced document. We would appreciate your comments on this document. Please submit any comments by December 20, 2011.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Darlene Nakamura at 587-0417. Thank you.

Attachments

(X) We have no objections.
( ) We have no comments.
( ) Comments are attached.

Signed:
Date:
ROBERT T. NISHIMOTO, Ph.D.
Aquatic Resources Program Manager

cc: Central Files

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

RECEIVED
DEC 16 PM 1:24
BELT COLLINS HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

REF:OCCL:MC

Correspondence: OA-12-138

DEC 15 2011

Glen T. Koyama
Belt Collins Hawai`i Ltd.,
2153 North King, Suite 200
Honolulu, HI 96819

Dear Mr. Koyama,

SUBJECT: EISPN – Kapālama Container Terminal
Honolulu Harbor, Honolulu, O`ahu
TMK (1) 1-2-025:002, 009, 011, 012, 016, 017, 040 & submerged lands

The Department of Natural Resources (DLNR), Office of Conservation and Coastal Lands (OCCL) has reviewed the material you provided regarding the Environmental Impact Statement Preparation Notice for the proposed new 90-acre Kapālama Container Terminal at Honolulu Harbor. Parts of the project will occur on the submerged lands of Kapālama Basin and the Mokauea Fishery, which are in the Resource Subzone of the State Land Use Conservation District.

The portions of the proposed action that might involve Conservation District lands include the construction of a deep draft wharf or pier with berthing capacity to accommodate two container ships, and the associated filling of Snug Harbor and dredging in the area fronting the container yard. Additional improvements to Pier 30 and Pier 41 might also involve Conservation District Lands.

The project is an identified land use pursuant to Hawai`i Administrative Rules (HAR) §13-5-22, P-6 PUBLIC PURPOSE USES, (D-1) *Not for profit land uses undertaken in support of a public service by an agency of the county, stone, or federal government, or by an independent non-governmental entity, except that an independent non-governmental regulated public utility may be considered to be engaged in a public purpose use.* This use requires a Conservation District Use Permit (CDUP) approved by the Board of Land and Natural Resources.

Please note that §13-5 was amended in December, 2011. OCCL has updated its Conservation District Use Application (CDUA) to reflect the amendments. The amended rules and CDUA are available on our website at hawaii.gov/dlnr/occl.

The applicant will need to secure the following in order to determine which portions of the project fall in Conservation District lands:

1. A valid *Shoreline Survey* certified by the Chairperson of the Board of Land and Natural Resources. Applications for Shoreline Surveys are processed by DLNR's Land Division.

2. A *Boundary Interpretation* from the State Land Use Commission (LUC) which delineates the Urban/Conservation boundary. The Boundary Interpretation will be based on the outcome of the Shoreline Survey.

Should you have any questions, please feel free to contact Michael Cain at 587-0048.

Sincerely,

for Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

c: Chair, DLNR Land Division, LUC

PHONE (808) 594-1888

FAX (808) 594-1865

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2011 DEC 20 PM 12: 54

BELT COLLINS HAWAII

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

HRD11/1828F

December 12, 2011

Glen T. Koyama, Project Manager
Belt Collins Hawai'i, Ltd.
2153 North King Street, Suite 200
Honolulu, Hawai'i 96819-4554

Re: Environmental Impact Statement Preparation Notice
Kapalama Container Terminal Project
Honolulu Harbor, Island of O'ahu

Aloha e Glen T. Koyama,

The Office of Hawaiian Affairs (OHA) is in receipt of your November 21, 2011 notification that the State of Hawai'i-Department of Transportation, Harbors Division intends to prepare a draft environmental impact statement (DEIS) to support the Kapalama Container Terminal Project (project) at Honolulu harbor on the Island of O'ahu. The project will redevelop the ninety (90) acre former Kapalama Military Reservation parcel at Honolulu Harbor into a new shipping container terminal to handle current and projected cargo volumes.

OHA has no substantive comments to offer at this time. We look forward to reviewing the DEIS and providing comments at that time. Please send one electronic copy and one hardcopy of the DEIS to OHA attn: Compliance Monitoring Program when it is available. Should you have any questions or concerns, please contact Keola Lindsey at 594-0244 or keolal@oha.org.

'O wau iho nō me ka 'oia'i'o,

Clyde W. Nāmu'o
Chief Executive Officer

CWN:kl

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

RECEIVED

2012 DH
2011 JAN -6 PM 1: 07

BELT COLLINS HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAHUHIHEWA BUILDING
601 KAMOKILA BLVD, KAPOLEI HI 96707

DATE: December 12, 2011

LOG: 2011.3125
DOC: 1112RS23

TO: Glen T. Koyama
Project Manager
Belt Collins Hawaii Ltd.
2153 North King Street, Unit 200
Honolulu, HI 96819-4554

SUBJECT: **Section 6E-42 Historic Preservation Review**
National Historic Preservation Act (NHPA) Section 106 Review
Project: Environmental Impact Statement Preparation Notice
Permit # (None)
Owner: Harbors Division, Department of Transportation, Hawaii State Government
Location: Former Kapalama Military Reservation
Tax Map Key: (1) 1-2-025:002

This letter is in response to materials dated November 21, 2011 and received by SHPD on November 23, 2011, regarding submission of an *Final Environmental Assessment/Environmental Impact Statement Preparation Notice Kapalama Container Terminal Honolulu Harbor* to be located at the former Kapalama Military Reservation. The project would remove existing ex-military warehouses, relocate existing tenants, pave the former building footprints, dredge the harbor, and alter the shoreline for construction of new container piers. The Area of Potential Effect (APE) would be the parcel and the harbor immediately adjacent.

The property was created in the early part of the 20th century by filling in a series of fishponds along the makai side of Kalihi-Kapalama-Palama. A cargo container terminal was first proposed as early as 1989. The former Kapalama Military Base buildings could potentially be eligible under Criterion C (Military Architecture during World War II and Korea).

However, as part of an earlier mitigation, SHPD agreed to documentation of the Kapalama Military Reservation before demolition. SHPD in 2007 received the report entitled *Historic Architectural Survey of Former Kapalama Military Reservation and Hawaiian Dredging Sites* (Fung and Associates for the Department of Transportation).

In a letter dated June 20, 2007, SHPD's Architecture Branch concurred with a determination of "no adverse effect" for the *Master Plan for Harbor Infrastructure Improvement and Expansion*. Our architectural office continues to hold that position. As for archaeology concerns covering alteration of the shoreline, our Oahu Archaeologist, Nona Naboa, also concurs with a determination of "no adverse effect" for archaeology.

Thus **SHPD accepts the report.** Please provide a hardcopy to this office for the SHPD Library.

Any questions should be addressed to Ross W. Stephenson, SHPD Historian, at (808) 692-8028 (office), (808) 497-2233 (cell) or ross.w.stephenson@hawaii.gov.

Mahalo for the opportunity to comment.

AWestfall

Angie Westfall
Architecture Branch Chief, Hawaii Historic Preservation Division

In the event that historic resources, including human skeletal remains, lava tubes, and lava blisters/bubbles are identified during construction activities, all work should cease in the immediate vicinity of the find, the find should be protected from additional disturbance, and the State Historic Preservation Division should be contacted immediately at (808) 692-8015.

City and County of Honolulu

DEPARTMENT OF PLANNING AND PERMITTING

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE www.honolulu.gov

PETER B. CARLISLE
MAYOR

DAVID K. TANOUE
DIRECTOR

JIRO A. SUMADA
DEPUTY DIRECTOR

2011/ELOG-2650(sn)

December 21, 2011

Mr. Glen T. Koyama, Project Manager
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Dear Mr. Koyama:

Subject: Environmental Impact Statement Preparation Notice
Kapalama Container Terminal
Kapalama, Honolulu, Hawaii

We reviewed the Environmental Impact Statement Preparation Notice and offer the following comments:

1. Identify the Tax Map Keys for the project.

2. Discuss the project's relationship to land use plans, policies, and controls including the City and County of Honolulu's General Plan, Primary Urban Center Development Plan (June 2004), and Kalihi-Palama Action Plan. Based on the information provided, the project is consistent with the City's long-range and community plans.

3. The existing 24-inch sewer line on Auiki Street is not adequate to support the proposed project. Submit a Department of Planning and Permitting Site Development Master Application for Sewer Connection to initiate discussions regarding the required improvements to the municipal sewer lines.

4. Reference the State statute that exempts the Department of Transportation from obtaining approvals from the City for activities on lands identified as commercial harbors.

   If stockpiling of dredged material for dewatering purposes occurs on lands not identified as a commercial harbor facility, then a permit will be required if the quantity of the stockpiled material exceeds 100 cubic yards.

5. Address compliance with the flood protection requirements since portions of the project site are located in the 100-year flood zones, as identified on the federal flood maps.

6. Final project plans should avoid/minimize impacts of truck traffic on residents, small businesses, pedestrians, and bicyclists in Kalihi Kai area. Locate truck entry and exit gate(s) off Sand Island Access Road.

Should you have any questions, please contact Sharon Nishiura of my staff at 768-8031.

Very truly yours,

David K. Tanoue, Director
Department of Planning and Permitting

DKT:dj
899910

cc: Carter Luke, State Department of Transportation

DEPARTMENT OF FACILITY MAINTENANCE
CITY AND COUNTY OF HONOLULU
1000 Uluohia Street, Suite 215, Kapolei, Hawaii 96707
Phone: (808) 768-3343 • Fax: (808) 768-3381
Website: www.honolulu.gov

PETER B. CARLISLE
MAYOR

WESTLEY K.C. CHUN, PH.D., P.E., BCEE
DIRECTOR AND CHIEF ENGINEER

KENNETH A. SHIMIZU
DEPUTY DIRECTOR

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2011 DEC 21 PM 2: 10
BELT COLLINS HAWAII

IN REPLY REFER TO:
DRM 11-1048

December 19, 2011

Belt Collins Hawaii, Ltd.
Mr. Glen Koyama
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Dear Mr. Koyama:

Subject: Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, State of Hawaii

Thank you for the opportunity to review the subject EISPN. We only have one comment. Since your drawings show an access to the Kapalama Container Storage from Auiki Street which is a City road, can you evaluate whether the existing pavement will be able to meet the large truck loads for use by the Harbors. If the pavement is insufficient, then maybe the access and exit should be from Sand Island Access Road.

Should you have any questions, please call Lan Yoneda, Assistant Chief of the Division of Road Maintenance at 768-3600.

Sincerely,

Westley K.C. Chun, Ph.D., P.E., BCEE
Director and Chief Engineer

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

PETER B. CARLISLE
MAYOR

WAYNE Y. YOSHIOKA
DIRECTOR

KAI NANI KRAUT, P.E.
DEPUTY DIRECTOR

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2011 DEC 15 PM 12: 54
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TP11/11-442800R

December 12, 2011

Mr. Glen T. Koyama, Project Manager
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Dear Mr. Koyama:

Subject: Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal; Kapalama, Honolulu, Hawaii

This responds to your letter of November 21, 2011, requesting our comments concerning this proposed project.

Our Traffic Engineering Division (TED) reserves commenting on the project until they have an opportunity to review the Draft Environmental Impact Statement (DEIS), which should include a traffic assessment and discuss traffic impacts as a result of the project, including short-term impacts during construction and proposed mitigating measures.

Our Public Transit Division (PTD) has the following comments:

- Your DEIS should include a description of Public Transit, the impact of your project on Public Transit bus operations during construction. Basic information is available on our websites: www.thebus.org and www.honolulu.gov/dts. For more details, you may contact our staff at 768-8370.

- Construction notes should include the following note regarding transit:

  "This project may affect bus routes, bus stops, and paratransit operations, therefore, the Contractor shall notify the Department of Transportation Services, Public Transit Division at 768-8396 and Oahu Transit Services, Inc. (bus operations: 848-4578 or 852-6016 and paratransit operations:

Mr. Glen T. Koyama, Project Manager
Page 2
December 12, 2011

454-5041 or 454-5020) of the scope of work, location, proposed closure of any street, traffic lane, sidewalk, or bus stop and duration of project at least two weeks prior to construction."

We reserve further comment pending submission of the DEIS.

Thank you for the opportunity to review this matter. Should you have any further questions, please contact Michael Murphy of my staff at 768-8359.

Very truly yours,

WAYNE Y. YOSHIOKA
Director

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

RECEIVED
2011 DEC -2 PM 12: 48
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November 29, 2011

Mr. Glen T. Koyama, Project Manager
Belt Collins Hawaii, Limited
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Dear Mr. Koyama:

Subject: Your Letter Dated November 21, 2011 Requesting Comments on the Environmental Impact Statement Preparation Notice for the Kapalama Container Terminal, TMK: 1-2-25: 2, 9,11,12, 16, 17, 40

Thank you for the opportunity to comment on the proposed project.

The existing water system is adequate to accommodate the proposed Kapalama Container Terminal. However, please be advised that this information is based upon current data and, therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval of your building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

The proposed project is subject to Board of Water Supply Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.

If you have any questions, please contact Robert Chun at 748-5443.

Very truly yours,

SUSAN UYESUGI
Program Administrator
Customer Care Division

Water for Life . . . Ka Wai Ola

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 · INTERNET: www.honolulupd.org

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2011 DEC 14 PM 12: 42
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PETER B. CARLISLE
MAYOR

LOUIS M. KEALOHA
CHIEF

DAVE M. KAJIHIRO
MARIE A. McCAULEY
DEPUTY CHIEFS

OUR REFERENCE JT-LS

December 9, 2011

Mr. Glen T. Koyama, Project Manager
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Dear Mr. Koyama:

This is in response to your letter dated November 21, 2011, regarding the Environmental Impact Statement Preparation Notice for the Kapalama Container Terminal project. Please note that the project site is under the jurisdiction of the State Harbors Division.

This project may cause an increase in calls for police service because of the anticipated traffic congestion during the construction phase. However, once the project is completed, it should have no significant impact on the facilities or services of the Honolulu Police Department.

If there are any questions, please call Major William Chur of District 5 (Kalihi) at 847-6253.

Sincerely,

LOUIS M. KEALOHA
Chief of Police

By
JOHN THOMPSON
Acting Assistant Chief of Police
Support Services Bureau

Serving and Protecting With Aloha

HONOLULU FIRE DEPARTMENT

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

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2011 DEC 19 PM 2: 37
BELT COLLINS HAWAII

PETER B. CARLISLE
MAYOR

KENNETH G. SILVA
FIRE CHIEF

EMMIT A. KANE
DEPUTY FIRE CHIEF

December 13, 2011

Mr. Glen Koyama
Project Manager
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Subject: Environmental Impact Statement Preparation Notice
Kapalama Container Terminal, State of Hawaii
Kapalama, Honolulu, Hawaii

In response to your letter of November 21, 2011, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) reviewed the material provided and requires that the following be complied with:

1. Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet (46 m) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; Uniform Fire Code [UFC]™, 2006 Edition, Section 18.2.3.2.2.)

   A fire department access road shall extend to within 50 ft (15 m) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1; UFC™, 2006 Edition, Section 18.2.3.2.1.)

2. A water supply approved by the county, capable of supplying the required fire flow for fire protection, shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as measured by an

Mr. Glen Koyama
Page 2
December 13, 2011

approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1; UFC™, 2006 Edition, Section 18.3.1, as amended.)

3. Submit civil drawings to the HFD for review and approval.

Should you have any questions, please contact Battalion Chief Socrates Bratakos of our Fire Prevention Bureau at 723-7151 or sbratakos@honolulu.gov.

Sincerely,

KENNETH G. SILVA
Fire Chief

KGS/SY:bh

cc: Dean Watase, Department of Transportation

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8480 • Fax: (808) 768-4567
Web site: www.honolulu.gov

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2012 JAN 19 PM 12: 21
BELT COLLINS HAWAII

PETER B. CARLISLE
MAYOR

LORI M.K. KAHIKINA, P.E.
ACTING DIRECTOR

CHRIS TAKASHIGE, P.E.
DEPUTY DIRECTOR

January 18, 2012

Mr. Glen T. Koyama
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Dear Mr. Koyama:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, State of Hawaii
Kapalama, Honolulu, Hawaii

Thank you for the opportunity to review and comment on this project. The Department of Design and Construction has no comments.

Should there be any questions, please contact me at 768-8480.

Sincerely,

Chris Takashige
for Lori M.K. Kahikina, P.E.
Director

LMKK:pg(442789)

Other Agencies/Organizations/Private Interests

SERVCO PACIFIC INC.

2850 Pukoloa Street · Suite 300 · Honolulu, Hawaii 96819 · Telephone: (808) 564-1300 · Facsimile: (808) 523-3937 • www.servco.com

December 22, 2011

Mr. Carter Luke, Engineering Program Manager
State of Hawaii, Department of Transportation, Harbors Division
79 South Nimitz Highway
Honolulu, HI 96813-4898

Mr. Glen Koyama, Project Manager
Belt Collins Hawaii Ltd.
2153 N. King St. Ste. 200
Honolulu, HI 96819-4554

RE: Final Environmental Assessment/EIS Preparation Notice ("EISPN")
Kapalama Container Terminal Development

Dear Messrs Luke and Koyama:

Servco Pacific Inc. is submitting its comments to the Final Environmental Assessment/EIS Preparation Notice dated November 2011 for the Kapalama Container Terminal Development. Our major concern is our continued right to use the joint easement (for road purposes) located on the KMR property which allows Servco access to Sand Island Access Road. More specifically:

1) The maps provided did not clearly indicate the plans for this joint easement (for road purposes).

2) Servco has four (4) large car carriers (Length – 75 ft. / Width – 8.5 ft. / Height – 13-14 ft.) that enter/exit on this joint easement/roadway multiple times per day. They may each travel as many as 12 times a day, 40-50 times total on a busy day.

3) Servco currently cannot exit via Auiki Street:

   (a) There is a steep incline/drop from the Servco driveway on Auiki Street that causes the bottom of the trailer to drag.
   (b) There is very heavy vehicular traffic on Auiki Street with merging traffic from Puuhale Road that makes ingress and egress very difficult and a major safety concern.
   (c) The line of sight from this driveway is very poor due to the curve in the road and the large vehicles that are parked on Auiki Street. This is a very dangerous intersection with many accidents and near misses.

Therefore, this joint easement/roadway access is very vital as it provides Servco with the safest possible route for the car carriers to enter traffic and is vital for our shipping business with Matson on Sand Island. Depending upon the changes to this roadway, Servco could face major hardship on our business as our daily deliveries to our dealers would be heavily impacted.

Automotive Products · Insurance Services
Consumer Products · Investments

Mr. Carter Luke
Mr. Glen Koyama
December 22, 2011
Page 2

We appreciate the opportunity to share our concerns with you and would welcome the opportunity for you to meet at our property to go over our concerns. Further, if a traffic study is conducted in conjunction with the planning of this project, we would appreciate the opportunity to provide input.

If you should have any questions, please feel free to contact me. My phone number is 564-1327 or via email eviek@servco.com.

Sincerely,

SERVCO PACIFIC INC.

Evie S. Kobayashi (S)
Property Manager

/esk

Glen Koyama

From:	Jeff Low [jeff@htbyb.com]
Sent:	Thursday, December 22, 2011 1:09 PM
To:	Glen Koyama
Subject:	Kapalama EISPN Comments
Attachments:	Kapalama .EISPN comments.pdf

Attached per your request are consolidated comments from YB on the KMR development. Please feel free to call me if you have any questions. Thanks.

Jeffrey A. Low
Manager, Facilities & Planning
YOUNG BROTHERS, LTD.
P.O. Box 3288
Honolulu, HI 96801-3288

Phone: (808) 543-9406
Fax: (808) 543-9400
Email: jalow@htbyb.com

1

YB comments on Kapalama EISPN (DOT-H / Belt Collins)

Section	Comments
General	If this project will be subject to federal permits and approvals, and therefore will trigger NEPA, the department may also want to consider the option of preparing a joint state/federal EIS (as part of seeking to streamline the review processes and reduce the potential for project delays.
4.1 Purpose and Need; 4.4.2 Alternative Location	Suggest also including discussion and/or supporting evidence that: (1) describes the amount of Honolulu Harbor expansion needed, such as anticipated cargo volume growth by 2020 (or a later date); (2) discusses why KBPH (Kalaeloa) is not a viable alternative, even though it is also a commercial harbor on Oahu (even though the rationale for this is commonly understood in the maritime industry.
4.1 Purpose and Need	The dollar amount of GSP loss in paragraph 3 is misprinted as millions of dollars. It should be billions. Suggest referencing by name the 2007 Laney report on economic impact (info used from that report is used on pg. 2), and acknowledge that Laney's $50 billion estimate (also cited on pg 2) was developed prior to the current economic downturn. A caveat about the "current economic conditions" is mentioned in the prior paragraph, but should also be made clear in the subsequent paragraph mentioning the $50 billion impact.
4.2 Background	Suggest acknowledging that Pier 34-35 and Pier 24-28 improvements will be evaluated in separate environmental review documents.
4.3 Proposed Action; 4.4.1 Alternative Yard Configurations	Agree with DOT-H preference for truck access from Sand Island, rather than Auiki Street. But note that improvements to Auiki Street may be needed regardless of truck access option. Therefore, recommend the consideration of joint action with City & County of Honolulu to have Auiki Street Improvements conducted at same time. Otherwise, recommend setting aside land in proposed project site to allow future Auiki Street widening. Also will provide better buffer zone from public street that will be more secure.
4.4.3 No Action	Operating a container terminal at overcapacity presents serious safety risks both to terminal operators and to customers/truckers within the facility. The large turning radius required by tractors with long containers would be curtailed resulting in productivity losses and traffic backlogs. Also as noted in 4.4.2 only 15 percent of waterfront property remains for development of additional cargo facilities. With Hawaii dependent upon ocean transportation for the vast majority of its cargo, leaving KMR undeveloped eliminates an opportunity to prepare for and plan against inevitable future needs.
4.7 Required Permits and Approvals	Suggest acknowledging the following consultation processes in this section and/or table, even though they are mentioned elsewhere in the EISPN: (1) ESA Section 7 consultation (2) NHPA Section 106 consultation The permits and approvals table does not list any local/county permits and approvals, which will be confusing to some readers. Suggest including language explaining why/how DOT-H can exempt itself from county approvals and permits, if that is indeed the intent also with this project.
4.3 Proposed Action	A statement is made that "container truck pick-ups and deliveries from the container terminal are expected to occur only during the daytime hours." We suggest confirming this detail withintended or potential users of the facility. It may also be prudent to consider the possibility that terminal operators and truckers may shift operational hours so as to avoid traffic congestion and conflicts with general traffic.
7.3 EISPN Distribution List	Additional parties suggested for consultation: • Elected Officials: Chairs of Transportation Committees (Senate and House) • Lloyd Haraguchi, executive director, State's Public Land Development Corporation • HECO • The Gas Company (note buried pipeline inside Pier 40) • Board of Water Supply • Chamber of Commerce of Hawaii

Response Letters

Federal Agencies

February 10, 2012
20060-70-0304 / 12P-013

Mr. Gerry Davis
Assistant Regional Administrator
Habitat Conservation Division
U. S. Department of Commerce
NOAA
National Marine Fisheries Service
Pacific Island Regional Office
1601 Kapiolani Boulevard, Suite 1110
Honolulu, HI 96814-4700

Dear Mr. Davis:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, Honolulu Harbor, State of Hawaii
Kapalama, Honolulu, Hawaii

Thank you for your letter dated December 19, 2011, and your input on the project's Environmental Impact Statement (EIS) Preparation Notice. We will address your areas of interest in the Draft EIS, which we expect to be available later this year. Thank you for your participation in the review of this very important project.

Sincerely yours,

BELT COLLINS HAWAII LLC

Glen T. Koyama
Project Manager

GTK:ajk

cc: Mr. Carter Luke, Department of Transportation – Harbors Division

February 10, 2012
20060-70-0304 / 12P-013

Mr. Loyal Mehrhoff
Field Supervisor
U. S. Fish and Wildlife Services
National Marine Fisheries Service
Pacific Island Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, HI 96850

Dear Mr. Mehrhoff:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, Honolulu Harbor, State of Hawaii
Kapalama, Honolulu, Hawaii

Thank you for your letter dated December 22, 2011, and your input on the project's Environmental Impact Statement (EIS) Preparation Notice. We will address your areas of interest in the Draft EIS, which we expect to be available later this year. Thank you for your participation in the review of this very important project.

Sincerely yours,

BELT COLLINS HAWAII LLC

Glen T. Koyama
Project Manager

GTK:ajk

cc: Mr. Carter Luke, Department of Transportation – Harbors Division

From: Joanne Hiramatsu
Sent: Tuesday, June 04, 2013 11:05 AM
To: 'sachs.carol@epa.gov'
Cc: 'Dean.Watase@hawaii.gov'; 'Carter.Luke@hawaii.gov'
Subject: Comment – Kapalama Container Terminal EIS

Carol:

We apologize for this late response to your December 30, 2011 email to the Kapalama EIS website and Glen Koyama regarding the Kapalama Environmental Impact Statement Preparation Notice (EISPN). In response to your question whether the project has a NEPA component, we have described in the Draft Environmental Impact Statement (DEIS) (Office of Environmental Quality Control, *The Environmental Notice*, December 23, 2012) for the project that the proposed container terminal will involve pier construction in Honolulu Harbor. A U.S. Army Corps of Engineers Permit Application will be submitted for the new pier, and in the application, NEPA requirements will be met.

Thank you for your comment,
Joanne

Joanne Hiramatsu | Senior Planner/Project Manager
Belt Collins Hawaii LLC
2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
T: 808.521.5361 | F: 808.538.7819 | www.beltcollins.com

State of Hawaii Agencies

BELT COLLINS

February 10, 2012
20060-70-0304 / 12P-013

Mr. Glenn M. Okimoto, Ph.D.
Director of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, HI 96813-5097

Dear Dr. Okimoto:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, Honolulu Harbor, State of Hawaii
Kapalama, Honolulu, Hawaii

Thank you for your letters of December 19, 2011, and December 21, 2011, and your input on the project's Environmental Impact Statement (EIS) Preparation Notice. Although you had no comment or objection to the proposed action at this time, we look forward to your continued participation in the review of this very important project.

Sincerely yours,

BELT COLLINS HAWAII LLC

Glen T. Koyama
Project Manager

GTK: ajk

cc: Mr. Carter Luke, Department of Transportation – Harbors Division

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.beltcollins.com | honolulu@beltcollins.com
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February 10, 2012
20060-70-0304 / 12P-013

Mr. Alec Wong, P.E. Chief
State of Hawaii
Department of Health
Clean Water Branch
P. O. Box 3378
Honolulu, HI 96801-3378

Dear Mr. Wong:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, Honolulu Harbor, State of Hawaii
Kapalama, Honolulu, Hawaii

Thank you for your letter dated December 22, 2011, and your input on the project's Environmental Impact Statement (EIS) Preparation Notice. We will address your areas of interest in the Draft EIS, which we expect to be available later this year. Thank you for your participation in the review of this very important project.

Sincerely yours,

BELT COLLINS HAWAII LLC

Glen T. Koyama
Project Manager

GTK:ajk

cc: Mr. Carter Luke, Department of Transportation – Harbors Division

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
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February 10, 2012
20060-70-0304 / 12P-013

Mr. Russell Y. Tsuji
Land Administrator
Department of Land and Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, HI 96809

Dear Mr. Tsuji:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, Honolulu Harbor, State of Hawaii
Kapalama, Honolulu, Hawaii

Thank you for your letters of December 22, 2011 and December 28, 2011, and your input on the project's Environmental Impact Statement (EIS) Preparation Notice. Although you had no comment or objection to the proposed action at this time, we look forward to your continued participation in the review of this very important project.

Sincerely yours,

BELT COLLINS HAWAII LLC

Glen T. Koyama
Project Manager

GTK: ajk

cc: Mr. Carter Luke, Department of Transportation – Harbors Division

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.beltcollins.com | honolulu@beltcollins.com

BELT COLLINS

February 10, 2012
20060-70-0304 / 12P-013

Mr. Samuel J. Lemmo, Administrator
Department of Land and Natural Resources
Office of Conservation and Coastal Lands
State of Hawaii
P. O. Box 621
Honolulu, HI 96809

Dear Mr. Lemmo:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, Honolulu Harbor, State of Hawaii
Kapalama, Honolulu, Hawaii

Thank you for your letter dated December 15, 2011, and your input on the project's Environmental Impact Statement (EIS) Preparation Notice. We will address your areas of interest in the Draft EIS, which we expect to be available later this year. Thank you for your participation in the review of this very important project.

Sincerely yours,

BELT COLLINS HAWAII LLC

Glen T. Koyama
Project Manager

GTK:ajk

cc: Mr. Carter Luke, Department of Transportation – Harbors Division

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.beltcollins.com | honolulu@beltcollins.com

February 10, 2012
20060-70-0304 / 12P-013

Mr. Clyde Namu'o
Chief Executive Officer
Office of Hawaiian Affairs
State of Hawaii
711 Kapiolani Boulevard, Suite 500
Honolulu, HI 96813

Dear Mr. Namu'o:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, Honolulu Harbor, State of Hawaii
Kapalama, Honolulu, Hawaii

Thank you for your letter of December 12, 2011, and your input on the project's Environmental Impact Statement (EIS) Preparation Notice. Although you had no comment or objection to the proposed action at this time, we look forward to your continued participation in the review of this very important project.

Sincerely yours,

BELT COLLINS HAWAII LLC

Glen T. Koyama
Project Manager

GTK: ajk

cc: Mr. Carter Luke, Department of Transportation – Harbors Division

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.beltcollins.com | honolulu@beltcollins.com

February 10, 2012
20060-70-0304 / 12P-013

Ms. Angie Westfall
Architecture Branch Chief
State of Hawaii
Department of Land and Natural Resources
Historic Preservation Division
601 Kamokila Boulevard
Kapolei, HI 96707

Dear Ms. Westfall:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, Honolulu Harbor, State of Hawaii
Kapalama, Honolulu, Hawaii

Thank you for your letter dated December 12, 2011, and your input on the project's Environmental Impact Statement (EIS) Preparation Notice. We will address your areas of interest in the Draft EIS, which we expect to be available later this year. Thank you for your participation in the review of this very important project.

Sincerely yours,

BELT COLLINS HAWAII LLC

Glen T. Koyama
Project Manager

GTK:ajk

cc: Mr. Carter Luke, Department of Transportation – Harbors Division

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
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City and County of Honolulu

BELT COLLINS

February 10, 2012
2006-70-0304 / 12P-013

Mr. David K. Tanoue, Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, HI 96813

Dear Mr. Tanoue:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, Honolulu Harbor, State of Hawaii
Kapalama, Honolulu, Hawaii

Thank you for your letter dated December 21, 2011, and your input on the project's Environmental Impact Statement (EIS) Preparation Notice. We will address your areas of interest in the Draft EIS, which we expect to be available later this year. Thank you for your participation in the review of this very important project.

Sincerely yours,

BELT COLLINS HAWAII LLC

Glen T. Koyama
Project Manager

GTK:ajk

cc: Mr. Carter Luke, Department of Transportation – Harbors Division

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.beltcollins.com | honolulu@beltcollins.com

BELT COLLINS

February 10, 2012
20060-70-0304 / 12P-013

Mr. Westley K.C. Chun, Ph.D., P.E., BCEE
Director and Chief Engineer
City and County of Honolulu
Department of Facility Maintenance
1000 Uluohia Street, Suite 215
Kapolei, HI 96707

Dear Mr. Chun:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, Honolulu Harbor, State of Hawaii
Kapalama, Honolulu, Hawaii

Thank you for your letter dated December 19, 2011, and your input on the project's Environmental Impact Statement (EIS) Preparation Notice. We will address your areas of interest in the Draft EIS, which we expect to be available later this year. Thank you for your participation in the review of this very important project.

Sincerely yours,

BELT COLLINS HAWAII LLC

Glen T. Koyama
Project Manager

GTK:ajk

cc: Mr. Carter Luke, Department of Transportation – Harbors Division

BELT COLLINS

February 10, 2012
20060-70-0304 / 12P-013

Mr. Wayne Y. Yoshioka, Director
Department of Transportation Services
City and County of Honolulu
650 South King Street, 3rd Floor
Honolulu, HI 96813

Dear Mr. Yoshioka:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, Honolulu Harbor, State of Hawaii
Kapalama, Honolulu, Hawaii

Thank you for your letter dated December 12, 2011, and your input on the project's Environmental Impact Statement (EIS) Preparation Notice. We will address your areas of interest in the Draft EIS, which we expect to be available later this year. Thank you for your participation in the review of this very important project.

Sincerely yours,

BELT COLLINS HAWAII LLC

Glen T. Koyama
Project Manager

GTK:ajk

cc: Mr. Carter Luke, Department of Transportation – Harbors Division

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.beltcollins.com | honolulu@beltcollins.com
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BELT COLLINS

February 10, 2012
20060-70-0304 / 12P-013

Ms. Susan Uyesugi, Program Administrator
Customer Care Division
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, HI 96843

Dear Ms. Uyesugi:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, Honolulu Harbor, State of Hawaii
Kapalama, Honolulu, Hawaii

Thank you for your letter dated November 29, 2011, and your input on the project's Environmental Impact Statement (EIS) Preparation Notice. We will address your areas of interest in the Draft EIS, which we expect to be available later this year. Thank you for your participation in the review of this very important project.

Sincerely yours,

BELT COLLINS HAWAII LLC

Glen T. Koyama
Project Manager

GTK:ajk

cc: Mr. Carter Luke, Department of Transportation – Harbors Division

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.beltcollins.com | honolulu@beltcollins.com

BELT COLLINS

February 10, 2012
2006-70-0304 / 12P-013

Mr. Louis M. Kealoha
Chief of Police
Police Department
City and County of Honolulu
801 South Beretania Street
Honolulu, HI 96816

Dear Chief Kealoha:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, Honolulu Harbor, State of Hawaii
Kapalama, Honolulu, Hawaii

Thank you for your letter dated December 9, 2011, and your input on the project's Environmental Impact Statement (EIS) Preparation Notice. We will address your areas of interest in the Draft EIS, which we expect to be available later this year. Thank you for your participation in the review of this very important project.

Sincerely yours,

BELT COLLINS HAWAII LLC

Glen T. Koyama
Project Manager

GTK:ajk

cc: Mr. Carter Luke, Department of Transportation – Harbors Division

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.beltcollins.com | honolulu@beltcollins.com

February 10, 2012
2006-70-0304 / 12P-013

Mr. Kenneth G. Silva, Fire Chief
Honolulu Fire Department
City and County of Honolulu
636 South Street
Honolulu, HI 96813-5007

Dear Chief Silva:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, Honolulu Harbor, State of Hawaii
Kapalama, Honolulu, Hawaii

Thank you for your letter dated December 13, 2011, and your input on the project's Environmental Impact Statement (EIS) Preparation Notice. We will address your areas of interest in the Draft EIS, which we expect to be available later this year. Thank you for your participation in the review of this very important project.

Sincerely yours,

BELT COLLINS HAWAII LLC

Glen T. Koyama
Project Manager

GTK:ajk

cc: Mr. Carter Luke, Department of Transportation – Harbors Division

February 10, 2012
20060-70-0304 / 12P-013

Ms. Lori M.K. Kahikina, P.E.
Director
Department of Design and Construction
City and County of Honolulu
650 South King Street, 11th Floor
Honolulu, HI 96813

Dear Ms. Kahikina:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, Honolulu Harbor, State of Hawaii
Kapalama, Honolulu, Hawaii

Thank you for your letter of January 18, 2012, and your input on the project's Environmental Impact Statement (EIS) Preparation Notice. Although you had no comment or objection to the proposed action at this time, we look forward to your continued participation in the review of this very important project.

Sincerely yours,

BELT COLLINS HAWAII LLC

Glen T. Koyama
Project Manager

GTK: ajk

cc: Mr. Carter Luke, Department of Transportation – Harbors Division

Other Agencies/Organizations

BELT COLLINS

February 10, 2012
2006-70-0304 / 12P-013

Ms. Evie S. Kobayashi
Property Manager
Servco Pacific Inc.
2850 Pukoloa Street, Suite 300
Honolulu, HI 96819

Dear Ms. Kobayashi:

Environmental Impact Statement Preparation Notice (EISPN)
Kapalama Container Terminal, Honolulu Harbor, State of Hawaii
<u>Kapalama, Honolulu, Hawaii</u>

Thank you for your letter dated December 22, 2011, and your input on the project's Environmental Impact Statement (EIS) Preparation Notice. We will address your areas of interest in the Draft EIS, which we expect to be available later this year. Thank you for your participation in the review of this very important project.

Sincerely yours,

BELT COLLINS HAWAII LLC

Glen T. Koyama

Glen T. Koyama
Project Manager

GTK:ajk

cc: Mr. Carter Luke, Department of Transportation – Harbors Division

Belt Collins Hawaii LLC 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 Fax: 808.538.7819 | www.beltcollins.com | honolulu@beltcollins.com

From: Joanne Hiramatsu
Sent: Tuesday, June 04, 2013 10:43 AM
To: 'Jeff Low'; Glen Koyama
Cc: 'Carter.Luke@hawaii.gov'; 'Dean.Watase@hawaii.gov'
Subject: RE: Kapalama EISPN Comments

Mr. Low:

We apologize for this late response to your December 22, 2011 email to Glen Koyama regarding the Kapalama Environmental Impact Statement Preparation Notice (EISPN). Last year, after receiving comments on the EISPN, we prepared the Draft Environmental Impact Statement (DEIS) for the project (your comments were considered in the preparation of the DEIS) and submitted it to the State Office of Environmental Quality Control (OEQC) on December 12, 2012 for publication in *The Environmental Notice* on December 23, 2012. The 45-day public review period for the DEIS ended on February 6, 2013. Since completion of the December 2012 DEIS, updated information has been developed for the project and, as a result, an updated DEIS will be submitted shortly to OEQC for additional public review. This updated DEIS will be identified as "Kapalama Container Terminal, Draft Environmental Impact Statement, Version 2." We look forward to your comments on this updated version of the DEIS.

Please let me know if you have any questions.

Thank you,
Joanne

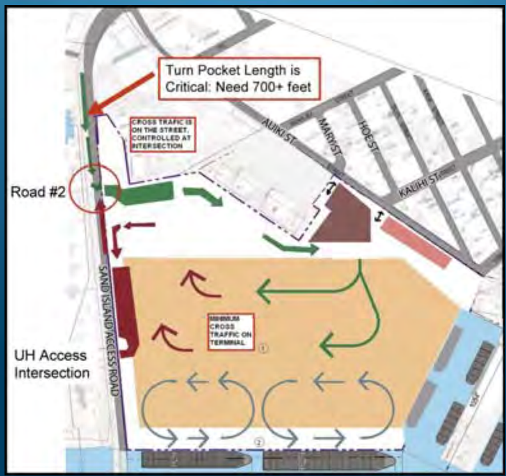
Joanne Hiramatsu | Senior Planner/Project Manager
Belt Collins Hawaii LLC
2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
T: 808.521.5361 | F: 808.538.7819 | www.beltcollins.com

HONOLULU HARBOR IMPROVEMENT PLANS

- Oahu Commercial Harbors 2020 Master Plan (1997)
- Kapalama Planning Final Report (February 2007)
- Harbors Modernization Plan (June 2008)
- “New Day” Initiative (2011)

PROPOSED DEVELOPMENT CONCEPT

PROPOSED DEVELOPMENT ALTERNATIVES



Alternative 1

PROPOSED DEVELOPMENT ALTERNATIVES

Alternative 2

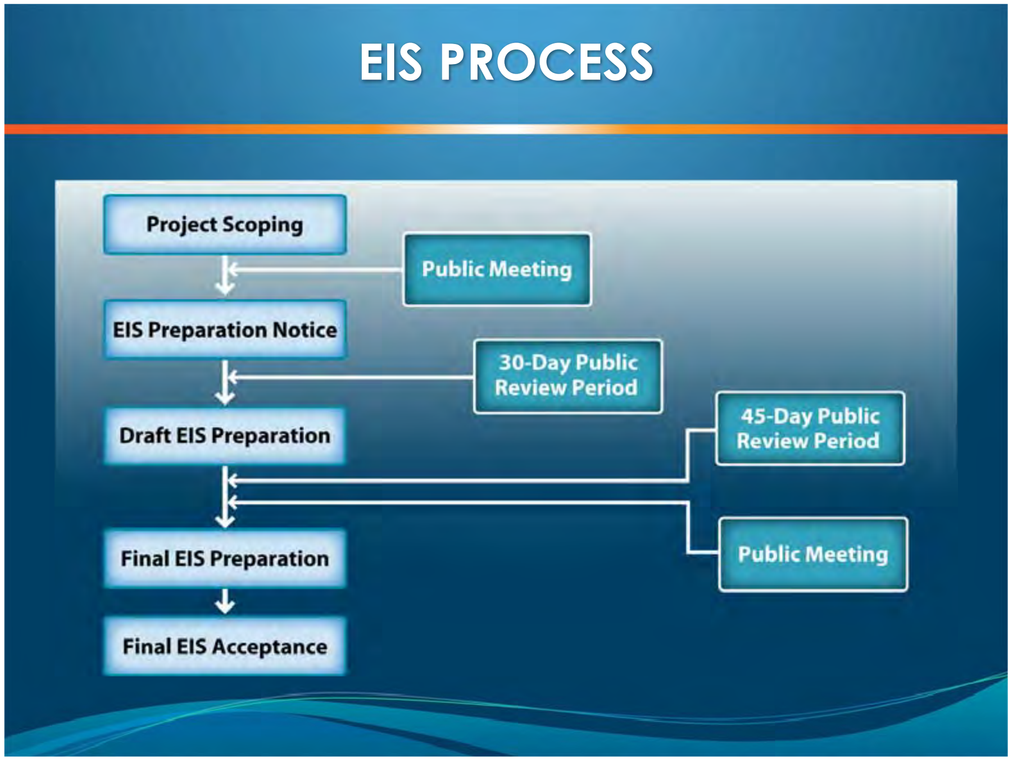
MARITIME-DEPENDENT USERS PRELIMINARY RELOCATION PLAN

WHAT IS AN ENVIRONMENTAL IMPACT STATEMENT (EIS)?

- Informational document that publicly discloses specific information about the proposed project or action
- Existing environmental conditions in the project area
- Probable impacts of the project on the environment
- Alternative proposed actions and their probable impacts
- Mitigative measures to reduce or minimize impacts
- Compliance with existing public policies and programs

PURPOSE OF EIS?

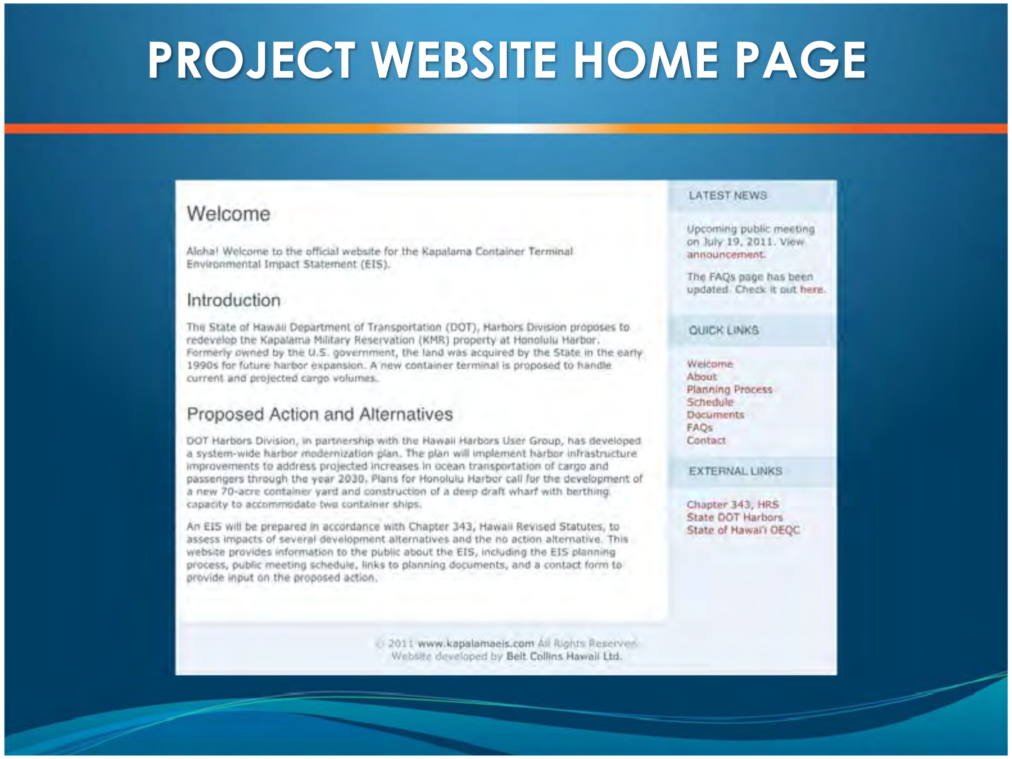
- Detailed information about proposed action for public review
- Opportunity for public comment on proposed action
- Information for informed decision-making by government agencies



PROJECT TIMETABLE

PROJECT EVENTS	ESTIMATED TIMETABLE
Project Scoping, Meetings with HHUG, Agencies and Stakeholders	May 2011 to August 2011
Public Meeting	July 19, 2011
EIS Preparation Notice (EISPN)	August 2011 to September 2011
EISPN Public Review	September 2011 to October 2011
Preparation of Draft EIS	October 2011 to May 2012
Draft EIS Public Review	June 2012 to July 2012
Public Meeting	July 2012
Preparation of Final EIS and Acceptance	July 2012 to October 2012

A-4. Public Meeting Power Point Presentation 2011 July 19


PROJECT WEBSITE HOME PAGE
Welcome
Aloha! Welcome to the official website for the Kapalama Container Terminal Environmental Impact Statement (EIS).
Introduction
The State of Hawaii Department of Transportation (DOT), Harbors Division proposes to redevelop the Kapalama Military Reservation (KMR) property at Honolulu Harbor. Formerly owned by the U.S. government, the land was acquired by the State in the early 1990s for future harbor expansion. A new container terminal is proposed to handle current and projected cargo volumes.
Proposed Action and Alternatives
DOT Harbors Division, in partnership with the Hawaii Harbors User Group, has developed a system-wide harbor modernization plan. The plan will implement harbor infrastructure improvements to address projected increases in ocean transportation of cargo and passengers through the year 2030. Plans for Honolulu Harbor call for the development of a new 70-acre container yard and construction of a deep draft wharf with berthing capacity to accommodate two container ships.
An EIS will be prepared in accordance with Chapter 343, Hawaii Revised Statutes, to assess impacts of several development alternatives and the no action alternative. This website provides information to the public about the EIS, including the EIS planning process, public meeting schedule, links to planning documents, and a contact form to provide input on the proposed action.
LATEST NEWS
Upcoming public meeting on July 19, 2011. View announcement.
The FAQs page has been updated. Check it out here.
QUICK LINKS
Welcome
About
Planning Process
Schedule
Documents
FAQs
Contact
EXTERNAL LINKS
Chapter 343, HRS
State DOT Harbors
State of Hawai'i OEQC
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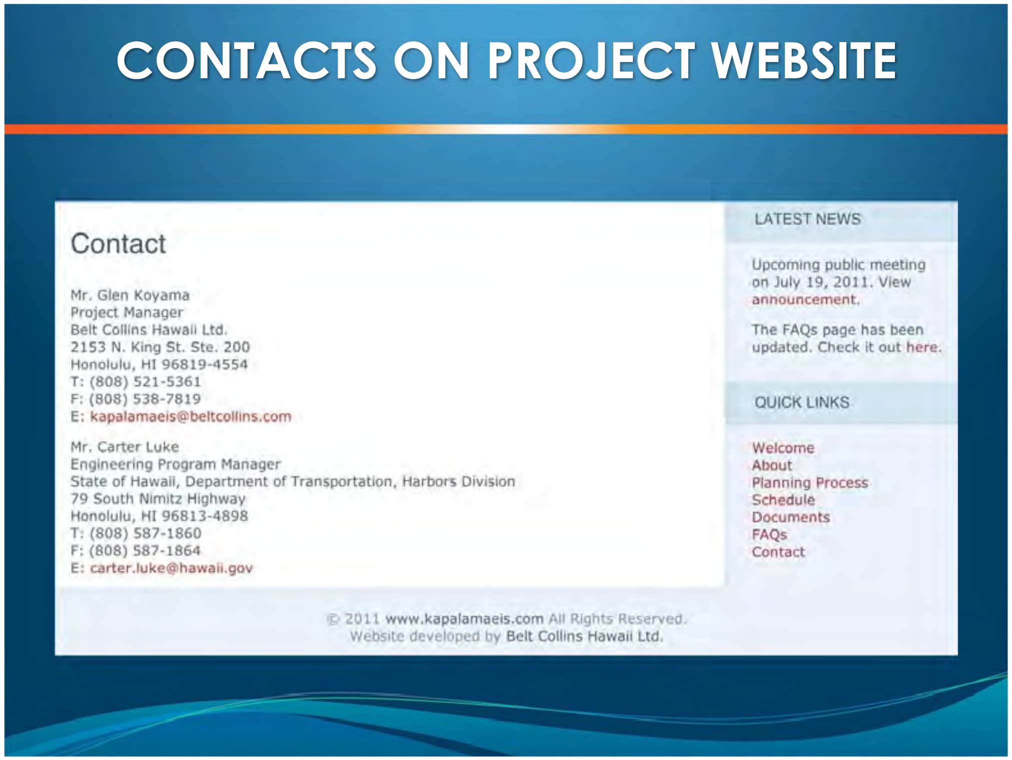
Website developed by Belt Collins Hawaii Ltd.


PROJECT WEBSITE ADDRESS
www.kapalamaeis.com


CONTACTS ON PROJECT WEBSITE
Contact
Mr. Glen Koyama
Project Manager
Belt Collins Hawaii Ltd.
2153 N. King St. Ste. 200
Honolulu, HI 96819-4554
T: (808) 521-5361
F: (808) 538-7819
E: kapalamaeis@beltcollins.com
Mr. Carter Luke
Engineering Program Manager
State of Hawaii, Department of Transportation, Harbors Division
79 South Nimitz Highway
Honolulu, HI 96813-4898
T: (808) 587-1860
F: (808) 587-1864
E: carter.luke@hawaii.gov
LATEST NEWS
Upcoming public meeting on July 19, 2011. View announcement.
The FAQs page has been updated. Check it out here.
QUICK LINKS
Welcome
About
Planning Process
Schedule
Documents
FAQs
Contact
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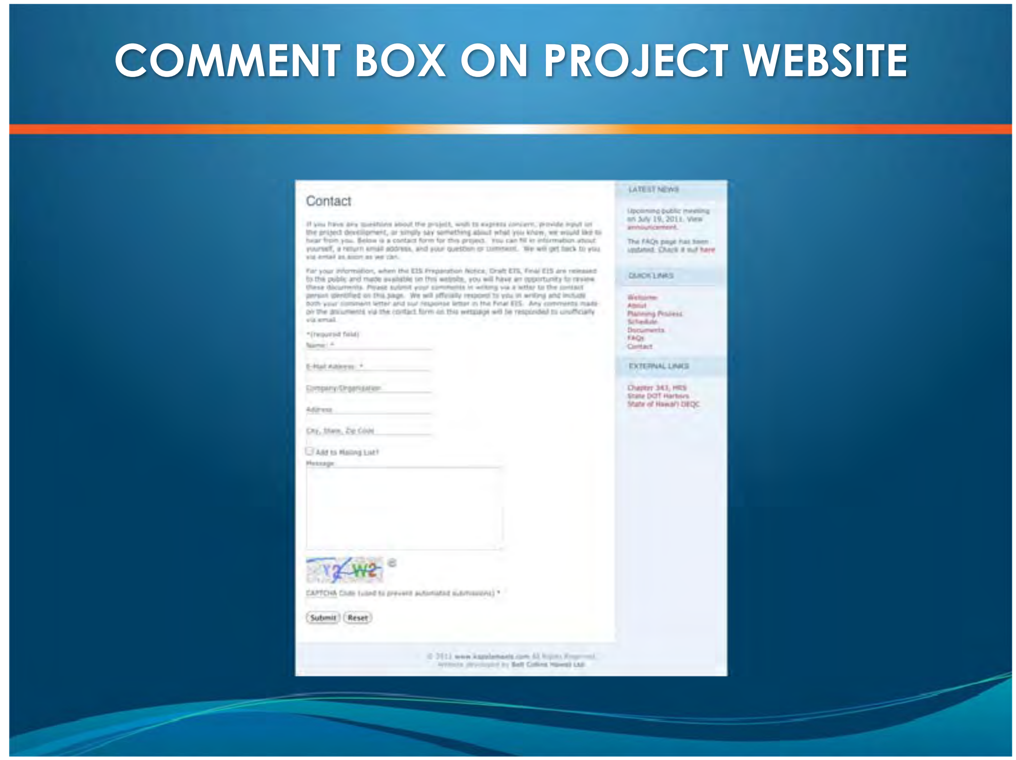
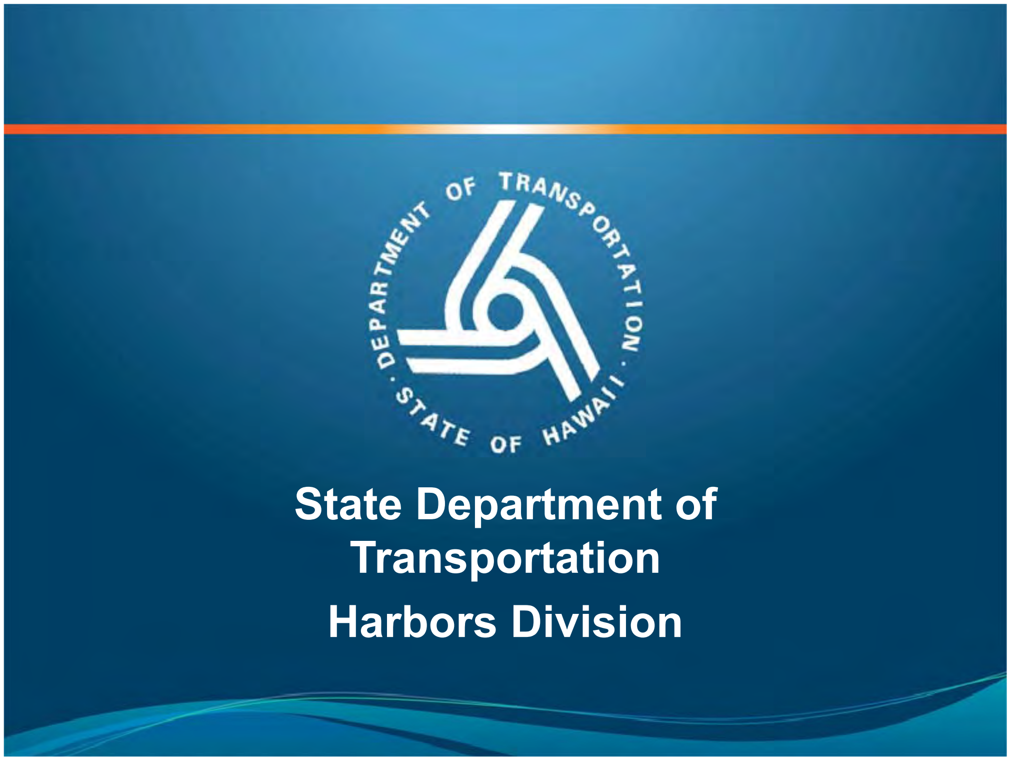

COMMENT BOX ON PROJECT WEBSITE
Contact



A-4. Public Meeting Power Point Presentation 2011 July 19

<u>KAPALAMA CONTAINER TERMINAL EIS</u>
Public Meeting, July 19, 2011, 2:30 p.m.
Puʻuhale Elementary School Cafetorium

Public Input Received During Afternoon Session:

- **Include an airspace analysis in your study due to the project's close proximity to Honolulu airport.**

- **When will tenants be given notice of eviction? How much notice? When will construction start?**
  Response: There is no definite timeline, as Harbors Division still needs to complete a second bond sale to fund demolition and the construction work for the new container yard and wharf. This process is dependent on the revenues we (Harbors Division) bring in and our ability to pay debt service on those bonds. We are, however, planning to give as much advanced notice as possible to all affected parties so you can plan early. We are tentatively targeting March 2014 as the date tenants need to vacate from their areas.

- **Is that sooner or later?**
  Response: Most likely later.

- **How much notice will be given?**
  Response: We will do our best to give advance notice. Check DOT Harbors Division's website for where we are on the project. We will know more at the next public meeting.

- **Will this be state or federal money? Will there be MARAD funding?**
  Response: All state funds, so far. Harbors Division is working with the U.S. Maritime Administration (MARAD) to fund other aspects of the "New Day Work" projects. We hope to get federal funds and will apply for TIGER III grant funds (and could receive funds as early as February 2012) to finance improvements at Kawaihae Harbor. Harbors Division, for instance, applied for and received a grant for up to $24.5 million in federal dollars to fund Pier 29 Cargo Yard, which is presently in construction. These types of federal dollars allow us to stretch our state funds.

- **How tall are the Horizon cranes?**
  Response: We will be working with FAA to look at potential impacts and with Hawaii Harbors User Group to determine the proper crane size for design. At this time, the Matson cranes are approximately 225 feet high, and 309 feet high when the gantry booms are stored in the raised position.

- **When will you know a solid date? A year in advance? 30 days notice?**
  Response: We cannot give a firm date at this point, as it is too early. We have a consultant looking at demolition and how work might be best phased to accommodate the project buildout. We plan to give at least 6 months notice.

- **Concerned since I've already gone thru condemnation at the airport. Is this really going to go through? What kind of assurance is there that this is going to happen?**
  Response: Can't say 100 percent, because nothing is 100 percent. Harbors Division, however, has issued over $150 million dollars in revenue bonds to fund the first phase of this project in November 2010. Hence, we are currently moving forward with the development.

- **What is the estimated total cost and what's the percentage covered by bonds?**
  Response: The total cost of the "New Day Work" projects is estimated at $618 million dollars. The percentage cover by bonds could vary depending on the amount of federal funds received and Harbors Division's ability to sell bonds.

<u>KAPALAMA CONTAINER TERMINAL EIS</u>
Public Meeting, July 19, 2011, 6:30 p.m.
Pu'uhale Elementary School Cafetorium

Public Input Received During Evening Session:

- **Will you relocate maritime users before or after construction? None of us want to move and see the place empty for five years. Trigger should be pulled when we're sure that construction will be starting.**
  Response: Bond sales and moves are in process. Schedule for demolition will be dependent on a second bond sale. March 2014 is DOT Harbors Division's best guess of when moves will take place. Our (Harbors Division's) intention is to let folks stay as long as it is safe. We will keep everyone involved in the process.

- **When will we have to move out?**
  Response: Schedule is dependent on getting funding. We have worked in partnership with our maritime users to increase tariffs to fund the "New Day Work" projects. Last November, we issued over $150 million in bonds to fund the first phase of improvements. We need to sell bonds for the second phase of work. At this time, March 2014 is our best estimate.

- **People who moved out found space on their own outside of KMR.**
  Response: Tenants will eventually have to move. KMR is a temporary situation; it is planned to be a container yard. Harbors Division is giving very early notice so you have time to relocate if you desire. As of now, March 2014 is the earliest date for moving out.

- **We will not find any place at this same price.**
  Response: The reason the price is low is because Harbors Division is not improving the spaces, as it is scheduled for demolition.

- **I am speaking on behalf of the residents in the area; born and raised here and family has been in the area since the '40s. We're concerned about noise from the container yard. There are 200 residents on my block. I have been hit by property taxes because of businesses around my property. Noise will impact people living in the area. Mitigation? Traffic to get to town….what will it be like? We're concerned about traffic on Kalihi Street. Also noise, smells, and lights from the container yard (24-hour operations).**
  Response: Traffic, noise, and visual impacts will be evaluated in the EIS.

- **Speaking on behalf of tenants. How long will tenants be given to start moving? Is this a viable timeline?**
  Response: Yes.

  If this timeline is pushed back, will we have time to make adjustments? Will tenants have additional indicators of when bonds are sold, EIS is approved, etc.? Will tenants be notified as things go along?
  Response: Keep in touch with Harbors Division, check our website. If you cannot get information, you can call me (Carter Luke) to get updates.

  Will demolition take place in phases or all at once?
  Response: DOT is looking at the best approach for the demolition, and it still needs to be determined.

- **Concerned about safety of citizens of Oahu. #1 threat from Al Qaida is dirty bombs (chemicals). Easiest way to ship is via container. Cannot check every container. Why are we forced to have a container yard at our front door? Hawaii is a target. Cannot guarantee that it's safe. Why is the container yard in a populous area? Move it to Barbers Point. Much safer. We're the only state with the ability to move our harbor. There are three Al Qaida groups in Hawaii.**
  Response: Barbers Point is the second busiest harbor in the state: all the gas and oil is shipped through that harbor. Barbers Point needs relief. It's at full capacity in terms of berths and its container yard cannot accommodate similar capacity like Honolulu Harbor.

- **If Kapalama is not used for cargo, is there something else it can be used for? What's Plan B?**
  Response: Not at this time. Clarification: these improvements are to ensure the harbor can accommodate the future needs for the state. The container operator may be paying for use of the area through wharfage fees and tariffs or a lease arrangement.

On Traffic:

1. **There is a long line to pick up and drop off cargo at Waiakamilo.**

2. **Get rid of the Sand Island Bridge to make traffic flow. A lot of land at Sand Island is underutilized. Also a lot of land at KMR (about 50%) is not being used.**

3. **Traffic on Auiki—can't get through in the mornings. Also Sand Island Access Road.**

4. **Auiki is congested. Why can't we keep traffic on Sand Island Access Road? Concerned about pollution & displacement of people. Kalihi Street cannot accommodate traffic.**

5. **Traffic won't work regardless of traffic studies because it's all one way going up and one way going down. This is a 24-hour operation. #1 is Sand Island Access Road. Make it wider.**

- **Have you considered different sites like Campbell Industrial Park?**
  Response: Kalaeloa Harbor has navigational and berthing limitations as well as limited land area — about 30 acres of cargo yard (compared to 70 acres at KMR & 150 acres at Sand Island). Also distance from the market is a consideration.

- **Is there a reason why the gate at Auiki and Mokauea can't be opened all the time (during business hours). This would save everyone ½ mile. Is it for security? Opening it would eliminate traffic on Sand Island.**
  Response: We'll look into this.

- **As a longshoreman, I have a concern. I support this project. For years, Hawaii's population has been growing. More cargo is coming in to the terminals. Same acreage but volume has increased. It's less safe to the longshoremen — more injuries over the last 10 years (compared to previous 10 years) because the yard got congested. Hazardous to workers. Workers are getting injured; lives are at stake. 70 acres will relieve pressure, with more room to work with at the existing terminals. For security, workers are looking into the containers. We have to protect the state economically.**

- **Harbors should look at what is going to be done with consideration for the folks who live here, onshore, and in the water.**

HHUG Overview

- Non-profit maritime transportation industry group founded in 2005
- Support the users through advocacy, compliance assistance, and educational outreach
- Assist the DOT Harbor's Division through legislative and congressional delegation support
- Help the State of Hawaii identify and prioritize commercial harbor improvement needs

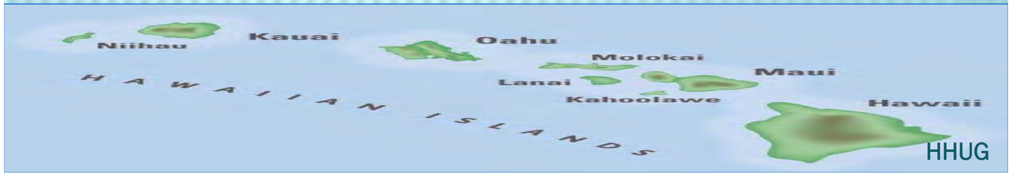

HHUG

Hawaii Harbors Users Group (HHUG)

- Aloha Cargo Transport
- American Marine
- Ameron Hawaii
- Clean Islands Council
- Chevron
- Hawaiian Cement
- Hawaiian Electric Company
- Hawaii Pilots Association
- Hawaii Stevedores Inc.
- Horizon Lines, LLC
- Kapolei Property Development
- McCabe, Hamilton, & Renny
- Matson Navigation Company
- Norwegian Cruise Line
- Pacific Shipyards International
- Pasha Hawaii
- P&R Water Taxi
- Sause Brothers
- Tesoro Hawaii Corporation
- The Gas Company
- Young Brothers / Hawaiian Tug & Barge
- North West Canada Cruiseship Association

HHUG Mission Statement:

To promote the health and growth
of
Hawaii's commercial harbor's system
and
support users of the harbor's facilities
to ensure
the economic sustainability
of the
State of Hawaii.



HHUG

Hawaii-The "State of Reliance"

- The State operates on a "Just-In-Time" supply chain management system
- No major warehouses – Horizon & Matson containers
- Ports play a critical role in the delivery of cargo
- More than 80% of all consumer goods – food, clothing, autos, building supplies, machinery, paper and allied products, medical supplies, and agricultural materials – are imported into Hawaii. Of that 80%, nearly all – some 98% – enter Hawaii through commercial harbors on six islands.

HHUG

Hawaii's Hub & Spoke Harbor System

NO N.I. DIRECT CALLS by Long Haul Ship calls*

9 Commercial Harbors on 6 Islands

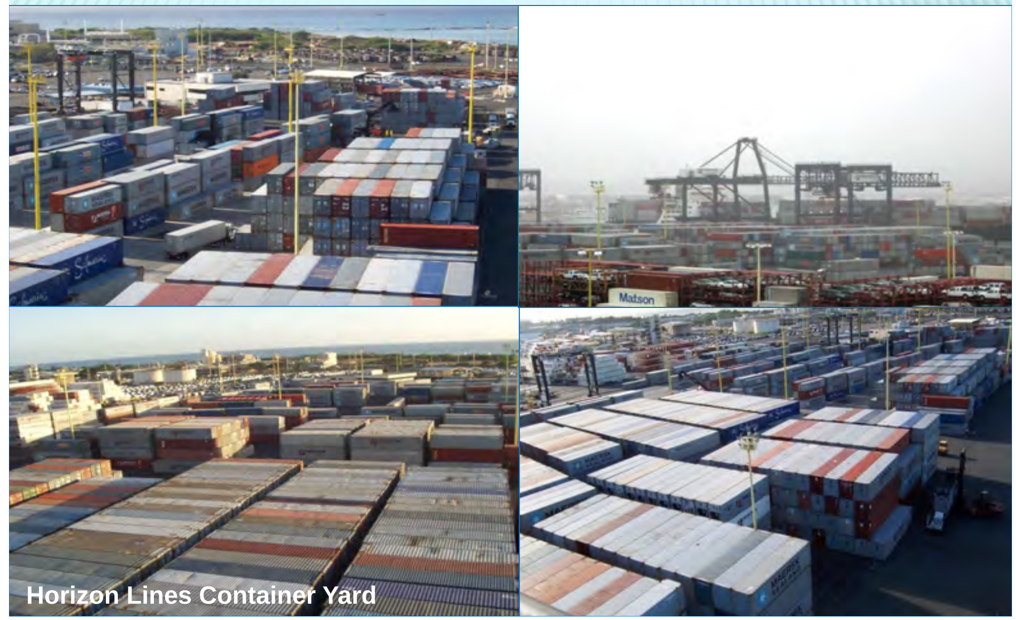
Status of Commercial Harbors

- ◊ Marine Harbor System is the lifeline to the Hawaii economy
- ◊ Cargo, automobile, and cruise ship businesses continue to grow
- ◊ The current Honolulu Harbor footprint is approaching capacity
- ◊ Berth & terminal resources are congested on certain days
- ◊ There is no reserve capacity at this time

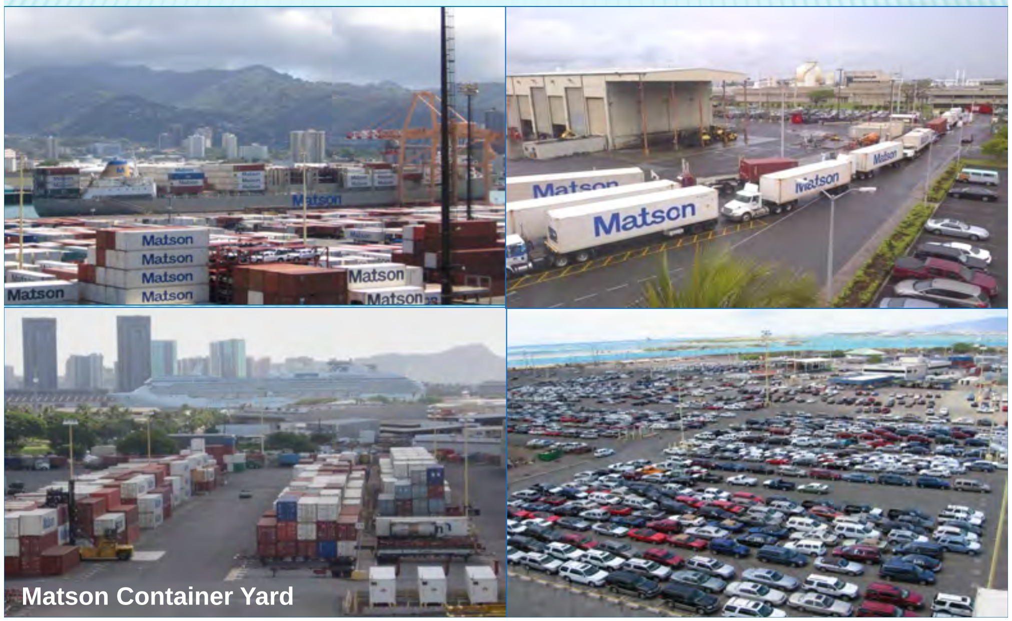
Current Honolulu Harbor Footprint

Sand Island Piers 51-53: Capacity Maximized

Sand Island Piers 51-53: Capacity Maximized



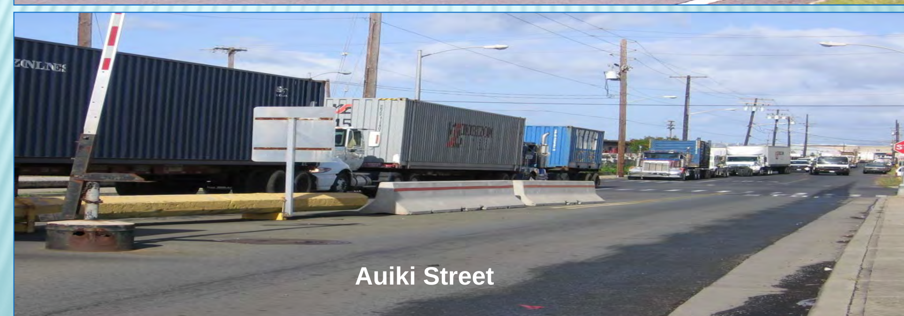
Congestion-Impacts to “Just-In-Time” Delivery



Matson Container Yard

Congestion Surrounding Roadways

Sand Island Access Road



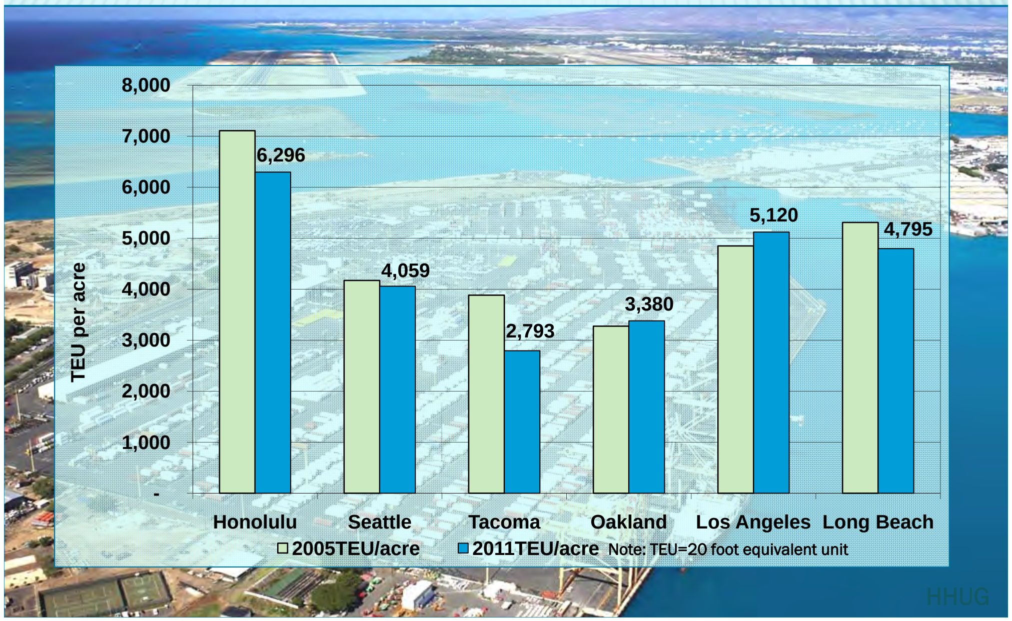
Auiki Street

Current Container/Auto Drayage Activity

Kapalama Solution

- Harbor capacity increased by 500,000 TEU's
- Eliminate current congestion
  - •Consumers benefit from improved "Just-In-Time" deliveries
- More timely NI connections
  - •Elimination of Horizon drayage Sand Island to Young Brothers
- Trucker congestion reduced in the surrounding roadway area
- Safer roadways are realized by the public

Terminal Efficiency Comparison Statistics



Do-Nothing" Option

If nothing is done to address the current Honolulu Harbor capacity issue. Potential losses to Hawaii's GDP is projected to be up to *$60 billion* within 20 years according to a study by commissioned by HHUG by Dr. Leroy Laney*

**First Hawaiian Bank Economist and Economic Professor*
Hawaii Pacific University

Longshoremen Safety Concerns

- Terminal Congestion due space restrictions
- Mixed operations involving containers, automobiles oversize cargoes
- Congested container parking stalls, decking areas, and the auto yards
- Overflow of ingate truckers impeding yard & vessel operations
- Comingled traffic patterns between community truckers & stevedores

ILWU 142 Hawaii
International Longshore & Warehouse Union

ILWU

HHUG

Hawaii Department of Transportation: Harbors Division

HONOLULU HARBOR: THE HUB

Honolulu Harbor has been the port-of-entry since the late 18th century.

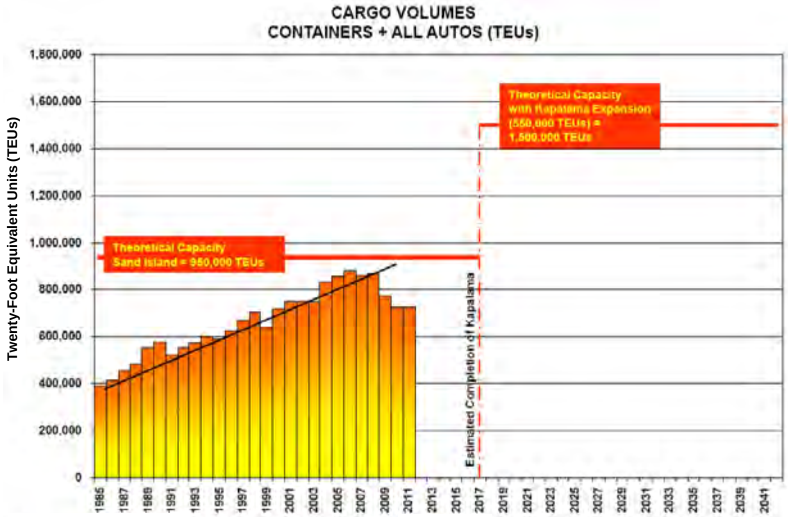
In 1850, with the rise in importance of its harbor, Honolulu was declared the Kingdom of Hawaii's capitol, and then the state capitol.

Today, it continues to be the hub of Hawaii's ocean transportation system because of its developed infrastructure.

Hawaii Department of Transportation: Harbors Division

SAND ISLAND TERMINALS

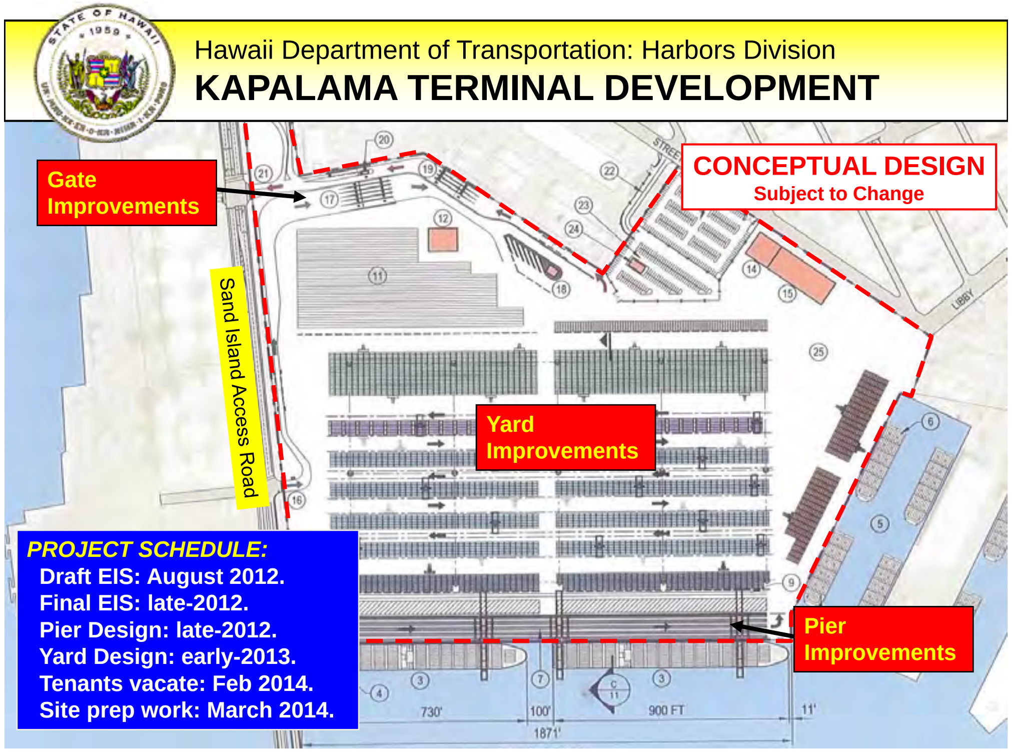
SAND ISLAND CARGO VOLUMES AND CAPACITY

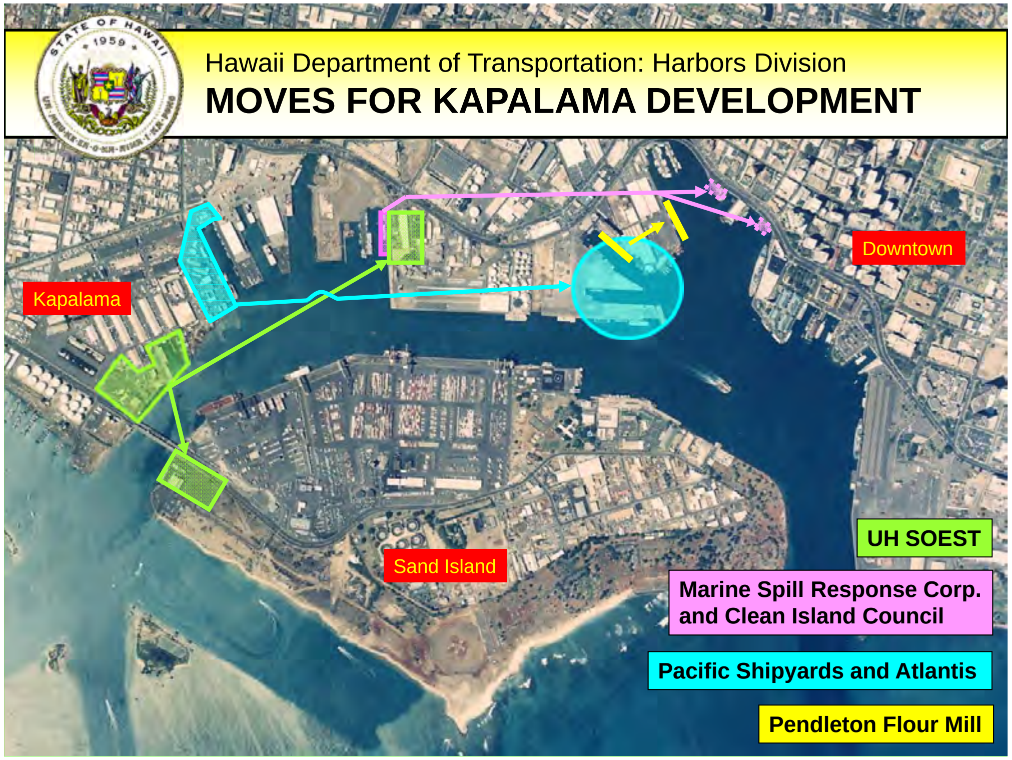


Source: Harbors Division

Hawaii Department of Transportation: Harbors Division

KAPALAMA TERMINAL DEVELOPMENT

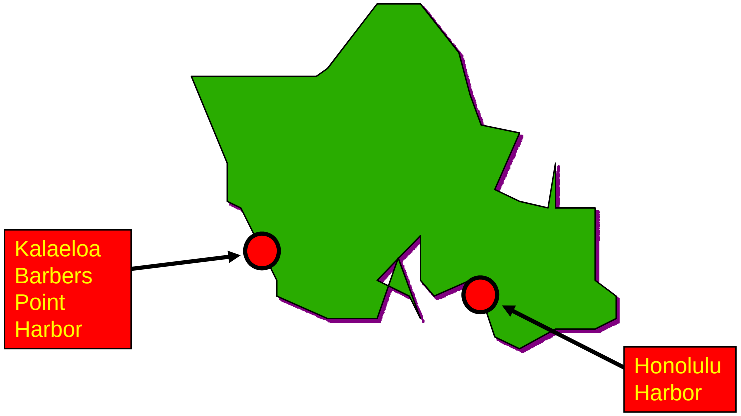


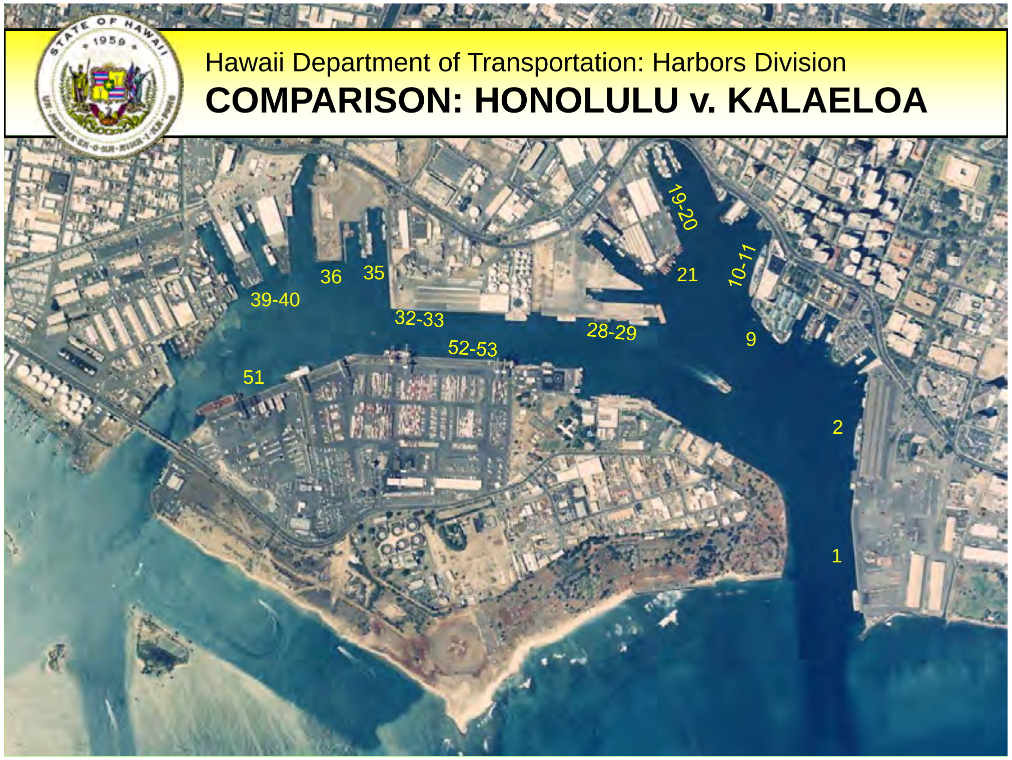


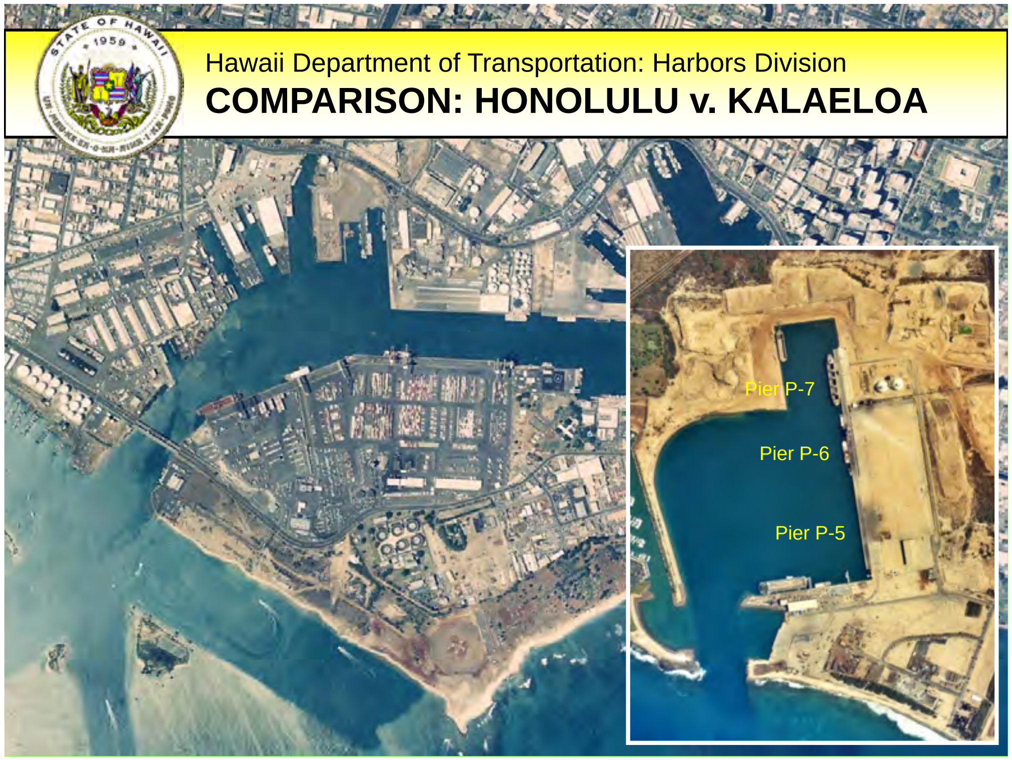
A-7. Public Meeting Power Point Presentation 2012 May 10

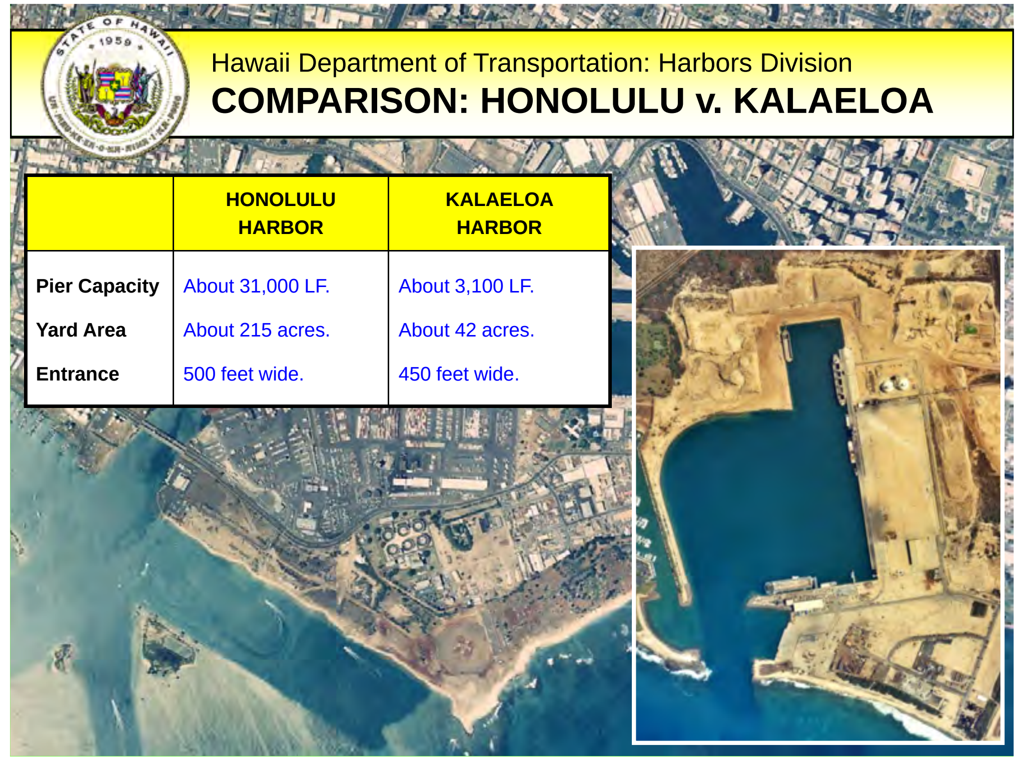
Why Not

Kalaeloa Barbers Point Harbor?









	HONOLULU HARBOR	KALAELOA HARBOR
Pier Capacity	About 31,000 LF.	About 3,100 LF.
Yard Area	About 215 acres.	About 42 acres.
Entrance	500 feet wide.	450 feet wide.

A-7. Public Meeting Power Point Presentation 2012 May 10

Hawaii Department of Transportation: Harbors Division

KALAELOA HARBOR: LIMITATIONS

Kalaeloa Harbor is a niche port that handles dry- and liquid-bulk cargos. There are limitations on this harbor:

1. **Narrow entrance channel presents navigational challenges.**
2. **Matson and Horizon not interested in going to Kalaeloa.**
3. **No existing interisland cargo carrier.**
4. **Kalaeloa is the 2nd busiest harbor. Already experiencing very congested conditions.**
5. **No expansion opportunities for new piers.**
6. **It is a daylight-only navigation harbor.**

Hawaii Department of Transportation: Harbors Division

KALAELOA HARBOR: LIMITATIONS

Mahalo

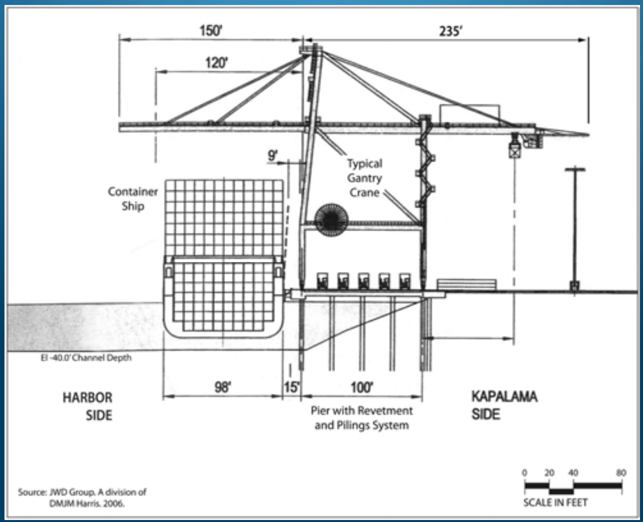

KAPALAMA CONTAINER TERMINAL
Environmental Impact Statement
DEPARTMENT OF TRANSPORTATION · STATE OF HAWAII ·
State Department of Transportation
Harbors Division
Kapalama, Oahu, Hawaii

PROPOSED DEVELOPMENT CONCEPT

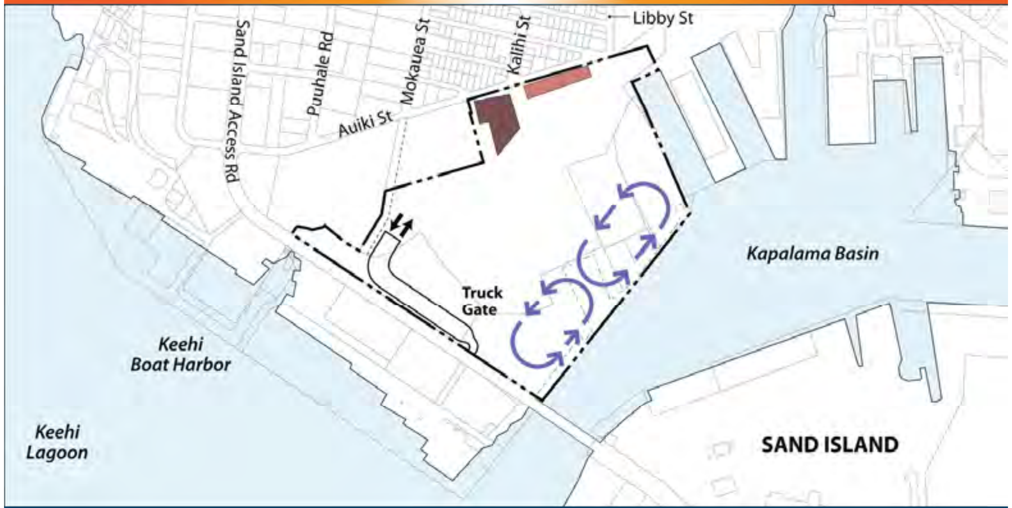
HONOLULU HARBOR

A-7. Public Meeting Power Point Presentation 2012 May 10

SECTION PLAN



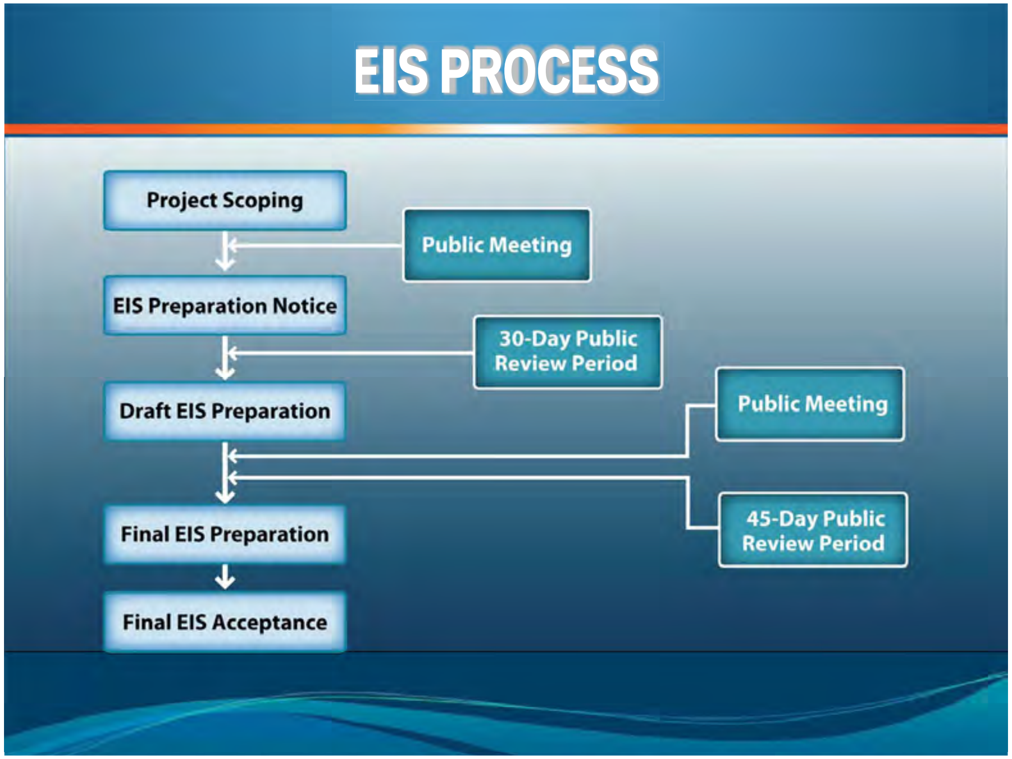
SAND ISLAND ACCESS ROAD GATE



AUIKI STREET GATE

ENVIRONMENTAL STUDIES

- Existing Land Use
- Land Tenure
- Flora
- Fauna
- Air Quality
- Natural Hazards
- Scenic Resources
- Traffic
- Utilities
- Public Services
- Geology, Soils
- Hydrology/Surface and Ground Water
- Marine Water/Marine Life
- Acoustical Environment
- Archaeological Resources
- Cultural Resources
- Socio-Economic Setting
- Federal, State, and City Land Use and Environmental Policies



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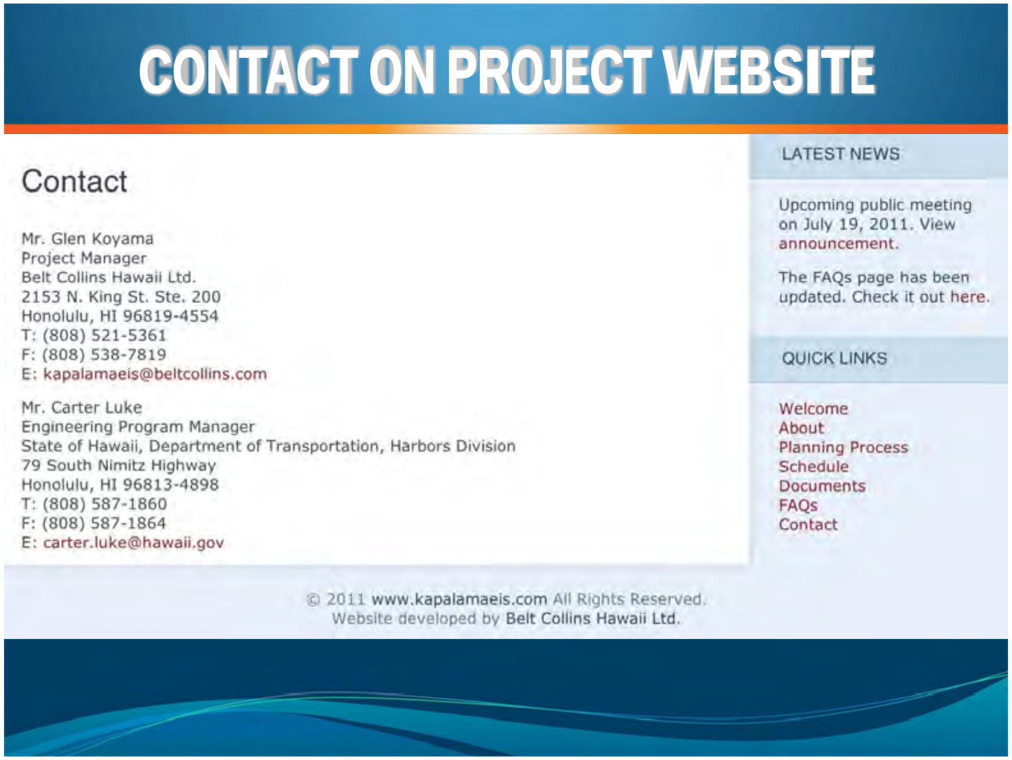
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T: (808) 587-1860
F: (808) 587-1864
E: carter.luke@hawaii.gov
LATEST NEWS
Upcoming public meeting on July 19, 2011. View announcement.
The FAQs page has been updated. Check it out here.
QUICK LINKS
Welcome
About
Planning Process
Schedule
Documents
FAQs
Contact
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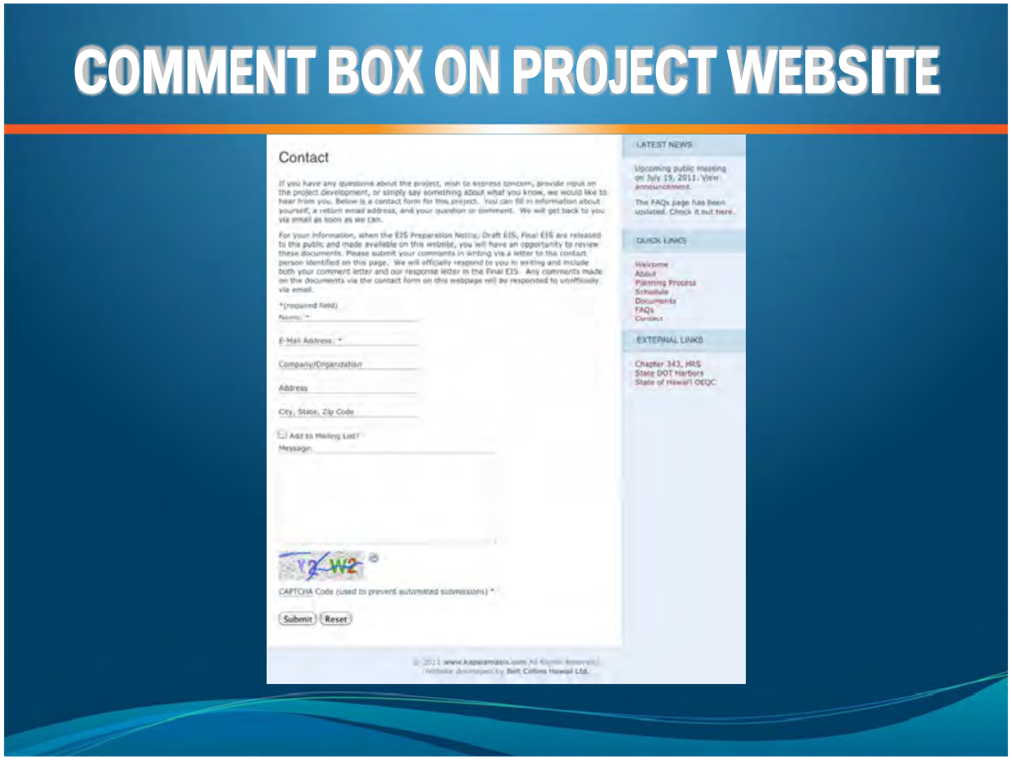
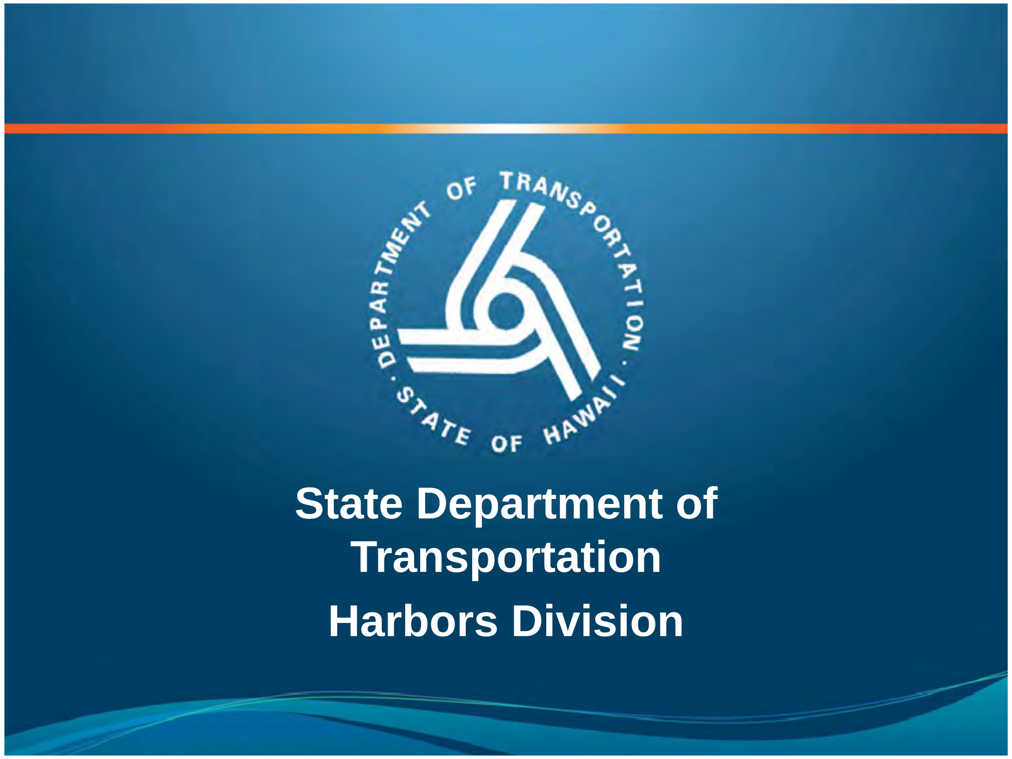

COMMENT BOX ON PROJECT WEBSITE
Contact
Submit
Reset



A-7. Public Meeting Power Point Presentation 2012 May 10

Public Meeting

Kapalama Container Terminal EIS
Pier 19, Kukahi Street
May 10, 2012
2:30 PM Meeting Session

Comment/Question	Response
Has State already secured bond issues to finance project?	State has secured bonds for 1st phase. $42 million of $50 million
Are any tenants being considered for relocation? For traffic study, traffic should decrease as tenants move out, wouldn't that increase traffic on Nimitz and Sand Island?	Tenants are on a 30-day /month to month revocable permit. Harbors has given about 2 years notice. Traffic counts have been taken and they do include traffic generated by the existing tenants. The traffic study will account for this traffic.
Residents opposed to project. This project will cause a lot of traffic problems, and noise (truck beeps). Would like the project to move to Kalaeloa. Should move to another harbor for backup.	A noise study is being conducted for the project. Optional mitigative measures will be available to help reduce significant impacts.
Will there be an increase of traffic on Kalihi St.? Street is identified by the state as site of pedestrian accidents. Will pedestrian safety be accommodated by project?	An increase in automobile traffic is expected along Kalihi Street. However, this increase in traffic volume is not expected to significantly affect pedestrian safety and no off-site traffic mitigation measures are being proposed as part of the container yard project.
Does EIS evaluate impact on current tenants? For the vacating date, is there a timetable for the relocation?	Impact to tenants is being covered in the EIS. Tenants need to leave site by end of February 2014. Site preparation will begin in March 2014.
Irregardless of the EIS results, will DOT still go through with relocation? If EIS has negative impact, will there be further studies? If there is a possibility to stay longer.	EIS will evaluate probable impacts from the project and if impacts are significant mitigation measures will be proposed. EIS will evaluate all project information and its use is valuable as a tool for decision making. Obtaining permits is also required for the project to move forward. End of Feb 2014 is the notification date for relocation.

Public Meeting

Kapalama Container Terminal EIS
Pier 19, Kukahi Street
May 10, 2012
2:30 PM Meeting Session

Comment/Question	Response
We have all our eggs in one basket. Does not take much to block harbor. Is this part of the consideration / how was this considered?	DOT was looking at a tunnel under the bridge, but not enough benefits. If KMR is built, Harbors will evaluate if a second entrance is feasible.
Some of us received letters last week. Have to get rid of storage tanks etc. on site. Is there any way to work with existing tenants to give us more time?	We did send letters out to everyone. We have departmental concerns about the safety of the tenants remaining on the site too long. The buildings are very old.
Will there be a new traffic light on Auiki St. by the private road into KMR?	From a recent meeting with DTS, there will be a light installed in a year or two.

Public Meeting

Kapalama Container Terminal EIS
Pier 19, Kukahi Street
May 10, 2012
6:30 PM Meeting Session

Comment/Question	Response
At the first public meeting on the project, we brought up some concerns but got no follow-up answers about security of the port, terrorist threats, or accidents of tipping over.	We apologize for not getting back to you on your comment from that meeting. We will respond to your comments.
Noise is always a problem in an urban area. What are the sources of noise and what measures to mitigate them?	People concerns were sent to us. There is a noise consultant currently working on that issue.
Traffic study is still assessing what is traffic like. We notice early in the morning turning movements onto Sand Island Access Rd, there is a lot of trucks on Auiki St. toward Diamond Head. Traffic is congested there.	While we recognize the queuing on Auiki Street as an existing problem, it is not caused by the volume of trucks, rather by the wait while entering the Young Brothers yard. We note that the proposed site plan includes a direct connection between the Kapalama Container Yard and the Young Brothers terminal that will reduce this truck volume, but the traffic study will not quantify this (positive) impact.
Safety conditions in existing container terminals.	ILWU representative provided a description of safety conditions at Sand Island terminals and his observations on how traffic on Auiki Street will improve when the new container terminal connects directly with Young Brothers.
Who is working on the CIA? There are fish ponds in the area. Can BCH pass along the names?	Belt Collins is working on the cultural study. Information from previous studies is available to us on cultural resources and the fishponds in the area. We will make a follow-up contact with you.
Has funding been secured for the project? Last July, bonds weren't sold as of last year's meeting. Dates for vacating . . . are they tentative or solid? For the existing tenants at KMR, is the State doing anything to help with relocation?	First phase has been completed. Sold $150 million in bonds. Second bond sale early 2014 for construction. Move dates are solid. No plans for assistance.

Public Meeting

Kapalama Container Terminal EIS
Pier 19, Kukahi Street
May 10, 2012
6:30 PM Meeting Session

Comment/Question	Response
Concerning Auiki St, any traffic through a gateway to the terminal? Last session there was a gate proposed on Kalihi St. I'm concerned about noise. What is going to be done about noise? And the smell from the KMR terminal. There were plans to take all this activity and move it to Campbell Industrial area. Here we go again, dumping in Kalihi.	Current plan has an auto gate/driveway on Auiki St. for employees and visitors. Thank you for sharing your concerns.
Has proposal been submitted through the air carriers? There will be an impact on the carriers due to the cranes. Would Matson move their cranes closer? There is the new 787 airplane	We have submitted FAA Form 7460-1 for the cranes. Still waiting for FAA to complete their review. Matson will likely not move their cranes. RO/RO will move, or the small barge cranes.
How long will the new container yard work for the harbor before another yard is needed?	Present population is 1.3 million. When population grows to 2.6 million, something got to give. Harbors made cargo volume projections (these are estimates) which show the need for and the life of a new container terminal.
As a resident of Sand Island area, all of this building will bring more traffic to Sand Island Access Rd. That is all.	Thank you.

OEQC Requirement	Deliverable	Copies	Rank	First	Middle	Last	Suffix	ContactTitle	Contact1Company	Contact2Department	Contact3Division	Contact4Division
	CD	1		Brickwood	M.	Galuteria		Senator, District 12	12th Senatorial District			
Yes	CD	1		Suzanne		Chun-Oakland		Senator, District 13	13th Senatorial District			
	CD	1		Karl		Rhoads		Representative District, 28	28th Representative District			
Yes	CD	1		Joey		Manahan		Representative District, 29	29th Representative District			
	CD	1		Joseph	M.	Souki		Representative, District 8	8th Representative District	Transportation Committee		
	CD	1		James		Francoise			A & J Pacific, LLC			
	CD	1		Rod		Aoki			Airlines Committee of Hawaii			
	CD	1		Kevin		Akana			Akana Trucking Inc.			
	CD	1		Paul		Oshiro			Alexander and Baldwin, Inc.			
	CD	1		Chris		Dau			Aloha Air Cargo			
	CD	1		Roland		Smith			Aloha Air Cargo			
	CD	1		Tom		Crescenzi		Manager	Aloha Cargo Transport			
	CD	1		Dave		Fazendin		President	Aloha Distillers			
	CD	1		Fred & Ann		Rehm			Aluminum Shake Roofing			
	CD	1		Duston		Onaga			Amazon Construction Co. Inc.			
	CD	1		Uriah		Bagley			Arita Poulson General Contracting LLC			
	CD	1		Mark		Almaraz		Waikiki General Manager	Atlantis Submarines			
	CD	1		Momi		Ernestburg			BCP Construction of Hawaii			
	CD	1		Gary	W.	Brooking			Brooking Boatworks Ltd.			
	CD	1		Scott	H.	Ono		Asset Services Director	CBRE Inc.			
	CD	1		Brian		Oda			Central Pacific Distributing			
	CD	1		Rick		Comilang			Chase Sales & Distribution Inc.			
Yes	CD	1		Ernest	Y.W.	Lau	PE	Manager and Chief Engineer	City and County of Honolulu	Board of Water Supply		
Yes	CD	1		Romy	M	Cachola		Council Member District 7	City and County of Honolulu	City Council		
Yes	CD	1		Gail	Y.	Haraguchi		Director	City and County of Honolulu	Department of Customer Services	Municipal Reference Center	
Yes	CD	1		Timothy		Steinberger		Director	City and County of Honolulu	Department of Environmental Services		
Yes	CD	1		Westley	K.C.	Chun	PhD	Director and Chief Engineer	City and County of Honolulu	Department of Facility Maintenance		
Yes	HD & CD	1		Gary		Cabato		Director	City and County of Honolulu	Department of Parks and Recreation		
Yes	CD	1		Jiro		Sumada		Deputy Director	City and County of Honolulu	Department of Planning and Permitting		
Yes	CD	1		Wayne	Y.	Yoshioka	PE	Director	City and County of Honolulu	Department of Transportation Services		
Yes	CD	1		Lori	M.K.	Kahikina	PE	Director	City and County of Honolulu	Design and Construction Department		
Yes	CD	1		Kenneth	G.	Silva		Fire Chief	City and County of Honolulu	Fire Department		
	CD	1		Peter	B.	Carlisle		Mayor	City and County of Honolulu	Mayor's Office		
	CD	1		Ann	H.	Chung		Executive Director	City and County of Honolulu	Office of Economic Development		
Yes	CD	1		Louis		Kealoha		Chief of Police	City and County of Honolulu	Police Department		
	CD	1		Kim		Beasley		General Manager	Clean Islands Council			
	CD	1		Frank		White			Container Storage Company of Hawaii, Ltd.			
	CD	1		Christy		Martin		Public Information Officer	Coordinating Group on Alien Pest Species			
	CD	1		George		Young	PE	Chief	Department of the Army	U.S. Army Corps of Engineers	Regulatory Branch	
	CD	1		Derek		Chow		Chief	Department of the Army	United States Corps of Engineers	Civil and Public Works Branch	
	CD	1		Karen		Sumida		Director	Department of the Navy	Naval Facilities Engineering Command, Pacific	Environmental Services Division (EV2)	
	CD	1		Bert		Bargamen			East West Marketing Inc.			
	CD	1		Naomi		Edmonds			Fuelman Services, Inc.			
	CD	1		Melvin		Hardy			Hardy's Construction			
Yes	CD	1		Colleen		Hanabusa		United States Congresswoman	Hawaii Congressional Delegation	United States House of Representatives	First Congressional District	
Yes	CD	1		Mazie		Hirono		United States Congresswoman	Hawaii Congressional Delegation	United States House of Representatives	Second Congressional District	
Yes	CD	1		Daniel	K	Akaka		United States Senator for Hawaii	Hawaii Congressional Delegation	United States Senate		
Yes	CD	1		Daniel	K	Inouye		United States Senator for Hawaii	Hawaii Congressional Delegation	United States Senate		
	CD	1		Dean		Okimoto		President	Hawaii Farm Bureau Federation			
	CD	1		Charles	E.	Calvet	PE	Manager, Engineering	Hawaii Gas	Engineering		
	CD	1		Gary		North		Executive Director	Hawaii Harbors Users Group			
	CD	1		Ed		Enos		Vice President	Hawaii Pilots Association			
	CD	1		Phillip		MacDougall		General Manager	Hawaii Stevedores, Inc.			
	CD	1		Danny		Ung			Hawaii Toys & Gifts			
	CD	1		Hayley		Higa		Operations Manager	Hawaii Transfer Company, Ltd.	East Division Operations		
	CD	1		Gordon		Okumura		President	Hawaii Transfer Company, Ltd.			
	CD	1		Earl		McCaskill		President	Hawaiian Cement			
	CD	1		Kirk	S.	Tomita		Sr. Environmental Scientist	Hawaiian Electric Company, Inc.			
	CD	1		Gary		Ines		Port Manager	Hawaiian Tug and Barge Corporation			
	CD	1		Barbara		Campbell			HCAP Head Start			
	CD	1		Cynthia		Jeffers			Hi Tec Roofing			
	CD	1		Lynn		Cabato			Honolulu Community Action Program, Inc.			
Yes	CD	1		Frank		Bridgewater		Vice President/Editor	Honolulu Star Advertiser			
	CD	1		Todd		Iida		Terminal Operations Manager	Horizon Lines, LLC			
	CD	1		Ali		Nikkhoo		Vice President - Hawaii	Horizon Lines, LLC			
	CD	1		West		Furtado		Vice President (Hawaii)	ILWU Local 142 Office			
	CD	1		Nate		Lum			ILWU Local 142 Office			
	CD	1		Micah		Kiaha		Port Manager	Inchcape-Lavino Shipping			
	CD	1		Pat		Shinsato			Industrial Chemicals and Lubricants			
	CD	1		Masao		Mitsui		President	International Express, Inc.			
	CD	1		Mark	K.	Awaya			Island Commercial Real Estate			
	CD	1		Patrick		Hee			Island Movers, Inc.			
	CD	1		Donn		Takaki		Vice President	Island Movers, Inc.			
	CD	1		Dan		Yanagihara			Japan Airlines			
	CD	1		Julian		Ng	PE		Julian Ng, Incorporated			
	CD	1		Jerry		Fujita		Associate, Senior Project Manager	KAI Hawaii			
	CD	1		Michael	P.	Hunnemann	PE	Principal, Vice President	KAI Hawaii			
	CD	1		Kathy		Munero			KHON2			
	CD	1		Steven	J.	Dollar	PhD	Marine Biologist	Marine Research Consultants			
	CD	1		Vic		Angoco		President	Matson			
	CD	1		Peter		Burns			Matson			

OEQC Requirement	Deliverable	Copies	Rank	First	Middle	Last	Suffix	ContactTitle	Contact1Company	Contact2Department	Contact3Division	Contact4Division
	CD	1		Randy		Shimabukuro			Meadow Gold Dairies			
	CD	1		Doug		Boyer			Military Headquarters			
	CD	1		Sandii		Kamaunu		President / CEO	Military Headquarters			
	CD	1		Mark		Miller			Miller Industries, Inc.			
	CD	1		Dean		Kokubun			Moffatt & Nichol			
	CD	1		Joni		Bagood			Mokauea Fishermen's Association			
	CD	1		Carole		Kaapu			Neighborhood Board No. 14	Liliha/Puunui/Alewa/Kamehameha Heights		
	CD	1		Robert		Stubbs		Chair	Neighborhood Board No. 14	Liliha/Puunui/Alewa/Kamehameha Heights		
Yes	CD	1		Donald		Guerrero		Chair	Neighborhood Board No. 15	Kalihi/Palama		
	CD	1		Roland		Louie			Neighborhood Board No. 15	Kalihi-Palama		
	CD	1		Mahealani		Cypher		President	Oahu Council of Hawaiian Civic Clubs			
	CD	1		Danise		Baccagan			Pacific Commercial Services, LLC			
	CD	1		Iain		Wood		Chief Operations Officer	Pacific Shipyards International, LLC			
	CD	1		George		Pasha		President and CEO	PASHA Hawaii			
	CD	1		Alan		Nozawa			PBC Wholesalers, Inc.			
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	CD	1		K.C.		Sui			Roberto's Inc.			
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	CD	1		Marc		Rubenstein		Vice President	Royal Star Hawaii - Motorcoach Tours and Destination Services			
	CD	1		Douglas		Wen			Sause Bros.			
	CD	1		Bill		McLeon			Scrap Iron Man			
	CD	1		J. Kalani		English		Senator, District 7	Senate District 7	Transportation and International Affairs Committee		
	CD	1		Carol		Lam		Sr. Vice-President	Servco Pacific Inc.	Corporate Properties		
	CD	1		David		Chang			Shin Woo Corporation			
Yes	CD	1		Dean	H.	Seki		Acting Comptroller	State of Hawaii	Department of Accounting and General Services		
	CD	1		Carol	L.	Okada		Branch Chief	State of Hawaii	Department of Agriculture	Plant Industry	
Yes	CD	1		Russell	S.	Kokubun		Chairperson	State of Hawaii	Department of Agriculture		
Yes	HD & CD	1		Jessie	K.	Souki		Director	State of Hawaii	Department of Business, Economic Development and Tourism	Office of Planning	
Yes	CD	1							State of Hawaii	Department of Business, Economic Development and Tourism	Research Division Library	
Yes	CD	1		Mark		Glick		Energy Program Administrator	State of Hawaii	Department of Business, Economic Development and Tourism	Stategic Industries Division	
Yes	HD & CD	1		Richard	C.	Lim		Director	State of Hawaii	Department of Business, Economic Development and Tourism		
Yes	CD	1	MG	Darryll	D. M.	Wong		Adjutant General and Director of Civil Defense	State of Hawaii	Department of Defense		
Yes	CD	1				Librarian			State of Hawaii	Department of Education	Hawaii Kai Regional Library	
Yes	CD	1				Librarian			State of Hawaii	Department of Education	Hawaii State Library	Hawaii Documents Center
Yes	CD	1				Librarian			State of Hawaii	Department of Education	Hilo Regional Library	
Yes	CD	1				Librarian			State of Hawaii	Department of Education	Kahului Regional Library	
Yes	CD	1				Librarian			State of Hawaii	Department of Education	Kaimuki Regional Library	
Yes	CD	1				Librarian			State of Hawaii	Department of Education	Kalihi-Palama Public Library	
Yes	CD	1				Librarian			State of Hawaii	Department of Education	Kaneohe Regional Library	
Yes	CD	1				Librarian			State of Hawaii	Department of Education	Lihue Regional Library	
Yes	CD	1				Librarian			State of Hawaii	Department of Education	Liliha Public Library	
Yes	CD	1				Librarian			State of Hawaii	Department of Education	Pearl City Regional Library	
	CD	1				Librarian			State of Hawaii	Department of Education	Salt Lake-Moanalua Public Library	
	CD	1		Linda		Chinn		Administrator	State of Hawaii	Department of Hawaiian Home Lands	Land Management Division	
Yes	CD	1		Jobie		Masagatani		Chairperson	State of Hawaii	Department of Hawaiian Home Lands		
Yes	CD	3		Gary	L.	Gill		Deputy Director	State of Hawaii	Department of Health	Environmental Health Administration	
	CD	1		Alec		Wong	PE	Chief	State of Hawaii	Department of Health	Environmental Management Division	Clean Water Branch
Yes	CD	1		Loretta	J.	Fuddy		Director	State of Hawaii	Department of Health		
	CD	1		Robert		Nishimoto		Manager	State of Hawaii	Department of Land and Natural Resources	Division of Aquatic Resources	Environmental Protection
	CD	1		Edward		Underwood		Administrator	State of Hawaii	Department of Land and Natural Resources	Division of Boating and Ocean Recreation	
Yes	CD	1		Russell	Y.	Tsuji		Land Administrator	State of Hawaii	Department of Land and Natural Resources	Land Division	
	CD	1		Samuel	J.	Lemmo		Administrator	State of Hawaii	Department of Land and Natural Resources	Office of Conservation and Coastal Lands	
Yes	HD & CD	1		Puaalaokalani		Aiu		Administrator	State of Hawaii	Department of Land and Natural Resources	State Historic Preservation Division	
Yes	CD	1		Angie	R.	Westfall		Architectural Branch Chief	State of Hawaii	Department of Land and Natural Resources	State Historic Preservation Division	
Yes	CD	5		William		Aila		Chairperson	State of Hawaii	Department of Land and Natural Resources		
	CD	1		Ford	N.	Fuchigami		Deputy Director for Airports	State of Hawaii	Department of Transportation	Airports Division	
	CD	1		Lester		Fukuda			State of Hawaii	Department of Transportation	Commission on Transportation	
	CD	1		Owen		Miyamoto		Member	State of Hawaii	Department of Transportation	Commission on Transportation	
Yes	CD	1		Glenn	M.	Okimoto	PhD	Director	State of Hawaii	Department of Transportation	Director of All Department of Transportation	
	CD	1		Calvert		Chung		Project Manager	State of Hawaii	Department of Transportation	Harbors Division	Property Management
	CD	1		Randy		Grune		Deputy Director - Harbors	State of Hawaii	Department of Transportation	Harbors Division	
	CD	1		Sharilyn	S.	Ikeda		HMP Project Manager	State of Hawaii	Department of Transportation	Harbors Division	
	CD	1		Sandra		Rossetter			State of Hawaii	Department of Transportation	Harbors Division	
	CD	1		Bert		Toba		HMP Development Officer	State of Hawaii	Department of Transportation	Harbors Division	
	CD	1		Dung		Vu		HMP Chief Admin Officer	State of Hawaii	Department of Transportation	Harbors Division	
	CD	1		Dean		Watase		Senior Planner	State of Hawaii	Department of Transportation	Harbors Division	
	CD	1		Davis		Yogi		Harbors Administrator	State of Hawaii	Department of Transportation	Harbors Division	
	CD	1		Carter		Luke		Engineering Program Manager	State of Hawaii	Department of Transportation	Harbors Division - Engineering Branch	
	CD	1		Alvin		Takeshita		Highways Administrator	State of Hawaii	Department of Transportation	Highways Division	
	CD	1		Ken	K.	Tatsuguchi		Engineering Program Manager	State of Hawaii	Department of Transportation	Planning Branch	
Yes	CD	1		Jadine		Urasaki		Deputy Director - Projects	State of Hawaii	Department of Transportation	Projects Division	
	CD	1		Dean	S.	Nakagawa		State Transportation Planner	State of Hawaii	Department of Transportation	Statewide Transportation Planning Office	
Yes	CD	1							State of Hawaii	Legislative Reference	Bureau Library	
Yes	CD	1		Kamana'opono	M.	Crabbe		Chief Executive Officer	State of Hawaii	Office of Hawaiian Affairs		
	CD	1		Lloyd		Haraguchi		Executive Director	State of Hawaii	Public Land Developmnet Corporation		
	CD	1		Amy		Ortega			Tai Polythene of Hawaii			

OEQC Requirement	Deliverable	Copies	Rank	First	Middle	Last	Suffix	ContactTitle	Contact1Company	Contact2Department	Contact3Division	Contact4Division
	CD	1		Patrick		Casey			TBC, LLC			
	CD	1		Jim		Tollefson		President and CEO	The Chamber of Commerce of Hawaii			
	CD	1		Milton		Ebesu			The Custom Company			
	CD	1		William		Laurence			The Shaw Group Inc.			
	CD	1		Kevin		Kinerney		District Manager	Transmarine Navigation Corporation			
	CD	1		Fred		Salassa			Triple F Distributing			
	CD	1		Gary and Jeri		Barnes			Tropical J's Incorporated			
	CD	1		Charlie		Beeck			Tropical Roofing and Rainguttering			
	CD	1		Jonathan		Ing			Uniroc Marble & Granite			
	CD	1		David	M.	Tonon			United States Coast Guard	Sector Honolulu	Pier 4 - Facilities Division	
	CD	1	Capt	Joanna		Nunan		Sector Commander	United States Coast Guard			
	CD	1	LCDR	S.O.		Whaley			United States Coast Guard			
Yes	CD	1		Angel	L.	Figueroa		Director	United States Department of Agriculture	National Resources Conservation Service	Pacific Islands Area Office	
Yes	CD	1		Samuel	G.	Pooley	PhD	Director	United States Department of Commerce	National Oceanic and Atmospheric Administration	National Marine Fisheries Service	Pacific Islands Fisheries Science Center
	CD	1		Gerry		Davis		Assistant Regional Administrator	United States Department of Commerce	National Oceanic and Atmospheric Administration	Pacific Islands Regional Office	Habitat Conservation Division
	CD	1		Aydee		Zielke		OA* Marine Habitat Specialist	United States Department of Commerce	National Oceanic and Atmospheric Administration	Pacific Islands Regional Office	Habitat Conservation Division
	CD	1		Don		Hubner		Endangered Species Biologist	United States Department of Commerce	National Oceanic and Atmospheric Administration	Pacific Islands Regional Office, Fisheries Services	Protected Resources Division
Yes	CD	1						Commander	United States Department of Homeland Security	Coast Guard	14th Coast Guard District	
	CD	1		Anthony		Montgomery		Marine Biologist	United States Department of Interior	U.S. Fish and Wildlife Services		
Yes	CD	1		Stephen	S.	Anthony		Center Director	United States Department of the Interior	Geological Survey	Pacific Islands Water Science Center	
Yes	CD	1		Melia		Lane-Kamahele		Manager, Pacific Islands Office	United States Department of the Interior	National Park Service	Pacific West Region - Honolulu	
Yes	HD & CD	1		Loyal		Mehrhoff		Field Supervisor	United States Department of the Interior	Pacific Islands Fish and Wildlife Office		
Yes	CD	1		Ronnie		Simpson		Manager	United States Department of Transportation	Federal Aviation Administration	Airports District Office	
Yes	CD	1		Abraham		Wong		Division Administrator	United States Department of Transportation	Federal Highways Administration		
Yes	CD	1							United States Department of Transportation	Federal Transit Administration		
	CD	1		Wendy		Wiltse			United States Environmental Protection Agency	Region IX, Pacific Islands Contact Office		
	CD	1		Gordon		Wong		Lead Program Manager	United States Federal Aviation Administration	Honolulu Airport District Office		
	CD	1		Danielle		Jayewardene	PhD	Coral Reef Ecologist	United States National Marine Fisheries Service	Pacific Island Regional Office	Habitat Conservation Division	
	CD	1		Darren		Hori			Unitek Contracting Group			
	CD	1		Mei		Li-Chan			Universal Wholesaler			
Yes	CD	1				Librarian			University of Hawai'i	Kauai Community College Library		
Yes	CD	1							University of Hawai'i	Marine Program		
Yes	CD	1				Librarian			University of Hawai'i	Maui College Library		
Yes	CD	1				Librarian			University of Hawai'i	Thomas H. Hamilton Library		
Yes	CD	1		Chittaranjan		Ray	PhD	Director	University of Hawai'i	Water Resources Research Center	Environmental Center	
Yes	CD	1				Librarian			University of Hawai'i at Hilo	Edwin H. Mookini Library		
	CD	1		Stanley		Winslow		Marine Superintendent	University of Hawai'i at Manoa	School of Ocean and Earth Science and Technology	University Marine Center	
	CD	1		Alexander	N.	Shor		Associate Dean of Research	University of Hawai'i at Manoa	School of Ocean and Earth Science and Technology		
	CD	1		Robert		Hunt		Marine Superintendent	University of Hawai'i at Manoa	University Marine Center		
	CD	1		Ross		Barnes		Master	University of Hawai'i Marine Center			
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	CD	1		Glenn		Hong		President	Young Brothers, Ltd.			
	CD	1		Patrick		Cullen						
	CD	1		Robert & Evelyn		Cullen						
	CD	1		Tom	F.	Enos						
	CD	1		Kehaulani		Kupihea						
	CD	1		Ken		Phung						
	CD	1		Owen & Orlando		Spencer						
	CD	**214**										
	HD & CD	**5**										
	Total CD	**219**										

COMMENT LETTERS

Kapalama Container Terminal Draft Environmental Impact Statement (DEIS)
Comment Period: December 23, 2012 to February 6, 2013

Date Received	Agency/ Organization	Summary of Comments	Action Taken
	Federal Agencies/Officials		
2-7-13	NOAA/NMFS (Gerry Davis/Danielle Jayewardene)	6 pages; marine resources, EFH assessment, coral reef resources, water quality, dredging and construction activities, NEPA documentation, Section 7 ESA, Clean Water Act, UH Marine Center, Piers 12 and 15 improvements, provision of detailed construction information and alternative analyses, timeline of anticipated impacts, detailed mitigation measures, marine biological monitoring plan, etc.	Addressed comments in response letter and Second DEIS.
2-6-13 (via email)	NMFS/PRD (Donald Hubner)	3 pages; comments on specific statements in DEIS such as on ESA-listed (or proposed) species and coral and other aquatic resources.	Addressed comments in response letter and Second DEIS.
2-6-13	USFWS (Loyal Mehrhoff/Kevin Foster)	15 pages; marine resources, Fish and Wildlife Coordination Act, endangered species, invasive species, marine sediments, contaminants, NEPA, specific design and construction information, additional and expanded analyses, *Halophila hawaiiana*, etc.	Addressed comments in response letter and Second DEIS.
1-16-13	USGS	Unable to review DEIS.	Sent acknowledgement letter.
1-23-13	FAA	Request applicant to re-file FAA Form for new heights and locations of the gantry cranes.	Addressed comments in response letter and Second DEIS.
2-5-13	US Navy	No comments.	Sent acknowledgement letter.
1-26-13	US Coast Guard	No objections to project.	Sent acknowledgement letter.

Date Received	Agency/ Organization	Summary of Comments	Action Taken
	State Agencies/Officials		
2-5-13	State Representative Karl Rhoads	Noise impact on Kalihi Kai residents.	Addressed comments in response letter and Second DEIS.
2-4-13 12-27-12	DLNR (Russell Tsuji) DLNR (Samuel J. Lemmo)	Land Division – No comments. DOBOR – No comments. OCCL – CDUP requirements, cultural impacts, coordination with adjacent planned projects in Honolulu Harbor, and Conservation District boundary interpretation. State Parks – No comments. Engineering Division – FIRM and NFIP programs. DAR – Impacts on aquatic species and their habitat, coral, fragmentation of biological material including invasive species, green sea turtle, biosecurity facility, mitigation measures, Section 7 consultation and USACE permitting.	Sent acknowledgement letter to DLNR. Addressed OCCL comments in response letter to OCCL. Also addressed OCCL comments in Second DEIS.
3-6-13	DOH (Alec Wong)	Clean Water Branch – No comments. Provided earlier comments on EISPN.	Sent acknowledgement letter.
3-11-13	DOH (Alec Wong)	Clean Water Branch – Comply with HAR, Sections 11-54-1.1, 11-54-3, and 11-54-4 to 11-54-8. NPDES permit may be required. Consult with USACE on permit requirements.	Sent acknowledgement letter.
12-31-12	DOH (Laura McIntyre)	Environmental Planning Office - Comply with DOH Standard Comments, review US EPA's sustainability programs and US Green Building Council's LEED programs, and consider Health Impact Assessment. Request response confirming receipt of this comment letter.	Addressed comments in response letter.
2-6-13	DBEDT/OP	CZM Federal Consistency Review, 2006 Hawaii Ocean Resources Management Plan, and Hawaii CZM Act (HRS, Chapter 205A).	Addressed comments in response letter and Second DEIS.
12-27-12	DAGS	No comments.	Sent acknowledgement letter.
2-6-13	SOEST	Inconsistent and erroneous statements about timing of UH Marine Center move from Kapalama to Pier 34/35. Request confirmation of receipt of comment letter.	Addressed comments in response letter and Second DEIS.

Date Received	Agency/ Organization	Summary of Comments	Action Taken
	City and County of Honolulu		
1-31-13	DPP	FIRM's flood zone, Honolulu General Plan, Primary Urban Center Development Plan, and Kalihi-Palama Action Plan.	Addressed comments in response letter and Second DEIS.
2-7-13	DDC	No comments.	Sent acknowledgement letter.
1-7-13	DFM	Apply BMPs along Auiki Street fronting all City drainage facilities. Correct any deficiencies in Auiki Street's right-of-way caused by project construction.	Sent acknowledgement letter.
1-28-13	DTS	No comments.	Sent acknowledgement letter.
5-20-13	DES	Late submittal. No comments or objections.	Sent acknowledgement letter.
1-18-13	DPR	No comments. Remove DPR from consulted party list.	Sent acknowledgement letter.
1-24-13	HPD	No significant impact on HPD facilities or operations.	Sent acknowledgment letter.
1-10-13	HFD	Provision of HFD access road and adequate fire flow water supply. Submission of civil drawings to HFD.	Sent acknowledgement letter.
1-8-13	BWS	Final approval of water supply with building permit, Water System Facilities Charges, Fire Prevention Bureau of HFD, and BWS Cross-Connection Control and Backflow Prevention requirements.	Sent acknowledgement letter.

Date Received	Agency/ Organization	Summary of Comments	Action Taken
	Other Agencies/ Organizations/ Private Interests		
2-4-13	Hawaii Gas	No conflict with existing Hawaii Gas lines. Gas line map enclosed with comment letter.	Sent acknowledgement letter.
2-4-13	Servco Pacific Inc.	Non-inclusion of comment letter on EISPN in DEIS and no receipt of a response to Servco's comments from DOT-H. Project impact on Servco's access to Sand Island Access Road and lack of evaluation of alternative accesses for Servco.	Addressed comments in response letter and Second DEIS.
2-6-13	Airlines Committee of Hawaii	Potential hazards of construction equipment and gantry cranes on navigable airspace. Seek further studies by FAA to determine precisely whether proposed project is "no hazard" or "presumed hazard."	Sent acknowledgement letter.
2-5-13	Hawaiian Airlines	Assumption of no significant impact on navigable airspace by filing FAA Form and Horizon's FAA analysis. Proper procedures should be followed to ascertain whether a significant hazard exists or not.	Addressed comments in response letter and Second DEIS.

Federal Agencies

Comment and Response Letters

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Pacific Islands Regional Office
1601 Kapiolani Blvd., Suite 1110
Honolulu, Hawaii 96814-4700
(808) 944-2200 · Fax: (808) 973-2941

Mr. Carter Luke
Engineering Program Manager
State of Hawaii DOT- Harbors Division
79 S. Nimitz Highway
Honolulu, Hawaii 96813

February 7, 2013

Dear Mr. Luke,

The Habitat Conservation Division of the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) Pacific Islands Regional Office has reviewed the Hawaii State Department of Transportation (H-DOT) draft Environmental Impact Statement (DEIS) for the construction and operation of a new overseas container terminal at the Kapalama site in Honolulu Harbor, Oahu. We appreciate the opportunity to offer the following comments in accordance with the EFH provision of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (50 C.F.R. § 600.905 – 930), also the National Environmental Policy Act (42 U.S.C. 4321 et seq.), the Fish and Wildlife Coordination Act (16 U.S.C. § 662(a)), and the Clean Water Act (33 U.S.C. §1251 et seq.).

The purpose of the Proposed Action as stated in the DEIS is to develop a new container terminal in Honolulu Harbor with sufficient ship berthing and landside container storage space to increase existing overseas container terminal capacity. The stated need is to accommodate the anticipated demand of overseas cargo volumes associated with projected growth of the state of Hawaii through the year 2039. The Proposed Action specifically includes the following activities: 1) development of an approximately 94-acre container yard with necessary support buildings, fencing and gates, gantry cranes and container-handling equipment, onsite utilities and lighting, and associated off-site improvements; 2) construction of a deep draft wharf and pier with berthing capacity to accommodate two container ships (involving dredging to depths of 40-45 ft of approximately 300,000 cubic yards of material) and creation of approximately 2.4 acres of new land (involving the filling of Snug Harbor of approximately 132,000 cubic yards); and 3) improvement to Piers 40 and 41 to accommodate use of interisland cargo operations associated with Piers 24 through 28 to accommodate maritime-dependent operators currently at Kapalama.

The marine water column and seafloor in and adjacent to the Honolulu Harbor is designated as Essential Fish Habitat (EFH) and supports various life stages for the management unit species (MUS) identified under the Western Pacific Regional Fishery Management Council's Pelagic and Hawaii Archipelago Fishery Ecosystem Plans (FEPs). The MUS and life stages specifically include: eggs, larvae, juveniles and adults of Coral Reef Ecosystem MUS (CRE-MUS); eggs, larvae, juveniles and adults of Bottomfish MUS (BMUS); eggs, larvae, juveniles and adults of Crustacean MUS (CMUS); and juveniles and adults of Pelagic MUS (PMUS). The marine biological survey provided in the DEIS which characterizes the marine habitat in the project area indicates the presence of a coral community consisting of: 5,173 coral colonies of eleven different species ranging in size from < 2cm to 160m in longest diameter; 45 species of invertebrates; 38 species of fish (all CRE-MUS); a patch of Hawaiian seagrass; and soft sediment with infauna (Appendix E).

NMFS is concerned about the substantial direct and indirect impact that will occur to EFH including to coral reef resources from the proposed action. Impact will include, but is not limited to: abrasion and/or loss of most if not all corals growing on the artificial and natural limestone substrates in the proposed dredge and fill footprints; loss of seagrass and disturbance of soft sediment harbor bottom in the dredge footprint; permanent loss of habitat currently provided for a variety of organisms in the form of the piling structures, sediment bottom and general water column in Snug Harbor; and impact to water quality and marine biota from sedimentation and turbidity effects resulting from dredging and construction activities. We offer general comments as provided below, also specific comments on the DEIS as provided in a separate attachment, to help H-DOT avoid/minimize and offset these impacts to the greatest extent possible. Our recommendation is that our comments be addressed in the Final State EIS, and/or via the federal National Environmental Policy Act (NEPA) document and the EFH, also Fish and Wildlife Coordination Act (FWCA) consultations triggered by the federal obligations related to the need for the Department of the Army (DA) permit from the U.S. Army Corps of Engineers (USACE) for the dredge and fill activities.

NMFS general comments:

1) We recommend initiating (pre-)consultation with USACE as soon as possible for the necessary DA permit. In concurrence, we recommend H-DOT develop documents and initiate formal consultation with all federal agencies as per the NEPA , the EFH provision of the Magnuson-Stevens Fishery Conservation and Management Act, Section 7 of the Endangered Species Act (ESA), the FWCA and the Clean Water Act.

2) As a requirement of the NMFS EFH consultation process for adverse affect to EFH, please develop and provide NMFS with an EFH assessment. This EFH assessment may be developed prior to the USACE application process and if easier, submitted to us within your NEPA document in a section clearly labeled as "EFH Assessment". See our NMFS letter dated 12/19/2011 providing early comments on the DEIS preparation notice for more information on the scope and level of detail required for the EFH assessment.

3) Various actions connected to the Proposed Kapalama Action such as the University of Hawaii Marine Center relocation, and development of Honolulu Harbors Piers 12 and 15 have been mentioned in the DEIS, but not analyzed as part of the Proposed Action. The DEIS hence falls short of being sufficient in scope. We recommend including and

analyzing comprehensively all connected actions to the Proposed Action in the NEPA document.

4) Provide a more detailed scope of work for all the alternatives in the Final EIS, and NEPA document. As recommended in our NMFS 12/19/2011 letter, the Proposed Action addressed in the EHF assessment should include maps and exact delineations of the proposed dredge and fill footprints, a detailed description of construction methods both on land and in-water, the timeline for construction activities, and a full description of future operations.

5) The current DEIS marine impacts analysis falls short of addressing the full range and depth of impacts to water quality and marine biota in the project area. We recommend providing an enhanced evaluation of marine impacts in the Final EIS and in the NEPA document and EFH assessment, including prediction of the specific changes that may occur to water quality and to the marine biota such as the corals, non-corals, seagrass, and fishes caused by direct as well as indirect impacts. The evaluation should include a clear timeline associated with impacts by activities.

6) As recommended in 12/19/2011 letter, develop and provide a detailed description in the Final EIS and in NEPA document and EFH assessment of all the mitigation measures that will be implemented to avoid and minimize impacts to EFH and coral reef resources. These should be firmly attainable and executable actions that are clearly defined with timelines. For unavoidable impact, ensure that H-DOT is in compliance with the 2008 Rule for Compensatory Mitigation for Losses of Aquatic Resources (FR/Vol. 73, No. 70)). We recommend initiating discussion as soon as possible with the USACE, State and Federal Resources agencies to work to develop a Mitigation Plan.

7) We recommend developing and providing a marine biological monitoring plan to determine impacts to water quality and marine biota that may be indirectly impacted by proposed activities during, and also post-construction.

As the project design moves forward, NMFS recommends that the following mitigation measures to avoid and minimize impact be fully explored and considered; Low Impact Development methods throughout container yard to fully control pollutant discharge to the marine environment via stormwater run-off. This may include limiting the area of impervious surfaces, and upgrading drainage systems to handle additional run-off; innovative measures to minimize, treat and contain contaminants so they do not enter and impact the marine environment; limit in-water construction activities and use methods and equipment that are known to minimize marine impact such as hydraulic dredges rather than clam-shell dredges; reduce dredge and fill footprints to the greatest extent possible; develop an effective sediment control plan to limit turbidity and sedimentation impacts from above water and in-water work; minimize impact to EFH and marine biota by relocating prior to start of construction the sessile marine biota including corals found within the direct impact footprint to an area in-water well outside the project.

In conclusion, we greatly appreciate the opportunity to comment on the Draft EIS of this important proposed Honolulu Harbor improvement project. We have as expressed above, concerns about impacts to the marine resources in the proposed project area, and recommend

several modifications the draft EIS also initiating federal consultations and the USACE permit application. We wish to continue to engage and work with H-DOT to help meet the project need while ensuring the appropriate level of protection of NOAA trust resources. NMFS also wishes to advise the applicant, the scope of the project intends to dredge to a depth of 40 to 45 feet. NMFS is aware that some of the larger cargo vessels require berthing depths as deep as 51.5 ft. NMFS is not advocating the dredging by raising this issue but wishes to inform the applicant that if there is the future need to dredge to this depth that it would be wise to evaluate this option now. If the action were to meet all the permitting requirements and dredge to the proposed depth and then later need to dredge to a deeper depth, that would be considered a new action and require adherence to the mitigation process as a new project. For questions or comments, please do not hesitate to contact Danielle Jayewardene at 808-944 2162 (danielle.jayewardene@noaa.gov).

Sincerely,

Gerry Davis
Assistant Regional Administrator
Habitat Conservation Division

cc by mail:
Mr. Glenn Koyama, Project Manager, Belt Collins Hawaii LLC, 2153 North King Street, Suite 200, Honoulult, Hawaii 96819
Mr. William Aila, State of Hawaii, Department of Land and Natural Resources, Division of Aquatic Resources, P.O. Box 621, Honolulu, HI 96809.

cc by e-mail:
Dean Watase, H-DOT-Harbors
Glenn Koyama, Consultant Belt Collins LLC
George Young, US Army Corps of Engineers, Honolulu District
Tony Montgomery, US FWS-Pacific Islands Office-Honolulu
Kevin Foster, US FWS-Pacific Islands Office-Honolulu
Dan Polhemus, US FWS-Pacific Islands Office-Honolulu
Wendy Wiltse, US EPA-Region IX, Honolulu Office
Robert Nishimoto, State of Hawaii DLNR- Division of Aquatic Resources
Dave Gulko, State of Hawaii DLNR- Division of Aquatic Resources

NMFS specific comments on the DEIS:

Section (S.) SS4 page (p.) 19: Include FWCA authority and consultation requirement.

S. 1-4 p. 21-30: The federal scope here is different to that stated in the summary sheet. Ensure these are aligned; also include the EFH consultation requirement. Ensure this will actually satisfy Army Corp permit requirements. Clarify planned timing of NEPA process.

Chapter 2

p. 2-3: It's concerning that relocation of tenants has started prior to the full EIS review having been conducted and completed. State what will occur if the preferred alternative/proposed action does not move forward.

p. 2-4: All connected actions should be included in the scope of this DEIS as the analysis is otherwise piecemeal and insufficient.

p. 2-4: Provide an estimate of the acres proposed to be dredged, not only the volume of dredge material.

p. 2-8 to 2-9: Provide a comparison of the amount (volume and surface area) of fill between the different pier construction options.

p. 2-10: Clarify that pier reconstruction will result in coral removal/loss.

p. 2-13: Determine whether in fact the alternatives analysis meets the federal requirements. This is difficult to conclude when all connected actions have not been included in the analysis which as per NEPA requirements.

p. 2-14: Clarify if the new docks will result in fill, either way provide a surface area estimate of these to allow evaluation of shading effects to marine bottom from these structures.

p. 2-16: Clarify what impact may be associated with the "no action alternative" due to potential increased pressure/use at the existing harbor infrastructure

p. 2-17: Provide more detailed information and description of alternative locations.

p. 2-19: Describe in more detail the risk that the alternative of developing the container terminal on sand-island would present from the dependency on the 2-lane bridge access.

Chapter 4

p. 4-2: Clarify that not only "some", but a substantial amount of coral growth occurs on harbor structures.

p. 4-3: The description of the affected environment comes across as being somewhat biased, i.e. indicating that there are less coral reef resources in the project are than there are. Consider rewording.

p. 4-5: Clarify that corals in the >40 range are large, and reword to the size classes above >40cm..

p. 4-5: Clarify that the *P. damicornis*, lace corals, found in the project area are very unique, not found in this growth form, size and abundance in most places in Hawaii.

p. 4-5: Clarify how and why skeletal remains are evidence of past high sedimentation events.

p. 4-7: Explain why the harbor area is not conducive to algal growth. It is stated earlier in the DEIS that the harbor is considered impaired due to being a high nutrient environment, which usually promotes algal growth/abundance.

p. 4-8: Identify whether corals are regulated by the State of Hawaii.

p. 4-9: Correction needed: all the fishes identified and listed on p. 4-7 and in the marine biological survey report in appendix E are in fact Management Unit Species (MUS) as per the Magnusson Act specifically coral reef ecosystem MUS. This is important as the corals themselves are an MUS species, also the habitat provided by corals, bottom, seagrass, water column and artificial structures are EFH for this coral reef ecosystem MUS species found in the area.

p. 4-9: Clarify what measures will be implemented.

p. 4-11: Provide detailed maps of proposed dredge and fill footprints, which clarify dredge depth location, and size of dredge footprint.

p. 4-12: Clarify, define and expand on the mitigation measures. This section is quite weak. Consider taking in to account the Clean Water Act compensatory mitigation requirements.

NEIL ABERCROMBIE
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June 26, 2013

Mr. Gerry Davis, Assistant Regional Administrator
Habitat Conservation Division
U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Pacific Islands Regional Office
1601 Kapiolani Blvd., Suite 1110
Honolulu, Hawaiʻi 96814-4700

Dear Mr. Davis:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, Oʻahu, Hawaiʻi

Thank you for your letter dated February 7, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be reissuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

We understand from your letter that the National Marine Fisheries Service (NMFS) is concerned about impacts of the proposed action to Essential Fish Habitat (EFH), including coral resources. Our responses to your general comments are as follows:

1. *Pre-consultation with U.S. Army Corps of Engineers (USACE).* The Department of Transportation, Harbors Division (DOT-H) initiated early informal pre-consultation with the USACE in September 2011 and is continuing to consult with the USACE as the project progresses into the engineering design phase. If needed, consultation with federal agencies will be initiated by USACE (not DOT-H) after acceptance of the Department of the Army (DA) permit for processing.

2. *Essential Fish Habitat (EFH).* An EFH assessment is being prepared by the project team currently engaged in the detailed design of in-water improvements at Kapālama. We expect to have this assessment ready for submittal by summer 2013.

3. *Cumulative Impacts.* Please note that cumulative impacts are analyzed in Chapter 6 of the subject Draft EIS. In addition, cumulative impacts of in-water work at the Kapālama Container Terminal site and other sites within Honolulu Harbor (recent past, current, and in the foreseeable future) will be addressed in the National Environmental Policy Act (NEPA) document to be prepared as a part of the DA permit process.

4. *Alternatives Analysis.* Both the Chapter 343, Hawaiʻi Revised Statutes (HRS), and federal EIS laws require analysis of a reasonable range of alternatives, not "all" alternatives. The key factor is whether alternatives being considered are practicable and meet the purpose of and need for the proposed action. (See section 1.2 of the Draft EIS.) Hence, the Draft EIS presents a comprehensive discussion of alternatives considered (see section 2.2, Alternative Analysis), including those considered briefly and not carried forward for further analysis and those that were carried forward for further analysis and evaluated in the Draft EIS.

5. *Engineering Design/Construction Methods.* In response to the second part of your comment, some of the information you request is scheduled to be available at the 15 percent design completion at the end of May 2013 and at the 30 percent design completion in November 2013. This level of detail was not available for the initial Draft EIS, which appropriately evaluated alternatives at a conceptual level. Detailed information from the engineering and design phase, as it becomes available, will be added to the Draft EIS, Version 2, and Final EIS, and included in the subsequent NEPA environmental document to be prepared as a part of the DA permit process.

6. *Marine Impacts Analysis.* With the engineering design of in-water improvements underway, we will soon have adequate information to address impacts to water quality and marine biota in the project area as required for the DA permit. Sea grass will not be impacted by the proposed action.

7. *Mitigation Measures.* Following definition of project footprint/elements and assessment of potential impacts, we will work with USACE, NMFS, and the State Department of Land and Natural Resources, Division of Aquatic Resources (DLNR DAR), on a plan to avoid, minimize, and/or mitigate impacts to EFH and coral resources as part of the DA permit process.

8. *Marine Biological Monitoring Plan.* If required by USACE for the DA permit and if required to comply with conditions of the Section 401 water quality certification (WQC), we may develop a marine biological monitoring plan.

Following are responses to your additional comments:

1. *Stormwater Runoff.* The container terminal project will require a National Pollutant Discharge Elimination System (NPDES) permit for construction. The permit will require implementation of best management practices (BMPs) to control stormwater discharge into marine waters. Stormwater impacts during operations will be controlled to comply with DOT-H's NPDES General Permit Coverage Authorizing Discharges of Stormwater and Certain Non-Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) for the storm drainage system at Honolulu Harbor.

2. *Mitigation Measures.* Measures will be implemented to avoid, minimize, and/or mitigate impacts to the marine environment during dredging. The measures listed in your letter will be considered for their efficacy in controlling sedimentation at specific sites using specific construction methods and equipment. It is noted that sedimentation already exists in the harbor due to surface runoff and drainage outlets into the harbor waters. The sediments become waterborne due to ship traffic. Regarding the relocation of corals, coral reef experts on the Kapālama design team are exploring options, and DOT-H is discussing possible approaches with DLNR DAR.

Following are responses to NMFS specific comments:

1. *FWCA.* The Fish and Wildlife Coordination Act of 1980 (FWCA) will be added to this list. FWCA is listed in section 5.3, Relationship to Federal Laws and Executive Orders.

2. *Federal Scope.* The Federal Scope of Analysis on page 1-4 will be revised to reference Section 14 of the Rivers and Harbors Appropriation Act and EFH consultation. A sentence will be added to clarify that a NEPA document will be prepared to support the DA permit process.

3. Chapter 2:

   p. 2-3, *Tenant Relocation.* Demolition of the buildings, not relocation of tenants, triggers the Chapter 343, HRS, environmental review process. Tenants have been on month-to-month leases, with the knowledge that the site has long been planned for redevelopment. Given the poor condition of the buildings, they will need to be demolished regardless of whether or not the container terminal project moves forward.

   p. 2-4, *Connected Actions.* DOT-H prepared an analysis of "independent utility" to demonstrate that the various Honolulu Harbor projects are not part of a single proposed action, i.e., they are separate efforts with different schedules, users, funding streams, and permitting processes. This analysis was presented to and accepted by USACE. The subject Draft EIS evaluates cumulative impacts of these projects, and the anticipated NEPA document to support the DA permit will do the same with a focus on an analysis of cumulative impacts on the marine environment. Further, individual Chapter 343

Environmental Assessments were prepared for each project to evaluate its own project impacts.

p. 2-4, *Acres of Dredging.* This information will be available upon completion of the 15 percent design package referenced above and will be added to Version 2 of the Draft EIS. With refinement of the design, the dredging estimates (both area and volume) may change and will be incorporated into the Final EIS, DA permit application and its supporting NEPA environmental document.

p. 2-8 to 2-9, *Amount of Fill.* The 15 percent submittal referenced above will provide engineering design document for a single preferred alternative. Selection of that alternative will be based on a comparative analysis of the pier construction options presented in the Draft EIS, including a comparison of dredge and fill.

p. 2-10, *Coral Removal/Loss.* Pier construction will result in coral loss. An estimate of the loss will be presented in Version 2 of the Draft EIS, based on the 15 percent design package, and refined in subsequent documents (Final EIS, DA permit application and its supporting environmental NEPA document).

p. 2-13, *Alternatives Analysis.* Please note that the subject Draft EIS was prepared in accordance with Chapter 343, HRS, not NEPA. As stated above, a NEPA environmental document will be prepared to support the DA permit process. However, the alternatives analysis in the Draft EIS is consistent with NEPA requirements. In particular, it contains a detailed discussion of all the alternatives considered, narrows them down to a reasonable range of practicable alternatives that meet the stated purpose and need, and provides the rationale for not carrying certain alternatives forward for analysis. In fact, this level of analysis is seldom found in Chapter 343, HRS, environmental documents. The issue of "all connected actions" is different from the issue of alternatives analysis, as it refers instead to the separate issue of segmentation. See the discussion above regarding the independent utility analysis carried out for the Kapālama project.

p. 2-14, *Fill.* See responses above. When available, this information will be incorporated into Version 2 of the Draft EIS and into subsequent documents, with the caveat that estimates may change as the design packages are refined and finalized.

p. 2-16, *No Action.* Impacts of the No Action Alternative on specific infrastructure are presented in Chapter 3 of the Draft EIS. See section 3.5, Roadways and Traffic; section 3.6, Utilities; and section 3.7, Public Services. Regarding impacts on container handling infrastructure, see section 2.2.2, which states that existing container terminals on Sand Island would continue to accommodate existing and future cargo volumes, resulting in congestion. Workarounds include costly ground-stacking and multiple handling of containers.

p. 2-17, *Alternative Locations*. Alternative locations are adequately described and evaluated in section 2.2.3.1. None meet the purpose of and need for the proposed action. A more detailed discussion would add little value to the analysis.

p. 2-19, *Sand Island*. Anything that impedes overland distribution of goods to the interisland cargo operators and to O'ahu customers (e.g., supermarkets) could have an adverse impact due to the just-in-time operations at Honolulu Harbor. Container ships arrive at the harbor, containers are offloaded, and within a very short time, trucks and interisland barges depart with the containers to their destinations. There is little or no storage of containers at the terminals; goods quickly find their way to store shelves. Given this just-in-time scenario, it is estimated that the state of Hawai'i has a seven-to ten-day supply of food between container ship arrivals. Therefore, every effort is made to avoid delays in water and land transportation, recognizing that the neighbor islands are more vulnerable.[1]

4. Chapter 4:

p. 4-2, *Coral Cover*. The statement on this page refers to past surveys within Honolulu Harbor. A survey of one area identified up to 25 percent coral cover, whereas another area showed between 10 and 15 percent, and another was described as "barren." Use of the word "substantial" to summarize results of these past surveys would not be accurate.

p. 4-3, *Physical Structure*. This subsection focuses on Physical Structure, not coral or other biota, although it does mention which types provide habitat. The physical structure within the project area varies, including dredged shorelines, shelves and slopes, boulders, rubble, silty mud, and concrete and metal sheet pilings. The subsection on page 4-5 focuses on Biotic Community Structure, starting with Coral Communities.

p. 4-5, *Coral Size Classes*. Corals measured at greater than 40 (>40) centimeters (cm) are already referred to in the Draft EIS as "larger size classes" (see p. 4-5, line 16). The following text will be added in line 20 to identify coral counts in the largest size classes: "Table 3 in Appendix E-1 gives summary counts of total coral colonies of all species combined by size class in each survey sector. Corals in the largest size classes (>80≤160 cm and >160 cm) were found in sectors B, D, E, F, G, J, K, and L, although only a single coral colony in these size classes was counted in sectors D and F."

p. 4-5, *P. damicornis*. This information will be added in a footnote.

p. 4-6, *Skeletal Remains*. Skeletal remains show where living coral was subject to stress extreme enough to cause mortality. Heavy sediment loading, a known stressor in the harbor, is given as one example.

[1] After publication of the Draft EIS, in February 2013, Sand Island Access Road was closed for a period of time when a downed utility pole blocked the roadway not far from the bridge.

p. 4-7, *Algal Growth*. Nutrient environment is only one factor potentially affecting frondose algal growth. Other environmental parameters may include light intensity, temperature, water movement, and salinity. Determining the cause of scarcity of frondose algae in Honolulu Harbor is beyond the scope of the Draft EIS.

p. 4-8, *State Regulation of Corals*. The State of Hawai'i regulates coral in several ways. Hawaii Administrative Rule (HAR) 13-95 prohibits taking, breaking, damaging, or selling any stony coral or coral to which marine life is attached from waters of the State. In addition, the State regulates/protects corals located within Marine Managed Areas (MMAs), which are specific geographic areas designated by statute or administrative rule. Marine Protected Areas (MPAs), a subset of MMAs, focus on protection, enhancement, and conservation of habitat and ecosystems, including coral reefs. Marine Life Conservation Districts (MLCDs) are a form of MPAs. Most MLCDs in Hawai'i are located in coastal waters featuring coral reef habitat. This information will be added to the section on Regulated Species.

p. 4-9, *Management Unit Species*. A subsection on Management Unit Species (MUS) will be added under Regulated Species.

p. 4-9, *BMPs*. BMPs will be implemented for erosion and sediment control under the NPDES permit for the project. Specific measures will be identified when project design and construction methods are confirmed.

p. 4-11, *Dredge and Fill Footprints*. As explained above, this information will be presented in the updated Draft EIS and refined as needed in subsequent documents (i.e., Chapter 343 Final EIS, DA permit application, and NEPA document).

p. 4-12, *Mitigation Measures*. Same response as above.

We appreciate your participation in the EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

From: Glen Koyama
To: Lesley Matsumoto; Amy Kepilino;
Subject: FW: NMFS/
PRD Comments for the December 2012 HDOT Kapalama Container Terminal DEIS
Date: Wednesday, February 06, 2013 5:11:22 PM

FYI

From: Donald Hubner [mailto:donald.hubner@noaa.gov]
Sent: Wednesday, February 06, 2013 4:54 PM
To: Carter.Luke@hawaii.gov; Glen Koyama
Cc: Danielle Jayewardene; Jayne LeFors; Patrick Opay
Subject: NMFS/PRD Comments for the December 2012 HDOT Kapalama Container Terminal DEIS

Aloha Carter, Glen, and All,

Below are my comments for the December 2012 Hawaii Department of Transportation Kapalama Container Terminal Draft Environmental Impact Statement. My focus was solely on ESA-listed (or proposed) species under NMFS jurisdiction, and so are very limited in scope.

P 1-3 Lines 3-9: The proposed action statement is incomplete. It should say something about filling snug harbor and other areas to create the new pier that would run across the existing piers 42-45.

P 1-5 Lines 7-9: The statement about snug harbor should be moved up to page 1-3. As it is written, it understates the significance of this component.

P 4-9 Lines 5-6: Recommend that the coral species (M. patula) be identified here.

P 4-9 Lines 31-33: The potential for project-related sedimentation should be discussed for Sector A.

P 4-9 & 10 Lines 34-35 & 1 – 31: The discussion for Sectors B – G should be clearer and more direct. The use of the word "removed" seems misleading and non descriptive. Without relocation, all or most of the corals and other sessile organisms currently growing on or adjacent to the entire length of these Sectors from the Sand Island Bridge to the point where pier 41 begins would likely be lost. That area would be filled, refaced, and/or covered to create the new pier, and the channel along that pier would be dredged. The way it is currently written, only the resources within snug harbor would be lost. Where might corals "remain" in this area to be affected by sedimentation (lines 15-23)? Assuming that corals might remain along this shore line, shadowing by the new pier and container ships is another stressor that should be addressed.

P 4-10 Lines 32-33, 39: Pier 41 would not be widened. The slip between piers 40 and 41 would be widened by relocating pier 41 about 44 feet inland (west) from its current location.

P 4-10 Line 34: The use of the word "removed" again seems misleading and non descriptive. Would the corals be intentionally removed (scraped away) from the structures, or would most of them be simply lost/destroyed by the proposed construction activities?

It seems likely that ALL sessile and encrusting organisms (corals, sponges, algae, tunicates, etc) that inhabit the project area between Sand Island Bridge and Sector J would be lost due to being removed or by being buried behind/ under new structures (seawall or revetment) to create the new two-ship pier and to widen the slip between piers 40 and 41, and to dredge the channel and slip to the desired -40 ft depth.

Sessile and encrusting organisms that inhabit Sectors A, and J-L could be impacted by sedimentation, while Sectors J-L could also be impacted by increased shading by the expected shipping that would be regularly moored in the area after construction.

P 4-12 Line 36: Recommend rewording to “PTS (injury) could result from exposure to any sound at levels of:”

P 4-13 Lines 1-2: Recommend rewording to “TTS and behavioral effects such as masked communication and avoidance of the area could result from exposure to sound levels of:”

P 4-13: Recommend elaborating the acoustic discussion to include the expected ranges where the project-related sounds would attenuate to the effects thresholds. Also, it would be beneficial to assessing the significance of the acoustic exposure if the ambient noise levels for Honolulu Harbor were known. It is important to understand how project-related noise levels compare with background levels to determine the significance of the exposure.

Please don't hesitate to contact me if you have any questions. Aloha, Don

--
Donald M. Hubner
Endangered Species Biologist
NOAA/NMFS Pacific Islands Regional Office
1601 Kapiolani Blvd. Ste 1110
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(808) 944-2233

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June 26, 2013

Mr. Donald Hubner
Endangered Species Biologist
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Pacific Islands Regional Office
1601 Kapiolani Blvd., Suite 1110
Honolulu, Hawaiʻi 96814

Dear Mr. Hubner:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, Oʻahu, Hawaiʻi

Thank you for your email dated February 6, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be reissuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

We understand that your comments focus solely on species listed or proposed for listing in accordance with the Endangered Species Act (ESA) and under National Marine Fisheries Service (NMFS) jurisdiction. Our responses to your comments are provided below.

1. p. 13, lines 3-9, *Proposed Action*. The proposed action is the development of a container yard and waterfront improvements. There are variations to achieve the proposed action. Filling of Snug Harbor is one variation or alternative. The statement at this point in the document is correct. Alternatives are described in detail in Chapter 2.

2. p. 1-5, lines 7-9, *Snug Harbor*. See response above.

Mr. Donald Hubner
June 26, 2013
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3. p. 4-9, lines 5-6, *M. patula*. *Montipora patula* will be identified in this sentence.

4. p. 4-9, lines 31-33, *Sedimentation*. Sector A would not be affected by construction occurring across the channel, particularly with implementation of measures to minimize impacts during dredging activities (see page 4-14 of the Draft EIS). It is noted that sedimentation already exists in the harbor due to surface runoff and drainage outlets into the harbor waters. The sediments become waterborne due to ship traffic.

5. p. 4-9 & 10, lines 34-35 & 1-31, *Sectors B-G*. The word "removed" on page 4-10, line 3, will be changed to "lost" or a facsimile. This change will make it clear that coral would be lost due to dredging and construction. Depending on avoidance, minimization, and/or mitigation measures being considered, certain corals may be "removed" to be transplanted in another location.

6. p. 4-10, lines 32-33, 39, *Pier 41*. This text will be corrected to read that the slip between the two piers would be widened.

7. p. 4-10, line 34, *Coral Removal*. The word "removal" will be replaced with the word "loss."

8. We concur with your comment that all sessile and encrusting organisms in the project area between the bridge and Sector J are likely to be lost due to the project, with the caveat that relocating selected coral resources is being considered. As clarified above, organisms that inhabit Sector A would not be affected by sedimentation. We concur that those in Sectors J, K, and L have the potential to be affected by sedimentation from construction associated with widening the slip between Piers 40 and 41. However, since this slip is currently being used, the area is already shaded by regularly moored vessels.

9. p. 4-12, line 36, *PTS*. This sentence will be reworded as recommended.

10. p. 4-13, lines 1-2, *TTS*. This sentence will be reworded as recommended.

11. p. 4-13, *Acoustics*. In response to your recommendation, a noise analysis will be conducted as part of the Department of the Army permit process. However, in situ sound measurements within Honolulu Harbor are not planned at this time.

We appreciate your participation in the EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850

FEB 6 2013

In Reply Refer To:
2013-CPA-0027

Mr. Carter Luke, Engineering Program Manager
State of Hawaii Department of Transportation, Harbors Division
79 S. Nimitz Highway
Honolulu, Hawaii 96813

Subject: Draft Environmental Impact Statement for the Kapalama Container Terminal, Honolulu, Oahu Island, Hawaii

Dear Mr. Luke:

The U.S. Fish and Wildlife Service (Service) has reviewed the Draft Environmental Impact Statement (DEIS) for the Kapalama Container Terminal, Honolulu, Hawaii. The proposed project is sponsored by the Hawaii Department of Transportation, Harbors Division. The following comments have been prepared pursuant to the National Environmental Policy Act (NEPA) of 1969 [42 U.S.C. 4321 *et seq.*; 83 Stat. 401], as amended; the Fish and Wildlife Coordination Act (FWCA) of 1934 [16 U.S.C. 661 *et seq.*; 48 Stat. 401], as amended (FWCA); the Endangered Species Act of 1973 (16 U.S.C. 1531et seq.; 87 Stat. 884], as amended (ESA); the National Invasive Species Act of 1996 [P.L.104-332]; and other authorities mandating Service concern for environmental values. Based on these authorities, we offer the following comments for your consideration.

Proposed Action

The proposed project involves the construction and operation of a new overseas container terminal at Kapalama Site, Honolulu Harbor, Oahu Island, Hawaii. Planned project construction-related activities include the removal of approximately 300,000 cubic yards of material that would result in deepening Honolulu Harbor to accommodate larger vessels with deeper draft depths. Planned construction would also result in filling approximately 2.4 acres of marine environment. Also, a new pier, about 1,871 feet long, would be constructed to accommodate the creation of Piers 42 and 43. The reconstruction of Pier 41 is planned to accommodate inter-island cargo operations. Other improvements also include landside improvements such as the removal of existing facilities and construction of a new container yard and refurbishment of piers 24-28.

GENERAL COMMENTS

The DEIS contains a substantial amount of information, and the proposed action represents a significant undertaking. In our opinion, the DEIS is deficient in assessing the effects of the proposed action on fish and wildlife resources. In addition, the document does not propose mitigation measures commensurate with the range of potential adverse impacts anticipated to result from the proposed action. As a result, the deficiencies in the DEIS preclude its use as a basis for a meaningful analysis of anticipated project-related impacts to fish and wildlife resources identified in these comments. Therefore, we recommend that the DEIS be revised to include complete information on the proposed action, an alternative analysis and impact assessment that is based on a commitment to avoid and minimize project-related impacts, and propose mitigation measures that minimize unavoidable impacts and compensate for significant unavoidable impacts.

Fish and Wildlife Coordination Act

It is anticipated that a Department of the Army permit will be required in order to conduct planned dredging and filling of waters of the United States. Therefore, consultation will be required under the Fish and Wildlife Coordination Act (FWCA) of 1934 [16 U.S.C. 661 *et seq.*; 48 Stat. 401] with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service and the State of Hawaii Department of Land and Natural Resources to ensure that wildlife conservation shall receive equal consideration and be coordinated with water development activities. We recommend that the State of Hawaii, Harbors Division contact the U.S. Fish and Wildlife Service, Pacific Islands Office and initiate consultation under the FWCA. Also, we recommend that the requirement to consult with the Service under the FWCA be identified in a revised DEIS.

Planned construction involves conducting dredging activities within Honolulu Harbor. However, the DEIS does not provide a clear understanding of the footprint where these activities will be conducted. Approximately 200,000 cubic yards of materials are planned to be removed as part of future maintenance dredging. Likewise, about 100,000 cubic yards of materials may be removed to deepen the harbor and this activity would be considered new dredging. We are of the opinion that a full evaluation of project-related impacts to fish and wildlife resources may not occur without a clear understanding of where the planned dredge site will be located. Therefore, we recommend that a revised DEIS discuss where dredging activities are planned in Honolulu Harbor, including a map for illustrative purposes and also discuss how many acres may be dredged.

We are also concerned that project dredging activities may negatively impact fish and wildlife resources that occur within and beyond the project dredge site. Fish and wildlife resources that occur within the planned dredge sites will be lost due to direct physical impacts associated with sediment removal. We recommend that a marine survey of the project dredge area be conducted to document resources within and adjacent to the planned dredge sites. We are of the opinion that dredging-related sedimentation may negatively impact fish and wildlife resources that occur beyond the project footprint by smothering sessile corals or interrupting coral reproduction. The

DEIS has not provided sufficient analysis of possible indirect water quality impacts to fish and wildlife resources. We are especially concerned that potential suspended sediments have not been fully evaluated in terms of impacts on coral spawning. Richmond 1993 and 1995 has demonstrated that altered water quality has had negative impacts on the process of fertilization after coral spawning. Furthermore, we are of the opinion that modest changes in water quality levels may significantly alter photosynthesis and respiration ratios (Telesnicki and Golderg, 1995) and metabolic processes of corals and symbiotic algae (Muller-Parker and D'Elia, 1995). Therefore, we recommend that the results of marine surveys analyze direct and indirect impacts to fish and wildlife resources in terms of potential resource degradation or mortality, habitat loss and lost ecological functions. In addition, we recommend that the results of these analyses be discussed in a revised DEIS and used to develop a comprehensive plan to mitigate project impacts. Also, we suggest the mitigation plan include the development of measures to avoid and minimize impacts to fish and wildlife resources, develop plans to contain sediments within the project dredge site, and also measures to replace lost ecological functions as a consequence of unavoidable impacts.

We are of the opinion that project filling, about 2.4 acres, may result in smothering fish and wildlife resources that occur within Snug Harbor. The DEIS does not provide an adequate description of the project filling activity, nor does it clearly evaluate impacts to fish and wildlife resources or estimate lost ecological functions. Therefore, we recommend that a revised DEIS provide an improved description of the proposed action, the fish and wildlife resources that occur within the project fill area and an evaluation of unavoidable impacts. We also recommend the revised DEIS discuss plans to offset lost ecological functions as a result of planned filling activities.

The proposed action to construct a new pier to accommodate two berths, Piers 42 and 43, is not adequately described in the DEIS. We are concerned that project construction-related activities may result in significant impacts to fish and wildlife resources that occur within the project area through direct physical impacts. Therefore, we recommend that a more thorough description of the new pier project be incorporated into a revised DEIS and include project design and dimensions, a construction schedule, a more complete description of materials used to construct the pier and a description of how the pier would be constructed. Furthermore, we recommend that a revised DEIS provide an analysis of project impacts to fish and wildlife resources and the results be used to develop appropriate compensatory mitigation.

The proposed action to reconstruct Pier 41 is not thoroughly described in the DEIS and we are concerned that fish and wildlife resources, such as corals, may be negatively impacted by direct physical impact through planned project construction-related activities, such as the demolition of the original Pier 41, removal of materials, or dredging. Therefore, we recommend that plans to revise the DEIS provide an improved description of the reconstruction process, including a detailed description of existing pier demolition, excavation activities and dredging activities. We also recommend that a project design, construction schedule and a detailed description of construction activities be incorporated in the DEIS. We further recommend that an evaluation of project impacts to fish and wildlife resources be conducted and used to develop scalable offsets and incorporated into mitigation planning.

Endangered Species

Our primary concern regarding the proposed project is the potential for project-related impacts to adversely affect federally listed and sensitive marine biological resources. Federally listed species under Service jurisdiction are not known to use the proposed project site. The federally listed endangered hawksbill turtle (*Eretmochelys imbricata*) and the green sea turtle (*Chelonia mydas*) are known to occur in the vicinity of Honolulu Harbor, but they are not known to nest in this area. The National Marine Fisheries Service (NMFS) should be contacted regarding the potential for the proposed action to affect listed species under NMFS jurisdiction. In order to facilitate early resolution to any potential conflicts between the proposed activities and endangered and threatened species, we recommend early coordination with NMFS.

Invasives Species

Biological invasions, both from organisms already present and those that may arrive pose a significant threat to diverse native ecosystems in the Pacific region. Understanding pathways whereby an activity or process that a species is transferred to another location where it could become invasive, and developing plans to remove non-target species and prevent biological contamination are necessary to prevent invasive species spread and their impacts.

We are of the opinion that the proposed action to conduct planned construction activities and also repair overseas vessels in Honolulu Harbor has the potential to accelerate habitat alteration and disrupt and degrade aquatic ecological functions in Hawaii. Dispersal of resident invasive species may radiate beyond current distribution patterns in Honolulu Harbor during demolition or dredging activities and invade coral reefs that exist in Ke'ehi lagoon and along the southern shore of Oahu. Invasive species introduced to Hawaii on vessel hulls from foreign ports may result in the introduction of disease, predation and competition to native coral reefs. Furthermore, we are of the opinion that invasive species may infect other parts of the State and degrade fish and wildlife resources if inter-island cargo vessels become infected with invasive species. Therefore, we recommend that a detailed invasive species pathway risk assessment plan be developed and incorporated into a revised DEIS. We also recommend that an invasive species monitoring and rapid response plan be developed to address the accidental introduction of invasive species from vessel hulls into Honolulu Harbor as well as for terrestrial invasive species that may be associated with the proposed construction activities.

The DEIS states that planned construction activities associated with the Kapalama Container Terminal project could result in the inadvertent transport of invasive species into and out of Honolulu Harbor. As mentioned in the proposal, construction equipment and vehicles arriving from outside the island of Oahu would be washed and inspected prior to entering the project area. However, an assessment of biosecurity risks should also be included for the construction materials utilized throughout the construction phase, and should include future and cumulative impacts related to listed species and potential effect of invasive species. As a means to implement feasible and prudent measures to minimize risk of harm, the application of Hazard Analysis and Critical Control Point planning and implementation is a way to manage the risk of invasive species introduction and spread throughout the construction phase.

The DEIS states that operation of the port facilities would result in a sustained increase in activity levels (related to increases in vessel traffic and containers) at the port relative to existing conditions. As a result, the movement of plants, animals, and other organisms associated with maritime cargo movement could be transported beyond their natural range due to the increased volume of transport, trade and travel. Fortunately, most species are not problematic; however, some foreign species have become established in Hawaii and proliferated, impacting biodiversity, natural resources, food security, economic development, human health, and ecosystem services.

The proposed action to plan and develop a biosecurity facility for the Hawaii Department of Agriculture (HDOA) in the Kapalama Container Terminal project is a good first step in preventing the introduction of invasive species into the State of Hawaii. However, we recommend that the biosecurity facility be established as a joint-use facility for use by Federal and State biosecurity/quarantine agencies (USDHS-US Customs and Border Protection, USDA-APHIS-Plant Protection and Quarantine, USFWS-Office of Law Enforcement, and HDOA-Plant Quarantine Branch) for invasive species inspection screening and treatment of inbound, interisland and outbound cargo. The biosecurity facility should have the capacity to hold safeguarded commodities under strict quarantine measures, capacity for pest detection and determination of risk associated with inbound commodities, as well as treatment capabilities for disinfection and/or destruction of infested materials, and support laboratories. We also recommend that additional facility design and work space requirements be developed in coordination with HDOA as well as other Federal agencies that would be involved in biosecurity/quarantine functions and regulations at the Kapalama Container Terminal.

Contaminants

The DEIS indicates that dredged sediments shall be tested and possibly reused onsite, disposed in the ocean or disposed at an approved upland site. We recommend that the potential use or disposal of project-related dredged sediments, including contaminated sediments, be conducted in a manner that is consistent with the State of Hawaii, Department of Health and U.S. Environmental Protection Agency regulations for managing dredge materials. The deployment of silt curtains during dredging should be monitored to insure effective containment of suspended sediments and fragments of invasive species. During construction activities at Pier 28, monitoring of construction adjacent to the Iwilei District Operating Units should insure that contaminant containment remedies remain in place.

National Environmental Policy Act

A NEPA document has not been prepared for this project; however, we are of the opinion that a federal nexus exists and that it is inappropriate for the State of Hawaii to proceed solely under Chapter 343 policies and regulations. The DEIS currently states that the U.S. Customs and Border Protection may establish a U.S. Service Port to inspect foreign cargo within the terminal area. If so, this would constitute a federal nexus as, but for the development of the Kapalama Container Terminal, a U.S. Service port would not be established. Also, we note that dredge and fill activities will require authorization by U.S. Army Corps of Engineers and that permit will

requires NEPA compliance. Therefore, we recommend that the State of Hawaii identify a lead federal agency for the Kapalama project and proceed with NEPA compliance.

SUMMARY

Though much effort has gone into preparing this document, significant concerns of the Service have not been addressed. These deficiencies preclude the use of the DEIS as a basis for a meaningful analysis of anticipated project-related impacts to certain fish and wildlife resources; and therefore, we are of the opinion that the DEIS will not be compliant under NEPA. As a result, it is our opinion that the release of the DEIS was premature and recommend it be revised as a NEPA document with more complete information, improved analyses of alternatives and potential impacts, and a commitment to avoid unnecessary impacts, minimize unavoidable impacts, and compensate for significant unavoidable impacts. We have included additional comments (Attachment – Specific Comments) that we hope will assist you during the revision of the DEIS.

The Service appreciates the opportunity to comment on the proposed Kapalama Container Terminal project. If you have any questions regarding these comments, please contact Marine Ecologist Kevin Foster by telephone at (808) 792-9420 or Invasive Species Biologist Domingo Cravalho at 808-792-9445.

Sincerely,

for Loyal Mehrhoff
Field Supervisor

cc: ACOE-Honolulu District
NMFS-PIRO-Honolulu
USEPA-Region IX, Honolulu
DOT-Maritime Administration, Washington
DOT-Harbors Division, Honolulu
DAR, Honolulu
CZMP, Honolulu
CWB, Honolulu
Mr. Glen Koyama, Belt Collins Hawaii LLC

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ATTACHMENT – SPECIFIC COMMENTS:

Page SS-2, Lines 27-30. The DEIS states, "Actions could result in the dispersal of five non-native invertebrates and algae in the marine environment." We recommend limiting disturbance or remove invasive species prior to dredging activities.

Page SS-3. Line 25. The DEIS states, "The mitigation that results from these consultations will serve to minimize impacts on specific regulated species and the marine environment as a whole." The USACE 2008 Compensatory Mitigation Rule provides for mitigating unavoidable impacts to aquatic resources. Therefore, we recommend that this sentence be modified in a revised DEIS to state: The mitigation that results from these consultations will serve to avoid or minimize impacts to fish and wildlife resources and also offset lost functions due to unavoidable planned impacts.

Page 1-13, Lines 7-9. The DEIS states, "Support the State's effort to minimize the risk of invasive species spread by providing space for inspection, quarantine, and treatment facility for DOA." We recommend a revised DEIS support HDOT's position in providing space for HDOA. Facility planning and design should be adequate to support future increases in vessel and cargo arrivals that can be used by State and Federal quarantine agencies jointly to mitigate invasive species introductions from domestic, foreign and inter-island activities.

Page 1-16, Lines 17-18. The DEIS states, "Establish biosecurity facility and possible U.S. Customs and Border Protection station." We recommend establishing joint-use facility that can be used by State and Federal quarantine agencies such as DOA, CBP and FWS. Also, we recommend that a revised DEIS discuss the development of containment bays to safeguard high-risk cargo for intensive inspection as well as adequate treatment facilities that can be used for the disinfestation and disinfection of materials that enter Hawaii.

Page 1-17, Line 12. The DEIS states, "Assess potential spread of invasive species in ship's hulls and ballast water." We recommend ensuring contingency planning for fouled vessels including containment areas for safeguard and treatment facilities to mitigate marine invasive species threats; established systems dealing with ballast water reporting need to be in compliance with existing state and federal laws and have exterior hull examination capabilities.

Page 1-17, Line 15-16. The DEIS states, "Assess potential spread of invasive terrestrial species in cargo and implement upgraded biosecurity inspection facilities." We recommend including early detection and rapid response protocols to detect invasive species at the port of entry and respond appropriately to the incursion. Biosecurity facilities must have treatment capabilities to deal with infested and infected materials at the harbor.

Pages 2-7 thru 2-10. The DEIS states, "Covers construction of a new pier, pier reconstruction, and new container yard." We recommend a revised DEIS address equipment, vehicles and construction materials brought to the site from within or outside the State that could introduce invasive species to Hawaii and the project area. Besides equipment and vehicles involved in the construction activities, construction materials must also be considered as a vector for invasive species and must be cleaned and disinfected appropriately. We recommend the development of a biosecurity plan such as Hazard Analysis and Critical Control Point (HACCP) planning to reduce these risks. Best Management Practices (BMP) are a good start, however, all potential avenues for invasive species introductions due to the proposed action should be considered and evaluated, and appropriate actions taken to minimize risk.

Page 2-7. Line 3. The DEIS states, "To accommodate the existing and future (modernized) vessels carrying shipping containers, construction dredging to 40 feet below mean lower low water (MLLW) would provide sufficient draft depths. While hydrographic and dredge material studies would be completed in the design stage (subsequent to this EIS), it is roughly estimated that approximately 200,000 cubic yards of sediment would be dredged around piers 42 and 43." The DEIS does not describe the areal extent of the planned dredging nor does it clearly identify where the dredge site is located. Therefore, we recommend that a revised DEIS provide an improved description of the planned dredging area in terms of acres to be dredged. Also, we recommend that a revised DEIS include a map that illustrates the planned dredge site.

Page 2-7. Line 29. The DEIS states, "A new pier, approximately 1,871 feet long with crane rails, utilities, bollards, hatches and associated equipment would be constructed to accommodate two berths, identified as Piers 42 and 43…" The DEIS is lacking an adequate description of the new pier terms of project design. For example, it is unclear how much marine habitat would be displaced due to the construction of this pier. Therefore, we recommend that a revised DEIS provide sufficient project design that would support an adequate evaluation of impacts to fish and wildlife resources.

Page 2-11, Line 1-15. The DEIS states, "Support the biosecurity facility for DOA as well as port station for CBP." We recommend planning and designing of a biosecurity facility in conjunction with CBP's future needs to construct joint-use facilities that could be utilized by both State and Federal quarantine agencies. This joint facility would provide for inspection bays, safeguard areas, laboratory and office space, kennels for detector dog units, treatment and destruction facilities, and disposal capabilities.

Page 3-11. Line 13. The DEIS states, "During construction, short-term impacts such as dust, noise and runoff from the construction site would be addressed through implementation of BMPs and other management measures." The DEIS does not clearly describe what construction activities will be undertaken at Piers 24-28 and therefore, does not clearly describe specific environmental consequences that will result from these activities. Therefore, we recommend that the revised DEIS provide a clear description of all construction-related activities that may be anticipated to occur to modify Piers 24-28, including an analysis of environmental impacts and associated measures to avoid or minimize impacts to fish and wildlife resources. Also, unavoidable impacts to fish and wildlife resources should be discussed and a plan to offset lost functions should be developed and reviewed by the state and federal resource agencies.

Page 3-17. Line 31. The DEIS references, "EO4206 (Marine Expeditionary Center)." We do not understand this referenced executive order. We recommend EO4206 be described in a revised DEIS.

Page 3-22. Line 25. The DEIS states, "Considering that the largest airport in the state is located approximately one mile east of the proposed project site…" The Honolulu International Airport is located west of the planned Kapalama Container Terminal project site and we recommend that this language be amended in a revised DEIS.

Page 3-68. Line 3. The DEIS states, "Dames and Moore prepared a geotechnical report as part of the Final Physical and Economic Feasibility Study of a Multi-Level Container Staging and Distribution Center." The DEIS does not describe when this report was released. Furthermore, citations from this report are limited and provide only a modest historical understanding of fish and wildlife resources that may have occurred at the Kapalama Site. We are concerned that the DEIS lacks a description of the existing environment. Without a clear description of baseline conditions, we feel the existing analysis of impacts is deficient. We therefore recommend that a more complete description be provided in a revised DEIS.

Page 3-69. Line 1. The DEIS states, "Approximately 132,000 cubic yards of appropriate structural fill is required for the improvements." However, the DEIS does not clearly describe where this fill will be placed or how it will be set in place. Therefore, an analysis of impacts to soil resources is incomplete. We recommend a more complete description of the proposed placement of fill, including where it will be placed and how it will be set in place, should be included in a revised DEIS. Also, we recommend an analysis of soils (marine sediments) be conducted to analyze the impacts that may be associated with the placement of fill in the marine environment.

Page 4-2. Line 13. The DEIS states, "Past surveys have reported several areas within Honolulu Harbor supporting some growth of stony corals." The DEIS does not identify the references that support this statement or other ensuing statements in this paragraph concerning coral resources. Therefore, we recommend that all referenced materials be properly identified and cited in a revised DEIS.

Page 4-2. Line 18. The DEIS states, "The mouth of Kapalama Stream has been characterized as barren, in comparison with a number of other sites surveyed in the harbor (DBEDT 1994)." This reference is dated and does not contribute to understanding the existing environment and it is unclear why it appears in the DEIS. We recommend this statement either be revised and included in an improved description of existing conditions at Kapalama Stream, or removed.

Page 4-2. Line 31. The DEIS states, "Environmental consequences are evaluated based on:…" The DEIS neglects to identify required coordination under the FWCA and evaluation of planned project impacts to fish and wildlife resources. We recommend that a FWCA 2(b) investigation be conducted and included in a revised DEIS.

Page 4-4. Figure 4-1. Marine Biological Survey Sectors, Kapalama Site. The DEIS does not provide a clear understanding of the sampling sites that were conducted to evaluate baseline conditions of fish and wildlife resources within the project area. We consider these data preliminary and recommend that a revised DEIS clearly describe the precise location where marine survey work was conducted within each survey sector. Furthermore, we recommend that a revised DEIS discuss how sampling sites were selected and also describe why sites were selected to represent baseline conditions.

Page 4-5. Line 13. The DEIS states, "Quantitative evaluation of coral in Sectors A to L yielded a total count of 5,668 coral colonies, with counts ranging from a low of 92 in Sector D to a high of 1,201 in Sector K." We are concerned that the DEIS does not provide a description of environmental conditions within the planned dredging area. Planned dredging activities will result in the unavoidable loss of fish and wildlife resources due to direct physical impacts. Likewise, we can anticipate potential indirect impacts to fish and wildlife resources due to the suspension of sediments beyond the immediate dredge site. A compensatory mitigation plan will need to be prepared as part of a Department of the Army Corps of Engineers permit. Understanding the loss of fish and wildlife resources in the dredge impact area will be an important component of the plan to ensure that lost functions are adequately offset. Therefore, we recommend that a revised DEIS provide an improved description of fish and wildlife resources that may be negatively impacted by planned project activities for each alternative.

Page 4-11. Line 7. The DEIS states, "Approximately 200,000 cubic yards of maintenance dredging adjacent to Piers 42 and 43 is required to remove sediment buildup from west end of Honolulu Harbor and to return the previously dredged area to its original design depth of minus 40 feet MLLW. Approximately 100,000 cubic yards of new dredging and excavation is required to enlarge the slip between Piers 40 and 41. The dredging would be conducted by DOT-H, but some of the dredging may be conducted by the U.S. Army Corps of Engineers (USACE) as part of its periodic Honolulu Harbor maintenance dredging that is tentatively scheduled for spring of 2015." We have several concerns with these statements that include:

(1) The proposed action has not been clearly defined. It appears that a total of 300,000 cubic yards of materials are intended to be dredged from Honolulu Harbor. This is 100,000 cubic yards above what has been previously described in the Proposed Action section of this DEIS.

(2) The DEIS does not provide a clear description of the planned maintenance dredging area. We recommend that a revised DEIS provide an improved description, including maps, that identify the area where 200,000 cubic yards of material will be removed as part of the planned maintenance dredging.

(3) Also, the DEIS neglects to describe the location of the planned dredging area where 100,000 cubic yards of material will be removed as part of new dredging. Furthermore, the DEIS does not describe the existing depths nor the planned depth for new dredging. Therefore, we recommend that a revised DEIS provide an improved description of the new dredging area, including maps, that identify this location.

(4) Finally, the DEIS fails to discuss the fish and wildlife resources that may occur within the planned dredging areas. We recommend that a revised DEIS include a complete description of resources that may be affected by both direct and indirect project construction impacts.

Page 4-13, Line 20-30. The DEIS states, "Fragmentation of biological material." We further recommend a revised DEIS discuss assurances that the six invasive species (5 sponges and 1 marine algae) do not disperse from the project area due to construction activities. We

recommend removal prior to work or other procedures to mitigate risk of transfer or dispersal due to the proposed actions during the construction phase.

Page 4-14, Line 7-9. The DEIS states, "Enable DOA to develop a biosecurity facility." We recommend a revised DEIS discuss proper planning and design of the biosecurity facility to mitigate invasive species introduction into Hawaii. The facility design should incorporate adequate inspection containment bays, safeguarding and quarantine areas, treatment /destruction, and disposal capabilities. The facility should be developed with the intent of it being a joint-use building utilized by State and Federal agencies. Site location and size of the biosecurity facility should be commensurate with the increase in the activity area and estimated increased in the volume of services.

Page 4-14. Line 11. The DEIS states, "Measures to mitigate impacts during in-water work-including the loss of corals, increased sediment deposition during dredging and filling, and impact on ESA-listed sea turtles-would be developed during the USACE permitting process and the USACE's ESA Section 7 and Magnuson-Stevens Act (for EFH) consultation processes." The DEIS fails to provide a complete description of fish and wildlife resources that may be negatively impacted due to planned project-related activities for each of the identified alternatives. Therefore, the current document cannot be used as a means to estimate losses or to develop appropriate measures to offset unavoidable impacts. Therefore, we recommend that a revised DEIS provide an improved description of fish and wildlife resources that may be negatively impacted by each planned alternative, including possible impacts to resources that may occur in the planned dredge sites.

Page 4-15. Line 14. The DEIS states, "If Snug Harbor is not filled, fewer coral and macro-invertebrate communities at Sectors C, D, and E would be affected." We are concerned that the DEIS does provide an estimate of the number of coral colonies and macro-invertebrates that may survive under this alternative, compared to the prosed action alternative. Lacking a clear evaluation of project-related impacts, we are unable to identify a project alternative that would result in the least environmentally damaging practicable alternative. Therefore, we recommend that a revised DEIS provide an improved evaluation of the range of potential project impacts that may be anticipated for each planned alternative.

Page 4-19. Line 6. The DEIS states, "This work would have little or no impact on coral communities, as the Pier 24 sector is mainly comprised of concrete pilings with skeletal remains of coral colonies either completely or partially devoid of living tissue." The DEIS fails to provide a clear assessment of project impacts, in quantitative terms, that may be associated with the placement of spuds in the marine environment to support a dry-dock. Corals with living tissue, albeit in a degraded state, must be accounted for and described. Therefore, we recommend that a revised DEIS provide a clear estimate of the numbers of fish and wildlife resources, including corals and macroinvertebrate species that may be lost due to the placement of a dry dock at Pier 24.

Page 4-19. Line 28. The DEIS states, "Vessels that are brought to Piers 24-28 for repair and maintenance may be from overseas ports. These vessels may collect invasive species on their hull bottoms and from ballast water and solid ballast taken on by the vessels." We are concerned that fish and wildlife resources that may occur in the vicinity of Piers 24-28 may be degraded through the introduction of invasive species from vessels that may be repaired at these piers. Introduced species may become established within Honolulu Harbor and radiate out of the harbor and infect seaward reefs along the south shore of Oahu. It is possible the native fish and wildlife resources may be displaced through the introduction of non-native invasive species. Therefore, we recommend that foreign vessel hulls (*i.e.*, barges) be cleaned prior to anchoring at Piers 24-28 and cleaned hulls be certified by the Department of Land and Natural Resources. We recommend a revised DEIS incorporate newly developed guidelines for inspection and surveillance of high-risk vessels, as well as containment and treatment capabilities to address invasive species (*e.g.*, hull fouling and ballast water).

Page 4-22, Line 20-26. The DEIS states, "Construction equipment and vehicles arriving from outside of Oahu would be washed and inspected prior to entering the project area, and revegetation and landscaping would be certified weed-free." We recommend a revised DEIS address mitigating measures to be implemented for construction materials utilized in the proposed project that may be a pathway for invasive species introduction to the project area. HACCP planning and implementation is one way to minimize these risks. In addition, we recommend a revised DEIS incorporate language that indicates plants used for the revegetation and landscaping will be certified weed-free and any landscape plantings proposed for use in the project area will be native or non-native exotic species.

Page 4-22. Line 33. The DEIS states, "Shorebirds, such as the ruddy turnstone, would lose their roosting area along the shoreline between Sand Island Access Road and Piers 44-45, but displaced birds would find alternate roosting areas in the vicinity, e.g., at Ke'ehi Lagoon." The DEIS does not provide a clear discussion in terms of the quantity of habitat acres that would be lost and the number of migratory birds that may be displaced due to the implementation of the proposed action. We recommend that a revised DEIS provide an improved description of the planned project impacts to fish and wildlife resources, including the loss of forage habitat for migratory birds and the number of birds (and species) that may be displaced by the planned action. Also, we recommend that a revised DEIS discuss how this loss would be offset and what measures will be implemented to avoid and minimize impacts to shorebirds during the construction phase of the impact.

Page 4-23, Line 1-5. The DEIS states, "Establishment of a DOA biosecurity facility." We recommend that a revised DEIS incorporate planning and design of a joint-use biosecurity facility between State and Federal agencies that not only involve HDOA, but also include CBP, U.S. Fish and Wildlife – Law Enforcement, and USDA-Animal Plant Health Inspection Service-Plant Protection and Quarantine. In addition to the inspection bays, and treatment capabilities, the biosecurity facility would also include safeguard/quarantine holding rooms for seized plants and animals, an evidence room, laboratory and office space, reference materials library, and kennel space for detector dog teams.

Page 4-24, Line 20-23. The DEIS states, "To avoid unintentional introduction of invasive species, all construction equipment and vehicles from outside Oahu would be washed and inspected." We recommend a revised DEIS include HACCP planning for construction materials brought onto the project area to prevent or minimize invasive species introduction associated

with the proposed action. We also recommend a revised DEIS discuss the development of early detection and rapid response procedures and organizational capacity to adequately respond to invasive species incursions if detected during this phase of the proposed project.

Page 4-24, Line 24-28. The DEIS states, "Revegetation or landscaping in the open work area." We recommend that, in addition to certified weed-free or inspected prior to revegetation, landscape plantings use should not consist of invasive plants, or harbor any contaminants such as noxious weeds or other diseases.

Page 6-15 & 6-16. The DEIS states, the species.."Gorse (*Ulex europaeus*)…." is identified in the document as "Present" on Oahu and Kauai. According to HDOA Plant Pest Control Branch, it should be reported as "Not Present" on these islands. "Little Fire Ant (*Wasmannia auropunctata*)" is labeled as "Not Present" on Maui. According to PPC, it should be reported as "Present" on Maui. "Nettle Caterpillar (*Darna pallivitta)"* is labeled as "Unknown" on Oahu, Maui and Kauai. According to PPC, it should be reported as "Present" on these islands. We recommend that a revised DEIS incorporate these technical changes.

Page 6-11. Line 34. The DEIS states, "The proposed redevelopment would result in removal of old piers and other vertical structures whose surfaces provide habitat for both coral and macro-invertebrate communities. In addition, remaining corals not removed during dredging and excavation could be affected by sedimentation from construction activities. There may be a cumulative loss of coral when effects of the Kapalama project are combined with the effects of other in-water construction projects in Honolulu Harbor and elsewhere in the state." We are concerned that the DEIS does not divulge the full extent of planned impacts to fish and wildlife resources in terms of the numbers of organisms that may be degraded or lost due to project construction-related activities. Therefore, we recommend that a revised DEIS provide an improved discussion of the numbers and sizes of organisms that may be negatively impacted for each planned alternative. This information should be related to a discussion concerning the loss of ecological functions that may be anticipated and how these functions may be offset through the implementation of an appropriately scaled compensatory mitigation project.

Page 6-12, Line 16-38. The DEIS states, "Risk of Spread of Invasive Species." We recommend that a revised DEIS discuss hull fouling organisms and ballast water that are the main sources of marine invasive species and disease introductions. There is a need to ensure compliance requirements are met by overseas vessels to prevent new introductions. Throughout the construction phase there must be an awareness that established invasive species in the project site must either be removed or procedures implemented to prevent dispersal attributed to fragmentation during the proposed action.

Page 6-17, Line 1-16. The DEIS states, "Cargo containers and their contents provide pathways for invasive species to enter the state or exit Hawaii. The inspection effort is a collaborative one involving federal and state agencies." We recommend, as stated in this DEIS, that HDOA develop and fund a biosecurity facility at the Kapalama site, however, there is a need to involve other federal agencies such as CBP, USFWS-LE, and USDA-APHIS-PPQ that would complete the first line of defense at the import intervention phase. The biosecurity facility should be developed as a joint-use inspection facility for federal and state agencies. Laboratory and office space as well as kennels for detector dog teams should also be incorporated in the planning of the facility.

Appendix E-1. Marine Biological Community Structure Report. Figure 48. Sector P-28. The native seagrass, *Halophila hawaiiana* was documented to occur at the project site, but was not discussed in the DEIS text. Seagrass is considered a Special Aquatic Site (40 CFR Part 230 §230.44 / FR v.45 n.249). Seagrass habitat supports diverse communities of highly –specialized aquatic organisms. Also, seagrass habitat adds significantly to the submarine topographic relief in which a large number of fish and invertebrate species find shelter and food. These plants themselves are important food sources for fishes, other marine life and federally listed sea turtles (*e.g.*, green turtle or *Chelonia mydas*). Therefore, we recommend that a revised DEIS discuss the presence of *Halophila hawaiiana* within the project and also discuss how implementation of planned project impacts may negatively impact seagrass.

NEIL ABERCROMBIE
GOVERNOR

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HAR-EP
3606.13

June 26, 2013

Loyal Mehrhoff, Ph.D.
Field Supervisor
U.S. Department of the Interior
Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
300 Ala Moana Blvd., Room 3-122, Box 50088
Honolulu, Hawai'i 96850

Dear Dr. Mehrhoff:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, O'ahu, Hawai'i

Thank you for your letter dated February 6, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be reissuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

INTRODUCTORY STATEMENT

Before responding to your general and specific comments on the Draft EIS, we wish to provide the following introductory statement.

Please note that preparation of the subject document was not intended to fulfill the requirements of the National Environmental Policy Act (NEPA). NEPA is triggered by a federal action, and in this case, the future federal action will be issuance of a Department of the Army (DA) permit by the U.S. Army Corps of Engineers (USACE) for in-water improvements at Kapālama. The State Department of Transportation, Harbors Division (DOT-H) initiated early informal pre-consultation with USACE in September 2011 and is continuing to consult with USACE as the project progresses into engineering design. USACE will begin review and initiate formal consultation with relevant federal agencies after accepting the DA permit for processing. A NEPA document will be prepared to support the DA permitting process.

The subject Chapter 343, Hawaii Revised Statutes, Draft EIS (Draft EIS) describes the proposed action and alternatives at an appropriate conceptual level. Version 2 of the Draft EIS will incorporate information from design documents at 15 percent completion. This information will include delineation of the dredging footprint and dredge and fill material volumes. Construction methods will be provided as part of the DA permit process. With further definition of the project footprint/elements and existing biological resources, we will be able to disclose specific impacts. A plan to avoid, minimize, and/or mitigate those impacts will be prepared as part of the DA permit process.

The USACE NEPA process will proceed on a separate track, relying on the same information becoming available from the engineering design effort. Later in the process, project details (including mitigation) will be refined as needed based on more complete design packages, as well as results from additional studies being conducted under the Kapālama design contract. These additional studies include dredge material characterization for upland disposal and ocean disposal of dredged material, Phase II Environmental Site Assessment of the Kapālama site, and marine acoustics analysis.

Given the context described above, our general response to many of your comments is that (1) the Draft EIS was not intended to provide the level of detail expected and (2) the expected level of detail is forthcoming in accordance with DA permit requirements. Both USACE and the National Marine Fisheries Service (NMFS) have been in coordination with DOT-H on this process. DOT-H has also been engaged in active and early coordination on this project with USFWS.

Hence, it is with this understanding that responses to your comments are provided below:

GENERAL COMMENTS

1. *Deficient Document.* See introductory statement above.

2. *Fish and Wildlife Coordination Act.* DOT-H initiated coordination with your agency and other federal and state resource agencies very early in the process, prior to preparation of the Chapter 343 Draft EIS. If required, consultation with federal agencies will be initiated by USACE. Regarding comments about the dredging footprint and volumes, as well as impacts on marine biota, please see the introductory statement above.

3. *Endangered Species.* DOT-H has been engaged in coordination with NMFS since September 2011. A number of meetings, emails, and telephone exchanges followed the initial meeting with NMFS as part of DOT-H's early consultation process with that agency.

4. *Invasive Species.* Planned activities at the new container terminal and at the Piers 24 to 28 sites already exist at Honolulu Harbor. The Kapālama site will accommodate container operations presently at Sand Island, and ongoing shipyard operations at Pier 41 will be relocated to Piers 24 to 26 area. Therefore, the proposed action does not have the potential to "accelerate habitat alteration and disrupt and degrade aquatic ecological functions in Hawaii." Even with the No Action Alternative, container ships would continue to arrive at the harbor, with cargo volumes increasing according to demand. The proposed container terminal per se would not cause an increase in cargo volume. As demonstrated during the recent recession, cargo volume is a function of economic demand. Likewise, shipyard operations would continue, also in response to demand. And most importantly, existing management measures to prevent the spread of invasive species (both marine and terrestrial) will continue to be implemented.

5. *Invasive species impacts during construction.* The Draft EIS (Appendix G) suggests implementing procedures and current management practices to prevent the spread of invasive species from construction equipment and vehicles. The State Department of Agriculture (DOA), which has its Plant Quarantine Branch office at the Kapālama site, would be responsible for preparation of the suggested biosecurity plan.

6. *Terrestrial invasive species control during container terminal operations.* Co-locating the new terminal with DOA facility at Kapālama will enhance the State's capabilities. The proposed project includes establishment of a DOA biosecurity facility at the container terminal to improve intervention efforts. Plans call for an inspection building with consolidation/deconsolidation capability for neighbor island cargo and a treatment building for import/export goods. Please be advised that the decision to establish a joint-use biosecurity facility is beyond the scope of the EIS and not within DOT-H's jurisdiction.

7. *Contaminants.* This phase of the project will be conducted in compliance with applicable regulations.

8. *NEPA.* Please note that preparation of the subject document was not intended to fulfill the requirements of the National Environmental Policy Act (NEPA). The Draft EIS states that a DA permit will be required. DOT-H does not have authority to "identify a lead federal agency for the Kapālama project and proceed with NEPA compliance." Given the requirement for a DA permit, USACE will be the lead federal agency, and USACE will be responsible for NEPA compliance.

SPECIFIC COMMENTS

1. Page SS-2, lines 27–30, *Invasive Species.* Details of recommended terrestrial and marine invasive species control during construction of the Kapālama project are provided in Appendix G of the Draft EIS.

2. Page SS-3, line 25, *Mitigation*. See introductory statement above. Appropriate text changes will be made to subsequent documents.

3. Page 1-13, lines 7–9, *Invasive Species*. This is included in the objectives of the proposed action. Establishing a joint federal/state facility is outside of DOT-H's jurisdiction.

4. Page 1-16, lines 17–18, *Biosecurity Facility*. See introductory statement above. Project details will be developed at the appropriate time by DOA. Note that this is a comment received from your office during early consultation.

5. Page 1-17, line 12, *Invasive Marine Species*. Note that this comment was received from your office during early consultation. The risk of invasive species spread will continue to be prevented or minimized through compliance with existing management measures. See the *State of Hawaii Aquatic Invasive Species (AIS) Management Plan* (DAR 2003). In addition, in March 2012, the U.S. Coast Guard accepted the final rule for Standards for Living Organisms in Ships' Ballast Water Discharged in U.S. Waters. The U.S. Environmental Protection Agency (EPA) also issued NPDES 2013 Vessel General Permit regulating discharges from commercial vessels, including ballast water, to reduce invasive species and protect the nation's waters from ship-borne pollutants. This general permit applies to commercial vessels greater than 79 feet in length, excluding military and recreational vessel. It will go into effect when the NPDES 2008 Vessel General Permit expires on December 19, 2013.

6. Page 1-17, lines 15–16, *Invasive Terrestrial Species*. This is a comment received during early consultation with your office. Terrestrial invasive species response protocols and design and operation of the biosecurity facility at the harbor are the responsibility of DOA.

7. Pages 2-7 through 2-10, *Invasive Species/Construction*. Regarding marine invasive species, details of recommended marine invasive species control during construction are provided in Appendix G of the Draft EIS. The section on terrestrial invasive species on page 4-22 of the Draft EIS already contains a statement about construction equipment and vehicles from outside O'ahu. DOA, which has facilities at the Kapālama site, would be responsible for preparation of the suggested biosecurity plan.

8. Page 2-7, line 3, *Dredging*. See introductory statement above.

9. Page 2-7, line 29, *New Pier*. See introductory statement above.

10. Page 2-11, lines 1–15, *Biosecurity Facility*. See our responses above regarding biosecurity facility.

11. Page 3-11, line 13, *Pier 24–28 Construction Activities*. The Draft EIS describes construction at the Pier 24 to 28 sites (see pages 2-11 – 2-12). The project will involve only landside improvements and no in-water construction.

12. Page 3-17, line 31, *Marine Expeditionary Center*. Executive Order Number 4206 allowed establishment of the University of Hawai'i oceanographic facilities at Kapālama/Snug Harbor. See Figure 3-9 on page 3-19.

13. Page 3-22, line 25, *Honolulu International Airport*. This will be corrected in the next iteration of the Draft EIS.

14. Page 3-68, line 3, *Geotechnical Report*. The Dames & Moore report was part of a 1993 feasibility study (reference is given at the end of the paragraph). The purpose of the Dames & Moore report was not to describe fish and wildlife resources (this is not the firm's field of expertise) but to provide background on soils and geology of the site, based on historical records. Data cited on page 3-67 of the Draft EIS from the U.S. Department of Agriculture Soils Report adequately describes existing soils conditions at the site for EIS purposes. Geotechnical investigations are being carried out for the higher level of detail required in preparing engineering design documents.

15. Page 3-69, line 1, *Fill*. See introductory statement above.

16. Page 4-2, line 13, *Past Surveys*. The Draft EIS, Version 2 will identify and cite the sources for the referenced material on the coral resources.

17. Page 4-2, line 18, *Kapālama Stream*. The purpose of this paragraph is to provide context and disclose that past surveys have recorded the presence of corals in the harbor. Describing Kapālama Stream in more detail would not add any value to the analysis.

18. Page 4-2, line 31, *FWCA*. This paragraph lists the relevant statutory/regulatory requirements considered in evaluating impacts. Coordination per se does not serve as a standard for determining the significance of an impact. The Fish and Wildlife Coordination Act of 1980 is properly listed in Chapter 5, section 5.3, Relationship to Federal Laws and Executive Orders.

19. Page 4-4, Figure 4-1, *Marine Biological Survey Sectors*. In response to the first part of your comment, see introductory statement above. In response to your recommendation that "a revised DEIS discuss how sampling sites were selected and also describe why sites were selected to represent baseline conditions," please note that your agency staff actively participated in reviewing the marine biological consultant's scope of work for the survey (which identified sampling sites) as well as the draft survey report. Thank you for those early efforts. We believe that the scope of work and the report of the survey results were satisfactory. Regarding the coral survey, the marine consultant did not sample, but surveyed 100 percent of each sector in the survey area.

20. Page 4-5, line 13, *Dredging*. See introductory statement above.

21. Page 4-11, line 7, *Maintenance Dredging*. The same quantities have been identified on this page as described in the Proposed Action section of the Draft EIS. In the next iteration of the Draft EIS, detailed quantities and locations of the dredging area, as well as existing habitat conditions in the dredging locations, will be provided.

22. Page 4-13, lines 20–30, *Invasive Marine Species*. Details of recommended marine invasive species control during construction are provided in Appendix G of the Draft EIS.

23. Page 4-14, lines 7–9, *Biosecurity Facility*. See responses above regarding biosecurity facility.

24. Page 4-14, line 11. See introductory statement above.

25. Page 4-15, line 14, *Snug Harbor*. See introductory statement above.

26. Page 4-19, line 6, *Pier 24*. An accepted approach in environmental analysis is to screen for potential impacts and issues, i.e., identify areas where baseline conditions warrant further study, given what is being proposed in those areas. No in-water construction is planned and a DA permit is not required at the Pier 24 to 28 sites. As stated in the Draft EIS, the Pier 24 sector —where the dry dock would be located — is virtually devoid of living coral and contains few other resources. Pier 24 is characterized by dredged shoreline and pilings with skeletal remains of dead coral colonies. A quantitative evaluation of the Pier 24 sector revealed a total of 158 coral colonies, including six colonies of *Montipora patula*, being proposed for threatened species status under ESA. No colonies larger than 80 centimeters were recorded in this sector. Estimates of macroinvertebrate abundance at the Piers 24 and 25 sector are given in Table 7 of Appendix E-1. Reef fish diversity and abundance in the Pier 24 sector appears to be very low (see Appendix E-1, Table 8). Seven fish were counted in the survey: one barracuda *(Sphyraena barracuda)* and six surgeonfish *(Acanthurus dussumieri)*. The project will not result in removal of the pilings on which corals are attached. Permanent mooring of the dry dock at Pier 24 would reduce or eliminate sunlight exposure to the pier structures, although it is noted that Pier 24 is east-facing (with less exposure to light as an existing condition), and vessels are frequently moored here, as shown in Figure 4-2.

27. Page 4-19, line 28, *Invasive Marine Species*. See introductory statement above. The shipyard operations in the harbor are existing ones. Existing management measures to prevent the spread of invasive species will continue to be implemented.

28. Page 4-22, lines 20–26, *Invasive Terrestrial Species; Landscaping*. See our response directly above; the Draft EIS suggests procedures to prevent the spread of invasive species from construction equipment and vehicles. Given its use, we anticipate that the container yard will have only limited plantings, but DOT-H will consider your landscaping recommendations, as well as the recommendation in Appendix F-1 that native Hawaiian plants be used for landscaping.

29. Page 4-22, line 33, *Shorebirds*. Considering the mobility and adaptability of avifauna in the project area and similar conditions of habitats on the surrounding lands, the level of shorebird impact assessment on page 4-22 is adequate.

30. Page 4-23, lines 1-5, *Biosecurity Facility*. See responses above regarding biosecurity facility

31. Page 4-24, lines 20–23, *Invasive Species*. See responses above regarding terrestrial invasive species response protocols.

32. Page 4-24, lines 24–28, *Landscaping*. Installed landscaping for Piers 24 to 28 sites will not consist of invasive species, noxious weeds, or diseases.

33. Page 6-15 & 6-16, *Hawai'i's High-Profile Invasive Species*. Table 6-1 of the Draft EIS will be updated to reflect the current status of the gorse, little fire ant, and nettle caterpillar.

34. Page 6-11, line 34, *Construction Impacts*. See introductory statement above. Further study of specific impacts on marine biota is underway as part of the design and permitting phase of the project.

35. Page 6-12, lines 16–38, *Invasive Species*. See responses above regarding invasive species.

36. Page 6-17, lines 1–16, *Biosecurity Facility*. See responses above regarding biosecurity facility.

37. Appendix E-1, Figure P-28, *Native Seagrass*. The Draft EIS does disclose the presence of a small patch of *Halophila hawaiiana* on the harbor floor adjacent to the dredged channel wall at the junction of Piers 27 and 28 (see page 4-18). Text will be added to the Environmental Consequences section on page 4-19 that the proposed project will have no impact on this seagrass, as no in-water construction is planned in the area.

We appreciate your participation in the EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

United States Department of the Interior
U.S. GEOLOGICAL SURVEY
Pacific Islands Water Science Center
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RECEIVED
2013 JAN 17 AM 11: 46
BELT COLLINS HAWAII

January 16, 2013

Mr. Carter Luke
Engineering Program Manager
State of Hawaii
Department of Transportation, Harbors Division
79 S. Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Luke:

Subject: Kapalama Container Terminal – Draft Environmental Impact Statement (DEIS), Tax Map Key: Kapalama Site: 1-2-25: 02, 09, 12, 16, 17, 30, 40, 42, 44 to 47, 49 to 53, 55, 58 to 68, 71, 73, 74 to 78, 80, 82, 83, 86, 88, 92, 94, 97, 98, 108 to 112, and portions of 11 and 54; and 1-5-32: portions of 2 and 43. Pier 24-28 Site: 1-5-38: 11, 17, 55, 72, 73, 74, and portions 1, 4 and 5, Honolulu, Oahu, Hawaii

Thank you for forwarding the subject DEIS for review and comment by the staff of the U.S. Geological Survey Pacific Islands Water Science Center. We regret however, that due to prior commitments and lack of available staff time, we are unable to review this document.

We appreciate the opportunity to participate in the review process.

Sincerely,

Stephen S. Anthony
Center Director

cc: Mr. Glen Koyama, Project Manager
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, Hawaii 96819

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HAR-EP
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June 26, 2013

Mr. Stephen S. Anthony, Center Director
U.S. Geological Survey
Pacific Islands Water Science Center
Department of the Interior
677 Ala Moana Blvd., Suite 415
Honolulu, Hawaiʻi 96813

Dear Mr. Anthony:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, Oʻahu, Hawaiʻi

Thank you for your letter dated January 16, 2013, regarding the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

We appreciate your participation in the Draft EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

U.S. Department of Transportation
Federal Aviation Administration

Western-Pacific Region
Airports District Office

300 Ala Moana Blvd., Rm. 7-128
Honolulu, HI 96813
MAIL: Box 50244
Honolulu, HI 96850-0001
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FAX: (808) 541-3566

January 23, 2013

Mr. Carter Luke, Engineering Program Manager
State of Hawaii, Department of Transportation, Harbors Division
79 S. Nimitz Highway
Honolulu, HI 96813

Dear Mr. Luke:

SUBJECT: Draft Environmental Impact Statement; Kapalama Container Terminal; Honolulu, Hawaii

We have reviewed the Draft Environmental Impact Statement for the proposed improvements at Kapalama Container Terminal in Honolulu, Hawaii.

Per Federal Aviation Regulation (FAR) Part 77, Notice of Proposed Construction or Alteration, an airspace analysis was conducted for the proposed cranes under aeronautical cases 2012-AWP-92 through -99-OE. The FAA issued a Notice of Presumed Hazard on September 12, 2012. Further study was requested by the proponent and the FAA initiated a public notice on November 2, 2012. However, the coordinates had been amended by the proponent and the public notice was cancelled on December 10, 2012.

The proposed new heights and locations of the cranes must be re-filed with the FAA to determine the safe and efficient use of airspace.

Should you have any questions, please contact Mr. Gordon Wong, Lead Program Manager at (808) 541-3565.

Sincerely,

Ronnie V. Simpson
Manager, Airports District Office

cc: State of Hawaii, Department of Transportation, Airports Division
Glen Koyama, Belt Collins Hawaii LLC

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GOVERNOR

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June 26, 2013

Mr. Ronnie V. Simpson, Manager
Federal Aviation Administration
Western-Pacific Region, Airports District Office
300 Ala Moana Blvd., Rm 7-128
Honolulu, Hawaiʻi 96813

Dear Mr. Simpson:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, Oʻahu, Hawaiʻi

Thank you for your letter dated January 23, 2013, commenting on the *Kapālama ContainerTerminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, we will address your comment on the current status of our re-filing of FAA Form 7460-1 for airspace analysis. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

We appreciate your participation in this EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

DEPARTMENT OF THE NAVY
COMMANDER
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JBPHH HI 96860-5101

5090
Ser N45/192
February 5, 2013

CERTIFIED MAIL NO. 7007 3020 0002 3045 3710

Mr. Carter Luke
Engineering Program Manager
State of Hawai'i
Department of Transportation, Harbors Division
79 S. Nimitz Highway
Honolulu, HI 96813

Dear Mr. Luke:

SUBJECT: KAPALAMA CONTAINER TERMINAL-DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS), HONOLULU, O'AHU, HAWAI'I

The Navy appreciates the opportunity to review and comment on the proposed Kapalama Container Terminal Expansion and modernization. The Navy does not have any comments.

Should you have any further questions, our point of contact is Mr. John Muraoka of the Regional Environmental Coordinator's Office, at (808) 473-0384, or via e-mail at john.muraoka@navy.mil.

Sincerely,

A. Y. POENTIS
Director,
Regional Environmental Department
By direction of the
Commander

Copy to: Belt Collins Hawaii LLC

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GOVERNOR

GLENN M. OKIMOTO
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June 26, 2013

Mr. A. Y. Poentis, Director
Regional Environmental Department
Department of the Navy
NAVFAC Hawai'i
850 Ticonderoga Street, Suite 110
JBPHH, Hawai'i 96860-5101

Dear Mr. Poentis:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, O'ahu, Hawai'i

Thank you for your letter dated February 5, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

We appreciate your participation in the Draft EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

13.0579

U.S. Department of Homeland Security
United States Coast Guard

Commander
United States Coast Guard
Sector Honolulu

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16600
January 26, 2013

Mr. Carter Luke, Engineering Program Manager
State of Hawai'i Department of Transportation, Harbors Division
79 S. Nimitz Highway
Honolulu, HI 96813

Dear Mr. Luke:

We have completed our review of the Draft Environmental Impact Statement Tax Map Key: Kapalama Site. We understand that the project, as proposed, would have minimal impact on waterborne commerce or the navigable waters of Honolulu Harbor. As such, we have no objections to the project moving ahead as proposed in the Draft Environmental Impact Statement dated December 2012.

Should the scope of the project change, it is requested that you contact this office for further review and determination.

My point of contact regarding this matter is LCDR Scott Whaley. He can be reached at (808) 522-8264 ext. 352.

Sincerely,

J. M. NUNAN
Captain, U.S. Coast Guard
Captain of the Port

HARBORS DIVISION 13 JAN 29 A11 :35

Copy: Mr. Glen Koyama, Project Manager
CGD Fourteen(d, dp, dpw)

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June 26, 2013

Captain Shannon N. Gilreath, Commander
United States Coast Guard
Sector Honolulu
400 Sand Island Parkway
Honolulu, Hawai'i 96819

Dear Captain Gilreath:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, O'ahu, Hawai'i

Thank you for your letter dated January 26, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

We appreciate your participation in the Draft EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

State of Hawaii Agencies

Comment and Response Letters

HOUSE OF REPRESENTATIVES

STATE OF HAWAII
STATE CAPITOL
HONOLULU, HAWAII 96813

February 5, 2013

Mr. Glen Koyama
Project Manager
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819

Kapalama Container Terminal EIS Comment

Dear Mr. Koyama:

I am writing with regards to the proposed development of a new container terminal on the former Kapalama Military Reservation property in Honolulu Harbor. I would like to express my concerns about the potential noise from the terminal and how it would affect neighboring residents. I understand the importance of expanding the capacity of the existing container terminals and realize expansion has island-wide and State-wide implications. I also understand the noise from lowering containers onto ships can be heard for hundreds of yards if not farther and that loading can occur at any time of day or night.

Residents of Kalihi Kai are essentially being asked to take one for the team. The benefits of the expansion accrue to all the residents of the State (including Kalihi Kai residents), but the negative impacts affect only Kalihi Kai residents. If area residents are subjected to loud noise especially at night when they are trying to sleep, the impact is significant. Lack of or interruption of sleep results in poor health, poor job performance and lower pay. On an ongoing basis, this is not a minor inconvenience but a major disruption of area residents' lives.

If this project is as important as I have been led to believe, then making sure area residents are either effectively shielded from the noise or adequately compensated for

Karl Rhoads ~ Chair, Committee on Judiciary
District 29: Palama, Chinatown, Iwilei, Kalihi
State Capitol, Room 302 – Honolulu, Hawaii 96813
Phone: 586-6180
E-Mail: reprhoads@capitol.hawaii.gov
Koyama EIS Kapalama Container Terminal 020513 / Letters 2013

relocation is essential. This will be an expensive proposition, but if the project is really necessary then the State and its residents need to be willing to pay the full price of the project, not just the price associated with construction, but the price of mitigating negative side effects as well.

There is also a social justice issue involved here, too. Kalihi Kai is certainly not a wealthy neighborhood. It seems unlikely that the State would propose a project with the kind of potential for noise this one has if it were. The negative side effects of the State's need for terminal capacity should not be placed solely on the backs of the residents of a poorer neighborhood.

Mahalo for reviewing my comments. Please do not hesitate to contact me should you have any questions.

With warmest aloha,

Karl Rhoads

KR: ab

Karl Rhoads ~ Chair, Committee on Judiciary
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HAR-EP
3599.13

June 26, 2013

The Honorable Representative Karl Rhoads
House District 29
Hawaii State Capitol, Room 302
Honolulu, Hawai‘i 96813

Dear Representative Rhoads:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, O‘ahu, Hawai‘i

Thank you for your letter dated February 5, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

In response to your comments on the Draft EIS, we provide the following.

We understand the concern that noise may be heard by residents near the proposed Kapālama Container Terminal and that this noise might be noticeable at night when ambient noise levels are lower. We commissioned noise consultant Y. Ebisu & Associates to study the acoustical effects of the proposed project and to recommend noise attenuation measures, if necessary, to reduce or minimize any probable significant effects. The results of that study are provided in Section 3.12 of the Draft EIS.

After collecting noise readings from existing operators in the harbor to establish basic noise data and modeling the noise data and projections to simulate the anticipated effects from the proposed Kapālama Container Terminal, the acoustical consultant concluded that the noise generated by operations and equipment in the proposed project would not exceed the State Department of Health noise regulatory limits at the nearest residences. Should it be determined after

construction that lower audible noise levels are required, various operational mitigation measures are available for implementation that may possibly include:

1. Use of the quietest equipment available which also meet operational requirements.

2. Use of sound attenuation kits on diesel engines for the gantry cranes or replacement of the diesel engines with utility power from Hawaiian Electric Company.

3. Replacement of beeper-type backup alarms with broadband noise backup alarms on the trucks and container lift vehicles.

It should be noted that full build-out and operations at the Kapālama Container Terminal is projected to occur over a number of years and, as a result, the full impact from the project is not expected to occur until that time.

Regarding social justice, it should be noted that the former-Kapālama Military Reservation site where the project is located has a history of maritime use. The former off-shore lands were filled in the 1920s for harbor improvements. During the 1940s, the U.S. Army took control of the site as a warehouse storage and staging area in Honolulu Harbor for the World War II effort. After the war and more recently, the State of Hawai‘i took over the former-Kapālama Military Reservation and maintained its function as storage, industrial and maritime use.

Kalihi Kai, although once a residential community, has been transformed into an industrial district benefitting from its location near the harbor. City zoning for Kalihi Kai currently shows I-2 Intensive Industrial. Under this zoning, land uses consisting of industrial facilities and their associated activities are permitted. New residential uses are not permitted. Existing residential uses are non-conforming.

The proposed Kapālama Container Terminal is located in a designated industrial zone (I-3 Waterfront Industrial) and a long-established maritime section of Honolulu Harbor. Other factors that contributed to the selection of the Kapālama property for the container terminal are the site's adequate size and proximity to the waterfront. The presence of residences for low-income households is not a factor in the location of the proposed container terminal. Even if Kalihi Kai were occupied by high-rise luxury condominiums, the harbor project would still be proposed at the same site.

The Kalihi-Pālama Action Plan (2004) also supports the harbor as a valuable port facility:

> These port facilities should be maintained for maritime uses and not developed for retail commercial or residential uses, except for the areas near downtown

Honolulu. Streets should be improved to accommodate large vehicles and to provide adequate parking and walkways for both businesses and residents. Overhead utilities should also be placed underground and infrastructure upgraded to current standards. The State's *O'ahu Commercial Harbors 2020 Master Plan* should be implemented.

The proposed project supports the Kalihi-Palama Action Plan in developing the Honolulu Harbor waterfront for maritime uses.

We appreciate your participation in the EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

February 4, 2013

Mr. Carter Luke, Engineering Program Manager
State of Hawai`i, Department of Transportation, Harbors Division
79 S. Nimitz Highway
Honolulu, Hawai`i 96813 via email to: Carter.Luke@hawaii.gov

Dear Mr. Luke,

SUBJECT: Kapalama Container Terminal – Draft Environmental Impact Statement

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR) Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comments.

At this time, enclosed are comments from the (1) Land Division – Oahu District; (2) Division of Boating and Ocean Recreation; (3) Office of Conservation and Coastal Lands; (4) Division of State Parks; (5) Engineering Division; and (6) Division of Aquatic Resources, on the subject matter. No other comments were received as of our suspense date. Should you have any questions, please feel free to call Supervising Land Agent Steve Molmen at 587-0439. Thank you.

Sincerely,

Russell Y. Tsuji
Land Administrator

Enclosure(s)

c: Belt Collins Hawaii LLC (via email)
Attn: Glen Koyama

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

December 20, 2012

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
__ Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Kapalama Container Terminal – Draft Environmental Impact Statement (DEIS)
LOCATION: Tax Map Key: Kapalama Site: 1-2-25: 02, 09, 12, 16, 17, 30, 40, 42, 44 to 47, 49 to 53, 55, 58 to 68, 71, 73, 74 to 80, 82, 83, 86, 88, 92, 94, 97, 98, 108 to 112, and portions of 11 and 54; and 1-5-32: portions of 2 and 43. Pier 24-28 Site: 1-5-38: 11, 17, 55, 72, 73, 74, and portions of 1, 4 and 5; Honolulu, O`ahu, Hawai`i
APPLICANT: Belt Collins Hawaii LLC for State of Hawaii, Department of Transportation, Harbors Division

Transmitted for your review and comment on the above-referenced document. If we have not provided you with a courtesy copy of the CD, the DEIS is available at the OEQC website and also at www.kapalamaeis.com per the letter. We would appreciate your comments on this document. Please submit any comments by February 1, 2013.

If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

(✓) We have no objections.
(✓) We have no comments.
( ) Comments are attached.

Signed: Tchee
Print Name: Timmy Cha
Date: 12/24/12

cc: Central Files

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

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LAND DIVISION
2012 DEC 26 PM 2:52
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

December 20, 2012

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
__ Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division Oahu District
X Historic Preservation

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LOCATION: Tax Map Key: Kapalama Site: 1-2-25: 02, 09, 12, 16, 17, 30, 40, 42, 44 to 47, 49 to 53, 55, 58 to 68, 71, 73, 74 to 80, 82, 83, 86, 88, 92, 94, 97, 98, 108 to 112, and portions of 11 and 54; and 1-5-32: portions of 2 and 43. Pier 24-28 Site: 1-5-38: 11, 17, 55, 72, 73, 74, and portions of 1, 4 and 5; Honolulu, O`ahu, Hawai`i
APPLICANT: Belt Collins Hawaii LLC for State of Hawaii, Department of Transportation, Harbors Division

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Attachments

( ) We have no objections.
(X) We have no comments.
( ) Comments are attached.

Signed: [signature]
Print Name: Edward R. Underwood
Date: 12/26/12

cc: Central Files

DEC26'12 AM 6:44 BOR DIV

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

RECEIVED
LAND DIVISION
2012 DEC 28 AM 10:05
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

WILLIAM J. AILA, JR
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ESTHER KIA'AINA
FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

REF:OCCL:TM

Correspondence: OA 13-68

DEC 27 2012

Glen Koyama
Belt Collins Hawaii LLC.
2153 North King Street, Suite 200
Honolulu, HI 96819-4554

SUBJECT: Draft Environmental Impact Statement (EIS) for the Proposed Kapalama Container Terminal and Pier 24-28 Located at Honolulu, Oahu

Dear Mr. Koyama:

The Office of Conservation and Coastal Lands (OCCL) has reviewed the subject matter and notes that proposed improvements (dredging, filling and waterfront piers) within the Conservation District located at the former Kapalama Military Reserve site would require the filing of a Conservation District Use Application for a Board Permit under the identified land use, Public Purpose, pursuant to the Hawaii Administrative Rules, §13-5-22, P-8.

Proposed improvements located at Pier 24-28 appears to qualify as repair/maintenance to the established use of the area as a DOT-Harbor. The OCCL has no objections to these improvements for the continued use as piers.

Potential cultural impacts should be discussed more in the EIS pursuant to the Hawaii State Constitution, Art. XII, §7; Art. XI §§1 and 9, and the Ka Pa`akai v. Land Use Commission decision of the Hawai`i Supreme Court. Specifically the identity and scope of cultural historical and natural resources in which traditional and customary native Hawaiian rights are exercised in the area; the extent to which those resources, including tradition and customary Native Hawaiian rights will be affected or impaired by the proposed action and what feasible action if any could be taken to reasonably protect native Hawaiian rights.

For your information, recent approvals by the Board of Land and Natural Resources (Board) in the near vicinity include CDUP OA-3494 [May 8, 2009] for the Honolulu Marine Shipyard on a portion of submerged land located makai of the project site on TMK: (1) 1-2-025:24; CDUP OA-3566 [February 11, 2011] for the Dual Force Main System of the Ala Moana Wastewater Pump Station (Force Mains #3 and #4) that includes directional drilling under Fort Armstrong Channel and CDUP OA-3579 [June 23, 2011] for the Honolulu Sea Water Air Conditioning Project located upon submerged land, makai of Kakaako Waterfront Park, offshore of plat (1) 2-1-060 and temporary use of Channel D of Ke`ehi Lagoon. Coordination may be required as these authorized improvements may occur concurrently.

Glen Koyama
Belt Collins Hawaii LLC.

Correspondence: OA 13-68

As previously stated in our past correspondence to you, to define the Conservation District, you may wish to seek a boundary interpretation from the State Land Use Commission. Should you have any questions regarding this correspondence, contact Tiger Mills of our Office at (808) 587-0382.

Sincerely,

Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

C: ODLO
C&C of Honolulu, DPP

55483

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

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2012 DEC 28 PM 3:06
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STATE OF HAWAII

December 20, 2012

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
__ Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Kapalama Container Terminal – Draft Environmental Impact Statement (DEIS)
LOCATION: Tax Map Key: Kapalama Site: 1-2-25: 02, 09, 12, 16, 17, 30, 40, 42, 44 to 47, 49 to 53, 55, 58 to 68, 71, 73, 74 to 80, 82, 83, 86, 88, 92, 94, 97, 98, 108 to 112, and portions of 11 and 54; and 1-5-32: portions of 2 and 43. Pier 24-28 Site: 1-5-38: 11, 17, 55, 72, 73, 74, and portions of 1, 4 and 5; Honolulu, O`ahu, Hawai`i
APPLICANT: Belt Collins Hawaii LLC for State of Hawaii, Department of Transportation, Harbors Division

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If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

(X) We have no objections.
(✓) We have no comments.
( ) Comments are attached.

Signed:
Print Name: Daniel S. Quinn
Date: 12/27/12

cc: Central Files

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

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December 20, 2012

'12 DEC 21 PM 2:32 RECEIVED LAND DIVISION

2013 JAN 10 PM 1:29
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

MEMORANDUM

TO: FR: DLNR Agencies:
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
__ Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

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SUBJECT: Kapalama Container Terminal – Draft Environmental Impact Statement (DEIS)
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Attachments

( ) We have no objections.
( ) We have no comments.
(✓) Comments are attached.

Signed: [signature]
Print Name: Carty S. Chang, Chief Engineer
Date: 1/10/13

cc: Central Files

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/SteveMolmen
Ref: DEISKapalamaContainerTerminal
Oahu.916

COMMENTS

(X) **We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zones X and AE. The National Flood Insurance Program does not have any regulations for developments within Zone X, however, it does regulate developments within Zone ~~AH~~ AE as indicated in bold letters below.**

( ) Please take note that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Zone.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is ___.

(X) **Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.**

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

- **(X) Mr. Mario Siu Li at (808) 768-8098 or Ms. Ardis Shaw-Kim at (808) 768-8296 of the City and County of Honolulu, Department of Planning and Permitting.**
- ( ) Mr. Frank DeMarco at (808) 961-8042 of the County of Hawaii, Department of Public Works.
- ( ) Ms. Carolyn Cortez at (808) 270-7813 of the County of Maui, Department of Planning.
- ( ) Ms. Wynne Ushigome at (808) 241-4980 of the County of Kauai, Department of Public Works.

( ) The applicant should include water demands and infrastructure required to meet project needs. Please note that projects within State lands requiring water service from the Honolulu Board of Water Supply system will be required to pay a resource development charge, in addition to Water Facilities Charges for transmission and daily storage.

( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.

( ) Additional Comments: ______________________________

( ) Other: ______________________________

Should you have any questions, please call Ms. Suzie Agraan of the Planning Branch at 587-0258.

Signed: [signature]
CARTY S. CHANG, CHIEF ENGINEER

Date: 1/10/13

1-7-13

JK

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

WILLIAM J. AILA, JR.
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

4593

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

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2013 JAN 24 PM 3:48
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STATE OF HAWAII

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DEC 21 2012

December 20, 2012

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources
X Div. of Boating & Ocean Recreation
X Engineering Division
__ Div. of Forestry & Wildlife
X Div. of State Parks
X Commission on Water Resource Management
X Office of Conservation & Coastal Lands
X Land Division – Oahu District
X Historic Preservation

FROM: Russell Y. Tsuji, Land Administrator
SUBJECT: Kapalama Container Terminal Draft Environmental Impact Statement (DEIS)
LOCATION: Tax Map Key: Kapalama Site: 1-2-25: 02, 09, 12, 16, 17, 30, 40, 42, 44 to 47, 49 to 53, 55, 58 to 68, 71, 73, 74 to 80, 82, 83, 86, 88, 92, 94, 97, 98, 108 to 112, and portions of 11 and 54; and 1-5-32: portions of 2 and 43. Pier 24-28 Site: 1-5-38: 11, 17, 55, 72, 73, 74, and portions of 1, 4 and 5; Honolulu, O`ahu, Hawai`i
APPLICANT: Belt Collins Hawaii LLC for State of Hawaii, Department of Transportation, Harbors Division

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If no response is received by this date, we will assume your agency has no comments. If you have any questions about this request, please contact Supervising Land Agent Steve Molmen at (808) 587-0439. Thank you.

Attachments

( ) We have no objections.
( ) We have no comments.
(X) Comments are attached.

Signed:
Print Name: Robert T. Nishimoto
Date: 23 Jan 2013

cc: Central Files

Suspense Date: 02/01/2013

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Aquatic Resources
Honolulu, Hawaii

MEMORANDUM

To: Robert Nishimoto, Program Manager
Environment and Resource Protection
Division of Aquatic Resources

From: Jo-Anne N. Kushima, Aquatic Biologist

Subject: Draft Environmental Impact Statement (DEIS)
Kapalama Container Terminal

Comments Requested By: Russell Y. Tsuji, Land Administrator

Date of Request: 12/20/12 Date Received: 01/07/13

Summary of Project

Title: DEIS Kapalama Container Terminal

Proj. By: Belt Collins Hawaii LLC for
State Department of Transportation, Harbors Division

Location: Honolulu, Oahu

Brief Description:

The Department of Transportation, Harbors Division proposes to develop a new overseas container terminal in Honolulu Harbor to increase the port's existing container terminal capacity to accommodate projected future cargo volumes. Because State funds and lands are being used, the Kapalama Container Terminal Environmental Impact Statement (EIS) is required.

The site for the new container terminal is approximately 94 acres. Support buildings, entry and exit gates, security fencing, parking, gantry cranes and container-handling equipment, on-site utilities, potential off-site associated utilities and entry/exit intersection improvements, outdoor lighting, and other ancillary facilities will be constructed during the project.

On the waterfront, a pier with berthing for 2 container ships would be constructed. Dredging to widen the slips to accommodate the additional cargo ships as well as additional improvements to accommodate maritime-dependent operators currently at Kapalama are also included in the development project.

Comments:

The proposed construction along the waterfront and in the harbor could significantly and adversely impact certain aquatic species and the habitat that are established and/or adapted to the current marine environment in the manmade harbor.

Coral would be removed and the habitat that it provided for fish would be eliminated until natural re-colonization occurred. Another concern is that fragmentation of biological material, including invasive species could disperse to areas outside the harbor and become established. There would also be disturbance to green sea turtles who may be in the area during pile driving.

Impacts on marine biota would be avoided/minimized by compliance with existing management measures, including regulatory requirements and standard operating procedures. The proposed action would enable DOA to develop a biosecurity facility, to support efforts to mitigate invasive species.

Mitigation measures for in-water construction impacts would be developed during the ESA Section 7 and Magnuson-Stevens Act EFH consultations and USACE permitting process.

Thank you for providing us the opportunity to review and comment on the above proposed project.

NEIL ABERCROMBIE
GOVERNOR

GLENN M OKIMOTO
DIRECTOR

Deputy Directors
JADE T BUTAY
FORD N FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

HAR-EP
3582.13

June 26, 2013

TO: MR. RUSSELL Y. TSUJI, LAND ADMINISTRATOR
DEPARTMENT OF LAND AND NATURAL RESOURCES

FROM: GLENN M. OKIMOTO, PH.D.
DIRECTOR OF TRANSPORTATION

SUBJECT: KAPĀLAMA CONTAINER TERMINAL DRAFT ENVIRONMENTAL IMPACT STATEMENT, HONOLULU HARBOR, O'AHU, HAWAI'I

Thank you for your letter dated February 4, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In this updated Draft EIS version, we will address your comments on aquatic resources, invasive species, bio-security facilities, National Flood Insurance Program/Flood Insurance Rate Maps, Conservation District and cultural resources as were discussed in the previous document. For the reader's quick reference and convenience, we will summarize in the Introduction Section of the updated Draft EIS all major changes that were incorporated in the document.

We appreciate your participation in the EIS review process and look forward to your continued involvement in this very important State project.

STATE OF HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAI'I 96809

REF:OCCL:TM

Correspondence: OA 13-68

DEC 27 2012

Glen Koyama
Belt Collins Hawaii LLC.
2153 North King Street, Suite 200
Honolulu, HI 96819-4554

SUBJECT: Draft Environmental Impact Statement (EIS) for the Proposed Kapalama Container Terminal and Pier 24-28 Located at Honolulu, Oahu

Dear Mr. Koyama:

The Office of Conservation and Coastal Lands (OCCL) has reviewed the subject matter and notes that proposed improvements (dredging, filling and waterfront piers) within the Conservation District located at the former Kapalama Military Reserve site would require the filing of a Conservation District Use Application for a Board Permit under the identified land use, Public Purpose, pursuant to the Hawaii Administrative Rules, §13-5-22, P-8.

Proposed improvements located at Pier 24-28 appears to qualify as repair/maintenance to the established use of the area as a DOT-Harbor. The OCCL has no objections to these improvements for the continued use as piers.

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For your information, recent approvals by the Board of Land and Natural Resources (Board) in the near vicinity include CDUP OA-3494 [May 8, 2009] for the Honolulu Marine Shipyard on a portion of submerged land located makai of the project site on TMK: (1) 1-2-025:24; CDUP OA-3566 [February 11, 2011] for the Dual Force Main System of the Ala Moana Wastewater Pump Station (Force Mains #3 and #4) that includes directional drilling under Fort Armstrong Channel and CDUP OA-3579 [June 23, 2011] for the Honolulu Sea Water Air Conditioning Project located upon submerged land, makai of Kakaako Waterfront Park, offshore of plat (1) 2-1-060 and temporary use of Channel D of Ke`ehi Lagoon. Coordination may be required as these authorized improvements may occur concurrently.

As previously stated in our past correspondence to you, to define the Conservation District, you may wish to seek a boundary interpretation from the State Land Use Commission. Should you have any questions regarding this correspondence, contact Tiger Mills of our Office at (808) 587-0382.

Sincerely,

Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

C: ODLO
C&C of Honolulu, DPP

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

HAR-EP
3585.13

June 26, 2013

TO: MR. SAMUEL J. LEMMO, ADMINISTRATOR
OFFICE OF CONSERVATION AND COASTAL LANDS
DEPARTMENT OF LAND AND NATURAL RESOURCES

FROM: GLENN M. OKIMOTO, PH.D.
DIRECTOR OF TRANSPORTATION

SUBJECT: KAPĀLAMA CONTAINER TERMINAL DRAFT ENVIRONMENTAL IMPACT STATEMENT, HONOLULU HARBOR, O'AHU, HAWAI'I

Thank you for your letter dated December 27, 2012, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

In response to your comments on the Draft EIS, we provide the following:

On January 23, 2013, Glen Koyama of Belt Collins Hawaii and Dean Watase of my staff met with Tiger Mills of your staff to discuss the Office of Conservation and Coastal Land's (OCCL) comments on the Draft EIS. We acknowledge that until very recently, a Conservation District Use Permit (CDUP) would have been required for this project. However, the Governor of Hawaii has signed Senate Bill 1207 that exempts capital improvement projects in State commercial harbors from the CDUP process. The Draft EIS, Version 2, will include this new understanding.

In response to the suggestion that the potential cultural impacts from the project be discussed more in the Draft EIS, we explained to Ms. Mills that the nine-page section on Cultural Resources described our best efforts to consult with cultural resources and informants on the project area. The available contacts were limited but efforts were made to reach them. Ms. Mills indicated that she now understands we made the effort.

Mr. Samuel J. Lemmo, Administrator
June 26, 2013
Page 2

HAR-EP
3585.13

We thank you for identifying projects in and near Honolulu Harbor that were recently approved by the Board of Land and Natural Resources. We will update the Draft EIS to evaluate the potential impacts from those projects on our Kapālama project.

We appreciate your participation in the EIS review process and look forward to your continued involvement in this very important State project.

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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2013 MAR -8 PM 12: 36

BELT COLLINS HAWAII

LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
DOH/CWB

03016PST.13

March 6, 2013

Mr. Carter Luke
Engineering Program Manager
Harbors Division
Department of Transportation
State of Hawaii
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Luke:

SUBJECT: Comments on the Draft Environmental Impact Statement (DEIS) for the Kapalama Container Terminal, Pier 24-28 Project Honolulu, Island of Oahu, Hawaii

The Department of Health (DOH), Clean Water Branch (CWB), has reviewed the subject document and has no comments at this time. The DOH-CWB provided comments on the Environmental Impact Statement Preparation Notice for this project (Letter No. 12020PDCL.11, dated December 22, 2011).

Please note that our review is based solely on the information provided in the subject document and its compliance with Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at: http://hawaii.gov/health/environmental/env-planning/wqm/landuse/landuse.html/CWB-standardcomment.pdf.

If you have any questions, please visit our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/index.html, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

Alec Wong

ALEC WONG, P.E., CHIEF
Clean Water Branch

ST:jst

c: DOH-EPO [via e-mail only]
✓ Mr. Glen Koyama, Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
EMD/CWB

03037PJF.13

March 11, 2013

Mr. Carter Luke
Program Manager
Harbor Division
Department of Transportation
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Luke:

SUBJECT: Comments on the Draft Environmental Impact Statement for the Kapālama Container Terminal Project Honolulu, Island of Oahu, Hawaii

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of your letter, dated December 19, 2012, requesting comments on your project. The DOH-CWB has reviewed the subject document and offers these comments. Please note that our review is based solely on the information provided in the subject document and its compliance with the Hawaii Administrative Rules (HAR), Chapters 11-54, and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at: http://www.hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf.

1. Any project and its potential impacts to State waters must meet the following criteria:

   a. Anti-degradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

   b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

   c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. You may be required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). An application for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. To request NPDES permit coverage, you must submit the CWB Individual

Mr. Carter Luke
March 11, 2013
Page 2

03037PJF.13

NPDES Form through the e-Permitting Portal and the hard copy certification statement with $1,000 filing fee. Please open the e-Permitting Portal website at: https://eha-cloud.doh.hawaii.gov/epermit/View/home.aspx. You will be asked to do a one-time registration to obtain your login and password. After you register, click on the Application Finder tool and locate the "CWB Individual NPDES Form." Follow the instructions to complete and submit this form.

3. If your project involves work in, over, or under waters of the United States, it is highly recommended that you contact the Army Corp of Engineers, Regulatory Branch (Tel: 438-9258) regarding their permitting requirements.

   Pursuant to Federal Water Pollution Control Act [commonly known as the "Clean Water Act" (CWA)], Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters..." (emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40 of the Code of Federal Regulations, Section 122.2; and HAR, Chapter 11-54.

4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Non-compliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.

If you have any questions, please visit our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/index.html, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

Alec Wong

ALEC WONG, P.E., CHIEF
Clean Water Branch

JF:np

c: Mr. Glen Koyama, Belt Collins Hawaii LLC [via e-mail honolulu@beltcollins.com only]
DOH-EPO #12-234 [via e-mail only]

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
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GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

HAR-EP
3583.13

June 26, 2013

TO:	MR. ALEC WONG, P.E., CHIEF CLEAN WATER BRANCH DEPARTMENT OF HEALTH
FROM:	GLENN M. OKIMOTO, PH.D. DIRECTOR OF TRANSPORTATION
SUBJECT:	KAPĀLAMA CONTAINER TERMINAL DRAFT ENVIRONMENTAL IMPACT STATEMENT, HONOLULU HARBOR, OʻAHU, HAWAIʻI

Thank you for your letters dated March 6 and 11, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, we will address your comments on compliance with applicable Department of Health water quality standards, Clean Water Act provisions, and National Pollutant Discharge Elimination System requirements. For the reader's quick reference and convenience, we will summarize in the Introduction Section of the updated Draft EIS all major changes that were incorporated in the Version 2 document.

We appreciate your participation in the EIS review process and look forward to your continued involvement in this very important State project.

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

RECEIVED
2013 JAN -8 AM 11:46
BELT COLLINS HAWAII

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

In reply, please refer to:
File:
12-234
DEIS Kapalama

December 31, 2012

TO: Carter Luke, Engineering Program Manager
Department of Transportation, Harbors Division

FROM: Laura McIntyre, Program Manager
Department of Health, Environmental Planning Office

SUBJECT: Kapalama Container Terminal – Draft Environmental Impact Statement
Tax Map Key: Kapalama Site: 1-2-25: 02, 09, 12, 16, 17, 30, 40, 42, 44 to 47, 49 to 53, 55, 58 to 68, 71, 73, 74 to 78, 80, 82, 83, 86, 88, 92, 94, 97, 98, 108 to 112, and portions of 11 and 54: and 1-5-32: portions of 2 and 43.
Pier 24-28 Site: 1-5-38: 11, 17, 55, 72, 73, 74, and portions o1, 4 and 5.
Honolulu, Oahu, Hawaii

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your letter dated December 19, 2012. Thank you for allowing us to review and comment on the subject document. The document was routed to the relevant Environmental Health divisions and offices. They will provide specific comments to you if necessary. EPO recommends that you review the Standard Comments (www.hawaii.gov/health/epo under the land use tab). You are required to adhere to all Standard Comments specifically applicable to this application.

EPO suggests that you examine the many sources available on strategies to support the sustainable design of communities, including the:
U.S. Environmental Protection Agency's sustainability programs: www.epa.gov/sustainability
U.S. Green Building Council's LEED program: www.new.usgbc.org/leed

The DOH encourages everyone to apply these sustainability strategies and principles early in the planning and review of projects. We also request that for future projects you consider conducting a Health Impact Assessment (HIA). More information is available at www.cdc.gov/healthyplaces/hia.htm. We request you share all of this information with others to increase community awareness on sustainable, innovative, inspirational, and healthy community design.

We request a written response confirming receipt of this letter and any other letters you receive from DOH in regards to this submission. You may mail your response to 919 Ala Moana Blvd., Ste. 312, Honolulu, Hawaii 96814. However, we would prefer an email submission to epo@doh.hawaii.gov. We anticipate that our letter(s) and your response(s) will be included in the final document. If you have any questions, please contact me at (808) 586-4337.

c: ✓ Mr. Glen Koyama, Project Manager
Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

HAR-EP
3584.13

June 26, 2013

TO: MS. LAURA MCINTYRE, PROGRAM MANAGER
ENVIRONMENTAL PLANNING OFFICE
DEPARTMENT OF HEALTH

FROM: GLENN M. OKIMOTO, PH.D.
DIRECTOR OF TRANSPORTATION

SUBJECT: KAPĀLAMA CONTAINER TERMINAL DRAFT ENVIRONMENTAL IMPACT STATEMENT, HONOLULU HARBOR, O'AHU, HAWAI'I

Thank you for your letter dated December 31, 2012, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

In response to your comments on the Draft EIS, we provide the following.

1. Regarding your comment on examining strategies to support the sustainable design of communities, we have reviewed various sources on sustainable resources with their application to public work projects, and their use is a consideration in our current project design.

2. We will consider conducting a Health Impact Assessment for future projects if appropriate for the proposed action.

We appreciate your participation in the EIS review process and look forward to your continued involvement in this very important State project.

NEIL ABERCROMBIE
GOVERNOR
RICHARD C. LIM
DIRECTOR
MARY ALICE EVANS
DEPUTY DIRECTOR
JESSE K. SOUKI
DIRECTOR
OFFICE OF PLANNING

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

RECEIVED
2013 FEB -7 PM 12: 50
BELT COLLINS HAWAII

OFFICE OF PLANNING
235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804
Telephone: (808) 587-2846
Fax: (808) 587-2824

Ref. No. P-13867

February 6, 2013

To: Carter Luke, Engineering Program Manager
Harbors Division
Department of Transportation

From: Jesse K. Souki, Director

Subject: Kapalama Container Terminal
Draft Environmental Impact Statement

Thank you for the opportunity to provide comments on the Draft Environmental Impact Statement (DEIS) for the Kapalama Container Terminal project located in Honolulu, Oahu, Hawaii.

Upon review of the DEIS, the Office of Planning has the following comments to offer:

1. Page 5-1 to 5-3 of the DEIS discusses the relationship relationship of the proposed project to federal laws and executive orders. We note that Section 5.3.1 of the DEIS should include a reference to the Coastal Zone Management (CZM) Federal Consistency Review which is triggered by requirements for federal permits (i.e., permits from the U.S. Army Corps of Engineers).

   The DEIS indicates that the proposed project may trigger permits from federal agencies; consequently, a CZM Federal Consistency Review may be required for the proposed project. Pre-application consultation for the CZM review is encouraged. Please contact John Nakagawa of the Hawaii CZM Program at 587-2878, for further information.

2. Page 5-26 of the DEIS discusses the 2006 Hawaii Ocean Resources Management Plan (ORMP). We note that the ORMP introduced a new approach to natural and cultural resource management - one that is integrated in nature with guiding principles, management goals, and strategic actions to be taken by various federal, state, and county agencies, in order to effectively manage Hawaii's coastal and ocean resources. As stated on Page 5-26, lines 27-29, while it is with good intentions that the objectives and goals of the ORMP be addressed in environmental assessments and impact statements, this is not required under state laws and regulations.

   However, the DEIS currently lacks a discussion of the manner in which the proposed project is consistent with the objectives and policies of the Hawaii CZM Act (Hawaii Revised Statutes (HRS) Chapter 205A). We note that the entire state is defined to be within the Coastal Zone Management Area (HRS §205A-1 - definition of "coastal zone management area"). Further, HRS §205A-4 states that state and county agencies shall give full consideration of the objectives and policies of HRS Chapter 205A (found at HRS §205A-2), and that the objectives and policies shall be binding upon actions within the coastal zone management area by all agencies, within the scope of their authority.

   Therefore, the Final Environmental Impact Statement should include a discussion of the proposed project's consistency with the objectives and policies set forth in HRS §205A-2.

Should you have questions or require clarification on the above comments, please contact Leo Asuncion, Planning Program Manager, Coastal Zone Management Program, at 587-2875.

c: √Mr. Glen Koyama, Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

HAR-EP
3581.13

June 26, 2013

TO: MR. JESSE K. SOUKI, DIRECTOR
OFFICE OF PLANNING
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

FROM: GLENN M. OKIMOTO, PH.D.
DIRECTOR OF TRANSPORTATION

SUBJECT: KAPĀLAMA CONTAINER TERMINAL DRAFT ENVIRONMENTAL IMPACT STATEMENT, HONOLULU HARBOR, O'AHU, HAWAI'I

Thank you for your letter dated February 6, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

In response to your comments on the Draft EIS, we provide the following

The text of the document will be revised to address the two points raised in your letter, i.e , that a Coastal Zone Management (CZM) Federal Consistency Review may be needed, and that the conformity of the Proposed Action with Hawaii Revised Statutes (HRS) Chapter 205A should be addressed. The following changes will be incorporated:

[in Section 5.3.1, an additional bullet:]

- CZM Federal Consistency Review*

[in Section 5.8, new text and table, replacing the existing text.]

The Hawai'i CZM Program was established in 1977 as a result of the CZM Act of 1972 and federal CZM Program. The objectives and policies of the Hawai'i CZM Program, which are intended to manage, develop, and protect resources of the coastal zone, are set forth in HRS Chapter 205A. The CZM area is defined as all lands of the State and all waters extending to the limits of the State's police power. The Office of Planning is the lead agency responsible for conducting a continuing review of actions by State and county agencies for compliance with HRS 205A. Key objectives and policies of the CZM statute are summarized in Table 5-*.

Table 5-*. Coastal Zone Management – HRS Chapter 205A

SECTION	CHAPTER 205A - 2 Objectives and Policies	RATING
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE		
(1)	**Recreational Resources;**	
Obj.	Provide coastal recreational opportunities accessible to the public.	NA
Obj.	Improve coordination and funding of coastal recreational planning and management; and	NA
Obj.	Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area.	NA
(2)	**Historic Resources;**	
Obj.	Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.	C
Obj.	Identify and analyze significant archaeological resources;	C
Obj.	Maximize information retention through preservation of remains and artifacts or salvage operations.	NA
Obj.	Support state goals for protection, restoration, interpretation, and display of historic resources.	NA
(3)	**Scenic and Open Space Resources;**	
Obj.	Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.	C
Obj.	Identify valued scenic resources in the coastal zone management area.	NA
Obj.	Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline.	C
Obj	Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources.	C
Obj	Encourage those developments that are not coastal dependent to locate in inland areas.	C
(4)	**Coastal Ecosystems;**	
Obj.	Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.	C

Table 5-*. Coastal Zone Management – HRS Chapter 205A

SECTION	CHAPTER 205A - 2 Objectives and Policies	RATING
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE		
Obj.	Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources.	C
Obj.	Improve the technical basis for natural resource management;	NA
Obj.	Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance.	C
Obj.	Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs.	NA
Obj.	Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.	NA
(5)	**Economic Uses;**	
Obj.	Provide public or private facilities and improvements important to the State's economy in suitable locations.	A
Obj.	Concentrate coastal dependent development in appropriate areas.	A
Obj.	Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area.	A
Obj.	Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when: (i) Use of presently designated locations is not feasible; (ii) Adverse environmental effects are minimized; and (iii) The development is important to the State's economy.	A
(6)	**Coastal Hazards;**	
Obj.	Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.	NA
Obj	Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards	NA
Obj	Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards.	C
Obj	Ensure that developments comply with requirements of the Federal Flood Insurance Program.	C

Table 5-*. Coastal Zone Management – HRS Chapter 205A

SECTION	CHAPTER 205A - 2 Objectives and Policies	RATING
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE		
Obj.	Prevent coastal flooding from inland projects.	NA
(7)	**Managing Development;**	
Obj.	Improve the development review process, communication, and public participation in the management of coastal resources and hazards.	C
Obj.	Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development.	NA
Obj.	Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements.	NA
Obj.	Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.	C
(8)	**Public Participation;**	
Obj.	Promote public involvement in coastal zone management Processes.	C
Obj.	Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities.	C
Obj.	Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.	NA
(9)	**Beach Protection;**	
Obj.	Stimulate public awareness, education, and participation in coastal management.	NA
Obj.	Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion.	C
Obj.	Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities.	C
Obj	Minimize the construction of public erosion-protection structures seaward of the shoreline.	C
(10)	**Marine Resources;**	
Obj	Promote the protection, use, and development of marine and coastal resources to assure their sustainability	C
Obj	Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial.	C

Table 5-*. Coastal Zone Management – HRS Chapter 205A

SECTION	CHAPTER 205A - 2 Objectives and Policies	RATING
A = ACTIVELY SUPPORTS C= CONFORMS F = FAILS TO MEET PLAN GOAL NA = GOAL IS NOT APPLICABLE		
Obj.	Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency.	C
Obj.	Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone.	NA
Obj.	Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources.	NA
Obj.	Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.	NA
CONFORMANCE DETERMINATION: The Proposed Action conforms to and supports HRS Section 205A-2 since development of the waterfront container terminal in Honolulu Harbor will conform with various objectives/policies of the Historic Resources, Scenic and Open Space Resources, Coastal Ecosystems, Coastal Hazards, Managing Development, Public Participation, Beach Protection and Marine Resources components and actively support and advance the objectives/policies of the Economic Uses component of the CZM law. The project will comply with Federal and State environmental laws and employ best management practices to protect the coastal and marine environments.		

NOTE: In HRS 205A, objectives are listed for each topic, and the policies are listed separately, by the same topic order. In the above table, they are combined.

We appreciate your participation in the EIS review process and look forward to your continued involvement in this very important State project.

NEIL ABERCROMBIE
GOVERNOR

Dean H. Seki
Comptroller

Maria E. Zielinski
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

DEC 27 2012

(P)1301.2

MEMORANDUM

TO: Mr. Carter Luke, Engineering Program Manager
Department of Transportation, Harbors Division

FROM: Dean H. Seki
Comptroller

SUBJECT: Kapalama Container Terminal
Draft Environmental Impact Statement
Honolulu, Oahu, Hawaii

Thank you for the opportunity to provide comments for the subject project. This project does not impact any of the Department of Accounting and General Services projects or existing facilities in the general area, and we have no comments to offer at this time.

If you have any questions, please call me at 586-0400 or have your staff call Mr. Alva Nakamura of the Public Works Division at 586-0488.

c: Mr. Glen Koyama, Project Manager, Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

HAR-EP
3580.13

June 26, 2013

TO: MR. DEAN H. SEKI, COMPTROLLER
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

FROM: GLENN M. OKIMOTO, PH.D.
DIRECTOR OF TRANSPORTATION

SUBJECT: KAPĀLAMA CONTAINER TERMINAL DRAFT ENVIRONMENTAL IMPACT STATEMENT, HONOLULU HARBOR, OʻAHU, HAWAIʻI

Thank you for your letter dated December 27, 2012, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

We appreciate your participation in the Draft EIS review process and look forward to your continued involvement in this very important State project.

c: DEP-P, DEP-H, HAR, -E, -EP, -ESP
Belt Collins Hawaii LLC

School of Ocean and Earth Science and Technology
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soest

Office of the Associate Dean

2013 FEB 11 PM 12: 57

University of Hawai'i

February 6, 2013

BELT COLLINS HAWAII

To: State of Hawai'i Department of Transportation, Harbors Division
From: Alexander Shor, Associate Dean for Research
School of Ocean and Earth Science & Technology, University of Hawaii at Manoa

Comments by School of Ocean and Earth Science & Technology (SOEST), University of Hawaii at Manoa, on the draft Environmental Impact Statement for the Kapālama Container Terminal dated December 2012.

Our comments relate to the impact on the University of Hawai'I Marine Center, which is managed by our School, and about which a separate document is being prepared by DOT-Harbors. In the present document, there are inconsistent and erroneous statements about the timing of the move from the existing facility at Snug Harbor which need to be corrected. Specifically:

From Page 1-1:
The 94-acre site has been occupied by the University of Hawai'i (UH) Marine Center, Pacific Shipyard International, Island Movers, Atlantis Submarines, and numerous other smaller tenants. Existing tenants are being vacated by February 28, 2014, as the existing structures are deteriorating, and therefore would not present when this action would be implemented. All tenants (the majority of whom are on month-to month revocable permits) have been notified.
This statement implies that University of Hawai'I Marine Center will vacate the current site at Pier 45 (Snug Harbor) by February 28, 2014. We note that this is not certain, and depends on a) the schedule by DOT-H for renovations at the Pier 34-35 site and transfer of title to the Sand Island site, neither of which has begun at this writing, and b) availability of funds for UH that are under consideration in the current legislative session. For these reasons, it is uncertain that the renovations will be completed by Fall 2013, which will be necessary to complete moving the entire facility to new sites by February 2014.

We attach a brief document prepared by Dean Taylor in mid-2012 that briefly summarizes history, planning and discussions related to the UH use of its Snug Harbor site and the anticipated move to the Pier 34-35 and Sand Island sites. Of particular note in this, we point out that House Concurrent Resolution #266 mandates that "...prior to the relocation of the UH Marine Center....funding is available for its relocation." Until this is confirmed and available to UH, it will not be possible to set a firm date for moving out of the Pier 45 site.

We note that in addition to mention on Page 1-1, similar statements about the date by which tenants will vacate are found on Pages 2-1, 2-3 (noting a different timetable but not specific about when), 3-20 and 6-2. In that latter mention, it calls the move to Piers 34-35 "temporary," which is inconsistent with the UH position.

We respectfully request confirmation of receipt of our comments, and a response to ensure that the spirit and word of House Concurrent Resolution #266 will be fulfilled.

Department of Geology and Geophysics • Department of Meteorology • Department of Ocean and Resources Engineering
Department of Oceanography • Hawaii Institute of Geophysics and Planetology • Hawaii Institute of Marine Biology
Hawaii Natural Energy Institute • Hawaii Undersea Research Laboratory • Sea Grant College Program
Joint Institute for Marine and Atmospheric Research

Towards Relocating the UH Marine Center **Status Update July 2012**
Brian Taylor, SOEST Dean

The University of Hawaii has an enduring heritage with the sea, fulfilling the vision of its inaugural President that "our teaching should [have] a logical focus on agriculture and marine sciences (John Washington Gilmore, August **1908**). Hawaii's strategic mid-Pacific location and long-standing cultural and economic connections to the sea sustained that vision and led to the creation of a premier ocean research and education School (SOEST).

In November **1964**, the State of Hawaii acquired from the US Government that parcel of Honolulu harbor front real property known as **Snug Harbor**, being a **13.23-acre portion of the former Mokauea Fishery**. In **1973**, the State of Hawaii DLNR applied to the US Dept. Health, Education and Welfare (Office of Surplus Property Utilization) to "purchase with educational discount" (i.e., at no cost) a **2.84-acre portion of the former Kapalama Military Reservation** such that it could be consolidated with the adjacent parcel for the express purpose "to lease a consolidated parcel to the University and the University will be able to begin construction of pier support facilities, and to develop its Marine Expeditionary Center". "The real property is **to be used on a permanent basis, under a gratis 65-year, renewable lease** from the DLNR . . . at 100% public benefit discount **for educational use.**"

One week later (2/23/1973), in **General Lease No. S-4488,** the State of Hawaii by the Board of Natural Resources provided the University of Hawaii with the gratis, 65-year lease of the consolidated 16.069 acres.

In **1974** the State/University built Snug Harbor piers with a hardened cement apron that is 45' wide and can support on-and-off loading with UH's 35- and 65-ton cranes (1000 lb/sf). The primary pier (#45) is 500' long with a corner facing the main channel of 100' (both 7' above MLLW) and there is an inside pier (#44) of 170' with an apron 3.5' above MLLW. An adjacent wooden floating pier for small boats (#43) is 205' long and could be extended another 200'. Administration, warehouse and storage buildings were constructed in the mid 1970's. Federal funds were appropriated (through the Office of Naval Research) to enhance the shore support facilities with special purpose buildings such as the Machine Shop (**1976**) and the Core Lab (**1982**), and to upgrade two of the three electrical dock boxes to 440V/1000A (**2002**).

In **2005**, one acre was withdrawn from the UHMC in accord with the terms of the DLNR lease ("in such manner by Lessor as to not interfere unreasonably with Lessee's use of the demised premises"), leaving the current property of ~15 acres, of which ~11.5 acres is net usable land (the remainder being harbor waters and un-hardened shore line). To meet US Navy and Coast Guard requirements post 9/11/2001, the property is secured with a perimeter fence, floodlights, cameras and 24/7 guard service.

2006 State House Concurrent Resolution No. 266: "that UH and DoT are requested to collaborate, on a priority basis, to effectuate the relocation of UH Marine Center; and . . . that prior to the relocation of the UH Marine Center, DoT and UH find a suitable location offering comparable dock space, storage and staging areas, services, size, and proximity to UH, which is beneficial to all parties involved and ensure that funding is available for its relocation."

Since mid 2006 UH has worked with the State DoT on a proposed move of the UHMC to allow expansion of container terminal space in Honolulu harbor. UH cooperated on the initial studies for DoT through ATDC that were done by two consultants:
1) Belt Collins undertook a **Marine Center Relocation Study (May 2007)** that documented the existing UHMC facilities, relocation requirements and priorities. They also prepared a planning report (May 2008) to co-locate some UHMC facilities with the METC on Sand Island. Initially (e.g., UH-DoT correspondence from May 14 to September 11, 2007) the thought was that UHMC facilities could eventually be consolidated at **Sand Island**, collocated with and extending the land that includes the METC building and shallow-draft piers of HCC (that are also used by PVS). However, research supporting a further study (**March 2009**) subcontracted to American Marine disclosed that **fuel pipeline and pressure sewer line easements** across the Channel and the METC property, while they would allow construction of a floating pier, would **preclude development of grounded deep-draft piers necessary for servicing large vessels**.
2) DMJM Harris (subsequently AECOM) developed site and building designs, and estimated construction costs, for the UHMC harbor facility at **Pier 35 (May 2009)**.

Thus there developed a plan "to make UHMC whole" in relocated facilities at (1) Pier 35 for their large ships and their shore support, and (2) Sand Island, for their small boats and additional storage/shore facilities. **UH sacrificed the co-location of its harbor facilities and personnel to make this two-part plan feasible**.

The plan called for DoT funding to renovate and extend an existing (~44,000 sq ft) building at Pier 35, and to upgrade pier facilities (water, sewage, electrical) and make improvements to the ~6 acre site, including a boxed culvert over an open drainage ditch. At the ~7.1-acre Sand Island site, UH would initially provide security, additional storage facilities and a (small boat) floating pier (it being determined not feasible to move the wooden pier from Snug Harbor).

In 2009 (e.g., 2/24/09 and 12/14/09) UH expressed concern to ATDC/DoT that "the proposed move of the UHMC (to Sand Island and Pier 35) is being partitioned into various components and contracts. Our discussions of each of these individually has been productive, but coming to an overall plan, agreement, costing and time-line has been elusive." The State Legislature ceased funding of ATDC in July 2010. The Abercrombie administration took office in December 2010.

DoT, ATDC and AECOM budgeted the **Pier 35** renovation costs at $17M. In fact, new consultants for DoT (TEC, RM Towill and Pacific Architects) determined that not only would $9M be needed for the pier/site improvements and culvert, but also that the **estimated building costs would be $16M instead of $8M (July 2011)**, for a total cost of $25M. This led to an impasse, that was only partially resolved earlier this year when **UH agreed to forego the building extension and the double overhead crane facility for their submersible program** (whose base would therefore stay at Makai Pier). Further compromise was made to pack all the primary people, lab and instrument spaces into building frames 1 though 8 (of 24 total), leaving frames 8 - 24 with a renovated envelope (roof, walls, floor). Only this month, after questioning the architect, did UH discover that **frames 8 -24 will basically be lofted: no electrical distribution, lighting, communications, addition of interior walls, etc.** The architect's **estimate to complete that work at Pier 35 is $4M.**

At **Sand Island**, new **storage facilities** (for seafloor rocks, cores, and equipment that can not be accommodated on the reduced acreage at Pier 35) of approx. 5,000 sq ft (50'x100') will need to be permitted, designed and constructed and likewise a new aluminum **200' floating dock** installed to berth our relocated small boats. Furthermore, the proposed 7.1 acres of the UH facility at Sand Island will require TWIX **security** comparable to that at UH's current and other HNL harbor facilities, including a 8 ft high x 2,000 ft boundary fence, area flood lighting and cameras, grading and surface paving of the 54% currently unimproved land. **Estimate $2M**.

Therefore, UHM has submitted a UHMC move CIP request for the 2013-2015 biennium of $6M. State funding of this request is critical to fulfill House Concurrent Resolution #266 "that prior to the relocation of the UH Marine Center . . . funding is available for its relocation". In so doing, UH has assumed $4M of the costs for Pier 35 building renovations, in addition to forgoing the $4M building extension, that DoT proposed to provide to meet UHMC requirements. In total, the present 80,000 sq ft of UHMC buildings (excluding HURL) would be reduced to ~50,000 sq ft (at Pier 35 and adjacent to the METC on Sand Island). The current 15 acre Snug Harbor lease would be traded for 6+7=13 acres (combining Pier 35 and METC+). It will be **essential to UH that these lands be made available under similar terms** to the State's original application for the 2.84-acre portion of the former Kapalama Military Reservation: i.e., **"to be used on a permanent basis, under a gratis 65-year, renewable lease** . . . at 100% public benefit discount **for educational use**."

Note that the growth of the SOEST program (from $36M in 1989, to $69M in 2001, to $147M in 2012) continues unabated. It is responsible for 850 jobs and 25% ($113M/yr) of UHM *extramural* funding which, with an economic multiplier of 5.34, generates about 1% of the State GDP. Growth was not slowed by the 2008 recession, whereas the 2011-2012 Honolulu Harbor container volume is back at 2001 levels.

Detailed History of the DLNR lease to UH of Snug Harbor for the UHMC

In November **1964**, the State of Hawaii acquired from the US Government that parcel of Honolulu harbor front real property known as **Snug Harbor**, being a **13.23-acre portion of the former Mokauea Fishery**. In **1973**, the State of Hawaii DLNR applied to the US Dept. Health, Education and Welfare (Office of Surplus Property Utilization) to "purchase with educational discount" a **2.84-acre portion of the former Kapalama Military Reservation** such that it could be consolidated with the adjacent parcel. As stated in that application (DLNR, 2/16/73):
#5. "Marine sciences form a rapidly expanding field of research activity. The Marine Expeditionary Center will provide shore support to marine research vessels. These vessels include not only those owned and operated by the University of Hawaii but also those of other universities, federal agencies, and private institutions . . . From this facility as a base, graduate students, faculty and researchers will range the entire Pacific Ocean in ocean-related scientific research."
#6. "Through the provision of proper facilities, the University, as a Sea Grant College, can expand its programs of teaching and research activities in oceanographic fields in order to make greater contributions to the sciences."
#9. "As a result of this acquisition, the State will be able to lease a consolidated parcel to the University and the University will be able to begin construction of pier support facilities, and to develop its Marine Expeditionary Center".
#10. "The property is the inner half of the area known as Snug Harbor and contains the continuation of the pilings in the State portion of the slip and on which the pier facilities will be built. Without the additional land, and particularly the water area, the University cannot effectively construct the piers for efficient operation of the Marine Expeditionary Center."
#11. Present University facilities at Pier 18 are becoming severely crowded. With the acquisition of a new 170' vessel, berthing spaces will become inadequate . . . utilities and other shore-support facilities are not available at [alternative] commercial piers in Honolulu Harbor."
#12. "Funds for financing, operating and maintaining this facility will be provided from State sources as are all public educational facilities in the State."
#13. "Presently $3,300,000 in State funds is available to begin construction [of] the pier facilities and buildings for full operations of the Marine Expeditionary Center."
#14: "The real property is **to be used on a permanent basis, under a gratis 65-year, renewable lease** from the Department of Land and Natural Resources."
#18: "(a) The State of Hawaii makes application for the said 2.84 acres under the provisions of U.S.C. 484 (k) (1) (A) at 100% public benefit discount for educational use. (b) The property applied for will be used solely for the purposes set forth above. (c) The property will not be sold or otherwise disposed of without permission of the Department of Health, Education and Welfare or its successor in function, for a period of thirty years."

One week later (2/23/1973), in **General Lease No. S-4488,** the State of Hawaii by the Board of Natural Resources provided the University of Hawaii with the gratis, 65-year lease of the consolidated 16.069 acres.

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
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JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
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3600.13

June 26, 2013

Mr. Alexander Shor, Associate Dean for Research
School of Ocean and Earth Science and Technology
University of Hawaii at Manoa
1680 East-West Road, POST 802
Honolulu, Hawai'i 96822

Dear Mr. Shor:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, O'ahu, Hawai'i

Thank you your letter dated February 6, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

In response to your comments on the Draft EIS, we provide the following.

1. ". . .University of Hawaii Marine Center will vacate the current site at Pier 45 (Snug Harbor) by February 28, 2014. We (SOEST) note that this is not certain, and depends on a) the schedule by DOT-H for renovations at the Pier 34-35 site and transfer of title to the Sand Island site, neither of which has begun at this writing, and b) availability of funds for UH that are under consideration in the current legislative session."

   Response. The Pier 34 and 35 Improvements Project is proceeding as scheduled, with construction anticipated to begin shortly. Title transfer of the Sand Island site will be undertaken with the Hawaii Department of Land and Natural Resources. We are hopeful that funds will be found by UH for this move.

2. "Of particular note in this, we point out that House Concurrent Resolution #266 mandates that "…prior to the relocation of the UH Marine Center…funding is available for its relocation." Until this is confirmed and available to UH, it will not be possible to set a firm date for moving out of the Pier 45 site."

   Response. DOT agrees that a firm date for vacating Pier 45 (Snug Harbor) cannot be set until the requisite funds for the relocation are secured. DOT has diligently coordinated with the UH for years to collaboratively meet everyone's requirements. DOT hopes that funding will become available to accommodate the anticipated improvements required by the UH.

3. The DEIS calls the UH Marine Center move to Piers 34-35 "temporary," which is inconsistent with the UH position.

   Response. The updated Draft EIS Version 2 will no longer refer to the occupation of the Piers 34 and 35 site by the University of Hawaii Marine Center as "temporary."

We appreciate your participation in the EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

City and County of Honolulu

Comment and Response Letters

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
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2013 FEB -4 PM 12: 45
BELT COLLINS HAWAII

KIRK CALDWELL
MAYOR

JIRO A. SUMADA
ACTING DIRECTOR

2013/ELOG-54(et)

January 31, 2013

Mr. Carter Luke, Engineering Project Manager
State of Hawai'i Department of Transportation, Harbors Division
76 S. Nimitz Highway
Honolulu, Hawai'i 96813

Dear Mr. Luke:

Subject: Draft Environmental Impact Statement
Kapālama Container Terminal
Kapālama, Honolulu, Hawai'i

We have reviewed the Draft Environmental Impact Statement (DEIS) and offer the following comments:

- Portions of the site are in Flood Zone AE, and therefore mitigation techniques must be applied to protect structures (e.g.: new cranes at main pier) from potential flood impacts.

- Chapter 5 of the DEIS should be expanded to include a summary statement as to how the project conforms to the City and County of Honolulu's General Plan, and Primary Urban Center Development Plan (PUC DP). Kalihi-Palama Action Plan.

  Table 5.4 categorizes conformance with the General Plan (GP) as "Actively Supports", "Conforms", or "Not Applicable" in a table with the GP policy statements. Other than quoting the General Plan, no conformance summary statement was provided.

  The PUC DP concluding statement should provide a fuller explanation as to how the proposed project supports or conforms to the visions, policies, and principles of the plan.

- The DEIS did not include a discussion relating to the Kalihi-Palama Action Plan.

Should you have any questions, please contact Eugene Takahashi of my staff at 768-8035.

Very truly yours,

for Jiro A. Sumada, Acting Director
Department of Planning and Permitting

JAS:bkg
1012270

cc: Glen T. Koyama, Belt Collins Hawai'i LLC

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
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JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
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3586.13

June 26, 2013

Mr. George Atta, AICP, Director
Department of Planning and Permitting
City and County of Honolulu
650 S. King Street, 7th Floor
Honolulu, HI 96813

Dear Mr. Atta:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, O'ahu, Hawai'i

Thank you for your letter dated January 31, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

It will include your comment letter and this response and, as needed, revisions to the Draft EIS in response to the comments. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major revisions that were incorporated in the main body of the document.

In response to your comments on the Draft EIS, we provide the following.

1. As shown in Draft EIS Figure 3-19, parts of the container terminal site are in the AE and VE flood zones. Ground elevations at the container terminal range from about four to nine feet above mean sea level (msl). Elevations along the waterfront range from about four to seven feet above msl. No buildings for the project are proposed for the waterfront. Cranes would be close to the pier face and would need to be designed to withstand flooding and storm surge. The cranes will be provided by the eventual operator of the terminal, who would be responsible for choosing cranes that can function at the harbor edge.

2. In the updated Draft EIS, Version 2, the text of Chapter 5 will be revised to include explicit summary statements of conformity with the General Plan and the Primary Urban

Center Development Plan of the City and County of Honolulu. The following statements will be revised:

[end of Section 5.13.1]

The Proposed Action conforms with the vision and goals of the City and County of Honolulu General Plan as a means to support continuing economic growth for O'ahu.

[in Section 5.13.2]

The *Primary Urban Center Development Plan* (2003), covering the Honolulu Harbor area, is one of eight regional plans based on the O'ahu General Plan that establish more detailed policies to shape growth in the urban core of the island.

The *Primary Urban Center Development Plan* identifies five major vision elements:

- Honolulu's natural, cultural and scenic resources are protected and enhanced.
- Livable neighborhoods have business districts, parks and plazas, and walkable streets.
- The PUC offers in-town housing choices for people of all ages and incomes.
- Honolulu is the Pacific's leading city and travel destination.
- A balanced transportation system provides excellent mobility.

The Proposed Action addresses the fourth of these elements, including the following specific actions named in the plan as implementing that element:

- Enhance Honolulu Harbor and harbor-related uses: Reserve lands adjacent to the harbor for harbor-related uses.

- Support industrial uses in Kalihi-Pālama industrial districts: Support existing mixed-usages in the industrial districts of Kalihi-Kai and Kapālama as well as existing commercial uses along the Nimitz, Dillingham, King, Kalihi, and Waiakamilo corridors.

The Plan also recognizes that "expanded shore facilities" in the harbor will handle increased container freight.

The Proposed Action contributes to the orderly economic growth of Honolulu and, hence, is in conformity with the vision of Honolulu as the Pacific's leading city in the *Primary Urban Center Development Plan.*

3. In addition, the Kalihi-Pālama Action Plan will be mentioned in the updated Draft EIS, Version 2, and the conformity of the proposed action with that plan will be stated, as follows:

5.13.3 Kalihi-Pālama Action Plan (2004)

The *Kalihi-Pālama Action Plan* is a Special Area Plan funded by the City and County of Honolulu. Such plans are intended to give communities the opportunity to define the

> identity, function, organization, and character of their specific neighborhoods in accordance with the general planning framework provided by their area's Development or Sustainable Communities plan. The Plan identifies a regional vision: "Our vision for the future of Kalihi is one of pride and multi-cultural harmony; of living and working together; of preserving our treasures for young and old. We see a Kalihi that is visually, economically, and socially inviting; a place that promotes our natural beauty from mountain to ocean."
>
> The Plan views the harbor area in the Kalihi-Palama area as valuable port facilities:
>
> These port facilities should be maintained for maritime uses and not developed for retail commercial or residential uses, except for the areas near downtown Honolulu. Streets should be improved to accommodate large vehicles and to provide adequate parking and walkways for both businesses and residents. Overhead utilities should also be placed underground and infrastructure upgraded to current standards. The State's *O'ahu Commercial Harbors 2020 Master Plan* should be implemented.
>
> As emphasized in Section 5.12.2, the Proposed Action is a major component of the *O'ahu Commercial Harbors 2020 Master Plan.* The Proposed Action redevelops part of the waterfront for maritime use. As such, it conforms to the *Kalihi-Pālama Action Plan*'s vision.

We appreciate your participation in the EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
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KIRK CALDWELL
MAYOR

CHRIS T. TAKASHIGE, P.E., CCM
DIRECTOR DESIGNATE

DEPUTY DIRECTOR

February 7, 2013

Mr. Glenn Koyama
Project Manager
Belt Collins Hawaii LLC
2153 N. King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Koyama:

Subject: Kapalama Container Terminal – Draft Environmental Impact Statement

The Department of Design and Construction does not have any comments on this project.

Thank you for the opportunity to review and comment. Should you have any questions, please contact me at 768-8480.

Sincerely,

Chris T. Takashige, P.E., CCM
Director Designate

CTT: lm

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
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3588.13

June 26, 2013

Mr. Chris T. Takashige, P.E., CCM, Director
Department of Design and Construction
City and County of Honolulu
650 South King Street, 11th Floor
Honolulu, Hawai'i 96813

Dear Mr. Takashige:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor , O'ahu, Hawai'i

Thank you for your letter dated February 7, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

We appreciate your participation in the Draft EIS review process and look forward to your continued involvement in this very important State project

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

DEPARTMENT OF FACILITY MAINTENANCE

CITY AND COUNTY OF HONOLULU

1000 Uluohia Street, Suite 215, Kapolei, Hawaii 96707
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2013 JAN 11 PM 1:38

BELT COLLINS HAWAII

KIRK CALDWELL
MAYOR

ROSS S. SASAMURA, P.E.
DIRECTOR AND CHIEF ENGINEER DESIGNATE

KENNETH A. SHIMIZU
DEPUTY DIRECTOR

IN REPLY REFER TO:
DRM 13-10

January 7, 2013

Mr. Carter Luke
State of Hawaii – DOT, Harbors Division
79 S. Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Luke:

SUBJECT: Kapalama Container Terminal –(DEIS) Tax Map Key (TMK): Kapalama Site: 1-2-25: 02, 09, 12, 17, 30, 40, 42, 44, to 47, 49 to 53, 55, 58 to 68, 71, 73, 74 to 78, 80, 82, 83, 86, 88, 92, 94, 97, 98, 108 to 112, and portions of 11 and 54, and TMK: 1-5-32: portion of 2 and 43. Pier 24-28 Site: TMK: 1-5-38: 11, 17, 55, 72, 73, 74, and portions of 1, 4 and 5. Honolulu, Oahu, Hawaii

Thank you for the opportunity to review and to give our input regarding the subject Draft Environmental Impact Statement (DEIS) dated December 19, 2012.

Our comments are as follows:

- Once construction phase commence, along Auiki Street (City-owned), approved Best Management Practices (BMP) are placed, especially fronting all drainage facilities.
- Upon completion of project; any deficiencies in Auiki Street's right-of-way caused during construction of the subject project, shall be corrected and accepted by the City.

Should there be any questions, please call Dexter Akamine of the Division of Road Maintenance, at 768-3696.

Sincerely,

Ross S. Sasamura, P.E.
Director and Chief Engineer Designate

cc: Mr. Glen Koyama

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
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JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

HAR-EP
3589.13

June 26, 2013

Mr. Ross S. Sasamura,
P.E., Director and Chief Engineer
Department of Facility Maintenance
City and County of Honolulu
1000 Uluohia Street, Suite 215
Kapolei, Hawaiʻi 96707

Dear Mr. Sasamura:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, Oʻahu, Hawaiʻi

Thank you for your letter of January 7, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

We appreciate your participation in the Draft EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

RECEIVED

2013 JAN 30 PM 1:33

BELT COLLINS HAWAII

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHAEL D. FORMBY
DIRECTOR DESIGNATE

TP12/12-495642R

January 28, 2013

Mr. Glen T. Koyama, Project Manager
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Dear Mr. Koyama:

Subject: Draft Environmental Impact Statement (DEIS) Kapalama Container Terminal; Kapalama, Honolulu, Hawaii

In response to your letter of December 19, 2012, we have no comments to offer at this time.

Thank you for the opportunity to review this matter. Should you have any further questions, please contact Michael Murphy of my staff at 768-8359.

Very truly yours,

MICHAEL D. FORMBY
Director Designate

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

HAR-EP
3591.13

June 26, 2013

Mr. Michael D. Formby, Director
Department of Transportation Services
City and County of Honolulu
650 South King Street, 3rd Floor
Honolulu, Hawaiʻi 96813

Dear Mr. Formby:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, Oʻahu, Hawaiʻi

Thank you for your letter dated January 28, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

We appreciate your participation in the Draft EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

DEPARTMENT OF ENVIRONMENTAL SERVICES

CITY AND COUNTY OF HONOLULU

1000 ULUOHIA STREET, SUITE 308, KAPOLEI, HAWAII 96707
TELEPHONE: (808) 768-3486 ● FAX: (808) 768-3487 ● WEBSITE: http://envhonolulu.org

RECEIVED
2013 MAY 21 PM 12: 54
BELT COLLINS HAWAII

KIRK CALDWELL
MAYOR

LORI M.K. KAHIKINA, P.E.
DIRECTOR

TIMOTHY A. HOUGHTON
DEPUTY DIRECTOR

ROSS S. TANIMOTO, P.E.
DEPUTY DIRECTOR

IN REPLY REFER TO
PRO 13-038

May 20, 2013

Mr. Glen Koyama
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, HI 96819-4554

Dear Mr. Koyama:

Subject: Kapalama Container Terminal – Draft Environmental Impact Statement (DEIS) Tax Map Key: Kapalama Site: 1-2-25:02, 09, 12,16,17,30,40,42,44 to 47,49 to 53, 55, and 54; and 1-5-32: portions of 2 and 43.
Pier 24-28 Site: 1-5-38: 11,17,55,72,73,74, and portions 1,4, and 5.
Honolulu, O'ahu, Hawai'i

We have reviewed the subject report as transmitted to us by your letter dated December 19,2012, and we have no comments or objections at this time.

We do not need to be included in the review of future submittals on this subject, and can be removed from your distribution.

Should you have any questions, please call Liz Lau, Civil Engineer, at 768-3470.

Sincerely,

Lori M.K. Kahikina, P.E.
Director

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

HAR-EP
3587.13

June 26, 2013

Ms. Lori M.K. Kahikina P.E., Director
Department of Environmental Services
City and County of Honolulu
1000 Uluohia Street, Suite 308
Kapolei, Hawai'i 96707

Dear Ms. Kahikina:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, O'ahu, Hawai'i

Thank you for your letter dated May 20, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

We appreciate your participation in the Draft EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M OKIMOTO, Ph.D.
Director of Transportation

DEPARTMENT OF PARKS & RECREATION

CITY AND COUNTY OF HONOLULU

1000 Uluohia Street, Suite 309, Kapolei, Hawaii 96707
Phone: (808) 768-3003 • Fax: (808) 768-3053
Website: www.honolulu.gov

RECEIVED
2013 JAN 23 PM 2: 21
BELT COLLINS HAWAII

KIRK CALDWELL
MAYOR

ALBERT TUFONO
ACTING DIRECTOR

January 18, 2013

Mr. Carter Luke, Engineering Program Manager
State of Hawaii Department of Transportation, Harbors Division
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Luke:

Subject: Draft Environmental Impact Statement
Kapalama Container Terminal
Tax Map Key: Kapalama Site 1-2-25: 02, 09, 12, 16, 17, 30, 40, 42, 44 to 47, 49 to 53, 55, 58 to 68, 71, 73, 74 to 78, 80, 82, 83, 86, 88, 92, 94, 97, 98, 108 to 112 and portions of 11 and 54; and 1-5-32: portions of 2 and 43. Pier 24-28 Site: 1-5-38: 11, 17, 55, 72, 73, 74, and portions 1, 4 and 5. Honolulu, Oahu, Hawaii

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement for the State of Hawaii Department of Transportation's proposed new overseas container terminal in Honolulu Harbor.

The Department of Parks and Recreation has no comment, as the proposed project will have no impact on any program or facility of the Department. You may remove us as a consulted party to the balance of the EIS process.

Should you have any questions please contact Mr. John Reid, Planner at 768-3017.

Sincerely,

ALBERT TUFONO
Acting Director

AT:jr
(495840)

cc: Mr. Glen Koyama, Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

HAR-EP
3590.13

June 26, 2013

Ms. Toni P. Robinson, Director
Department of Parks & Recreation
City and County of Honolulu
1000 Uluohia Street, Suite 309
Kapolei, Hawaiʻi 96707

Dear Ms. Robinson:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, Oʻahu, Hawaiʻi

Thank you for your letter dated January 18, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

We appreciate your participation in the Draft EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph D
Director of Transportation

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE: (808) 529-3111 · INTERNET: www.honolulupd.org

RECEIVED
2013 JAN 28 PM 2:53
BELT COLLINS HAWAII

PETER B. CARLISLE
MAYOR

LOUIS M. KEALOHA
CHIEF

DAVE M. KAJIHIRO
MARIE A. McCAULEY
DEPUTY CHIEFS

OUR REFERENCE EO-WS

January 24, 2013

Mr. Carter Luke
Engineering Program Manager
Harbors Division
Department of Transportation
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Luke:

This is in response to a letter received from Mr. Glen Koyama of Belt Collins Hawaii LLC requesting comments on the Draft Environmental Impact Statement for the Kapalama Container Terminal project.

This project should have no significant impact on the facilities or operations of the Honolulu Police Department.

If there are any questions, please call Acting Major Crizalmer Caraang of District 5 (Kalihi) at 723-8201.

Sincerely,

LOUIS M. KEALOHA
Chief of Police

By Clayton G. Kau
CLAYTON G. KAU
Assistant Chief
Support Services Bureau

cc: Mr. Glen Koyama

Serving and Protecting With Aloha

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

HAR-EP
3593.13

June 26, 2013

Mr. Louis M. Kealoha,
Chief of Police
Honolulu Police Department
City and County of Honolulu
801 South Beretania Street
Honolulu, Hawaiʻi 96813

Dear Chief Kealoha:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, Oʻahu, Hawaiʻi

Thank you for your letter dated January 24, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

We appreciate your participation in the Draft EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

HONOLULU FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

RECEIVED
2013 JAN 15 PM 3:41
BELT COLLINS HAWAII

KIRK W. CALDWELL
MAYOR

EMMIT A. KANE
ACTING FIRE CHIEF

ROLLAND J. HARVEST
ACTING DEPUTY FIRE CHIEF

January 10, 2013

Mr. Carter Luke
Engineering Program Manager
Harbors Division
Department of Transportation
State of Hawaii
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Luke:

Subject: Draft Environmental Impact Statement
Kapalama Container Terminal
Honolulu, Oahu, Hawaii

In response to your letter of December 19, 2012, regarding the above-mentioned subject, the Honolulu Fire Department (HFD) requires that the following be complied with:

1. Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet (46 m) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; Uniform Fire Code [UFC]™, 2006 Edition, Section 18.2.3.2.2.)

   A fire department access road shall extend to within 50 ft (15 m) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA 1; UFC™, 2006 Edition, Section 18.2.3.2.1.)

2. A water supply approved by the county, capable of supplying the required fire flow for fire protection, shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter

   constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1; UFC™, 2006 Edition, Section 18.3.1, as amended.)

3. Submit civil drawings to the HFD for review and approval.

Should you have questions, please contact Battalion Chief Socrates Bratakos of our Fire Prevention Bureau at 723-7151 or sbratakos@honolulu.gov.

Sincerely,

EMMIT A. KANE
Acting Fire Chief

EAK/SY:bh

cc: Glenn Koyama, Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

GLENN M OKIMOTO
DIRECTOR

Deputy Directors
JADE T BUTAY
FORD N FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

HAR-EP
3592.13

June 26, 2013

Mr. Manuel P. Neves, Fire Chief
Honolulu Fire Department
City and County of Honolulu
636 South Street, 3rd Floor
Honolulu, Hawai'i 96813-5007

Dear Chief Neves:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, O'ahu, Hawai'i

Thank you for your letter dated January 10, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

We appreciate your participation in the Draft EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D
Director of Transportation

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

RECEIVED
2013 JAN -9 PM 12: 28
BELT COLLINS HAWAII

January 8, 2013

Mr. Glen T. Koyama, Project Manager
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Dear Mr. Koyama:

Subject: Your Letter Dated December 19, 2012, Requesting Comments on the Draft Environmental Impact Statement (DEIS) for the Kapalama Container Terminal Tax Map Key: 1-2-025: 002, 009, 011, 012, 016, 017, 040

Thank you for the opportunity to comment on the proposed project.

The existing water system is presently adequate to accommodate the proposed Kapalama Container Terminal. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply reserves the right to change any position or information stated herein up until the final approval of your building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

The proposed project is subject to Board of Water Supply Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.

If you have any questions, please contact Robert Chun at 748-5443.

Very truly yours,

Ellen E. Kitamura

for ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

Water for Life . . . Ka Wai Ola

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

HAR-EP
3594.13

June 26, 2013

Mr. Ernest Y.W. Lau, P.E., Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaiʻi 96843

Dear Mr. Lau:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, Oʻahu, Hawaiʻi

Thank you for your letter dated January 8, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

We appreciate your participation in the Draft EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

Other Agencies/Organizations

HAWAIʻI GAS
THE CLEAN ENERGY COMPANY

RECEIVED
2013 FEB -5 AM 11: 54
BELT COLLINS HAWAII

February 4, 2013

Mr. Glen Koyama
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Koyama:

Subject: Kapalama Container Terminal – Draft Environmental Impact Statement (DEIS)
Tax Map Key: Kapalama Site: 1-2-25: 02, 09, 12, 16, 17, 30, 40, 42, 44 to 47, 49 to 53, 55, 58 to 68, 71, 73, 74 to 78, 80, 82, 83, 86, 88, 92, 94, 97, 98, 108 to 112, and portions of 11 and 54; and 1-5-32: portions of 2 and 43.
Pier 24-28 Site: 1-5-38:11, 17, 55, 72, 73, 74, and portions 1, 4 and 5.
Honolulu, Oʻahu, Hawaiʻi

In response to your letter dated December 19, 2012, we have reviewed the Draft Environmental Impact Statement and we do not anticipate any conflicts with the proposed project. For your information, we are sending you our gas map which shows our gas facilities in the project area.

All information provided by HAWAIʻI**GAS**, including but not limited to maps, prints, and site indications are approximations only of its facilities and its pipelines. The party receiving such information shall have sole responsibility for field verification to determine the actual locations of such facilities and pipelines.

Thank you for the opportunity to review the Draft Environmental Impact Statement. Should there be any questions, or if additional information is desired, please feel free to call Jared Pasalo at 594-5008.

Sincerely,

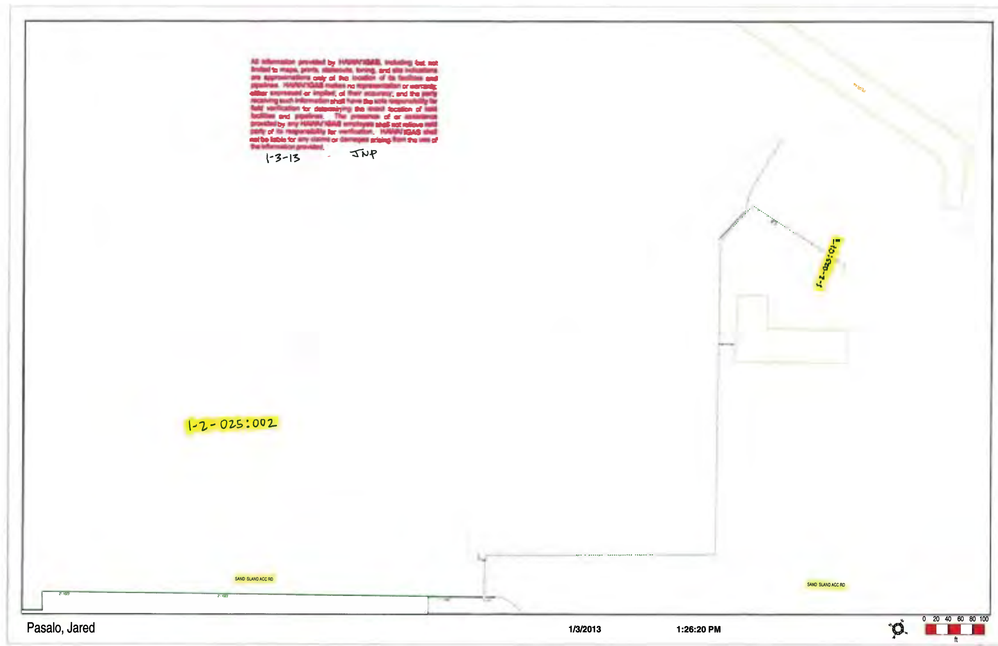
HAWAIʻI**GAS**

Keith K. Yamamoto
Manager, Engineering

KKY:krs
13-114

Attachments: Gas Map

P.O. Box 3000 | Honolulu, Hawaiʻi 96802-3000 | www.HawaiiGas.com



NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
JADE T. BUTAY
FORD N. FUCHIGAMI
RANDY GRUNE
JADINE URASAKI

HAR-EP
3596.13

June 26, 2013

Mr. Keith K. Yamamoto, Manager
Engineering Division
HawaiiGas
P.O. Box 3000
Honolulu, Hawai'i 96802-3000

Dear Mr. Yamamoto:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, O'ahu, Hawai'i

Thank you for your letter dated February 4, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, any comments that were provided on the previous draft document will be addressed. In the Introduction Section of the updated Draft EIS, we will summarize, for the reader's quick reference and convenience, all major changes that were incorporated in the main body of the document.

We appreciate your participation in the Draft EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

From: Evie Kobayashi [eviek@servco.com]
Sent: Monday, February 04, 2013 9:18 AM
To: 'carter.luke@hawaii.gov'; kapalamaeis
Cc: Carol Lam; Glenn Takeuchi; D. Scott MacKinnon
Subject: Kapalama Container Terminal - Comments for Draft Environmental Impact Statement
Attachments: Servco Ltr to DOT re Kapalama Container Terminal Draft EIS 020413.pdf

Messrs Luke and Koyama,

Attached are Servco Pacific Inc.'s comments to the Draft Environmental Impact Statement dated December 2012 for the Kapalama Container Terminal Development The original will be delivered.

Evie Kobayashi
Servco Pacific Inc.
Corporate Properties
Tel: (808)564-1327
Fax: (808)533-1369
Cell: (808)358-3261

SERVCO PACIFIC INC.

2850 Pukoloa Street • Suite 300 • Honolulu, Hawaii 96819 • Telephone: (808) 564-1300 • Facsimile: (808) 523-3937 • www.servco.com

February 4, 2013

Mr. Carter Luke, Engineering Program Manager
State of Hawaii, Department of Transportation
Harbors Division
79 South Nimitz Highway
Honolulu, Hawaii 96813

-and-

Mr. Glen Koyama, Project Manager
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, HI 96819

Re: Kapalama Container Terminal Draft Environmental Impact Statement

Dear Messrs. Luke and Koyama:

This letter is written to respond to and provide comments with respect to the Kapalama Container Terminal Draft Environmental Impact Statement December 2012 (the "***Draft EIS***") prepared for and on behalf of the State of Hawaii, Department of Transportation, Harbors Division ("***DOT-Harbors***")

Servco Pacific Inc. ("***Servco***") is the owner of the parcel of real property located at 2101 Auiki Street, TMK No. (1) 1-2-025: 036 (the "***Servco Sand Island Property***") which is located to the north and adjacent to the proposed Kapalama Container Terminal site described in the draft EIS. As such Servco is identified as a stakeholder under the Draft EIS (page 1-14).

In reviewing the Draft EIS and its potential impacts on Servco and the Servco Sand Island Property, Servco is particularly troubled and disturbed by the fact that as an identified stakeholder little effort seems to have been made in the Draft EIS to address its situation as a neighboring property owner whose property and rights of use may be adversely affected by the development of the proposed Kapalama Container Terminal. More specifically, Servco submitted a comment letter dated December 22, 2011, in response to the Final Environmental Assessment/EIS Preparation Notice ("***EISPN***") for the Kapalama Container Termination Development, but never received any response to its comments and concerns. We also note that our comment letter was not included in the Draft EIS, while many others were.

The Draft EIS reflects the loss of the roadway access over Easement 7 which Servco has enjoyed to Sand Island Access Road for many years for its car carrier vehicles exiting the Servco Sand Island Property, and the projected loss of its existing permanent access easement rights over a portion of Easement 6. This is being done in a manner which fails to take into account and properly consider alternatives that could minimize and mitigate the substantially negative and adverse impact on the full use and enjoyment of the Servco Sand Island Property that will result from the planned development of the Kapalama Container Terminal by DOT-Harbors in the manner portrayed in the Draft EIS.

Automotive Products • Insurance Services
Consumer Products • Investments

The total land area intended to be occupied by the Kapalama Container Terminal (approximately 94 acres) is very large and expansive. With such a large footprint a substantial amount of creative land space planning and design alternatives which could result in a mutually beneficial resolution for Servco and DOT-Harbors appears to have been ignored. In particular, it seems that no consideration has been given to the feasibility of a continued joint use of the subject roadway easements by both properties with the introduction of certain additional controls and security relating to the access and use of the portion of Easement 6 being used by vehicles wanting to exit the Kapalama Container Terminal, and providing some manner of continuing right on the part of Servco to access Sand Island Access Road for vehicles exiting from the Servco Sand Island Property. There also does not appear to have been any consideration of excluding the area of Easement 6 from the Kapalama Container Terminal site given the fact that Easement 6 is at the North edge of the project boundary within the context of a total project site area of approximately 94 acres.

Section 2.2 Alternative Analysis

While there is a lengthy section discussing the alternatives analysis conducted to satisfy the requirements of HRS Chapter 343 and its implementing rules, Servco finds it troubling that none of the alternatives for ingress and egress address or discuss in any meaningful way the impact on the means of ingress and egress which Servco has historically enjoyed and which it may require for the continued full use and enjoyment of the Servco Sand Island Property, especially in light of the fact that the planned Kapalama Container Terminal project will result in the current means of access being altered or modified in a fairly significant manner.

Section 2.2.2.3 discusses the alternative ingress / egress routes for land transportation, but only to and from the Kapalama Container Terminal. Again no mention of its impact on the ingress / egress routes for the Servco Sand Island Property. The alternatives discussed are (a) Auiki Street Entry / Exit, (b) Auiki Street Entry / Sand Island Access Road Exit, and (c) Sand Island Access Road Entry / Exit. Both schemes (b) and (c) which provide for exiting onto Sand Island Access Road contemplate exiting over what appears to be Easement 7 which is the same access/exit to Sand Island Access Road which Servco has used for many years. In other words Easement 7 will continue to be used as an exit onto Sand Island Access Road for commercial vehicles which have entered the Kapalama Container Terminal, just no longer any commercial vehicles from the Servco Sand Island Property. It also appears under the Draft EIS that DOT-Harbors requires some portion of Easement 6 in order to provide access from within the designed layout of the Kapalama Container Terminal to the intended vehicle exit to Sand Island Access Road over Easement 7. Bottom line is that the actual use of Easement 6 and Easement 7 as an access/exit roadway for commercial vehicles is not changing in any material respect, except that commercial vehicles from the Servco Sand Island Property are now to be excluded. There is no discussion or explanation of why this is an essential component of the Kapalama Container Terminal and has to be this way, and a total absence of the discussion of any potential alternatives which might alleviate and mitigate this consequence of the development of the Kapalama Container Terminal.

Section 3.2.1.1.2 identifies the Servco property as being on the north side of the Kapalama Container Terminal site and that the Servco property is zoned I-2 by the City which zoning allows for a full range of industrial uses necessary to support the City and that it is intended for areas with necessary supporting public infrastructure and other locational characteristics necessary to support industrial uses. In Servco's view that means that the proposed Kapalama Container Terminal should be required to exhaust all viable

alternatives which would minimize the adverse impact of any required changes to its historic means of accessing and exiting the Servco Sand Island Property.

Section 3.3.1.1.2 identifies Easement 6 which is currently a perpetual non-exclusive easement for shared access use with Servco, and Easement 7 which is noted as a temporary joint use easement running in favor of Servco. Historically, Servco has had access to Sand Island Access Road for its Sand Island Property over Easement 6 and Easement 7. In this regard the Draft EIS states that DOT-Harbors has informed Servco of its intention to make an offer to purchase the portion of the Easement 6 between Easement 7 and the Department of Agriculture's property and that depending on the success of those negotiations that condemnation may also be an option. Servco has not been contacted to negotiate a purchase of nor has it received any offer to purchase its interest in the noted portion of Easement 6 from the State or DOT-Harbors. Rather Servco has been bluntly informed that the State intends to acquire Servco's interest in Easement 6 by condemnation. This is not as stated in the Draft EIS. Furthermore there is no discussion in the draft EIS of the potential delay and disruption which might be caused if Servco and the State were not able to reach a negotiated agreement for acquisition of Servco's rights in Easement 6 and became involved in a legal dispute with the State (a) over whether there is a sufficient or appropriate public purpose associated with the purported taking away of Servco's roadway easement rights in connection with DOT-Harbors planned development of the Kapalama Container Terminal, and/or (b) over the fair market value of those and other incidental rights held by Servco which are harmed by such a taking.

The intended loss or taking of Servco's right to and access over and across a portion of Easement 6 is given cursory treatment in the Draft EIS, and the Draft EIS lacks any appropriate consideration or discussion of potential alternatives in the layout, controlled access and security for the Kapalama Container Terminal which could enable the continued shared use by Servco of the entire length of Easement 6 to which it is presently entitled. There is also no discussion or consideration of the alternative of reconfiguring the Kapalama Container Terminal site so that the area of Easement 6 is outside of the project area and its use could continue with no limitation or restriction and no condemnation of a part by the State or DOT-Harbors. As noted above the land area involved in the Kapalama Container Terminal site is approximately 94 acres and yet there is no flexibility displayed in the layout, space planning and design which could preserve for Servco the continued right to use Easement 6 and thus avoid the disruption associated with its reconfiguration of Servco's means of ingress and egress from the Servco Sand Island Property for the larger commercial vehicles used in its business operations.

With respect to Easement 7, the Draft EIS states that the temporary easement is part of the Kapalama site controlled by DOT-Airports, and that as the lessee, DOT-Harbors, will not be permitted to issue a permanent easement to Servco for access onto Sand Island Access Road. While a permanent right of access over Easement 7 would be preferable, there is no necessity that the right of access be permanent and yet there is no discussion within the Draft EIS of the alternatives of either (a) providing Servco with a revocable license to use Easement 7, and/or (b) providing an alternative means for Servco to access Sand Island Access Road. As noted in the consideration of alternative means of accessing the Kapalama Container Terminal, the use of Sand Island Access Road for commercial vehicles has been found preferable for the Kapalama Container Terminal as it has been and should remain for the Servco Sand Island Property

Mr. Carter Luke, Engineering Program Manager
State of Hawaii, Department of Transportation – Harbors Division
Mr. Glenn Koyama, Project Manager
Belt Collins Hawaii LLC
February 4, 2013
Page 4

Section 8.4 states that no unresolved issues have been identified. Servco respectfully disagrees with that conclusion based on the discussion set forth above.

A primary purpose of an EIS under Chapter 343 is to examine all rational and feasible alternatives to the proposed action which could have the effect of minimizing and/or mitigating adverse impacts on the environment and others. It appears to Servco that this has not been done in this case as it relates to the impacted portion of the Servco Sand Island Property and access thereto for vehicles used in its business operations thereon. It is not the intention of Servco to prejudge the results of any such review or analysis but it feels strongly that DOT-Harbors should make that examination and then reach a balanced and reasoned conclusion through the EIS process.

If you have any questions or wish to discuss any of the foregoing in greater detail, please contact Carol Lam of Servco at 564-1344 or via email at caroll@servco.com.

Sincerely yours,

SERVCO PACIFIC INC.

Carol K. Lam

Carol K. Lam (B)
Senior Vice President

cc: Glenn Okimoto, Director
Randy Grune, Deputy Director
Jadine Urasaki, Deputy Director
Mark Fukunaga
D. Scott MacKinnon, Esq.

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STATE OF HAWAII
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HAR-EP
3607.13

June 26, 2013

Ms. Carol K. Lam, Senior Vice President
Servco Pacific Inc.
2850 Pukoloa Street, Suite 300
Honolulu, Hawaiʻi 96819

Dear Ms. Lam:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, Oʻahu, Hawaiʻi

Thank you for your letter dated February 4, 2013, commenting on the *Kapālama Container Terminal Draft Environmental Impact Statement* (Draft EIS). The Draft EIS is being updated and will be re-issued as Version 2 of the Draft EIS for your review.

The updated Draft EIS will include more recent and detailed information about the proposed action and alternatives, impacts, and mitigation. It will include your comment letter and this response and, as needed, revisions to the Draft EIS in response to additional comments. All major changes that are incorporated in the main body of the document will be summarized in the Introduction Section of the updated Draft EIS.

In response to your comments on the Draft EIS, we provide the following.

Your letter contained a number of comments on the Draft EIS, which predominantly centered on Servco Pacific Inc.'s (Servco) vehicular access to Sand Island Access Road (SIAR), otherwise known as temporary Easement 7. Rather than addressing your comments in the order they were presented, we will respond with an overview perspective and cite references to your comments along the way. In this manner, you will see the Department of Transportation (DOT), Harbors Division's (DOT-H) underlying rationale for developing the scope for the project and evaluating alternatives as it did for the proposed action.

We acknowledge that Servco is a stakeholder in this project, and that Servco's comments deserve appropriate attention during the scoping and public review process. Please note that DOT-H has made an extra effort to obtain Servco's input on this project, beyond what the agency normally does with its regular stakeholders. DOT-H representatives attended two meetings at Servco's Auiki Street property and held another meeting with Servco officials at DOT's downtown Honolulu office to discuss Servco's concerns and resolve vehicular access issues. The December 22, 2011 Servco letter, which unfortunately was not included in the DEIS, will be included in the Draft EIS, Version 2, along with the response letter. (*Comment Reference: p. 1, para (s). 2 & 3; and p. 3, para. 2*)

A number of comments in your letter relate to the need for DOT-H to consider alternatives to Servco's expired access easement to SIAR. The scope of the Kapālama project is to develop a container terminal at the former-Kapālama Military Reservation (Kapālama) site. The official "purpose and need" for the project state a need "to accommodate the anticipated demand of overseas cargo volumes associated with projected growth of the state of Hawaiʻi through 2039." Consequently, the proposed action is "to develop a new container terminal in Honolulu Harbor with sufficient berthing and landside container storage space to increase existing overseas container terminal capacity." It was this identification of the proposed action that established the scope and range of alternatives considered. In the Draft EIS, the alternatives included alternative site locations for the container terminal, alternative waterfront configurations, and alternative ingresses/egresses for land transportation. These alternatives focused on the container yard itself and the consequent, related environmental impacts. (*Comment Reference: p. 1, para. 4; and p. 2, para (s). 2, 3 & 4*)

As a result, although Servco is a neighbor and stakeholder in the Kapālama project, its access to SIAR is not the proposed action for the project. For that reason, and that Servco's temporary Easement 7 expired 20 years ago in 1993, pursuant to the terms of the Quitclaim Deed between Servco and the federal government, alternatives were not formally considered for Servco's desired access to SIAR. DOT-H does note that while Servco has enjoyed a long history of use of temporary Easement 7, its continued use of the easement since 1993 has been done without a legal right to do so. (*Comment Reference: p. 2, para(s). 2, 3 & 4; and p. 3, para. 3*)

DOT-H did notify Servco by letter that its right to utilize temporary Easement 7 had expired in 1993, and with the said notification, did direct Servco to immediately cease and desist from further usage of the easement. DOT-H also notified Servco of its need to acquire and extinguish a portion of Servco's interest in Easement 6 and did consider the consequences of the action. The area occupied by the portion of Easement 6 that DOT-H plans to acquire, is needed to accommodate the container terminal's truck entry station and exit route. It is also located at the existing signalized intersection adjacent to the container yard's DOT-Airports parcel that will be utilized by the Department of Agriculture's biosecurity facility. The presence of these State facilities do not leave space in the container terminal site for use by other businesss operators. (Comment Reference: p. 2, para(s); 1, 2 & 3; p. 3, para(s). 2 & 3.

From our site visits and meeting with Servco's officials, DOT-H notes there are access options still available to Servco. These options, which involve access through Auiki Street, are workable. The most feasible for Servco's departing auto carriers is through the Mokauea Street intersection. The City and County is presently installing a traffic signal at this intersection which will make use of Auiki Street safer for its users. Additionally, for Servco's auto carriers travelling on Mokauea Street toward Nimitz Highway, there is a traffic light at the Nimitz Highway intersection to allow vehicles to turn onto or from that right-of-way. (*Comment Reference. p. 3, para. 4*)

Grade differences at the other potential Servco ingresses/egresses along Auiki Street may require driveway modifications, but we believe these locations are still available as access alternatives. (*Comment Reference: p. 3, para. 4*)

Regarding the proposed plan to acquire and extinguish a portion of Servco's interest in Easement 6 and the lack of discussion in the Draft EIS of this matter, any impacts of the State's extinguishing of Easement 6, which is under State ownership, will be addressed in the Draft EIS, Version 2. (*Comment Reference: p. 3, para. 2*)

Regarding your disagreement with DOT-H's position that there are no "unresolved issues" related to the project. Access to SIAR for Servco, as described above, is no longer an option. Easement 7 has expired and terminated Servco's access rights to SIAR through the Kapālama Container Terminal site. DOT-H does not have any plans to re-establish the access easement due to its plans to develop the area as a new container terminal. *(Comment Reference: p. 3, para. 4; and p. 4, para. 1)* In recent discussions between our offices, the need for Servco to take timely action to address access alternatives from Auiki Street was also clarified.

Regarding Servco's comment concerning the acquisition/extinguishment of a portion of Easement 6. DOT-H has procured an independent Certified General Appraiser to determine the fair market value (FMV). The Certified General Appraiser's FMV will be used to provide an offer to Servco related to this easement extinguishment.

Regarding your comment that DOT-H has not examined all rational and feasible alternatives to the proposed action and that DOT-H should reach a balanced and reasoned conclusion through the EIS process. DOT-H has carefully reviewed alternatives to the proposed action which, as described in the "purpose and need" section of the Draft EIS, are to develop a container terminal in Honolulu Harbor that serves the people of Hawaiʻi. The Draft EIS' evaluation of the alternatives was based on numerous man-made, environmental, social, and economic criteria. The resulting identification of the preferred alternative is not influenced by any one party, interest or environmental concern, but by all affected on a balanced basis. (*Comment Reference: p. 4, para. 2*)

We appreciate your participation in the EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

CERTIFIED MAIL

AIRLINES COMMITTEE OF HAWAII

Honolulu International Airport
300 Rodgers Blvd., #62
Honolulu, Hawaii 96819-1832
Phone (808) 838-0011
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February 6, 2013

Mr. Carter Luke
Engineering Program Manager
State of Hawaii
Department of Transportation, Harbors Division
79 S. Nimitz Highway
Honolulu, Hawaii 96813

Subject: Kapalama Container Terminal – Draft Environmental Impact Statement

Dear Mr. Luke:

The Airlines Committee of Hawaii (ACH) is comprised of 21 signatory airlines that provide in excess of 95 percent of the scheduled commercial air service to, from and within the state. In addition, all signatory airlines, whether they are members of the ACH or not, have pledged to guarantee the self-sustainability of the State of Hawaii Airports System.

Consequently, the ACH has a significant interest in projects that potentially impact airports throughout the state, and in particular, Honolulu International Airport (HNL). Therefore, the ACH appreciates the opportunity to review and comment on the Draft Environmental Impact Statement (DEIS) for the proposed Kapalama Container Terminal project.

As noted in the report, HNL, the largest airport in the state is located approximately one mile from the proposed project site, thus potential impacts to navigable airspace is of significant concern. Accordingly, the following comments are provided based upon our review of the DEIS.

- **Construction Equipment** – Although the report does not provide details on the construction equipment, any equipment that could adversely impact navigable airspace is concerning, especially considering the anticipated duration of the project.

- **Gantry Cranes** – The report indicates that based upon gantry crane heights of approximately 200 feet, the Federal Aviation Administration (FAA) issued a Determination of Presumed Hazard, indicating that the proposed structures exceeds obstruction standards and/or would have an adverse physical interference effect upon navigable airspace or air navigation facilities.

  Accordingly, although the report does not provide explicit details or specifications on the gantry cranes, the initial findings of the FAA are concerning, and the ACH looks forward to a favorable resolution to this matter along with a Determination of No Hazard from the FAA.

In consideration of the above and the potential adverse impacts to operations at HNL, the ACH requests that further studies be conducted as part of the FAA process established under 14 CFR Part 77 to precisely determine whether the proposed project is "no hazard" or "presumed hazard" to air navigation, prior to finalization of the Environmental Impact Statement.

Sincerely,

Blaine Miyasato
Co-Chairperson

Matt Shelby
Co-Chairperson

Cc: Glen Koyama – Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

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HAR-EP
3601.13

June 26, 2013

Mr. Blaine Miyasato, Co-Chairperson
Airlines Committee of Hawaii
Honolulu International Airport
300 Rodgers Blvd., #62
Honolulu, Hawaii 96819-1832

Dear Mr. Miyasato:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, O'ahu, Hawai'i

Thank you for your letter dated February 6, 2013, commenting on the *Kapālama ContainerTerminal Draft Environmental Impact Statement* (Draft EIS). We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, we will address your comments on construction equipment, gantry crane heights, and findings of determination from the Federal Aviation Administration. For the reader's quick reference and convenience, we will summarize in the Introduction Section of the updated Draft EIS all major changes that were incorporated in the document.

We appreciate your participation in the EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D
Director of Transportation

HAWAIIAN AIRLINES

February 5, 2013

Mr. Carter Luke
Engineering Program Manager
State of Hawai'i Department of Transportation, Harbors Division
79 S. Nimitz Highway
Honolulu, Hawai'i 96813

Dear Mr. Carter:

Hawaiian Airlines (Hawaiian) provides the following comments to the Draft Environmental Impact Statement (DEIS) for the proposed Kapālama Container Terminal.

As an initial matter, please be assured that Hawaiian wholeheartedly supports the economic growth and prosperity of the state we call home, including the development of Honolulu's harbor. At the same time, however, we have a solemn commitment to the safety of the flying public that we serve. It is solely in that capacity that Hawaiian is responding to express some concerns on the conclusions made in the DEIS which lack a corresponding proper analysis as addressed below.

First, the procedures for determining whether cranes erected on the site pose potential hazards to air navigation are ineffectual. In Chapter 7, "Summary of Impacts", under Table 7-1. Summary of Impacts by Resource Area, under Public Health and Safety, for Operations, the table concludes: "No significant risks to public health and safety" and under Mitigation states that " No mitigation is required." The reasoning given in Table 7-1 is as follows: "The potential impact of any cranes at the Kapālama site would not be significant as the FAA process established under 14 CFR Part 77 would be initiated and completed by the operator."

14 CFR 77 requires that a submission be made to the FAA for the construction of any obstacles in the vicinity of an airport. In order for the FAA to "determine whether the effect of proposed construction or alteration is a hazard to air navigation (14 CFR 77.5 (c) (2)", those proposing construction of a potential obstacle must submit to the FAA a completed FAA Form 7460-1, Notice of Proposed Construction or Alteration.

Eight different FAA Aeronautical Studies (2012-AWP-3092-OE through -3099-OE) for the Kapālama site were previously submitted to the FAA which have been subsequently withdrawn/"terminated" per the FAA Web page https://oeaaa.faa.gov citing the need for more accurate locational data.

Stating that the "impact of any cranes at the Kapālama site would not be significant as the FAA process established under 14 CFR Part 77 would be initiated and completed by the operator" assumes that there will not be an impact because the operator will comply with 14 CFR 77 which requires that an analysis of the impact to safety be conducted. However, the operator is not required or asked to actually show that it complied with 14 CFR 77 and received a determination of "no hazard". Simply assuming that the operators have done so is effectively "letting the foxes guard the chicken coop" and without confirmation places the safety of the flying public at risk.

Second, the Kapālama Container Terminal lies directly in the FAA determined flight path for One Engine Inoperative departures from Runway 8L. Directly across the inlet from the proposed container terminal and adjacent to Sand Island Access Road is the location for the Horizon Container Pier. FAA Aeronautical Study No. 2011-AWP-8410-OE dated 03/01/2012, states that any obstruction greater than 225′ AGL (Above Ground Level) at the location of the Horizon Container Pier would warrant a Determination of Hazard to Air Navigation. The height of 225′ AGL at the Horizon Container Pier sets the slope of an imaginary line from the departure end of Runway 8L to the top of the 225′ crane at the Horizon pier. Any obstacle on the departure path which would exceed the FAA mandated imaginary slope line would pose a hazard to air navigation. The likely locations of the proposed Kapālama Container Terminal 208′ AGL cranes are approximately 850′ closer to the departure end of Runway 8L. 208′ cranes 850′ closer to the departure end of Runway 8L would exceed the height already determined by the FAA to warrant a Determination of Hazard to Air Navigation.

In sum, the safety of the flying public warrants that proper procedures be followed and that proper analysis be conducted to determine if a significant hazard exists or not. An assumption as stated in Table 7.1 does not ensure the flying public that there are "no significant risks to public health and safety" as outlined in the paragraph above.

Accordingly, Hawaiian requests that the proper obstacle coordinates for the proposed Kapālama Container Terminal cranes be submitted to the FAA pursuant to the conduct of 14 CFR 77 Aeronautical Studies. After the FAA determines whether the proposed construction warrants a "Determination of Hazard to Air Navigation", Chapter 7 of the DEIS should be rewritten and resubmitted as appropriate.

Sincerely,

Daniel F. Lyons
Senior Director
Performance Engineering and Operations Analytics

c: Mr. Glen Koyama, Project Manager, Belt Collins Hawaii LLC

Honolulu International Airport P.O. Box 30008 Honolulu, Hawaii 96820-0008 Phone (808) 835-3700 HawaiianAirlines.com

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
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3603.13

June 26, 2013

Mr. Daniel F. Lyons, Senior Director
Hawaiian Airlines
Honolulu International Airport
P.O. Box 30008
Honolulu, Hawai'i 96820-0008

Dear Mr. Lyons:

Subject: Kapālama Container Terminal Draft Environmental Impact Statement, Honolulu Harbor, O'ahu, Hawai'i

Thank you for your letter dated February 5, 2013, commenting on the *Kapālama ContainerTerminal Draft Environmental Impact Statement* (Draft EIS), including your support of the economy and Honolulu Harbor development. We are currently updating information in the Draft EIS and will be re-issuing the document for your second review as Version 2 of the Draft EIS.

In the updated Draft EIS, we will address your comments on construction equipment, gantry crane heights, and findings of determination from the Federal Aviation Administration. For the reader's quick reference and convenience, we will summarize in the Introduction Section of the updated Draft EIS all major changes that were incorporated in the document.

The following are responses to your comments.

1. The original Draft EIS statement, "…the potential impact of any cranes at the Kapālama site would not be significant as the FAA process established under 14 CRF Part 77 would be initiated and completed by the operator…" is probably confusing. We meant to state that crane heights at the Kapālama site will comply with FAA's final determination and any other permits and approvals necessary for operations will be required of the operators. An FAA Form 7460-1 for gantry crane heights of approximately 200 feet (similar to the existing crane heights at Sand Island) was submitted in April 2012.

2. The Harbors Division received FAA's determination of a Notice of Presumed Hazard in September 2012. Initial findings of the study indicated that the structure described in the FAA Form exceeds obstruction standards and/or would have an adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities.

The structure is presumed to be a hazard to air navigation. The determination (Notice of Presumed Hazard) further stated that if the structure were reduced in height so as not to exceed 155 feet above ground level (163 feet above mean sea level), it would not exceed obstruction standards, and a favorable determination could subsequently be issued. From FAA's standpoint, shorter cranes could meet FAA standards and not represent a hazard to navigable airspace.

3. FAA's Notice of Presumed Hazard stated that to pursue a favorable determination at the original height, "further study" would be necessary. In November 2012, the Harbors Division submitted a request for further study to the FAA. This request included updated coordinates for the crane locations. FAA considered the updated coordinates inconsistent with the original application and terminated the request.

4. In February 2013, Harbors Division revised and resubmitted FAA Form 7460-1 for crane heights of approximately 200 feet. The Harbors Division received FAA's analysis and determination in a Notice of Presumed Hazard in May 2013. Harbors Division will request for further study to be done.

5. Your One Engine Inoperative departure analysis for Runway 8L is acknowledged and appreciated. The Harbors Division will request further study. We welcome your input during the subsequent public review process, which will assist FAA in making its final determination.

We appreciate your participation in the Draft EIS review process and look forward to your continued involvement in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

Second Draft Environmental Impact Statement Distribution List

Distribution List - Kapalama Container Terminal and Tenant Relocation, Second Draft Environmental Impact Statement

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A-12. Second Draft Environmental Impact Statement Distribution List

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Yes	CD	1		Angel	L.	Figueroa		Director	United States Department of Agriculture	National Resources Conservation Service	Pacific Islands Area Office	
Yes	CD	1		Samuel	G.	Pooley	PhD	Director	United States Department of Commerce	National Oceanic and Atmospheric Administration	National Marine Fisheries Service	Pacific Islands Fisheries Science Center
	CD	1		Danielle		Jayewardene	PhD	RCUH Coral Reef Ecologist	United States Department of Commerce	National Oceanic and Atmospheric Administration	Pacific Island Regional Office	Habitat Conservation Division
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Yes	CD	1							United States Department of Transportation	Federal Transit Administration		
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Yes	CD	1		Russell	S.	Kokubun		Chairperson	State of Hawaii	Department of Agriculture		
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Yes	CD	1							State of Hawaii	Department of Business, Economic Development and Tourism	Research Division Library	
Yes	CD	1		Mark		Glick		Energy Program Administrator	State of Hawaii	Department of Business, Economic Development and Tourism	Strategic Industries Division	
Yes	CD	1		Richard	C.	Lim		Director	State of Hawaii	Department of Business, Economic Development and Tourism		
Yes	CD	1	MG	Darryll	D. M.	Wong		Adjutant General and Director of Civil Defense	State of Hawaii	Department of Defense		
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Yes	CD	1		Jobie		Masagatani		Chairperson	State of Hawaii	Department of Hawaiian Home Lands		
Yes	CD	3		Gary	L.	Gill		Deputy Director for Environmental Health Administration	State of Hawaii	Department of Health	Environmental Health Administration	
	CD	1		Alec		Wong	PE	Chief	State of Hawaii	Department of Health	Environmental Management Division	Clean Water Branch
	CD	1		Laura		McIntyre		Program Manager	State of Hawaii	Department of Health	Environmental Planning Office	
Yes	HD & CD	2		Genevieve		Salmonson		Interim Director	State of Hawaii	Department of Health	Office of Environmental Quality Control	
Yes	CD	1		Loretta	J.	Fuddy		Director	State of Hawaii	Department of Health		
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Yes	HD & CD	1		Nicki	Ann	Thompson		Interim Administrator	State of Hawaii	Department of Land and Natural Resources	State Historic Preservation Division	
Yes	CD	1		Angie	R.	Westfall		Architectural Branch Chief	State of Hawaii	Department of Land and Natural Resources	State Historic Preservation Division	
Yes	CD	5		William		Aila		Chairperson	State of Hawaii	Department of Land and Natural Resources		
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Yes	CD	1		Keola		Lindsey		Compliance Monitoring Program	State of Hawaii	Office of Hawaiian Affairs		
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Yes	CD	1		John		Cusick		Assistant Specialist	University of Hawaii at Manoa	Environmental Center		
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Yes	CD	1				Librarian			University of Hawaii at Manoa	Thomas H. Hamilton Library		
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COMMENT LETTERS

Kapalama Container Terminal and Tenant Relocations

Second Draft Environmental Impact Statement

Public Comment Period: October 8, 2013 to November 22, 2013

Date Received	Agency/ Organization	Summary of Comments	Action Taken
Federal Agencies/Officials			
11/22/13	Dept of the Army/Corps of Engineers - George Young	Corps' reference no. for Kapalama project is POH-2012-00081. DA permit will be required. Additionally, modifications to work built by the U.S. requires a Section 408 Permit.	Addressed comments in response letter.
State Agencies/Officials			
10/15/13	DAGS - James Kurata	No impact on DAGS's projects. No comments.	Sent Acknowledgement letter.
10/14/13	DOH - Env Plng Ofc - Laura McIntyre	Review DOH's Standard Comments. Suggest DOT-H examine available sources on strategies to support sustainable design of communities and encourages to apply such strategies. Consider conducting a Health Impact Assessment for future projects. Share all information with others to increase community awareness.	Addressed comments in response letter.
10/28/13	Office of Planning - Jesse Souki	Relationship of proposed action to the CZM Federal Consistency Review has been addressed. Revise information on page 5-29 to reflect completion of recent ORMP update.	Addressed comments in response letter and updated FEIS.
10/29/13	DOH - Clean Water Branch - Alec Wong	All projects must comply with the State Water Quality Standards. Noncompliance may result in penalties. If required, file a NPDES Permit Application. Confirm with USACE whether project requires a Department of the Army Permit which could also require a Section 401 WQC.	Addressed comments in response letter.
11/5/13	Dept of Defense, Office of the Adjutant General – Darryll D.M. Wong	No comments at this time. Contact this office upon completion of FEIS.	Sent Acknowledgement letter.
11/8/13	OEQC – Herman Tuiolosega to Glenn Okimoto (DOT through Gary Gill (DOH Env Health	Are Piers 20 and 23 part of project site? Rephrase two project objectives. Add transmission lines to consultation inputs. Tie project to harbor master plan to avoid segmentation. Use BMP for dredged material disposal. Indicate correct location	Addressed comments in response letter and updated FEIS.

Date Received	Agency/ Organization	Summary of Comments	Action Taken
	Admin)	of Keehi Boat Harbor. Observe BMP for traffic impact on Auiki. Update info on FAA application and Phase II ESA. AM and PM peak hour times? Clearly identify mitigations thru-out document.	
11/20/13	DOH Hazard Evaluation and Emergency Response Office - Jordan Nakayama	Include statement: "To avoid construction delays and ensure protection of human health and the environment, the site specific EHMP currently in development and consistent with HRS 128D, shall be . . ."	Addressed comments in response letter and updated FEIS.
11/20/13	DOH, Clean Air Branch- Nolan S. Hirai, P.E., Mgr.	Contact AA Office if project may involve asbestos. Comply with provisions of HAR, §11-60.1-33 on Fugitive Dust.	Addressed comments in response letter.
11/21/13	DOT – Airports Division - Ford Fuchigami	14 CFR Part 77 is defined. Heights of the proposed cranes have not been disclosed. FAA cannot make a hazard determination until Form 7460-1 is filed. Analysis of the proposed cranes on the OEI gradient should be included in Sections 3.4.1.1.1 and 3.4.1.1.2. Affected airlines should be consulted. Figure 3-11 is incorrect. Delete ". . . or above the established airport evaluation within three nautical miles of the airport reference point."	Addressed comments in response letter and updated FEIS.
11/22/13	School of Ocean and Earth Science and Technology/ Alexander Shor	UHMC will not be able to relocate to Piers 34-35 by early 2014 but instead, at the earliest, in the final quarter of 2014. As a result, vacating Snug Harbor will not occur until that time.	Sent Acknowledgement letter.
1/16/14	State Dept of Hawaiian Home Lands – Marvin Kaleo Manuel	No comment to offer at this time.	Sent Acknowledgement letter.
City & County Agencies/Officials			
10/25/13	HPD - Support Svcs Bureau - Clayton G. Kau	No concerns at this time.	Sent Acknowledgement letter.
10/28/13	Dept of Parks & Recreation - Toni P. Robinson	No comment. Project will have no impact on any Park program or facility.	Sent Acknowledgement letter.
11/1/13	Dept. of Design & Construction - Chris Takashige	No comment.	Sent Acknowledgement letter.
10/23/13	Honolulu Fire Department – Rolland J.	Provide water supply capable of supplying required fire flow and a fire department access road per Uniform Fire Code. Submit	Addressed comments in response letter.

Date Received	Agency/ Organization	Summary of Comments	Action Taken
	Harvest, Assistant Chief	civil drawings to HFD for review and approval.	
11/22/13	Dept of Plng and Permitting - George Atta	No comment.	Sent Acknowledgement letter.
11/21/13	Board of Water/Ernest Y.W. Lau	BWS system adequate to accommodate proposed container terminal. Water System Facilities Charges required and submit detailed project development plan for meter sizing. Coordinate with BWS relocation of water mains near Kalihi Channel and with HFD Fire Prevention Bureau on any on-site fire protection requirements.	Addressed comments in response letter.
11/19/13	Dept of Transportation Services/Michael D. Formby	Recommends that most construction material and equipment be transported to and from the site during off-peak hours.	Addressed comments in response letter..
Other Agencies/Organizations/Private Interests			
10/16/13	Aloha Air Cargo - Chris Dau	Disagree with conclusion that lowering crane height to 163 would mitigate air carrier concerns. Height being lowered only serves to meet min. regulatory requirements. Need to consider safety and payload impact.	Addressed comments in response letter.
10/24/13	Pendleton Flour Mills - Alan Koenig	Concerned about potential impact from proposed drydocks at Piers 24-25 on access by vessels to other sections of the slip. Need tenant to evaluate other operational alternatives for the drydocks at Piers 24-25. Need to consider and assess additional mitigative measures for HFM to vacate the use of Piers 24-25 for its grain shipments.	Addressed comments in response letter.
11/8/13	Hawaiian Airlines – Daniel F. Lyons	The maximum amount of payload that aircrafts can safely and legally carry are constrained by the obstacles in its path during the initial departure phase and the performance of aircrafts with one engine inoperative. Proposed cranes are higher and closer to runways than existing cranes. Annual cost of proposed cranes to Hawaiian would be $3.2M in lost passenger and cargo capacity. Conversely, average annual cost of $3.9 to $5.8M due to higher required takeoff power and increase in maintenance cost. Consider low-profile	Addressed comments in response letter and updated FEIS.

Date Received	Agency/ Organization	Summary of Comments	Action Taken
		cranes as an alternative. Include analysis of impacts to Hawaiian in Table 7-1 of EIS.	
11/19/13 (hand-delivered)	Pacific Shipyards International - Steven Loui	PSI formally provides supplemental info to support the Kapalama EIS findings with respect to PSI's relocation. None of it conflicts with or indicates new or different environmental consequences from the first and second draft EIS. Further, H-DOT has misinterpreted and misapplied HEPA, HRS Chap. 343. Hence, the SDEIS is unlawful. Finally, PSI identifies the appropriate steps to fully resolve its concerns and allow the EIS to move forward.	Addressed comments in response letter and updated FEIS.
11/22/2013 Supplemental to 10/23/2013 letter	Pendleton Flour Mills - Alan Koenig	The proposed relocation will significantly impact PFM's operations. The SDEIS did not adequately address these probable impacts on PFM's berthing access to Piers 22-23, PFM's existing land operations, the company's cost to convert to a new grain transfer system, the surrounding community, the area's existing infrastructure, the existing flour industry in Hawaii, and the production of the byproduct known as wheat millrun.	Addressed comments in response letter.
11/22/13	HECO - Rouen Liu	No objections to project. HECO needs continued access to its easements and facilities on subject property. Should lines be relocated, obtain proper approvals. Keep HECO posted on progress.	Addressed comments in response letter.
11/22/13	Airlines Committee of Hawaii - Co-Chair/Blaine Miyasato/Matt Shelby	Construction equipment as a potential obstruction to navigable airspace is concerning. The initial FAA findings on the proposed cranes is also concerning until FAA can issue a final Determination of No Hazard. As such, ACH requests "further study" be completed to determine "no hazard" prior to finalization of the EIS.	Addressed comments in response letter.
11/21/13	Servco Pacific Inc. - Carol K. Lam/via email also from Evie Kobayashi (same letter)	There seems little effort to address Servco's situation as a neighboring stakeholder whose property and associated rights may be adversely affected by the proposed project. No real effort to adjust the project site plan to mitigate impact on Servco's access situation. Kapalama's 94 acres is large enough to allow flexibility in site planning. Inadequate and meaningless discussion on Servco's ingress and egress	Addressed comments in response letter.

Date Received	Agency/ Organization	Summary of Comments	Action Taken
		options. Servco's zoning is I-2 which should include full access opportunities. DOT-H does not provide clear explanation why Easement 6B is needed for Kapalama when it occupies only19,679 s.f. of 4,094,640 s.f. of the site. While a permanent right of access over Easement 7 would be preferable, other options than a permanent right-of-way to SIAR are available which warrant a "fresh look." Disagrees that no unresolved issues have been identified.	

DEPARTMENT OF THE ARMY
HONOLULU DISTRICT, U.S. ARMY CORPS OF ENGINEERS
FORT SHAFTER, HAWAII 96858-5440

November 22, 2013

Regulatory Branch

File Number **POH-2012-00081**

State of Hawaii
Department of Transportation, Harbors Division
Attention: Cater Luke
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Luke:

This responds to your October 7, 2013 letter requesting review comments on the "*Kapalama Container Terminal and Tenant Relocations – Second Draft Environmental Impact Statement (SDEIS)*", which was prepared to comply with Hawaii Revised Statues, Chapter 343, and Hawaii Administrative Rules, Title 11, Chapter 200. We have reviewed the information you submitted for the proposed project pursuant to our authorities under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) (Section 10), Section 404 of the Clean Water Act (33 U.S.C. 1344) (Section 404), and Section 103 of the Marine Protection Research and Sanctuaries Act (33 U.S.C. 1413) (Section 103). This project is assigned Corps' reference number **POH-2012-00081**. Please cite the reference number in any future correspondence concerning this project.

Section 10 requires that a Department of the Army (DA) permit be obtained from the U.S. Army Corps of Engineers (Corps) prior to undertaking any construction, dredging, or other activity occurring in, over, or under or affecting navigable waters of the U.S. For tidal waters, the shoreward limit of the Corps' jurisdiction extends to the Mean High Water Mark (MHWM).

Section 404 requires that a DA permit be obtained for the discharge (placement) of dredged and/or fill material into waters of the U.S., including wetlands. For tidally influenced waters, in the absence of adjacent wetlands, the shoreward limit of the Corps' jurisdiction extends to the High Tide Line, which in Hawai'i may be approximated by reference to the Mean Higher High Water Mark (MHWWM). For non-tidal waters, the lateral limits of the Corps' jurisdiction extend to the Ordinary High Water Mark (OHWM) or the approved delineated boundary of any adjacent wetlands.

Section 103 requires that DA permit be obtained for the transportation of dredged material for the purpose of dumping it in ocean waters.

18

Based on information provided, we have determined **Honolulu Harbor** is a *navigable water of the U.S.,* which is subject to the Corps' regulatory jurisdiction. The SDEIS includes proposed plans that would involve work activities within navigable waters, including the placement and/or discharge of dredged and/or fill material, and the transportation of dredged material for ocean disposal; therefore, **a DA permit is required.**

Be advised, modifications to work built by the United States, including seawalls, bulkhead, wharfs, piers, or other structures require approval from the Corps under Section 14 of the Rivers and Harbors Act (33 U.S.C. 408) (Section 408). Please coordinate with our Civil Works Branch Section 408 Program Manager, Ms. Lorayne Shimabuku at (808) 835-4030 or via email at Lorayne.P.Shimabuku@usace.army.mil to ensure your project is complies with Section 408 program and permit requirements, if required.

This information does not relieve you of the responsibility to obtain any other permits, licenses, or approvals that may be required under County, State, or Federal law for your proposed work.

Thank you for providing us with the opportunity to comment on this project. Should you have any questions, please contact Ms. Joy Anamizu at (808) 835-4308 or via e-mail at Joy.N.Anamizu@usace.army.mil. You are encouraged to provide comments on your experience with the Honolulu District Regulatory Branch by accessing our web-based customer survey form at *http://per2.nwp.usace.army.mil/survey.html*.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch

Cc:
L. Shimabuku, CEPOH-PP-C
J. Hiramatsu, Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4525.14

April 1, 2014

Mr. George P. Young, P.E., Chief
Regulatory Branch
U.S. Army Corps of Engineers, Honolulu District
Department of the Army
Fort Shafter, Hawaii 96858-5440

Dear Mr. Young:

Subject: Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement, Honolulu Harbor, O'ahu – Job H.C. 10298 U.S. Army Corps of Engineers, Ref. No. POH-2012-00081

Thank you for your letter dated November 22, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comments on the SDEIS, we provide the following:

1. We acknowledge the requirement of a Department of the Army (DA) permit for the Kapālama project since construction work and possible placement of dredged/fill material will occur in navigable waters of the United States. Pending results of sediment testing in the project's waterfront area, transportation of dredged material and ocean disposal of such material is a possibility for the project. If disposal is required, proper approvals from the DA and U.S. Environmental Protection Agency under Section 103 of the Marine Protection Research and Sanctuaries Act will be sought prior to actual disposal.

2. We acknowledge that any modification to work built by the U.S. will require approval from the U.S. Army Corps of Engineers under Section 14 of the Rivers and Harbors Act and that any such modifications comply with the Act's Section 408 program and permit requirements.

3. We understand that other than the DA permit requirements, we are responsible for obtaining any other approvals as may be required under County, State, and Federal laws.

We appreciate your participation in the EIS review process and look forward to your continued interest in this important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

State of Hawaii Agencies

Comment and Response Letters

NEIL ABERCROMBIE
GOVERNOR

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2013 OCT 15 PM 2: 50
BELT COLLINS HAWAII

Dean H. Seki
Comptroller

Maria E. Zielinski
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810-0119

(P)1233.3

OCT 11 2013

MEMORANDUM

TO: Mr. Carter Luke, Engineering Program Manager
Highways Division
Department of Transportation

FROM: James K. Kurata
Public Works Division

SUBJECT: Kapalama Container Terminal and Tenant Relocation Second Draft, Environmental Impact Statement
Tax Map Key: Kapalama Site: 1-2-25:02, 09, 12, 16, 17, 30, 40, 42 44 to 47, 49 to 53, 55, 58, to 68, 71, 73, 74, to 78, 80, 82, 83, 86, 88, 92, 94, 97, 98, 108 to 112, and portions of 11 and 54; and 1-5-32: portions of 2, 8, and 43.
Pier 24-28 Site: 1-5-38: 11, 17, 55, 72, 73, 74, and portions of 1, 4, and 5.
Honolulu, Oahu, Hawaii

Thank you for the opportunity to provide comments for the subject project. This project does not impact any of the Department of Accounting and General Services' projects or existing facilities in this area, and we have no comments to offer at this time.

If you have any questions, your staff may call Mr. Alva Nakamura of the Planning Branch at 586-0488.

AN:mo
c: Ms. Joanne E. Hiramatsu, Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
4481.14

March 17, 2014

TO: THE HONORABLE DEAN H. SEKI
DIRECTOR
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

ATTENTION: MR. JAMES K. KURATA
PUBLIC WORKS DIVISION
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

FROM: GLENN M. OKIMOTO, PH.D.
DIRECTOR OF TRANSPORTATION

SUBJECT: KAPĀLAMA CONTAINER TERMINAL AND TENANT RELOCATIONS,
SECOND DRAFT ENVIRONMENTAL IMPACT STATEMENT,
HONOLULU HARBOR, OʻAHU – JOB H.C. 10298

Thank you for your letter dated October 11, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). We acknowledge your determination that our project does not impact any Department of Accounting and General Services projects or existing facilities and that you have no other comments to offer at this time.

We appreciate your participation in the EIS review process and look forward to your continued interest in this very important State project.

c: DEP-P, DEP-H, HAR, -E, -EP, -ESP
Belt Collins Hawaii LLC

DW:va

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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2013 OCT 21 PM 3:16

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STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

In reply, please refer to:
File:

13-194
Kapalama SDEIS

October 14, 2013

TO: Carter Luke, Engineering Program Manager
Department of Transportation, Harbors Division

FROM: Laura McIntyre, Manager
Department of Health, Environmental Planning Office

SUBJECT: KAPALAMA CONTAINER TERMINAL AND TENANT RELOCATIONS – SECOND DRAFT ENVIRONMENTAL IMPACT STATEMENT 2006.70.0304/13P-077

The Department of Health (DOH), Environmental Planning Office (EPO), acknowledges receipt of your letter dated October 7, 2013. Thank you for allowing us to review and comment on the subject document. The document was routed to the relevant Environmental Health divisions and offices. They will provide specific comments to you if necessary. EPO recommends that you review the Standard Comments (www.health.hawaii.gov/epo/ under the land use tab). You are required to adhere to all Standard Comments specifically applicable to this application.

EPO suggests that you examine the many sources available on strategies to support the sustainable design of communities, including the following:
State of Hawaii, Office of Planning: www.planning.hawaii.gov and the new 2013 ORMP;
U.H., School of Ocean and Earth Science and Technology: www.soest.hawaii.edu;
U.S. Environmental Protection Agency's sustainability programs: www.epa.gov/sustainability; and
U.S. Green Building Council's LEED program: www.usgbc.org/leed.

The DOH encourages everyone, to apply these sustainability strategies and principles early in the planning and review of projects. We also request that for future projects you consider conducting a Health Impact Assessment (HIA). More information is available at www.cdc.gov/healthyplaces/hia.htm. We request you share all of this information with others to increase community awareness on sustainable, innovative, inspirational, and healthy community design.

We require a written response confirming receipt of this letter and any other letters you receive from DOH in regards to this submission. You may mail your response to 919 Ala Moana Blvd., Ste. 312, Honolulu, Hawaii 96814. However, we would prefer an email submission to epo@doh.hawaii.gov. We anticipate that our letter(s) and your response(s) will be included in the final document. If you have any questions, please contact me at (808) 586-4337.

c: ✓Joanne E. Hiramatsu, Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4503.14

March 24, 2014

TO: THE HONORABLE LINDA ROSEN, M.D., M.P.H.
DIRECTOR OF HEALTH

ATTN: MS. LAURA MCINTYRE, MANAGER
ENVIRONMENTAL PLANNING OFFICE
DEPARTMENT OF HEALTH

FROM: GLENN M. OKIMOTO, PH.D.
DIRECTOR OF TRANSPORTATION

SUBJECT: KAPĀLAMA CONTAINER TERMINAL AND TENANT RELOCATIONS, SECOND DRAFT ENVIRONMENTAL IMPACT STATEMENT, HONOLULU HARBOR, OʻAHU – JOB H.C. 10298

Thank you for your letter dated October 14, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comments on the SDEIS, we provide the following:

1. Regarding your comment on examining strategies to support the sustainable design of communities, we have reviewed various sources on sustainable resources with their application to public works projects, and their use is a consideration in our current project design.

2. We will consider conducting a Health Impact Assessment for future projects if appropriate for the proposed action.

3. The EIS is an instrument for disclosing and distributing information and increasing community awareness of the beneficial effects of our proposed action.

We appreciate your participation in the EIS review process and look forward to your continued interest in this very important State project.

cc: DEP-P, DEP-H, HAR, -E, -EP, -ESP
✓Belt Collins Hawaii LLC

DW:va

OFFICE OF PLANNING
STATE OF HAWAII

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

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NEIL ABERCROMBIE
GOVERNOR

JESSE K. SOUKI
DIRECTOR
OFFICE OF PLANNING

Telephone: (808) 587-2846
Fax: (808) 587-2824
Web: http://planning.hawaii.gov/

Ref. No. P-14146

October 23, 2013

To: Carter Luke, Engineering Program Manager
Harbors Division
Department of Transportation

From: Jesse K. Souki, Director

Subject: Kapalama Container Terminal
Second Draft Environmental Impact Statement

Thank you for the opportunity to provide comments on the Second Draft Environmental Impact Statement (SDEIS) for the Kapalama Container Terminal project located in Honolulu, Oahu, Hawaii.

Upon review of the SDEIS, the Office of Planning offers these comments:

1. As mentioned in our previous review of this project's draft environmental impact statement, you have addressed our comment that the relationship of the proposed project to federal laws and executive orders should include a reference to the Coastal Zone Management (CZM) Federal Consistency Review, which is triggered by requirements for federal permits (i.e., permits from the U.S. Army Corps of Engineers).

2. The SDEIS describes the proposed project's consistency with the objectives and policies of the Hawaii CZM Act (Hawaii Revised Statutes Section 205A-2); however, on page 5-29 of the SDEIS, reference is made to the Ocean Resources Management Plan - 2006 (ORMP). As of July 2013, the ORMP has been updated. Please revise the information contained on page 5-29 to reflect the completion of the ORMP update. A copy of the updated ORMP may be viewed or downloaded at http://files.hawaii.gov/dbedt/op/czm/ormp/ormp_update_reports/final_ormp_2013.pdf.

Should you have questions or require clarification on the above comments, please contact Josh Hekekia of our CZM Program at 587-2845.

c: √Mr. Glen Koyama, Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4476.14

March 17, 2014

TO: THE HONORABLE RICHARD LIM
DIRECTOR
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT AND TOURISM

ATTENTION: LEO R. ASUNCION
ACTING DIRECTOR
OFFICE OF PLANNING

FROM: GLENN M. OKIMOTO, PH.D.
DIRECTOR OF TRANSPORTATION

SUBJECT: KAPĀLAMA CONTAINER TERMINAL AND TENANT RELOCATIONS, SECOND DRAFT ENVIRONMENTAL IMPACT STATEMENT, HONOLULU HARBOR, OʻAHU –JOB H.C. 10298

Thank you for your letter dated October 23, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comments on the SDEIS, we provide the following:

1. We acknowledge your comment that we have addressed the proposed action's relationship to the Coastal Zone Management (CZM) Federal Consistency Review.

2. The description below will be included in Chapter 5, Section 5.9 of the Final EIS to reflect the completion of the Hawaiʻi Ocean Resources Management Plan, July 2013 update:

The Hawaiʻi Ocean Resources Management Plan (ORMP), updated in July 2013, sets forth guiding principles and recommendations for the state to achieve comprehensive and integrated ocean and coastal resources management. The Office of Planning, Coastal Zone Management (CZM) Program is responsible for the review and update of the ORMP as well as with the coordination of the overall implementation of the plan.

The 2013 ORMP has established 13 Management Priorities under three Perspectives as follows:

Perspective 1: Connecting Land and Sea

Management Priority #1	*Appropriate Coastal Development*
Management Priority #2	*Management of Coastal Hazards*
Management Priority #3	*Watershed Management*

Perspective 2: Preserving our Ocean Heritage

Management Priority #4	*Marine Resources*
Management Priority #5	*Coral Reef*
Management Priority #6	*Ocean Economy*
Management Priority #7	*Cultural Heritage of the Ocean*

Perspective 3: Promoting Collaboration and Stewardship

Management Priority #8	*Training, Education, and Awareness*
Management Priority #9	*Collaboration and Conflict Resolution*
Management Priority #10	*Community and Place-Based Ocean ManagementProjects*
Management Priority #11	*National Ocean Policy and Pacific Regional Ocean Initiatives*

The goals of Management Priorities #1, #4, #5, #6 and #7 have relevance to Kapālama's Proposed and Alternative Actions.

Management Priority #1, Goal C: *Expand options to protect existing developments from further coastal erosion.*
Response: *The Proposed and Alternative Actions will involve waterfront improvements within an established commercial harbor. The waterfront of the project site is not subject to significant coastal erosion. The design of the waterfront improvements will meet Hawaii State Department of Transportation, Harbors Division requirements and U.S. Army Corps of Engineers' approval.*

Management Priority #4, Goal A: *Promote protection and sustainable use of marine resources.*
Response: *The State Department of Health categorizes the water quality in Honolulu Harbor as "impaired." A marine biotic survey was conducted to determine existing aquatic resources in the harbor waters around the project. Impacts on the marine biota will be avoided or minimized by complying with existing management measures, including regulatory requirements and standard operating procedures. Specific mitigation measures for the in-water construction impacts will be addressed during the Endangered Species Act Section 7 and Magnuson-Stevens Act Essential Fish Habitats consultations and U.S. Army Corps of Engineers permitting processes.*

Management Priority #4, Goal D: *Minimize the likelihood of aquatic invasive species introductions and spread, into and within Hawai'i, from sources associated with vessels.*
Response: *The Proposed and Alternative Actions will not interfere with DLNR's responsibility for preventing the introduction of alien aquatic organisms and carrying out the destruction of them through the regulations of ballast water discharges and hull fouling organisms. Further, the Proposed and Alternative Actions will provide for the Department of Agriculture to develop of a biosecurity facility at Kapālama, which would support efforts to mitigate invasive species.*

Management Priority #5, Goal C: *Implement an effective day-use moorings program that minimizes impacts to coral reef ecosystems and user conflicts.*
Response: *The Proposed and Alternative Actions will involve commercial vessels in Honolulu Harbor but not vessels within the jurisdictional waters of the Department of Land and Natural Resources, Division of Boating and Ocean Recreation.*

Management Priority #6, Goal C: *Ensure a healthy shipping industry that uses ocean and coastal resources sustainably.*
Response: *The Proposed and Alternative Actions are intended to provide expanded facilities on an existing waterfront industrial-zoned property to accommodate projected increased shipment of containers to Hawai'i.*

Management Priority #7, Goal A: *Preserve cultural heritage of the ocean and protect Native Hawaiian rights for access and gathering in ocean and on coastline, and protect ocean and coastal resources upon which Native Hawaiian cultural practices depend.*
Response: *The Kapālama site is comprised primarily of fill land and was under military control from the 1940s till about the 1990s when the State obtained complete ownership or jurisdiction of the area for harbor use. As an active commercial harbor in the U.S., Honolulu Harbor is subject to federal security regulations enforced by the U.S. Coast Guard. For the safety of the public and security of the harbor no swimming or diving in the harbor is permitted. Areas actively used for cargo operations are fenced and admissions are controlled. Fishing continues to be an active activity in the islands and in the area, but Honolulu Harbor waters are no longer used for this activity.*

We appreciate your participation in the EIS review process and look forward to your continued interest in this very important State project.

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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2013 OCT 29 PM 2:04
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STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

In reply, please refer to:
EMD/CWB

10071PCM.13

October 22, 2013

Mr. Carter Luke
Engineering Program Manager
State of Hawaii
Department of Transportation
Harbors Division
79 S. Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Luke:

SUBJECT: Comments on the Second Draft Environmental Impact Statement (SDEIS) for the Kapalama Container Terminal and Tenant Relocation Honolulu, Island of Oahu, Hawaii

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of your letter, dated October 7, 2013, requesting comments on your project. The DOH-CWB has reviewed the subject document and offers these comments. Please note that our review is based solely on the information provided in the subject document and its compliance with the Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at: http://health.hawaii.gov/epo/files/2013/05/CWB-standardcomment.pdf.

1. Any project and its potential impacts to State waters must meet the following criteria:

   a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.

   b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.

   c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

2. You may be required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). An application for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. To request NPDES permit coverage, you must submit the CWB

Individual NPDES Form through the e-Permitting Portal and the hard copy certification statement with $1,000 filing fee. Please open the e-Permitting Portal website at: https://eha-cloud.doh.hawaii.gov/epermit/View/home.aspx. You will be asked to do a one-time registration to obtain your login and password. After you register, click on the Application Finder tool and locate the "CWB Individual NPDES Form." Follow the instructions to complete and submit this form.

3. If your project involves work in, over, or under waters of the United States, it is highly recommend that you contact the Army Corp of Engineers, Regulatory Branch (Tel: 438-9258) regarding their permitting requirements.

   Pursuant to Federal Water Pollution Control Act [commonly known as the "Clean Water Act" (CWA)], Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters..." (emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40 of the Code of Federal Regulations, Section 122.2; and Hawaii Administrative Rules (HAR), Chapter 11-54.

4. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the State's Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of $25,000 per day per violation.

If you have any questions, please visit our website at: http://health.hawaii.gov/cwb, or contact the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

Alec Wong

ALEC WONG, P.E., CHIEF
Clean Water Branch

CM:jst

c: Ms. Joanne E. Hiramatsu, Belt Collins Hawaii LLC
[via email jhiramatsu@beltcollins.com only]
DOH-EPO #13-194 [via email only]

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4477.14

March 17, 2014

TO: THE HONORABLE LINDA ROSEN, M.D., M.P.H.
DIRECTOR OF HEALTH

ATTENTION: MR. ALEC WONG, P.E., CHIEF
CLEAN WATER BRANCH
DEPARTMENT OF HEALTH

FROM: GLENN M. OKIMOTO, PH.D.
DIRECTOR OF TRANSPORTATION

SUBJECT: KAPĀLAMA CONTAINER TERMINAL AND TENANT RELOCATIONS, SECOND DRAFT ENVIRONMENTAL IMPACT STATEMENT, HONOLULU HARBOR, O'AHU – JOB H.C. 10298

Thank you for your letter dated October 22, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comments on the SDEIS, we provide the following:

1. We have briefed ourselves with your standard comments as provided on website: http://health.hawaii.gov/epo/files/2013/10/CWB_Oct22.pdf. Further, we acknowledge the provisions of Hawai'i Administrative Rules (HAR), Chapters 11-54 and 11-55 and will comply with the Antidegradation Policy of HAR, Section 11-54-1.1, Designated Uses of HAR, Section 11-54-3, and Water Quality Criteria of HAR, Sections 11-54-4 through 11-54-8. As the project will involve work in the harbor waters due to construction of the project's new piers, a U.S. Department of the Army (DA) Permit from the U.S. Army Corps of Engineers (USACE) and a Section 401 Water Quality Certification (WQC) from the Hawai'i Department of Health (DOH), Clean Water Branch (CWB) will be obtained prior to the start of construction. The application for the WQC will include information on project compliance with the above HAR criteria and requirements.

2. The construction area of the proposed project is larger than one acre and storm water runoff from the construction area is anticipated to flow into State surface waters. A

National Pollutant Discharge Elimination System (NPDES) permit will be obtained from DOH before construction commences. All rules of application filing will be followed.

3. As indicated above, a DA Permit will be obtained from the USACE as well as a Section 401 WQC from the DOH, CWB for work in the waters of the United States which includes Honolulu Harbor waters.

4. It is acknowledged that all projects must comply with the State's Water Quality Standards and that noncompliance with the water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties.

We appreciate your participation in the EIS review process and look forward to your continued interest in this very important State project.

c: DEP-P, DEP-H, HAR, -E, -EP, -ESP
Belt Collins Hawaii LLC

DW:va

NEIL ABERCROMBIE
GOVERNOR

RECEIVED
2013 NOV 12 PM 3:37
BELT COLLINS HAWAII

DARRYLL D. M. WONG
MAJOR GENERAL
ADJUTANT GENERAL

JOSEPH K. KIM
BRIGADIER GENERAL
DEPUTY ADJUTANT GENERAL

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD
HONOLULU, HAWAII 96816-4495

NOV - 5 2013

Ms. Joanne E. Hiramatsu
Director of Planning
Belt Collins Hawaii, LLC
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Subject: Kapalama Container Terminal and Tenant Relocations – Second Draft Environmental Impact Statement (SDEIS)
Tax Map Key: Kapalama Site: 1-2-25: 02, 09, 12, 16, 17, 30, 40, 42, 44 to 47, 49 to 53, 55, 58 to 68, 71, 73, 74 to 78, 80, 82, 86, 88, 92, 94, 97, 98, 108 to 112, and portions of 11 and 54; and 1-5-32: portions of 2, 8, and 43. Pier 24-28 Site: 1-5-38: 11, 17, 55, 72, 73, 74, and portions 1, 4, and 5.
Honolulu, Oahu, Hawaii

Dear Ms. Hiramatsu:

Thank you for the opportunity to comment on the above project. The State of Hawaii Department of Defense has no comments to offer relative to the project at this time.

Please contact this office upon completion of the Final Environment Impact Statement. Should you have any questions or concerns, please have your staff contact Mr. Lloyd Maki, our Acting Chief Engineering Officer, at 733-4250.

Sincerely,

for DARRYLL D.M. WONG
Major General
Hawaii National Guard
Adjutant General

c: Mr. Ian Duncan/Mr. Albert Chong, State Civil Defense

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
4479.14

March 17, 2014

TO: MAJOR GENERAL DARRYLL D.M. WONG
ADJUTANT GENERAL
DEPARTMENT OF DEFENSE

FROM: GLENN M. OKIMOTO, PH.D.
DIRECTOR OF TRANSPORTATION

SUBJECT: KAPĀLAMA CONTAINER TERMINAL AND TENANT RELOCATIONS, SECOND DRAFT ENVIRONMENTAL IMPACT STATEMENT, HONOLULU HARBOR, OʻAHU – HC 10298

Thank you for your letter dated November 5, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). We acknowledge you have no comments on the project at this time. We will notify your office of the Final Environment Impact Statement (EIS) when completed.

We appreciate your participation in the EIS review process and look forward to your continued interest in this very important State project.

c: DEP-P, DEP-H, HAR, -E, -EP, -ESP
✓Belt Collins Hawaii LLC

DW:va

Date: 11/12/2013

State of Hawaii
DEPARTMENT OF TRANSPORTATION

Log No: DIR 1645

Suspense: 11/26/2013

FROM: DIRECTOR

TO: HAR

Subject: KAPALAMA CONTAINER TERMINAL AND TENANT RELOCATIONS, SECOND DRAFT ENVIRONMENTAL IMPACT STATEMENT, HONOLULU HARBOR, OAHU - JOB H.C. 10298

- ☒ DIR
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- ☐ HWY
- ☐ BUS
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- ☐ CSS
- ☐ LEG

FOR: APPROPRIATE ATTENTION & ACTION

- ☒ Appropriate Attention & Action
- ☐ Arrange Meeting
- ☐ Investigate & Report Back
- ☐ Comments & Recommendations
- ☐ Draft Reply
- ☐ Final Reply for Gov's Sig
- ☐ Direct Action/Reply
- ☐ Information
- ☐ See Me
- ☐ Signature
- ☐ Submit Copy of Response
- ☐ File
- ☐ Review
- ☐ Return
- ☐ Phone Call ________
- ☐ Follow-up Interim Reply

DO NOT REMOVE FROM CORRESPONDENCE

DIR 1645

NEIL ABERCROMBIE
GOVERNOR

OEQC Director

STATE OF HAWAI'I
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
Department of Health
235 South Beretania Street, Suite 702
Honolulu, Hawai'i 96813
Telephone (808) 586-4185
Facsimile (808) 586-4186
Email: oeqchawaii@doh.hawaii.gov

November 8, 2013

DIRECTOR'S OFFICE
DEPT. OF
TRANSPORTATION
2013 NOV 12 P 12: 50

TO: GLENN M. OKIMOTO, PH.D.
Director of Transportation

THROUGH: GARY GILL, Deputy Director
Environmental Health Administration

FROM: HERMAN TUIOLOSEGA, Senior Planner
Office of Environmental Quality Control

SUBJECT: Kapalama Container Terminal and Tenant Relocations
Second Draft Environmental Impact Statement, Honolulu Harbor, O'ahu – Job H.C. 10298

Aloha. The Hawai'i Office of Environmental Quality Control is in receipt of your September 26, 2013, memo transmitting the subject DEIS for publication in The Environmental Notice issue of October 8, 2013. The publication started the statutory 45-day review and comment period.

OEQC will process the acceptance of the final EIS for the subject project, on behalf of the accepting authority, who is the governor, State of Hawai'i, in this case. OEQC staff has reviewed the DEIS and offers the following comments:

1. Page SS-2 (p. 31, PDF Reader), lines 15 to 21, identifies the extent of the project site as piers 24 to 28 and piers 40 to 43. However, on page 1-5 (p. 42, PDF reader), lines 22 to 26, there is discussion of activity for piers 20 and 23. The delineation for the project boundaries in Figure 1-1 does not include piers 20 and 23 as part of the project and study. Please clarify this matter; if project activities include piers 20 and 23, these properties should be part of the subject DEIS and delineated as such.

2. Please rephrase bullet point on lines 1 and 2 on page 1-13 (p. 50, PDF Reader) to make better sense; also do the same for lines 14 and 15 on the same page.

3. Pages 1-17 to 1-18 (pp. 54 to 55, PDF Reader) discuss the summary of input from consultations. Please include an assessment of all transmission pipelines and management or pipe inventory within the project parameters. If such an inventory list exists, please incorporate it by reference to the EIS.
4. The last paragraph on page 2-7 and top of page 2-8 (pages 64, 65, PDF Reader) discusses the use of piers 12 and 15 for the first time in the document. The paragraph talks about a Chapter 343 study for the move by the Clean Islands Council and Marine Spill Response Corporation.

   The shuffling of tenants along the Honolulu Harbor has created more than one Chapter 343 study. To address appearances of segmentation as prescribed under Hawai'i Administrative Rules, Section 11-200-7, all Chapter 343 studies conducted in Honolulu Harbor must be tied together under the DOT Harbors Master Plan, including the subject DEIS, or be cross-referenced as part of ongoing waterfront improvement projects.

5. We advise that best management practice be observed when disposing dredged material, as discussed in page 2-11 (p. 68, PDF Reader). Care should be taken to avoid inadvertent, accidental spills when transporting dredged material for disposal.

6. Line 18, page 3-5 (p. 96, PDF Reader) incorrectly locates Ke'ehi Boat Harbor northeast of the Kapalama site; Ke'ehi Boat Harbor is located northwest of the Kapalama site.

7. Page 3-6 (p. 97, PDF Reader) discusses the project's operational impacts and the non-conforming status of residential use near Auiki Street; please observe best management practice so address traffic impacts during construction and when the project is operational.

8. Pages 3-27 and 3-28 (pages 118 and 119, PDF Reader), discusses the gantry crane heights unresolved issue with the Federal Aeronautics Administration; please provide an update of this matter in the final EIS.

9. Provide an update of new information regarding Section 3.4.2 Hazardous Substances/Materials/Waste and Petroleum, on page 3-29 (p. 120, PDF Reader). Please include any updates on site mitigation as discussed in page 3-33 (p. 124, PDF Reader), lines 28 to 32; incorporate any new information about the Phase II Environmental Site Assessment by reference.

10. The last paragraph of page 3-41 (p. 132, PDF Reader) introduces Table 3-3 and conditions at the traffic study intersections during peak hours for morning and afternoon; please include the time of the peak hours for morning and afternoon in the table summary.

11. The table of Summary of Impacts in Chapter 7 does not clearly identify mitigations for impacts. It is noted that although this draft EIS is very comprehensive, the format doesn't clearly identify mitigations throughout the document under "mitigation" heading. It would be very helpful to extract and clearly identify mitigations for each impact in the final EIS under "mitigation".

Thank you for the opportunity to review the subject document and provide comments. Please feel free to contact me at (808) 586-4185 if you have any further questions.

c: Dean Watase, Harbors Engineering Planning Section

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
INTERIM DIRECTOR

Deputy Directors
RANDY GRUNE
AUDREY HIDANO
ROSS M. HIGASHI
JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4848.15

July 31, 2014

TO: THE HONORABLE JESSICA WOOLEY, DIRECTOR
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
DEPARTMENT OF HEALTH

FROM: FORD N. FUCHIGAMI
INTERIM DIRECTOR OF TRANSPORTATION

SUBJECT: KAPĀLAMA CONTAINER TERMINAL AND TENANT RELOCATIONS, SECOND DRAFT ENVIRONMENTAL IMPACT STATEMENT, HONOLULU HARBOR, OʻAHU, HAWAIʻI – JOB H.C. 10298

Thank you for the letter dated November 8, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comments on the SDEIS, we provide the following:

1. Discussions on activities at Piers 20 to 23 are part of the SDEIS's evaluation of the project *impacts*. When the anticipated maritime tenant at the Kapālama site relocates to Piers 24 and 25, its operations along the new piers would impact operations/activities at Piers 22 and 23. As an alternative provision, the existing user of Piers 22 and 23 could bring its shipments in through Piers 19 and/or 20. The SDEIS describes this probable impact and potential mitigation in Section 3.2.2.2 of the SDEIS.

2. Bullet point lines 1 and 2 on page 1-13 will be revised as follows:

   To maintain efficient container terminal operations, provide expeditious and safe access for entering and departing container trucks through efficient gates and special queuing lanes.

   Bullet point lines 14 and 15 on the same page will be revised as follows:

   To minimize safety risks to harbor operators, provide sufficient space to maneuver and securely handle containers.

3. Agency and public input during the consultation process did not notably include a call for assessing transmission pipelines and management in the SDEIS; hence its non-listing in Section 1.3.4. As a normal component of the SDEIS however, a description of the utilities that serve the Kapālama site and how they may be impacted by the project is included in Section 3.6 of the SDEIS. Section 3.6.1 of the SDEIS further describes all transmission pipelines within and immediately around the Kapālama site.

4. The master plan for Honolulu Harbor is embodied in the Department of Transportation, Harbors Division's (DOT-H) *Oahu Commercial Harbors 2020 Master Plan.* Prepared in 1997, it replaced the *Honolulu Waterfront Master Plan* completed in 1989. As stated on page 1-1 of Chapter 1 in the SDEIS, the cornerstone project of the 2020 Master Plan is the redevelopment of the Kapālama site for an overseas container terminal to increase existing container terminal capacity in the harbor. On page 1-6 of the SDEIS, other documents are listed showing additional references to the future development of a container terminal at Kapālama. One of the documents, the Harbors Modernization Plan, includes an appropriation from the State Legislature to implement the long-term, planned improvements in the harbor, and most recently, the Governor's "New Day" initiative puts the priority projects, including the Kapālama Container Terminal, in motion.

   Sections 2.2.2 and 6.2 of the SDEIS identify other DOT-H projects in the harbor that are presently being considered or formally planned. Each of these projects, including the University of Hawaiʻi Marine Center relocation to Piers 34 and 35, and Clean Islands Council/Marine Spill Response Corporation relocation to Piers 12 and 15, are being developed at different locations, with different funding sources and timetables, although they are in the same harbor and jurisdiction of DOT-H. As a result, these projects have demonstrated "independent utility" and are not the basis for segmentation. The Hawaii Revised Statutes (HRS) Chapter 343 environmental review obligations for these projects have been identified in the SDEIS.

5. In Section 4.2.1.2 of the SDEIS, it is stated that:

   During construction, Best Management Practices (BMPs) would be implemented for erosion and sediment control, as required under National Pollutant Discharge Elimination System (NPDES) permits. Spill prevention control procedures would be in place to reduce the occurrence of spills, stop sources of spills, contain and clean up spills, and properly dispose of spill materials.

   Should any dredged material be approved for ocean disposal, approved procedures (by the U.S. Environmental Protection Agency), including spill prevention measures, will be employed to transport the dredged material to a designated and approved ocean disposal site.

6. Line 18, page 3-5 of the SDEIS will correctly state that:

   Ke'ehi Boat Harbor is located west of the Kapālama site.

7. A traffic impact assessment report on the Kapālama project was completed for the SDEIS. The report recognized the mixed use of industrial, commercial and residential in the adjacent Kalihi Kai neighborhood and indicated that traffic generated by the proposed container terminal would occur predominantly along Sand Island Access Road.

   A large portion of the overland transfer of containers between the overseas Kapālama container terminal and the existing inter-island Young Brothers terminal would occur through an internal connection that, in effect, would take a large volume of truck traffic off the adjacent public roads. Hence, the project's overall impact on traffic on Auiki Street would be minor, and in turn, the traffic's impact on pedestrian safety would be minimal. It should be noted that a recently completed project by the City and County of Honolulu (C&C) put into operation a traffic light at Auiki Street and Mokauea Street. C&C, which owns Auiki Street, expects the new traffic light to improve traffic flow and safety along the Auiki Street corridor.

   In Section 3.5.1.2 of the Final EIS, it will be stated that:

   Prior to construction, a traffic management plan (TMP) will be prepared and submitted to the City for review and approval. During construction, the approved TMP will be implemented.

8. The Final EIS will provide an update on DOT-H's FAA Form 7460-1 Application. The FAA conducted and completed its study of the proposed gantry cranes and issued a "notice of presumed hazard" in May 2013. The Department of Transportation (DOT), Harbors Division (DOT-H), then requested FAA further study (i.e., follow-up aeronautical study) be conducted for the cranes. The "further study" includes a circularization process which ended on August 3, 2013. In May 2014 the FAA determined that additional information was required for the airport runway at Honolulu International Airport in order to complete their determination. As of this date, no final determination from FAA has been received.

9. The Final EIS will include an update, if any, on hazardous substances/materials/waste and petroleum on page 3-29, and on site mitigation, if any, on page 3-33. Further, any new information about the Phase II Environmental Site Assessment will also be included in Chapter 3.4.2 of the Final EIS. To date, no new updates have been reported.

10. Table 3-3 in the Final EIS will include in the footnotes the following indications of the morning and afternoon peak hour times:

    The heaviest traffic volumes of the day were observed for each intersection and analyzed for both morning and afternoon peaks. The heaviest volumes for all the intersections may not have coincided exactly on a specific hour, however all morning

    peak hours occurred between 6:00 a.m. and 8:30 a.m. and all afternoon peak hours between 3:00 p.m. and 5:30 p.m..

11. The Table 7-1 summarizes the probable impacts of the proposed and alternative actions on the various resource areas. Compliance with the various federal, state, and county environmental laws is designed to mitigate project impacts on the environment. As provided in Table 7-1, construction and operation of the Kapālama project will comply with the relevant environmental laws to minimize or avoid project impacts. As a result, and in many cases, no additional mitigation is required. By that summation, there would be no purpose to "extract and clearly identify mitigations for each impact" if the conclusion is "no additional mitigation is required."

We appreciate your participation in the EIS review process and look forward to your continued interest in this very important State project.

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

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BELT COLLINS HAWAII

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

In reply, please refer to:
File: EHA/HEER Office

13-579 JN

November 18, 2013

Mr. Carter Luke
State of Hawaii
Department of Transportation, Harbors Division
79 S. Nimitz Highway
Honolulu, HI 96813

Facility/Site: Kapalama Container Yard Project

Subject: Review of *"Kapalama Container Terminal and Tenant Relocations—Second Draft Environmental Impact Statement (SDEIS), Honolulu, Oahu, Hawaii"* dated October 7, 2013 by Belt Collins.

Dear Mr. Luke,

The Hawaii Department of Health (HDOH), Hazard Evaluation and Emergency Response (HEER) Office has reviewed the above-referenced document and has the following comment:

Section 2.2.3 Construction Activities: Include a subsection stating: "To avoid construction delays and ensure protection of human health and the environment, the site specific Environmental Hazard Management Plan (EHMP) currently in development and consistent with HRS 128D, shall be reviewed and approved by the HEER office. This plan will be implemented to manage and report impacted soils or groundwater that may be encountered during construction activities".

Please revise the document to include the statement above. Should you have any questions concerning the above please feel free to contact me by phone at 586-4697 or via email at jordan.nakayama@doh.hawaii.gov.

Sincerely,

Jordan Nakayama, Project Manager
Hazard Evaluation and Emergency Response Office

c: Joanne E. Hiramatsu Belt Collins Hawaii LLC
Arlene Campbell Element Environmental

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4504.14

March 24, 2014

TO: THE HONORABLE LINDA ROSEN M.D., M.P.H.
DIRECTOR OF HEALTH

ATTN: MR. JORDAN NAKAYAMA, PROJECT MANAGER
HAZARD EVALUATION AND EMERGENCY RESPONSE OFFICE
DEPARTMENT OF HEALTH

FROM: GLENN M. OKIMOTO, PH.D.
DIRECTOR OF TRANSPORTATION

SUBJECT: KAPĀLAMA CONTAINER TERMINAL AND TENANT RELOCATIONS, SECOND DRAFT ENVIRONMENTAL IMPACT STATEMENT, HONOLULU HARBOR, OʻAHU – HC 10298

Thank you for your letter dated November 18, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comments, Section 2.2.3 of the Final EIS will be revised to include the following statement:

> To avoid construction delays and ensure protection of human health and the environment, the site-specific Environmental Hazard Management Plan (EHMP) currently in development and consistent with Hawaii Revised Statutes (HRS) Chapter 128D, shall be reviewed and approved by the Department of Health, Hazard Evaluation and Emergency Response (HEER) office. This plan will be implemented to manage and report impacted soils or groundwater that may be encountered during construction activities.

We appreciate your participation in the EIS review process and look forward to your continued interest in this very important State project.

c: DEP-P, DEP-H, HAR, -E, -EP, -ESP
✓Belt Collins Hawaii LLC

DW:va

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

RECEIVED
2013 NOV 20 PM 4:01
BELT COLLINS HAWAII

COPY

LORETTA J. FUDDY, A.C.S.W., M.P.H.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
File:
13-975A CAB

November 15, 2013

Mr. Carter Luke
Engineering Program Manager
Harbors Division
State Department of Transportation
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Luke:

SUBJECT: Second Draft Environmental Impact Statement
Kapalama Container Terminal and Tenant Relocations, Honolulu, Hawaii

Construction/Demolition that may involve Asbestos
If the proposed project includes renovation/demolition activities which may involve asbestos, the applicant should contact the Asbestos Abatement Office in the Indoor and Radiological Health Branch at 586-5800.

Control of Fugitive Dust
A significant potential for fugitive dust emissions exists during all phases of construction. The activities must comply with the provisions of Hawaii Administrative Rules, §11-60.1-33 on Fugitive Dust. We encourage the contractor to implement a dust control plan, which does not require approval by the Department of Health, to comply with the fugitive dust regulations. Dust control measures may include, but are not limited to, the following:

a) Planning the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing on-site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact;
b) Providing an adequate water source at the site prior to start-up of construction activities;
c) Landscaping and providing rapid covering of bare areas, including slopes, starting from the initial grading phase;
d) Minimizing dust from shoulders and access roads;
e) Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and
f) Controlling dust from debris being hauled away from the project site. Also, controlling dust from daily operations of material being processed, stockpiled, and hauled to and from the facility.

If you have any questions, please contact Mr. Barry Ching of the Clean Air Branch at 586-4200.

Sincerely,

Nolan S. Hirai

NOLAN S. HIRAI, P.E.
Manager, Clean Air Branch

BC:rg
c: Joanne E. Hiramatsu, Director of Planning, Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
4478.14

March 17, 2014

TO: THE HONORABLE LINDA ROSEN, M.D., M.P.H.
DIRECTOR OF HEALTH

ATTENTION: MR. NOLAN S. HIRAI, P.E., MANAGER
CLEAN AIR BRANCH
DEPARTMENT OF HEALTH

FROM: GLENN M. OKIMOTO, PH.D.
DIRECTOR OF TRANSPORTATION

Glenn M. Okimoto

SUBJECT: KAPĀLAMA CONTAINER TERMINAL AND TENANT RELOCATIONS, SECOND DRAFT ENVIRONMENTAL IMPACT STATEMENT, HONOLULU HARBOR, OʻAHU – JOB H.C. 10298

Thank you for your letter dated November 15, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comments on the SDEIS, we provide the following:

1. Regarding construction/demolition that may involve asbestos: An Environmental Site Assessment Phase II was recently completed for the Kapālama site. Results from the study confirmed that building siding and roofing material containing asbestos were found within the existing buildings or structures that are planned to be demolished. It is anticipated that construction of the new container terminal will use no material containing asbestos.

2. Regarding the control of fugitive dust: We acknowledge your comment that "activities must comply with the provisions of Hawaii Administrative Rules (HAR), §11-60.1-33 on Fugitive Dust." We intend to employ best management practices during construction and comply with existing laws, rules and regulations concerning construction impacts on air quality, including HAR, §11-60.1-33.

We appreciate your participation in the EIS review process and look forward to your continued interest in this very important State project.

c: DEP-P, DEP-H, HAR, -E, -EP, -ESP
Belt Collins Hawaii LLC

DW:va

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION
400 RODGERS BOULEVARD, SUITE 700
HONOLULU, HAWAII 96819-1880

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N FUCHIGAMI
RANDY GRUNE
AUDREY HIDANI
JADINE URASAKI

RECEIVED
2013 NOV 25 PM 1:10
BELT COLLINS HAWAII

IN REPLY REFER TO:
AIR-EP
13.0136

November 21, 2013

Ms. Joanne E. Hiramatsu
Director of Planning
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, Hawaii 96819-4554

Dear Ms. Hiramatsu:

Subject: KAPALAMA CONTAINER TERMINAL AND TENANT RELOCATIONS SECOND DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)

We have reviewed the subject DEIS and have the following comments:

1. In accordance with 14 CFR Part 77, "Objects Affecting Navigable Airspace", any object that penetrates the horizontal surface is considered an obstruction (77.17). The horizontal surface surrounding Honolulu International Airport (HNL) is 163' Mean Sea Level (MSL). Therefore, any structure in the project area that exceeds that elevation is considered an obstruction and will require an airspace analysis by the Federal Aviation Administration (FAA) to determine whether the proposed structure will constitute a hazard to navigation. That analysis is initiated by filing FAA Form 7460-1, "Notice of Proposed Construction or Alteration", for each crane, including location, height and elevation of the structure.

2. According to the DEIS, the heights of the proposed cranes have not been disclosed. The DEIS also states that the selected contractor will be responsible to file the Form 7460-1 and until such time that the Form 7460-1 is filed, the FAA cannot make a hazard determination.

3. The airspace analysis conducted by the FAA in response to a Form 7460-1 includes the approach and departure areas as well as the Part 77 imaginary surfaces. Air carriers must also comply with the One Engine Inoperative (OEI) gradient of 62.5:1, which is not covered under Part 77. Analysis of the impact of the proposed cranes on the OEI gradient is critical and should also be included in Sections 3.4.1.1.1 "Affected Environment" and 3.4.1.1.2 "Environmental Consequences". The affected airlines should be consulted individually, and the names of the airlines should be disclosed in the document.

4. Figure 3-11 is incorrect. Please refer to the Airport Layout Plan (ALP) Sheet 8, a copy of which is enclosed, depicting the airspace surrounding HNL for the correct airspace. Note that there is no "Inner" and "Outer" horizontal surface. The area labeled "overrun type" is actually the primary surface, which begins 200' from the end of the runway and is the point where the Part 77 approach surface begins. The depicted imaginary surfaces along the runway centerlines are approach surfaces only. The 40:1 departure surface is not a Part 77 imaginary surface and begins at the runway end, rather than the end of the primary surface. The 62.5:1 slope is the OEI gradient, which is also not a Part 77 surface.

5. Please delete the phrase "... or above the established airport evaluation within three nautical miles of the airport reference point." This statement which can be found on page 3-27 of Section 3.4.1.1.1 is not part of 14CFR Part 77.9.

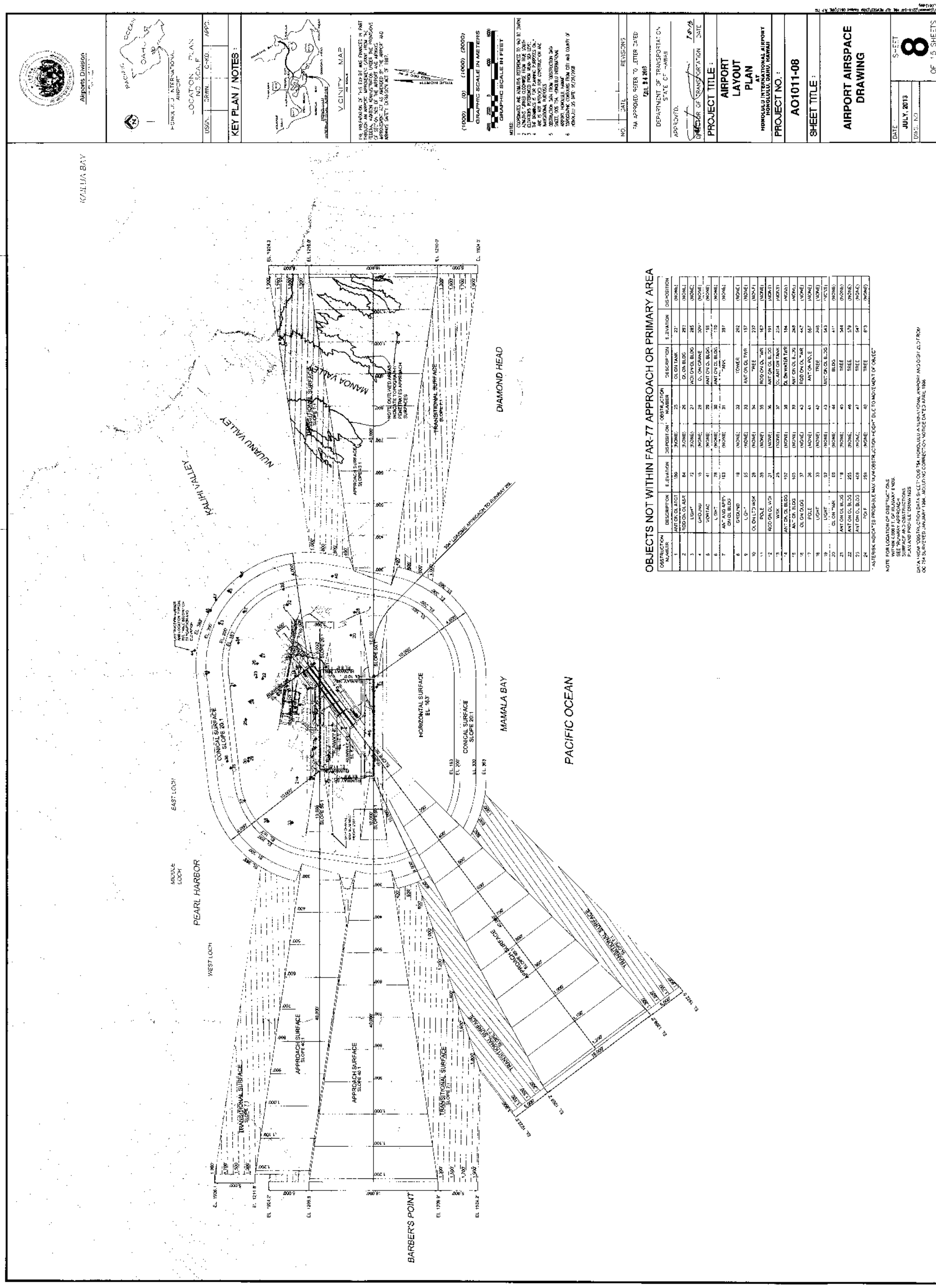
Should you have any questions regarding the above, please contact Ms. Kimberly Evans, Head Planner, at 838-8810.

Aloha,

FORD N. FUCHIGAMI
Deputy Director – Airports Division

Attachment: ALP - Sheet 8 (Airport Airspace Drawing)

c: FAA-ADO (R. Simpson)
FAA-ATO (M. Akana)
ACH (R. Aoki)
STP
DOT-Harbors Division (Carter Luke)



July 30, 2014
2006.70.0304 / 14P-099

Mr. Ross Higashi, Deputy Director
Airports Division
Department of Transportation
400 Rodgers Boulevard, Suite 700
Honolulu, HI 96819-1880

Dear Mr. Higashi:

Kapālama Container Terminal and Tenant Relocations
Second Draft Environmental Impact Statement
Honolulu Harbor, Oʻahu, Hawaiʻi

Thank you for your letter dated November 21, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comments, we provide the following:

1. As described in the SDEIS, a Federal Aviation Administration (FAA) Form 7460-1 was submitted to the FAA in February 2013. The FAA conducted and completed its study of the proposed gantry cranes and issued a “notice of presumed hazard” in May 2013. The Department of Transportation (DOT), Harbors Division (DOT-H), then requested the FAA to conduct further study (i.e., follow-up aeronautical study) for the cranes. The “further study” includes a circularization process which ended on August 3, 2013. In May 2014 the FAA determined that additional information was required for the airport runway at Honolulu International Airport (HIA) in order to complete their determination. As of this date, no final determination from the FAA has been received.
2. The submitted FAA Form 7460-1 includes the approximate height of the proposed Kapālama cranes, 200 feet (see EIS, pages 3-27 and 3-28), as well as the coordinates for the terminus of the crane tracks center line. For purposes of the EIS, the current FAA Form 7460-1 was submitted to determine probable project impacts by identifying potential obstruction/hazard height limits for the Kapālama Container Terminal area. It should be noted that the SDEIS also discussed the potential need for the construction contractor to file a Form 7460-1 for its construction equipment when details of such equipment are known.

Belt Collins Hawaii LLC | 2153 North King Street, Suite 200 | Honolulu, HI 96819-4554 USA
Tel: 808.521.5361 | Fax: 808.538.7819 | www.beltcollins.com | honolulu@bchdesign.com
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3. The FAA is in the process of developing a national one engine inoperative (OEI) policy. As of December 12, 2011, the 62.5:1 surface was removed from FAA Advisory Circular (AC) 150/5300-13 Airport Design. This AC was updated to 150/5300-13A in September 2012. The effect of the proposed cranes on OEI provisions at HIA is not covered under Part 77 nor is it part of the FAA's review of Form 7460-1. The DOT will advise the future operator to consult the FAA to determine the appropriateness of future aeronautical studies for the proposed Kapālama gantry cranes.

   As mentioned above, the "further study" includes a circularization process that opens up the FAA's review of Form 7460-1 to public input. Airlines and other stakeholders, both locally as well as nationally, are able to comment on the form. The SDEIS also provided opportunities for the airlines to submit comments on the cranes. To date, several parties in the airline industry have provided comments on the project. Their comments, including our responses, will be included in the Final EIS.

4. Figure 3-11 has been revised and will be included in the Final EIS (see attached).

5. The phrase ". . . or above the established airport evaluation within three nautical miles of the airport reference point" will be deleted in the Final EIS.

We appreciate your participation in the EIS review process and look forward to your continued interest in this very important State project. If you have any questions, please call me at 521-5361 or email me at jhiramatsu@bchdesign.com.

Sincerely,

BELT COLLINS HAWAII LLC

Joanne E. Hiramatsu
Director of Planning

GTK/JEH:jdk

cc: DOT-H (Carter Luke, Bert Toba, Dean Watase)

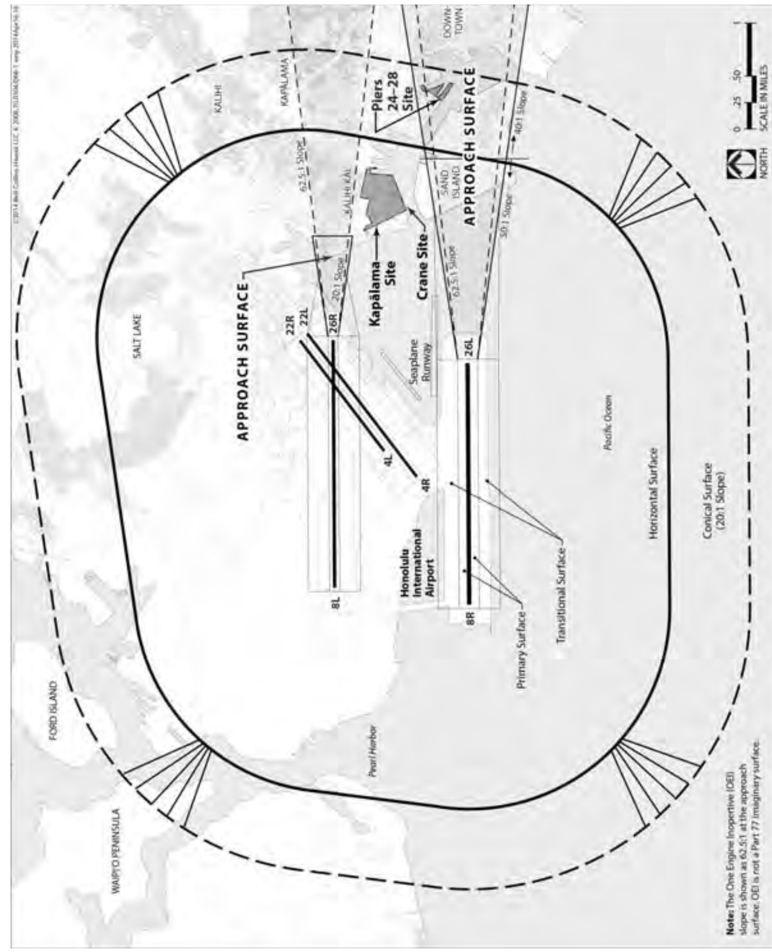

Figure 3-11. HIA Part 77 and One Engine Inoperative Imaginary Surfaces for Runways 26R and 26L

School of Ocean and Earth Science and Technology
1680 East-West Road, POST 802
Honolulu, HI 96822
TEL 808 956-6182 FAX 808 956-9152
Office of the Dean
soest
University of Hawai'i

November 22, 2013

Mr. Carter Luke, Engineering Program Manager
State of Hawai'i Department of Transportation
Harbors Division
79 South Nimitz Highway
Honolulu, HI 96813

Dear Mr. ~~Luke~~ Carter:

Thank you for the opportunity to comment on this second draft Environmental Impact Statement (SDEIS) for the Kapalama Container Terminal and Tenant Relocations.

On behalf of the University of Hawai'i Marine Center, part of our School of Ocean and Earth Science and Technology, I restrict our comments on this draft narrowly to the issue of the timing that is anticipated in this document. I also note here, as is also clearly indicated throughout the subject SDEIS, that the impacts of the UHMC move from Snug Harbor to Piers 34-35 are the subject of a separate Environmental Assessment, now final, and many of the points that impact the timing of our move are addressed in more detail in that document (it can be found online at: http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Oahu/2010s/2013-02-08-OA-5b-FEA-UH-Relocation-to-Piers-34-and-35-Project.pdf).

At several places in the present document, it is stated or implied that the relocations and initiation of construction activity for the Kapalama Container Terminal will begin as soon as early 2014. These comments are being written on November 22, 2013, and given that Department of Transportation – Harbors Division has consistently indicated to us that renovation and reconstruction of facilities for UHMC at Piers 34-35 are anticipated to take approximately twelve months once a contract has been let, and that contract is still held up, we therefore reiterate concerns we noted in our comments on the first draft of this EIS. UHMC will not be able to relocate by early 2014 – we anticipate that the earliest reasonable date for moving into the new facility at Piers 34-35 will be the final quarter of CY2014. Therefore, those items that depend on the Snug Harbor facility of UHMC being vacated will not be able to begin until that time.

We appreciate the opportunity to comment, and we look forward to moving to the new facility, and even more, to hearing that the contract has been let and the renovation and reconstruction work has begun.

With best regards,

Alexander Shor
Associate Dean for Research

c: Joanne Hiramatsu, Belt Collins Hawaii LLC
Brian Taylor, Dean, SOEST

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4474.14

March 17, 2014

Dr. Alexander Shor
Associate Dean of Research
School of Ocean and Earth Science
and Technology
University of Hawaii
2444 Dole Street
Bachman Hall 202
Honolulu, Hawaii 96822

Dear Dr. Shor:

Subject: Kapalama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement, Honolulu Harbor, O'ahu - Job H.C. 10298

Thank you for your letter dated November 22, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comments, the University of Hawai'i Marine Center (UHMC) schedule to relocate to Piers 34 and 35 will depend on the completion schedule of improvements at Piers 34 and 35. Section 2.2.2 of the SDEIS indicates that the UHMC relocation timeframe is different from the non-maritime tenants and that the UHMC schedule is addressed in the marine center's own Environmental Assessment.

We appreciate your participation in the EIS review process and look forward to your continued interest in this very important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

c: DEP-P, DEP-H, HAR, -E, -EP, -ESP
Belt Collins Hawaii LLC

DW:va

NEIL ABERCROMBIE
GOVERNOR
STATE OF HAWAII

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BELT COLLINS HAWAII

JOBIE M. K. MASAGATANI
CHAIRMAN
HAWAIIAN HOMES COMMISSION

DARRELL T. YOUNG
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P O BOX 1879
HONOLULU, HAWAII 96805

January 13, 2014

Belt Collins Hawaii LLC
Attn: Joanne E. Hiramatsu
Direct of Planning
2153 North King Street, Suite 200
Honolulu, Hawaii 96814-4554

Dear Ms. Hiramatsu:

Subject: Kapalama Container Terminal and Tenant Relocations – Second Draft Environmental Impact Statement (SDEIS)
Tax Map Key: Kapalama Site: 1-2-25: 02, 09, 12, 16, 17, 30, 40, 42, 44 to 47, 49 to 53, 55, 58 to 68, 71, 73, 74 to 78, 80 82, 83, 86, 88, 92, 94, 97, 98, 108 to 112, and portions of 11 and 54; and 1-5-32: portions of 2, 8, and 43. Pier 24-28 Site: 1-5-38: 11, 17, 55, 72, 73, 74, and portions 1, 4, and 5
Honolulu, Oahu, Hawai'i

Thank you for the opportunity to review the subject Second Draft Environmental Impact Statement (SDEIS). The Department of Hawaiian Home Lands has no comment to offer at this time.

If you have any questions, please contact our Planning Office at 620-9480

Aloha,

Marvin Kaleo Manuel,
Acting Planning Program Manager

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4480.14

March 17, 2014

TO: THE HONORABLE JOBIE MASAGATANI
DIRECTOR
DEPARTMENT OF HAWAIIAN HOMELANDS

ATTENTION: MARVIN KALEO MANUEL
ACTING PLANNING PROGRAM MANAGER
DEPARTMENT OF HAWAIIAN HOME LANDS

FROM: GLENN M. OKIMOTO, PH.D.
DIRECTOR OF TRANSPORTATION

SUBJECT: KAPĀLAMA CONTAINER TERMINAL AND TENANT RELOCATIONS, SECOND DRAFT ENVIRONMENTAL IMPACT STATEMENT, HONOLULU HARBOR, O'AHU – JOB H.C. 10298

Thank you for your letter dated January 13, 2014, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). We acknowledge you have no comments to offer on the project at this time.

We appreciate your participation in the EIS review process and look forward to your continued interest in this very important State project.

c: DEP-P, DEP-H, HAR, -E, -EP, -ESP
Belt Collins Hawaii LLC

DW:va

POLICE DEPARTMENT

CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET · HONOLULU, HAWAII 96813
TELEPHONE (808) 529-3111 · INTERNET www.honolulupd.org

KIRK CALDWELL
MAYOR

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BELT COLLINS HAWAII

LOUIS M. KEALOHA
CHIEF

DAVE M. KAJIHIRO
MARIE A. McCAULEY
DEPUTY CHIEFS

OUR REFERENCE EO-WS

October 23, 2013

Mr. Carter Luke, Engineering Program Manager
Harbors Division
Department of Transportation
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Luke:

This is in response to a letter from Ms. Joanne E. Hiramatsu of Belt Collins Hawaii LLC requesting comments on the Second Draft Environmental Impact Statement for the Kapalama Container Terminal and Tenant Relocations project.

The Honolulu Police Department has no concerns regarding the project at this time.

If there are any questions, please contact Major Lester Hite of District 5 (Kalihi) at 723-8200 or via e-mail at lhite@honolulu.gov.

Sincerely,

LOUIS M. KEALOHA
Chief of Police

By Clayton G. Kau
CLAYTON G. KAU
Assistant Chief
Support Services Bureau

cc: Ms. Joanne E. Hiramastu

Serving and Protecting With Aloha

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4502.14

March 24, 2014

Mr. Louis M. Kealoha,
Chief of Police
Honolulu Police Department
City and County of Honolulu
801 South Beretania Street
Honolulu, Hawaii 96813

Dear Chief Kealoha:

Subject: Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement, Honolulu Harbor, O'ahu – Job H.C. 10298

Thank you for your letter dated October 23, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). We acknowledge your comment that the Honolulu Police Department has no concerns regarding the project at this time.

We appreciate your participation in the EIS review process and look forward to your continued interest in this important State project.

Very truly yours,

Glenn M. Okimoto

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

c: DEP-P, DEP-H, HAR, -E, -EP, -ESP
Belt Collins Hawaii LLC

DW:va

DEPARTMENT OF PARKS & RECREATION

CITY AND COUNTY OF HONOLULU

1000 Uluohia Street, Suite 309, Kapolei, Hawaii 96707
Phone: (808) 768-3003 • Fax: (808) 768-3053
Website: www.honolulu.gov

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2013 OCT 28 PM 3:00
BELT COLLINS HAWAII

KIRK CALDWELL
MAYOR

TONI P. ROBINSON
DIRECTOR

JEANNE C. ISHIKAWA
DEPUTY DIRECTOR

October 24, 2013

Mr. Carter Like, Engineering Program Manager
State of Hawaii
Department of Transportation
Harbors Division
79 S. Nimitz Highway 96813

Ms. Joanne E. Hiramatsu
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Luke and Ms. Hiramatsu:

SUBJECT: Kapalama Container Terminal and Tenant Relocations
Second Draft Environmental Impact Statement (SDEIS)

Thank you for the opportunity to review and comment on the Second Draft of the Environmental Impact Statement for the Kapalama Container Terminal and Tenant Relocations

The Department of Parks and Recreation has no comment as the proposed project will have no impact on any program or facility of the department. You can remove us as a consulted party to the balance of the EIS process.

Should you have any questions, please contact Mr. John Reid, Planner, at 768-3017.

Sincerely,

Toni P. Robinson

Toni P. Robinson
Director

TPR:jr
(533867)

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-EP
4475.14

March 17, 2014

Ms. Toni P. Robinson, Director
Department of Parks and Recreation
City and County of Honolulu
1000 Uluohia Street, Suite 309
Kapolei, Hawaii 96707

Dear Ms. Robinson:

Subject: Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement, Honolulu Harbor, O‘ahu – Job H.C. 10298

Thank you for your letter dated October 24, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). We acknowledge you have no comment on the proposed project as it will have no impact on any of your department's programs or facilities.

We appreciate your participation in the EIS review process and look forward to your continued interest in this important State project.

Very truly yours,

Glenn M. Okimoto

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

c: DEP-P, DEP-H, HAR, -E, -EP, -ESP
Belt Collins Hawaii LLC

DW:va

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8480 • Fax: (808) 768-4567
Web site: www.honolulu.gov

KIRK CALDWELL
MAYOR

CHRIS T. TAKASHIGE, P.E., CCM
DIRECTOR

MARK YONAMINE, P.E.
DEPUTY DIRECTOR

RECEIVED
2013 NOV -1 PM 2:39
BELT COLLINS HAWAII

October 29, 2013

State of Hawaii
Department of Transportation
Harbors Division
79 S. Nimitz Highway
Honolulu, Hawaii 96813

Attn: Carter Luke

Dear Mr. Luke:

Subject: Kapalama Container Terminal and Tenant Relocations – Second Draft Environmental Impact Statement (SDEIS)

The Department of Design and Construction does not have any comments to offer on the draft environmental assessment.

Thank you for the opportunity to review and comment. Should there be any questions, please contact me at 768-8480.

Sincerely,

for M. Yonamine
Chris T. Takashige, P.E., CCM
Director

CTT: cf (533827)

Cc: Ms. Joanne E. Hiramatsu – Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4497.14

March 24, 2014

Mr. Chris T. Takashige, P.E., CCM, Director
Department of Design and Construction
City and County of Honolulu
650 South King Street, 11th Floor
Honolulu, Hawaii 96813

Dear Mr. Takashige:

Subject: Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement, Honolulu Harbor, O'ahu – Job H.C. 10298

Thank you for your letter dated October 29, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). We acknowledge you have no comment on the proposed project at this time.

We appreciate your participation in the EIS review process and look forward to your continued interest in this important State project.

Very truly yours,

Glenn M. Okimoto

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

cc: DEP-P, DEP-H, HAR, -E, -EP, -ESP
Belt Collins Hawaii LLC

DW:va

HONOLULU FIRE DEPARTMENT R\S 14.0366

CITY AND COUNTY OF HONOLULU

636 South Street
Honolulu, Hawaii 96813-5007
Phone: 808-723-7139 Fax: 808-723-7111 Internet: www.honolulu.gov/hfd

KIRK CALDWELL
MAYOR

MANUEL P. NEVES
FIRE CHIEF

LIONEL CAMARA JR.
DEPUTY FIRE CHIEF

October 23, 2013

13 OCT 28 P1 20
HARBORS DIVISION

Mr. Carter Luke
Engineering Program Manager
Harbors Division
Department of Transportation
State of Hawaii
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Luke:

Subject: Second Draft Environmental Impact Statement
Kapalama Container Terminal and Tenant Relocations
Honolulu, Oahu, Hawaii

In response to a letter from Ms. Joanne Hiramatsu of Belt Collins Hawaii LLC dated October 7, 2013, regarding the above-mentioned subject, the Honolulu Fire Department requires that the following be complied with:

1. Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet (46 m) from fire department access roads as measured by an approved route around the exterior of the building or facility. (National Fire Protection Association [NFPA] 1; Uniform Fire Code [UFC]™, 2006 Edition, Section 18.2.3.2.2.)

   A fire department access road shall extend to within 50 ft (15 m) of at least one exterior door that can be opened from the outside and that provides access to the interior of the building. (NFPA1; UFC™, 2006 Edition, Section 18.2.3.2.1.)

2. A water supply approved by the county, capable of supplying the required fire flow for fire protection, shall be provided to all premises upon which facilities or buildings, or portions thereof, are hereafter constructed, or moved into or within the county. When any portion of the facility or building is in excess of 150 feet (45 720 mm) from a water supply on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided when required by the AHJ [Authority Having Jurisdiction]. (NFPA 1; UFC™, 2006 Edition, Section 18.3.1, as amended.)

3. Submit civil drawings to the HFD for review and approval.

Should you have questions, please contact Battalion Chief Socrates Bratakos of our Fire Prevention Bureau at 723-7151 or sbratakos@honolulu.gov.

Sincerely,

ROLLAND J. HARVEST
Assistant Chief

RJH/SY:bh

cc: Joanne Hiramatsu, Belt Collins Hawaii LLC

13 OCT 28 P1 20
HARBORS DIVISION

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4500.14

March 24, 2014

Mr. Rolland J. Harvest, Assistant Chief
Honolulu Fire Department
City and County of Honolulu
636 South Street
Honolulu, Hawaii 96813-5007

Dear Mr. Harvest:

Subject: Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement, Honolulu Harbor, O'ahu – Job H.C. 10298

Thank you for your letter dated October 23, 2013, commenting on the *Kapalama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comments on the SDEIS, we provide the following:

1. The container terminal will include an access road or pathway for the Honolulu Fire Department to access any buildings on the property.

2. The container terminal will include a County-approved water system that meets fire flow and on-site fire hydrant requirements.

3. During the design phase, construction documents and civil drawings prepared for the various phases of the project will be submitted to the Honolulu Fire Department for its review and approval.

We appreciate your participation in the EIS review process and look forward to your continued interest in this important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

c: DEP-P, DEP-H, HAR, -E, -EP, -ESP
Belt Collins Hawaii LLC

DW:va

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 768-8000 • FAX: (808) 768-6041
DEPT. WEB SITE: www.honoluludpp.org • CITY WEB SITE: www.honolulu.gov

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2013 NOV 25 PM 1:13
BELT COLLINS HAWAII

KIRK CALDWELL
MAYOR

GEORGE I. ATTA, FAICP
DIRECTOR

ARTHUR D. CHALLACOMBE
DEPUTY DIRECTOR

2013/ELOG-1954(et)

November 22, 2013

Mr. Carter Luke, Engineering Project Manager
State of Hawaii
Department of Transportation
Harbors Division
76 S. Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Luke:

SUBJECT: Second Draft Environmental Impact Statement
Kapālama Container Terminal
Kapālama, Honolulu, Hawai'i

We have reviewed the Second Draft Environmental Impact Statement and have no comments to offer.

Should you have any questions, please contact Eugene Takahashi of our staff at 768-8035.

Very truly yours,

George I. Atta, FAICP
Director

GIA:bkg
1097484

cc: Glen T. Koyama, Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4498.14

March 24, 2014

Mr. George I. Atta, FAICP, Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, Hawaii 96813

Dear Mr. Atta:

Subject: Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement, Honolulu Harbor, O'ahu – Job H.C. 10298

Thank you for your letter dated November 22, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). We acknowledge you have no comments on the SDEIS at this time.

We appreciate your participation in the EIS review process and look forward to your continued interest in this important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

c: DEP-P, DEP-H, HAR, -E, -EP, -ESP
✓Belt Collins Hawaii LLC

DW:va

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

RECEIVED
2013 NOV 27 PM 1:45
BELT COLLINS HAWAII

KIRK CALDWELL, MAYOR

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MAHEALANI CYPHER, Vice Chair
THERESIA C. McMURDO
ADAM C. WONG
DAVID C. HULIHEE

ROSS S. SASAMURA, Ex-Officio
GLENN M. OKIMOTO, Ex-Officio

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer

November 21, 2013

Mr. Carter Luke, Engineering Program Manager
Harbors Division
Department of Transportation
State of Hawaii
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Luke:

Subject: Letter Dated October 7, 2013, Regarding the Second Draft Environmental Impact Statement for the Kapalama Container Terminal and Tenant Relocations on Sand Island Access Road – Tax Map Key: 1-2-025: 002, 009, 012, 016, 017, 030, 040, 042, 044 to 047, 049 to 053, 058 to 068, 071, 073, 074 to 078, 080, 082, 083, 086, 088, 092, 094, 097, 098, 108 to112, 011, 054; 1-5-032: 002, 008, 043; and 1-5-038: 011, 017, 055, 072, 073, 074, 001, 004, 005

Thank you for the opportunity to comment on the Kapalama Container Terminal and Tenant Relocations.

The existing water system is adequate to accommodate the proposed facility. However, please be advised that this information is based upon current data, and therefore, the Board of Water Supply (BWS) reserves the right to change any position or information stated herein up until the final approval of the building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

The State is required to submit a detailed development plan for the entire container yard, including the building layout, fixture unit counts and estimated daily water requirements to correctly size the water meters prior to obtaining water service.

The relocation of the water mains near the Kalihi Channel should be coordinated with the BWS. The construction drawings should be submitted for approval.

The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

If you have any questions, please contact Robert Chun at 748-5443.

Very truly yours,

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

Water for Life ... Ka Wai Ola

cc: ✓ Joanne E. Hiramatsu, Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

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2014 MAR 31 PM 12: 46
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4496.14

March 24, 2014

Mr. Ernest Y. W. Lau, P.E.
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96843

Dear Mr. Lau:

Subject: Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement, Honolulu Harbor, O'ahu – Job H.C. 10298

Thank you for your letter dated November 21, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comments on the SDEIS, we provide the following:

1. We acknowledge your determination that the existing water system is adequate to accommodate the proposed project for now and the procedures that must be followed to obtain final decision on the availability of water and to make payment on the Water System Facilities Charges.

2. We will submit, for Board of Water Supply's (BWS) review, detailed development or construction plans, fixture unit counts, and estimated daily water requirements to correctly size the project's water meters and obtain water services from your system.

3. Plans for the relocation of the water mains near Kalihi Channel will be submitted to BWS for approval.

4. The Fire Prevention Bureau of the Honolulu Fire Department will be reviewing our development plans for compliance with on-site fire protection requirements.

We appreciate your participation in the EIS review process and look forward to your continued interest in this important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

cc: DEP-P, DEP-H, HAR, -E, -EP, -ESP
Belt Collins Hawaii LLC, R.M. Towill Corp.

DW:va

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

KIRK CALDWELL
MAYOR

MICHAEL D. FORMBY
DIRECTOR

MARK N. GARRITY, AICP
DEPUTY DIRECTOR

2013 DEC -2 PM 2:04
BELT COLLINS HA

November 19, 2013

TP10/13-534022R

Mr. Carter Luke, Engineering Program Manager
State of Hawaii
Department of Transportation
Harbors Division
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. ~~Luke~~: Carter

SUBJECT: Second Draft Environmental Impact Statement (SDEIS) Kapalama Container Terminal and Tenant Relocations; Honolulu, Oahu, Hawaii

In response to your letter of October 7, 2013, we recommend that most construction materials and equipment be transferred to and from the project site during off-peak traffic hours (8:30 a.m. to 3:30 p.m.) to minimize further congestion on the local streets.

Thank you for the opportunity to review this matter. Should you have any further questions, please contact Michael Murphy of my staff at 768-8359.

Very truly yours,

Michael D. Formby
Director

cc: Ms. Joanne E. Hiramatsu
Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4499.14

March 24, 2014

Mr. Michael D. Formby, Director
Department of Transportation Services
City and County of Honolulu
650 South King Street, 3rd Floor
Honolulu, Hawaii 96813

Dear Mr. Formby:

Subject: Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement, Honolulu Harbor, Oʻahu – Job H.C. 10298

Thank you for your letter dated November 19, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comments on the SDEIS, we will instruct our construction contractors to haul, whenever possible, its construction materials and equipment to and from the project site during off-peak traffic hours to minimize further congestion on the local streets.

We appreciate your participation in the EIS review process and look forward to your continued interest in this important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

cc: DEP-P, DEP-H, HAR, -E, -EP, -ESP
✓Belt Collins Hawaii LLC

DW:va

Other Agencies/Organizations

RECEIVED
2013 OCT 16 PM 1:08
BELT COLLINS HAWAII

Aloha Air Cargo

Chris Dau
Manager of System Operations Control
Aloha Air Cargo
371 Aokea Place
Honolulu, Hawaii 96819

October 11, 2013

Mr. Luke
Engineering Program Manager
State of Hawaii, DOT, Harbors Division
79 S. Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Luke:

With regard the Kapalama Container Terminal and Tenant Relocations – Second Draft EIS, I would like to offer the following comments into the review process. Although the crane heights remain under review by the FAA for CFR Title 14 part 77 criteria, I would respectfully disagree with the conclusion that lowering the crane height to 163 would mitigate air carrier concerns. The height being lowered only serves to meet the minimum regulatory requirement. A hazard is being introduced that previously did not exist. The departure path diagrams do not reflect the departure procedures for HNL. A turn is prescribed by Air Traffic control to be initiated no later than the runways end, taking the actual path over the cranes. There is a statement in the brief, describing the socio-economic benefit to harbor operation with the addition of the crane. This benefit is derived to the detriment of air carriers. Air carriers operate in the current economic environment on the very slimmest of margins. Although the crane may be modified to meet the minimum, it becomes a close-in obstacle that carriers must address in the performance calculations. The gradient requirement for an aircraft that has lost power to one of its engines determines the amount of payload that may be planned for a particular flight. A close-in obstacle usually requires limiting payload to meet the gradient requirement. This socio-economical impact directly disadvantages air carriers in favor of surface vessels and may take an already slim margin and make it non-existent. These two issues; safety and payload impact, I do not believe have been addressed by this Second Draft EIS. Thank you for the opportunity to offer these comments into the review process.

Sincerely,

Chris Dau

Chris Dau

cc: Ms. Joanne E. Hiramatsu

371 Aokea Place • Honolulu, Hawai'i 96819 • Tel: 808 836 4191 • Fax: 808 836 5161 • www.alohaaircargo.com

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

FORD N. FUCHIGAMI
INTERIM DIRECTOR

Deputy Directors
RANDY GRUNE
AUDREY HIDANO
ROSS M. HIGASHI
JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4850.15

July 31, 2014

Mr. Chris Dau, Manager
System Operations Control
Aloha Air Cargo
371 Aokea Place
Honolulu, Hawaii 96819

Dear Mr. Dau:

Subject: Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement, Honolulu Harbor, O'ahu, Hawai'i - Job H.C. 10298

Thank you for your letter dated October 11, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comments on the SDEIS, we provide the following:

1. The Federal Aviation Administration's (FAA) preliminary determination (Notice of Presumed Hazard) was based on an analysis prescribed by FAA regulations. We do acknowledge your concern that aircraft operating out of the Honolulu International Airport (HIA) may encounter a new close-in obstacle with the proposed gantry cranes at Kapālama. Moreover, we acknowledge that a resultant higher climb gradient requirement may financially impact you and other carriers operating at HIA.

2. After receiving the preliminary determination from the FAA, the Department of Transportation (DOT) requested further study (i.e., follow-up aeronautical study) by the FAA on the proposed gantry cranes. The circularization process for the "further study" was initiated on June 27, 2013 and closed on August 3, 2013. This process included inviting public input, especially from airlines and air cargo interests such as yours, for consideration in the final analysis and recommendation by the FAA. In May 2014 the FAA determined that additional information was required for the airport runway at Honolulu International Airport in order to complete their determination. The final determination has yet to be received.

3. For the EIS, the FAA study was initiated to determine the probable impacts of the proposed project on Honolulu International Airport's navigable airspace by identifying potential obstruction/hazard height limits at the Kapālama Container Terminal. Ultimately, the future operator of the container terminal will be responsible for

submitting its own Form 7460-1 and complying with FAA regulations and the final determination.

4. The FAA study does not include an evaluation of One Engine Inoperative (OEI) procedures. A national OEI policy, however, is currently under development by the FAA. The DOT will advise the future operator to consult with the FAA to determine the appropriateness of future aeronautical studies for the proposed Kapālama gantry cranes.

We appreciate your participation in the EIS review process and look forward to your continued interest in this important State project.

Very truly yours,

FORD N. FUCHIGAMI
Interim Director of Transportation

PFM
PENDLETON FLOUR MILLS

RECEIVED
2013 OCT 24 PM 4:28
BELT COLLINS HAWAII

October 23, 2013

Mr. Glen T. Koyama, Project Manager
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii, 96819

Dear Mr. Koyama:

Subject: Second Draft Environmental Impact Statement (DEIS)
Kapalama Container Terminal, Honolulu Harbor

Thank you for the opportunity to review and offer comments on the DEIS for the Kapalama Container Terminal dated October 8, 2013. We understand the project involves the development of a new container terminal at the former Kapalama Military Reservation site and the relocation of existing tenants to other locations within Honolulu Harbor.

We have reviewed the subject document and respectfully offer the following comments and concerns on your project for your consideration. Please note that our review is based solely on the information provided in the subject document. This letter conveys recommendations concerning issues that are germane to Pendleton Flour Mill's unique posturing as Hawaii's only flour mill operation and receiving bulk grain facility, but are not limited to the following.

1.) We are particular concerned about the portions of the proposed relocation action that may occur on the submerged lands fronting Piers 24-25 and are collectively integrated and impact the shared submerged lands that are contiguous to the existing grain berths at Piers 22-23
2.) Identification and evaluation of additional possible operational options as they relate to the relocation of Pacific Shipyards International's waterside operations that will reduce the impact on long-standing bulk grain operations at Piers 22-23
3.) Additional assessment to appropriately address the potential modifications to Pendleton Flour Mills operations as a result of any relocation related impacts and incorporate mitigation measures to avoid and minimize relocation impact and determine how best to offset these identified impacts.

Pendleton Flour Mills appreciates the opportunity to participate in this planning process and to offer comments on the proposed tenant relocation plans for the Kapalama Container Terminal project. If you have any questions regarding our comments, please feel to contact me.

Sincerely,

Alan Koenig
Chief Operating Officer

cc: Carter Luke, DOT-Harbors Engineering Program Manager

November 22, 2013

Mr. Glenn T. Koyama, Project Manager
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819

Dear Mr. Koyama:

Subject: Second Draft Environmental Impact Statement (DEIS)
Kapalama Container Terminal, Honolulu Harbor

Thank you for the opportunity to review and offer comments on the DEIS for the Kapalama Container Terminal dated October 8, 2013. Pendleton Flour Mills ("PFM") submitted comments to the DEIS on October 23, 2013. This letter supplements PFM's October 23, 2013 comment letter.

In addition to what was addressed in PFM's October 23, 2013 comment letter, PFM offers the following comments and concerns for your consideration. Please note that our review is based solely on the information provided in the DEIS.

1. The proposed relocation will significantly impact PFM's flour mill operations. Relocation of PFM's operations will move PFM much farther away from the dockside grain silos, requiring the installation and maintenance of overhead conveyor systems. The overhead conveyor systems will cross roadways and pedestrian walkways, requiring several easements and potentially affecting liability. Additionally, trucking versus conveying the grain will create inefficiencies and operational challenges that could add substantial cost to operations. PFM is concerned that the DEIS did not adequately address these kinds of impacts.
   a. Although the DEIS indicates that "alternative provisions are being developed to accommodate HFM cargo delivery at Piers 19 and/or 20," (p.3-11), PFM is concerned that the extent and impact of the overhead conveyor/trucking is missing from, or not analyzed, in the DEIS. Such impacts should be presented and disclosed.
   b. Although the DEIS indicates that "no significant traffic impacts would occur as a result of PSI or similar operator," (p.3-48), PFM is wondering if this traffic analysis evaluated potential impacts from the overhead conveyor system and potential trucking activities required by the relocation. Secondary impacts of this nature must be analyzed.
   c. PFM is similarly concerned that the analysis of utility impacts (p.3-60) did not consider the overhead conveyor system.
   d. PFM is similarly concerned that the analysis of visual resources (p.3-106) did not consider the overhead conveyor system.
   e. Has an assessment been conducted to address the potential operational impacts to Pendleton Flour Mills resulting from the relocation plan? If so, what are these findings and what are the specific mitigation measures proposed?

2. In addition to the ongoing operational and maintenance costs of an overhead conveyor system and trucking operation, the initial expenditures required by the relocation proposed in the DEIS include:
   a. Approximately $1,000,000 for the installation of the equipment for the overhead conveyor system; and
   b. Approximately $237,000 for the equipment to serve the trucking transport operations. The above costs are based upon estimates and do not include additional amounts for leasing trucks and drivers 24 hours per day during the unloading periods. PFM is concerned that the DEIS did not adequately address these kinds of expenses and impacts. Such impacts need to be analyzed and disclosed. Has a detailed economic impact/cost analysis been performed to identify the associated costs related to the modification of Pendleton Flour Mills' operations as a result of any relocation/modifications to their existing operations and activities? If so, what are these findings and what are the specific mitigation measures proposed?

3. PFM operates the only flour mill in Hawaii that serves numerous local businesses who rely upon the flour mill for their existence and operations. PFM's major bulk flour customers on Oahu include Love's Bakery, Fresh Start Bakery, Diamond Bakery, and Aloha Shoyu. Daily deliveries to these customers would be difficult, if not impossible from an off-island supplier. In addition, PFM's major bag product distributors include HFM Foodservice and Edsung Foodservice. These businesses employ hundreds of local residents. Without an efficient flour mill operation on - island, many of these business will likely face closure and/or significant cost increases, which could mean higher prices for Hawaii consumers. The impact of this relocation on this industry will be significant. PFM is concerned that the DEIS did not adequately address these kinds of impacts. Such impacts need to be analyzed and disclosed.

4. PFM operates the only flour mill in Hawaii that produces a byproduct known as wheat millrun. This byproduct is the preferred livestock feed (cattle, horses, sheep, goats, pigs, etc.) for ranchers and dairies throughout Hawaii because of the high-cost alternative of shipping. The local availability of wheat millrun has been a primary driver for the natural farming industry in Hawaii. PFM serves more than 80 customers statewide for wheat millrun, selling some of its wheat millrun production locally. PFM's wheat millrun customers include Big Island Dairy, Kuahiwi Contractors, Nobriga Ranch, Sakugawa Farms, Boteillo Hawaii Enterprises, Alii Turf, Hamakua Mushrooms, Waimanalo Feed Supply, Maui Tropical Algae Farm, Natural Farming Hawaii, Surfing Goat Dairy, Maui Bokashi, Puna Kamalii Flowers, Island Harvest Enterprises, PID Foundation, Whispering Winds Bamboo, Punaa Pig Farm, and MV Farms. The impact of this relocation on this industry will be significant. PFM is concerned that the DEIS did not adequately address these kinds of impacts. Such impacts need to be analyzed and disclosed.

5. The alternative to a flour mill on Oahu is shipping, potentially increasing the costs by 3 to 4 times higher than local businesses and consumers are currently paying. Shipping also means the potential for a lack of fresh bread and other flour-based products on Oahu available for consumption. PFM is concerned that the DEIS did not adequately address these kinds of impacts. Has an economic impact study and review been performed to identify the associated costs related to the economic impacts any modifications to PFM operations will have on the myriad of local businesses that rely on PFM, and will be affected by any potential cost increases and/or supply disruptions to these local businesses?

6. The relocation of PFM's operations will create noise issues for neighboring residences, as the DEIS points out (p.3-104). PFM is concerned about the viability and impact of some of the proposed mitigation measures (pp. 3-105, 3-106), which appear to require accommodations solely by PFM and may affect efficiencies and costs of the only flour milling operations in Hawaii.

7. The Proposed Action (Section 2.2), the Alternative Action – No Fill of Snug Harbor (Section 2.3), and the No Action Alternative (Section 2.4) all involve relocation of maritime tenants, including Pacific Shipyards International, LLC ("PSI"), which will mean displacement of PFM's operations. The DEIS considered, but did not analyze, 3 alternative (Maritime-Dependent Tenant Relocations, p.2-25) sites for PSI based upon the determination that alternative sites would "require extensive improvements and infrastructure upgrades and result in possible delays for PSI to move to its new home." PFM is concerned about the adequacy of the alternative site evaluations, keeping in mind the extensive improvements and infrastructure upgrades that will result to PFM's operations from the relocation, including the other impacts discussed above. Has an evaluation study of the operational waterside access within the submerged lands between Piers 22-23 and Piers 24-25 been conducted to ensure the multitude of possible berthing options for the continued access of a bulk carrier ship to Pier 22 with Pacific Shipyards International's floating drydock(s) that would permit conditional and/or limited access?

PFM appreciates the opportunity to participate in this planning process and to offer comments. If you have any questions regarding our comments, please feel free to contact me.

Sincerely,

Alan Koenig
Chief Operating Officer

cc: Carter Luke, DOT-Harbors Engineering Program Manager

Belt Collins HI

NEIL ABERCROMBIE
GOVERNOR

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

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IN REPLY REFER TO:
HAR-EP
4563.14

April 14, 2014

Mr. Alan Koenig, Chief Operating Officer
Pendleton Flour Mills
201 West Main Street, Suite 103
Chattanooga, Tennesse 37408

Dear Mr. Koenig:

Subject: Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement, Honolulu Harbor, O'ahuI – HC 10298

Thank you for your letters dated October 23, 2013 and November 22, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comments from your October 23, 2013 letter, we provide the following:

1. The potential tenant of the Piers 24 to 26 area, Pacific Shipyards International (PSI), is proposing to moor and operate two floating drydocks at the above referenced waterfront berths. The potential use of Piers 24 and 26 by PSI was one of nine options reviewed and evaluated in 2010 by a stakeholders' study group convened during preparation of *Development Plan for Relocation of Kapālama Military Reservation Tenants, Honolulu Harbor, Hawai'i* (Development Plan) (June 2, 2010). Hawaiian Flour Mill (HFM), part of Pendleton Flour Mills (PFM), participated in the study group which unanimously endorsed this planned use of Piers 24 and 25 (Option 5A). Specifically, DOT-H has worked directly with Mr. Tim Byam, Mill Manager of PFM to identify alternatives to its current operations, including consideration of financial feasibility. For details, please refer to pages 12 and 13 of the Development Plan.

   This Development Plan indicated that continuous mooring of the drydocks in the Piers 24 and 25 slip by PSI would conflict with grain ship deliveries to HFM silos at Piers 22 and 23. Possible alternatives include the berthing of grain ships at Piers 19 and 20 in conjunction with the development of an overland transport system or the use of a trucking system to transfer the grain cargo to storage silos at Piers 22 and 23. The latter alternative was evaluated in SDEIS. Please see page 6-3 (Cumulative Impacts) of the SDEIS.

2. The stakeholders' study group for the Development Plan convened to review and evaluate options for the relocation of PSI and Atlantis Adventures to Piers 24 to 28. As a participant of the study group, HFM looked at nine options for the relocation of the PSI drydocks. Option 5A, which shows PSI's two drydocks at Piers 24 and 25, was ultimately selected and unanimously endorsed by the study group.

3. Since 2010, DOT-H has moved forward with and refined the endorsed relocation plan for tenants of Piers 24 to 28. Discussions have also continued with HFM as an affected neighbor. DOT-H understands there are specific needs from the prospective tenants of Piers 24 to 28 and as a result has made adjustments and refinements to the Development Plan. Chapter 4, Affected Environment and Potential Consequences: Biological, Cultural, and Socioeconomic Environment of the SDEIS addresses the impact of the plan on the physical environment, cultural practices, historical sites, demographics, the economy, and other community concerns (e.g., traffic, school closures, homeless population).

In response to your comments from your November 22, 2013 letter, we provide the following:

1. It should be noted that the overhead conveyor system and, alternatively, trucking system concepts for PFM's grain shipment transfer from Piers 19 and 20 to Piers 22 and 23 are for PFM's preliminary consideration. DOT-H has worked directly with PFM on proposing alternative grain shipment transport system designs. In addition, to generate review and evaluation of possible alternatives to PFM's present overland grain shipment transfer operations, additional options based on different concepts were suggested for PFM's consideration: (1) continued use of Pier 23 with smaller grain ships and (2) permitted use of Pier 22 with existing grain ships to avoid PSI's large drydock at Pier 24. The focus of the EIS is directed at the development of the container terminal at the Kapalama site.

2. We anticipate evaluating "cost" information on the alternatives as we continue to work directly with PFM on this matter, rather than through the EIS review process.

3. DOT-H is cognizant of the importance of PFM's business in the local economy and that PFM needs to run an efficient operation to continue its valuable service to the islands. DOT-H's intent, as mentioned above, to continue to work with PFM on a feasible alternative is a clear indication of DOT-H's recognition of PFM's importance in operating in Honolulu Harbor.

4. Our response to Comment 4 in your letter is the same as our previous response (i.e., see response 3 above).

5. As is our response to Comment 3, DOT-H recognizes the importance of PFM's operation in the islands and will work directly with PFM to develop a feasible alternative for PFM's existing grain shipment operations. It is understood that resolving a feasible plan for PFM is determining whether the plan makes economic sense for the operator.

6. Noise impacts associated with the project are an important factor in evaluating alternatives to the overland transfer and would require inclusion of mitigation measures. Some of these measures would involve design or operation changes (i.e., minor equipment modifications) with no capital cost. HFM operations at Pier 20 was one of three areas evaluated for potential noise impact; a description of the noise study methods used and the study report itself are found in the SDEIS from pages 3-96 to 3-98 and in Appendix D (section D-3), respectively.

7. HFM, part of PFM, participated in the study group which unanimously endorsed this planned use of Piers 24 and 25 (Option 5A). Specifically, DOT-H has worked directly with Mr. Tim Byam, Mill Manager of PFM to identify alternatives to its current operations, including consideration of financial feasibility. For details, please refer to pages 12 and 13 of the Development Plan.

   The stakeholders' study group for the Development Plan convened to review and evaluate options for the relocation of PSI and Atlantis Adventures to Piers 24 to 28. As a participant of the study group, HFM looked at nine options for the relocation of the PSI drydocks. Option 5A, which shows PSI's two drydocks at Piers 24 and 25, was ultimately selected and unanimously endorsed by the study group.

   The Development Plan reported that the continuous mooring of PSI's drydocks in the Piers 24 and 25 slip area would conflict with grain ship deliveries to Piers 22 and 23. Upon further evaluation, the plan concluded that there was merit in considering berthing the grain ships at Piers 19 and 20 and developing an over land transport system to convey the grain to the storage silos at Piers 22 and 23.

   DOT-H has had follow-up consultation meetings with HFM to determine the specific design for the transport system. Since HFM needed more information on the project area, transport systems technology, and installation costs for sound decision-making, PFM proceeded to further research these topics. Although the focus of the SDEIS is on the development of the container terminal at the Kapālama site, the document also addresses projected impacts of this development on specific piers and tenants. The impact of the potential drydock placement by PSI on HFM operations, for example, is described on page 2-7 (Proposed Action and Alternatives) of the EIS. A description of HFM operations and production is included on page 3-10 (Affected Environment and Potential Consequences: Physical Environment).

Mr. Alan Koenig, Chief Operating Officer
April 14, 2014
Page 4

HAR-EP
4563.14

We appreciate your participation in the EIS review process and look forward to your continued interest in this important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

c: ~~DEP-P~~, DEP-H, HAR, -E, -EP, -ESP
✓Belt Collins Hawaii LLC

DW:va

HAWAIIAN AIRLINES

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NOV 08 2013
BELT COLLINS HAWAII LLC

November 7, 2013

Mr. Carter Luke
Engineering Program Manager
State of Hawai'i Department of Transportation, Harbors Division
79 S. Nimitz Highway
Honolulu, Hawai'i 96813

Dear Mr. Carter:

Hawaiian Airlines (Hawaiian) provides the following comments to the Second Draft Environmental Impact Statement (DEIS) for the proposed Kapālama Container Terminal (KCT). Hawaiian acknowledges and appreciates the opportunity to comment once again on the DEIS and the fact that DOT Harbors Division made changes to the core document after receiving comments for the first DEIS.

Paragraph 3.4 of the Second DEIS states that the proposed KCT crane heights are based on existing cranes in use at Sand Island Horizon Container Terminal (HCT). The HCT cranes on Sand Island are 208' Above Ground Level (AGL) and at a distance of 8768' from the 8L Departure End of Runway (DER). The FAA sanctioned departure path for Honolulu Airport (HNL) Runway 8L takes Hawaiian aircraft directly over the HCT cranes. The maximum amount of payload (passengers and cargo) that aircraft can safely and legally carry are constrained by the obstacles in its path during the initial departure phase and the performance of the aircraft with one engine inoperative (i.e. an engine failure on takeoff). 98.5% of Hawaiian's narrowbody aircraft (Boeing 717's) departing runway 8L are "obstacle limited" by the HCT cranes (i.e., they could carry more passengers and cargo if the cranes where not in the departure path).

Paragraph 3.4 of the Second DEIS also states that the proposed cranes exceed FAA obstruction standards and would have an adverse effect upon navigable airspace. The FAA authorized departure path for HNL Runway 8L takes Hawaiian aircraft directly over the proposed KCT cranes. The proposed cranes are higher (234' AGL) than the current Sand Island cranes and are 814' closer to 8L DER at 7954'. "Higher" and "closer" cranes will have an even more profound, negative impact on Hawaiian's widebody and narrowbody aircraft departure performance for HNL 8L.

The majority of Hawaiian widebody flights depart from HNL Runway 8R but, on occasion, 8L is required due to 8R unavailability. Based upon historical widebody 8L usage data, the annual cost of the proposed KCT cranes to Hawaiian would be a $3.2M in lost passenger and cargo capacity. Further, mitigation of these losses by altering the departure path for widebody operations to avoid the proposed KCT cranes is simply not an option due to performance constraints.

Conversely, the majority of Hawaiian narrowbody flights depart from HNL Runway 8L. Under the current FAA authorized departure path, the average annual cost of the proposed KCT cranes ranges from $3.9M to $5.8M due to higher required takeoff power and the resulting increase in maintenance costs as well as to the loss of passenger and cargo capacity.

Finally, Paragraph 3.4 of the Second DEIS highlights the need for further study by the FAA and alludes to difficulties in obtaining FAA approval for the proposed KCT crane heights of 234' AGL. Hawaiian provided comments to the FAA on Aug 1, 2013 regarding Aeronautical Studies No. 2013-AWP-930-OE and 2013-AWP-931-OE for the proposed KCT cranes. In its comments, Hawaiian stressed the safety concerns that would be created by placing obstacles higher and closer to DER 8L than the existing obstacles at Sand Island. It also highlighted the substantial adverse financial impacts to Hawaiian operations. To date, the FAA has not made a final determination of Hazard to Air Navigation for the proposed KCT cranes.

As stated in its last DEIS comments, Hawaiian wholeheartedly supports the economic growth and prosperity of the state of Hawaii, including the development of Honolulu's harbor. At the same time, Hawaiian has a solemn commitment to the safety of the flying public and a business mandate to conduct profitable and efficient airline operations while providing reasonably priced airfares to its customers. The above mentioned factors are inextricably tied together – as the tourism traffic into HNL goes, so goes the container traffic into Honolulu's harbor. The 234' AGL cranes, as currently proposed, reduce Hawaiian's operational safety margins and will have definitive adverse financial impacts to its business and its customers.

Low Profile Cranes (up to 185' AGL) at KCT would have no safety or performance impact to Hawaiian flight operations and should be considered. Hawaiian recommends that the impacts to its operations, as discussed above, be added to Table 7-1 "Summary of Impacts", so that the total picture is made available to the public, both the benefits and negatives of 234' cranes at KCT.

Sincerely,

Daniel F. Lyons
Senior Director
Performance Engineering and Operations Analytics

c: Ms. Joanne Hiramatsu, Director of Planning, Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

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IN REPLY REFER TO:
HAR-EP
4849.15

July 31, 2014

Mr. Daniel F. Lyons, Senior Director
Performance Engineering and Operations Analytics
Hawaiian Airlines
Honolulu International Airport
P.O. Box 30008
Honolulu, Hawaii 96820-0008

Dear Mr. Lyons:

Subject: Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement, Honolulu Harbor, O'ahu, Hawai'i - Job H.C. 10298

Thank you for your letter dated November 7, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comments on the SDEIS, we provide the following:

1. We acknowledge your assessment that 98.5 percent of Hawaiian Airlines' narrow-body aircrafts that depart on Runway 8L of the Honolulu International Airport via Federal Aviation Administration's (FAA) sanctioned departure path are "obstacle limited" by the Horizon Container Terminal cranes on Sand Island. The Department of Transportation, Harbors Division (DOT-H), requested the FAA to conduct aeronautical studies to determine the effect of the Kapālama Terminal's proposed gantry cranes on Honolulu International Airport's navigable airspace. The FAA conducted and completed its study of the proposed gantry cranes and issued a "notice of presumed hazard" in May 2013. The Department of Transportation (DOT), Harbors Division, (DOT-H) then requested FAA further study (i.e., follow-up aeronautical study) be conducted for the cranes. The "further study" includes a circularization process which ended on August 3, 2013. In May 2014 the FAA determined that additional information was required for the airport runway at Honolulu International Airport in order to complete their determination. As of this date, no final determination from FAA has been received.

2. DOT-H is cognizant of Hawaiian Airlines' safety concerns with obstacles that are "higher" and "closer" and acknowledges your assessment of the potential financial costs associated with impacts from these obstacles on Hawaiian Airlines' operations. DOT-H will advise the future terminal operator to submit a FAA 7460-1 Form to get a determination from FAA prior to installing the cranes at the Kapālama site.

3. After receiving the initial "notice of presumed hazard" from the FAA, DOT-H requested that the FAA conduct further study (i.e., follow-up aeronautical study) to allow for a public circularization process. This process involved public input, especially from airlines and air cargo operators such as yours, for consideration in the final analysis and recommendation by the FAA. After open review by the public, the process closed in August 2013. As stated in Item 1 above, additional information was required in May 2014 and final determination by FAA has not been received to date.

4. To show the probable impacts of the new gantry cranes on aircraft departures from the east side of the airport, Table 7-1 (section on Public Health and Safety) in the SDEIS will be revised to include the following additions:

Impacts to Resource Area	Proposed Action Probable Impact	Alternative Action Potential Impact	No Action Alternative Potential Impact
Public Health and Safety	**Construction:** If construction equipment is considered a hazard or obstruction to the airport's navigable airspace, impacts would be temporary for the length of time of construction.	**Construction:** Same as Proposed Action	**Construction:** None
	Operations: If tall gantry cranes are used, flight or airline operators may need to recertify their aircraft fleet to meet One Engine Inoperative (OEI) requirements. Financial impacts to operators required to meet new OEI requirements (e.g., maintenance, fuel, load/passenger capacity, purchase new aircraft) are possible. If low-profile cranes are used, there may be no impact to OEI provisions; further studies may be needed.	**Operations:** Same as Proposed Action	**Operations:** None
	Cumulative Impacts: Possible increase in air fares and cargo transport fees. Operators may be unable to continue operations at HIA.	**Cumulative Impacts:** Same as Proposed Action	**Cumulative Impacts:** None
	Mitigation: If the future operator, after consulting with the FAA determines that an OEI analysis is needed, an analysis will be prepared and reviewed at that time.	**Mitigation:** Same as Proposed Action	**Mitigation:** None

5. As stated in the SDEIS, future container terminal operators will be responsible for all its facilities and equipment set-up, including gantry cranes, at the Kapālama site and for complying with FAA regulations and the FAA Form 7460-1 final determination. This applies to cranes during construction as well.

We appreciate your participation in the EIS review process and look forward to your continued interest in this important State project.

Very truly yours,

FORD N. FUCHIGAMI
Interim Director of Transportation

KAPALAMA CONTAINER TERMINAL AND TENANT RELOCATIONS ENVIRONMENTAL IMPACT STATEMENT

COMMENTS ON SECOND DRAFT EIS

FROM: PACIFIC SHIPYARDS INTERNATIONAL

DATE: November 20, 2013

Pacific Shipyards INTERNATIONAL

RECEIVED

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BELT COLLINS HAWAII

November 20, 2013

VIA HAND DELIVERY

Mr. Carter Luke, Engineering Program Manager
State of Hawaii, Department of Transportation, Harbors Division
79 South Nimitz Highway
Honolulu, HI 96813

Re: Kapalama Container Terminal and Tenant Relocations Environmental Impact Statement - Comments on Second Draft EIS

Dear Mr. Luke:

I am writing to provide the State of Hawaii, Department of Transportation, Harbors Division (H-DOT) with written comments on the second draft of the Kapalama Container Terminal and Tenant Relocations Environmental Impact Statement (Kapalama EIS). My comments are submitted on behalf of myself personally and on behalf of Pacific Shipyards International, LLC (collectively, "PSI").[1]

PSI's comments on the Kapalama EIS are twofold. First, as addressed in Section I and Attachment I, as a follow up to PSI's meeting with H-DOT and the Department of Land and Natural Resources (H-DLNR), PSI is formally providing supplemental information, all of which is pre-existing public information, to support the environmental impact findings of the Kapalama EIS with respect to PSI's relocation. None of the supplemental information conflicts with, or indicates that there may be new or different environmental consequences from, the environmental consequences already identified in the first and second drafts of the Kapalama EIS.

Second, as explained in Section II below and in Attachments II through IV, H-DOT has misinterpreted and misapplied the Hawaii Environmental Policy Act (HEPA), HRS Chapter 343. As a result, the Kapalama EIS, as revised in the second draft, is unlawful.

Finally, Section III below identifies the steps that PSI believes are necessary and appropriate to fully resolve its concerns so that the Kapalama EIS may be finalized. Specific changes to the text necessary to correct the legal flaws in the Kapalama EIS are identified in Attachment IV.

[1] PSI's comments incorporate by reference materials that are attached to this letter. Please include this letter and all of the attachments in the administrative record pertaining to the Kapalama EIS.

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Pier 41, Honolulu, Hawaii USA 96817
Web: www.pacificshipyards.com
Phone: 808-848-6211 Fax: 808-848-6279

Contractor's License No. CT-29937

I. SUPPLEMENTAL INFORMATION

Attachment I to this letter consists of all of the supplemental information provided to H-DOT at the November 13, 2013 meeting, plus copies of the relevant references. The contents of Attachment I are a narrative statement consisting of both a summary of the relevant content and findings in the second draft Kapalama EIS (pages 1-5), and providing supplemental information (pages 5-11), and seven enclosures. The enclosures are: (i) a schematic drawing of Piers 24-26 depicting the anticipated location of PSI relocated operations; (ii)-(iii) illustrative examples of the types of "butler" type pre-fabricated buildings PSI anticipates having constructed at the relocation site in the uplands; (iv) a copy of PSI's current water discharge permit (NPDES permit) under federal and state law; (v) a copy of PSI's related Best Management Practices (BMP) Plan; (vi) a copy of PSI's NPDES permit Effluent Monitoring Program (EMP); and (vii) a copy of PSI's Spill Prevention Control and Countermeasure Plan.

The above information was assembled by PSI based upon concerns identified by Deputy Attorney General, Linda Chow, Land Transportation Division, in a phone call on October 30, 2013. The information was provided to Ms. Chow by PSI on November 8, 2013. On November 13, 2013, after addressing clarifying questions, PSI was advised by Ms. Chow that the supplemental information resolves all of H-DLNR's concerns regarding compliance with HRS Chapter 343 as it relates to PSI's relocation. This information was confirmed to H-DOT by Ms. Chow in the parties' meeting later on November 13, 2013, at which time all of the supplemental information was also provided to H-DOT. The supplemental information that has been provided confirms the findings in the Kapalama EIS regarding the probable environmental consequences resulting from relocation of PSI to Piers 24-26. No new or different environmental consequences are identified.

It bears emphasis that PSI expressed a strong interest in working with H-DOT prior to its initiation of the Kapalama EIS, and that PSI has responded in full to every request for information or access that has been requested of it by H-DOT and its EIS consultant. At no time has H-DOT ever asked PSI for more information. In fact, the original draft EIS indicated that it was satisfactory to address PSI's HEPA obligations. The contrary statements in the second draft were a complete surprise to PSI. In any event, all of the supplemental information is public information available on PSI's website or from the State of Hawaii's own records. The schematic drawing provided as the first enclosure with the supplemental materials is fully consistent with the existing schematic drawing of the Pier 24-26 site in the Kapalama EIS at Figure 2-4.

II. COMPLIANCE WITH HRS CHAPTER 343

Attachment II to this letter is a copy of a letter from legal counsel to PSI dated October 14, 2013. This letter makes reference to a letter dated July 30, 2013, a copy of which is included at Attachment III to this letter. Attachment II, as supplemented by Attachment III, explain in detail why the current draft of the Kapalama EIS violates HEPA and other applicable law.

To summarize, there are three fundamental legal problems with the current draft of the Kapalama EIS as it concerns PSI's relocation:

- Unlawful segmentation: An agency cannot "segment" or "piecemeal" its environmental impact analysis of a proposed action by dividing into phases or component parts. *See* Attachment II at 3-4 (and the cited authorities). The revised draft EIS purports to address only the upland impacts of PSI's relocation and to exclude from analysis the impacts of the relocation to submerged lands. Because PSI is a maritime-dependent tenant, it is unlawful under HRS Chapter 343 to segment the impacts of its relocation between upland and submerged lands effects. In any event, the statements in the EIS that submerged lands have not been considered is factually inaccurate. As addressed in Attachment I, the existing EIS includes a robust analysis of PSI's very limited probable impacts to submerged lands and to marine waters.

- One EIS for a Proposed Project: The Kapalama EIS explicitly includes PSI's relocation as part of the proposed action. H-DOT must do this because the Kapalama Container Terminal Project cannot proceed without terminating PSI's existing lease, PSI is maritime-dependent and so requires a harbor location, H-DOT expects to relocate PSI to Pier 24-26, and the EIS confirms that there are no other suitable alternative locations for PSI. Given that PSI's relocation is part of the proposed action, HEPA mandates that there be only one environmental impact analysis for the proposed analysis. *See* Attachment II at 4-5 (and the cited authorities). For this reason, the language added to the revised draft Kapalama EIS indicating that the EIS does not satisfy PSI's HEPA obligations is unlawful. Either the EIS is adequate and satisfies all HEPA obligations for PSI's relocation, or the EIS is inadequate and satisfies neither H-DOT's nor PSI's obligations.

- Alteration of the Kapalama EIS: The undisclosed process that H-DOT engaged in to alter the Kapalama EIS between the first and the second draft is highly irregular, unfair and unlawfully arbitrary as it relates to PSI's relocation. *See* Attachment II at 5-6.

Attachment IV to this letter details the specific changes that need to be made to the text of the Kapalama EIS in order to bring the document into compliance with the legal requirements of HRS Chapter 343.

III. THE PATH FORWARD

In order to address PSI's comments and concerns as identified above and in the accompanying attachments, H-DOT must do the following:

First, to the extent H-DOT may deem it appropriate or necessary to comply with HRS Chapter 343, PSI urges H-DOT in the strongest terms possible to include this information in the Kapalama EIS, either by supplementing existing information in the text or by including the information in an appendix. There can be no rational reason for excluding any of the information insofar as H-DOT deems it necessary to comply with HEPA so that the Kapalama EIS is adequate in its analysis of the environmental consequences of PSI's relocation.

It is a matter of discretion for H-DOT as the lead agency to decide whether including supplemental information about PSI's relocation requires additional public notice and comment. Insofar as PSI is concerned, additional comment does not appear required or warranted because (i) no comments submitted on the first and second drafts of the EIS have been addressed to these issues and, accordingly, PSI's impacts are not matters of significance to the public, and (ii) the information provided is already public and only confirms the existing findings regarding environmental consequences. For these same reasons, if H-DOT does elect to undertake additional notice and comment, PSI believes that H-DOT possesses the discretion to establish a shorter time (*e.g.*, 10 days) for comment.

Second, H-DOT must edit the Kapalama EIS to remove the footnotes and text added in the second draft that erroneously and unlawfully state (i) that the EIS does not satisfy PSI's obligations under HRS Chapter 343, and (ii) that the EIS does not address impacts of PSI's relocation to submerged lands. The locations within the EIS where these changes need to be made are identified in Attachment IV to this letter.

Please do not hesitate to call me if you have any questions or concerns regarding the matters addressed in this comment letter.

Very truly yours,

Steven Loui
Chairman
Pacific Shipyards International, LLC

cc: Ms. Joanne Hiramatsu, Belt Collins Hawaii, LLC
George W. Brandt, Esq.

ATT. 1

PACIFIC SHIPYARDS INTERNATIONAL (PSI) TENANT RELOCATION

The Hawaii Department of Transportation (H-DOT) is proposing to redevelop a portion of the Honolulu waterfront by (i) constructing the Kapalama Container Terminal to expand shipping cargo facilities, and (ii) relocating existing water-dependent tenants from the redevelopment site to another waterfront location. In connection with its proposed action, H-DOT has prepared a draft Kapalama Container Terminal and Tenant Relocations Environmental Impact Statement (Kapalama EIS).

The purpose of this document and the accompanying attachments is to provide supplemental details in support of the impact analysis associated with PSI's relocation to Piers 24-26.

I. Kapalama EIS Summary

H-DOT has published two drafts of the Kapalama EIS. The factual content and impact analysis is the same with respect to PSI's relocation in the original and revised EIS. Although the content of the EIS concerning PSI is unchanged, language stating that the Kapalama EIS would satisfy all obligations associated with the Hawaii Environmental Policy Act (HEPA), HRS Chapter 343, has been deleted from the second (revised) draft EIS. Instead, new language has been inserted, stating that (i) the Kapalama EIS will satisfy H-DOT's HEPA obligations but not PSI's HEPA obligations, and (ii) the Kapalama EIS considers upland improvements associated with the relocation, but not impacts to submerged lands. *See* Kapalama EIS at 1-4 n.1, 2-7 n.4, 2-8 n.7, 2-17, 3-2. These statements are both legally and factually erroneous.[1]

The following summarizes the content of the draft Kapalama EIS that is relevant to PSI's relocation. This summary is included so that the supplemental information provided in Section II below may be considered in context with the existing impact analysis.

Summary Sheet

This section briefly summarizes the analysis and conclusions of the EIS, with special attention to potentially significant environmental impacts. PSI's relocation to Piers 24-26 is identified as a component of the proposed action (p. SS-3). The only environmental impact issue of concern

[1] The Kapalama EIS cannot be adequate for H-DOT's purposes but inadequate for PSI's purposes. *See* HRS § 343-5(i) (HEPA statement for a particular action "shall satisfy the requirements of this chapter, and no other statement for the proposed action shall be required."). Moreover, the statement that the EIS does not address submerged lands is both contrary to the requirements of HEPA and a factual mischaracterization of the content of the Kapalama EIS. It would be unlawful under HEPA to segment environmental analysis of PSI's upland uses from its marine uses, especially given that, as the EIS acknowledges, PSI is a marine-dependent tenant. In any event, the EIS repeatedly discusses and analyzes the environmental impacts of PSI's relocation and use of two dry docks. *See, e.g.,* Kapalama EIS § 4.2.

related to PSI's relocation is the potential for nighttime noise level effects on Downtown Honolulu residents located 1,800 feet or more away (p. SS-3).

Chapter 1 (purpose and need)

This introductory section describes why H-DOT is undertaking redevelopment of Pier 41 into the Kapalama Container Terminal, and confirms that relocation of PSI and other tenants that are water-dependent are included as part of the proposed action (p. 1-4). A site photo is included (p. 1-2, Figure 1-1) confirming that the proposed action includes both redevelopment of Pier 41 and relocation of the identified exiting tenants, including PSI to Piers 24-26.

Chapter 2 (proposed action and alternatives)

This section provides a description of the proposed action, and alternatives including the no action alternative.

The existing and relocated PSI sites are shown in aerial photographs at pages 2-5 and 2-6. A brief general description of PSI's relocation in upland areas (*e.g.*, use of an existing building and construction of additional structures) and in adjacent waters (*e.g.*, mooring and use of two drydocks) is provided in Section 2.2. Figure 2-4 (p. 2-10) provides a schematic drawing of buildings and drydocks at the relocated PSI site. Additional details regarding improvements to upland areas at Piers 24-26 are also provided, and the use of two floating drydocks secured along Piers 24-25 is also described (p. 2-17).

This section also discusses the no action alternative, acknowledging that even under this option PSI would relocate (p. 2-21). Detailed discussion is also provided of several alternative relocation sites for PSI; however, all of the alternative sites were found to be unsuitable and thus eliminated from detailed consideration (pp. 2-25 and 2-26).

Chapter 3 (affected environment and potential consequences: physical environment)

In general, this section describes the existing environment and analyzes the potential impacts to the physical environment from the proposed action, including tenant relocations. Each subsection within Chapter 3 includes a specific discussion of the affected environment specific to Piers 24-28, and a separate discussion of environmental consequences also specific to Piers 24-28:

- Land use (Section 3.2) - existing land uses (§ 3.2.2.1.1), surrounding land uses (§ 3.2.2.1.2), and environmental consequences (§ 3.2.2.2). Construction impacts are expected to be short-term and addressed using standard construction BMPs; operational impacts limited because the relocation of PSI is consistent with the existing "Waterfront Industrial" zone (p. 3-11).

- Land ownership (Section 3.3) - Existing land ownership (§ 3.3.2.1) and environmental consequences (§ 3.3.2.2). There will be no impacts to land ownership due to PSI's relocation (p. 3-21).

- Public health and safety (Section 3.4) - Existing airspace and imaginary surfaces (§ 3.4.1.2.1) and environmental consequences (§ 3.4.1.2.2); existing hazardous substances/materials/waste and petroleum (§ 3.4.2.2.1) and environmental consequences (§ 3.4.1.2.1). There will be no significant impacts to airspace or imaginary surfaces (p. 3-29). A portion of Piers 24-26 are included within a petroleum contamination remediation area resulting from historical uses. No significant risks to public health or safety from construction and operations by PSI are anticipated (pp. 3-38 and 3-39). The potential for pollutant spills from industrial operations, including shipyard and dock activities is identified (p. 3-39).

- Roadways and traffic (Section 3.5) - Existing traffic environment (§ 3.5.2.1 and environmental consequences (§ 3.5.2.2). Construction-related traffic is expected to be short-term and without significant impact (p. 3-48). No significant traffic impacts are expected from operations of PSI at the relocated site (p. 3-48).

- Utilities (Section 3.6) - Existing utilities and environmental consequences for water (§§ 3.6.2.1.1, 3.6.2.2.1), sewer (§§ 3.6.2.1.1, 3.6.2.2.2), storm drainage (§§ 3.6.2.1.2, 3.6.2.2.3), electrical/telecommunications including lighting (§§ 3.6.2.1.3, 3.6.2.2.4), gas/petroleum (§§ 3.6.2.1.4, 3.6.2.1.5), and solid waste (§§ 3.6.2.1.5, 3.6.2.1.6). No significant adverse impacts anticipated.

- Public facilities and services (Section 3.7) - Existing police/security and fire protection, and impacts (§ 3.7.2.1) and existing medical and emergency services, and impacts (§ 3.7.2.2). No significant impacts from construction or operation are anticipated (p. 3-70).

- Topography, geology and soils (Section 3.8) - Existing topography, geology and soils (§ 3.8.2.1) and environmental consequences (§ 3.8.2.2). Construction impacts would be minimal (p. 3-74) and there would be no operational impacts (p. 3-75).

- Hydrology (Section 3.9) - Existing hydrology (§ 3.9.2.1) and environmental consequences (§ 3.9.2.2). The region of influence (ROI) for this analysis included Piers 24-28 and adjacent marine receiving waters (p. 3-75). No significant impacts are anticipated (pp. 3-77 and 3-78).

- Natural hazards (Section 3.10) - Existing risks of tsunami, flood, earthquake, hurricane and climate change (§ 3.10.2.1), and environmental consequences (§ 3.10.2.2). Construction and operational impacts would be mitigated by disaster preparedness, response and evacuation procedures (p. 3-90).

- Climate and air quality (Section 3.11) - Existing climate and air quality (§ 3.11.2.1) and environmental consequences (§ 3.11.2.2). Air emissions would not be significant, and would be managed through required controls (p. 3-95).

- Noise environment (Section 3.12) - Existing noise environment (§ 3.12.2.1) and environmental consequences (3.12.2.2). The immediate area is industrial, with the nearest residences located 1,800 feet away in Chinatown and Downtown Honolulu (p. 3-102). Adverse impacts from construction noise are not expected due to buffer distances (p. 3-103). Operational noise would be within permissible limits, but could potentially exceed permissible nighttime levels for Class B areas (p. 3-103). Associated mitigation is identified (pp. 3-103 and 3-104).

- Visual resources (Section 3.13) - Existing visual environment (§ 3.13.2.1) and environmental consequences (§ 3.13.2.2). Visual impacts would be minimal and consistent with surrounding industrial activities (p. 3-109).

Chapter 4 (affected environment and potential consequences: biological, cultural and socioeconomic environment)

In general, this section describes the existing environment and analyzes the potential impacts to the biological, cultural and socioeconomic environment from the proposed action, including tenant relocations. Each subsection within Chapter 4 includes a specific discussion of the affected environment specific to Piers 24-28, and a separate discussion of environmental consequences also specific to Piers 24-28.

Section 4.2 describes the in-water environment fronting Piers 24-28, including the areas to which PSI will relocate, based upon survey of the marine environment prior to the September 2013 molasses spill into Honolulu Harbor (p. 4-1). Benthic conditions are expected to be much less biologically robust post-spill. The existing (pre-spill) marine environment adjacent to Piers 24-28 is described in § 4.2.2.1 (pp. 4-18 to 4-21). Construction impacts would not be significant, with in-water work limited to placement of spuds at Piers 24-25 to support the two drydocks (p. 4-21). The associated area is believed to be "either completely or partially devoid of living tissue. No in-water dredging or filling beyond placement of spuds is anticipated. During operations, the presence of the two drydocks would reduce or block sunlight to the submerged lands underneath; however, the area is east-facing with less light exposure, vessels are already frequently moored there, and the existing biological resources are "sparse" consisting of skeletal remains of coral (pp. 4-21 and 4-22). No significant impacts on the marine environment would result from shipyard operations (p. 4-22).

Section 4.3 addresses terrestrial flora and fauna. The existing environment is described in § 4.3.2.1 and the environmental consequences are described in § 4.3.2.2. There are no sensitive species that inhabit the area (p. 4-26). No significant impacts are expected, but outdoor lights may require shielding to minimize attraction of shearwaters (p. 4-27).

Section 4.4 addresses cultural resources, with subsection 4.4.2 addressing Piers 24-28. No impacts to cultural resources or practices are expected from construction or operations by PSI (p. 4-36).

Section 4.5 addresses socioeconomic impacts. The existing socioeconomic environment is described on a project-wide basis in subsection 4.5.1. Environmental consequences regarding relocation to Piers 24-28 are addressed in subsection 4.5.2.2. Construction impacts would result in expenditure of potentially millions of dollars on improvements, creation of construction jobs and several million dollars in construction wages (p. 4-53). Operational impacts discussed include restatement of potential nighttime noise impacts to residences located 1,800 feet away or more, and related mitigation, and loss of Piers 24 and 25 for other types of activities once PSI's two drydocks are repositioned (pp. 4-53 and 4-54).

Chapter 5 (relationship to public policies and programs)

This section addresses compliance with applicable federal, state and county policies and programs. The text of this chapter does not specifically address environmental impacts associated with PSI's relocation.

Chapter 6 (cumulative impacts)

This section includes a discussion of past and present actions at Piers 24-28 (§ 6.2.1), and other past, present and future projects considered in the cumulative impacts analysis (§ 6.2.2). This chapter does not identify any cumulative impacts attributable to relocation of PSI.

Chapter 7 (summary of impacts)

This section summarizes the potential impacts and classifies the probable intensity of the impacts as unavoidable significant impact (I), significant but mitigatable impact (II), no significant impact/minor impact (III), or no impact/no impact determined (IV). Some categories of impacts are presented consolidating the entire proposed action, and others are broken out between components of the proposed action. The only category I impacts identified are beneficial socioeconomic impacts from the proposed action. All adverse environmental impacts are rates II, III or IV. Notably, noise impacts from PSI's operations are rated category III (no significant impact/minor impact).

II. Supplemental Information

PSI is an existing shipyard and ship repair facility located at Pier 41. Its operations will not change when relocated to Piers 24-26. As a result, in terms of operations, there would be essentially no new environmental impacts. Rather, the principal consequence of relocation would be to change the location of existing impacts from one marine industrial location (Pier 41) to another (Piers 24-26). Although there would be construction activities associated with the relocation, these activities would be limited in scope and duration, and consistent with the existing industrial uses and environment at Piers 24-26.

None of the supplemental information provided below conflicts with, or indicates that there may be new or different environmental consequences from those already identified in the existing Kapalama EIS. This includes impacts to marine waters and submerged lands.

A. Description of Operations and Facilities

PSI's existing shipyard operations and facilities at Pier 41 are described on its website at http://www.pacificshipyards.com. Attachment I to this submission is a schematic drawing of PSI's facilities relocated to Piers 24-26. Attachment I is fully consistent with the schematic drawing contained in the Kapalama EIS at Figure 2-4.

1. dry docks

The primary activity engaged in by PSI is ship repair and maintenance within two floating dry docks - the Kapilipono and the Kekaulana. Photos of these two drydocks and their dimensions are available at http://www.pacificshipyards.com/drydocking.html. Within these dry docks, PSI performs hull and structure preservation (coatings removal via hydroblasting or alternative methods, surface preparation, and paint application), welding and structural repairs/installations, and mechanical repairs to ship systems (propulsion, piping, tank valves, etc.).

The two dry docks would be relocated to Piers 24 and 25 as depicted in the Kapalama EIS at Figure 2-4. The dry docks would either be moored to the adjacent piers or, as stated in the Kapalama EIS, anchored to spuds placed on the subsurface.

2. shore side operations

PSI currently maintains the following shore side facilities: (i) a welding and fabrication shop for steel manipulation (e.g., bending, cutting), and for shop fabrication, welding and similar "hot" production activities; (ii) a machine shop for shaft lathing and fabrication, drilling, boring and ram repairs, pump overhauls, and valve and other mechanical repairs; (iii) a blast booth within which all shore side sandblasting is performed; (iv) a paint booth within which all shore side painting is performed; (v) a production warehouse for storage and inventory; (vi) a laydown yard used to support equipment storage/set up, materials handling, temporary services and overall general activities and needs of PSI; and (vii) locker rooms and a cafeteria for PSI's employees. Many of these activities are generally described and depicted at PSI's website under the subheading "Services."

PSI intends to continue conducting these exact same shore side activities once relocated. As depicted in Attachment I, PSI is planning to occupy all or portions of five shore side structures.

- Building 1 located to the north of Pier 24 on "Lot 1" is an existing structure occupied by Sause Brothers and the Honolulu Harbor Police. PSI anticipates using the upper floor of Building 1 for administrative personnel and services at the present location of Sause Brothers.

- PSI is planning to construct four new structures along the western portion of the site within "Lot 3" as depicted on Attachment 1. The four structures consist of a structural fabrication building, a tools/supply building, a machine shop, and a sandblast and painting building.

- Portions of "Lot 2" would serve as a laydown yard, as well as for parking, and would provide for ingress and egress to and from the working areas of the shore side facilities and dry docks.

The exact locations and dimensions of the four new buildings remain subject to the area ultimately leased to PSI, and to compliance with applicable building codes and other requirements.

B. Description of Construction Activities

Building 1 is an existing structure. PSI does not anticipate any structural changes to this building. Limited interior remodeling may occur, but such activities would all occur within the existing structure.

The four new buildings planned for "Lot 3" are expected to be so-called "butler" type buildings. These steel metal structures are efficient, pre-fabricated buildings, that are flexible in their design, readily adaptable on a site-specific basis, and able to withstand the same stresses as other buildings. Two illustrative example photos are provided as Attachments 2 and 3. Because of the prefabricated nature of these structures, construction impacts would involve staging and assembly of buildings on site, and installation of an appropriate supplemental foundation, if necessary. The duration of impacts would be short-term and the area affected would be limited to the project site, other than limited traffic associated with construction activities, as indicated in the existing Kapalama EIS.

In addition, some limited construction activities will be necessary to connect up utilities to site operations:

- Potable water lines will need to be installed to provide water to the new structures. It is estimated that approximately 200-400 LF of variably sized water laterals will be needed to service the site.

- Several improvements related to stormwater collection and discharge are anticipated to prevent sheet flow off of the site, and to comply with control and monitoring requirements applicable to PSI's NPDES permit. These improvements may include installation of a detention system or alternative treatment systems.

- The site lacks sufficient grade to convey sewage via gravity to the city's system. Accordingly, PSI anticipates installation of a pump system to convey waste, including a concrete wet well and two pumps. The new collection system will require approximately 750 LF of 6-inch to 8-inch gravity lines that flow to the proposed WWPS wet well. From the WWPS approximately 800 LF of 6-inch force main will be needed to pump the sewage to where it can flow by gravity to the existing CCH collection system. An additional 225 LF of 8-inch gravity line will convey the sewage to existing SMH-A.

- Electrical, telephone and CATV services will be extended from Nimitz Highway via underground ductlines, manholes and handholes to the project site. For the illumination

of the laydown area, PSI anticipates five "high mast" poles with attached floodlights. Buildings will be provided with electric, telephone and CATV services as required. Pad mounted HECo transformers shall be provided for services to each building. Power and communication along the wharf face at Piers 24 and 25 may be provided as required using underground ductlines, manholes and handholes.

C. Environmental Consequences - Submerged Lands

Although the most recent revised draft of the Kapalama EIS includes repeated statements that the EIS does not address PSI's impacts to submerged lands, in fact, the EIS does correctly and fully identify and address the anticipated impacts.

The only direct impact that is reasonably anticipated would result from the placement of spuds for attachment of the two dry docks as discussed in Section 4.2 of the Kapalama EIS. An indirect impact, also addressed in Section 4.2, would be shading of submerged lands over which the dry docks are located. This impact is not a new environmental impact at Piers 24-25 because, as stated in the EIS, existing vessels moored regularly at Piers 24-25 already shade the same east-facing area. Even before the effects of the recent molasses spill, benthic resources in these areas were identified as "sparse" and consisting of skeletal remains of coral without the presence of live tissue.

D. Control and Mitigation Measures - Sandblasting Emissions and Fugitive Dust

The vast majority of PSI's hull blasting activities conducted within its dry docks involve hydroblasting, not sandblasting. However, there are circumstances in which sandblasting must be performed within the confines of PSI's dry docks to facilitate vessel repairs (*e.g.,* preservation work within a vessel's tank or void space). Insofar as PSI conducts sandblasting within its dry docks, these activities require shrouding and use of mobile dust collectors. Shore side sandblasting at Pier 41 is performed within the confines of PSI's blast booth, which is fully enclosed to prevent the release and drifting of sandblast grit and dust. The blast booth also mitigates noise emissions. Sandblasting operations would continue after relocation under the same control and mitigation measures currently in place as described below. These operations would occur to a limited extent within the dry docks as now occurs, and also shore side within the building identified on Attachment 1 within "Lot 3" for sandblasting and painting.

Existing controls pertaining to sandblasting are primarily derived from three sources: PSI's May 31, 2012 Clean Water Act National Pollutant Discharge Elimination System (NPDES) permit ("PSI's NPDES permit")(copy provided as Attachment 4); HAR § 11-60.1-33, which regulates fugitive dust; and PSI's NPDES Permit Best Management Practices Plan ("BMP plan") dated August 28, 2013 (copy provided as Attachment 5). Relocated operations would be subject to the same regulatory requirements, and would be conducted pursuant to a similar NPDES permit and BMP plan adapted to the new site.

PSI's NPDES permit includes the following requirement:

> The Permittee shall provide appropriate and effective containment of sandblast grit during sandblasting activities to prevent the drift of grit. The Permittee shall shroud the section of the dry dock used for sandblasting prior to conducting sandblasting activities on the dry dock. Sandblasting activities conducted at shoreside facilities shall also be contained to prevent the drift grit. The Permittee shall immediately cease sandblasting activities when sandblast grit is observed drifting outside of its containment. The Permittee may resume sandblasting activities when effective containment is established.

Permit No. HI0020753 at § B.2 ("Pollution Prevention Measures").

Under HAR § 11-60.1-33 ("Fugitive dust"), no person is permitted to cause or permit visible fugitive dust to become airborne without taking reasonable precautions. This narrative rule includes the following additional "examples" pertaining specifically to sandblasting:

> Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Reasonable containment methods shall be employed during sandblasting or other similar operations.

HAR § 11-60.1-33(a)(3).

For purposes of complying with PSI's NPDES permit and HAR § 11-60.1-33(a), sandblasting performed in dry docks or at shore side facilities must comply with the following procedures detailed in the BMP plan:

> PSI will shroud the section of the dry dock used for sand blasting prior to conducting sandblasting activities on the dry dock(s). Sandblasting activities conducted at shore side facilities will also be contained to prevent the drift of grit. If sandblast grit is observed drifting outside of its containment, PSI will immediately cease sandblasting activities until effective containment is established.
>
> Spent sandblast grit from sand blasting operations will be contained and stored under a cover to prevent contact with storm water.

BMP plan at ¶¶ 4(aa), 4(bb). *See also* BMP plan at ¶ 4(f) (requiring that sandblast grit and other fine debris in dry docks or shore side facilities be vacuumed and properly disposed of).

E. Control and Mitigation Measures - Wastewater and Storm Water

PSI's wastewater and storm water discharges are comprehensively managed pursuant to PSI's NPDES permit. PSI's NPDES permit satisfies the requirements of the federal Clean Water Act and its implementing regulations, as well as HRS Chapter 34D and HAR Chapters 11-54 and 11-55 implemented by the Hawaii Department of Health. Relocated operations would be subject to the same regulatory requirements, and would be conducted pursuant to a similar NPDES permit and BMP plan adapted to the new site.

PSI's NPDES permit (Attachment 4), as well as the associated BMP plan (Attachment 5) and Effluent Monitoring Plan (EMP) (Attachment 6) are lengthy and detailed documents not easily summarized. In general terms, PSI is authorized to discharge from four sources only: (i) harbor water flowing off the dry docks during lowering and lifting cycles; (ii) harbor water pumped out of dry dock ballast tanks; (iii) non-contact cooling water from the operation of equipment; and (iv) storm water runoff from PSI's facility. No other discharges are allowed or practiced at PSI. *See* PSI's NPDES permit at § B.1 and BMP plan at § 3 (listing specifically prohibited discharges).

Section A of PSI's NPDES permit establishes effluent limitations and monitoring requirements for authorized discharges. For example, for harbor water flowing off of a dry dock during lowering cycles, limits and monitoring requirements are established for the following parameters: flow volume, total suspended solids, settleable solids, tributylin, arsenic, cadmium, chromium, copper, lead, mercury, zinc, oil and grease, and pH. Additional controls and measures applicable to harbor water flowing off of dry docks are provided in the BMP plan and monitored pursuant to the EMP. *See, e.g.,* BMP plan at ¶¶ 4(p)-(w). Other effluent limitation parameters and monitoring requirements are established in Section A of PSI's NPDES permit for non-contact cooling water and storm water runoff. PSI's NPDES permit also addresses best management practices (§ B), reporting requirements (§ C) and other requirements (§ D). The associated BMP plan also establishes numerous pollution prevention measures to implement the requirements of PSI's NPDES permit.

With regard to storm water, the BMP plan requires PSI to maintain shore side operations in a clean and orderly manner, and to implement specified measures to prevent pollutants from contacting storm water runoff. Any solids or debris generated during shipyard activities must be contained and not allowed to enter the receiving waters or storm drainage system. *See, e.g.,* BMP plan at ¶¶ 4(a)-(b). Sandblasting grit is contained and managed as summarized in Section II.D above. Storm water associated with PSI's dry docks is subject to additional requirements. *See* BMP plan at ¶¶ 4(m)-(n). All storm water discharges from PSI's facilities are representatively analyzed for compliance with NPDES limitations in accordance with PSI's EMP as required in PSI's NPDES permit.

F. Control Measures - Non-Indigenous and Invasive Species

PSI does not control or regulate ballast discharges by customer vessels operating within Honolulu Harbor. Such discharges are the responsibility of vessel owners and operators pursuant to the General NPDES Permit issued by the U.S. Environmental Protection Agency. PSI's NPDES permit BMP plan states, in relevant part, at paragraph 4(ff) that "[v]essel owners will not discharge any ballast water when in the ship yard."

Insofar as PSI discharges ballast water from the dry docks during lifting cycles, its BMP plan contains the following at paragraph 4(ff):

> Ballast water suspected of containing contaminates will be tested. Ballast water, confirmed by testing, to be within NPDES limitations will be discharged directly

into receiving water. Contaminated ballast water shall be removed via pumping or other means in a manner not to allow discharge into receiving waters. It will be properly disposed of in accordance with local, city, state and federal environmental rules and regulations.

In addition, PSI has no control over the potential for customer vessels operating within Honolulu Harbor to possess non-indigenous or invasive species attached to their hulls. However, when a vessel is dry docked by PSI, any material removed from the hull of such vessel is properly disposed of as solid waste.

G. Control Measures - Spill Prevention and Control

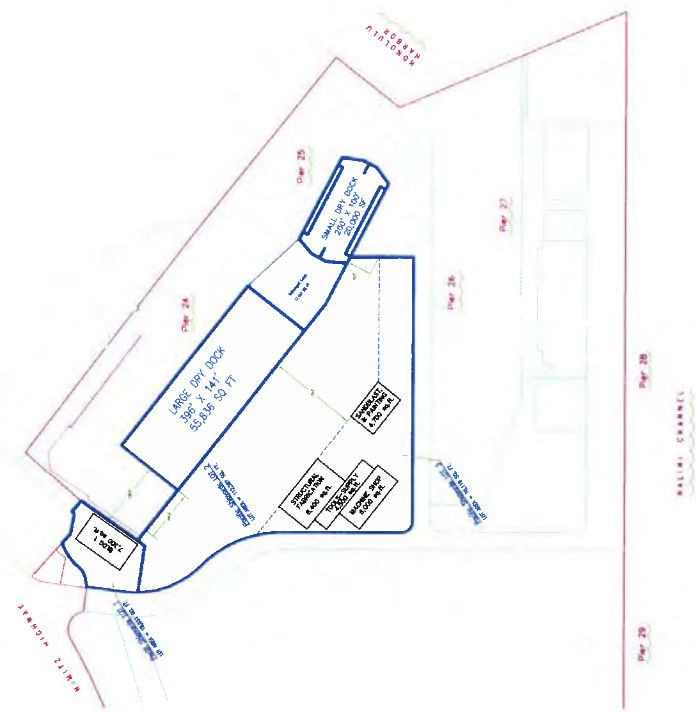
PSI's existing operations are covered by a Spill Prevention Control and Countermeasure Plan (Oct. 2012) in accordance with 40 C.F.R part 112. A copy of this plan accompanies this submission as Attachment 7. Relocated operations would be subject to the same regulatory requirements, and would be conducted pursuant to a similar plan adapted to the new site.

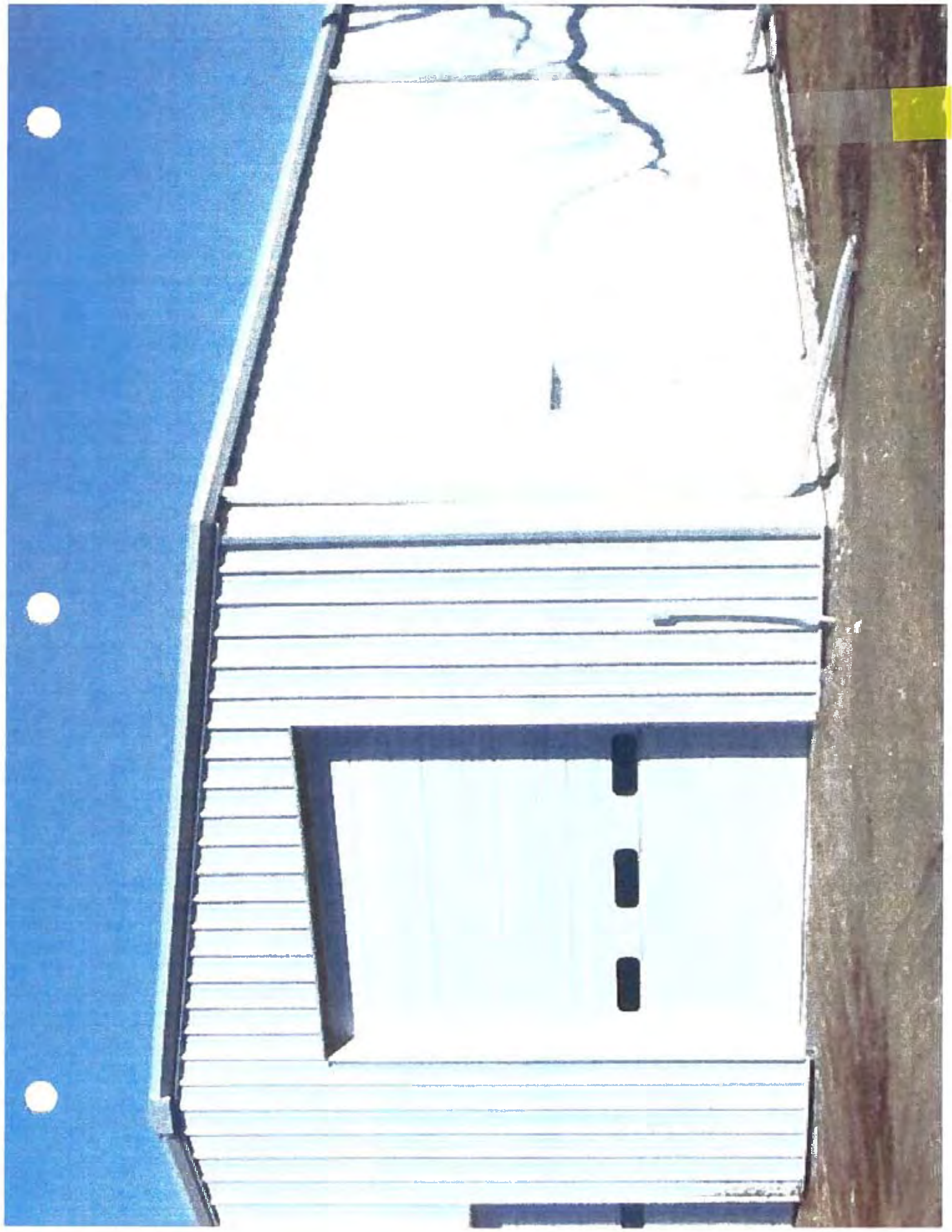
III. Conclusion

Section I above summarizes the content of the Kapalama EIS regarding relocation of PSI from Pier 41 to Piers 24-26. Substantial information has been provided in the EIS regarding the existing environment and surrounding area, and the environmental consequences of relocating PSI's present operations from one marine industrial location in Honolulu Harbor to another similar marine industrial location in Honolulu Harbor. The Kapalama EIS documents that the probable environmental impacts from PSI's relocation are not significant.

Section II above provides substantial additional detail regarding PSI's operations and anticipated construction activities at the relocated site, as well as control and mitigation requirements and practices implemented to address sandblasting operations, wastewater and stormwater discharges, introduction of non-indigenous species, and spill prevention and control. All of the sources of this information have long been and remain available in the public domain. The information provided in Section II and the accompanying attachments, which is substantially more detail than is included in the Kapalama EIS for any other component of H-DOT's proposed action, may be included as supplemental information in the text of the EIS or in a separate appendix.

Finally, all of this information provided in the existing Kapalama EIS and in this supplement are consistent with the environmental consequences analysis included in the Kapalama EIS. Notably, Section II.C above confirms that the analysis in the Kapalama EIS of potential impacts from PSI's relocated operations to submerged lands is accurate. The impacting activities are very limited and the environmental consequences are minor.





AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended (33 U.S.C. §1251 et. seq.; the "Act"); Hawaii Revised Statutes, Chapter 342D; and Hawaii Administrative Rules (HAR) Chapters 11-54 and 11-55, Department of Health (DOH), State of Hawaii,

PACIFIC SHIPYARDS INTERNATIONAL

(hereinafter PERMITTEE)

is authorized to discharge harbor water flowing off their drydocks during lowering and lifting cycles, harbor water pumped out of ballast tanks, non-contact cooling water, and storm water associated with industrial activities from its Pacific Shipyards International facility, located at Pier 41, Honolulu, Hawaii 96820,

to the receiving water named Honolulu Harbor through the following Outfalls and coordinates:

Outfall Serial No.	Description	Latitude (N)	Longitude (W)
001	Kapilipono Drydock	21°19'10"	157°53'10"
003	Storm Drain	21°19'10"	157°53'09"
004	Storm Drain	21°19'10"	157°53'10"
005	Storm Drain	21°19'10"	157°53'10"
006	Storm Drain	21°19'00"	157°52'00"
007	Storm Drain	21°19'00"	157°52'01"
008	Kekaulana Drydock	21°19'13"	157°53'00"

in accordance with the effluent limitations, monitoring requirements, and other conditions set forth herein, and in the attached DOH "Standard NPDES Permit Conditions."

All references to Title 40 of the Code of Federal Regulations (CFR) are to regulations that are in effect on July 1, 2011, except as otherwise specified. Unless otherwise specified herein, all terms are defined as provided in the applicable regulations in Title 40 of the CFR.

This permit will become effective on **July 15, 2012.**

This permit and the authorization to discharge will expire at midnight, **May 30, 2017.**

Signed this 31st day of May, 2012.

(For) Director of Health

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ATTACHMENT:
STANDARD NPDES PERMIT CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning the effective date of this permit and lasting until midnight, **May 30, 2017**, the Permittee is authorized to discharge harbor water flowing off the drydock during lowering and lifting cycles, harbor water pumped out of ballast tanks, non-contact cooling water, and storm water associated with industrial activities from the facility through Outfall Serial Nos.001, 003, 004, 005, 006, 007, and 008 as specified below. Discharges from outfalls other than those described above are strictly prohibited.

1. Harbor Water Flowing Off Drydock

a. Water Quality Monitoring

The discharge of harbor water flowing off the drydock during each lowering cycle through Outfall Serial Nos. 001 (Kapilipono Drydock) and 008 (Kekaulana Drydock) shall be limited and monitored by the Permittee as specified below:

Parameter	Discharge Limitations		Monitoring Frequency	Sample Type	
	Daily Maximum	Units		Compliance Stations [1]	Ambient Station [2]
Flow (Volume)	Report	Gallons/ Cycle	Once/Cycle [3]	Estimate Calculate for lowering activity only	N/A
Total Suspended Solids	40.0	mg/l	Once/Cycle [3]	Composite [4]	Grab [5]
Settleable Solids	Report	mg/l	Once/Cycle [3]	Composite [4]	Grab [5]
Tributylin [6]	0.01	µg/l	Once/Cycle [3,7]	Composite [4]	Grab [5]
Arsenic [6]	69	µg/l	Once/Cycle [3]	Composite [4]	Grab [5]
Cadmium [6]	43	µg/l	Once/Cycle [3]	Composite [4]	Grab [5]
Chromium [6]	1,100	µg/l	Once/Cycle [3]	Composite [4]	Grab [5]
Copper [6]	2.9	µg/l	Once/Cycle [3]	Composite [4]	Grab [5]
Lead [6]	140	µg/l	Once/Cycle [3]	Composite [4]	Grab [5]
Mercury [6]	2.1	µg/l	Once/Cycle [3]	Composite [4]	Grab [5]
Zinc [6]	95	µg/l	Once/Cycle [3]	Composite [4]	Grab [5]
Oil and Grease	15	mg/l	Once/Cycle [3]	Grab [5]	Grab [5]

Parameter	Discharge Limitations		Monitoring Frequency	Sample Type	
	Daily Maximum	Units		Compliance Stations	Ambient Stations
pH Range	7.0-8.6	S.U.	Once/Cycle [3]	Grab [9,10]	Grab [5,9]

mg/l milligrams per liter
µg/l micrograms per liter
S.U. Standard Units
N/A Not Applicable

[1] The Permittee shall collect one (1) grab sample from a minimum of three (3) compliance stations for both Outfall Serial Nos. 001 and 008 at locations within the boundary of the drydock platform where work was performed and immediately following the initial rush of harbor water flowing onto the drydock deck during drydock lowering activities. The locations of the compliance stations shall be specified in the Effluent Monitoring Program which will be submitted to the Director of Health (Director) for approval within 30 calendar days after the effective date of this permit.

[2] The Permittee shall collect one (1) grab sample from a minimum of one (1) ambient station at a location in the receiving water that is representative of the water quality of the receiving water body prior to the commencement of drydock lowering. The location of the ambient station shall be specified in the Effluent Monitoring Program which will be submitted to the Director for approval within 30 calendar days from the effective date of this permit.

[3] "Once/Cycle" means the Permittee shall collect water samples during each drydock lowering except when no work had been done on the drydock deck after the previous drydock lifting activity.

[4] The Permittee shall test for this parameter using the individual grab samples taken from each compliance station to form the composite sample.

[5] A grab sample shall mean a single sample representative of ambient receiving water conditions.

[6] The Permittee shall analyze for the total recoverable portion.

[7] The Permittee shall analyze for tributylin (TBT) only when repair work was done on a vessel that has TBT paint coating or when TBT paint was applied to the vessel in drydock.

[8] The Permittee shall test the grab samples from each compliance station separately for this parameter and report all values on the DMR.

[9] The Permittee shall test for pH within 15 minutes of obtaining the sample.

[10] The Permittee shall test the grab samples from each compliance station separately and report the minimum and maximum values.

b. Visual Monitoring

(1) The Permittee shall take a minimum of 10 photographs of the drydock surface immediately prior to each drydock lowering, even when no work had been done on the drydock deck since the previous drydock lifting activity. The Permittee shall label each photograph with the location, date and time the photograph was taken. The Permittee may use a digital camera and submit electronic files stored on a diskette (CD or DVD) with the monthly DMR.

(2) The photographs shall show the conditions of the drydock surface including the corners and hard-to-reach areas.

(3) The Permittee shall mark each photograph with the date and time at which the photograph was taken and submit the photographs with monthly DMRs.

2. Non-contact Cooling Water

a. The discharge of non-contact cooling water from the Kapilipono and Kekaulana Drydocks and all docked vessels through Outfall Serial Nos. 001 and 008 shall be limited and monitored by the Permittee as specified below:

Parameter	Discharge Limitation	Unit	Minimum Measurement Frequency	Sample Type
Flow	Report	Gallons	Continuous	Calculated or Estimated
Temperature	30	°C	Monthly	Grab [1]
Total Residual Oxidants [2]	13.0	µg/l	Monthly	Grab [1]
Total Suspended Solids [3]	5 [4]	mg/l	Monthly	Grab [1]
Oil and Grease	15	mg/l	Monthly	Grab [1]
pH Range [5]	Shall not deviate more than 0.5 units from a value of 8.1 standard units		Monthly	Grab [1]

[1] Grab sample means an individual sample collected within the first 15 minutes of discharge.

2 The Permittee shall analyze for total residual oxidants using the amperometric titration method for total residual chlorine described in 40 CFR Part 136.
3 The Permittee shall analyze both the influent and effluent for this parameter.
4 The total suspended solids limits are net increase restrictions of the effluent above that of the influent.
5 The Permittee shall analyze for pH within 15 minutes from collecting the sample.

b. The Permittee shall take samples at the following locations:

(1) Influent - downstream from any additions to the source water and prior to the cooling system.

(2) Effluent - downstream from the cooling system and prior to mixing with the receiving State waters.

c. The Permittee shall collect the date, duration (in hours), starting and ending times, and volume of each discharge and submit with monthly DMRs.

3. Storm Water Runoff

a. The discharge of storm water runoff from the facility through Outfall Serial Nos. 001, 003, 004, 005, 006, 007, and 008 shall be limited and monitored by the Permittee as specified below:

Parameter	Discharge Limitation	Unit	Minimum Measurement Frequency	Sample Type [1]
Flow	Report	Gallons/Minute	Quarterly	Calculated or Estimated
Biochemical Oxygen Demand (5-day)	Report	mg/l	Quarterly	Composite [2]
Chemical Oxygen Demand	Report	mg/l	Quarterly	Composite [2]
Total Suspended Solids	40	mg/l	Quarterly	Composite [2]
Total Phosphorus	0.075	mg/l	Quarterly	Composite [2]
Total Nitrogen	0.500	mg/l	Quarterly	Composite [2]
Nitrate+Nitrite Nitrogen	0.035	mg/l	Quarterly	Composite [2]
Oil and Grease	15	mg/l	Quarterly	Grab
pH Range	7.0 - 8.6	Standard Units	Quarterly	Grab

Parameter	Discharge Limitation	Unit	Minimum Measurement Frequency	Sample Type [1]
Tributylin [3]	0.01	µg/l	Quarterly [4]	Composite [2]
Arsenic [3]	69	µg/l	Quarterly	Composite [2]
Cadmium [3]	43	µg/l	Quarterly	Composite [2]
Chromium [3]	1,100	µg/l	Quarterly	Composite [2]
Copper [3]	2.9	µg/l	Quarterly	Composite [2]
Lead [3]	140	µg/l	Quarterly	Composite [2]
Mercury [3]	2.1	µg/l	Quarterly	Composite [2]
Zinc [3]	95	µg/l	Quarterly	Composite [2]

1 The Permittee shall collect samples for analysis from a discharge resulting from a representative storm. A representative storm means a rainfall that accumulates more than 0.1 inch of rain and occurs at least 72 hours after the previous measurable (greater than 0.1 inch) rainfall event.

"Grab sample" means a sample collected during the first 15 minutes of the discharge.

"Composite sample" means a combination of at least two (2) sample aliquots, collected at periodic intervals. The composite shall be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to the total flow of storm water discharge flow since the collection of the previous aliquot. The Permittee may collect aliquots manually or automatically.

Samples for analysis shall be collected during the first 15 minutes of the discharge and at 15-minute intervals thereafter for the duration of the discharge, as applicable. If the discharge lasts for over an hour, sample collection may cease.

2 If the duration of the discharge event is less than 30 minutes, the sample collected during the first 15 minutes of the discharge shall be analyzed as a grab sample and reported toward the fulfillment of this composite sample specification. If the duration of the discharge event is greater than 30 minutes, the Permittee shall analyze two (2) or more sample aliquots as a composite sample.

3 The Permittee shall analyze for the total recoverable portion.

4 The Permittee shall analyze for tributylin (TBT) only when repair work was done on a vessel that has TBT paint coating or when TBT paint was applied to the vessel in drydock. The Permittee shall sample the first representative storm event after repair work on a vessel with a TBT paint coating or after TBT paint was applied.

b. The Permittee shall report pollutant levels exceeding discharge limitations to the Director in a cover letter with the next monthly DMR. The Permittee shall provide the Director with an explanation of pollutant origins and any additional measures which will be taken to ensure future discharges will comply with the limitations.

c. At a minimum, the Permittee shall collect storm water samples at four (4) outfalls per sampling prior to mixing with the receiving water. Each outfall (Outfall Serial Nos. 001, 003, 004, 005, 006, 007, and 008) should be sampled at least twice a year, except 2012, where each outfall should be sampled at least once.

d. The Permittee shall record and report the following sampling and analysis information together with the DMR:

(1) Date, duration (in hours), starting and ending times, and magnitude (in inches) of the storm event during which samples are collected.

(2) Duration between the storm events sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event.

(3) Date, storm water outfall serial number, and time of sampling.

(4) Date analyses were performed and the laboratory that performed the analyses.

e. The Permittee shall perform a visual inspection and take at least 10 photographs of the entire facility during all storm water sampling events. At least one (1) photograph should include the southwest corner of the facility near the sandblasting shed showing that sandblast grit is not contacting storm water runoff. The Permittee shall take at least one (1) photograph of each outfall during the sampling event. The Permittee shall label each photograph with the location, date and time the photograph was taken. The Permittee shall label each photograph with the location, date and time the photograph was taken. The Permittee may use a digital camera and submit electronic files stored on a diskette (CD or DVD) with the monthly DMR.

4. Test Methods

The Permittee shall use test methods promulgated in 40 CFR Part 136 effective on July 1, 2006, and, when applicable, the chemical methodology for sea water analyses (see HAR, Chapter 11-54-10). The detection limits of the test methods used shall be equal to or lower than the permit limitation. For situations where the applicable water quality standard is below the detection limits of the available test methods, the test method which has the detection limit closest to the applicable water quality standards shall be used. If a test method has not been promulgated for a particular constituent, the Permittee may use any suitable alternative method for measuring the level of the constituent in the discharge provided the Permittee submit a description of the method or a reference to a published method for approval by the director in accordance with 40 CFR Part 136.4.

B. BEST MANAGEMENT PRACTICES

1. Prohibited Discharges

   The Permittee shall not discharge the following into receiving waters:

   a. Hydroblasting water.

   b. Solids removed from the vessel, or any debris generated by the shipyard work crew.

   c. Sanitary waste from docked vessels.

   d. Waste from the physical cleaning of the cooling system.

   e. Compounds used in closed-loop systems.

   f. Bilge water.

   g. Contaminated ballast water.

   h. All other wastewater/pollutants not allowed under this permit.

2. Pollution Prevention Measures

   a. The Permittee shall provide appropriate and effective containment of sandblast grit during sandblasting activities to prevent the drift of grit. The Permittee shall shroud the section of the drydock used for sandblasting prior to conducting sandblasting activities on the drydock. Sandblasting activities conducted at shoreside facilities shall also be contained to prevent the drift of grit. The Permittee shall immediately cease sandblasting activities when sandblast grit is observed drifting outside of its containment. The Permittee may resume sandblasting activities when effective containment is established.

   b. The Permittee shall clean the drydock deck and shoreside facilities at the end of each day that work is performed. The Permittee shall vacuum clean sandblast grit and other fine debris.

   c. The Permittee shall immediately clean up any spills, including, but not limited to, oil and hydraulic fluid.

   d. The Permittee shall contain and store collected spent sandblast grit from sand blasting operations under a cover to prevent contact with storm water.

   e. The Permittee shall maintain all drydock surfaces, including the top of the wing walls, to prevent chipped paint, rust, and other debris from entering the receiving water.

   f. Prior to lowering, the Permittee shall clean the surface of the drydock to remove solids and other pollutants. If vacuuming is not sufficient for cleaning hard-to-reach areas, then the Permittee shall implement additional measures to ensure that solids are removed or prevented from contacting the drydock surface.

   g. The Permittee shall discharge cooling water from the docked vessel directly to the receiving water in a manner that prevents the cooling water discharge from contacting the drydock, docked vessel, or any other pollutant.

   h. The Permittee shall properly store and dispose all wastes.

   i. The Permittee shall not discharge any wastewater or other pollutant into drydock ballast tanks or any other drydock compartment.

   j. The Permittee shall maintain land-based operations in a clean and orderly manner and implement measures to prevent pollutants from contacting storm water runoff.

   k. The Permittee shall maintain a rain gauge onsite in an area that receives rainfall representative of the entire facility. The location of the rain gauge shall be specified in the Best Management Practices Plan required under Part B.5 of this permit.

3. Inspection

   a. The Permittee shall perform inspections of the cleanliness of each drydock and take at least four (4) photographs of the condition of the drydocks at the end of each day work is performed on the drydocks. The Permittee shall take at least one (1) photograph from each corner of the drydock facing toward the center of the drydock. The Permittee shall label each photograph with the location, date and time the photograph was taken. The Permittee may use a digital camera and submit electronic files stored on a diskette (CD or DVD) with the monthly DMR. Upon request by the Permittee and approval by the Director, this requirement may be revised or suspended after two (2) years of complying with this requirement. The Director reserves the right to reinstate this condition as necessary.

b. The Permittee shall inspect the entire facility for potential pollutant sources on a monthly basis.

c. The Permittee shall report the inspection results, including findings and actions taken, with the monthly DMR. The inspection results shall include the following:

(1) Date, time, and weather conditions at the time of inspection.

(2) Name and signature of inspector.

(3) A demonstration that the entire facility was inspected, including a checklist and photo documentation.

4. Record Keeping

a. The Permittee shall maintain monthly logs of all drydock lowering and lifting activities conducted during each calendar month and submit the logs with the monthly DMR. The Permitee shall include the following information on the log:

(1) Date and time of the docking/undocking activity.

(2) Names of the vessels docked/undocked.

(3) Type of vessel.

(4) Type of work (painting, repairs, etc.) performed on/for the vessel (both on the drydock and at shoreside facilities, including types of materials used (type of paint, anti-fouling agents, etc.).

(5) Methods used to conduct the work (manual scraping, pressure washing, paint spraying, etc.).

(6) Site-specific BMPS used to prepare the vessel and drydock for undocking.

(7) Type of sampling performed.

b. The Permittee shall maintain daily logs documenting all the sand blasting activities conducted at the facility and submit a summary of each month's logs

with the monthly DMR. The logs shall include the dates of sand blasting activities and the amounts of grit used and recovered each day. If the amount recovered is different than the amount applied, the report shall include the reasons for the difference.

c. The Permittee shall maintain all photographs required under Part B.3.a of this permit onsite.

d. The Permittee shall maintain records of all inspections including the date of inspection, findings, and any actions taken.

e. The Permittee shall maintain onsite rain gage records and submit a summary of the logs with the monthly DMR.

5. Best Management Practices (BMPs) Plan

a. The Permittee shall develop and implement a BMPs Plan to reduce pollutants discharged from the facility. At a minimum, the BMPs Plan should include the measures outlined above. The BMPs Plan shall be submitted within 30 calendar days from the effective date of this permit.

b. The Permittee shall review and update the BMPs Plan as needed to comply with this permit or as required by the Director. The Permittee shall report any changes to the plan to the Director within 30 calendar days from the date the changes were made. The Permittee shall maintain documentation of all changes made to the plan. The Permittee shall retain the BMPs Plan and all accompanying records, reports, and changes for a period of at least five (5) years after the expiration of this permit.

c. The Permittee shall train all employees, including contractors, to implement the BMPs Plan.

d. The Permittee shall maintain the BMPs Plan onsite or at a nearby office.

C. REPORTING REQUIREMENTS

1. Monitoring Results

   a. The Permittee shall report and summarize all monitoring results obtained during the previous reporting period on a DMR Form (EPA No. 3320-1).

   b. The Permittee shall submit results of all monitoring required by this permit in such a format to allow direct comparison with the limitations and requirements of this permit.

   c. The Permittee shall include lab reports and chain-of-custody forms with the DMR.

   d. Monitoring reports shall be postmarked no later than the 28th day of the month following the completed reporting period. For monitoring results for harbor water flowing off the drydocks during cycling events, the Permittee shall submit results on a monthly basis. If there are no discharges in a reporting period, then the DMR shall so state. For storm water monitoring results, the Permittee shall submit results with the monthly drydock cycling DMR for the month following the sampling event.

   e. If there are more than one (1) cycling event in a calendar month, then the Permittee shall enter the highest concentrations for each parameter (highest and lowest for pH) tested for all sampling events during the calendar month on a DMR.

   f. Duplicate signed copies of these, and all other reports required herein, shall be submitted to the Director at the following addresses:

      Director of Health
      Department of Health
      Environmental Management Division
      Clean Water Branch
      919 Ala Moana Boulevard, Room 301
      Honolulu, Hawaii 96814-4920

   g. Upon request by the Director, the Permittee shall submit monitoring results in electronic format.

2. Other Information

   The Permittee shall submit the following information along with monthly DMR. If information is not available, then the Permittee shall include an explanation on the cover letter of the DMR submittal.

   a. Equipment testing and Dock Master training activities as specified in Part A.1.a(1) of this permit.

   b. Photographs of drydock surface immediately prior to lowering the drydock as specified in Part A.1.b of this permit.

   c. Non-contact cooling water discharge information as specified in Part A.2.c of this permit.

   d. Storm event and storm water discharge information as specified in Part A.3.d of this permit.

   e. Storm event inspection report and photographs as required under Part A.3.e of this permit if storm water sampling was performed in that month.

   f. Daily inspection photographs as required under Part B.3.a of this permit, unless this requirement is suspended by the Director.

   g. Drydock lowering and lifting activities log as required under Part B.4.a of this permit.

   h. Sand blasting activities log as required under Part B.4.b of this permit.

   i. Monthly summary of rain gauge logs as required by Part B.4.e of this permit.

3. Non-compliance

   The Permittee shall orally report any non-compliance which may endanger health or the environment (see Standard NPDES Permit Condition Section 16.f). The Permittee shall make oral reports by telephone to the Clean Water Branch at (808) 586-4309 during regular office hours or the Hawaii State Hospital Operator at (808) 247-2191 and the State-On-Scene Coordinator from the Office of Hazard Evaluation and Emergency Response, at (808) 226-3799 outside of regular office hours. Other non-compliances can be reported with the month DMR submittals.

D. OTHER REQUIREMENTS

1. Schedule of Submission

   a. The Permittee shall submit an Effluent Monitoring Program to comply with Part A of this permit to the Director for approval within 30 calendar days from the effective date of this permit. The Program shall include at a minimum, but not be limited to, the following:

      (1) Sampling station location map.

      (2) Sample holding times.

      (3) Preservation techniques.

      (4) Test methods and method detection limits.

      (5) Quality assurance and quality control measures in accordance with 40 CFR Part 136.

   b. The Permittee shall submit a revised BMPs Plan to comply with Part B of this permit to the Director within 30 calendar days from the effective date of this permit.

   c. The Permittee shall submit an annual summary of the quantities of all chemicals (including the material safety data sheet) listed by both chemical and trade names, which are used in once through cooling water treatment and which are discharged to the Director by January 28 of each year.

   The Director reserves the right to require the Permittee to revise the approved programs, as appropriate, pursuant toward compliance with the terms and conditions of this permit.

2. Schedule of Maintenance

   The Permittee shall submit a schedule for approval by the Director at least 14 calendar days prior to any maintenance of facilities which the Permittee determines may result in effluent limitations being exceeded. The schedule shall contain a description of the maintenance and its purpose; the period of maintenance, including exact dates and times; and steps taken or planned to reduce, eliminate, and prevent occurrence of non-compliance.

3. Exceedance Study

   If any of the parameters being monitored exceed state water quality standards specified in HAR, Chapter 11-54 three (3) times, even if there is no discharge limitation specified in this permit, then the Permittee shall initiate a study to determine the source of the exceedances. Once the source is determined, the Permittee shall establish a course of action (i.e., additional BMPs, procedural changes) to reduce the concentration of the parameter in the discharge.

   Within one (1) month of the third exceedance, the Permittee shall submit a study plan detailing the study to be initiated, including a schedule for major milestones and estimated dates by which additional and/or remedial actions will be implemented.

4. Total Maximum Daily Load Waste Load Allocation

   The Permittee shall develop and submit an implementation and monitoring plan within one (1) year of the date that DOH adopts the Total Maximum Daily Load Waste Load Allocation that identifies the Permittee as a source.

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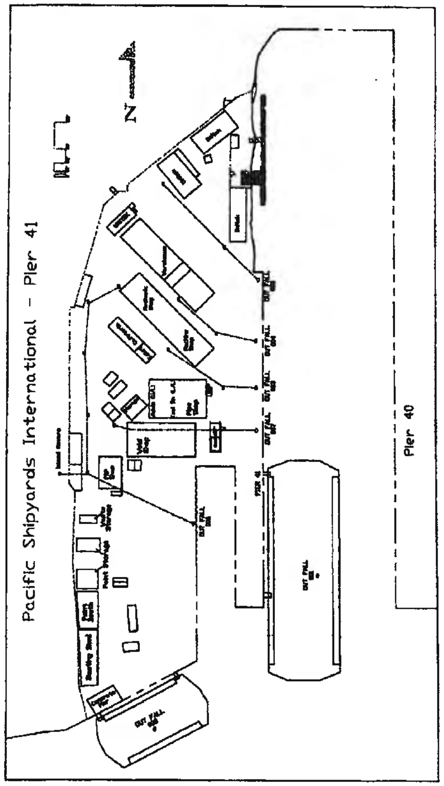
E. LOCATION MAP



DEPARTMENT OF HEALTH
STANDARD NPDES PERMIT CONDITIONS

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STANDARD NPDES PERMIT CONDITIONS

Note:

All references to Title 40 of the Code of Federal Regulations (40 CFR) are to regulations that are in effect on July 1, 2004, unless otherwise specified. The Clean Water Act (Act) is also known as the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977, and appears in 33 U.S.C. §§1251 to 1387.

"This permit" means the applicable individual NPDES permit to which these standard conditions apply.

1. **Basic water quality criteria** (comply with Hawaii Administrative Rules, Chapter 11-54, Section 11-54-04)

   a. The Permittee shall not cause or contribute to a violation of the narrative basic water quality criteria specified in Section 11-54-04(a) which states:

   "(a) All waters shall be free of substances attributable to domestic, industrial, or other controllable sources of pollutants, including:
   (1) Materials that will settle to form objectionable sludge or bottom deposits;
   (2) Floating debris, oil, grease, scum, or other floating materials;
   (3) Substances in amounts sufficient to produce taste in the water or detectable off-flavor in the flesh of fish, or in amounts sufficient to produce objectionable color, turbidity, or other conditions in the receiving waters;
   (4) High or low temperatures; biocides; pathogenic organisms; toxic, radioactive, corrosive, or other deleterious substances at levels or in combinations sufficient to be toxic or harmful to human, animal, plant, or aquatic life, or in amounts sufficient to interfere with any beneficial use of the water;
   (5) Substances or conditions or combinations thereof in concentrations which produce undesirable aquatic life;
   (6) Soil particles resulting from erosion on land involved in earthwork, such as the construction of public works; highways; subdivisions; recreational, commercial, or industrial developments; or the cultivation and management of agricultural lands."

   b. The Permittee shall not cause or contribute to a violation of the basic numeric water quality requirements of Hawaii Administrative Rules, Chapter 11-54, Section 11-54-04(b).

2. Onshore or offshore construction

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any State waters.

3. Sampling requirements and definitions

a. Sampling Points

All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Regional Administrator and the Director of Health. No discharge is authorized which does not totally pass through the final monitoring point.

b. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than plus or minus ten (10) per cent from the true discharge rates throughout the range of expected discharge volumes. Once-through condenser cooling water flow which is monitored by pump logs or pump hour meters as specified in this permit based on the manufacturer's pump curves shall not be subject to this requirement. Guidance in selection, installation, calibration, and operation of acceptable flow measurement devices can be obtained from the following references:

(1) "A Guide of Methods and Standards for the Measurement of Water Flow," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 97 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD catalog No. C13.10:421.)

(2) "Water Measurement Manual," U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by catalog No. 127.19/2:W29/2, Stock No. S/N 24003-0027.)

(3) "Flow Measurement in Open Channels and Closed Conduits," U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Service (NTIS), Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)

(4) "NPDES Compliance Flow Measurement Manual," U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-77, September 1981, 135 pp. (Available from the General Services Administration (8BRC), Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver, CO 80225.)

c. Calibration

The Permittee shall periodically calibrate and perform maintenance on all monitoring and analytical equipment used to monitor the pollutants discharged under this permit, at intervals which will insure the accuracy of measurements, but no less than the manufacturer's recommended intervals or six (6) month intervals (whichever comes first). Records of calibration shall be kept under section 14.

d. pH Effluent Limitations Under Continuous Monitoring

If the Permittee continuously measures the pH of the discharge under a requirement or option in this permit, excursions from the range provided in this permit are permitted, provided:

(1) The pH limitation in this permit is based upon a requirement imposed under 40 CFR Subchapter N, Effluent Guidelines and Standards;

(2) The total time during which the pH values are outside the required range of pH values shall not exceed 446 minutes in any calendar month;

(3) No individual excursions from the range of pH values shall exceed 60 minutes; and

(4) For purposes of this section, an "excursion" is an unintentional and temporary incident in which the pH value of a discharge exceeds the range set forth in this permit. The number of individual excursions exceeding 60 minutes and the total accumulated excursion time in minutes occurring in any calendar month shall be reported in accordance with this permit.

e. Average

As used in this permit, unless otherwise stated, the term average means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For fecal coliform, enterococcus, or *clostridium perfringens*, the "average" shall be the geometric mean. For total coliform, the "average" shall be the median.

f. Mass/Day Measurements

(1) The "daily discharge" is the total mass (weight) of a pollutant discharged during a calendar day. The daily discharge shall be determined by using the following equations:

Daily Discharge (lbs/day) = 8.34 x Q x C; or

Daily Discharge (kg/day) = 3.785 x Q x C;

where "C" (in mg/l) is the measured daily concentration of the pollutant and "Q" (in million gallons per day) is the measured effluent flow rate for the same calendar day.

If only one (1) sample is taken during any calendar day, the mass (weight) of pollutant discharged that is calculated from it is the "daily discharge."

(2) The "average monthly discharge" is defined as the total mass of all daily discharges sampled and/or measured during a calendar month on which daily discharges are sampled and measured, divided by the number of daily discharges sampled and/or measured during the month. It is, therefore, an arithmetic mean found by adding the weights of the pollutant found each day of the month and then dividing this sum by the number of days. This limitation is identified as "Monthly Average" in this permit and the average monthly discharge value is reported in the "Average" column under "Quantity" on the Discharge Monitoring Report Form.

(3) The "average weekly discharge" is defined as the total mass of all daily discharges sampled and/or measured during the calendar week in which daily discharges are sampled and/or measured. It is, therefore, an arithmetic mean found by adding the weights of pollutants found each day of the week and then dividing this sum by the number of days. This limitation is identified as "Weekly Average" in this permit and the average weekly discharge value is reported in the "Maximum" column under "Quantity" on the Discharge Monitoring Report Form.

(4) The "maximum daily discharge" is the highest daily discharge value recorded during the reporting period. This limitation is identified as "Daily Maximum" in this permit and the maximum daily discharge value is reported in the "Maximum" column under "Quantity" on the Discharge Monitoring Report Form.

g. Concentration Measurements

(1) The "daily concentration" is the concentration of a pollutant discharged during a calendar day. It is equal to the concentration of a composite sample or in the case of grab samples, it is the arithmetic mean (weighted by flow value) of all samples collected during that calendar day. If only one (1) sample is taken during any calendar day, it represents the "daily concentration."

(2) The "average monthly concentration," other than for fecal coliform, enterococcus, *clostridium perfringens*, or total coliform, is the sum of the daily concentrations sampled and/or measured divided by the number of daily discharges sampled and/or measured during the month (arithmetic mean of the daily concentration values). The average monthly count for fecal coliform, enterococcus, and *clostridium perfringens* is the geometric mean of the counts for samples collected during a calendar month. The average monthly count for total coliform is the median of the counts for samples collected (not less than five (5) discrete samples) during a calendar month. This limitation is identified as "Monthly Average" or "Daily Average" or "Other Limits" in this permit and the average monthly concentration value is reported under the "Average" column under "Quality" on the Discharge Monitoring Report Form.

(3) The "average weekly concentration," other than for fecal coliform, enterococcus, *clostridium perfringens*, or total coliform, is the sum of the concentrations of all daily discharges sampled and/or measured during a calendar week on which daily discharges are sampled and measured divided by the number of daily discharges sampled and/or measured during the week (arithmetic mean of the daily concentration values). The average weekly count for fecal coliform, enterococcus, or *clostridium perfringens* is the geometric mean of the counts for samples collected during a calendar week. The average weekly count for total coliform is the median of the counts for samples collected during a calendar week. This limitation is identified as "Weekly Average" or "Other Limits" in this permit and the average weekly concentration value is reported under the

"Maximum" column under "Quality" on the Discharge Monitoring Report Form.

(4) The "maximum daily concentration" is the highest daily concentration value recorded during the reporting period. This limitation identified as "Daily Maximum" or "Other Limits" in this permit and the maximum daily concentration is reported under the "Maximum" column under "Quality" on the Discharge Monitoring Report Form.

h. The effluent flow, expressed as cubic meters per day or million gallons per day (MGD), is the 24-hour average flow averaged monthly. It is the arithmetic mean of the total daily flows recorded during the calendar month. Where monitoring requirements for flow are specified in this permit, the flow rate values are reported in the "Average" column under "Quantity" on the Discharge Monitoring Report Form.

(1) An "instantaneous flow measurement" is a measure of flow taken at the time of sampling, when both the sample and flow will be representative of the total discharge.

(2) Where monitoring requirements for pH; dissolved oxygen; or fecal coliform, enterococcus, or *clostridium perfringens* are specified in this permit, the values are generally reported in the "Quality or Concentration" column on the Discharge Monitoring Report Form.

i. The "arithmetic mean" of any set of values is the summation of the individual values divided by the number of individual values.

j. The "geometric mean" of any set of values is the N^{th} root of the product of the individual values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered to be one (1).

k. "Weighted by flow value" means the summation of each concentration multiplied by its respective flow divided by the summation of the respective flows.

l. The "median" of any set of ordered values is the value below and above which there is an equal number of values or which is the arithmetic mean of the two (2) middle values if there is no one (1) middle number.

m. A calendar day is defined as the period from midnight of one day until midnight of the next day. However, for the purposes of this permit, any consecutive

24-hour period that reasonably represents the calendar day may be used for sampling.

n. "Removal efficiency" is the ratio of pollutants removed by the treatment unit to pollutants entering the treatment unit. Removal efficiencies of a treatment plant shall be determined using the average monthly concentrations (C, in mg/l) of influent and effluent samples collected about the same time and the following equation (or its equivalent):

$$\text{Removal Efficiency (per cent)} = 100 \times \left(1 - \frac{C_{effluent}}{C_{influent}}\right)$$

4. **Duty to reapply** (comply with 40 CFR §122.41(b) and Hawaii Administrative Rules, Chapter 11-55, Section 11-55-27)

If the Permittee wishes to continue an activity regulated by this permit after the expiration of this permit, the Permittee must apply for and obtain a new permit. The Permittee shall submit a new application 180 days before the existing permit expires and as specified in the Hawaii Administrative Rules, Chapter 11-55, Section 11-55-27.

5. **Applications** (based in part on 40 CFR §122.22)

a. All permit applications shall be signed as follows:

(1) For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(A) A president, secretary, treasurer, or vice-president of the corporation in charge of a principle business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

(B) The manager of one (l) or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

(2) For a partnership or sole proprietorship. By a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(A) The chief executive officer of the agency, or

(B) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

(4) For a trust. By a trustee.

(5) For a limited liability company (LLC). By the Manager or a Member authorized to make management decisions for the LLC who is in charge of a principal business function, or who performs similar policy or decision-making functions for the LLC.

b. All other reports or responses to requests for information required by the Director of Health shall be signed by a person described in subsection a., or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, superintendent, or position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.);

(2) The authorization is made in writing by a person designated under subsection a.; and

(3) The written authorization is submitted to the Director of Health.

c. Changes to authorization. If an authorization under subsection b. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of subsection b. must be submitted to the Director of Health prior to or together with any reports, information, or applications to be signed by a duly authorized representative.

d. Certification. Any person signing a document under subsection a. or b. shall make the following certification:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

6. **Duty to comply** (comply with 40 CFR §122.41(a))

The Permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

a. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this permit has not yet been modified to incorporate the requirement.

b. The Act provides that any person who violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of the sections in a permit issued under Section 402 of the Act, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation.

The Act provides that any person who *negligently* violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of the sections in a permit issued under Section 402 of the Act, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or imprisonment of not more than two (2) years, or both.

Any person who *knowingly* violates Section 301, 302, 306, 307, 308, 318, or 405 of the Act, or any permit conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both.

Any person who knowingly violates Section 301, 302, 303, 306, 307, 308, 318, or 405 of the Act, or any permit condition or limitation implementing any of the sections in a permit issued under Section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both.

An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

c. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318, or 405 of this Act, or any permit condition or limitation implementing any of the sections in a permit issued under Section 402 of the Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed

$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

7. **Need to halt or reduce activity not a defense** (comply with 40 CFR §122.41(c))

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

8. **Duty to mitigate** (based in part on 40 CFR §122.41(d))

The Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit or applicable law.

9. **Proper operation and maintenance** (comply with 40 CFR §122.41(e))

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the Permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

10. **Permit actions** (comply with 40 CFR §122.41(f))

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

11. **Property rights** (comply with 40 CFR §122.41(g))

This permit does not convey any property rights of any sort or any exclusive privilege.

12. Duty to provide information (comply with 40 CFR §122.41(h))

The Permittee shall furnish to the Director of Health, within a reasonable time, any information which the Director of Health may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee shall also furnish to the Director of Health upon request, copies of records required to be kept by this permit.

13. Inspection and entry (comply with 40 CFR §122.41(i)(3))

The Permittee shall allow the Director of Health, or a duly authorized agent (including an authorized contractor acting as a duly authorized agent of the Administrator), upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

14. Monitoring and records (based in part on 40 CFR §122.41(j))

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

As used in this section, a representative sample means that the content of the sample shall:

(1) Be identical to the content of the substance sampled at the time of the sampling;

(2) Accurately represent the monitored item (for example, sampling to monitor final effluent quality shall accurately represent that quality, even though the sampling is done upstream of the discharge point); and

(3) Accurately represent the monitored item for the monitored time period (for example, sampling to represent monthly average effluent flows shall be taken at times and on days that cover significant flow variations). Representative sampling may mean including weekends and storm events and may mean taking more samples than the minimum number specified in this permit.

The burden of proving that sampling or monitoring is representative shall be on the Permittee.

b. The permittee shall retain all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit and records of all data used to complete the application for this permit for a minimum of five (5) years from the date of the sample, measurement, report or application. This period of retention shall be extended during the course of any unresolved litigation or administrative enforcement action regarding the discharge of pollutants by the permittee or when requested by the Director of Health or Regional Administrator.

c. Any records of monitoring activities and results shall include for all samples:

(1) The date, exact place, and time of sampling or measurements;

(2) The individual(s) who performed the sampling or measurements;

(3) The date(s) analyses were performed;

(4) The individual(s) who performed the analyses;

(5) The analytical techniques or methods used; and

(6) The results of the analyses.

d. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, unless other test procedures have been specified in this permit.

e. The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained in this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two (2) years per violation, or by both for a first conviction. For a second and subsequent conviction, the person is subject to a fine of not more than $20,000 per day of violation, or imprisonment for not more than four (4) years, or both. (Updated under the Water Quality Act of 1987)

15. **Signatory requirement** (comply with 40 CFR §§122.22 and 122.41(k))

a. All applications, reports, or information submitted to the Director of Health shall be signed and certified. (See section 5 or 40 CFR §122.22.)

b. The Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.

16. **Reporting requirements** (based in part on 40 CFR §122.41(l))

a. Planned changes. The Permittee shall give notice to the Director of Health as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b); or

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR §122.42(a)(1) or section 19.

(3) The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices, and the alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or

disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

b. Anticipated noncompliance. The Permittee shall give advance notice to the Director of Health of any planned changes in the permitted facility or activity which may result in noncompliance with this permit's requirements.

c. Transfers. This permit is not transferable to any person except after notice to the Director of Health. The Director of Health may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate other requirements as may be necessary under the Act or Chapter 342D, HRS. (See 40 CFR §122.61; in some cases, modification or revocation and reissuance is mandatory.)

d. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(1) Monitoring results must be reported on a Discharge Monitoring Report Form.

(2) If the Permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report Form.

(3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director of Health in this permit.

e. Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

f. Other noncompliance. The Permittee shall report all instances of noncompliance not reported under subsections d. and e., at the time monitoring reports are submitted. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

g. Other information. Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director of Health, the Permittee shall promptly submit the facts or information.

17. **Bypass** (based in part on 40 CFR §122.41(m))

a. Definitions.

(1) "Bypass" means the intentional diversion of any waste stream from any portion of a treatment facility.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass. Every bypass is prohibited and the Director of Health may take enforcement action against a Permittee for bypass, except as provided in subsection c.

c. Exceptions to bypass prohibition.

(1) Bypass not exceeding limitations. A bypass is allowable under this paragraph only if it does not cause any effluent limitation to be exceeded, and only if the bypass is necessary for essential maintenance to assure efficient operation.

(2) Bypass unavoidable to prevent specified harm. A bypass is allowable under this paragraph if:

(A) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(B) There was no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering

judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

(C) The Permittee submitted notices as required under subsection d.

(3) Approved anticipated bypass. An anticipated bypass is allowable if the Director of Health approves it. The Director of Health shall approve the anticipated bypass only if the Director of Health receives information sufficient to show compliance with paragraph 2., including information on the potential adverse effects with and without the bypass, and information on the search for and the availability of alternatives, whether the Permittee ultimately considers the alternatives feasible or not.

d. Notice.

(1) Anticipated bypass. If the Permittee knows in advance of the need for a bypass, the Permittee shall submit prior notice, if possible at least ten (10) days before the date of the bypass.

(2) Unanticipated bypass. The Permittee shall submit reports of unanticipated bypasses.

(A) Reports required by the Reporting Requirements of this permit shall be made in accordance with that section. If the Permittee questions whether the Reporting Requirements apply, the Permittee shall follow the Reporting Requirements of this permit;

(B) For all other bypasses, reports shall be made orally within 24 hours from the time the Permittee becomes aware of the bypass. Written reports may be required on a case-by-case basis.

e. Burden of proof. In any enforcement proceeding, the party seeking to establish that any exception to the bypass prohibition applies has the burden of proof. Proof that effluent limitations were met requires effluent monitoring during the bypass.

18. **Upset** (based in part on 40 CFR §122.41(n))

a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with the technology based permit effluent limitations if the requirements of subsection c. are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the Permittee can identify the cause(s) of the upset;

(2) The permitted facility was at the time being properly operated;

(3) The Permittee submitted notice within 24 hours of any upset which exceeded any effluent limitation in this permit; and

(4) The Permittee complied with any remedial measures required under 40 CFR §122.41(d).

d. Burden of proof. In any enforcement proceeding the Permittee seeking to establish the occurrence of an upset has the burden of proof.

19. Existing manufacturing, commercial, mining, and silvicultural dischargers (comply with 40 CFR §122.42(a))

In addition to the reporting requirements under 40 CFR §122.41(l), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director of Health as soon as they know or have reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following "notification levels":

(1) One hundred micrograms per liter (100 μg/l);

(2) Two hundred micrograms per liter (200 μg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 μg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or

(4) The level established by the Director of Health in accordance with 40 CFR §122.44(f).

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following "notification levels":

(1) Five hundred micrograms per liter (500 μg/l);

(2) One milligram per liter (1 mg/l) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or

(4) The level established by the Director of Health in accordance with 40 CFR §122.44(f).

20. Publicly owned treatment works (comply with 40 CFR §122.42(b))

This section applies only to publicly owned treatment works as defined in 40 CFR §122.2.

a. All publicly owned treatment works must provide adequate notice to the Director of Health of the following:

(1) Any new introduction of pollutants into the publicly owned treatment works from an indirect discharger which would be subject to Section 301 or 306 of the Act if it were directly discharging those pollutants; and

(2) Any substantial change in the volume or character of pollutants being introduced into that publicly owned treatment works by a source

introducing pollutants into the publicly owned treatment works at the time of issuance of the permit; and

(3) For purposes of this paragraph, adequate notice shall include information on paragraph (1), the quality and quantity of effluent introduced into the publicly owned treatment works, and paragraph (2), any anticipated impact of the change on the quantity or quality of effluent to be discharged from the publicly owned treatment works.

b. (The following condition has been established by EPA Region 9 to enforce applicable requirements of the Resource Conservation and Recovery Act.) Publicly owned treatment works may not receive hazardous waste by truck, rail, or dedicated pipe except as provided under 40 CFR Part 270. Hazardous wastes are defined in 40 CFR Part 261 and include any mixture containing any waste listed under 40 CFR §§261.31-261.33. The Domestic Sewage Exclusion (40 CFR §261.4) applies only to wastes mixed with domestic sewage in a sewer leading to a publicly owned treatment works and not to mixtures of hazardous wastes and sewage or septage delivered to the treatment plant by truck.

21. Reopener clause (comply with 40 CFR §122.44(c), 40 CFR §122.46(d), and 40 CFR §125.123(d)(4))

a. For any discharger within a primary industry category (see 40 CFR Part 122, Appendix A), requirements under Section 307(a)(2) of the Act as follows:

(1) On or before June 30, 1981:

(A) If applicable standards or limitations have not yet been promulgated, this permit shall include a condition stating that, if an applicable standard or limitation is promulgated under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Act and that effluent standard or limitation is more stringent than any effluent limitation in this permit or controls a pollutant not limited in this permit, this permit shall be promptly modified or revoked and reissued to conform to that effluent standard or limitation.

(B) If applicable standards or limitations have been promulgated or approved, this permit shall include those standards or limitations. (If EPA approves existing effluent limitations or decides not to develop new effluent limitations, it will publish a notice in the Federal Register that the limitations are "approved" or the purpose of this regulation.)

(2) On or after the statutory deadline set forth in Sections 301(b)(2)(A), (C), and (E) of the Act, any permit issued shall include effluent limitations to meet the requirements of Sections 301(b)(2)(A), (C), (D), (E), and (F) of the Act, whether or not applicable effluent limitations guidelines have been promulgated or approved. These permits need not incorporate the clause required by this section.

(3) The Director of Health shall promptly modify or revoke and reissue any permit containing the clause required under this section to incorporate an applicable effluent standard or limitation under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Act which is promulgated or approved after this permit is issued if that effluent standard or limitation is more stringent than any effluent limitation in this permit, or controls a pollutant not limited in this permit.

(4) For any permit issued to a treatment works treating domestic sewage, including "sludge-only facilities," the Director of Health shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the Act. The Director of Health may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in this permit, or controls a pollutant or practice not limited in this permit.

b. All permits which authorize the discharge of pollutants pursuant to 40 CFR §125.123(c) shall contain the following clause: In addition to any other grounds specified herein, this permit shall be modified or revoked at any time if, on the basis of any new data, the Director of Health determines that continued discharge may cause unreasonable degradation of the marine environment.

22. Privately owned treatment works (The following conditions were established by EPA Region 9 to enforce applicable requirements of the Resource Conservation and Recovery Act and 40 CFR §122.44(m).)

This section applies only to privately owned treatment works as defined in 40 CFR §122.2.

a. Materials authorized to be disposed of into the privately owned treatment works and collection system are typical domestic sewage. Unauthorized materials are hazardous waste (as defined 40 CFR Part 261), motor oil, gasoline, paints, varnishes, solvents, pesticides, fertilizers, industrial wastes, or other materials not generally associated with toilet flushing or personal hygiene, laundry, or food preparation, unless specifically listed under "Authorized Non-domestic Sewer Dischargers" elsewhere in this permit.

b. It is the Permittee's responsibility to inform users of the privately owned treatment works and collection system of the prohibition against unauthorized materials and to insure compliance with the prohibition. The Permittee must have the authority and capability to sample all discharges to the collection system, including any from septic haulers or other unsewered dischargers, and shall take and analyze the samples for conventional, toxic, or hazardous pollutants when instructed by the permitting authority or by an EPA or State inspector. The Permittee must provide adequate security to prevent unauthorized discharges to the collection system.

c. Should a user of the privately owned treatment works desire authorization to discharge non-domestic wastes, the Permittee shall submit a request for permit modification and an application, under 40 CFR §122.44(m), describing the proposed discharge. The application shall, to the extent possible, be submitted using EPA Forms 1 and 2C, unless another format is requested by the permitting authority. If the privately owned treatment works or collection system user is different from the Permittee, and the Permittee agrees to allow the non-domestic discharge, the user shall submit the application and the Permittee shall submit the permit modification request. The application and request for modification shall be submitted at least six (6) months before authorization to discharge non-domestic wastes to the privately owned treatment works or collection system is desired.

23. **Transfers by modification** (comply with 40 CFR §122.61(a) and Hawaii Administrative Rules, Chapter 11-55, Section 11-55-16)

Except as provided in section 24, a permit may be transferred by the Permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under 40 CFR §122.62(b)(2)), or a minor modification made (under 40 CFR §122.63(d)), to identify the new Permittee and incorporate other requirements as may be necessary under the Act.

24. **Automatic transfers** (comply with 40 CFR §122.61(b) and Hawaii Administrative Rules, Chapter 11-55, Section 11-55-04(d))

As an alternative to transfers under section 23, any NPDES permit may be automatically transferred to a new Permittee if:

a. The current Permittee notifies the Director of Health at least 30 days in advance of the proposed transfer date in subsection b;

b. The notice includes a written agreement between the existing and new Permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

c. The Director of Health does not notify the existing Permittee and the proposed new Permittee of his or her intent to modify or revoke and reissue the permit. A modification under this paragraph may also be a minor modification under 40 CFR §122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in subsection b.

25. **Minor modification of permits** (comply with 40 CFR §122.63)

Upon the consent of the Permittee, the Director of Health may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of 40 CFR Part 124. Any permit modification not processed as a minor modification under this section must be made for cause and with 40 CFR Part 124 draft permit and public notice as required in 40 CFR §122.62. Minor modifications may only:

a. Correct typographical errors;

b. Require more frequent monitoring or reporting by the Permittee;

c. Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement;

d. Allow for a change in ownership or operational control of a facility where the Director of Health determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittees has been submitted to the Director of Health:

e. (1) Change the construction schedule for a discharger which is a new source. No change shall affect a discharger's obligation prior to discharge under 40 CFR §122.29.

(2) Delete a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with the permit limits.

f. (Reserved.)

g. Incorporate conditions of a publicly owned treatment works pretreatment program that has been approved in accordance with the procedures in 40 CFR §403.11 (or a modification thereto that has been approved in accordance with the procedures in 40 CFR §403.18) as enforceable conditions of the publicly owned treatment works' permit.

26. **Termination of permits** (comply with 40 CFR §122.64, 40 CFR §124.5(d), and Hawaii Administrative Rules, Chapter 11-55, Section 11-55-18)

a. The following are causes for terminating a permit during its term, or for denying a permit renewal application:

(1) Noncompliance by the Permittee with any condition of the permit;

(2) The Permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts or the Permittee's misrepresentation of any relevant facts at any time;

(3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or

(4) A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge or sludge use or disposal practice controlled by the permit (for example, plant closure or termination of discharge by connection to a publicly owned treatment works).

b. An NPDES Permittee shall report within 30 days after the permanent discontinuance or dismantlement of that treatment works or waste outlet for which the NPDES permit had been issued. The NPDES permit shall then be surrendered to the Director of Health within 30 days from the date of the report.

c. The Director of Health shall follow the applicable State procedures equivalent to 40 CFR Part 124 in terminating any NPDES permit under this section, except that if the entire discharge is permanently terminated by elimination of the flow or by connection to a publicly owned treatment works (but not by land application or disposal into a well), the Director of Health may terminate the permit by notice to the Permittee. Termination by notice shall be effective 30 days after notice is sent, unless the Permittee objects within that time. If the Permittee objects during that period, the Director of Health shall follow 40 CFR Part 124 of this chapter or applicable State procedures for termination. Expedited permit termination procedures are not available to Permittees that are subject to pending State or Federal of both enforcement actions including citizen suits brought under State or Federal law. If requesting expedited permit termination procedures, a Permittee must certify that it is not subject to any pending State or Federal enforcement actions including citizen suits brought under State or Federal law. State-authorized NPDES programs are not required to use 40 CFR Part 22 procedures for NPDES permit terminations.

d. If the Director of Health tentatively decides to terminate a permit under 40 CFR §122.64 where the Permittee objects, the Director of Health shall issue a notice of intent to terminate. A notice of intent to terminate is a type of draft permit which follows the same procedures as any draft permit prepared under 40 CFR §124.6.

27. **Removed substances** (under Section 405 of the Act and 40 CFR §125.3(g))

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner which would prevent any pollutant from the materials from entering navigable waters.

28. **Availability of reports** (under Section 308 of the Act)

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Director of Health. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

STANDARD NPDES PERMIT CONDITIONS

29. Civil and criminal liability (under Section 309 of the Act)

Except as provided in permit conditions on "Bypass" (section 17) and "Upset" (section 18), nothing in this permit shall be construed to relieve the Permittee from civil or criminal penalties for noncompliance.

30. Oil and hazardous substance liability (under Section 311 of the Act)

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject under Section 311 of the Act.

31. Federal facility construction (under Section 313(b) of the Act)

Construction shall not be initiated for facilities for treatment of wastewater at any Federal property or facility if alternative methods for wastewater treatment at the property utilizing innovative treatment processes and techniques, including, but not limited to, methods utilizing recycle and reuse techniques and land treatment are not utilized, unless the life cycle cost of the alternative treatment works exceed the life cycle cost of the most effective alternative treatment by more than 15 per cent.

32. State law (under Section 510 of the Act)

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established under any applicable State law or regulation.

33. Severability (under Section 512 of the Act)

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, if held invalid, the application of the provision to other circumstances, and remainder of this permit, shall not be affected thereby.

Pacific Shipyards INTERNATIONAL

August 28th, 2013

Loretta J. Fuddy
Director of Health
State of Hawaii, Department of Health
Environmental Management Division
Clean Water Branch
919 Ala Moana Boulevard, Room 301
Honolulu, Hawaii 96814-4920

Dear Ms. Fuddy,

Subject: Revised Best Management Practices Plan for
Pacific Shipyards International, LLC
Honolulu, Hawaii, 96817
Permit No. HI 0020753

In accordance with Pacific Shipyards International's NPDES Permit No. HI 0020753, it is our duty to report any changes to our Best Management Practices (BMP) plan within 30 calendar days from the date the changes were made.

Enclosed you will find Pacific Shipyards International's revised BMP plan, which details the methods that Pacific Shipyards International will utilize to limit and monitor the discharge of pollutants into Honolulu Harbor.

Respectfully,

Marvin Miller
EHS & QS Manager

Pacific Shipyards International
Pier 41, Honolulu, HI 96817
Phone: (808) 848-6211 Fax: (808) 848-6279

PO Box 31328 Honolulu, Hawaii USA 96820
Pier 41, Honolulu, Hawaii USA 96817
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Phone: 808-848-6211 Fax: 808-848-6279

Contractor's License No. CT-29937

Pacific Shipyards INTERNATIONAL

NPDES PERMIT BEST MANAGEMENT PRACTICES PLAN (BMP)
Revision 1
28 August, 2012

References: (a) Part B of NPDES Permit #HI002753, Dated May 31, 2012
(b) PSI Spill Prevention Control and Countermeasure Plan,
(c) PSI Effluent Monitoring Program

1. Introduction:

This Best Management Practices Plan is based on the requirements stipulated in reference (a) to prevent unauthorized discharges into the receiving waters of Honolulu Harbor from storm water runoff, docking and undocking evolutions, and work accomplished at the pier 41 facility and over the water. References (b) and (c), aid this document in addressing the policies and practices necessary to comply with rules, regulations and guidelines to monitor and prevent pollution of the air and water environment. Pacific Shipyards International (PSI) is committed to maintaining a clean environment and a safe workplace.

2. Definitions:

a. *Hydroblast wastewater*- wastewater produced during high and low-pressure hydroblasting operations; may also be referred to as water jetting, water lancing, or pressure washing.
b. *Dry dock rinse water*- wastewater produced while rinsing the dry dock deck prior to lowering events.
c. *Solids removed from the vessel*- paint chips, lead ballast, zinc anodes, steel, aluminum or other metals and debris generated by the shipyard work crew.
d. *Debris*- any solid wastes or trash such as paper, plastic, cans, weld rods, weld slag, cigarette butts, etc.
e. *Sanitary waste*- human waste from vessel CHT or grey water systems.
f. *Waste from cooling systems*- descaling chemicals, etc.
g. *Compounds from closed loop systems*- coolants, antifreeze, etc.
h. *Ballast water*- salt or fresh water pumped into a ship or other sea going vessel to provide weight for stability.
i. *Bilge water*- liquid accumulating in open areas below floor-plates of machinery spaces on ships.
j. *Non-Contact Cooling Water – fresh* water used for cooling which does not come into direct contact with any raw material, product, byproduct, or waste.
k. *Work* – Any production actions taken on the dry dock(s) pontoon deck after vessel is docked and until it is undocked. This may include major repairs to the dry dock surface.

Pier 41 PO Box 31328 Honolulu, Hawaii USA 96820
Web: www.pacificshipyards.com E-mail: info@pacificshipyards.com
Ph: 808-848-6211 Fax: 808-848-6279

Pacific Shipyards INTERNATIONAL

3. Prohibited Discharges

In accordance with the NPDES Permit, reference (a), PSI will not allow discharges into the receiving waters of the following:

a. Hydroblast wastewater.
b. Solids removed from the vessel, or any debris generated by the shipyard work crew.
c. Sanitary waste from docked vessels.
d. Waste from the physical cleaning of cooling systems.
e. Compounds used in closed-loop systems.
f. Bilge water.
g. Contaminated ballast water.
h. All other wastewater/pollutants not allowed under PSI's NPDES Permit No. HI0020753.

4. Pollution Prevention Measures

PSI shall practice good housekeeping as set forth in the NPDES permit. These practices and measures shall include:

a. PSI will maintain land-based operations in a clean and orderly manner and implement measures to prevent pollutants from contacting storm water runoff.
b. Solids and debris removed from the vessel or generated by the shipyard work process shall be contained as necessary and not allowed to enter the receiving waters. Daily cleanup and housekeeping procedures will be practiced to prevent solids and debris from entering the receiving waters.
c. Ensure the immediate clean-up of any spills, including but not limited to, fuel, oil, hydraulic fluid, paint and other coating products.
d. Spill response kits will be maintained to enable sufficient reaction in the event of a spill.
e. PSI will safeguard access to all emergency equipment (e.g. fire extinguishers, telephones, PA system, shutoff devices, exits, etc.)
f. Dry dock deck(s) and shore side facilities will be cleaned at the end of each day that work is performed. Sandblast grit and other fine debris will be vacuumed and properly disposed of.
g. PSI will engage in routine pickup and disposal of onsite garbage.
h. All vehicle and ground support equipment maintenance will be performed within covered structures. Vehicle and equipment washing will be performed within containment.
i. All wastes shall be properly stored and disposed of in accordance with local, city, state and federal environmental rules and regulations.

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j. A rain gauge will be maintained onsite in an area that receives rainfall representative of the entire facility.
k. The facility and storm water drain system shall be inspected on a monthly basis for any debris, pollutants, trash, sediments or other obstructions. If any of these are found, they shall be removed.
l. Storm drain guards, for capturing oil and sediments, will be utilized on all industrialized storm drains.
m. PSI's Management and EHS department will continuously monitor weather patterns and forecasts to ensure sufficient reaction time prior to a storm event.
n. In preparation of a storm event, and to prevent overflow or discharge of wastewater into the harbor, PSI will enact paragraph 4.t and 4.u of this BMP. Upon cleaning of the dry dock surface, drain/sump valves will be opened to allow discharge of rain water. Storm water sampling will be conducted, as applicable, in accordance with PSI's Effluent Monitoring Program (EMP).
o. Non-contact cooling water discharged from a docked vessel shall be discharged directly to the receiving waters without contacting either the dry dock, docked vessel or any other pollutant.
p. Hydroblast water shall be contained within the boundaries of the dry dock by berms, screens, containment and other means. No hydroblast water is allowed to enter the receiving waters. If hydroblast water does enter the receiving waters, PSI Management and the PSI Environmental Manager shall be informed. Hydroblasting operations shall cease until adequate containment is in place. These measures will be positioned prior to commencing any hydroblasting operations on the dry dock.
q. No discharge of wastewater or any other pollutant is allowed into the dry dock ballast tanks or any other dry dock compartment.
r. Removal of vessel's contaminated ballast water must be complete prior to any major industrial work commencing.
s. Management, Production Personnel, Duty Managers, and PSI's 24hr security will periodically monitor dry dock wastewater levels. If collected wastewater is observed to be at levels warranting action, PSI's Dock Master, EHS Personnel or vessel Project Manager will arrange for pumping and disposal of wastewater in accordance with local, city, state and federal environmental rules and regulations.
t. Prior to dry dock lowering, PSI shall clean the surface of the dry dock to remove solids and other pollutants, If vacuuming is not sufficient for cleaning hard-to-reach areas, then additional measures will be taken to ensure that solids are removed or prevented from entering receiving waters.
u. If dry dock decks are rinsed prior to vessel undocking/lowering events, dry dock rinse water shall be contained, collected, and disposed of in accordance with local, city, state and federal rules and regulations.
v. Immediately after raising the dry dock and before commencing any work, the dry dock and vessel will be rinsed of harbor silt and salt. Harbor trash and debris will be

prevented from reentering harbor.
w. All dry dock surfaces, including the top of the wing walls, will be maintained to prevent chipped paint, rust, and other debris from entering the receiving water.
x. PSI will properly contain and/or safeguard any shipboard appendages that may act as potential pollutant sources (such as zinc anodes) before conducting associated work on any vessel.
y. Zinc anodes will be cleaned no more than is required to allow for removal. In addition, zincs will be isolated or contained as necessary to avert the spread of zinc contaminates onto dry dock surfaces.
z. Proper containment and disposal practices will be followed when draining skegs or other shipboard appendages.
aa. PSI will shroud the section of the dry dock used for sand blasting prior to conducting sandblasting activities on the dry dock(s). Sandblasting activities conducted at shore side facilities will also be contained to prevent the drift of grit. If sandblast grit is observed drifting outside of its containment, PSI will immediately cease sandblasting activities until effective containment is established.
bb. Spent sandblast grit from sand blasting operations will be contained and stored under a cover to prevent contact with storm water.
cc. Sanitary waste from a docked vessel shall be contained within the vessel or removed via pumping or other means in a manner not to allow discharge into the receiving waters.
dd. Waste from the physical cleaning of cooling systems shall be contained within the boundaries of the vessel and/or the drydock and not allowed to enter the receiving waters. It will be properly disposed of in accordance with local, city, state and federal environmental rules and regulations.
ee. Compounds used in closed-loop cooling systems shall be contained within the vessel and not allowed to be discharged into the receiving waters. These compounds shall be disposed of in accordance with local, city, state and federal environmental rules and regulations.
ff. Ballast water suspected of containing contaminates will be tested. Ballast water, confirmed by testing, to be within NPDES limitations will be discharged directly into receiving water. Contaminated ballast water shall be removed via pumping or other means in a manner not to allow discharge into receiving waters. It will be properly disposed of in accordance with local, city, state and federal environmental rules and regulations. Vessel owners will not discharge any ballast water when in the ship yard.
gg. Bilge water shall be removed via pumping or other means in a manner not to allow discharge into receiving waters. It will be properly disposed of in accordance with local, city, state and federal environmental rules and regulations.

5. Inspection

a. PSI shall perform inspections of the cleanliness of each dry dock and take at least four (4) photographs of the condition of the dry dock at the end of each day work is performed on the dry docks. PSI shall take at least one (1) photograph from each corner of the dry dock facing towards the center of the dry dock. Each photograph will be labeled with the location, date and time the photograph was taken. Photos will be submitted with the monthly DMR.
b. PSI will perform a visual inspection, including at least 10 photographs of the entire facility, during all storm water sampling events. These photographs will include at least one (1) photo of the southwest corner of the facility, near the sandblasting shed, showing that sandblast grit is not contacting storm water. PSI will also take at least one (1) photograph of each outfall during the sampling event. Each photograph shall be labeled with the location, date and time the photograph was taken. These may be submitted electronically on a CD or DVD with the monthly DMR.
c. The facility and storm water drain system shall be inspected on a monthly basis for any debris, pollutants, trash, sediments or other obstructions. If sediments or debris are found, they shall be cleaned immediately. The Monthly Facility & Storm Drain Inspection Log Sheet shall be maintained to indicate actions taken. Results, including findings and actions taken, shall be reported with the monthly DMR.
d. The entire facility will be inspected for potential pollutant sources on a monthly basis. Findings will be reported with the monthly DMR.
e. All inspection results/reports, findings and actions taken, as required in 5.a and 5.b of this BMP shall include the following data:
   i. Date, time, and weather conditions at the time of inspection.
   ii. Name and signature of inspector.
   iii. A demonstration that the entire facility was inspected, including a checklist and photo documentation.

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6. Record Keeping

A monthly DMR report shall be submitted as required by the NPDES Permit (EPA Form NO. 3320-1.) The following records and logs shall be included:

a. Monthly Facility & Storm Drain Inspection Log Sheet in the form attached hereto.
b. Monitoring and testing results for harbor water flowing off dry dock, as specified in A.1.a of the NPDES permit, following sampling procedures outlined in PSI's Effluent Monitoring Program.
c. Monitoring and testing results for non-contact cooling water as specified in section A.2 of the NPDES permit, following sampling procedures outlined in PSI's Effluent Monitoring Program.
d. Monitoring and testing results for storm water runoff as specified in section A.3 of the NPDES permit, following sampling procedures outlined in PSI's Effluent Monitoring Program.
e. Monthly Dry dock Lowering and Lifting Event Log Sheet in the form attached hereto.
   i. Date and time of the docking/undocking activity.
   ii. Names of the vessels docked/undocked.
   iii. Type of vessel.
   iv. Type of work (painting, repairs, etc) performed on/for the vessel (both on the dry dock and at shore side facilities, including types of materials used (type of paint, anti-fouling agents, etc.)
   v. Methods used to conduct the work (manual scraping, pressure washing, paint spraying, etc.).
   vi. Site-specific BMPS used to prepare the vessel and dry dock for undocking.
   vii. Type of sampling performed.
f. Records of major maintenance performed on the dry docks during the reporting period.
g. Equipment testing and Dock Master training activities as specified in Part A.1.a (1) of the NPDES permit.
h. Photographs of the dry dock surface immediately prior to lowering the dry dock as specified in Part A.1.b of the NPDES permit.
i. Non-contact cooling water discharge information as specified in Part A.2.c of the NPDES permit.
j. Storm event and storm water discharge information as specified in Part A.3.d of this permit.
k. Storm event inspection report and photographs as required under Part A.3.e of the NPDES permit if storm water sampling was performed in that month.
l. Daily inspection photographs as required under part B.3.a of the NPDES permit, unless suspended by the Director of Health.
m. Daily logs will be maintained documenting all sand blasting activities conducted at the facility. Each month's logs will be summarized and submitted with the monthly

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DMR. The logs shall include the dates of sand blasting activities and the amount of grit used and recovered each day. If the amount recovered is different than the amount applied, the report shall include the reasons for the difference.

n. Notification of unauthorized discharges or spills of pollutants into the receiving waters during the reporting period.
o. Include all monitoring results obtained during the previous reporting period, together with lab reports and chain-of-custody forms, with the DMR.
p. PSI shall export onsite rain gauge data and submit a summary of this information with the monthly DMR.

All photographs required under part 5.a of this BMP will be maintained onsite. Data will be kept on all inspections including date, findings and actions taken to remedy any identified discrepancies.

DMRs will be submitted for review to the Environmental Manager no later than the 20th day of the month following the completed reporting period. Once reviewed, DMRs shall be postmarked no later than the 28th day of the month following the completed reporting period. If there are no discharges in a reporting period due no to cycling of the dry dock(s), then the DMR will state that no discharges or monitoring were required.

Duplicate signed copies of the DMR, and all other reports required herein, shall be submitted to the Director at the following address:

Director of Health
Department of Health
Environmental Management Division
Clean Water Branch
919 Ala Moana Boulevard, Room 301
Honolulu, Hawaii 96814-4920

7. <u>Best Management Practices (BMPs) Plan</u>

This BMP plan will be reviewed and updated as needed to comply with this permit or as required by the Director. Any changes made to the plan will be reported to the Director within 30 calendar days from the date the changes were made. Any changes made to the plan will be documented and maintained by PSI. PSI will retain this BMP plan and all accompanying records, reports, and changes for a period of at least five (5) years after the expiration of this permit.

All employees and contractors shall be trained on the BMP Plan and its implementation. A roster of training noting the attendee's name and date of training shall be maintained by the Environmental Manager.

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8. <u>Distribution</u>

A copy of the NPDES Permit, Best Management Practices Plan and the Effluent Monitoring Program and all logs will be maintained onsite or at a nearby office by the PSI EHS Manager.

Submitted by: ____________________
MARVIN MILLER, EHS Manager

Accepted by: ____________________
IAIN WOOD, Chief Operations Officer

ATTACHMENTS

1. Map of Facility & Storm Water Runoff Outfalls
2. Monthly Facility & Storm Drain Inspection Log Sheet
3. Monthly Dry Dock Lowering and Lifting Event Log Sheet
4. Monthly Dry Dock Repair Log
5. Monthly Sandblasting Activities Summary Log
6. Monthly DMR Form (EPA Form 3320-1)
7. BMP Technical Change Log

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NPDES PERMIT EFFLUENT MONITORING PROGRAM (EMP)
August 8th, 2012

References: (a) Part A of NPDES Permit #HI0020753, Dated May 31, 2012
(b) INALAB AIHA QA/QC Manual – M-3100

1. Introduction

The Hawaii State Department of Health has authorized Pacific Shipyards International, LLC to discharge harbor water from its onshore facility, located at Pier 41, Honolulu, Hawaii 96820.

During the period beginning on the effective date of PSI's NPDES permit, and ending at midnight May 30th, 2017. PSI is authorized to conditionally discharge harbor water flowing off both dry docks during lowering and lifting cycles, harbor water pumped out of ballast tanks, non-contact cooling water, and storm water associated with industrial activities, from its facility through outfalls 001, 003, 004, 005, 006, 007, and 008. Any other discharges other than those described above are strictly prohibited.

This Effluent Monitoring Program (EMP) details limitations, monitoring, and reporting procedures stipulated in Part A and EMP requirements in Part D.1.a, of PSI's issued NPDES Permit #HI 0020753, dated May 31st, 2012. It specifies limitations and monitoring procedures for dry dock discharges (Outfall Serial Nos. 001 and 008) during each lowering and lifting event, non-contact cooling water discharges from the dry docks and associated docked vessels (Outfall Serial Nos. 001 and 008,) and storm water runoff associated with industrial activities (Outfall Serial Nos. 001,003,004,005,006,007, and 008.) Sample holding times, preservation techniques, test methods, and method detection limits are provided for each monitoring parameter.

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2. Water Quality Monitoring – Dry Dock Discharges

a) **Dry Dock Discharges:** The NPDES permit requires that PSI limit, monitor and report the discharge of harbor water flowing off both the Kapilipono and Kekaulana dry docks (outfall serial numbers 001 and 008 respectively) during each lifting/lowering event for the following parameters: Flow, Total Suspended Solids, Settleable Solids, Oil and Grease, pH and total recoverable amounts of the following metals; Tributylin, Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, and Zinc. Harbor water flowing off the dry docks will be monitored and limited by the required parameters (see section 2.e) in terms of monitoring frequency, discharge limitations and sampling type.

b) **Water Sampling Methodology:** Water samples will be collected during each dry dock lowering except when no work has been done on the dry dock deck after the previous lifting activity. These samples must be taken in strict conformity with PSI's Marine Water Sampling Procedures stated below:

1. The following equipment is needed to properly document dry dock lowering and take samples per the NPDES permit:
   i. Permanent marker/Pen and Notebook
   ii. Digital Camera
   iii. Water Sample Kits (coolers) Containing Sample Bottles & Ice
   iv. Calibrated pH/Temperature Meter
   v. Chain of Custody (COC) Forms
2. In order to avoid contamination of samples, do not eat, drink or smoke while handling the sample apparatus or sampling bottle. Make sure you have clean hands and wear clean clothing free of dirt and grease.
3. Calibrate the pH meter using buffer solutions available at the PSI Tool Room. Calibrations must be documented within the calibration log. Do not proceed with sampling procedure without properly calibrated tools.
4. Prior to lowering the dry dock, the Environmental Manager or his designated representative will ensure the dry dock has been properly cleaned according to PSI's BMP Plan and that at least ten (10) photos have been taken to document the condition of cleanliness in accordance with the NPDES permit requirements. These photos shall show the conditions of the dry dock surface including corners and hard-to-reach areas. Each photograph shall be marked with the date and time at which the photograph was taken, and is to be submitted with the monthly Discharge Monitoring Report.
5. Stage (label and have on station) the ambient and compliance sample bottles before lowering the dry dock.
6. Within 30 minutes of lowering the dry dock, one (1) ambient grab sample will be collected from one (1) ambient station at a location in the receiving water that is

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representative of the water quality of the receiving water body prior to the commencement of the dry dock lowering. The location of the ambient station for each dry dock is specified on the Sampling Station Location Map attached herein.

7. Take pH and temperature readings of the ambient sample within 15 minutes of collection. Record these variables along with date/time of sampling for use on the COC form.
8. Collect one (1) compliance sample from each of three (3) outfall compliance stations. The locations of these compliance stations for each dry dock are specified on the Sampling Station Location Map attached herein. Samples are to be taken within the boundary of the dry dock platform where work was performed, and immediately following the initial rush of harbor water flowing onto the dry dock deck during lowering activities.
9. Take pH and temperature readings of the compliance samples within 15 minutes of collection. Record these variables along with date/time of sampling for use on the COC form.
10. Fill out COC forms with the time and date the sample was taken. A purchase order and job number must accompany the samples or they may not be accepted. Ensure that samples are marked with accurate shipping/purchasing information, such as job number, P/O number, address etc. A copy of the COC must be distributed to both the PSI file and laboratory.
11. Ensure all bottles are placed in a properly addressed cooler and add ice. Samples are to be chilled to < 4 degrees Celsius (39 Degrees Fahrenheit) upon arrival at the laboratory. Samples must reach laboratory within 48 hours of collection.
12. Results of testing are to be reported on the monthly DMR. If there is more than 1 cycling event in a calendar month, then the highest concentrations for each parameter tested (highest and lowest for pH) will be entered into the DMR.
13. If there are no discharges from cycling events during the previous reportable period, so the DMR shall state.

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c) **Dry Dock Discharge Parameters and Monitoring Requirements:**

Parameter	Discharge Limitations		Monitoring Frequency	Sample Type	
	Daily Maximum	Units		Compliance Stations	Ambient Station
Flow (Volume)	Report	Gallons/Cycle[3]	Once/Cycle[3]	Estimate/ Calculate for Lowering Activity Only	N/A
Total Suspended Solids	40.0	mg/l	Once/Cycle[3]	Composite[4]	Grab[5]
Settleable Solids	Report	mg/l	Once/Cycle[3]	Composite[4]	Grab[5]
Tributylin[6]	0.01	µg/l	Once/Cycle[3,7]	Composite[4]	Grab[5]
Arsenic[6]	69	µg/l	Once/Cycle[3]	Composite[4]	Grab[5]
Cadmium[6]	43	µg/l	Once/Cycle[3]	Composite[4]	Grab[5]
Chromium[6]	1,100	µg/l	Once/Cycle[3]	Composite[4]	Grab[5]
Copper[6]	2.9	µg/l	Once/Cycle[3]	Composite[4]	Grab[5]
Lead[6]	140	µg/l	Once/Cycle[3]	Composite[4]	Grab[5]
Mercury[6]	2.1	µg/l	Once/Cycle[3]	Composite[4]	Grab[5]
Zinc[6]	95	µg/l	Once/Cycle[3]	Composite[4]	Grab[5]
Oil and Grease	15	mg/l	Once/Cycle[3]	Grab[8]	Grab[5]
pH Range	7.0-8.6	S.U.	Once/Cycle[3]	Grab[9,10]	Grab[5,9]

[1] The Permittee shall collect one (1) grab sample from a minimum of three compliance stations for both Outfall Serial Nos. 001 and 008. Refer to compliance sampling methodology (part 2.b.8)
[2] The Permittee shall collect one grab sample from a minimum of one (1) ambient station. Refer to ambient sampling methodology below (part B.6)
[3] Once/Cycle means the Permittee shall collect water samples during each dry dock lowering except when no work has been done on the dry dock deck after previous lifting activity.
[4] The Permittee shall test for this parameter using the individual grab samples taken from each compliance station to form the composite sample.
[5] A grab sample shall mean a single sample representative of the ambient receiving water conditions.
[6] The Permittee shall analyze for the total recoverable portion
[7] The Permittee shall analyze for tributylin (TBT) only when repair work was done on a vessel that has TBT paint coating or when TBT paint was applied to the vessel in dry dock.
[8] The Permitee shall test the grab samples from each compliance station separately and report the minimum and maximum values.
[9] The Permittee shall test for pH within 15 minutes of obtaining the sample.
[10] The Permittee shall test the grab samples from each compliance station separately and report the minimum and maximum values.

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d) **Visual Monitoring:** The NPDES permit requires that PSI perform inspections of the cleanliness of each dry dock and take at least four (4) photographs of the condition of the dry dock at the end of each day work is performed on the dry docks. One (1) photograph shall be taken from each corner of the dry dock facing towards the center of the dry dock. Each photograph will be labeled with the location, date and time the photograph was taken. Photos will be submitted with the monthly DMR.

PSI will also take a minimum of 10 photographs of the dry dock surface immediately prior to each dry dock lowering, even when no work has been done on the dry dock deck since the previous dry dock lifting activity. Each photograph will be labeled with the location, date and time the photograph was taken. These photos are to be stored on a CD or DVD and submitted with the monthly DMR.

3. Water Quality Monitoring – Non-Contact Cooling Water

a) **Non-Contact Cooling Water Discharges**: The NPDES permit requires that PSI limit, monitor and report the discharge of non-contact cooling water from both the Kapilipono and Kekaulana dry docks (outfall serial numbers 001 and 008 respectively) and hosted vessels, for the following parameters: Flow, Temperature, Total Residual Oxidants, Total Suspended Solids, Oil and Grease, and pH Range. These parameters will be limited and monitored by PSI in terms of minimum measurement frequency, discharge type, and sampling type.

b) **Water Sampling Methodology:** Non-contact cooling water samples must be taken within the first 15 minutes of discharge, and following PSI's Non-Contact Cooling Water Sampling Procedures stated below:

1. The following equipment is needed to properly document non-contact cooling water sampling per the NPDES permit:
   a. Permanent marker/Pen and Notebook
   b. Water Sample Kits (coolers) Containing Sample Bottles & Ice
   c. Calibrated pH/Thermometer
   d. Chain of Custody (COC) Forms
2. In order to avoid contamination of samples, do not eat, drink or smoke while handling the sample apparatus or sampling bottle. Make sure you have clean hands and wear clean clothing free of dirt and grease.
3. Calibrate the pH meter using buffer solutions available at the PSI Tool Room. Calibrations must be documented within the calibration log. Do not proceed with sampling procedure without properly calibrated tools.
4. Collect samples within the first 15 minutes of discharge at both the influent location (downstream from any additions to the source water and prior to the cooling system,) and the effluent location, (downstream from the cooling system and prior to mixing with the receiving harbor water.)
5. Take temperature readings of the non-contact cooling water by placing the thermometer in the water stream flowing from the effluent sampling location, not in the sample container.
6. Take pH readings of the non-contact cooling water samples within 15 minutes of collection. Record these variables along with date/time of sampling for use on the COC form.
7. Fill out COC forms with the time and date the sample was taken. A purchase order and job number must accompany the samples or they may not be accepted. Ensure that samples are marked with accurate shipping/purchasing information, such as job number, P/O number, address etc. A copy of the COC must be distributed to both the PSI file and laboratory.
8. Ensure all bottles are placed in a properly addressed cooler and add ice. Samples are

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to be chilled to < 4 degrees Celsius (39 Degrees Fahrenheit) upon arrival at the laboratory. Samples must reach laboratory within 48 hours of collection.

9. Results of testing are to be reported on the monthly DMR. If there are no discharges from non-contact cooling systems during the previous reportable period, so the DMR shall state.

c) Non-Contact Cooling Water Discharge Parameters and Monitoring Requirements:

Parameter	Discharge Limitation	Unit	Minimum Measurement Frequency	Sample Type
Flow	Report	Gallons	Continuous	Calculated or Estimated
Temperature	30	°C	Monthly	Grab[1]
Total Residual Oxidants[3]	13.0	µg/l	Monthly	Grab[1]
Total Suspended Solids[3]	5[4]	mg/l	Monthly	Grab[1]
Oil and Grease	15	mg/l	Monthly	Grab[1]
pH Range[5]	Shall not deviate more than 0.5 units from a value of 8.1 standard units		Monthly	Grab[1]

1 Grab samples means an individual sample collected within the first 15 minutes of discharge.

2 The Permittee shall analyze for total residual oxidants using the amperometric titration method for total residual chlorine described in 40 CFR Part 136

3 The Permittee shall analyze both influent and effluent for this parameter.

4 The total suspended solids limits are net increase restrictions of the effluent above that of the influent.

5 The Permittee shall test for pH and temperature within the first 15 minutes of discharge

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4. <u>Water Quality Monitoring – Storm Water</u>

a) **Storm Water Discharges:** The NPDES permit requires PSI to monitor the discharge of storm runoff from the facility through Outfall Serial Nos. 001, 003, 004, 005, 006, 007, and 008. These discharges shall be limited by the following parameters: Flow, Biochemical Oxygen Demand (5-day), Chemical Oxygen Demand, Total Suspended Solids, Total Phosphorus, Total Nitrogen, Nitrate+Nitrate Nitrogen, Oil and Grease, pH Range, Tributylin, Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, and Zinc.

Samples will be collected for analysis from a discharge resulting from a representative storm. A representative storm is a rainfall that accumulates more than 0.1 inch of rain and occurs at least 72 hours after the previous measurable (greater than 0.1 inch) rainfall even. At a minimum, storm water samples will be collected from four (4) outfalls per quarter. Each outfall should be sampled at least twice a year.

b) **Water Sampling Methodology:** At a minimum, water samples and photographs must be taken quarterly in strict adherence with PSI's Storm Water Sampling Procedure Detailed Below:

Definitions:

A composite sample means a combination of at least two (2) sample aliquots, (a smaller sample making up a composite sample) collected at periodic intervals. The composite shall be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to the total flow of storm water discharge flow since the collection of the previous aliquot.

A grab sample means a sample collected during the first fifteen (15) minutes of a discharge event.

1) Check weather forecasts. Television, satellite and radar can give an indication of the expected intensity of storms. When the decision has been made to attempt to sample a rain event, notify the personnel who will be sampling.
2) The following equipment is needed to properly document and sample storm water runoff during a storm water discharge event:
   i. Permanent marker/Pen and Notebook
   ii. Digital Camera
   iii. Watch
   iv. Water Sample Kits (coolers) Containing Sample Bottles & Ice
   v. Calibrated pH/Temperature Meter
   vi. Chain of Custody (COC) forms

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3) Notify laboratory of the sampling schedule and have them deliver sample kit(s), including the sample bottles and cooler.
4) Ensure the sample bottles are properly labeled with outfall number, date, time and parameter to be analyzed.
5) Calibrate the pH meter using buffer solutions available at the PSI Tool Room. Calibrations must be documented within the calibration log. Do not proceed with sampling procedure without properly calibrated tools.
6) Ensure all sample collection locations (storm drains) are clear of debris. If outfall to be sampled is compromised by high tides or is inaccessible for any reason, use the approved alternate sample location specified on the outfall location map.
7) In order to avoid contamination of samples, do not eat, drink or smoke while handling the sample apparatus or sampling bottle. Make sure you have clean hands and wear clean clothing free of dirt and grease.
8) As rain event begins, monitor yard for signs of storm discharge. Sample collection for all identified locations should begin within 15 minutes of initial storm water discharge.
9) Collect the grab/composite samples from the storm drain discharge point(s) at each desired Outfall Serial Nos. If a composite sample is required for the testing of a certain parameter, use a one liter Nalgene bottle (without preservative) to capture a grab sample of discharge water. Using the watch, repeat this procedure every 15 minutes until four (4) 1 liter sample bottles or one (1) 4 liter sample bottle is filled.
10) For composite samples, combine up to four time controlled grab samples into one composite sample. Record the temperature and pH, and then fill each of the required composite laboratory bottles.
11) Record the period of time the sample was collected and the outfall at which it was collected at.
12) Cap the bottles securely and chill to 4 degrees Celsius (39 degrees Fahrenheit) for delivery to laboratory.
13) Fill out COC forms with the time and date the sample was taken. A purchase order and job number must accompany the samples or they may not be accepted. Ensure that samples are marked with accurate shipping/purchasing information, such as job number, P/O number, address etc. A copy of the COC must be distributed to both the PSI file and laboratory.

Note: Samples for analysis shall be collected during the first fifteen (15) minutes of the discharge and at 15-minute intervals thereafter for the duration of the discharge, as applicable. If the discharge lasts for over an hour, sample collection may cease. If the duration of the discharge event is less than 30 minutes, the sample collected during the first fifteen (15) minutes of the discharge shall be analyzed as a grab sample and reported toward the fulfillment of this composite sample specification. If the duration of the discharge event is greater than 30 minutes, two or more aliquots shall be analyzed as a composite sample.

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c) **Visual Monitoring:** PSI shall perform a visual inspection of the entire facility and take at least 10 photographs during all storm water sampling events. At least one (1) photograph should include the southwest corner of the facility near the sandblasting shed showing that sandblast grit is not contacting storm water runoff. PSI shall take at least one (1) photograph of each outfall during the sampling event. Each photograph will be labeled with the location, date and time the photograph was taken. These photos will be submitted with the monthly DMR.

5. Quality Assurance and Quality Control Measures

a) **Quality Assurance:** The primary laboratory used by PSI, INALAB, is AIHA (American Industrial Hygiene Association) accredited under the Industrial Hygiene Laboratory Accreditation Program. Labs accredited by the AIHA are in also in compliance with International Standard ISO/IEC 17025:2005; general requirements for the competence of testing and calibration laboratories. See the attached INALAB AIHA Accreditation Certificate. Secondary laboratories contracted by PSI, such as Test America, are either AIHA or NELAP (National Environmental Laboratory Accreditation Program) certified. These laboratories are utilized for testing when specific analytical services or test methods are not offered by INALAB.

b) **Sample Analytical Information for Labs Performing Metals Analysis:**

Parameter	Test Method	Instrument	Detection Limit (ug/L)	Preservation Technique	Sample Holding Time
Tributylin	EPA 282.3	Gas Chromatography + ECD	1	4 Degrees C	7 Days
Arsenic	EPA 200.12m / 206.3m	Gaseous Hydride	1	pH<2 with HNO3	6 Months
Cadmium	EPA 200.12m / 213.1m	Flame AAS	10	pH<2 with HNO3	6 Months
Chromium	EPA 200.12m / 218.1m	Flame AAS	80	pH<2 with HNO3	6 Months
Copper	EPA 200.12m / 220.1m	Flame AAS	2.7	0 pH<2 with HNO3	6 Months
Lead	EPA 200.12m / 239.1m	Flame AAS	40	pH<2 with HNO3	6 Months
Mercury	EPA 200.12m / 245.2m	Gaseous Hydride	1	pH<2 with HNO3	28 Days
Zinc	EPA 200.12m / 289.1m	Flame AAS	5	pH<2 with HNO3	6 Months

c) **Sample Analytical Information for Labs Performing TSS, SS and Oil and Grease Analysis:**

Parameter	Test Method	Detection Limit	Preservation Technique	Sample Holding Time
Total Suspended Solids	SMWW 2540 D	1 mg/L	4 Degrees C	7 Days
Settleable Solids	EPA 160.5	0.1 mL/L/hr	4 Degrees C	48 Hours
Oil & Grease	EPA 1664m	5 mg/L	pH<2 with HCl + 4 degrees C	28 Days

d) **Sample Analytical Information for Labs Performing BOD, COD, Total Phosphorus, NO3+ NO3–N, Total N, and TRO Analysis:**

Parameter	Test Method	Instrument	Detection Limit	Preservation Technique	Sample Holding Time
Biochemical Oxygen Demand (5-day)	SMWW 5210B	DO meter YSI 5000	1 mg/L	4 Degrees C	48 Hours
Chemical Oxygen Demand	SMWW 17 5220	Reactor/UV VIS	3 mg/L	H2SO4	28 days
Total Phosphorus	Hach Method 8190	Reactor /UV VIS	0.06 mg/L PO4	H2SO4	28 days
Total Nitrogen	EPA 353.2m	Reactor /UV VIS	0.50 mg/L	H2SO4 + 4 degrees C	28 days
Nitrate + Nitrate Nitrogen	EPA 353.2m	Reactor /UV VIS	0.05 mg/L	H2SO4 + 4 degrees C	28 Days
Total Residual Oxidants	SM4500-Cl-D-2000	Amperometric Titrator	15 ug/L	N/A	Immediate Analysis

6. **Reporting:** A monthly DMR report shall be submitted as required by the NPDES Permit (EPA Form NO. 3320-1.) The following records and logs shall be included:

a) Monthly Facility & Storm Drain Inspection Log Sheet.
b) Monitoring and testing results for harbor water flowing off dry dock, as specified in A.1.a of the NPDES permit.
c) Monitoring and testing results for non-contact cooling water as specified in section A.2 of the NPDES permit.
d) Monitoring and testing results for storm water runoff as specified in section A.3 of the NPDES permit.
e) Monthly Dry dock Lowering and Lifting Event Log Sheet in the form attached hereto.
a. Date and time of the docking/undocking activity.
b. Names of the vessels docked/undocked.
c. Type of vessel.
d. Type of work (painting, repairs, etc) performed on/for the vessel (both on the dry dock and at shore side facilities, including types of materials used (type of paint, anti-fouling agents, etc.)
e. Methods used to conduct the work (manual scraping, pressure washing, paint spraying, etc.).
f. Site-specific BMPS used to prepare the vessel and dry dock for undocking.
g. Type of sampling performed.
f) Records of major maintenance performed on the dry docks during the reporting period.
g) Equipment testing and Dock Master training activities as specified in Part A.1.a (1) of the NPDES permit.
h) Photographs of the dry dock surface immediately prior to lowering the dry dock as specified in Part A.1.b of the NPDES permit.
i) Storm event inspection report and photographs as required under Part A.3.e of the NPDES permit if storm water sampling was performed in that month.
j) Daily inspection photographs as required under part B.3.a of the NPDES permit, unless suspended by the Director of Health.
k) Daily logs will be maintained documenting all sand blasting activities conducted at the facility. Each month's logs will be summarized and submitted with the monthly DMR. The logs shall include the dates of sand blasting activities and the amount of grit used and recovered each day. If the amount recovered is different than the amount applied, the report shall include the reasons for the difference.
l) Notification of unauthorized discharges or spills of pollutants into the receiving waters during the reporting period.
m) Include all monitoring results obtained during the previous reporting period, together with lab reports and chain-of-custody forms, with the DMR.
n) PSI shall export onsite rain gauge data and submit a summary of this information with the monthly DMR.

7. **Record Keeping:** PSI will retain for a minimum of five (5) years any records of monitoring activities and results including all original recordings for all continuous monitoring instrumentation and calibration and maintenance records. This period shall be extended during the course of any unresolved litigation of administrative enforcement action regarding the discharge of pollutants by PSI or when requested by the Director of Health or the Regional Administrator.

The results of monitoring, or any other lab analysis of (potentially) impacted waters, will be filed by the Environmental Manager. These records must also be maintained for at least three (3) years.

Records, including reports concerning spills, leaks, or other discharges, shall be maintained for at least three (3) years after the NPDES Permit expires. These records shall be filed by the Environmental Manager.

8. **Distribution:** A copy of the NPDES Permit, Best Management Practices Plan and the Effluent Monitoring Program and all logs will be maintained onsite or at a nearby office by the PSI EHS Manager.

Submitted by: ______________________
MARVIN MILLER, EHS Manager

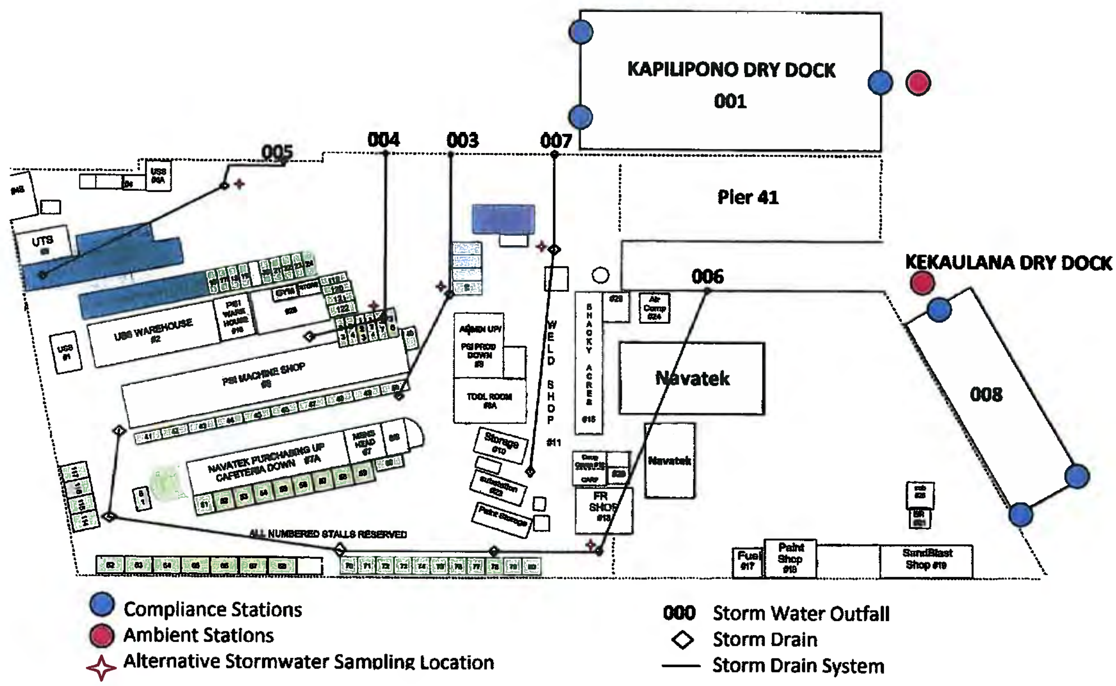
Accepted by: ______________________
IAIN WOOD, Chief Operations Officer

ATTACHMENTS

1. PSI Facility Water Sampling Location Map
2. INALAB AIHA Accreditation Certificate

ATTACHMENT 1

PSI FACILITY WATER SAMPLING LOCATIONS



AIHA
Laboratory Accreditation Programs, LLC

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

INALAB, INC.

3615 Harding Avenue, Suite 308, Honolulu, HI 96816
Laboratory ID: 101812

has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC thereby conforming to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories.* The above named laboratory, along with all premises from which key activities are performed, as listed above, have been accredited by AIHA-LAP, LLC in the following:

LABORATORY ACCREDITATION PROGRAMS

✓	INDUSTRIAL HYGIENE	Accreditation Expires: 10/01/2012
✓	ENVIRONMENTAL LEAD	Accreditation Expires: 10/01/2012
✓	ENVIRONMENTAL MICROBIOLOGY	Accreditation Expires: 10/01/2012
☐	FOOD	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with AIHA-LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current scope of accreditation.

Dave Sandusky, CIH
Chairperson, Analytical Accreditation Board

Date Issued: 10/01/2010

Pacific Shipyards INTERNATIONAL

SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

Pacific Shipyards International, LLC

P.O. Box 31328 Honolulu, Hawaii 96820

Located at Pier 41 in Honolulu Harbor

October 2012

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ATTACHMENTS

A. GENERAL RULE REQUIREMENTS FOR ONSHORE FACILITIES
B. FIVE YEAR REVIEW LOG
C. TECHNICAL AMENDMENT LOG
D. INSPECTION LOG SCHEDULE
E. BULK STORAGE CONTAINER INSPECTION SCHEDULE
F. FACILITY TRANSFER OPERATIONS

1.0 FACILITY DESCRIPTION

Facility Name:	Pacific Shipyards International, LLC.
Facility Address:	Pier 41, Honolulu, HI 96817
Telephone:	(808) 848-6211
Operator Name:	Iain Wood, Chief Operating Officer
Operator Address:	Pier 41, Honolulu, HI 96817
Telephone:	(808) 848-6211

The facility, located on Pier 41 at the Honolulu Harbor, is owned and operated by the State of Hawaii Department of Transportation, Harbors Division and is operated by the lessee, PSI. Improvements at the facility are owned by PSI and include maintenance, machining, construction, storage, painting and office areas.

The primary activity at the facility is ship repair within the two dry docks located along Pier 41. Associated activities include fabrication of parts, sandblasting/resurfacing ship and barge hulls, and repair of ship and barge components. Such activities require a variety of ground support equipment and various shops. Petroleum products typically used at the facility include hydraulic oil, lubricating oil, used oil for recycling, greases, and various preservative oils (to protect ship components from exposure to sea water.)

The facility utilizes 7 mobile fuel tanks to fuel ground support equipment (i.e. forklifts, aerial lifts, etc.) and facility vehicles, and 1 truck mounted mobile fuel tank to support offsite operations. The mobile fuel tanks (5 containing diesel fuel and 2 containing gasoline,) are double walled tanks, each with a capacity of 240 gallons. The single truck mounted mobile fuel tank is double walled with a capacity of 94 gallons.

The facility also utilizes a 4,000-gallon capacity single-walled aboveground storage tank (AST) to store diesel for fueling of facility equipment. This AST is permanently located within a covered containment structure. The structure provides more than adequate capacity to retain a release of fuel from all tanks at full capacity. The structure provides an approximate holding capacity of 8,500 gallons. In addition, the covered containment structure utilizes 4-inch high steel curbing embedded within the concrete surface to provide additional capacity of approximately 2,700 gallons.

The facility is classified as a Tier 1 qualified facility in that it has had no single discharge as described in 112.1(b), exceeding 1,000 gallons or no two discharges as described in 112.1(b) each exceeding 42 gallons within any twelve month period in the three years prior to the SPCC Plan self-certification date.

Secondly, it has no individual aboveground oil storage container with a capacity greater than 5,000 gallons.

The onshore facility consists of an estimated 7.3-acre parcel of land on Pier 41 of the Honolulu Harbor. The site and surrounding areas are generally used for commercial and industrial activities. The facility is located adjacent to the Honolulu Harbor (contiguous with the Pacific Ocean) and is located coastward of the Underground Injection Control (UIC) line established by the State of Hawaii Department of Health (DOH.) Surface drainage from the PSI site flows south and west into the Honolulu Harbor. Storm drain inlets located throughout the facility discharge directly into the harbor.

2.0 APPROVAL AND CERTIFICATION- *(§112.6(a)(1) and 112.3(d)*

2.1 Management Approval & Self Certification Statement (§112.6(a)(1))

I, Iain Wood, certify that the following is accurate:

1. I am familiar with the applicable requirements of 40 CFR part 112;
2. I have visited and examined the facility;
3. This Plan was prepared in accordance with accepted and sound industry practices and standards;
4. Procedures for required inspections and testing have been established in accordance with industry inspection and testing standards or recommended practices;
5. I will fully implement the Plan;
6. This facility meets the following qualification criteria (under §112.3(g)(1)):
   a. The aggregate aboveground oil storage capacity of the facility is 10,000 U.S. gallons or less; and
   b. The facility has had no single discharge as described in §112.1(b) exceeding 1,000 U.S. gallons and no two discharges as described in §112.1(b) each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to 40 CFR part 112 if the facility has been in operation for less than three years (not including oil discharges as described in §112.1(b) that are the result of natural disasters, acts of war, or terrorism); and
   c. There is no individual oil storage container at the facility with an aboveground capacity greater than 5,000 U.S. gallons.
7. This Plan does not deviate from any requirement of 40 CFR part 112 as allowed by §112.7(a)(2) (environmental equivalence) and §112.7(d) (impracticability of secondary containment) or include any measures pursuant to §112.9(c)(6) for produced water containers and any associated piping;
8. This Plan and individual(s) responsible for implementing this Plan have the full approval of management and I have committed the necessary resources to fully implement this Plan.

I also understand my other obligations relating to the storage of oil at this facility, including, among others:

1. To report any oil discharge to navigable waters or adjoining shorelines to the appropriate authorities. Notification information is included in this Plan.
2. To review and amend this Plan whenever there is a material change at the facility that affects the potential for an oil discharge, and at least once every five years. Reviews and amendments are recorded in an attached log [See Five Year Review Log and Technical Amendment Log in Attachments B and C.]
3. Optional use of a contingency plan. A contingency plan:
   a. May be used in lieu of secondary containment for qualified oil-filled operational equipment, in accordance with the requirements under §112.7(k), and;
   b. Must be prepared for flow lines and/or intra-facility gathering lines which do not have secondary containment at an oil production facility, and;
   c. Must include an established and documented inspection or monitoring program; must follow the provisions of 40 CFR part 109; and must include a written commitment of manpower, equipment and materials to expeditiously remove any quantity of oil discharged that may be harmful. If applicable, a copy of the contingency plan and any additional documentation will be attached to this Plan as Attachment 2.

I certify that I have satisfied the requirement to prepare and implement a Plan under §112.3 and all of the requirements under §112.6(a). I certify that the information contained in this Plan is true.

[signature]	Chief Operations Officer
Signature	Title
Iain S. Wood	11/8/12
Print Name	Date

3.0 RECORD OF PLAN REVIEW AND AMENDMENTS – *112.5(b)*

3.1 Five Year Review & Evaluation

A review and evaluation of this SPCC Plan will conducted at least once every five years. As a result of the review, this plan will be amended within six months to include more effective prevention and control measures for the facility, if applicable. Any SPCC Plan amendment is to be implemented as soon as possible, but no later than six months following Plan amendment. All completed Five Year Reviews are to be logged in the Five Year Review Log in Attachment B. If the facility no longer meets Tier I qualified facility eligibility, the owner or operator must revise the Plan to meet Tier II qualified facility requirements, or complete a full PE certified Plan.

3.2 Technical Amendments

This SPCC Plan will be amended when there is a change in the facility design, construction, operation, or maintenance that materially affects the potential for a discharge to navigable waters or adjoining shorelines. Examples include adding or removing containers, reconstruction, replacement, or installation of piping systems, changes to secondary containment systems, changes in product stored at this facility, or revisions to standard operating procedures.

Any technical amendments to this Plan will be re-certified in accordance with Section 2.0 of this Plan, *[§112.6(a)(2)]* and logged in the technical amendment log in attachment C.

4.0 Oil Storage Containers and Capacities – *112.7(a)(3)(i)*

Oil Storage Containers and Capacities		
This table includes a complete list of all oil storage containers (aboveground containers[a] and completely buried tanks[b]) with capacity of 55 U.S. gallons or more, unless otherwise exempt from the rule. For mobile/portable containers, an estimated number of containers, types of oil, and anticipated capacities are provided.		
Oil Storage Container *(indicate whether aboveground (A) or completely buried (B))*	**Type of Oil**	**Shell Capacity (gallons)**
(A) 1 94-Gallon Mobile Storage Tank	Diesel	94
(A) 5 240-Gallon Mobile Storage Tanks	Diesel	1200
(A) 2 240-Gallon Mobile Storage Tanks	Gasoline	480
(A) 1 Fixed Aboveground Storage Tank	Diesel	4000

Total Aboveground Storage Capacity: 5774 Gallons
Total Completely Buried Storage Capacity: 0 Gallons
Facility Total Oil Storage Capacity: 5774 Gallons

4.1 Secondary Containment and Oil Spill Control *(§§112.6(a)(3)(i) and (ii), 112.7(c) and 112.9(c)(2))*

Appropriate secondary containment and/or diversionary structures or equipment is provided for all oil handling containers, equipment, and transfer areas to prevent a discharge to navigable waters or adjoining shorelines. The secondary containment system applicable to each storage tank, including walls and floor, is capable of containing oil and is constructed so that any discharge from a primary containment system, such as a tank or pipe, will not escape the containment system before cleanup occurs.

The 4,000-gallon capacity steel AST is stored within a covered containment structure. The structure provides more than adequate capacity to retain a release of fuel from all tanks at full capacity. The structure provides an approximate holding capacity of 8,500 gallons. In addition, the covered containment structure utilizes 4-inch high steel curbing embedded within the concrete containment surface to provide additional capacity of approximately 2,700 gallons.

The seven, 250-gallon portable fuel tanks are double-walled and are stored within the covered containment structure when not in use. PSI's single 94-gallon truck mounted fuel tank is double-walled.

Facility oil transfer operations will be conducted in accordance with PSI's Equipment Fueling Procedure, Vessel Fueling Procedure, and Fuel Offloading Procedure provided in attachment E.

4.2 CONTAINERS WITH POTENTIAL FOR OIL DISCHARGE

Containers with Potential for Oil Discharge					
This table identifies the tanks and containers at the facility with the potential for an oil discharge; the mode of failure; the flow direction and potential quantity of the discharge; and the secondary containment method and containment capacity that is provided.					
Area	Type of Failure	Potential Discharge Volume	Direction of Flow for Uncontained Discharge	Secondary Containment Method(s)	Secondary Containment Capacity (Gallons)
Bulk Storage Containers and Mobile/Portable Containers					
55-Gallon Drums	Rupture/Overfill	55	Varies	Containment pallet, berms, sorbent materials	66 (per pallet)
94-Gallon Mobile Tank	Rupture/Overfill	94	Varies	Double-walled, berms, sorbent materials	Varies
240-Gallon Mobile Tank	Rubture/Overfill	240	Varies	Double-walled, berms, sorbent materials	Varies
4000-Gallon Storage Tank	Rupture/Overfill	4000	Secondary Containment	Single-walled steel, curbing/containment tank, sorbent materials.	11200
Oil-filled Operational Equipment (e.g., hydraulic equipment, transformers)					
N/A					
Product Transfer Areas (location where oil is loaded to or from a container, pipe or other piece of equipment.)					
Covered Containment Area	Rupture/Overfill, handling drips and spills, transfer hose failure.	4480	Secondary Containment	Curbing/containment tank, sorbent materials/spill kits.	11200
Other Oil-Handling Areas or Oil-filled Equipment (e.g. flow-through process vessels at an oil production facility)					
N/A					

5.0 INSPECTIONS, TESTING, RECORDKEEPING AND PERSONNEL TRAINING
112.7(E) & (F), 112.8©(6) & (D)(4), 112.9(C)(3), 112.12(C)(6) & (D)(4).

An inspection and/or testing program is implemented for all aboveground bulk storage containers and piping at this facility. ***[§§112.8(c)(6) and (d)(4), 112.9(c)(3), 112.12(c)(6) and (d)(4)].*** The following is a description of the inspection and/or testing program for all aboveground bulk storage containers and piping at this facility:

- The EHS Manager will be responsible for implementation and safe keeping of all testing and inspection forms. The EHS Manager will also specify and be responsible for the procedures to be followed during maintenance repair or replacement of equipment covered in this plan. The Plan and all inspection records will be kept in the PSI Office.
- A monthly, comprehensive inspection of the **mobile** ASTs using the AST inspection form attached herein. Signs of weakness, leaking, bulging, blistering, discoloration, or corrosion will be reported and immediately addressed. Records of these inspections will be kept for three years.
- A monthly, comprehensive inspection of the **facility** ASTs and areas surrounding the tanks will be conducted using the AST inspection form attached herein. Signs of weakness, leaking, bulging, blistering, discoloration, or corrosion will be reported and immediately addressed. Records of these inspections will be kept for three years.
- A weekly inspection of all areas where RCRA waste is stored.
- The spill cleanup kits will be checked during monthly inspections to ensure proper inventory is maintained. These inspections will be retained for three years.

Inspections, tests, and records are conducted in accordance with written procedures developed for the facility. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph. ***[§112.7(e)]***

A record of the inspections and tests will be kept at the facility or with the SPCC Plan for a period of three years. ***[§112.7(e)]*** **[See Inspection Log and Schedule in Attachment D]**

Inspections and tests are to be signed by the appropriate supervisor or inspector. ***[§112.7(e)]***

6.0 PERSONNEL, TRAINING, AND DISCHARGE PREVENTION PROCEDURES - *[§112.7(f)]*

It will be the Environmental/Safety Manager's responsibility to ensure each applicable department provides training to all oil-handling personnel in the operation and maintenance of equipment to prevent discharges of oil. Personnel shall also be trained on discharge procedure and protocol, applicable pollution control laws/rules/regulations, general facility operations, and the contents of this SPCC Plan. This training shall be repeated at least once a year to assure adequate understanding of this SPCC plan.

Employees as PSI receive spill prevention training, which includes information on the hazards associated with the chemicals potentially encountered at the shipyard, locations and use of available safety and emergency response equipment, and procedures/practices to be used to reduce the likelihood, or prevent, spills (e.g., the use of secondary containment, drip pans, etc.) Specifically, oil-handling personnel are trained in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan. *[§112.7(f)]*

Discharge prevention briefings are conducted for oil-handling personnel annually to assure adequate understanding of the SPCC Plan for that facility. Such briefings highlight and describe past reportable discharges or failures, malfunctioning components, and any recently developed precautionary measures. *[§112.7(f)]* PSI has designated Marvin Miller, the EHS Manager, as being accountable for discharge prevention. *[§112.7(f)]*

PSI has established an annual training requirement to ensure that employees are familiar with this SPCC Plan, previous spill events or equipment failure, appropriate spill mitigation procedures, and recently developed precautionary measures. The annual refresher includes the following:

a) Purpose of the SPCC Plan;
b) Identification of potential spill areas and materials;
c) Hazards of spills a behavior of spilled materials;
d) Importance of preventative measures;
e) Proper chemical handling, use, storage, and disposal practices;
f) Instructions on proper equipment operation;
g) Routine inspection requirements;
h) Procedures for correcting chemical handling difficulties;
i) Chain of command for reporting releases;
j) Steps for spill containment
k) Location and selection of PPE
l) Review of contingency plans, including the location of emergency exits and procedures to be implemented to allow fire department and other assistance teams access to the facility;
m) Reporting requirements;
n) A review of past problems that may require special attention, and direction on how to deal with such problems safely and effectively.

7.0 SECURITY – *112.7(g)*

PSI has implemented security measures at its facility to prevent unauthorized access to oil handing, processing and storage area:

Facility security personnel are on site twenty-four hours per day, seven days per week. The security staff makes complete rounds of the facility through the nights and weekends, keeping a log of their progress. The security staff is instructed to phone the City and County of Honolulu Police Department by calling 911 if an unauthorized intruder is discovered on site.

The facility is secured with chain-link fencing along the property boundary. Access from the water is not restricted.Valves that permit the outward flow of the AST contents shall be either securely locked in the closed position, closed with the valve handle removed, capped, and/or blank flanged when in non-operational or non-standby status.

Starter control panels for pumps shall be locked in the "off" position. The seven 240-gallon mobile ASTs and the 4,000-gallon AST used to temporarily store fuel do no utilize piping. Fuel is pumped directly into the tanks through a fill port located on top of each tank.

Facility lighting will be sufficient for the discovery of spills occurring during the hours of darkness or of spills occurring through acts of vandalism.

8.0 EMERGENCY PROCEDURES AND NOTIFICATIONS - *(§112.7(A)(3)(IV) & 112.7(A)(5))*

PSI requires that ANY spill that occurs at the shipyard be reported to the supervisor and Environmental Health & Safety Department. This includes any minor or major release that involves PSI equipment, personnel, or property, regardless if it was immediately contained and cleaned up. Section 9 outlines spill response and clean-up procedures along with notification processes.

8.1 Small Spill Response Procedure

In the event of a spill, the PSI employee that discovers the occurrence should accomplish the following:

1) Identify the source of the spill and the material being released.
2) Consult the Material Safety Data Sheet before proceeding if spilled material is unknown or suspected to pose a risk to human health.

If unable to approach, or the release is large or uncontrollable, immediately notify your supervisor and the EHS Department. Follow guidelines listed in PSI's Spill Control and Countermeasures Plan Part 5.B. In the event of a discharge of oil to navigable waters or adjoining shorelines, refer to Part 5.C

3) If safe to approach, stop the flow or shut off the equipment. Keep flames and other sources of ignition away from the spill (NO SMOKING.)
4) Estimate the quantity of material released.
5) Notify the supervisor and call the Environmental Health & Safety Department. (Contact information attached)
6) If it is necessary to leave the area to notify the proper personnel, barricade the spill area and assign a person to standby and monitor the source of the spill.

If spills of oil have a reasonable chance of flowing into storm drains at the facility or directly into the harbor, absorbent pads or booms should be placed around the storm drain inlets or along the edge of the pier prior to cleaning up the spill.

7) Access the nearest yellow spill kit to locate absorbent pads, litter and PPE. Use generous quantities of absorbent product to trap and absorb spilled material. Start on the outer perimeter, surround the spill and work inwards. Use a broom or coarse brush to work the litter into the affected area.
8) Sweep/scoop soaked material into buckets or trash bags. Some spills may require more than one application of absorbent materials. Upon removal, soaked/dripping absorbent pads or booms must be placed into trash bags, labeled, and brought to the RCRA waste site for disposal. In most cases, recovered absorbent litter can be placed directly into onsite dumpsters.
9) Apply detergent to stained area. Use a broom or coarse brush to work the detergent into the affected area. Collect detergent and remaining residue/debris using absorbent materials. Soaked/dripping absorbent pads or booms must be placed in trash bags, labeled, and brought to the RCRA waste site for disposal.
10) Call EHS Department to conduct final spill cleanup assessment.
11) Assist EHS Department with the filing of a Spill/Accident Investigation Report.

8.2 Large or Uncontrolled Release Response Procedure

1) In the event of a large or uncontrolled release, the shift supervisor shall act as the Emergency Coordinator (EC) until relieved by the Environmental/Safety Manager. Employees should follow the guidelines listed below where practicable.
2) Stop work.
3) Shut down pumps and equipment to secure valves and work operations.
4) Shut down nearby propane tanks.
5) Move away from the affected area.
6) Notify and alert others of the incident via:
   a. Voice.
   b. Hand-held radios.
   c. Other effective means.
7) Keep non-essential employees away from the spill area.
8) Notify the EC.
9) The EC shall evaluate the situation and decide whether to implement a "fight or flight" response by gathering the following information if it can be done safely:
   a. Your name, location, and how you may be reached.
   b. Location of release.
   c. Date/time of release.
   d. Source, type, quantity, and description of the release.
   e. Hazards of the release.
   f. Type of media affected (soil, asphalt, concrete, etc.).
   g. Rate of the release.
   h. Migratory direction of the release.
   i. Potential for fire or explosion.
   j. Potential for human exposure.
   k. Potential for migration to surface water (ocean, storm drains, etc.).
10) Never subject yourself or other personnel to unreasonable risk of illness or injury.
11) Remove all injured persons from the immediate area of danger and render first aid. If injuries are severe, call 911 for emergency medical assistance.
12) If decision is to "fight," personnel are to don appropriate PPE.
13) Eliminate all possible sources of ignition/detonation such as vehicle engines, welding and

grinding operations, and smoking.

14) Remove or isolate ignitable and incompatible materials from the area of release.
15) Locate, stop, and contain the source of the release by:
    a. Closing, checking, repairing, and plugging valves.
    b. Plugging and patching holes.
16) Confine the release to prevent further migration by:
    a. Diking and berming using sand, soil, or other inert material;
    b. Sealing storm drains with plastic and sandbags;
    c. Placing granular sorbent or absorbent pads and booms;
    d. Diverting the chemicals from entering drains, manholes, streams, etc; or
    e. Implementing retention techniques.
17) Control the release using pressure reduction vapor suppression.
18) Call the facility spill response contractor for cleanup and removal of accumulated product resulting from the release. The contractor will utilize a vacuum pump truck or similar equipment to remove spilled product and will properly dispose the material in accordance with applicable state and federal regulations.
19) If the release is not ready and easily controlled, evacuation may be necessary.
20) If the EC decides on the "flight" option, the EC is to immediately alert and evacuate all personnel.
21) Call the necessary emergency service providers such as 911, medical facilities, police, fire, Coast Guard, Hawaii Department of Health, Oahu Civil Defense, CHEMTREC, Clean Islands Council, and spill response contractors and vendors. See section 9.0.
22) Personnel are to proceed along the nearest evacuation route to the designated assembly area.
23) Implement proper decontamination procedures on vehicles, affected media, PPE and equipment.
24) All used decontamination solution, disposable PPE and affected media must be properly packaged in DOT specification containers.
25) Labeling, transportation and subsequent disposal of hazardous waste must be in accordance with applicable government regulations.

8.3 Notification and Reporting

PSI's policy on spills requires that any spill that occurs at the shipyard be reported to the EHS Manager/Staff. This includes any minor or major release that involves PSI equipment, personnel, or property, regardless if it was immediately contained and cleaned up. All spills and releases will be recorded in the SPCC Spill and Discharge Log.

The EC/EHS Manager will call 911 to seek the assistance of the appropriate response agencies whenever the PSI facility experiences a release, fire, or explosion which poses an imminent or immediate threat to human health or the environment; The EC's assessment warrants the evacuation of the facility and/or surrounding area; or Injuries that require care beyond basic first aid treatment are sustained by an individual(s) as a result of the release, fire, or explosion.

The Clean Water Act (CWA), the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and the Hawaii State Contingency Plan require that any person in charge of a facility immediately notify the National Response Center (NRC), the US Coast Guard (USCG) Marine Safety Office, the State Emergency Response Commission (HSERC), and/or the Local Emergency Planning Commission (LEPC) as soon as he or she has knowledge of any harmful discharge of oil into navigable waterways or any release of a hazardous substance in quantities equal to or greater than its reportable quantity. In addition, the following reporting requirements will be in effect:

If a hazardous waste is released in a quantity equal to or greater than its reportable quantity pursuant to Table 302.4 of Chapter 40 CFR 302.4 and the Hawaii State Contingency Plan, the EC/EHS Manager shall be responsible for immediately notifying the following agencies:

a) National Response Center at **800-424-8802** or the Marine Safety Office, (See Section 9.0) US Coast Guard Fourteenth District at **842-2600**;
b) State Emergency Response Commission at **586-4249** (or **247-2191** after hours); and
c) Emergency Coordinator of the Local Emergency Planning Committee at **523-4121** (or **911** after hours).
d) DOT, Harbors Division at **587-1962**

In conjunction with the verbal notification to the HSERC and LEPC Emergency Coordinator, the EC shall also submit a written follow-up emergency notice (or notices as more information becomes available) setting forth and updating the above information transmitted during verbal notification. Reports shall be sent to the following addresses:

State Emergency Response Commission
c/o Hazard Evaluation and Emergency Response Office
State of Hawaii Department of Health
919 Ala Moana Blvd., Rm. #206
Honolulu, HI 96814-4912; AND

Local Emergency Planning Committee
Oahu Civil Defense
650 South King St.
Honolulu, Hawaii 96813
Attn: Emergency Coordinator

In accordance with the Hawaii State Contingency Plan, written follow-up to verbal notification of a release will be submitted not later than 30 days after initial discovery of the release. The written report should be completed using the guideline provided in attachment VII, Hawaii Hazardous Substance Written Follow-Up Notification Guideline.

a) The chemical name or identity of any substance involves in the release'
b) An indication as to whether the substance released is an "Extremely Hazardous Substance (EHS)" as listed in Appendix A or B of Chapter 40 CFR Part 355;
c) The estimated quantity of any such EHS released into environment;
d) The time and duration of the release;
e) The medium or media into which the release occurred;
f) Any known or anticipated acute or chronic health risks associated with the emergency, and where appropriate, advice regarding medical attention necessary for exposed individuals;
g) Proper precautions to take as a result of the release, including evacuation; and
h) The name(s) of company personnel to be contacted for further information.

Emergency Contact List- *112.7(a)(3)(vi)*	
Contact Organization / Person	**Telephone Number**
National Response Center	1-800-424-8802
PSI 24/7 HOUR EMERGENCY CONTACT	1-808-368-8125
Cleanup Contractor(s)	
EnviroServices & Training Center, LLC. Michael yee or Gregory Perry	1-808-839-7222 Cell: (808) 330-7222 or (808) 330-1604
Unitek Supply Gary Tadaki	1-808-831-3076 Pager: (808) 844-1938
Key Facility Personnel	
Marvin Miller* Environmental Health & Safety Manager **Person Accountable for Discharge Prevention* ** Primary Emergency Coordinator	Office: (808) 848-6211 ext. 229 Home: (808) 342-3384 Emergency Address: 94-788 Nolupe Street Waipahu, HI 96797
Iain Wood Chief Operations Officer **Secondary Emergency Coordinator	Office: (808) 848-6211 ext. 247 Home: (808) 371-9298 Emergency Address: 2311 Aha'ana Way Honolulu, HI 96821
State Oil Pollution Control Agencies	
-Local Emergency Planning Committee, Oahu Civil Defense -State Emergency Response Commission, Hawaii Department of Health -US Coast Guard, Marine Safety Office -DOT, Harbors Division at **587-1962**	(808) 523-4121 (808) 586-4249 (808) 541-2061 (808) 587-1962
Local Fire Department	911
Local Police Department	911
Hospital: Kapiolani Medical Center at Pali Momi	(808) 486-6000
Hospital: The Queens Medical Center	(808) 538-9011
Hospital: Kuakini Medical Center	(808) 536-2236

9.0 NRC NOTIFICATION PROCEDURE & SPCC SPILL REPORTING REQUIREMENTS – *112.7(a)(4) & (a)(5)*

9.1 NRC Notification Procedure

In the event of a discharge of oil to navigable waters or adjoining shorelines, the following information will be provided to the National Response Center immediately following identification of a discharge to navigable waters or adjoining shorelines (Also, See Attachment 7):

(1) The exact address or location and phone number of the facility;
(2) Date and time of the discharge;
(3) Type of material discharged;
(4) Estimate of the total quantity discharged;
(5) Estimate of the quantity discharged to navigable waters;
(6) Source of the discharge;
(7) Description of all affected media;
(8) Cause of the discharge;
(9) Any damages or injuries caused by the discharge;
(10)Actions being used to stop, remove, and mitigate the effects of the discharge;
(11)Whether an evacuation may be needed; and
(12)Names of individuals and/or organizations who have also been contacted.

9.2 SPCC Spill Reporting Requirements (Report within 60 days) – *112.4*

Submit information to the EPA Regional Administrator (RA) and the appropriate agency or agencies in charge of oil pollution control activities in the State in which the facility is located within 60 days from one of the following discharge events:

- A single discharge of more than 1,000 U.S. gallons of oil into navigable waters or adjoining shorelines.
- Two discharges to navigable waters or adjoining shorelines each more than 42 U.S. gallons of oil occurring within any twelve month period.

The following information must be submitted to the Regional Administrator:

(1) Name and Location of the facility;
(2) Your name;
(3) Maximum storage or handling capacity of the facility and normal daily throughput;
(4) Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements;
(5) An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary;
(6) The cause of the reportable discharge, including a failure analysis of the system or subsystem in which the failure occurred; and
(7) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence. Other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge

ATTACHMENT A GENERAL RULE REQUIREMENTS FOR ONSHORE FACILITIES

General Rule Requirements for Onshore Facilities		N/A
Drainage from diked storage areas is restrained by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. Diked areas may be emptied by pumps or ejectors that must be manually activated after inspecting the condition of the accumulation to ensure no oil will be discharged. *[§§112.8(b)(1) and 112.12(b)(1)]*	☐	☒
Valves of manual, open-and-closed design are used for the drainage of diked areas. *[§§112.8(b)(2) and 112.12(b)(2)]*	☐	☒
The containers at the facility are compatible with materials stored and conditions of storage such as pressure and temperature. *[§§112.8(c)(1) and 112.12(c)(1)]*	☒	☐
Secondary containment for the bulk storage containers (including mobile/portable oil storage containers) holds the capacity of the largest container plus additional capacity to contain precipitation. Mobile or portable oil storage containers are positioned to prevent a discharge as described in §112.1(b). *[§112.6(a)(3)(ii)]*	☒	☐
If uncontaminated rainwater from diked areas drains into a storm drain or open watercourse the following procedures will be implemented at the facility: *[§§112.8(c)(3) and 112.12(c)(3)]*		
• Bypass valve is normally sealed closed	☐	☒
• Retained rainwater is inspected to ensure that its presence will not cause a discharge to navigable waters or adjoining shorelines	☐	☒
• Bypass valve is opened and resealed under responsible supervision	☐	☒
• Adequate records of drainage are kept [N/A]	☐	☒
For completely buried metallic tanks installed on or after January 10, 1974 at this facility *[§§112.8(c)(4) and 112.12(c)(4)]*:		
• Tanks have corrosion protection with coatings or cathodic protection compatible with local soil conditions.	☐	☒
• Regular leak testing is conducted.	☐	☒
For partially buried or bunkered metallic tanks *[§112.8(c)(5) and §112.12(c)(5)]*:		
• Tanks have corrosion protection with coatings or cathodic protection compatible with local soil conditions.	☐	☒
Each aboveground bulk container is tested or inspected for integrity on a regular schedule and whenever material repairs are made. Scope and frequency of the inspections and inspector qualifications are in accordance with industry standards. Container supports and foundations are regularly inspected. **[See Inspection Log and Schedule and Bulk Storage Container Inspection Schedule in Attachments D and E]** *[§112.8(c)(6) and §112.12(c)(6)(i)]*	☒	☐
Outsides of bulk storage containers are frequently inspected for signs of deterioration, discharges, or accumulation of oil inside diked areas. **[See Inspection Log and Bulk Storage Container Inspection Schedule in Attachment D]** *[§§112.8(c)(6) and 112.12(c)(6)]*	☒	☐
For bulk storage containers that are subject to 21 CFR part 110 which are shop-fabricated, constructed of austenitic stainless steel, elevated and have no external insulation, formal visual inspection is conducted on a regular schedule. Appropriate qualifications for personnel performing tests and inspections are documented. **[See Inspection Log and Schedule and Bulk Storage Container Inspection Schedule in Attachments D and E]** *[§112.12(c)(6)(ii)]*	☐	☒

ATTACHMENT A GENERAL RULE REQUIREMENTS FOR ONSHORE FACILITIES

Each container is provided with a system or documented procedure to prevent overfills for the container. Describe: **[See Fueling Procedures in Attachment E]**	☒	☐
Liquid level sensing devices are regularly tested to ensure proper operation **[See Inspection Log and Schedule in Attachment D]**. *[§112.6(a)(3)(iii)]*	☐	☒
Visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts are promptly corrected and oil in diked areas is promptly removed. *[§§112.8(c)(10) and 112.12(c)(10)]*	☒	☐
Aboveground valves, piping, and appurtenances such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces are inspected regularly. **[See Inspection Log and Schedule in Attachment D]** *[§§112.8(d)(4) and 112.12(d)(4)]*	☐	☒
Integrity and leak testing are conducted on buried piping at the time of installation, modification, construction, relocation, or replacement. **[See Inspection Log and Schedule in Attachment D]** *[§§112.8(d)(4) and 112.12(d)(4)]*	☐	☒

ATTACHMENT B FIVE YEAR REVIEW LOG

Pacific Shipyards INTERNATIONAL

Review Date	Will Amend	Will Not Amend	Name and Signature of Person Authorized to Review Plan
11/8/12	☐	☒	[signature]
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	
	☐	☐	

ATTACHMENT C TECHNICAL AMENDMENT LOG

Pacific Shipyards INTERNATIONAL

Review Date	Description of Technical Amendment	Name and Signature of Person Certifying this Technical Amendment
6-28-13	updated contact list	Nick Engebretson

ATTACHMENT D INSPECTION LOG SCHEDULE

Pacific Shipyards INTERNATIONAL

This log is intended to document compliance with 112.6(a)(3)(iii), 112.8(c)(6), 112.8(d)(4), 112.9(b)(2), 112.9(c)(3), 112.9(d)(1), 112.9(d)(4), 112.12(c)(6) and 112.12(d)(4) as applicable.

Date of Inspection	Container/ Piping/ Equipment	Describe Scope (Or cite industry standard)	Observations	Name/Signature of Inspector	Records Maintained Separately*

*** Indicate in the table above if records of facility inspections are maintained separately at this facility.**

ATTACHMENT E

Bulk Storage Container Inspection Schedule – onshore facilities (excluding production):

To comply with integrity inspection requirement for bulk storage containers, inspect/test each shop-built aboveground bulk storage container on a regular schedule in accordance with a recognized container inspection standard based on the minimum requirements in the following table.

Bulk Storage Container Inspection Schedule	
Container Size and Design Specification	**Inspection requirement**
Portable containers (including drums, totes, and intermodal bulk containers (IBC))	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas
55 to 1,100 gallons with sized secondary containment	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas plus any annual inspection elements per industry inspection standards
1,101 to 5,000 gallons with sized secondary containment and a means of leak detection[a]	
1,101 to 5,000 gallons with sized secondary containment and no method of leak detection[a]	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas, plus any annual inspection elements and other specific integrity tests that may be required per industry inspection standards

[a] Examples of leak detection include, but are not limited to, double-walled tanks and elevated containers where a leak can be visually identified.

ATTACHMENT F FACILITY TRANSFER OPERATIONS

To prevent container overfills, PSI relies on strict adherence to fueling procedures and the attentiveness of its employees during fuel loading/unloading operations. The Truck Loading Procedures, Fuel Offloading Procedures, Vessel Fueling Procedures, and equipment Fueling Procedures are detailed below:

Tank Truck Loading Procedure:

1. Pull up to tank and position truck so that fuel meter can be monitored while standing at fill point.
2. Ensure the parking brakes are engaged, and ensure the brake interlock system is engaged.
3. Inform PSI personnel that fueling will commence.
4. Place containment booms around nearby drain inlets to prevent possible release to storm drain system.
5. Place barrier in front of tank truck where visible from driver's seat.
6. Prior to filling and departure of any tank car or tank truck, closely inspect for discharges the lowermost drain and all outlets of such vehicles, and if necessary, ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit.
7. Dip tank and check level gauge to make sure fuel will fit.
8. Record "before" gauge on bill of lading.
9. Attach Kamlock fitting to fuel nozzle and connect to fill point on tank. Kamlock should be secured to tank. Check O-ring condition and seating.
10. Reset fuel meter and open all necessary valves before starting up truck and engaging power take-off.
11. Open level on fuel gun and standby until fuel transfer is complete.
12. Close valves on truck, disengage power take-off, and turn off.
13. Disconnect fuel gun from fill point on tank and put fuel transfer hoses away.
14. Dip and record "after" gauge on bill of lading.
15. Inspect for discharges, the lowermost drain and all outlets on the vehicle. Ensure that they are tightened or replaced to prevent liquid discharge while in transit.
16. Remove containment booms. Remove barrier.
 *All tank trucks are equipped with brake interlocking mechanism (brakes lock when internal compartment valve is opened.

Fuel Offloading Procedure:

In the event that vessels require fuel to be removed for disposal or storage to accommodate work on board a docked vessel at the facility, certain safety precautions will be observed while fueling. Pacific Shipyards International personnel shall be familiar with and shall follow the procedures described herein.

1. Only personnel familiar with fire fighting and spill prevention/response procedures will engage in fuel offloading activities.
2. Warning signs shall be posted during fuel offloading evolutions.
3. No smoking, welding, grinding or open flames are allowed within 50 feet of the point of suction or point of discharge during fuel offloading evolutions.
4. Personnel performing the fuel offloading operations shall have a chemical fire extinguisher and fuel spill kit immediately available for use.
5. Containment booms will be placed around adjacent drain inlets to prevent potential spilled fuel from entering navigable waters.

6. One person shall be posted at the point of suction (fuel tank, bilge, drum, etc.) on the vessel and one person shall be posted at the point of discharge (tank truck, drum, tank, etc.) and communications shall be maintained either be radio or eye-to-eye contact.
7. Fuel offloading operations shall never be left unattended.
8. In the event of a spill or fire, procedures described in part 5 of the SPCC plan will be followed.
9. Offloading fuel shall be handled, stored, and/or disposed of in accordance with local, state, and federal rules and regulations.

Vessel Fueling Procedure:

In the event docked vessels require fueling at the facility, certain safety precautions will be observed. Pacific Shipyards International personnel shall be familiar with and shall follow the procedures described herein.

1. Only personnel familiar with fire fighting ad spill prevention/response procedures will engage in fuel offloading activities.
2. Fuel supplies, or "jobbers," shall be licensed in accordance with U.S. Department of Transportation, Hawaii Department of Transportation Harbors Division, and U.S. Coast Guard rules and regulations.
3. Personnel performing the fueling operations shall have a chemical fire extinguisher and fuel spill kit immediately available for use.
4. No smoking, welding, grinding or open flames are allowed within 50 feet of fueling operations.
5. Warning signs shall be posted during fueling operations.
6. A "BRAVO" flag shall be displayed from the vessel's yardarm to indicate fueling is in progress.
7. All hoses and attachments will be inspected for holes, cracks or leaks prior to fueling.
8. Containment booms will be placed around adjacent drain inlets to prevent potential spilled fuel from entering navigable waterways.
9. One person shall be posted at the point of supply (fuel truck) and one person shall be posed at the point of discharge on the vessel (fueling connection) and communications shall be maintained either by radio or eye-to-eye contact.
10. Vessel fueling operations will never be left unattended.
11. In the event of a spill or fire, procedures described in Part 5 of the SPCC plan will be followed.

Equipment Fueling Procedure:

Facility equipment such as forklifts, waterblast units, welders, generators, cranes, manlifts and vehicles require fueling while at the facility. Certain safety precautions will be observed while fueling. Pacific Shipyards International personnel shall be familiar with and shall follow the procedures described herein.

1. Only personnel familiar with fire fighting and spill prevention/response procedures will engage in fueling activites.
2. Warning signs shall be posted during fueling evolutions.
3. No smoking, welding, grinding or open flames are allowed within 50 feet of fueling operations.
4. Personnel performing the fueling operations shall have a chemical fire extinguisher and fuel spill kit immediately available for use.
5. Containment booms will be placed around adjacent drain inlets to prevent potential spilled fuel from entering navigable waters.
6. Fueling nozzle will be engaged to equipment prior to starting fuel pump.

7. Personnel shall remain with the equipment being fueled at all times.
8. The fueling pump will be turned off prior to disengaging the fueling nozzle.
9. Personnel will not "top off" equipment fuel tank once backflow limiting device stops fuel transfer.
10. In the event of a spill or fire, procedures described in Part 5 of the SPCC shall be followed.

Pacific Shipyards INTERNATIONAL

Monthly Aboveground Storage Tank Inspection Form

Inspection Date: ______________ Retain Until Date: _________ (3 years from inspection date)

Tank Inspected: __________________________

Inspector Name: _________________ Signature: ________________________

Inspection Guidance:

- The periodic AST inspection is intended for monitoring the external AST condition and its containment structure. This visual inspection does not require a certified inspector. It shall be performed by an inspector who is familiar with the site and can identify changes and developing problems.
- (*) designates an item in a non-conformance status. This indicated that action is required to address a problem.
- Non-conforming items important to tank or containment integrity require evaluation by personnel experienced in AST design, a certified inspector, or a tank manufacturer who will determine the corrective action. Note the non-conformance and corresponding corrective action in the
- This inspection is intended to meet the requirements of 40 CFR 112.8(c)(6)

ITEM	STATUS	COMMENTS
Tank Containment		
Water in primary tank, secondary containment, interstice, or spill container?	Yes* No	
Debris or fire hazard in containment?	Yes* No	
Containment egress pathways clean and accessible?	Yes No*	
Leak Detection		
Visible signs of leakage around the tank, concrete pad, containment, or ground?	Yes* No	
Noticeable shell/head distortions, buckling, denting or bulging in tank?	Yes* No	
Tank Attachments and Appendages		
Ladder and platform structure secure with no sign of severe corrosion or damage?	Yes No*	
Check all tank openings are properly sealed	Yes No*	
Hoses and other appendages are in good working condition and free of damage.	Yes No*	
Other Conditions		
Are there conditions that should be addressed for continued safe operation or that may affect the site SPCC plan?	Yes* No	

Pacific Shipyards INTERNATIONAL

Weekly Container/Waste Storage Area Inspection Form

Inspection Date: ____________ Retain Until Date: _________ (3 years from inspection date)

Inspector Name: _______________ Signature: ________________________

Inspection Guidance:

- The owner or operator must inspect weekly areas where containers are stored. The owner or operator must look for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors.

ITEM	STATUS	COMMENTS
Containers		
Are the containers in good condition? (e.g., no severe rusting, apparent structure defects.)	Yes No	
Are the containers made from materials that will not react with the waste stored within the containers?	Yes No	
Are containers closed? (except when necessary to add or remove waste)	Yes No	
Container Storage Area		
Does the container storage area have a containment system(s) in place to account for all containers?	Yes No	
Visible signs of leakage around the storage area, containment, or ground?	Yes No	
Are containers elevated or otherwise protected from contact with accumulated liquid?	Yes No	
Other Conditions		
Are there conditions that should be addressed for continued safe operation or that may affect the site SPCC plan?	Yes No	

ATT. 2

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October 14, 2013

VIA E-MAIL AND FEDERAL EXPRESS

Pacific Shipyards International, LLC
c/o Martin Kao
841 Bishop Street, Suite 1110
Honolulu, Hawaii 96813

Re: PSI Relocation - Compliance with HRS 343

Dear Mr. Kao:

We are writing to address our analysis of changes in the revised draft Environmental Impact Statement for the "Kapalama Container Terminal and Tenant Relocations" project (the "Kapalama DEIS"). As addressed in our letter of July 30, 2013, the previous Kapalama DEIS included relocation of Pacific Shipyards International (PSI) as a part of the "proposed action" and expressly stated that PSI's "obligation to comply with HRS Chapter 343 can and have been satisfied by making them part of the Proposed Action."[1] However, without prior notice or explanation, the Kapalama DEIS has now been altered by the State of Hawaii Department of Transportation, Harbors Division (DOT-H) to expressly disclaim HRS Chapter 343 coverage of PSI's relocation. For the reasons stated below, DOT-H's actions violate the Hawaii Environmental Policy Act (HEPA), HRS Chapter 343, and other applicable law.

I. REVISED KAPALAMA DEIS

As described in more detail in our letter of July 30, 2013, PSI's existing shipyard operations at Pier 41 in Honolulu Harbor must be relocated to accommodate DOT-H's proposed Kapalama Container Terminal project. In December 2012, DOT-H issued the Kapalama DEIS. The December 2012 version of the Kapalama DEIS necessarily and expressly includes PSI's relocation as part of the action receiving environmental impact analysis and HRS Chapter 343

[1] 2012 Kapalama DEIS at pp. 1-4.

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coverage.[2] During the public comment process that followed publication of the original Kapalama DEIS, no comments were submitted addressing proposed PSI's relocation.

In mid-2013, DOT-H decided to issue a revised Kapalama DEIS for the purpose of incorporating more detailed design and construction information.[3] The revised Kapalama DEIS was issued in September 2013.[4] Changes to the draft EIS and new information incorporated into the document are detailed in Section 1.1 under the heading "Second Draft EIS."[5] None of the new information relied upon in the revised draft EIS mention, let alone have any relationship to, relocation of PSI. Moreover, no changes pertaining to any description of the proposed relocation of PSI (and alternatives) and no changes pertaining to the probable environmental impacts of such relocation, have been made. Nevertheless, the revised Kapalama DEIS has been substantially altered in the stated application of HEPA to PSI's relocation. Specifically, the express statement that the Kapalama DEIS satisfies HEPA for purposes of PSI's relocation has been deleted and new language has been added asserting a contrary conclusion. The current draft states that the DEIS has not considered any usage of submerged lands as part of the maritime-dependent tenant relocations addressed in the EIS, and further that, notwithstanding inclusion in this EIS, the tenants' relocations must separately comply with HEPA.[6]

II. THE REVISED KAPALAMA DEIS IS UNLAWFUL

The revised Kapalama DEIS is legally deficient as it concerns PSI's relocation in the following three ways.

[2] *See* Letter to Martin Kao of July 30, 2013 at § II.B.

[3] 2013 Kapalama DEIS at pp. 1-4; *see also* http://www.kapalamaeis.com/planning-process/ (DOT-H website re EIS "Planning Process" explaining that the purpose of the revised DEIS is to address "new information and updated design on the project")

[4] A copy of the 2013 DEIS is available at: http://www.kapalamaeis.com/wp-content/uploads/2013/10/Kapalama%20Container%20Terminal%20202nd%20DEIS.pdf.

[5] 2013 Kapalama DEIS at pp. 1-4 through 1-6.

[6] *Id.* at pp. 1-4 & n.1, 2-7 & n.4.

A. Unlawful Segmentation of Proposed Project Impacts

It is well-established under HEPA and its federal counterpart that an agency cannot "segment" or "piecemeal" a proposed action into phases or component parts for separate analysis:

> A proposed action must be described in its entirety and cannot be broken up into component parts . . . . Segmenting a project in this incremental way . . . is forbidden.

Guide to the Implementation and Practice of the Hawaii Environmental Policy Act (2012 ed.) at 8; *see also* HAR § 11-200-7.[7] To do so, presents an inaccurate and, therefore, unlawful assessment of the full primary, secondary and cumulative environmental effects of a proposed action. *See* HAR § 11-200-2 (defining "effects," "primary impact," "secondary impact," and "cumulative impact"). Without an adequate assessment of the full environmental impacts, an agency cannot make an informed and reasoned choice among alternatives after balancing the proposed project's harms and benefits.

In the present instance, development of the Kapalama Container Terminal project necessarily entails termination of existing tenant operations within the project site. Moreover, regardless of whether DOT-H could simply terminate the leases and put the existing tenants out of business, DOT-H is not intending to do so. Instead, DOT-H intends to relocate the identified tenants, including PSI, within Honolulu Harbor. Because the relocated tenants are admittedly "maritime dependent," there are interdependent upland and water-dependent activities associated with the relocations. As a shipyard repair facility, PSI's activities in the water and on submerged lands adjacent to its upland site are inextricably intertwined because PSI cannot operate without both. Because (i) the container terminal project is dependent upon site access that cannot be obtained with the presence of the existing tenants, (ii) site access is being obtained by DOT-H's relocation of the existing tenants, and (iii) PSI is "maritime dependent," with interdependent upland and waterborne activities, DOT-H *must* address the full environmental impacts of the tenant

[7] *See Sierra Club v. Dep't of Transp.*, 115 Haw. 299, 67 P.3d 292 (2007) (DOT required to review all phases of a project as whole, without segmentation, including secondary and cumulative impacts).

relocations.[8] The title of the EIS - Kapalama Container Terminal and Tenant Relocations Environmental Impact Statement - clearly confirms this obvious linkage.

Despite the clarity of the applicable HEPA requirements, DOT-H's revisions concerning PSI have unlawfully subdivided tenant relocations by purporting to only address the upland impacts of maritime-dependent tenant relocations. However, DOT-H's belated attempt to somehow subdivide and separate relocation of PSI's upland operations from relocation of PSI's water-borne/submerged lands activities is a classic example of unlawful piecemealing in violation of HEPA.[9]

B. HEPA Requires Only One Impact Analysis for a Proposed Project

As addressed above, an EIS cannot lawfully segment or piecemeal a proposed project. The proposed action in the present instance unambiguously includes tenant relocations, including relocation of PSI. If the EIS is finalized and accepted as adequate, then by law HEPA expressly prohibits agencies or third-parties from requiring preparation of multiple impact analyses for a proposed project:

> A statement that is accepted with respect to a particular action shall satisfy the requirements of this chapter, and no other statement for the proposed action shall be required.

HRS § 343-5(i).

New statements inserted into the revised Kapalama DEIS unlawfully conflict with this statutory requirement. On the one hand, the document purports to satisfy DOT-H's HEPA obligations for the proposed action, including PSI's relocation. However, on the other hand, the same document purports to determine that PSI must still separately prepare another EIS to satisfy its own HEPA obligations. These two outcomes cannot be squared under applicable law. An EIS for the same proposal cannot both be adequate for DOT-H and inadequate and irrelevant for PSI. Stated

[8] *See, e.g., id.* (unlawful for DOT to consider only physical harbor improvements in isolation; secondary impacts to the environment resulting from project must also be considered).

[9] Notably, DOT-H has not altered the content of the Kapalama DEIS with respect to analysis of PSI's relocation. The prior draft stated that it was analyzing the entire relocation, and no comments were received indicating any deficiency.

otherwise, either the Kapalama DEIS adequately addresses PSI's relocation for purposes of satisfying HEPA or it does not.[10] There can be no distinction drawn between DOT-H and PSI such that if DOT-H has conducted a full environmental impact analysis of PSI's tenant relocation as a part of the proposed Kapalama project, PSI may still be required to prepare a separate EIS for the same relocation. This point was fully and fairly acknowledged in the original Kapalama DEIS in words that have been deleted from the revised draft.[11]

C. DOT-H Cannot Secretly Alter Application of the Kapalama DEIS Regarding PSI

Finally, even if DOT-H could somehow both segment its analysis and require PSI to prepare a second EIS for a project DOT-H has fully analyzed as part of the proposed action in the Kapalama DEIS, which it cannot, the process that DOT-H has engaged in is highly irregular, unfair and unlawfully arbitrary.

DOT-H prepared a full draft EIS in late 2012 that clearly stated it satisfied all HEPA requirements pertaining to PSI's relocation. No conflicting comments regarding PSI's relocation were received during the public comment period; nor did DOT-H identify or receive any new or different information concerning PSI's relocation and the associated impacts. In 2013, DOT-H elected to make revisions to the Kapalama DEIS for the limited purpose of updating construction and design information regarding the new proposed container terminal facility. DOT-H has identified the reasons for the revised draft and the new information it has included, and there is no mention of PSI's relocation. Instead, without notice, acknowledgement or basis in the record, DOT-H has attempted to silently alter how HEPA is applied to PSI's relocation by removing the statement that the Kapalama EIS satisfies HEPA for PSI's relocation, and by stating instead that PSI must separately comply with HEPA for purposes of its relocation.

The procedural deficiencies and irregularities in the process DOT-H has followed are many. A fundamental change has been made in the revised draft EIS that has not been publically identified and that is unrelated to the reasons DOT-H has identified for its revised document. The unexplained change is not supported by new or different information. Indeed, no comments have been submitted regarding the impact analysis pertaining to PSI's relocation and the impact

[10] Again, it bears emphasis that no agency or other stakeholder has commented that the Kapalama DEIS is inadequate in its analysis of tenant relocations.

[11] 2012 Kapalama DEIS at pp. 1-4 ("PSI's . . . dependence on the waterfront and their associated obligation to comply with HRS Chapter 343 can and have been satisfied by making them part of the Proposed Action.")

analysis remains unchanged. Neither HEPA, nor basic notions of fundamental fairness and due process, allow an agency to alter a proposal without notice, acknowledgement, basis in the record or explanation.

III. CONCLUSION

In sum, DOT-H has made undisclosed alterations to the revised Kapalama DEIS in an apparent attempt to reverse how HEPA applies to PSI's relocation. Without changing the content of the EIS as it pertains to tenant relocations, DOT-H has surreptitiously deleted its statement that the EIS satisfies *all* HEPA obligations for PSI's relocation. In place of its prior statement, without explanation or basis in the record, DOT-H now asserts that the EIS either does not analyze all of the impacts of PSI's relocation, or that the EIS only satisfies HEPA for purposes of PSI's relocation as to DOT-H (*i.e.,* not for PSI). For the reasons explained above, DOT-H's covert alterations of the Kapalama DEIS violate HEPA and are arbitrary, unsupported, unfair and contrary to fundamental due process.

Very truly yours,

Jeffrey W. Leppo

cc: George W. Brandt, Esq.

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ATT. 3

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July 30, 2013

VIA E-MAIL AND FEDERAL EXPRESS

Pacific Shipyards International, LLC
c/o Martin Kao
841 Bishop Street, Suite 1110
Honolulu, Hawaii 96813

Re: PSI Relocation - Compliance with HRS 343

Dear Mr. Kao:

We are writing to summarize our analysis regarding compliance with the Hawaii Environmental Policy Act (HEPA) for purposes of relocating Pacific Shipyards International (PSI) from Pier 41 to a new site in the vicinity of Piers 24-26. Section I of this letter briefly describes the relevant background information we have been provided, and Section II summarizes our analysis.

As explained below, the State of Hawaii Department of Transportation, Harbors Division (DOT-H) has prepared an environmental impact statement for purposes of assessing the potential environmental impacts associated with the Kapalama Container Terminal project in compliance with HEPA (the "Kapalama EIS"). The Kapalama EIS expressly includes relocation of PSI, and the associated environmental impacts of making improvements to and operating at the new site, as a part of the "Proposed Action." Accordingly, compliance with HEPA will be fully satisfied when the Kapalama EIS is issued in final and is accepted by the Governor.

I. CONTEXT

PSI operates shipyard facilities at Pier 41 in Honolulu Harbor on land owned by the State of Hawaii and managed by DOT-H. DOT-H is proposing to develop a new 94-acre overseas container terminal referred to in planning documents as the Kapalama Container Terminal. The site of the proposed project encompasses the existing location of PSI, as well as several other DOT-H tenants. DOT-H has issued lease termination notices to the affected tenants and entered into negotiations with PSI to relocate its operations to DOT-H lands in the vicinity of Piers 24-26 in Honolulu Harbor.

In furtherance of the Kapalama Container Terminal project, DOT-H has prepared the Kapalama EIS in compliance with HEPA and its implementing regulations. Following issuance of public

notice in July 2011, and subsequent public meetings held in 2011 and 2012, DOT-H issued the Kapalama EIS in draft on December 23, 2012. The full EIS, as well as all related public materials, are available online at: http://www.kapalamaeis.com/documents/. The Kapalama EIS is expected to be issued in final in the near future, and may be accepted by the Governor or the Governor's authorized representative thereafter.[1]

In recent communications, DOT-H has advised PSI that it has determined that compliance with HEPA will require preparation of an EIS for the PSI relocation project. We have been asked to analyze the validity of DOT-H's demand for purposes of PSI's compliance with HEPA.

II. ANALYSIS AND DISCUSSION

A. Basic HEPA Requirements

HEPA, Chapter 343, Hawaii Revised Statutes (HRS), is the state law equivalent of the federal National Environmental Policy Act (NEPA). In general terms, as relevant to the present analysis, HEPA and its implementing regulations require preparation of a public information document known as an EIS for proposed actions that may have a significant effect on the quality of the environment. *See generally* HRS §§ 343-2, -5. An agency or an applicant may prepare an environmental assessment (EA) to determine whether a proposal may have a significant effect and, if not, a finding of no significant impact (FONSI) may be issued. *Id.*

The HEPA process for an EIS generally entails issuance of a notice of intent to prepare an EIS, one or more public sessions for purposes of obtaining public comment on the scope of the environmental analysis and a range of alternatives, preparation of a draft EIS, publication of and public comment on the draft EIS, publication of a final EIS with responses to comments and issuance of a formal determination – known as an "acceptance" – that the EIS fulfills the requirements of HEPA. *Id.* Acceptance of an EIS is a condition precedent to the granting of necessary approvals, and for commencement of, a proposed action. HRS § 343-5(e)(3).

[1] For purposes of this analysis, we have assumed that the final Kapalama EIS will be substantively similar or identical to the existing draft EIS, at least with respect to its treatment of the PSI relocation.

B. Application of HEPA to PSI's Relocation

It is clear that HEPA applies to proposals to use state lands, and to proposals for any use within a shoreline area. HRS § 343-5(a)(1), (3). For these reasons, as well as perhaps others, HEPA applies to the planned relocation of PSI from Pier 41 to Piers 24-26. Insofar as we are aware, there are no exemptions from HEPA applicable to PSI's relocation. *See, e.g.,* HRS § 343-5.5 (statutory exemption for secondary infrastructure actions ancillary to issuance of permits or approvals that are not subject to discretion).

In the present instance, an EIS has been prepared by DOT-H. The "Proposed Action" analyzed in the Kapalama EIS expressly includes PSI's relocation:

- "In addition to the development of a new overseas container terminal and piers at the new 94-acre site, the Proposed Action also includes improvements on land associated with Piers 24 through 28 to accommodate maritime-dependent operators currently at Kapalama. These operators include: Pacific Shipyards International (PSI), which would be located landside of Piers 24 through 26, . . ."[2]
- Kapalama EIS at Figure 1-1 (depicting the Proposed Action areas to include both the Kapalama Site and the relocation site for PSI).
- "**PSI's** and Atlantis Submarines' dependence on being on the waterfront and their associated **obligation to comply with HRS Chapter 343 can and have been satisfied by making them part of the Proposed Action.**"[3]

Accordingly, DOT-H's intent to include PSI's relocation in the Kapalama EIS, and to thereby satisfy PSI's "associated obligation to comply with HRS Chapter 343," is expressly and unambiguously stated.

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[2] Kapalama EIS at p. SS-2.

[3] *Id.* at p. 1-4; *see also id.* at footnote 1 (distinguishing treatment of PSI and Atlantis Submarines as part of the Proposed Action analyzed in the EIS, from treatment of the UH Marine Center, which is not part of the proposed action and for which a separate EA will be prepared).

DOT-H's intent is carried forward into and confirmed by the remainder of the content of the Kapalama EIS. For example:

- The "No Action" alternative addressed in the EIS at Section 2.2.2 includes leaving PSI at its present location.
- Section 2.1.2 and Figures 2-1 and 2-2 (Tenant Relocations), and Section 2.3 (Construction Activities), describe the relocation of PSI in detail as part of the Proposed Action.
- Section 2.2.3 describes alternatives to the Proposed Action that were considered, but not carried forward for analysis, including several alternative sites for relocating PSI that were considered and dismissed by DOT-H.
- The relevant subsections within Section 3, which describe the affected environment and detail potential environmental consequences, address the impacts of the proposed relocation of PSI to, for example, land use, utilities (*e.g.,* water, sewer and solid waste disposal), noise, traffic, the marine environment, adjacent residential areas and commercial businesses.

Accordingly, the Kapalama EIS fully describes the proposed relocation of PSI as part of the action, addresses alternative sites considered and the alternative of no relocation, describes the affected environment at PSI's existing and relocation sites, and explains the identifiable environmental impacts with respect to PSI's relocation both as to construction and operational impacts. In doing so, the Kapalama EIS fulfills the requirements of HEPA.

III. CONCLUSION

In sum, HEPA requires preparation of either an EIS, or an EA and FONSI, for non-exempt proposed actions. The proposed relocation of PSI necessitated by the Kapalama Container Terminal project is a proposed action that requires compliance with HEPA. DOT-H has included PSI's relocation as part of the Proposed Action in its Kapalama EIS for the express purpose of satisfying HEPA for the relocation. Once the Kapalama EIS has been issued in final and an acceptance issued by the Governor,[4] the relocation of PSI will comply with HEPA.

---

[4] *See* HRS § 343-5(d)(1) (final authority to accept a final EIS rests with the Governor whenever an action proposes the use of state lands).

Because PSI's relocation is part of the Proposed Action analyzed in the Kapalama EIS, HEPA expressly prohibits DOT-H or anyone else from requiring PSI to prepare another HEPA document for the same project. *See* HRS § 353-5(i) ("A statement that is accepted with respect to a particular action shall satisfy the requirements for this chapter [343], and no other statement for the proposed action shall be required.").

Please do not hesitate to call if you any follow-up questions or concerns regarding our analysis.

Very truly yours,

Jeffrey W. Leppo

cc: George W. Brandt, Esq.

ATT 4

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ATTACHMENT IV

Changes to the text and footnotes in the second draft Kapalama EIS that are necessary to bring the document into compliance with the legal requirements of HRS Chapter 343:

- Page 1-4 and footnote 1:
  - In the main text, under the subheading "HRS Chapter 343," modify the last sentence as follows: "~~While not dependent upon the Proposed Action,~~ PSI's and Atlantic Submarines' potential relocation and dependence on being on the waterfront have made them part of the Proposed Action." As currently drafted, the sentence makes no sense because it says that the tenant relocations are not dependent on the "Proposed Action" but are nevertheless "part of the Proposed Action." The relevant point is that these tenant relocations are included in the proposed action because their leases are being terminated and DOT expects to relocate these tenants to other harbor property.
  - In footnote 1, delete the second to last sentence: ~~"Although included in this document PSI and Atlantic Submarines will be responsible for complying with HRS Chapter 343 for their specific operations and with submerged land lease requirements."~~ This sentence reflects an unlawful attempt to render the EIS adequate for H-DOT but not adequate for PSI. This violates HRS § 343-5(i).
- Page 2-7, footnote 4:
  - Delete footnote 4 entirely or at least delete all references to PSI and to "tenants" insofar as that term encompasses PSI. This statement is not factually accurate regarding information concerning relocation plans and concerning analysis of submerged lands. Moreover, this footnote is legally unlawful in segmenting out submerged lands impacts, and in attempting to render the EIS adequate for H-DOT but not adequate for PSI.
- Page 2-8 and footnote 7:
  - In the text on page 2-8, delete the word "landside" in the second to last sentence in the first paragraph of Section 2.2.3: "In addition, improvements to the . . . , along with improvements to the ~~landside~~ areas of Piers 24-28 for potential maritime operators identified in section 2.2.2."
  - Delete footnote 7 entirely or at least delete all references to PSI and to "tenants" insofar as that term encompasses PSI. *See* explanation regarding deletion of footnote 4 on page 2-7, which is virtually identical in content.
- Page 2-17:
  - Delete the word "Landside" in the title "Pier 24-28 ~~Landside~~ Improvements."

1

  - Delete the last sentence of the second paragraph under this subheading: ~~"The use of submerged lands and operations are not contemplated as part of the tenant's potential relocation effort in this EIS."~~ This statement is a factual misrepresentation. As the EIS states, PSI is a maritime-dependent operation. PSI's facilities serve no function but in connection with operation of its two dry docks. In lieu of this statement, a new paragraph should be added that describes PSI's activities involving marine waters and submerged lands. One possible formulation of the appropriate information would be as follows: "The primary activity engaged in by PSI is ship repair and maintenance within two floating dry docks - the Kapilipono and the Kekaulana. Within these dry docks, PSI performs hull and structure preservation (coatings removal via hydroblasting or alternative methods, surface preparation, and paint application), welding and structural repairs and installations, and mechanical repairs to ship systems (propulsion, piping, tank valves, etc.). The two dry docks would be relocated to Piers 24 and 25 as depicted at Figures 2-4. The dry docks will either be moored to the adjacent piers or anchored to spuds placed on the subsurface." The above information is not new. It describes exactly what PSI currently does in the same two dry docks at its present location. These operations would simply be relocated.
- Page 3-2:
  - Delete the last two sentences in the introductory paragraph of Section 3.2 (Land Use). These two sentences make a non-sensical and legally erroneous statement that the EIS does not address tenant uses of the relocation sites, but nevertheless analyzes what the anticipated use would be. The text also states that the EIS does not satisfy HRS Chapter 343 as to the tenants (but presumably does as to H-DOT). The use of PSI's relocated site is known to a high degree of certainty. It would do the exact same things it is doing now. HEPA does not permit H-DOT to segment its analysis or to dictate that the EIS meets its obligations but not the obligations of others with respect to the same proposed action.
- Reservation: The Kapalama EIS is a very lengthy document. The above references are the places where, upon diligent review, PSI has identified problems. If there are other locations in the EIS where H-DOT has inserted additional changes directed to PSI's relocation, PSI hereby notifies H-DOT that these changes must also be modified consistent with the comments provided in PSI's comment letter and in this attachment.

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IN REPLY REFER TO:
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4507.14

March 20, 2014

CERTIFIED MAIL, RETURN RECEIPT REQUESTED
7007 2560 00009240 3393

Mr. Steven Loui, Chairman
Pacific Shipyards International, LLC
P.O. Box 31328
Honolulu, Hawaii 96820

Dear Mr. Loui:

Subject: Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement, Honolulu Harbor, Oʻahu, Hawaiʻi

Thank you for your comment letter and the binder of supplemental information dated November 20, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comment letter on the SDEIS, we provide the following:

COMMENT LETTER

1. As addressed in Section I and Attachment I, as a follow up to Pacific Shipyards International's (PSI) meeting with the Department of Transportation (DOT) and the Department of Land and Natural Resources (DLNR), PSI is formally providing supplemental information, all of which is pre-existing public information, to support the environmental impact findings of the SDEIS with respect to PSI's relocation.

   Response: We acknowledge the receipt of your comment letter and the binder that identified pre-existing public information.

2. None of the supplemental information conflicts with, or indicates that there may be new or different environmental consequences from, the environmental consequences already identified in the first and second drafts of the Kapalama EIS.

   Response: We acknowledge your assessment that there appears to be no conflict or difference in the environmental consequences of the proposed action with the provision of the supplemental information on the project.

3. DOT has misinterpreted and misapplied the Hawaii Environmental Policy Act (HEPA), HRS Chapter 343. As a result, the SDEIS is unlawful.

   Response: Our response is provided below where details of your comment are stated.

4. Section III identifies the steps that PSI believes are necessary and appropriate to fully resolve its concerns so that the SDEIS may be finalized.

   Response: Our response will be provided below per your comments in Section III.

SECTION I. SUPPLEMENTAL INFORMATION

5. Supplemental information on PSI's relocation to Piers 24 to 26 was submitted to Deputy Attorney General (AG) Linda Chow, which after review by the Deputy AG office and Department of Land and Natural Resources was submitted to DOT on November 13, 2013 for the SDEIS. The supplemental information confirms the findings in the EIS that no new or different environmental consequences have been identified.

   Response: We acknowledge your assessment that PSI's relocation impact on the affected environment at Piers 24 to 26, as described in your supplemental information, is consistent with the findings in the Kapālama EIS.

6. The original draft EIS indicated it adequately addressed PSI's Hawaiʻi Environmental Policy Act (HEPA) obligations and then surprisingly indicated in the second draft EIS otherwise.

   Response: Preparation of the draft EIS has gone through a long consultation and review process by government agencies, stakeholders, and the general public. Project scoping occurs during this period and, as a result, has helped define and refine the project. This process continues with the finalization of the EIS.

SECTION II. COMPLIANCE WITH HRS CHAPTER 343

7. Unlawful Segmentation: The SDEIS purports to address only the landside impacts of PSI's relocation to Piers 24 to 26 and exclude analysis of any impacts on the area's submerged lands. This is unlawful under Hawaii Revised Statues (HRS), Chapter 343 to segment the effects of PSI's relocation to Piers 24 to 26. In any event, statements in the SDEIS indicating that the submerged lands have not been considered are factually inaccurate. The existing SDEIS includes a robust analysis of PSI's very limited probable impacts to submerged lands and to marine waters.

Response: We acknowledge your assessment that the SDEIS contains analysis of PSI's relocation to Piers 24 to 26, Honolulu Harbor. The Final EIS will cover environmental aspects of the PSI relocation to this area. To clarify the coverage in the EIS, the second to last sentence of footnote 1 on Page 1-4 will be removed as follows:
~~Although included in this document, PSI and Atlantis Submarines will be responsible for complying with HRS Chapter 343 for their specific operations and with submerged land lease requirements.~~

The last sentence of the fifth paragraph under Section 2.2.2 on Page 2-7 will be modified as follows:

The move to Piers 24-28 are part of the Proposed Action evaluated in this EIS~~; however use of submerged lands and operations conducted in the water will need further environmental analysis based on the nature of the tenant's use and actions~~.

Footnote 4 of Page 2-7 and footnote 7 on Page 2-8 will be removed as follows:

~~Specific design plans have not been submitted by PSI or Atlantis. PSI and Atlantis will be responsible for HRS Chapter 343 compliance as well as obtaining all necessary permits and approvals for their specific use of the piers. Additionally, the tenant's use of submerged lands is not contemplated in this document. Tenants will be responsible for HRS Chapter 343 and other environmental compliance for the use of State lands.~~

The last sentence of paragraphs 2 and 3 under Subsection "Pier 24-28 Landside Improvements" on Page 2-17 will be removed as follows:

~~The use of submerged lands and operations are not contemplated as part of the tenant's potential relocation effort in this EIS.~~

~~The use of submerged lands is not contemplated as part of the tenant's potential relocation in this EIS.~~

No unlawful act was conducted.

8. One EIS for a Proposed Project: Given that PSI's relocation is part of the proposed action, HEPA mandates that there be only one environmental impact analysis for the proposed analysis. For this reason, the language added to the SDEIS indicating that it does not satisfy PSI's HEPA obligations is unlawful.

Response: The Final EIS will cover environmental aspects of the PSI relocation to Piers 24 to 26, Honolulu Harbor. To clarify the coverage of the EIS, the last sentence under Subsection "HRS Chapter 343" on Page 1-4 will be modified as follows:

~~While not dependent upon the Proposed Action,~~ Probable impacts from PSI's and Atlantic Submarines' potential relocation and dependence on being on the waterfront ~~have made them part of the Proposed Action.~~ have been evaluated or summarized in the environmental consequences sections of this EIS.

No unlawful act was conducted.

9. Alteration of the SDEIS: The undisclosed process that DOT engaged in to alter the Kapālama EIS between the first and the second draft is highly irregular, unfair, and unlawfully arbitrary as it relates to PSI's relocation.

Response: As stated in our response to comment 6 above, preparation of the draft EIS underwent a long consultation and review process with government agencies, stakeholders, and the public. The scoping for the project occurred during this consultation period and, as a result, defined and refined the project design. All of the plan refinement details were disclosed in the first chapter of the SDEIS and this response letter.

SECTION III. THE PATH FORWARD

10. To the extent DOT may deem it appropriate or necessary to comply with HRS Chapter 343, PSI urges the DOT in the strongest terms possible to include this information in the Kapālama EIS, either by supplementing existing information in the text or by including the information in an appendix.

Response: DOT finds it reasonable to include and will include, where applicable and appropriate, the supplemental information in the Final EIS.

11. The inclusion of the supplemental information in the Final EIS should not require another public review since the supplemental information is already public and has not been a public issue in the first draft EIS. The supplemental information does not change the conclusions in the project's environmental consequences.

Response: DOT concurs that another public review of the EIS is not necessary, unless the proposed action and/or affected environment substantially changes.

12. DOT must remove the statements in the SDEIS that indicate the environmental document does not satisfy under HRS Chapter 343 PSI's obligations and that the EIS does not address the probable impacts of PSI's relocation on submerged lands.

Response: From DOT's review of the supplemental information, sufficient evaluation of the probable environmental impacts was completed and the statements cited above will be revised in the Final EIS as follows:

a. The last sentence under the subheading "HRS Chapter 343" on Page 1-4 will be modified as follows:

> "~~While not dependent upon the Proposed Action,~~ Probable impacts from PSI's and Atlantic Submarines' potential relocation and dependence on being on the waterfront ~~have made them part of the Proposed Action.~~ have been evaluated or summarized in the environmental consequences sections of this EIS."

b. Although the second to last sentence of footnote 1 on Page 1-4 will be removed as follows, the responsibility for meeting HEPA requirements for obtaining a lease agreement with the BLNR still remains with the prospective lessee.

> ~~"Although included in this document PSI and Atlantic Submarines will be responsible for complying with HRS Chapter 343 for their specific operations and with submerged land lease requirements."~~

c. Footnote 4 of Page 2-7 will be revised as follows:

> "Environmental evaluation of PSI's relocation to Piers 24 to 26 is included in this EIS while environmental evaluation of Atlantis' relocation to Piers 26 and 27 is included in a separate EA prepared by Atlantis Submarines and summarized in this EIS. Both tenants will require a lease agreement with the State Board of Land and Natural Resources (BLNR) for use of submerged lands or easement off their wharf or pier and both will be responsible for obtaining all required permits and approvals for any wharf or in-water modifications. In association with the permit and approval requirements, the prospective tenant is also responsible for complying with HEPA provisions."

d. The word "landside" will be removed from two of the last three sentences of the first paragraph in Section 2.2.3 on Page 2-8, as follows:

> "In addition, improvements to the . . . , along with improvements to the ~~landside~~ area of Piers 24 to 28 for potential maritime operators identified in Section 2.2.2. Figure 2-4 illustrates the areas to be improved at the ~~landside~~ area of Piers 24 to 28 as part of the Proposed Action."

e. Footnote 7 of Page 2-8 will be revised as follows:

> "Environmental evaluation of PSI's relocation to Piers 24 to 26 is included in this EIS while environmental evaluation of Atlantis' relocation to Piers 26 and 27 is included in a separate EA prepared by Atlantis Submarines and summarized in this EIS. Both tenants will require a lease or easement agreement with the State Board of Land and Natural Resources (BLNR) for use of submerged lands off their wharf or pier and both will be responsible for obtaining all required permits and approvals for any wharf or in-water modifications.

f. The section title, "Pier 24-28 Landside Improvements" on Page 2-17 will be revised as follows: "Piers 24-28 ~~Landside~~ Improvements." The last sentence of paragraphs 2 and 3 under the same subsection heading will be removed as follows:

> "~~The use of submerged lands and operations are not contemplated as part of the tenant's potential relocation effort in the EIS. The use of submerged lands and operations are not contemplated as part of the tenant's potential relocation effort in this EIS.~~"

g. In the last sentence of Section 3.2 on Page 3-2, the words, "as applicable," will be added as follows:

> "All new tenants at Piers 24 to 28 with their site improvements, building needs, and use of any water/submerged lands will be required to comply with the Hawaii Revised Statutes (HRS) Chapter 343, as applicable, and secure all applicable land use and environmental agency permits and approvals, as each tenant may have its own arrangement with the landowner, the State of Hawaii."

DOT-H acknowledges and will be mindful of your statement of reservation as we revise and update the SDEIS document to the Final EIS.

Mr. Steven Loui, Chairman
March 20, 2014
Page 7

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We appreciate your participation in the EIS review process and look forward to your continued interest in this important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

c: DEP-P, DEP-H, HAR, -E, -EP, -ESP, -S, LEG (Ramsey Ross)
✓Belt Collins Hawaii LLC

DW:va

From: Joanne Hiramatsu
Sent: Friday, November 22, 2013 6:21 PM
To: Glen Koyama; Amy Kepilino; Administration
Subject: FW: Kapalama Container Terminal and Tenant Relocations - Second Draft EIS (SDEIS)

FYI

From: Liu, Rouen [mailto:rouen.liu@heco.com]
Sent: Fri 11/22/2013 5:53 PM
To: carter.luke@hawaii.gov
Cc: Joanne Hiramatsu
Subject: Kapalama Container Terminal and Tenant Relocations - Second Draft EIS (SDEIS)

Dear Mr. Luke,

Thank you for the opportunity to comment on the subject project. Hawaiian Electric Company has no objections to the project. Our records indicate we have some existing easements and facilities on the subject property. We will need continued access for maintenance of our facilities. Should the lines be relocated, HECO will require new easement rights and/or other appropriate government agency approvals, before relocating the lines.

We appreciate your efforts to keep us apprised of the subject project in the planning process. As the Kapalama Container Terminal project comes to fruition; please continue to keep us informed. Further along in the design, we will be better able to evaluate the effects on our system facilities.

If you have any questions, please call Rouen Liu at 543-7245.

Hello Carter and Joanne... Have a nice weekend!

19

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GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

Deputy Directors
FORD N. FUCHIGAMI
RANDY GRUNE
AUDREY HIDANO
JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4501.14

March 24, 2014

Mr. Rouen Liu, Permits Engineer
Engineering Department
Hawaiian Electric Company
820 Ward Avenue
Honolulu, Hawai'i 96813

Dear Mr. Liu:

Subject: Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement, Honolulu Harbor, O'ahu – Job H.C. 10298

Thank you for your email dated November 22, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). We acknowledge that Hawaiian Electric Company (HECO) has no objections to the project. Relocation of any HECO lines within the Kapālama site for the new container terminal will include HECO easement rights over the new utility alignments as well as approvals from appropriate agencies for the realignment.

We will continue to coordinate with and include HECO in the review of our improvement plans for Kapālama property.

We appreciate your participation in the EIS review process and look forward to your continued interest in this important State project.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

c: DEP-P, DEP-H, HAR, -E, -EP, -ESP
√Belt Collins Hawaii LLC

DW:va

AIRLINES COMMITTEE OF HAWAII

Honolulu International Airport
300 Rodgers Blvd., #62
Honolulu, Hawaii 96819-1832
Phone (808) 838-0011
Fax (808) 838-0231

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2013 NOV 25 PM 1:12

BELT COLLINS HAWAII

November 22, 2013

Mr. Carter Luke
Engineering Program Manager
State of Hawaii
Department of Transportation, Harbors Division
79 S. Nimitz Highway
Honolulu, Hawaii 96813

Subject: Kapalama Container Terminal – Second Draft Environmental Impact Statement

Dear Mr. Luke:

The Airlines Committee of Hawaii (ACH), which is comprised of 21 signatory airlines that underwrite the State of Hawaii Airports System, appreciates the opportunity to review and comment on the Second Draft Environmental Impact Statement (SDEIS) for the proposed Kapalama Container Terminal (KCT) project.

The following comments are provided based upon our review of the SDEIS and its potential impacts to Honolulu International Airport (HNL).

- **Construction Equipment** – Although the report does not provide details on the construction equipment, any equipment that could adversely impact navigable airspace at HNL is concerning, especially considering the anticipated duration of the project.

- **Gantry Cranes** – The report indicates that based upon gantry crane heights of approximately 200 feet, the Federal Aviation Administration (FAA) issued a Determination of Presumed Hazard, indicating that the proposed structures exceeds obstruction standards and/or would have an adverse physical interference effect upon navigable airspace or air navigation facilities.

  Accordingly, although the report does not provide explicit details or specifications on the gantry cranes, the initial findings of the FAA are concerning, and the ACH looks forward to a favorable resolution to this matter along with a Determination of No Hazard from the FAA.

In consideration of the above and the potential adverse impacts to operations at HNL, the ACH requests that further studies be conducted and completed as part of the FAA process established under 14 CFR Part 77 to precisely determine whether the proposed project is "no hazard" or "presumed hazard" to air navigation, prior to finalization of the KCT Environmental Impact Statement.

Sincerely,

Blaine Miyasato
Blaine Miyasato
Co-Chairperson

Matt Shelby
Matt Shelby
Co-Chairperson

Cc: Joanne Hiramatsu – Belt Collins Hawaii LLC

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
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JADINE URASAKI

IN REPLY REFER TO:
HAR-EP
4851.15

July 31, 2014

Mr. Blaine Miyasato, Co-Chairperson
Mr. Matt Shelby, Co-Chairperson
Airlines Committee of Hawaii
Honolulu International Airport
300 Rodgers Blvd., #62
Honolulu, Hawaii 96819-1832

Dear Mr. Miyasato and Mr. Shelby:

Subject: Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement, Honolulu Harbor, O'ahu, Hawai'i - Job H.C. 10298

Thank you for your letter dated November 22, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). In response to your comments on the SDEIS, we provide the following.

1. Regarding construction equipment. As stated in section 3.4.1.1.2 of the SDEIS, the future contractor (or terminal operator) would be responsible for obtaining a determination from the Federal Aviation Administration (FAA) for construction equipment use within Honolulu International Airport's navigable airspace.

2. Regarding gantry cranes. On June 27, 2013, the Department of Transportation, Harbors Division, requested further study (follow-up aeronautical study) on the proposed gantry cranes. The circularization process for the "further study" ended on August 3, 2013. In May 2014, the FAA determined that additional information was required for the airport runway at Honolulu International Airport in order to complete their determination. As of this date, no final determination from FAA has been received.

We appreciate your participation in the EIS review process and look forward to your continued interest in this important State project.

Very truly yours,

FORD N. FUCHIGAMI
Interim Director of Transportation

c: DEP-H, HAR, -E, -EP, -ESP
Belt Collins Hawaii LLC

DW: ai

Amy Kepilino

From: Evie Kobayashi [eviek@servco.com]
Sent: Thursday, November 21, 2013 4:26 PM
To: 'carter.luke@hawaii.gov'; kapalamaeis
Cc: Carol Lam; Glenn Takeuchi
Subject: Comments for Second Draft EIS for Kapalama Container Terminal and Tenant Relocations
Attachments: Servco-Kapalama Ltr to DOT re Kaplama Container Terminal 2nd Draft EIS 112113.pdf

Mr. Luke and Ms. Hiramatsu,

Attached are Servco Pacific Inc 's comments to the Second Draft EIS for the Kapalama Container Terminal and Tenant Relocations dated September 2013 The original will follow in the mail.

Evie Kobayashi
Servco Pacific Inc.
Corporate Properties
Tel: (808)564-1327
Fax: (808)533-1369
Cell: (808)358-3261

SERVCO PACIFIC INC.

2850 Pukoloa Street · Suite 300 · Honolulu, Hawaii 96819 · Telephone: (808) 564-1300 · Facsimile: (808) 523-3937 · www.servco.com

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November 21, 2013

Mr. Carter Luke, Engineering Program Manager
State of Hawaii, Department of Transportation
Harbors Division
79 South Nimitz Highway
Honolulu, Hawaii 96813

-and-

Ms. Joanne Hiramatsu, Project Manager
Belt Collins Hawaii LLC
2153 North King Street, Suite 200
Honolulu, HI 96819

Re: Kapalama Container Terminal and Tenant Relocations
Second Draft Environmental Impact Statement

Dear Mr. Luke and Ms. Hiramatsu:

This letter is written to respond to and provide comments with respect to the Kapalama Container Terminal and Tenant Relocations Second Draft Environmental Impact Statement September 2013 (the "***Second Draft EIS***") prepared for and on behalf of the State of Hawaii, Department of Transportation, Harbors Division ("***DOT-Harbors***").

Servco Pacific Inc. ("***Servco***") is the owner of the parcel of real property located at 2101 Auiki Street, TMK No. (1) 1-2-025: 036 (the "***Servco Sand Island Property***") which is located to the north and adjacent to the proposed Kapalama Container Terminal site described in the Second Draft EIS. As such Servco is identified as a stakeholder under the Second Draft EIS (Section 1.3.2, pages 1-14 & 1-15).

In reviewing the Second Draft EIS and its potential impacts on Servco and the Servco Sand Island Property, Servco remains troubled and concerned by the fact that as an identified stakeholder there still seems to be little effort to address its situation as a neighboring property owner whose property and rights of use may be adversely affected by the development of the proposed Kapalama Container Terminal.

Servco does not dispute the long term need and benefit to the State from developing a new container terminal such as the Kapalama Container Terminal, however, from Servco's perspective there has not been any real consideration given to mitigating any potential adverse impacts on the Sand Island Property and Servco's use and operations thereon. More specifically Servco's comments relate to the lack of any real effort to address and consider the potential adjustments to the configuration and layout of the proposed Kapalama Container Terminal which in Servco's view would not adversely affect the Kapalama Container Terminal project in any

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material manner, but would substantially reduce and mitigate the potential negative impacts on the Servco Sand Island Property and Servco's long term access to and use of the same.

The total land area intended to be occupied by the Kapalama Container Terminal (approximately 94 acres) is very large and expansive. With such a large footprint it appears to Servco that there should be substantial flexibility to consider various land planning and design alternatives which could result in a mutually beneficial resolution for Servco and DOT-Harbors. In particular, there still does not appear to have been any consideration given to excluding the area of Easement 6B from the Kapalama Container Terminal site given the fact that Easement 6B is located at the North edge of the project boundary within the context of a total project site area of approximately 94 acres. Consideration of such an alternative should be enhanced by the latest layout of the Kapalama Container Termination as reflected in the Second Draft EIS which moves the proposed exit gate and driveway away from Sand Island Access Road and Road No. 2 further south down Sand Island Access Road and closer to Kalihi Channel and also eliminates the proposed traffic signal at this intersection. This would appear to eliminate the previously expressed concern about the internal traffic circulation required to use this exit gate, the security issues associated with any shared use of an exit to Sand Island Access Road in this location, and the truck stacking which might occur because of the signalized intersection. No such issues have historically been raised by the State relative to Servco's more limited use of this exit point in its current configuration. Servco believes these changes allow for greater flexibility in the internal road alignments within the Kapalama Container Terminal site and that the same should be actively investigated by DOT-Harbors.

<u>Sections 2.3, 2.4, and 2.5 Alternative Analysis</u>

While there is a lengthy discussion in these sections of the alternatives analysis conducted to satisfy the requirements of HRS Chapter 343 and its implementing rules, Servco finds it troubling that none of the alternatives for ingress and egress address or discuss in any meaningful way the impact on the means of ingress and egress which Servco enjoys, the benefits to the Servco Sand Island Property of the use of the entirety of Easement 6A/6B, and Servco's requirements for the continued full use and enjoyment of the Servco Sand Island Property, especially in light of the fact that the planned Kapalama Container Terminal project will result in the current means of ingress and egress being altered or modified in a fairly significant manner.

<u>Section 2.5.3</u> discusses the alternative ingress / egress routes for land transportation, but only to and from the Kapalama Container Terminal. Again there is no mention of the impact of these alternative ingress / egress routes on the ingress / egress routes serving the Servco Sand Island Property or means of mitigating any such adverse impacts, other than the possible need for improvements to the approach grade of the Servco driveway and Mokauea Street intersection. There is no discussion as to why an alternative layout to the internal road system as shown on the current plan which would result in the exclusion of the area of Easement 6B from the Kapalama Container Terminal site is not feasible. In other words, there is no discussion or explanation as

to why this internal road system layout is an essential component of the Kapalama Container Terminal and is the only way it effectively works, and a total absence of the discussion of any potential alternatives which might alleviate and mitigate the adverse impacts on Servco as a consequence of the development of the Kapalama Container Terminal.

<u>Section 3.2.1.1.2</u> identifies the Servco Sand Island Property as being zoned I-2 by the City which zoning allows for a full range of industrial uses necessary to support the City and that it is intended for areas with necessary supporting public infrastructure and other locational characteristics necessary to support industrial uses. In Servco's view that means that the proposed Kapalama Container Terminal should be required to exhaust all viable alternatives which would minimize any adverse impact resulting from any of the intended changes to Servco's current and existing use and with as little impact on the established means of accessing and exiting the Servco Sand Island Property as is practical and feasible.

<u>Section 3.3.1.1.2</u> identifies Easement 6A/6B which is currently just Easement 6 as a perpetual non-exclusive easement for shared access use with Servco, the State Department of Agriculture and the tenant of Building T-904. The Second Draft EIS further states that DOT-Harbors has informed Servco of its intention to extinguish Servco's interest in what is now identified as Easement 6B (area of 19,679 square feet) and if DOT-Harbors is not successful in its effort to negotiate an acquisition price, then formal condemnation of Servco's rights and interests may also be an option.

The potential adverse impact of the intended loss or taking of Servco's right to use and access over and across the portion identified as Easement 6B is given cursory treatment in the Second Draft EIS. The Second Draft EIS lacks any appropriate consideration or discussion of potential alternatives in the layout, controlled access and security for the Kapalama Container Terminal which could enable the exclusion of the entirety of Easement 6 from the area of the Kapalama Container Terminal and thus allowing for Servco's to continued use of the entire length of Easement 6 as it is presently entitled.. Such a reconfiguration in the layout would result in the exclusion of only 19,679 square feet out of a total of 4,094,640 (less than one-half of one percent - 0.48%), and would have the substantial benefit of eliminating any condemnation cost or legal dispute with Servco over the taking of Servco's easement rights. As noted above the land area involved in the overall Kapalama Container Terminal site is approximately 94 acres and yet there is no apparent flexibility displayed in the layout, planning and design which could preserve for Servco the continued right to use the entirety of Easement 6 and thus avoid the disruption and planning difficulties associated with the reconfiguration of Servco's means of ingress and egress from the Servco Sand Island Property for many of the larger commercial vehicles used in its business operations.

The Second Draft EIS makes continued reference to the fact that Servco will still have access to Auiki Street from its existing driveway at Pu'uhale Street. However, given the size and maneuverability of the larger commercial vehicles which are used in conjunction with the Servco

Sand Island Property the shared access easement over Easement 6 at Auiki Street across from Mokauea Street is and will remain the only functional access and exit route from the Sand Island Property for its larger commercial vehicles assuming no continuing access to Sand Island Access Road.

This Section also identifies Easement 7 as a temporary joint use easement running from the end of Easement 6B in favor of Servco, and which historically provided Servco with access to Sand Island Access Road from the Servco Sand Island Property over the combination of Easement 6B and Easement 7. With respect to Easement 7, the Second Draft EIS continues to state that Easement 7 was intended to be temporary and that technically it has expired by its terms. Servco does not dispute this characterization. Nonetheless, Servco has been allowed to continue to use Easement 7 for its larger commercial vehicles to exit to Sand Island Access which Servco otherwise has no access to from the Servco Sand Island Property, and the Second Draft EIS states that Servco will be allowed to continue use of this Easement 7 until 2014 when the last short term tenants of the Kapalama Container Terminal site vacate the property.

The Second Draft EIS further states that this portion of the Kapalama Container Terminal site is held and controlled by DOT-Airports, and that as the lessee, DOT-Harbors, will not be permitted to issue a permanent easement to Servco for access over Easement 7 onto Sand Island Access Road. While a permanent right of access over Easement 7 would be preferable, there is no necessity that the right of access be permanent and yet there is no discussion within the Second Draft EIS of the alternatives of either (a) providing Servco with a revocable license or leasehold easement to use Easement 7, and/or (b) arranging to provide an alternative means for Servco to access Sand Island Access Road. In Servco's viewpoint with the major revisions being made to the plans for entry from and exiting to Sand Island Access Road from the Kapalama Container Terminal, Servco believes that a "fresh look" and review of the feasibility of these alternatives is in order.

As noted in the consideration of alternative means of accessing the Kapalama Container Terminal, the use of Sand Island Access Road for larger commercial vehicles has been found preferable for the Kapalama Container Terminal as it has been and should remain for the Servco Sand Island Property

Section 8.4 states that no unresolved issues have been identified. Servco respectfully disagrees with that conclusion based on the discussion set forth above.

A primary purpose of an EIS under Chapter 343 is to examine all rational and feasible alternatives to the proposed action which could have the effect of minimizing and/or mitigating adverse impacts on the environment and others. It still appears to Servco that this has not been done in this case as it relates to the direct and intended impacts on the Servco Sand Island Property and the uses thereof by Servco in its daily business operations thereon.

As stated above, Servco is in favor of and supports the overall concept of the development of the Kapalama Container Terminal at this proposed location, but Servco still feels strongly that DOT-Harbors has not given proper consideration to the feasibility and practicality of certain alternatives as discussed above which would mitigate the adverse impacts upon Servco which are likely to result from the development of the Kapalama Container Terminal.

If you have any questions or wish to discuss any of the foregoing in greater detail, please contact Carol Lam of Servco at 564-1344 or via email at caroll@servco.com.

Sincerely yours,

SERVCO PACIFIC INC.

Carol K. Lam (B)
Senior Vice President

cc: Glenn Okimoto, Director
Randy Grune, Deputy Director
Jadine Urasaki, Deputy Director
Mark Fukunaga
D. Scott MacKinnon, Esq.

NEIL ABERCROMBIE
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

GLENN M. OKIMOTO
DIRECTOR

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FORD N. FUCHIGAMI
RANDY GRUNE
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JADINE URASAKI

IN REPLY REFER TO:
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March 25, 2014

CERTIFIED MAIL, RETURN RECEIPT REQUESTED
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Ms. Carol K. Lam, Senior Vice President
Servco Pacific Inc.
2850 Pukoloa Street, Suite 300
Honolulu, Hawaii 96819

Dear Ms. Lam:

Subject: Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement, Honolulu Harbor, O'ahu, Hawai'i

Thank you for your letter dated November 21, 2013, commenting on the *Kapālama Container Terminal and Tenant Relocations, Second Draft Environmental Impact Statement* (SDEIS). Before responding to Servco's comments on the SDEIS, we would like to thank you for taking the time to meet with staff from the Department of Transportation (DOT), Harbors Division (DOT-H) on February 20, 2014. At this meeting, an option was discussed where a new temporary access easement through DOT-H and DOT Airports Division (DOT-A) properties may be possible for providing Servco with auto carrier truck access to Sand Island Access Road. The following conditions were also discussed:

1. This arrangement is temporary as DOT-H cannot grant permanent access. DOT-H intends to lease a portion of land from DOT-A together with a temporary access easement to Sand Island Access Road for inclusion as a part of the Kapalama Container Terminal project. The easement would automatically extinguish when DOT-H discontinues its proposed lease from DOT-A.
2. Servco shall pay for the costs associated with the creation of the easement including an appraisal that would be used to determine the appraised value of the easement.
3. Servco shall also pay a maintenance fee for the improvements within the easement.
4. Servco shall install and secure an access gate at a location authorized by DOT-H.
5. Use of the temporary access easement to Sand Island Access Road would be limited to use by auto carrier trucks only.

We understand that Servco is agreeable to this idea. Let us continue the dialogue to reach a favorable conclusion on this matter.

Regarding your comments to the SDEIS, we have the following responses in the order of your comments.

Little Consideration to Mitigation of Potential Impacts

We acknowledge your statement that Servco Pacific Inc. (Servco) is the owner of the property located at 2101 Auiki Street and, hence, Servco is a stakeholder in the Kapālama Container Terminal project. We further acknowledge Servco's expressed desire to mitigate potential adverse impacts from the proposed container terminal on Servco's property and operations by accommodating access to Sand Island Access Road (SIAR).

We believe we have provided Servco opportunities to discuss alternative accesses for its Sand Island property. A number of meetings, starting as early as in 2012, were held between staff members from Servco and DOT-H to discuss and explore alternatives. In preparation for the April 2, 2013 meeting, DOT-H obtained a consultant to proactively scope possible alternatives. In addition, DOT-H offered Servco an opportunity to do its own study regarding Easement 6. DOT-H was informed that Servco would need to consult with its attorney first. To date, no return response has been received. Despite all of these early efforts, as mentioned in the opening paragraph above, we are willing to continue dialogue and develop a solution.

It should be noted that the Kapālama site is comprised primarily of the former Kapālama Military Reservation, and from the time the State of Hawai'i (State) completed full acquisition of the property in 1993, DOT-H has been planning use of the site for maritime purposes in conjunction with its public purpose and obligatory responsibilities for the harbor. Although the site appears to be "very large and expansive," it is of appropriate size to accommodate a fully equipped container terminal with berthing space for two full-size container vessels. The container yard area behind the operating (loading/unloading) cranes is large enough to accommodate immediate as well as long-term overseas cargo handling needs to the year 2039. Initial development concepts for the container terminal waterfront and storage yard, truck ingress/egress gates, and development phasing were considered by DOT-H during the project planning phase (shown in initial [First Draft] Environmental Impact Statement [EIS]).

Now in its design stage, DOT-H is developing a more specific site layout with plan with the container terminal operator to determine the final yard layout. One of the refinements in the detailed design calls for combining the truck egress/ingress gates at the Snug Harbor-Sand Island Access Road (SH-SIAR) intersection (shown in SDEIS) to accommodate a more efficient logistical operation. Relocating the truck egress to the SH-SIAR intersection however, will still require queuing lanes for outgoing truck traffic through a check-out and security check system. In order that the containers maximize use of the storage area behind the operating (gantry) cranes (the yard area will also include administration and accessory support facilities as well as internal circulation for container lifts and transfers), the queuing lanes would need to be along the perimeter of the yard, hence along and as close to the SIAR and north property line where Servco is located. Alternative alignments would not permit maximum utilization of the future container yard.

Expiration of temporary Access Easement No. 7 now allows DOT-H to use the southwestern corner of its property for the desired truck gate routing system. Expiration of Easement 7 also removes the purpose and need for a portion of Easement 6, known as Easement 6B. The State's plan is to extinguish Easement 6B over its property and allow the desired truck gate and queuing lanes to be developed on the perimeter of the future Kapālama Container site. The intent of the extinguishment of Easement 6B has been made known in previous meetings with Servco, the latest of which was held in April 2013.

Sections 2.3, 2.4, and 2.5 Alternative Analysis

Easement No. 7 expired in 1993, which as a result removes Servco's legal access to Sand Island Access Road. The new container terminal and its alternatives will have no impact on the expired easement.

As previously disclosed, the State's plans to extinguish Easement 6B for reasons stated in the above section of this letter and to allow Servco to have continued access to Auiki Street through Easement 6A. Servco will also have continued access to Auiki Street through its existing driveway at the Pu'uhale Street intersection.

Section 2.5.3

This section of the EIS discusses alternative actions to the proposed action which is the development of a container terminal at the Kapālama site in meeting the project's purpose and need. Servco's access to SIAR is not part of the proposed action nor an existing legal entity. As a result, there are no impacts on an access route that no longer exists and no requirement to explore mitigation measures to minimize or avoid those impacts.

As stated in the above section, the State plans to extinguish Easement 6B and allow Servco to have continued access to Auiki Street through Easement 6A. A traffic light system is being installed at the Mokauea Street-Auiki Street intersection to allow improved and safe traffic flow through the Easement 6A ingress/egress access point. The SDEIS also states that Servco will have continued access to Auiki Street through its existing driveway at the Pu'uhale Street intersection.

Section 3.2.1.1.2

Zoning for the property includes regulations on use of the subject property. It does not establish guarantees and responsibilities for improvements or maximum use. The project's probable impacts on the former Servco access is addressed in Sections 3.3.1.1.2 and 3.5.1.2 of the SDEIS.

Section 3.3.1.1.2

Your comment under this topic leads back to your earlier comment that questions DOT's need to extinguish Servco's interest in Easement 6B and whether adequate alternatives have been considered to avoid the extinguishment. As before, the matter of Easement 6B is addressed in the above sections of this letter and in Section 3.3.1.1.2 of the SDEIS.

Regarding Easement 7, we are only allowing Servco to continue using the access easement to Sand Island Access Road until construction of the new container terminal commences. This is not a validation on Servco's right to use the access, but a gesture by DOT-H to allow for Servco to use the access for the time being and make the transition to Auiki Street easier for its auto carriers.

Section 8.4

Consideration of feasible alternatives refers to alternatives to the proposed action which in our case is the development of a container terminal at the Kapālama site. Mitigation measures are proposed to minimize or avoid the proposed action's (and alternative actions') probable impacts on the environment. The expiration of Easement 7 removes the purpose and need for Easement 6B, hence the State's plan to extinguish Easement 6B.

We appreciate Servco's efforts in working with the DOT-H to address concerns, let's continue our dialogue to reach a favorable conclusion, as the DOT-H moves forward towards construction on this critical project for the State.

Very truly yours,

GLENN M. OKIMOTO, Ph.D.
Director of Transportation

c: DEP-P, DEP-H, HAR, -E, -EP, -ESP
Belt Collins Hawaii LLC

DW:va

Final Environmental Impact Statement Distribution List

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Yes	CD	1		Karl		Rhoads		Representative District, 29	29th Representative District			
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	CD	1		Scott	H.	Ono		Asset Services Director	CBRE Inc.			
Yes	CD	1		Ernest	Y.W.	Lau	PE	Manager and Chief Engineer	City and County of Honolulu	Board of Water Supply		
Yes	CD	1		Joey		Manahan		Council Member District 7	City and County of Honolulu	City Council		
Yes	CD	1		Sheri	T.	Kajiwara		Director	City and County of Honolulu	Department of Customer Services	Municipal Reference Center	
Yes	CD	1		Mark		Yonamine	PE	Acting Director	City and County of Honolulu	Department of Design and Construction		
Yes	CD	1		Lori	M.K.	Kahikina	PE	Director	City and County of Honolulu	Department of Environmental Services		
Yes	CD	1		Ross	S.	Sasamura	PE	Director and Chief Engineer	City and County of Honolulu	Department of Facility Maintenance		
Yes	CD	1		Michele		Nekota		Director	City and County of Honolulu	Department of Parks and Recreation		
Yes	CD	1		George	I.	Atta		Director	City and County of Honolulu	Department of Planning and Permitting		
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	CD	**192**										
	HD & CD	**6**										
	Total CD	**198**										

APPENDIX B

Container Terminal Area Analysis

B-1
Berth and Container Yard Capacity Analysis

Berth and Container Yard Capacity Analysis
Department of Transportation –Harbors Division
April 2012

Container terminal operators prefer working with at least two berths to effectively run a fully-operational container yard. The reason for this is that berth occupancy of 40 to 60 percent forces some vessel re-scheduling, which results in less than optimal vessel utilization of the berth and limited ability to efficiently add more vessel calls.[1]

To obtain operational criteria for the evaluation of alternative sites, berth and container yard capacities were calculated as follows.

An accepted formula used to determine approximate throughput for a single berth is:[2]

Berth Capacity (BC) = (BO x C x CM x H x TEU)

BO = Berth occupancy is set at 50 percent. This allows for variance in ship arrivals and working periods, provides allowance for peak periods versus average periods, and enables scheduled container lines to avoid ship queuing for berths. Facility demand is a function of carrier scheduling.

C = The number of cranes in operation is nominally set at two, although many berths will have and will work three or four cranes against the ship. However, over the full cycle of ship operations, it is more likely to average out at a lower figure than the maximum number of cranes available.

CM = Crane moves per hour is nominally set at 22.5 per hour to reflect some non-productive berth occupancy time, including docking and undocking the ship and removing hatch covers.

H = Hours per day is set at two 10-hour shifts or 20 hours per day, seven days per week, and 52 weeks per year, reflecting the reported situation in Honolulu Harbor.

TEU = Number of TEUs per crane move is set at 1.5, reflecting a mix of one 20-foot container to one 40-foot container.

The calculation from this formula provides the following totals:

BC = (.50) x (2) x (22.5) x (20) x (1.5)

= 675 TEUs per day or 245,700 TEUs per year for a single berth

For two berths, the total throughput capacity is 491,400 TEUs or approximately 500,000 TEUs per year.

New vessels suitable for Honolulu operations may be as long as 730 feet. With two vessels and the required spacing between, aft, and forward of the vessels, a total pier length of 1,870 feet will be sufficient. Calculations were then made on the required area for the container yard to service the throughput for two berths.[3]

TEUs per Acre / Year = (Storage Slots in TEUs per acre) x (365 days per year) x (Capacity Factor ÷ Dwell Time) x (Peaking Factor)

Storage Slots = Measured in TEUs per acre, storage slots depend on the technology employed in the container yard and the size of the yard. For Honolulu Harbor, an average of 135 TEUs per acre was used in anticipation that some facilities would have higher TEUs per acre storage slots and some lower, depending on percentage of wheeled containers and grounded stacked containers.[4] Storage slots are comprised of the required land area for either wheeled containers or stacked containers.

Capacity Factor = This is set at 80 percent to reflect the fact that the yard can never be full; otherwise there would be no room to unload a ship at berth or receive containers.

1 Berth occupancy below 40% creates few problems or delays to vessels, 40-60% forces some vessel re-scheduling that may sub-optimize vessel utilization and limit the ability to efficiently add more vessel calls, occupancy 60-80% leads to periodic berthing delays and sub-optimal vessel scheduling, while occupancy at or above 80% percent would involve a large number of vessels waiting in a queue and is in most cases not achievable as a practical matter. [Mercator Transport Group, 2005, p. 8]

2 Capacity analysis performed for Kapalama project by DOT-H Engineering Branch, February 2012.

3 *Oahu Commercial Harbors 2020 Master Plan*, prepared by DOT-H, September 1999.

4 For a pure wheeled container operation, a factor of 90 TEUs per acre can be used, whereas a straddle operation, a factor of twice that or 180 TEUs per acre is a reasonable estimate. For high stacking, such as 4 or 5 containers used by a current Sand Island operator, a figure of 360 TEUs can easily be obtained. For this calculation, an average of 135 TEUs per acre was used in anticipation that some container yards will have higher volume of stacked containers and some will have less. [*Oahu Commercial Harbors 2020 Master Plan*, 1999]

Dwell Time	=	Dwell time is set at 4 days, reflecting the reported situation in Honolulu Harbor.
Peak Factor	=	This is set at 1.2 to reflect the peak month over average month utilization.

The calculation below shows the volume of TEUs that can be typically stored annually in Honolulu Harbor on a per acre basis:

TEUs per acre/year = 135 x 365 x 0.8 ÷ 4 x 1.2
= 8,212 TEUs per acre capacity

For two berths, each with a throughput of 245,700 TEUs per year, the total yard area requirement will be 60 acres.

Acres required to support one berth
throughput of 245,700 TEUs = 245,700 ÷ 8,212
= 30 acres

Acres required to support two berths = 60 acres

In addition to the 60 acres calculated above, a 20 percent allowance is necessary to provide the operator to shift the proportion of stacked containers to wheeled containers and provide additional storage areas for other shipments such as autos, foreign deliveries, and dangerous/hazardous cargo.

For a two-berth container terminal that includes pier aprons with its gantry cranes, container loading and unloading zones, entry and exit gates, queuing lanes, container storage yard, reserve storage areas for specialty cargo handling, equipment repair and maintenance areas, internal roadways, administrative building, accessory facilities, and employee and public parking, and with the 20 percent allowance, the total berth and container yard area is at least 72 areas. A container terminal of this size would be sufficient to encompass a good balance between the berth operations and container storage area.

Further, a container terminal of this size could accommodate an annual throughput of approximately 500,000 TEUs. This additional capacity is slightly larger than the total projected demand anticipated by 2035.

APPENDIX C

Traffic Impact Assessment Report

C-1
Traffic Impact Report

TRAFFIC IMPACT REPORT

Kapālama Container Terminal
Honolulu, O'ahu, Hawai'i

September 2013

Prepared for:

State of Hawaii
Department of Transportation, Harbors Division
Honolulu, Hawaii

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1 EXECUTIVE SUMMARY

1.1 SUMMARY

The State of Hawaiʻi, Department of Transportation is proposing to develop a new 94-acre container yard in Honolulu Harbor at the former Kapālama Military Reservation in Honolulu Harbor. Changes in traffic patterns and resultant changes in traffic volumes are expected as a result and a traffic study was done to identify these impacts to the roadways, as well as to pedestrians and bicyclists, and any mitigation measures that may be needed.

1.2 PROBABLE IMPACTS

The study included eleven of the major intersections in the surrounding area and found that the project is not expected to have a significant traffic impact. Although volumes will change slightly at many of the intersections as a result of the proposed development, capacity of the existing intersections will not be exceeded at all of the study intersections. The intersections along Nimitz Highway, however, were found to be already close to capacity for existing conditions and are expected to reach capacity for the future no action alternative.

One intersection would see an improved level of service as a result of the project due to a decrease in truck traffic turning right onto Auiki Street from Sand Island Access Road. This can be attributed to providing a direct truck route on site to Young Brothers which provides cargo services destined for the neighbor islands. Currently, container trucks from the Sand Island terminal utilize Sand Island Access Road and Auiki Street for delivery of containers to Young Brothers. With the implementation of the proposed action, these container trucks will remain on site and not utilize the public roads.

1.3 RECOMMENDATIONS FOR ROADWAY IMPROVEMENTS

Due to the relocation of the primary vehicular access to the former Kapālama Military Reservation lands from the existing “Road No. 2” intersection to a location closer to the Kapālama Channel, intersection improvements, including provisions for a new traffic signal system, are recommended at the new access location. The existing traffic signal at the intersection of Sand Island Access Road and Road No. 2 should be removed and converted to “STOP” sign controlled for the minor street approaches, as cross-street traffic at that location would no longer meet warrants for signalization.

While the projected volumes at the new access location will not occur immediately and signal warrants may not be met for a few years, the installation of traffic signal conduits should occur concurrent with the development of the container yard. The intersection should be signalized when needed for safety and/or warranted by the volume of traffic.

While there will be increases in traffic volumes on the roadways surrounding the proposed action, the proposed action itself is not expected to significantly impact pedestrians and bicyclists. No mitigation measures for pedestrians and bicyclists are proposed as part of this project.

2 INTRODUCTION

This traffic report was prepared to identify the potential traffic impacts of the proposed Kapālama Container Terminal project. The proposed action includes developing a 94-acre container terminal in Honolulu Harbor on Oʻahu to support the principal port of entry for all container cargo entering and exiting the State of Hawaiʻi. Figure 1 shows the location of the project.

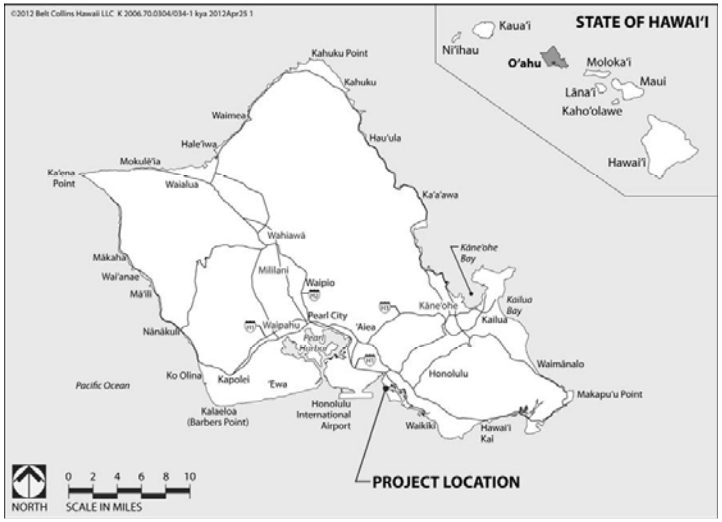

Figure 1 Project Location

This report is organized into several sections; Section 1 is an executive summary of the findings and recommendations; Section 2 is the introduction and provides definitions of traffic engineering terms; Section 3 provides information on existing conditions; Section 4 discusses future conditions, potential impacts, and identifies mitigation measures; and Section 5 provides the conclusion and recommendations.

2.1 TRAFFIC ANALYSES

This report includes the results of traffic analyses of the traffic impacts of the proposed action, including level-of-service analyses at signalized and unsignalized intersections at several locations along roadway segments where traffic volumes would be affected by the proposed action. The level-of-service analyses and procedures are described in the *Highway Capacity Manual* published by the Transportation Research Board.

2.2 LEVELS OF SERVICE DEFINITIONS

Traffic engineers describe traffic conditions using a “level of service” (LOS) concept. Six levels of service, ranging from “A” to “F” in descending order (good to bad) are used; LOS A describes unimpeded flow with no congestion or delay, while LOS F describes congested conditions and excessive delays.

Levels of service at intersections are based on average delays from evaluations of conditions at the intersection. At an unsignalized intersection, delays are incurred by those vehicles that stop and wait for other traffic to clear before using the intersection, and by those vehicles that make left turns after yielding to oncoming traffic. At a signalized intersection, all traffic that is controlled by the traffic signal will have some delay as the traffic signal cycles through its various phases. Separate criteria are used for unsignalized and signalized intersection, as drivers’ expectations differ when facing the two types of intersection control. Table 1 outlines the delays associated with Levels of Service at intersections.

Table 1. LOS Definitions

	Average Delay Per Vehicle	
Level of Service	**At Unsignalized Intersections**	**At Signalized Intersections**
A	Up to 10 seconds	Up to 10 seconds
B	>10 and ≤15 seconds	>10 and ≤20 seconds
C	>15 and ≤25 seconds	>20 and ≤35 seconds
D	>25 and ≤35 seconds	>35 and ≤55 seconds
E	>35 and ≤50 seconds	>55 and ≤80 seconds
F	>50 seconds	>80 seconds

Source: Highway Capacity Manual 2010

Level of Service D has traditionally been considered acceptable for peak hour traffic volumes in urban settings. However, in recognition of declining public resources and the various engineering and environmental challenges of implementing roadway improvements, peak hour conditions worse than Level of Service D are not necessarily “unacceptable” or require mitigation.

3 EXISTING TRAFFIC CONDITIONS

The following descriptions of existing traffic conditions are based on field observations and manual peak period traffic counts taken during the week of October 24, 2011 at eight intersections in the area between Sand Island and Nimitz Highway. A manual traffic count was also taken on November 17, 2011 at Sand Island Access Road and the main entry for Horizon Lines to determine the volume of trucks and cars generated from the existing container terminal on Sand Island. At this location, only entering and exiting vehicles were counted as well as the type of vehicle.

Additional analyses of the Nimitz Highway intersections with Puuhale Road, Mokauea Street, and Waiakamilo Road were requested by the Highways Division as part of their review of the draft traffic report. Manual peak period traffic counts were taken on April 23 and 24, 2013 at these additional intersections. The location of the counts is shown in Figure 2, Traffic Count Locations. Summaries of the traffic count data collected are shown in Appendix A.

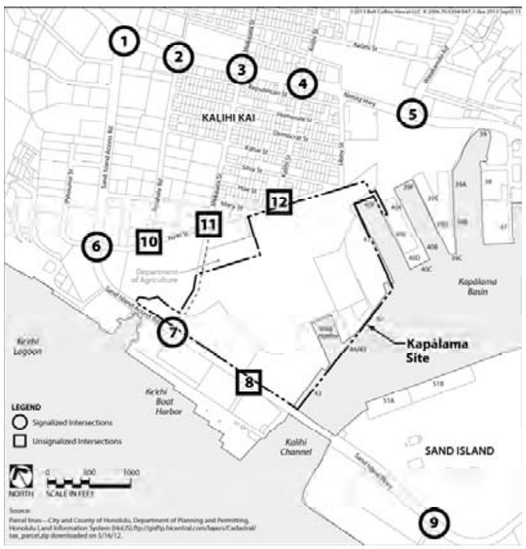

Figure 2 Traffic Count Locations

Traffic signal systems are located at eight of the 12 studied intersections; five along Nimitz Highway and three others along Sand Island Access Road. At the other four unsignalized intersections, traffic is controlled by the use of “STOP” or “YIELD” signs placed on the minor street approaches to intersections, which allow traffic on the streets that have higher traffic flows to proceed with minimal delay.

Affected roadways in the area include primary arterials, collectors, and local streets. A brief description of each roadway in the study area is provided below:

- Nimitz Highway is an east-west roadway that serves as a major arterial from the Honolulu International Airport, past downtown Honolulu, and continues all the way into Waikiki as Ala Moana Boulevard. Within the project area Nimitz Highway has three travel lanes in each direction with left turn pockets at intersections and a raised median. Between Sand Island Access Road and Waiakamilo Road there are sidewalks only along small portions of the roadway and no bicycle lanes, street parking, or roadside shoulders. The Keehi Interchange, located just west of Sand Island Access Road, includes ramps that connect to lanes on the H-1 Freeway (on viaduct) and on the frontage road below the viaduct (Nimitz Highway). One of these ramps is reserved for high-occupancy vehicle (HOV) use in the eastbound direction. On weekday mornings between 5:30am and 8:30am, this ramp connects to a contra-flow lane on Nimitz Highway. This lane is reserved for vehicles traveling in the eastbound direction on Nimitz Highway with two or more passengers. A contra-flow lane is not used in the afternoon peak period. The posted speed limit for this highway is 35 miles per hour (mph).

- Sand Island Access Road (SIAR) is a north-south arterial roadway that intersects Nimitz Highway and provides access to Sand Island, a primarily industrial area that also includes recreational areas (beach parks). SIAR is the only access onto Sand Island and serves as the western border of the project. The roadway is a four-lane divided roadway with left turn pockets between Nimitz Highway and Auiki Street, and an undivided five-lane roadway south of Auiki Street to the bridges over the Kapālama Channel. Access to the project site is through two intersections; the signalized crossing with Road No. 2 and the unsignalized crossing with the UH Snug Harbor access road. Fronting the project site, SIAR has a pavement width of 60 feet. There are bicycle lanes in each direction of travel, but only portions of roadway have sidewalks. Along sections of the paved roadway shoulder adjacent to the bike lane there is room for passenger cars to park in front of businesses. The posted speed limit is 25 mph between Nimitz Highway and just south of Auiki Street. The posted speed limit changes to 35 mph south of Auiki Street to the Sand Island bridge. Before crossing the bridge, the posted speed limit is 35 mph, except for trucks, which have a posted speed limit of 25 mph.

- Auiki Street is a two-lane undivided east-west collector roadway that begins at SIAR and ends at Libby Street (Pahounui Drive, a local two-lane street, is located to the west of SIAR, forming a four-way intersection with Auiki Street). Auiki Street has approximately 45 feet of pavement, one lane of travel in each direction, street parking, curbs, gutters, and sidewalks. This street also serves as a portion of the northern boundary of the project site and additional access to the project site is located at the Libby Street intersection. The posted speed limit is 25 mph.

- Puuhale Road is an undivided north-south collector roadway that parallels Kalihi and Mokauea Streets. Puuhale Road has one lane of traffic in each direction beginning at Auiki Street to Dillingham Boulevard. Between Dillingham Boulevard and King Street, Puuhale Road carries one way traffic in the southbound direction only. The portion of Puuhale Road between Auiki Street and Nimitz Highway also has street parking and sidewalks on both sides of the road. A driveway serving the parcel south of Auiki Street is located opposite Puuhale Road, forming a four-way intersection. The posted speed limit on Puuhale Road is 25 mph.

- Mokauea Street is an undivided north-south collector roadway that parallels Kalihi Street, begining at Auiki Street and ending at King Street. The street has two lanes, with one lane of travel in each direction, street parking, and sidewalks on both sides. An access driveway to the Department of Agriculture office is located opposite the south end of Mokauea Street, forming a four-way intersection at Auiki Street. The posted speed limit on Mokauea Street is 25 miles per hour.

- Kalihi Street is an undivided north-south collector roadway that begins at Auiki Street and connects directly into Likelike Highway as it crosses over the H-1 Freeway. The street has four lanes of travel, two in each direction, street parking, and sidewalks on both sides between Auiki Street and Nimitz Highway. The posted speed limit is 25 miles per hour.

- Waiakamilo Road is a divided north-south collector roadway that begins at Nimitz Highway opposite the entrance/exit to the Pier 39/40 container yard. It provides two lanes in each direction for traffic, and includes bicycle lanes. North of Dillingham Boulevard, it becomes an undivided roadway, continuing as a four-lane roadway with curbside parking available along most of the roadway. Waiakamilo Road becomes Houghtailing Street after passing under the H-1 Freeway.

3.1 ANALYSIS

Level of service analyses were conducted on the peak hour volumes using the methods described in the *Highway Capacity Manual*. Two weekday peak periods were identified for this study; the AM Peak Hour when the work day begins and the PM Peak Hour when the work day ends. Existing peak hour traffic assignments (turn volumes at intersections) were developed from the traffic count data and these traffic assignments, along with the overall intersection levels of service are shown on Figures 3 and 4. While the peak hours of each of the intersections may not coincide, the analyses were done for the heaviest volumes observed for each intersection within the morning and afternoon peaks to determine the project impacts when demand at the intersection is at peak levels.

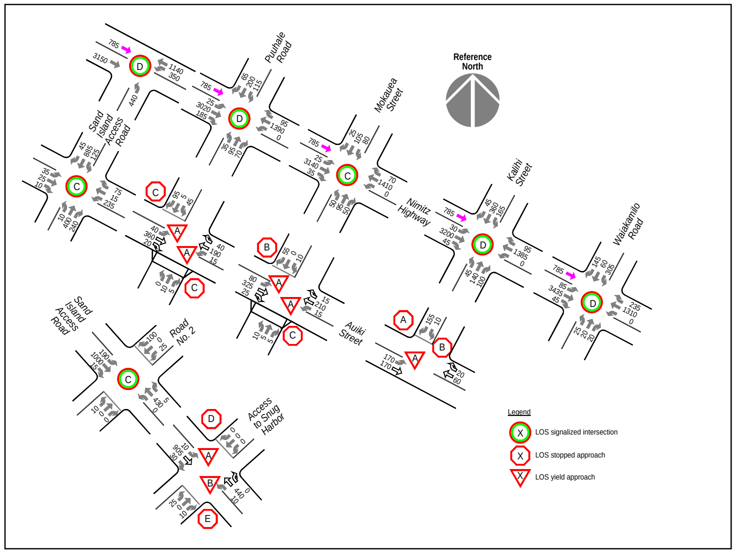

Figure 3 Existing Traffic Assignment - AM Peak Hour

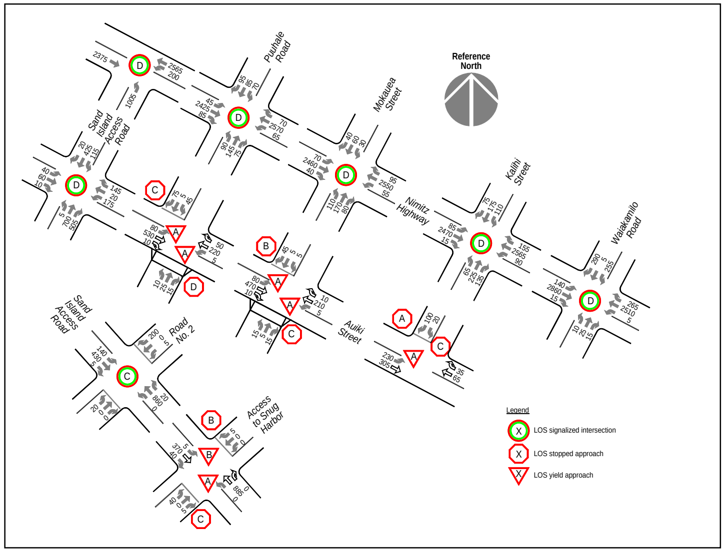

Figure 4 Existing Traffic Assignment - PM Peak Hour

At the intersection with Nimitz Highway and SIAR a three-phase traffic signal controls vehicular and pedestrian flows across the intersection. The first phase allows the westbound traffic to turn left onto SIAR or to proceed straight ahead. The second phase allows the through movements of eastbound and westbound traffic to flow. The third phase allows the left turns from SIAR to turn onto Nimitz Highway and head westbound. (Right turns between SIAR and eastbound Nimitz Highway controlled by "YIELD" signs have less delay than the adjacent movements and have not been included in the intersection analyses) The intersection of Nimitz Highway and SIAR operated at capacity in the AM Peak Hour. The long queues that developed on the eastbound and northbound approaches indicate that the counted volumes were limited by the capacity of the intersection. The other intersections on Nimitz Highway were also operating near capacity with long queues on the north and southbound approaches due to the very long cycle lengths. The very high delays for the left turn lanes and the side street approaches to Nimitz Highway are a direct result of the very long cycle lengths (up to four minutes) at the signalized intersections. However, the overall levels of service were better because most of the vehicles using these intersections were through movements on Nimitz Highway, and the overall level of service

is based on average delay of all vehicles affected by the signal. Results of the analyses are shown in Table 2.

Table 2. Existing Levels of Service at Signalized Intersections

Intersection	AM Peak Hour			PM Peak Hour		
	X	AD	LOS	X	AD	LOS
1. Nimitz Highway & Sand Island Access Road	**0.95**	**43.8**	**D**	**0.84**	**44.9**	**D**
Eastbound Contra-flow (Nimitz Hwy)	0.72	24.9	C	--	--	--
Eastbound Through (Nimitz Hwy)	0.95	38.6	D	0.81	38.0	D
Westbound Left Turn (Nimitz Hwy)	0.98	148	F	0.70	116	F
Westbound Through (Nimitz Hwy)	0.29	3.9	A	0.74	21.0	C
Northbound Left Turn (Sand Island Acc Rd)	0.95	136	F	0.97	109	F
2. Nimitz Highway & Puuhale Road	**0.91**	**35.4**	**D**	**0.88**	**46.1**	**D**
Eastbound Contra-flow (Nimitz Hwy)	0.65	22.5	C	--	--	--
Eastbound Left Turn (Nimitz Hwy)	0.72	196	F	0.82	191	F
Eastbound Through / Right Turn (Nimitz Hwy)	0.92	30.5	C	0.85	37.2	D
Westbound Left Turn (Nimitz Hwy)	--	--	--	0.94	206	F
Westbound Through / Right Turn (Nimitz Hwy)	0.65	21.3	C	0.87	36.5	D
Northbound approach (Puuhale Road)	0.88	118	F	0.94	131	F
Southbound approach (Puuhale Road)	0.79	104	F	0.46	81.2	F
3. Nimitz Highway & Mokauea Street	**0.91**	**32.8**	**C**	**0.89**	**45.1**	**D**
Eastbound Contra-flow (Nimitz Hwy)	0.65	22.3	C	--	--	--
Eastbound Left Turn (Nimitz Hwy)	0.72	196	F	0.86	177	F
Eastbound Through / Right Turn (Nimitz Hwy)	0.90	28.6	C	0.82	33.3	C
Westbound Left Turn (Nimitz Hwy)	--	--	--	0.81	175	F
Westbound Through / Right Turn (Nimitz Hwy)	0.64	21.0	C	0.87	36.7	D
Northbound approach (Mokauea Street)	0.71	102	F	0.97	122	F
Southbound approach (Mokauea Street)	0.92	135	F	0.69	102	F
4. Nimitz Highway & Kalihi Street	**0.93**	**43.4**	**D**	**0.90**	**54.0**	**D**
Eastbound Contra-flow (Nimitz Hwy)	0.65	22.9	C	--	--	--
Eastbound Left Turn (Nimitz Hwy)	0.72	186	F	0.87	172	F
Eastbound Through (Nimitz Hwy)	0.92	30.7	C	0.82	36.5	D
Westbound Left Turn (Nimitz Hwy)	--	--	--	0.92	183	F
Westbound Through (Nimitz Hwy)	0.65	21.7	C	0.90	43.1	D
Northbound Left Turn (Kalihi Street)	0.94	227	F	0.92	199	F
Northbound Through (Kalihi Street)	0.97	175	F	0.90	137	F
Northbound Right Turn (Kalihi Street)	0.85	158	F	0.43	81.3	F

Table 2. Existing Levels of Service at Signalized Intersections

Intersection	AM Peak Hour			PM Peak Hour		
	X	AD	LOS	X	AD	LOS
Southbound Left Turn (Kalihi Street)	0.96	165	F	0.82	150	F
Southbound Through (Kalihi Street)	0.82	111	F	0.45	90.4	F
X = utilization (volume-to-capacity ratio) AD = Average Delay per vehicle (seconds) LOS = Level of Service						
5. Nimitz Highway & Waiakamilo Road	**0.94**	**37.1**	**D**	**0.81**	**37.2**	**D**
Eastbound Contra-flow (Nimitz Hwy)	0.64	21.1	C	--	--	--
Eastbound Left Turn (Nimitz Hwy)	0.96	195	F	0.92	162	F
Eastbound Through / Right Turn (Nimitz Hwy)	0.94	27.2	C	0.82	22.6	C
Westbound Left Turn (Nimitz Hwy)	--	--	--	0.14	123	F
Westbound Through (Nimitz Hwy)	0.56	17.8	B	0.78	28.2	C
Northbound approach (Pier 39/40 area)	0.87	204	F	0.67	155	F
Southbound Through / Left Turn (Waiakamilo Rd.)	0.98	167	F	0.70	121	F
6. Sand Island Access Road and Auiki Street	**0.66**	**31.5**	**C**	**0.84**	**42.9**	**D**
Eastbound (Auiki Street)	0.17	29.8	C	0.24	30.2	C
Westbound (Auiki Street)	0.84	55.8	E	0.80	50.7	D
Northbound Left Turn (Sand Island Access Rd)	0.20	64.4	E	0.07	57.1	E
Northbound Through (Sand Island Access Rd)	0.50	25.9	C	0.95	49.4	D
Southbound Left Turn (Sand Island Access Rd)	0.69	69.5	E	0.56	59.4	E
Southbound Through (Sand Island Access Rd)	0.58	21.5	C	0.28	17.9	B
7. Sand Island Access Road and Road No. 2	**0.52**	**22.0**	**C**	**0.65**	**23.0**	**C**
Eastbound (Road No. 2)	0.03	19.8	B	0.07	23.3	C
Westbound (Road No. 2)	0.32	23.4	C	0.64	35.2	D
Northbound Left Turn (Sand Island Acc Rd)	0.00	32.7	C	0.00	32.7	C
Northbound Through (Sand Island Acc Rd)	0.45	22.4	C	0.76	24.9	C
Southbound Left Turn (Sand Island Acc Rd)	0.57	33.1	C	0.45	30.7	C
Southbound Through (Sand Island Acc Rd)	0.72	19.6	B	0.28	11.0	B
X = utilization (volume-to-capacity ratio) AD = Average Delay per vehicle (seconds) LOS = Level of Service						

Four unsignalized intersections were also analyzed. Delays at unsignalized intersections are identified by movements that are controlled by stop signs or yield to other movements. The results of the analyses on the unsignalized intersections are provided in Table 3.

Table 3. Existing Levels of Service at Unsignalized Intersections

Intersection	AM Peak Hour			PM Peak Hour		
	X	AD	LOS	X	AD	LOS
8. UH Snug Harbor Access and Sand Island Access Rd						
Northbound Left Turn (Sand Island Acc Rd)	0.02	11.0	B	<0.01	8.5	A
Southbound Left Turn (Sand Island Acc Rd)	0.01	8.6	A	0.01	10.9	B
Westbound Through (UH Snug Harbor Access)	0.00	27.0	D	0.03	12.2	B
Eastbound (UH Snug Harbor Access)	0.29	42.5	E	0.16	17.9	C
10. Pu'uhale Road and Auiki Street						
Eastbound Left Turn (Auiki Street)	0.03	7.9	A	0.07	8.1	A
Westbound Left Turn (Auiki Street)	0.01	8.3	A	0.01	8.8	A
Northbound (Pu'uhale Road)	0.04	15.2	C	0.22	25.2	D
Southbound (Pu'uhale Road)	0.31	15.3	C	0.41	24.2	C
11. Mokauea Street and Auiki Street						
Eastbound Left Turn (Auiki Street)	0.07	8.1	A	0.07	8.0	A
Westbound Left Turn (Auiki Street)	0.01	8.3	A	<0.01	8.5	A
Northbound (Mokauea Street)	0.07	18.5	C	0.12	19.1	C
Southbound (Mokauea Street)	0.12	11.8	B	0.11	12.2	B
12 Kalihi Street and Auiki Street						
Eastbound Left Turn (Auiki Street)	0.12	7.9	A	0.18	8.0	A
Southbound Left Turn (Kalihi Street)	0.03	14.6	B	0.10	22.2	C
Southbound Right Turn (Kalihi Street)	0.17	9.6	A	0.12	9.3	A
X = utilization (volume-to-capacity ratio) AD = Average Delay per vehicle (seconds) LOS = Level of Service						

3.2 PEDESTRIAN AND BICYCLE OBSERVATIONS

Field notes indicated that there were a few (less than 60 per hour) pedestrians observed crossing the roadways at all of the study intersections. The highest observations of pedestrians were seen crossing Nimitz Highway at SIAR and Kalihi Street. These pedestrians were observed going to or coming from bus stops or walking to nearby schools. Multiple bus routes travel down Nimitz Highway and have stops near SIAR and Kalihi Street. Kalihi Kai Elementary School as well as Kalākaua Intermediate School and Farrington High School are all located further mauka on Kalihi Street.

At the other signalized intersections on SIAR pedestrians volumes were slightly less and the majority were walking to or from bus stops or street parking stalls to their place of work. There is one bus route in the Kalihi Kai neighborhood that uses Kalihi Street, Auiki Street, and SIAR.

Along Auiki Street less than 20 pedestrians were observed, walking to or from a bus stop or parking on the street and walking to their place of work. Since there are no crosswalks across Auiki Street, pedestrians would cross wherever they needed to cross. With only two lanes of travel on Auiki Street pedestrians were able to cross the street easily and without interrupting traffic. Along Kalihi Street most pedestrians utilized the crosswalks since it is a four lane roadway. Less than 5 bicyclists were observed commuting during each of the traffic count periods.

Field notes also indicated that few bicyclists (less than 10 per hour) were observed at any of the intersections. While SIAR is the only roadway with a dedicated bike lane near the project site, only a few bicyclists were seen traveling in the bicycle lanes. Along Nimitz Highway, most bicyclists were observed traveling on the sidewalk instead of in the roadway since there is no bike lane or wide enough shoulder to ride (east of Waiakamilo Road, Nimitz Highway has bicycle lanes). Along Auiki Street even fewer bicyclists were observed and most of them traveled in the roadway, sharing the road with vehicles rather than riding on the sidewalk.

4 FUTURE TRAFFIC CONDITIONS

4.1 FUTURE BASELINE CONDITIONS

Future conditions have been evaluated for the year 2039, when full operations of the expanded container terminal is expected. Port usage projections show an average annual increase in container yard activity in the range of +2.2%. Traffic in the area, however, also consists of other vehicles and overall volumes are not expected to increase at the same rate. A major study of future transportation demand in Honolulu projected a 17% increase in daily traffic volumes across Kapālama Canal in the 25 years from 2005 to 2030 (as reported in *Transportation Technical Report, Honolulu High-Capacity Transit Corridor Project,* August 15, 2008. Table 4-10). This increase is equal to an average annual increase of 0.64%, which over 30 years (2011 to 2039, rounded to nearest 5 years) would be an increase of 21%.

A future baseline condition assuming peak hour travel demand increases by 21% and removal of non-maritime tenants within the proposed project was evaluated to illustrate the possible impacts to the study intersections if such growth in traffic volumes could occur. This is because the analyses of existing counts already show that the counts may represent a capacity-constrained condition and conditions at other nearby intersections and on freeway segments in the area will also limit the growth of peak hour volumes at the study intersections. Therefore, the future baseline condition should not be taken as a situation that could occur, but as an indication of future travel demand for which project impacts will be evaluated.

Figures 5 and 6 show the future baseline peak hour traffic assignments. The future traffic assignments include the effects of the removal of all non-maritime use from the site, which would occur with or without the proposed project. In addition, use of Road No. 2 for access into an adjacent site from Sand Island Access Road (including traffic that was included in the field counts) will not continue and these trips were reassigned to the site's existing driveway to Auiki Street opposite Puuhale Road. In addition, a proposed (by others) traffic signal at the intersection of Auiki Street and Mokauea Street has been analyzed for a simple two-phase operation with minimal cycle length; no other roadway improvements have been assumed for the baseline future condition.

Table 4 shows the results of the level-of-service analyses for the future baseline traffic projections. For the signalized intersections, modifications to signal timing were made where necessary and cycle lengths were limited to a maximum of 240 seconds. While future conditions may be Level of Service E or F, or utilization exceeds 1.0, no mitigation measures are proposed in this report, whose purpose is to identify traffic impacts of the proposed new container yard. Continued efforts to improve signal optimization along Nimitz Highway will help improve traffic flow along this corridor.

For the AM Peak Hour at the SIAR and Nimitz Highway intersection, the analysis done as part of this traffic study indicates that the changes may require modifications to the signal timing. The major eastbound through movements on Nimitz Highway are expected to be congested, and increased use of the contraflow High-Occupancy Vehicle lane will maintain person-carrying capacity with the mixed lanes at full utilization (one additional vehicle in the contraflow lane was assumed for every two vehicles that could not be served in the mixed traffic lane). These assumptions were made to be consistent with the goals of the long-range plans, which seek to increase person-carrying capacity with minimal construction of additional traffic lanes.

The increased use of the contraflow lane on Nimitz Highway in the AM Peak Hour carries through to the other Nimitz Highway intersections.

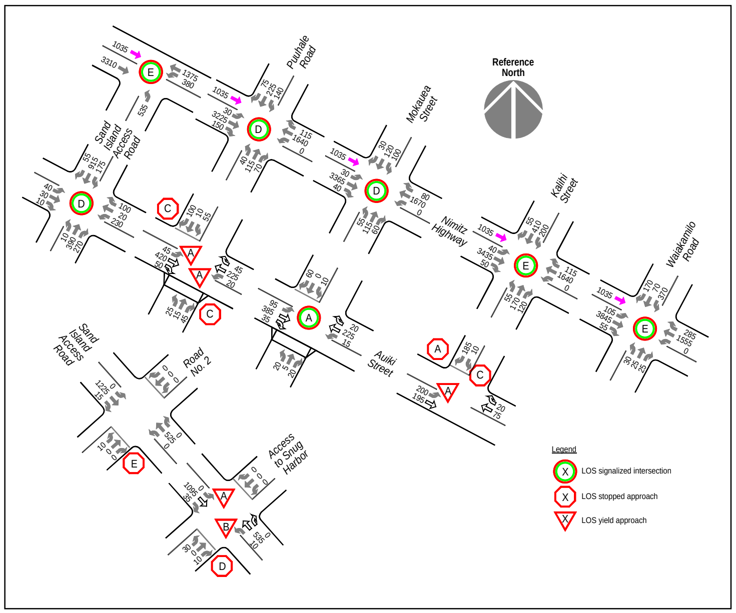

Figure 5 Future AM Peak Hour Baseline Volumes (2039)

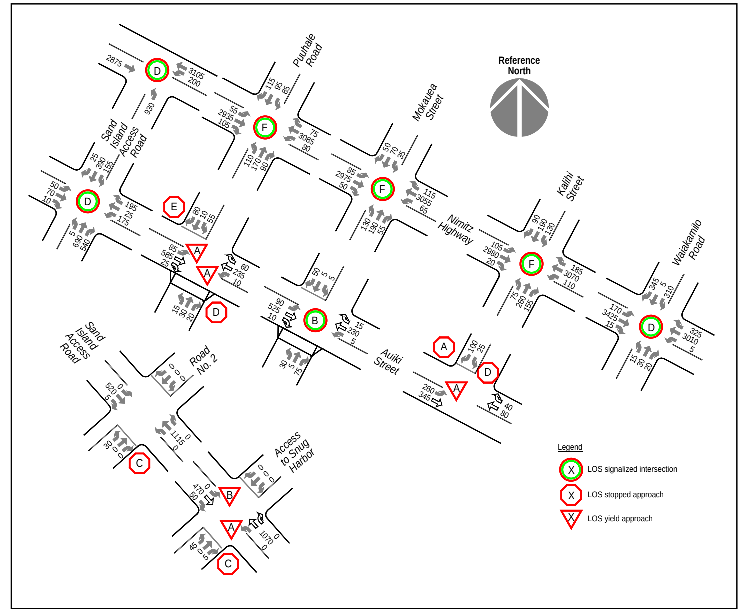

Figure 6 Future PM Peak Hour Baseline Volumes (2039)

The traffic assignments indicate that the existing traffic signal at the intersection of Sand Island Access Road and Road No. 2 is no longer required and would not be warranted (meet minimum minor traffic street volumes). As an unsignalized intersection, the stop-controlled eastbound approach would have sufficient capacity but very long delays in the AM Peak Hour would be in the LOS E range.

Table 4. Future (2039) Baseline Conditions at Signalized Intersections

Intersection	AM Peak Hour			PM Peak Hour		
	X	AD	LOS	X	AD	LOS
1. Nimitz Highway & Sand Island Access Road	**1.01**	**58.1**	**E**	**0.93**	**49.1**	**D**
Eastbound Contra-flow (Nimitz Hwy)	0.97	54.1	D	--	--	--
Eastbound Through (Nimitz Hwy)	1.01	55.3	E	0.93	45.6	D
Westbound Left Turn (Nimitz Hwy)	1.02	156	F	0.91	153	F
Westbound Through (Nimitz Hwy)	0.35	4.9	A	0.88	28.1	C
Northbound Left Turn (Sand Island Acc Rd)	1.02	150	F	0.93	108	F
2. Nimitz Highway & Puuhale Road	**1.01**	**51.1**	**D**	**1.08**	**91.9**	**F**
Eastbound Contra-flow (Nimitz Hwy)	0.89	41.8	D	--	--	--
Eastbound Left Turn (Nimitz Hwy)	0.89	236	F	1.02	240	F
Eastbound Through / Right Turn (Nimitz Hwy)	1.01	50.6	D	1.07	87.0	F
Westbound Left Turn (Nimitz Hwy)	--	--	--	1.06	234	F
Westbound Through / Right Turn (Nimitz Hwy)	0.80	30.7	C	1.08	85.7	F
Northbound approach (Puuhale Road)	1.01	137	F	1.08	141	F
Southbound approach (Puuhale Road)	0.80	102	F	0.55	79.7	E
3. Nimitz Highway & Mokauea Street	**1.01**	**51.0**	**D**	**1.07**	**80.3**	**F**
Eastbound Contra-flow (Nimitz Hwy)	0.89	42.0	D	--	--	--
Eastbound Left Turn (Nimitz Hwy)	0.86	229	F	1.03	221	F
Eastbound Through / Right Turn (Nimitz Hwy)	1.01	52.5	D	1.01	61.4	E
Westbound Left Turn (Nimitz Hwy)	--	--	--	1.06	246	F
Westbound Through / Right Turn (Nimitz Hwy)	0.79	30.7	C	1.07	81.3	F
Northbound approach (Mokauea Street)	0.73	97.7	F	1.07	144	F
Southbound approach (Mokauea Street)	1.01	150	F	0.84	119	F
4. Nimitz Highway & Kalihi Street	**1.02**	**60.1**	**E**	**1.06**	**84.1**	**F**
Eastbound Contra-flow (Nimitz Hwy)	0.88	40.9	D	--	--	--
Eastbound Left Turn (Nimitz Hwy)	0.95	241	F	1.07	223	F
Eastbound Through (Nimitz Hwy)	1.02	53.6	D	0.98	55.0	D
Westbound Left Turn (Nimitz Hwy)	--	--	--	1.05	213	F
Westbound Through (Nimitz Hwy)	0.79	30.6	C	1.08	87.3	F
Northbound Left Turn (Kalihi Street)	1.00	235	F	1.07	241	F
Northbound Through (Kalihi Street)	1.01	180	F	0.97	150	F
Northbound Right Turn (Kalihi Street)	0.88	156	F	0.46	80.0	F
Southbound Left Turn (Kalihi Street)	1.02	176	F	1.09	219	F

Table 4. Future (2039) Baseline Conditions at Signalized Intersections

Intersection	AM Peak Hour			PM Peak Hour		
	X	AD	LOS	X	AD	LOS
Southbound Through (Kalihi Street)	0.82	107	F	0.50	91.9	F
X = utilization (volume-to-capacity ratio) AD = Average Delay per vehicle (seconds) LOS = Level of Service						
5. Nimitz Highway & Waiakamilo Road	**1.07**	**61.6**	**E**	**0.95**	**53.0**	**D**
Eastbound Contra-flow (Nimitz Hwy)	0.87	38.3	D	--	--	--
Eastbound Left Turn (Nimitz Hwy)	0.95	182	F	0.99	172	F
Eastbound Through / Right Turn (Nimitz Hwy)	1.07	64.9	E	0.98	40.5	D
Westbound Left Turn (Nimitz Hwy)	--	--	--	0.14	123	F
Westbound Through (Nimitz Hwy)	0.69	24.4	C	0.95	44.8	D
Northbound approach (Pier 39/40 area)	1.06	223	F	0.87	185	F
Southbound Through/Left Turn (Waiakamilo Rd.)	1.07	184	F	0.85	139	F
6. Sand Island Access Road and Auiki Street	**0.72**	**36.5**	**D**	**0.90**	**51.7**	**D**
Eastbound (Auiki Street)	0.18	26.6	C	0.30	40.0	D
Westbound (Auiki Street)	0.79	47.1	D	0.91	75.7	E
Northbound Left Turn (Sand Island Access Rd)	0.11	56.0	E	0.24	103	F
Northbound Through (Sand Island Access Rd)	0.64	35.7	D	0.89	48.6	D
Southbound Left Turn (Sand Island Access Rd)	0.71	62.9	E	0.88	112	F
Southbound Through (Sand Island Access Rd)	0.70	29.2	C	0.24	19.0	B
7. Sand Island Access Road and Road No. 2	**0.51**	**9.7**	**A**	**0.47**	**9.6**	**A**
Eastbound (Road No. 2)	0.05	28.8	C	0.21	34.5	C
Westbound (Road No. 2)	--	--	--	--	--	--
Northbound Left Turn (Sand Island Access Rd)	0.00	36.5	D	0.00	36.5	D
Northbound Through (Sand Island Access Rd)	0.33	11.5	B	0.61	11.4	B
Southbound Left Turn (Sand Island Access Rd)	0.00	26.5	C	0.00	29.0	C
Southbound Through (Sand Island Access Rd)	0.61	8.8	A	0.24	4.5	A
11. Mokauea Street and Auiki Street	**0.58**	**9.4**	**A**	**0.72**	**13.1**	**B**
Eastbound approach (Auiki Street)	0.61	7.7	A	0.73	10.3	B
Westbound approach (Auiki Street)	0.29	4.1	A	0.27	4.0	A
Northbound approach (driveway)	0.28	27.3	C	0.66	41.7	D
Southbound approach (Mokauea Street)	0.40	30.0	C	0.34	28.3	C
X = utilization (volume-to-capacity ratio) AD = Average Delay per vehicle (seconds) LOS = Level of Service						

Table 5. Future (2039) Baseline Conditions at Unsignalized Intersections

Intersection	AM Peak Hour			PM Peak Hour		
	X	AD	LOS	X	AD	LOS
7. Sand Island Access Road and Road No. 2						
Eastbound (Road No. 2)	0.09	38.3	E	0.14	22.3	C
8. UH Snug Harbor Access and Sand Island Acc Rd						
Northbound Left Turn (Sand Island Acc Rd)	0.02	12.3	B	0.00	8.9	A
Southbound Left Turn (Sand Island Acc Rd)	0.00	8.9	A	0.00	12.1	B
Westbound Through (UH Snug Harbor Access)	0.00	n.a.	n.a	0.00	n.a.	n.a.
Eastbound (UH Snug Harbor Access)	0.26	33.6	D	0.22	21.9	C
10. Pu'uhale Road and Auiki Street						
Eastbound Left Turn (Auiki Street)	0.04	8.1	A	0.07	8.2	A
Westbound Left Turn (Auiki Street)	0.02	8.6	A	0.01	9.0	A
Northbound (Pu'uhale Road)	0.29	21.3	C	0.35	33.9	D
Southbound (Pu'uhale Road)	0.48	23.2	C	0.63	42.7	E
12. Kalihi Street and Auiki Street						
Eastbound Left Turn (Auiki Street)	0.15	8.0	A	0.21	8.2	A
Southbound Left Turn (Kalihi Street)	0.03	16.5	C	0.15	27.8	D
Southbound Right Turn (Kalihi Street)	0.21	9.8	A	0.12	9.4	A

X = utilization (volume-to-capacity ratio) AD = Average Delay per vehicle (seconds) LOS = Level of Service

4.2 PROJECT TRAFFIC

4.2.1 Vehicular Access

Several alternatives for vehicular access to the site were considered. While maximizing use of the site was the primary factor in the site layout, minimizing adverse traffic impacts at the interfaces with the public roadways was also a factor.

The traffic study limits were determined by considering the locations where the proposed project would have significant traffic impacts. Some of the initial site plans relocated all of the automobile parking to several large lots accessed off of Auiki Street, which would have resulted in larger increases in traffic volumes along Auiki Street. However, the revised plan would locate a parking lot for privately owned (employee) automobiles near the main entrance/exit to the container yard, thereby minimizing the effect of the project on peak hour traffic volumes at many of the intersections that were included in the study area.

The site has frontages along Sand Island Access Road and Auiki Street. Sand Island Access Road has a pavement width of approximately 60 feet, no on-street parking, and is in an industrial setting. Auiki Street is narrower, approximately 45 feet in width, with on-street parking, and includes industrial, commercial, and residential properties on the opposite side from the project site. In addition, several streets intersect Auiki Street at stop-controlled intersections that approach at an angle (rather than perpendicularly).

Truck access from Auiki Street was considered but would be less desirable than providing truck access from Sand Island Access Road, for the following reasons:

a. An access on Auiki Street would be located near Kalihi Street and result in increased traffic on Kalihi Street (or on the parallel Mokauea Street); residential properties along Auiki Street and Kalihi and Mokauea streets would be adversely affected by additional truck traffic.

b. Trucks that use Kalihi or Mokauea street and arrive from or depart to the west on Nimitz Highway will have a greater effect on intersection capacity at those intersections, as compared to the relatively minor effects with the large radii turns that are already available at the Sand Island Access Road intersection. Limited rights-of-way and the developed roadside at the Kalihi and Mokauea street intersections constrain the mitigation measures that would be available.

Three alternatives for the arrangement of the truck access were considered. Two alternatives for separate in and out driveways would use the existing roadways into the site, located opposite the existing access roads that lead to the Keehi small boat harbor. If trucks were to enter at Road No. 2 and exit farther makai, entering trucks would cross paths with the trucks that have exited the site. In addition, the location limits the length of the left turn lane that could be provided to Road No. 2. Reversing these movements by having entering truck traffic routed to the makai driveway will allow for a longer left turn storage lane; in addition, entering truck movements and exiting truck movements could occur simultaneously, thereby lessening the impact to mauka-bound traffic from Sand Island. Converting the two-way left turn lane on Sand Island Access Road into a left turn lane for the Snug Harbor Access would also provide the adequate storage length for the trucks turning into the Snug Harbor Access. Currently, the two-way left turn lane serves no purpose since the only driveways on the makai side of Sand Island Access Road are secured by a locked gate. The third alternative of a single access point where access into and out of the site would be the most desirable in that there will be one less major intersection along Sand Island Access Road. Locating the single access point at the Snug Harbor Access would have the advantages listed above for the left turn storage lane.

The separation of infrequent automobile access to the site from truck access is proposed to be accomplished by providing automobile parking lots near Auiki Street. Alternatives for access to these parking lots include new driveways directly opposite Kalihi Street and new driveways directly opposite Mary Street, which is approximately half way between the Kalihi Street and Mokauea Street intersections with Auiki Street or directly opposite Silva Street.

Locating an access driveway opposite Kalihi Street may result in long delays for traffic wishing to cross Auiki Street, due both to the volume of traffic on Auiki Street and the angle of the intersection. Traffic using a driveway opposite Mary Street, however, is expected to consist mostly of left turns in from Auiki Street and right turns out onto Auiki Street, relatively easy maneuvers at an unsignalized intersection or driveway. Access to a driveway opposite Silva Street may involve a left turn from Kalihi Street or alternatively via Libby Street and the many streets parallel to Nimitz Highway.

These considerations were included in deciding the location of access to the site. The proposed access to the site includes truck and employee parking accessed from Sand Island Access Road opposite the existing access road to the Keehi Small Boat Harbor (where the existing driveway to Snug Harbor is located), with other automobiles using new driveways from Auiki Street to enter several parking lots on that side of the site. The use of several parking lots will mitigate the concentration of turning movements at any one location. Figure 7 shows the proposed site plan with the proposed vehicular access points.

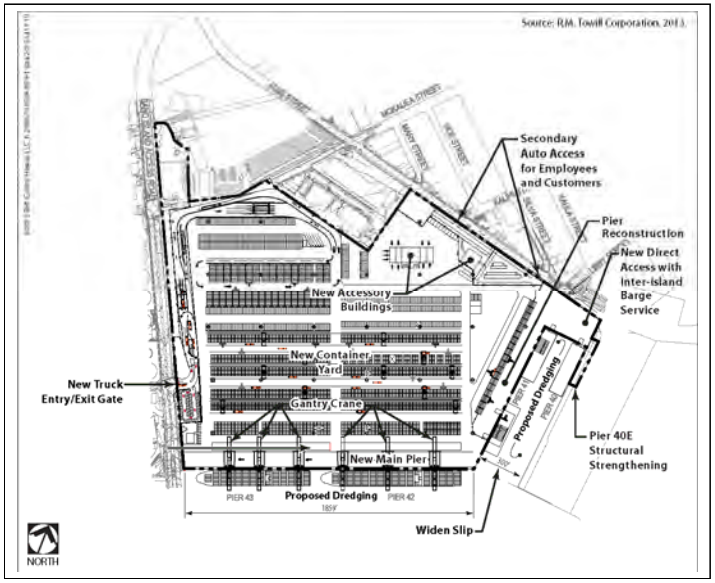

Figure 7 Proposed Site Plan

4.2.2 Project Traffic Impacts

The proposed project will affect traffic in the area in three ways. The project provides a site for activity that would otherwise occur on Sand Island across the channel; therefore, increased turning volumes at the site access would result, but traffic between the site access and Sand Island would decrease. Traffic volumes between the primary site access and Nimitz Highway, however, would be minimally affected, except as described below.

The second impact is the relocation of some automobile traffic (mostly visitor or other infrequent users) from Sand Island Access Road to parking lots off of Auiki Street. The relocation of these parking facilities is expected to result in small increases in traffic volumes on Auiki Street, Puuhale Road, Mokauea Street, and Kalihi Street, along with a reduction of traffic on Sand Island Access Road between Nimitz Highway and Auiki Street.

The third impact affects traffic on Auiki Street and a portion of Sand Island Access Road. The container yard is located next to the existing interisland barge facility, and plans include an internal connection between the two yards, thereby providing a shorter alternative path between the container yard and the interisland barge facility. This connection will result in reduced truck traffic on Auiki Street, and on Sand Island Access Road between Auiki Street and the site's primary access road.

4.2.3 Trip Generation

The proposed project is a new container terminal that will add an approximate annual capacity of 550,000 TEUs (Twenty-foot Equivalent Units). Combined with the existing 950,000 TEU capacity on Sand Island, the total capacity will be increased to 1,500,000 TEUs. The container yards on Sand Island are currently used by two shipping companies; traffic counts on a day selected as a typical day with a ship in port were taken at the entrance to one of the container yards to be used to develop a method to estimate future traffic generated by the new container yard. With the existing (2011) use at that container yard estimated to be 250 kTEUs, and the future capacity 550 kTEUs, traffic due to operations at the new container yard is expected to be 2.2 times that of the count, as shown in Table 6 – Traffic at Container Yard Gates.

Table 6. Traffic at Container Yard Gates

		AM Peak Hour		PM Peak Hour	
	kTEUs	**Enter**	**Exit**	**Enter**	**Exit**
Existing	250	92	84	45	93
Proposed	550	203	185	99	205

kTEUs = One thousand twenty-foot equivalent units

The proposed layout of the container yard includes a single access road from Sand Island Access Road for truck traffic and employee parking. Visitor parking (automobiles) would use parking lots located near Auiki Street. While the automobile and truck traffic volumes generated do not occur exactly at the same peak hour, they were assumed in this analysis to coincide in order to simplify the analysis and provide a conservative estimate of project trip generation. The counts of truck and car traffic were used to develop separate estimates of truck and car traffic, as shown in Table 7 – Project Trips. A portion of the automobile traffic was assigned to the parking lots on Auiki Street.

Table 7. Project Trips

Vehicle Type	AM Peak Hour			PM Peak Hour		
	Enter	**Exit**	**Total**	**Enter**	**Exit**	**Total**
Trucks	97	154	251	66	119	185
Cars	106	31	137	33	86	119
TOTAL	203	185	388	99	205	304

4.2.4 Trip Distribution

The separation of truck and automobile traffic at the site would lessen the increase in traffic volumes on SIAR by dispersing the impact. Truck traffic would continue to use similar paths between the container yard and Nimitz Highway (but would not need to cross the Kalihi Channel and proceed onto Sand Island). Some of the automobile traffic would be diverted to Auiki Street, and this automobile traffic is expected to use Auiki Street and Puuhale Road, Mokauea Street, or Kalihi Street to connect to Nimitz Highway.

The traffic count data was used as an indicator of the travel paths of traffic generated along SIAR. While much of this traffic remains on (or used) SIAR to connect to Nimitz Highway, an alternative path for traffic traveling from SIAR to the east is via Auiki Street and one of the streets parallel to SIAR.

Figures 8 and 9 show the project traffic effects on the existing roadways (as indicated in these figures, the project impact to traffic at many intersections due to the current site plan is not significant, i.e., much less than 100 vehicles per hour; however, analyses of these intersections were nevertheless performed to address concerns raised during earlier reviews of the project).

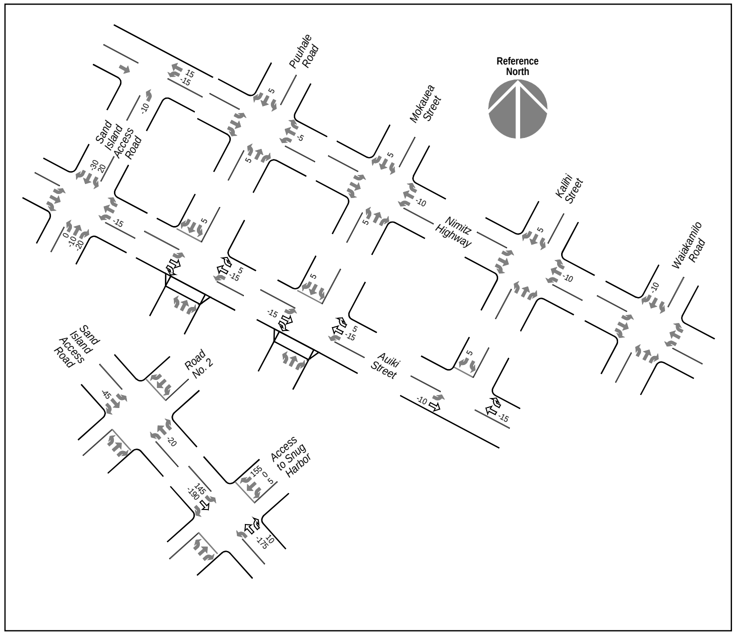

Figure 8 Impact of Project to AM Peak Hour Traffic Volumes

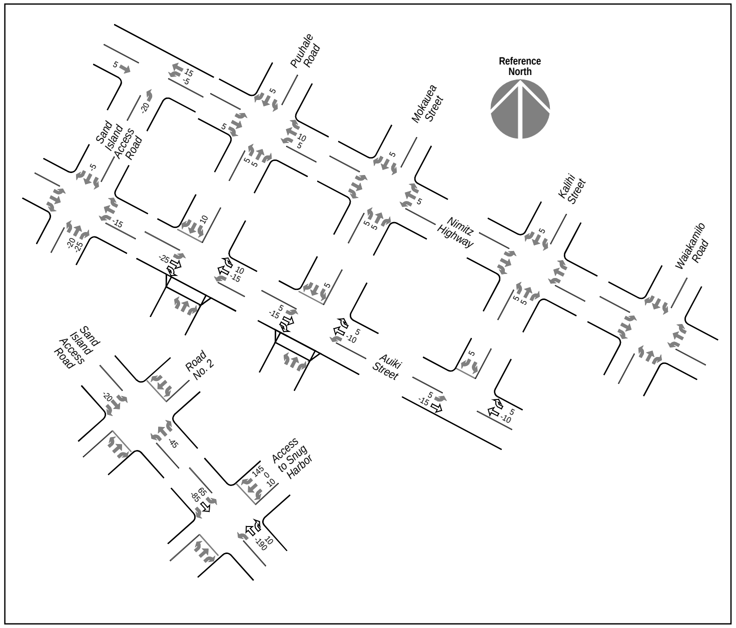

Figure 9 Impact of Project to PM Peak Hour Traffic Volumes

4.3 FUTURE WITH PROJECT TRAFFIC CONDITIONS

Figures 10 and 11 show the future with project peak hour traffic assignments. The results of the analyses are shown in Tables 8 and 9. Existing layouts were used; for signalized intersections, modifications to signal timings were made where necessary and possible to optimize signal operation (minimize total delay) or to alleviate over-capacity conditions.

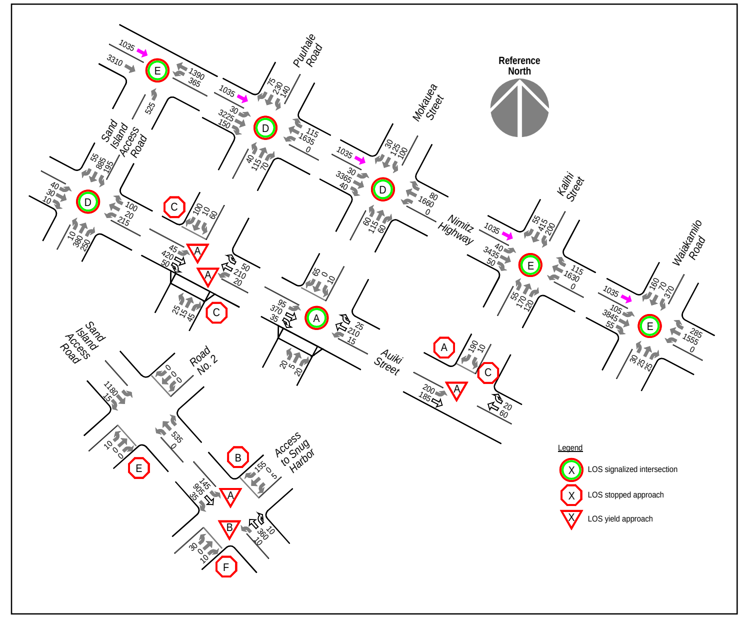

Figure 10 Future With Project Traffic Volumes – AM Peak Hour (2039)

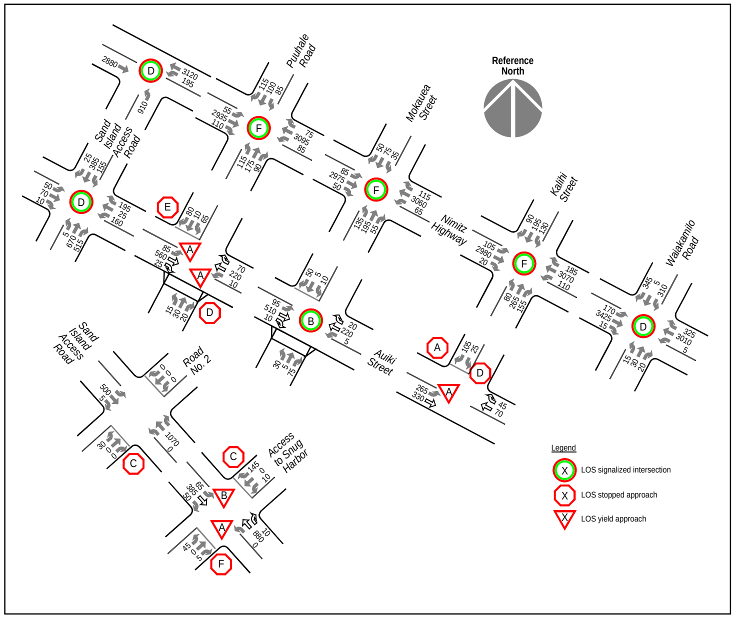

Figure 11 Future With Project Traffic Volumes – PM Peak Hour (2039)

Table 8. Future (2039) With Project Conditions at Signalized Intersections

Intersection	AM Peak Hour			PM Peak Hour		
	X	AD	LOS	X	AD	LOS
1. Nimitz Highway & Sand Island Access Road	**1.01**	**56.6**	**E**	**0.93**	**48.6**	**D**
Eastbound Contra-flow (Nimitz Hwy)	0.96	52.0	D	--	--	--
Eastbound Through (Nimitz Hwy)	1.01	54.7	D	0.94	45.8	D
Westbound Left Turn (Nimitz Hwy)	1.01	156	F	0.89	149	F
Westbound Through (Nimitz Hwy)	0.35	4.9	A	0.89	28.5	C
Northbound Left Turn (Sand Island Acc Rd)	1.00	145	F	0.92	105	F
2. Nimitz Highway & Puuhale Road	**1.03**	**55.0**	**D**	**1.09**	**94.1**	**F**
Eastbound Contra-flow (Nimitz Hwy)	0.90	44.5	D	--	--	--
Eastbound Left Turn (Nimitz Hwy)	0.89	236	F	1.02	240	F
Eastbound Through / Right Turn (Nimitz Hwy)	1.02	56.7	E	1.07	87.8	F
Westbound Left Turn (Nimitz Hwy)	--	--	--	1.13	254	F
Westbound Through / Right Turn (Nimitz Hwy)	0.81	32.0	C	1.08	87.1	F
Northbound approach (Puuhale Road)	1.04	142	F	1.14	157	F
Southbound approach (Puuhale Road)	0.79	99.0	F	0.58	80.7	F
3. Nimitz Highway & Mokauea Street	**1.01**	**51.2**	**D**	**1.08**	**81.3**	**F**
Eastbound Contra-flow (Nimitz Hwy)	0.89	42.0	D	--	--	--
Eastbound Left Turn (Nimitz Hwy)	0.86	229	F	1.03	221	F
Eastbound Through / Right Turn (Nimitz Hwy)	1.01	52.2	D	1.01	61.4	E
Westbound Left Turn (Nimitz Hwy)	--	--	--	1.06	246	F
Westbound Through / Right Turn (Nimitz Hwy)	0.79	30.5	C	1.07	82.0	F
Northbound approach (Mokauea Street)	0.77	102	F	1.11	158	F
Southbound approach (Mokauea Street)	1.02	151	F	0.86	123	F
4. Nimitz Highway & Kalihi Street	**1.02**	**60.1**	**E**	**1.07**	**84.6**	**F**
Eastbound Contra-flow (Nimitz Hwy)	0.88	40.9	D	--	--	--
Eastbound Left Turn (Nimitz Hwy)	0.95	241	F	1.07	223	F
Eastbound Through (Nimitz Hwy)	1.02	53.6	D	0.98	55.0	D
Westbound Left Turn (Nimitz Hwy)	--	--	--	1.05	213	F
Westbound Through (Nimitz Hwy)	0.79	30.3	C	1.08	87.3	F
Northbound Left Turn (Kalihi Street)	1.00	235	F	1.14	264	F
Northbound Through (Kalihi Street)	1.01	180	F	0.99	155	F
Northbound Right Turn (Kalihi Street)	0.88	156	F	0.46	80.0	F
Southbound Left Turn (Kalihi Street)	1.02	176	F	1.09	219	F
Southbound Through (Kalihi Street)	0.83	108	F	0.51	92.1	F

X = utilization (volume-to-capacity ratio) AD = Average Delay per vehicle (seconds) LOS = Level of Service

Table 8. Future (2039) With Project Conditions at Signalized Intersections

Intersection	AM Peak Hour			PM Peak Hour		
	X	AD	LOS	X	AD	LOS
5. Nimitz Highway & Waiakamilo Road	**1.07**	**61.5**	**E**	**0.95**	**53.0**	**D**
Eastbound Contra-flow (Nimitz Hwy)	0.87	38.3	D	--	--	--
Eastbound Left Turn (Nimitz Hwy)	0.95	182	F	0.99	172	F
Eastbound Through / Right Turn (Nimitz Hwy)	1.07	64.9	E	0.98	40.5	D
Westbound Left Turn (Nimitz Hwy)	--	--	--	0.14	123	F
Westbound Through (Nimitz Hwy)	0.69	24.4	C	0.95	44.8	D
Northbound approach (Pier 39/40 area)	1.06	223	F	0.87	185	F
Southbound Through/Left Turn (Waiakamilo Rd.)	1.07	184	F	0.85	139	F
6. Sand Island Access Road and Auiki Street	**0.71**	**36.5**	**D**	**0.87**	**49.1**	**D**
Eastbound (Auiki Street)	0.18	26.6	C	0.30	40.1	D
Westbound (Auiki Street)	0.76	44.3	D	0.87	69.3	E
Northbound Left Turn (Sand Island Access Rd)	0.11	56.0	E	0.24	103	F
Northbound Through (Sand Island Access Rd)	0.62	35.1	D	0.86	45.6	D
Southbound Left Turn (Sand Island Access Rd)	0.79	69.7	E	0.88	112	F
Southbound Through (Sand Island Access Rd)	0.67	28.6	C	0.24	18.9	B
7. Sand Island Access Road and Road No. 2	**0.48**	**9.4**	**A**	**0.44**	**9.1**	**A**
Eastbound (Road No. 2)	0.00	28.2	C	0.00	30.8	C
Westbound (Road No. 2)	--	--	--	--	--	--
Northbound Left Turn (Sand Island Access Rd)	0.00	36.5	D	0.00	36.5	D
Northbound Through (Sand Island Access Rd)	0.32	11.4	B	0.60	11.3	B
Southbound Left Turn (Sand Island Access Rd)	0.00	26.5	C	0.00	29.0	C
Southbound Through (Sand Island Access Rd)	0.59	8.5	A	0.23	4.4	A
11. Mokauea Street and Auiki Street	**0.57**	**9.5**	**A**	**0.71**	**13.2**	**B**
Eastbound approach (Auiki Street)	0.59	7.4	A	0.72	10.1	B
Westbound approach (Auiki Street)	0.28	4.0	A	0.27	4.0	A
Northbound approach (driveway)	0.28	27.2	C	0.66	41.7	D
Southbound approach (Mokauea Street)	0.43	30.8	C	0.37	29.1	C

X = utilization (volume-to-capacity ratio) AD = Average Delay per vehicle (seconds) LOS = Level of Service

Table 9. Future (2039) With Project Conditions at Unsignalized Intersections

Intersection	AM Peak Hour			PM Peak Hour		
	X	AD	LOS	X	AD	LOS
7. Sand Island Access Road and Road No. 2						
Eastbound (Road No. 2)	0.09	35.8	E	0.14	21.7	C
8. UH Snug Harbor Access and Sand Island Acc Rd						
Northbound Left Turn (Sand Island Acc Rd)	0.02	11.0	B	0.00	8.6	A
Southbound Left Turn (Sand Island Acc Rd)	0.15	8.9	A	0.12	11.7	B
Westbound Through (UH Snug Harbor Access)	0.27	12.3	B	0.46	22.4	C
Eastbound (UH Snug Harbor Access)	0.73	158	F	0.60	88.3	F
10. Pu‘uhale Road and Auiki Street						
Eastbound Left Turn (Auiki Street)	0.04	8.0	A	0.07	8.2	A
Westbound Left Turn (Auiki Street)	0.02	8.6	A	0.01	8.9	A
Northbound (Pu'uhale Road)	0.29	20.9	C	0.33	31.4	D
Southbound (Pu'uhale Road)	0.49	23.7	C	0.60	37.7	E
12. Kalihi Street and Auiki Street						
Eastbound Left Turn (Auiki Street)	0.15	7.9	A	0.21	8.2	A
Southbound Left Turn (Kalihi Street)	0.03	16.1	C	0.15	27.5	D
Southbound Right Turn (Kalihi Street)	0.21	9.8	A	0.13	9.4	A

X = utilization (volume-to-capacity ratio) AD = Average Delay per vehicle (seconds) LOS = Level of Service

The Proposed Action would result in a change in traffic volumes through the intersections along Nimitz Highway, but not enough to change their LOS from if there were no Proposed Action. It is noted that the Puuhale Street, Mokauea Street, and Kalihi Street intersections on Nimitz Highway would have the most added traffic.

The study intersections along Sand Island Access Road and Auiki Street (except for the Sand Island Access Road/UH Snug Harbor Access intersection) would have a reduction in traffic volume due to internal routing of truck traffic. The reduction in traffic is slight and not enough to improve the overall LOS for these intersections. The reduction in traffic, however, is still an improvement.

As noted, container trucks traveling to the inter-island cargo service would use an internal connection within the Kapālama site to reach the adjacent inter-island barge terminal. As a result, the Proposed Action would reduce the amount of truck trips on public roads between the two terminals.

The traffic signal at the intersection of Sand Island Access Road and Road No. 2 would not be warranted and control of that intersection should be by stop signs on the minor street approaches. The analyses found that very long delays could result for these minor street movements but capacity would be sufficient for the expected volumes.

Table 10. LOS Summary

Intersection	AM Peak Hour			PM Peak Hour		
	2013	2039 No Action	2039 With Project	2013	2039 No Action	2039 With Project
1) Nimitz Highway & Sand Island Access Road	D	E	E	D	D	D
2) Nimitz Highway & Puuhale Road	D	D	D	D	F	F
3) Nimitz Highway & Mokauea Street	C	D	D	D	F	F
4) Nimitz Highway & Kalihi Street	D	E	E	D	F	F
5) Nimitz Highway & Waiakamilo Road	D	E	E	D	D	D
6) Sand Island Access Road & Auiki Street	C	D	D	D	D	D
7) Sand Island Access Road & Road No. 2	C	E	E	C	C	C
8) Sand Island Access Road & UH Snug Harbor Access	E	D	F	C	C	F
10) Auiki Street & Pu'uhale Road	C	C	C	D	E	E
11) Auiki Street & Mokauea Street	C	A	A	C	B	B
12) Auiki Street & Kalihi Street	B	C	C	C	D	D

Further analysis on the SIAR and UH Snug Harbor access looked at signalization of the intersection since all trucks would be entering the site at this location. The analysis of the future with project conditions indicated LOS B and LOS C for the unsignalized intersection on the southbound left turn approach turning into the container yard; however this does not take into consideration that additional time may be needed for the trucks to make the sharp turn into the property or how quickly they process through the gate. Since signalization also requires a warrant analysis, which is based upon the volume of traffic on both the main road and the minor road, a modification to equate trucks to passenger car equivalent lengths may be needed to be included in order to meet the requirements.

The proposed improvements at this main entry gate should include the installation of traffic signal conduits for future use. If and when signalized, the signal timing at this intersection should be interconnected with other signals along Sand Island Access Road to provide less interruption to through traffic and to provide better flow into and out of the project site.

At the entrances and exits to the site, appropriate intersection sight distances should be provided at all access points to the project site, which includes the access roadway to Sand Island Access Road and several driveways to Auiki Street. Parking restrictions may be required near the new driveways along Auiki Street to provide adequate sight distance for vehicles at these access points.

Taking into consideration the traffic safety conditions, the proposed action provides separate entrances for passenger vehicle and truck traffic to minimize impacts to the existing roadways. Passenger vehicle traffic would utilize Kalihi Street and the Auiki Street entrance, which carries more passenger cars; while the trucks would utilize SIAR, which currently handles more truck traffic. Increases in traffic on these streets are expected, however the increase in traffic volume is not expected to significantly impact pedestrian safety therefore no mitigation measures are being proposed.

4.3.1 Weigh Stations

To accommodate the proposed increase in truck traffic another weigh station will need to be built adjacent to Nimitz Highway, just north of the SIAR/Road No. 2 intersection to regulate overweight vehicles. The additional weigh station is necessary to handle the truck traffic coming from the proposed project; however it is not large enough to be able to accommodate all trucks including the ones coming over the bridge from Sand Island. Increasing the size of the existing weigh station would also not work logistically for the proposed project since the existing station is on Sand Island and would require trucks to back track from their normal route.

4.3.2 Relocation of Existing Harbor Tenants

In order to make way for the proposed project, existing tenants will be vacated from the site. Current tenants are on month-to-month leases and all have been notified that they will have to move to another location. Most of these tenants are expected to relocate somewhere within existing commercial or industrial areas within urban Honolulu and will be accounted for with the ambient growth in the area. Two of these tenants, Pacific Shipyards International (PSI) and the Atlantis Submarine will move to piers 24 through 28. Access to these piers is through the Nimitz Highway and Pacific Street intersection.

Significant traffic impacts are not expected as a result of this relocation because the site is already developed and is being used as temporary storage for tugs and barges that dock at piers 24 through 26 and a base for Sause Bros., a barge-oriented marine transportation service, which uses piers 27 and 28. Traffic generated by these activities will also total less than 100 vehicles per hour and are expected to occur at different times than the existing peak hours at that intersection (based on the traffic assessment in the Environmental Assessment of the *Construction of Pier 29 Container Yard*, which noted the peak hour of traffic occurred between 7:15 AM to 8:15 AM and 4:15 PM and 5:15 PM.

In addition, the The University of Hawaiʻi (UH), School of Ocean and Earth Science and Technology (SOEST) Marine Research Center (MRC) would also move to another pier within Honolulu Harbor, Pier 34 and 35. However, separate Environmental Assessments being prepared for these relocations will include traffic assessments.

5 CONCLUSION AND RECOMMENDATIONS

The proposed project will relocate container yard activity from Sand Island to the Kapālama site that is closer to Nimitz Highway. Employee parking and truck access to the new container yard will be from Sand Island Access Road; therefore, no significant changes are expected on roadways between the site and Nimitz Highway. Traffic volumes between the existing container yard on Sand Island and the entrance/exit of the new container yard will decrease. The proposed project includes new parking lots accessed off of Auiki Street, which is expected to increase automobile traffic on Auiki Street. The project site, however, is adjacent to the interisland barge terminal, and a direct connection between the Kapālama Container facility and the interisland barge terminal will reduce truck traffic between the two sites that currently use a portion of Sand Island Access Road and Auiki Street. The net effect on traffic conditions along Auiki Street, therefore, will be minimal.

The proposed project will result in minor changes in the number of trucks and passenger cars on various streets near the Kapālama site. The net effects of these changes were found to be minimal, with small increases in peak hour delays at some locations while improving conditions at other locations. While the analyses show that capacity will be exceeded at two study intersections on Nimitz Highway, this situation is not project related since they are expected to reach capacity even without the proposed project.

Impacts to pedestrians and bicyclists are also not expected to be significant, therefore no mitigation measures are proposed.

The changes in use at the Kapālama site will require changes in intersection control at the intersection of Sand Island Access Road and Road No. 2. At the existing signalized intersection with Road No. 2, traffic signals will no longer be warranted and the existing traffic signal should be removed, with the intersection reverting to "STOP" sign control for the minor street approaches. Increased truck movements at the Sand Island Access Road and UH Snug Harbor Access intersection, while not satisfying normal analyses of warrants or need to signalized, may require that the intersection be signalized in the future. Plans for improvements at this intersection should be coordinated with the State DOT Highways Division, and the intersection should be signalized when needed for safety and/or warranted by the volume of traffic.

APPENDIX A

PEAK PERIOD MANUAL COUNTS

Intersection of Nimitz Highway and Sand Island Access Road (signalized) - Tuesday 25 October 2011

				Nimitz Highway			Sand Island Access Road			Nimitz Highway				
	Southbound approach			Westbound approach			Northbound Approach			Eastbound approach				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
AM Peak Period														
6:00 - 6:15				83	193		76				633		985	
6:15 - 6:30				79	204		112				759		1154	
6:30 - 6:45				**68**	**241**		**136**				**898**		**1343**	
6:45 - 7:00				**118**	**235**		**107**				**1096**		**1556**	**5038**
7:00 - 7:15				**78**	**266**		**87**				**1035**		**1466**	**5519**
7:15 - 7:30				**85**	**341**		**108**				**903**		**1437**	**5802**
7:30 - 7:45				108	337		139				729		1313	5772
7:45 - 8:00				124	298		89				844		1355	5571
8:00 - 8:15				108	314		84				795		1301	5406
8:15 - 8:30				80	290		120				749		1239	5208
8:30 - 8:45				86	295		98				600		1079	4974
8:45 - 9:00				73	305		68				309		755	4374

peak hour, *PHF*	*0.000*	*0.000*	*0.000*	*0.739*	*0.794*	*0.000*	*0.805*	*0.000*	*0.000*	*0.000*	*0.897*	*0.000*	*0.932*
6:30 - 7:30	**0**	**0**	**0**	**349**	**1083**	**0**	**438**	**0**	**0**	**0**	**3932**	**0**	**5802**

PM Peak Period														
15:00 - 15:15				31	591		255				440		1317	
15:15 - 15:30				56	591		274				608		1529	
15:30 - 15:45				53	617		277				619		1566	
15:45 - 16:00				48	670		247				562		1527	5939
16:00 - 16:15				41	659		207				588		1495	6117
16:15 - 16:30				32	659		153				624		1468	6056
16:30 - 16:45				36	750		193				632		1611	6101
16:45 - 17:00				32	738		121				611		1502	6076
17:00 - 17:15				32	652		157				594		1435	6016
17:15 - 17:30				38	685		136				575		1434	5982
17:30 - 17:45				42	664		91				514		1311	5682
17:45 - 18:00				26	696		99				426		1247	5427

peak hour, *PHF*	*0.000*	*0.000*	*0.000*	*0.884*	*0.947*	*0.000*	*0.907*	*0.000*	*0.000*	*0.000*	*0.960*	*0.000*	*0.977*
15:15 - 16:15	**0**	**0**	**0**	**198**	**2537**	**0**	**1005**	**0**	**0**	**0**	**2377**	**0**	**6117**

Intersection of Nimitz Highway and Puuhale Road (signalized)

			Puuhale Road Southbound approach			Nimitz Highway Westbound approach			Puuhale Road Northbound Approach			Nimitz Highway Eastbound approach			
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	HOV	Right	
AM Peak Period (Wednesday, April 24, 2013)															
6:00	-	6:15	6	32	13			12	11	13	12	2	62	45	163
6:15	-	6:30	5	29	11			12	4	11	17	8	149	62	246
6:30	-	6:45	14	46	15			8	17	16	19	3	190	45	328
6:45	-	7:00	23	41	19			14	8	19	13	4	183	33	324
7:00	-	7:15	28	43	15			17	11	17	17	6	214	27	368
7:15	-	7:30	30	39	18			17	7	16	10	3	201	32	341
7:30	-	7:45	31	52	10			36	8	21	27	3	178	24	366
7:45	-	8:00	31	52	21			22	11	23	11	12	153	28	336
8:00	-	8:15	25	55	16			21	7	36	12	7	167	38	346
8:15	-	8:30	24	32	20			16	10	16	20	9	142	40	289
PM Peak Period (Tuesday, April 23, 2013)															
15:00	-	15:15	22	23	27	24		16	25	31	23	9		22	222
15:15	-	15:30	17	20	18	13		13	27	35	25	14		18	200
15:30	-	15:45	14	24	20	16		16	20	52	12	13		23	210
15:45	-	16:00	19	16	30	12		16	18	26	17	11		23	188
16:00	-	16:15	11	22	27	10		17	22	35	16	10		21	191
16:15	-	16:30	16	14	18	11		18	32	36	21	19		24	209
16:30	-	16:45	15	18	28	15		19	15	28	26	9		23	196
16:45	-	17:00	8	18	16	17		16	19	24	12	10		14	154
17:00	-	17:15	16	8	20	7		11	35	33	25	6		27	188
17:15	-	17:30	11	10	13	20		13	30	20	23	9		23	172

Intersection of Nimitz Highway and Mokauea Street (signalized)

			Mokauea Street Southbound approach			Nimitz Highway Westbound approach			Mokauea Street Northbound Approach			Nimitz Highway Eastbound approach				
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	HOV	Right		
AM Peak Period (Wednesday, April 24, 2013)																
6:00	-	6:15	7	19	4			9	4	18	1	4	65	19	131	
6:15	-	6:30	11	28	6			11	6	16	9	3	142	18	232	
6:30	-	6:45	11	33	7			17	4	11	10	1	205	19	299	
6:45	-	7:00	8	30	5			11	10	14	5	4	191	14	278	940
7:00	-	7:15	12	24	1			16	3	20	15	0	205	7	296	1105
7:15	-	7:30	16	19	5			15	8	29	11	4	185	8	292	1165
7:30	-	7:45	22	25	6			16	11	22	9	4	199	5	314	1180
7:45	-	8:00	23	30	10			12	17	30	15	3	164	12	304	1206
8:00	-	8:15	21	30	6			25	12	16	17	13	158	10	298	1208
8:15	-	8:30	9	28	4			22	17	12	13	5	142	17	252	1168
PM Peak Period (Tuesday, April 23, 2013)																
15:00	-	15:15	8	21	11	13		17	22	47	9	9		12	169	
15:15	-	15:30	7	13	7	21		29	29	38	27	10		12	193	
15:30	-	15:45	6	16	11	7		27	32	50	20	11		7	187	
15:45	-	16:00	9	11	13	14		20	26	36	23	11		8	171	720
16:00	-	16:15	11	14	15	7		19	20	38	17	9		8	158	709
16:15	-	16:30	8	13	7	8		11	24	45	15	10		11	152	668
16:30	-	16:45	11	16	14	7		14	20	28	14	6		10	140	621
16:45	-	17:00	9	10	11	11		6	16	23	12	7		8	113	563
17:00	-	17:15	9	9	12	8		13	12	25	12	9		2	111	516
17:15	-	17:30	5	12	9	9		12	13	24	15	7		6	112	476

Intersection of Nimitz Highway and Kalihi Street (signalized) - Monday 24 October 2011

	Kalihi Street Southbound approach			Nimitz Highway Westbound approach			Kalihi Street Northbound Approach			Nimitz Highway Eastbound approach				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
AM Peak Period														
6:00 - 6:15	---------------------------Counter reset--------------------------						8	31	5	14	477	16	551	
6:15 - 6:30	20	61	8	0	264	20	6	27	18	10	665	14	1113	
6:30 - 6:45	38	93	8	0	300	14	14	28	18	12	954	10	1489	
6:45 - 7:00	**42**	**94**	**15**	**0**	**273**	**33**	**10**	**34**	**21**	**8**	**958**	**18**	**1506**	**4659**
7:00 - 7:15	**46**	**91**	**8**	**0**	**330**	**22**	**10**	**35**	**25**	**7**	**1008**	**9**	**1591**	**5699**
7:15 - 7:30	**34**	**81**	**8**	**0**	**390**	**22**	**11**	**45**	**33**	**7**	**1008**	**6**	**1645**	**6231**
7:30 - 7:45	**42**	**94**	**15**	**0**	**395**	**16**	**13**	**28**	**23**	**9**	**958**	**10**	**1603**	**6345**
7:45 - 8:00	34	93	16	0	343	16	19	41	17	12	763	8	1362	6201
8:00 - 8:15	32	105	17	0	309	25	9	37	36	17	769	3	1359	5969
8:15 - 8:30	15	55	16	0	375	23	10	40	30	17	545	4	1130	5454
8:30 - 8:45	35	72	8	0	349	26	12	24	28	14	635	10	1213	5064
8:45 - 9:00	29	74	18	0	311	29	20	31	31	17	502	8	1070	4772
peak hour, *PHF*	*0.891*	*0.957*	*0.767*	*0.000*	*0.878*	*0.705*	*0.846*	*0.789*	*0.773*	*0.861*	*0.975*	*0.597*	*0.964*	
6:45 - 7:45	**164**	**360**	**46**	**0**	**1388**	**93**	**44**	**142**	**102**	**31**	**3932**	**43**	**6345**	

	Kalihi Street Southbound approach			Nimitz Highway Westbound approach			Kalihi Street Northbound Approach			Nimitz Highway Eastbound approach				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
PM Peak Period														
15:00 - 15:15	19	46	17	23	564	36	25	56	17	16	466	5	1290	
15:15 - 15:30	31	50	17	31	594	40	19	56	28	16	554	4	1440	
15:30 - 15:45	32	52	29	21	586	38	23	53	23	21	573	2	1453	
15:45 - 16:00	**30**	**45**	**11**	**23**	**628**	**47**	**25**	**57**	**37**	**27**	**601**	**4**	**1535**	**5718**
16:00 - 16:15	**33**	**43**	**27**	**24**	**619**	**33**	**10**	**54**	**42**	**16**	**598**	**7**	**1506**	**5934**
16:15 - 16:30	**14**	**32**	**19**	**23**	**679**	**36**	**11**	**53**	**27**	**22**	**605**	**1**	**1522**	**6016**
16:30 - 16:45	**32**	**55**	**18**	**21**	**637**	**38**	**17**	**59**	**29**	**21**	**635**	**4**	**1566**	**6129**
16:45 - 17:00	28	37	19	18	639	34	14	56	30	19	589	7	1490	6084
17:00 - 17:15	15	39	13	27	651	37	15	52	26	29	571	2	1477	6055
17:15 - 17:30	25	32	17	17	588	35	10	41	20	25	556	3	1369	5902
17:30 - 17:45	24	19	11	18	651	27	11	50	13	18	471	3	1316	5652
17:45 - 18:00	19	25	9	18	519	28	6	39	11	13	437	3	1127	5289
peak hour, *PHF*	*0.826*	*0.795*	*0.694*	*0.948*	*0.944*	*0.819*	*0.630*	*0.945*	*0.804*	*0.796*	*0.960*	*0.571*	*0.978*	
15:45 - 16:45	**109**	**175**	**75**	**91**	**2563**	**154**	**63**	**223**	**135**	**86**	**2439**	**16**	**6129**	

Intersection of Nimitz Highway and Waiakamilo Road (signalized)

	Waiakamilo Road Southbound approach			Nimitz Highway Westbound approach			Young Brothers Northbound Approach			Nimitz Highway Eastbound approach				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	HOV	Right		
AM Peak Period (Wednesday, April 24, 2013)														
6:00 - 6:15	27	10	21			30	0	1	1	5	69	6	170	
6:15 - 6:30	48	8	28			31	0	0	1	10	125	8	259	
6:30 - 6:45	33	2	28			36	1	0	0	22	180	9	311	
6:45 - 7:00	82	9	25			46	0	1	0	17	184	15	379	1119
7:00 - 7:15	77	9	21			66	2	0	0	22	221	9	427	1376
7:15 - 7:30	83	14	37			45	1	1	1	24	190	11	407	1524
7:30 - 7:45	60	16	27			71	5	1	3	18	189	12	402	1615
7:45 - 8:00	87	12	35			56	12	10	9	16	177	10	424	1660
8:00 - 8:15	77	16	45			62	7	7	9	27	173	11	434	1667
8:15 - 8:30	85	13	36			61	8	2	6	31	139	17	398	1658
PM Peak Period (Tuesday, April 23, 2013)														
15:00 - 15:15	65	2	73	1		69	9	6	8	33		1	267	
15:15 - 15:30	65	1	74	0		65	6	7	4	35		3	260	
15:30 - 15:45	65	0	61	1		64	1	2	3	35		4	236	
15:45 - 16:00	54	3	85	0		60	2	5	2	35		4	250	1013
16:00 - 16:15	72	0	68	1		78	3	10	6	35		3	276	1022
16:15 - 16:30	55	0	80	0		63	2	4	4	47		0	255	1017
16:30 - 16:45	63	0	61	0		54	1	5	3	32		5	224	1005
16:45 - 17:00	42	0	95	3		67	3	8	2	20		2	242	997
17:00 - 17:15	53	1	63	0		69	3	3	0	28		0	220	941
17:15 - 17:30	47	2	58	0		65	2	2	3	37		3	219	905

Intersection of Sand Island Access Road and Auiki Street (signalized) - Monday 24 October 2011

AM Peak Period

	Sand Island Access Road			Auiki Street			Sand Island Access Road			Pahounui Drive				
	Southbound approach			Westbound approach			Northbound Approach			Eastbound approach				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
6:00 - 6:15	22	252	12	46	2	7	1	40	39	18	4	1	444	
6:15 - 6:30	26	272	9	69	1	15	4	75	54	10	4	2	541	
6:30 - 6:45	26	241	7	66	7	20	0	109	61	10	4	0	551	
6:45 - 7:00	36	236	16	49	3	13	1	104	70	11	10	2	551	2087
7:00 - 7:15	39	135	15	52	4	25	5	111	55	4	7	5	457	2100
7:15 - 7:30	36	146	12	41	9	17	1	84	71	14	4	1	436	1995
7:30 - 7:45	45	118	11	51	4	21	1	81	54	7	9	0	402	1846
7:45 - 8:00	53	163	14	51	7	17	2	66	74	11	10	0	468	1763
8:00 - 8:15	36	162	15	64	4	22	0	76	96	12	4	2	493	1799
8:15 - 8:30	31	148	17	59	10	17	3	85	62	14	11	2	459	1822
8:30 - 8:45	25	120	7	44	3	21	0	86	73	13	7	6	405	1825
8:45 - 9:00	52	120	8	49	3	17	7	104	80	10	4	2	456	1813
peak hour, *PHF*	*0.814*	*0.813*	*0.734*	*0.855*	*0.536*	*0.730*	*0.500*	*0.899*	*0.857*	*0.795*	*0.625*	*0.450*	*0.953*	
6:15 - 7:15	**127**	**884**	**47**	**236**	**15**	**73**	**10**	**399**	**240**	**35**	**25**	**9**	**2100**	

PM Peak Period

	Sand Island Access Road			Auiki Street			Sand Island Access Road			Pahounui Drive				
	Southbound approach			Westbound approach			Northbound Approach			Eastbound approach				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
15:00 - 15:15	21	101	7	56	5	27	0	201	160	14	15	3	610	
15:15 - 15:30	35	108	4	44	6	38	2	174	98	3	12	2	526	
15:30 - 15:45	37	114	5	42	5	45	5	178	111	8	21	2	573	
15:45 - 16:00	20	100	5	34	5	37	0	146	134	13	10	1	505	2214
16:00 - 16:15	30	87	2	27	2	52	1	135	94	24	16	1	471	2075
16:15 - 16:30	23	90	4	27	3	21	2	129	97	6	10	0	412	1961
16:30 - 16:45	14	61	5	27	3	36	0	136	106	8	14	0	410	1798
16:45 - 17:00	16	63	1	28	3	27	0	97	91	9	16	1	352	1645
17:00 - 17:15	11	73	2	30	2	38	0	94	82	9	12	0	353	1527
17:15 - 17:30	9	58	3	34	1	22	2	83	87	3	6	0	308	1423
17:30 - 17:45	8	92	1	28	1	13	0	72	63	6	2	0	286	1299
17:45 - 18:00	4	69	5	15	25	1	0	69	50	4	6	0	248	1195
peak hour, *PHF*	*0.764*	*0.928*	*0.750*	*0.786*	*0.875*	*0.817*	*0.350*	*0.869*	*0.786*	*0.679*	*0.690*	*0.667*	*0.907*	
15:00 - 16:00	**113**	**423**	**21**	**176**	**21**	**147**	**7**	**699**	**503**	**38**	**58**	**8**	**2214**	

Intersection of Sand Island Access Road and Road No. 2 (signalized) - Monday 24 October 2011

AM Peak Period

	Road No. 2			Sand Island Access Road			Road No. 2			Sand Island Access Road				
	Southbound approach			Westbound approach			Northbound Approach			Eastbound approach				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
6:00 - 6:15	**11**	**0**	**21**	**0**	**57**	**0**	**0**	**0**	**0**	**44**	**249**	**2**	**384**	
6:15 - 6:30	**3**	**0**	**14**	**0**	**124**	**1**	**1**	**0**	**1**	**42**	**276**	**5**	**467**	
6:30 - 6:45	**6**	**0**	**37**	**0**	**125**	**2**	**3**	**0**	**0**	**49**	**232**	**3**	**457**	
6:45 - 7:00	**4**	**0**	**29**	**0**	**122**	**3**	**3**	**0**	**0**	**54**	**242**	**3**	**460**	**1768**
7:00 - 7:15	1	0	44	0	126	2	1	0	0	32	153	0	359	1743
7:15 - 7:30	5	1	30	0	101	2	2	2	0	32	147	0	322	1598
7:30 - 7:45	5	0	25	0	94	1	3	5	0	33	120	2	288	1429
7:45 - 8:00	4	1	27	0	106	2	3	1	1	41	172	0	358	1327
8:00 - 8:15	3	0	29	0	129	0	0	0	1	33	165	0	360	1328
8:15 - 8:30	1	0	27	0	119	1	1	0	0	31	158	1	339	1345
8:30 - 8:45	1	0	16	1	117	2	0	0	0	27	137	0	301	1358
8:45 - 9:00	2	0	28	0	135	4	1	0	0	25	126	1	322	1322
peak hour, *PHF*	*0.545*	*0.000*	*0.682*	*0.000*	*0.856*	*0.500*	*0.583*	*0.000*	*0.250*	*0.875*	*0.905*	*0.650*	*0.946*	
6:00 - 7:00	**24**	**0**	**101**	**0**	**428**	**6**	**7**	**0**	**1**	**189**	**999**	**13**	**1768**	

PM Peak Period

	Road No. 2			Sand Island Access Road			Road No. 2			Sand Island Access Road				
	Southbound approach			Westbound approach			Northbound Approach			Eastbound approach				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
15:00 - 15:15	**1**	**0**	**40**	**0**	**238**	**8**	**17**	**0**	**0**	**33**	**100**	**1**	**438**	
15:15 - 15:30	**2**	**0**	**50**	**0**	**195**	**2**	**2**	**0**	**1**	**45**	**119**	**1**	**417**	
15:30 - 15:45	**1**	**0**	**61**	**0**	**226**	**5**	**2**	**0**	**0**	**29**	**116**	**2**	**442**	
15:45 - 16:00	**1**	**0**	**47**	**1**	**199**	**3**	**1**	**0**	**0**	**31**	**93**	**0**	**376**	**1673**
16:00 - 16:15	3	0	49	0	192	1	0	0	0	29	70	0	344	1579
16:15 - 16:30	0	0	48	0	167	2	0	0	0	19	93	0	329	1491
16:30 - 16:45	0	0	51	0	178	2	0	0	0	14	59	0	304	1353
16:45 - 17:00	0	0	24	0	136	0	0	0	0	14	65	0	239	1216
17:00 - 17:15	0	0	16	0	135	0	0	0	0	19	76	0	246	1118
17:15 - 17:30	0	0	27	0	139	1	0	0	1	11	65	1	245	1034
17:30 - 17:45	2	0	9	0	114	0	0	0	0	12	104	0	241	971
17:45 - 18:00	1	0	23	0	88	1	0	0	0	14	73	0	200	932
peak hour, *PHF*	*0.625*	*0.000*	*0.811*	*0.250*	*0.901*	*0.563*	*0.324*	*0.000*	*0.250*	*0.767*	*0.899*	*0.500*	*0.946*	
15:00 - 16:00	**5**	**0**	**198**	**1**	**858**	**18**	**22**	**0**	**1**	**138**	**428**	**4**	**1673**	

Intersection of Sand Island Access Road and UH Snug Harbor (unsignalized) - Tuesday 25 October 2011

	Gate			Sand Island Access Road			UH Snug Harbor			Sand Island Access Road				
	Southbound approach			Westbound approach			Northbound Approach			Eastbound approach				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
AM Peak Period														
6:00 - 6:15	**0**	**0**	**0**	**1**	**64**	**1**	**2**	**0**	**1**	**3**	**204**	**9**	**285**	
6:15 - 6:30	**0**	**0**	**0**	**2**	**136**	**0**	**6**	**0**	**0**	**2**	**246**	**7**	**399**	
6:30 - 6:45	**0**	**0**	**0**	**1**	**113**	**0**	**8**	**0**	**5**	**1**	**240**	**6**	**374**	
6:45 - 7:00	**0**	**0**	**0**	**4**	**128**	**0**	**9**	**0**	**2**	**3**	**216**	**6**	**368**	**1426**
7:00 - 7:15	0	1	0	1	79	0	10	0	3	3	151	14	262	1403
7:15 - 7:30	0	0	0	0	78	0	8	0	0	2	127	12	227	1231
7:30 - 7:45	0	0	2	0	104	0	5	0	1	2	130	9	253	1110
7:45 - 8:00	0	0	2	0	68	0	12	0	4	2	182	8	278	1020
8:00 - 8:15	0	0	0	1	105	0	10	0	0	9	162	12	299	1057
8:15 - 8:30	0	0	0	1	102	0	6	0	2	1	152	8	272	1102
8:30 - 8:45	0	0	1	1	100	0	6	0	3	0	152	7	270	1119
8:45 - 9:00	0	0	0	2	105	0	6	0	0	9	117	8	247	1088
peak hour, *PHF*	*0.000*	*0.000*	*0.000*	*0.500*	*0.811*	*0.250*	*0.694*	*0.000*	*0.400*	*0.750*	*0.921*	*0.778*	*0.893*	
6:00 - 7:00	**0**	**0**	**0**	**8**	**441**	**1**	**25**	**0**	**8**	**9**	**906**	**28**	**1426**	
PM Peak Period														
15:00 - 15:15	**0**	**0**	**2**	**0**	**272**	**0**	**15**	**0**	**1**	**2**	**101**	**4**	**397**	
15:15 - 15:30	**0**	**0**	**0**	**1**	**222**	**0**	**11**	**0**	**1**	**1**	**107**	**13**	**356**	
15:30 - 15:45	**1**	**0**	**3**	**0**	**194**	**0**	**7**	**0**	**2**	**0**	**96**	**14**	**317**	
15:45 - 16:00	**0**	**0**	**1**	**0**	**196**	**0**	**5**	**0**	**0**	**1**	**67**	**9**	**279**	**1349**
16:00 - 16:15	0	0	1	1	161	0	9	0	2	0	68	12	254	1206
16:15 - 16:30	0	0	3	0	141	0	10	0	3	0	62	5	224	1074
16:30 - 16:45	0	0	1	0	146	0	9	0	1	0	51	5	213	970
16:45 - 17:00	0	0	2	0	100	0	6	0	2	1	61	10	182	873
17:00 - 17:15	0	0	0	0	122	0	2	0	2	0	41	9	176	795
17:15 - 17:30	0	0	0	0	89	0	4	0	0	0	59	5	157	728
17:30 - 17:45	0	0	1	3	87	0	11	0	3	0	52	6	163	678
17:45 - 18:00	0	0	0	1	77	0	12	0	0	0	49	4	143	639
peak hour, *PHF*	*0.250*	*0.000*	*0.500*	*0.250*	*0.813*	*0.000*	*0.633*	*0.000*	*0.500*	*0.500*	*0.867*	*0.714*	*0.849*	
15:00 - 16:00	**1**	**0**	**6**	**1**	**884**	**0**	**38**	**0**	**4**	**4**	**371**	**40**	**1349**	

Intersecion of Sand Island Access Road and Horizon Main Entry (signalized) - Thursday 17 November 2011

	Main Entry			Sand Island Access Road			To Boat Ramp			Sand Island Access Road				
	Southbound approach			Westbound approach			Northbound Approach			Eastbound approach				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
AM Peak Period														
5:30 - 5:45	0	0	1			0		0		22			23	
5:45 - 6:00	0	0	3			4		0		28			35	
6:00 - 6:15	0	0	9			8		0		29			46	
6:15 - 6:30	1	0	22			1		1		9			34	138
6:30 - 6:45	1	0	12			1		1		25			40	155
6:45 - 7:00	0	0	13			2		0		18			33	153
7:00 - 7:15	0	0	22			1		0		21			44	151
7:15 - 7:30	1	0	14			3		0		17			35	152
7:30 - 7:45	1	0	20			0		0		13			34	146
7:45 - 8:00	1	0	13			0		0		22			36	149
8:00 - 8:15	1	0	11			1		0		11			24	129
8:15 - 8:30	0	0	11			0		0		22			33	127
PM Peak Period														
14:00 - 14:15	3	0	12			4		0		12			31	
14:15 - 14:30	7	0	9			1		0		5			22	
14:30 - 14:45	3	0	12			2		0		9			26	
14:45 - 15:00	3	0	10			0		0		5			18	97
15:00 - 15:15	1	0	18			2		0		9			30	96
15:15 - 15:30	4	0	14			1		0		11			30	104
15:30 - 15:45	1	0	14			5		0		2			22	100
15:45 - 16:00	0	0	5			0		0		1			6	88
16:00 - 16:15	0	0	9			0		0		4			13	71
16:15 - 16:30	0	0	6			0		0		3			9	50
16:30 - 16:45	0	0	8			0		0		3			11	39
16:45 - 17:00	1	0	15			1		0		4			21	54

Intersection of Auiki Street and Puuhale Road (unsignalized) - Tuesday 25 October 2011

	Puuhale Road			Auiki Street			Servco Driveway			Auiki Street				
	Southbound approach			Westbound approach			Northbound Approach			Eastbound approach				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
AM Peak Period														
6:00 - 6:15	7	1	27	0	31	12	2	0	1	6	53	4	144	
6:15 - 6:30	7	3	43	2	38	2	0	0	0	11	57	3	166	
6:30 - 6:45	6	0	36	4	52	7	0	0	1	7	67	5	185	
6:45 - 7:00	6	1	34	2	35	9	0	2	0	5	94	10	198	693
7:00 - 7:15	4	1	34	4	36	2	0	1	0	11	74	5	172	721
7:15 - 7:30	11	3	22	0	43	10	0	2	0	12	78	2	183	738
7:30 - 7:45	20	1	17	5	42	8	0	0	0	8	80	7	188	741
7:45 - 8:00	6	1	27	4	55	7	0	1	1	9	87	6	204	747
8:00 - 8:15	9	1	26	2	42	12	0	6	3	11	92	7	211	786
8:15 - 8:30	9	2	27	2	52	11	0	4	1	11	101	2	222	825
8:30 - 8:45	10	0	17	3	40	7	0	1	0	14	87	2	181	818
8:45 - 9:00	11	0	28	2	45	13	0	2	6	19	84	3	213	827
peak hour, *PHF*	*1.100*	*0.625*	*0.898*	*0.813*	*0.868*	*0.792*	*0.000*	*0.458*	*0.417*	*0.696*	*0.891*	*0.786*	*0.929*	
7:30 - 8:30	44	5	97	13	191	38	0	11	5	39	360	22	825	

PM Peak Period														
15:00 - 15:15	2	1	13	1	62	7	0	5	1	15	126	1	234	
15:15 - 15:30	8	1	17	2	51	14	2	0	0	21	149	3	268	
15:30 - 15:45	15	0	15	2	69	9	8	8	5	12	138	3	284	
15:45 - 16:00	12	2	17	2	51	15	1	11	4	22	116	0	253	1039
16:00 - 16:15	11	2	24	0	48	12	1	5	4	23	128	2	260	1065
16:15 - 16:30	10	1	16	1	43	4	1	5	1	19	121	0	222	1019
16:30 - 16:45	7	0	12	0	43	7	2	4	3	10	86	0	174	909
16:45 - 17:00	3	0	11	1	40	3	0	1	2	19	86	0	166	822
17:00 - 17:15	8	1	12	0	32	3	1	3	2	7	78	0	147	709
17:15 - 17:30	7	0	16	1	27	8	2	0	1	16	71	0	149	636
17:30 - 17:45	6	0	13	0	29	2	2	2	0	6	58	0	118	580
17:45 - 18:00	9	0	9	0	30	3	4	1	0	10	57	0	123	537
peak hour, *PHF*	*0.767*	*0.625*	*0.760*	*0.750*	*0.793*	*0.833*	*0.375*	*0.545*	*0.650*	*0.848*	*0.891*	*0.667*	*0.938*	
15:15 - 16:15	46	5	73	6	219	50	12	24	13	78	531	8	1065	

Intersection of Auiki Street and Mokauea Street (unsignalized) - Monday 24 October 2011

	Mokauea Street			Auiki Street			Driveway			Auiki Street				
	Southbound approach			Westbound approach			Northbound Approach			Eastbound approach				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
AM Peak Period														
6:00 - 6:15	0	0	7	7	47	3	0	1	1	1	23	2	92	
6:15 - 6:30	0	2	16	4	63	5	1	0	0	5	38	3	137	
6:30 - 6:45	0	4	14	19	58	4	2	1	2	5	54	2	165	
6:45 - 7:00	1	0	13	12	67	3	2	1	6	1	47	2	155	549
7:00 - 7:15	0	0	18	11	59	3	1	1	0	2	45	6	146	603
7:15 - 7:30	2	0	10	13	78	2	1	2	2	4	50	0	164	630
7:30 - 7:45	2	0	17	20	65	12	2	0	1	2	49	5	175	640
7:45 - 8:00	2	0	15	21	82	6	1	0	1	5	48	4	185	670
8:00 - 8:15	2	1	13	23	92	4	4	0	0	2	65	2	208	732
8:15 - 8:30	3	0	12	17	87	5	3	5	3	4	47	5	191	759
8:30 - 8:45	2	1	10	19	70	3	3	1	1	4	56	5	175	759
8:45 - 9:00	5	0	11	14	88	3	3	0	2	3	50	2	181	755
peak hour, *PHF*	*0.750*	*0.250*	*0.838*	*0.880*	*0.886*	*0.563*	*0.625*	*0.250*	*0.417*	*0.650*	*0.804*	*0.800*	*0.912*	
7:30 - 8:30	9	1	57	81	326	27	10	5	5	13	209	16	759	

PM Peak Period														
15:00 - 15:15	2	1	11	2	62	5	5	0	1	13	118	5	225	
15:15 - 15:30	2	3	12	0	45	1	6	3	8	19	108	1	208	
15:30 - 15:45	1	0	7	1	56	5	1	1	3	26	126	2	229	
15:45 - 16:00	1	1	13	2	46	0	1	2	4	23	117	1	211	873
16:00 - 16:15	6	0	14	1	41	1	5	1	3	21	104	0	197	845
16:15 - 16:30	4	0	10	5	34	1	4	1	3	10	104	1	177	814
16:30 - 16:45	2	0	13	2	33	0	6	4	4	20	122	0	206	791
16:45 - 17:00	1	2	9	0	33	0	1	1	3	16	90	1	157	737
17:00 - 17:15	3	0	11	0	37	5	2	3	4	16	87	1	169	709
17:15 - 17:30	0	1	9	3	26	0	2	0	1	11	86	3	142	674
17:30 - 17:45	2	0	4	0	23	2	0	1	1	9	66	2	110	578
17:45 - 18:00	1	0	8	0	23	2	0	0	0	12	47	0	93	514
peak hour, *PHF*	*0.750*	*0.417*	*0.827*	*0.625*	*0.843*	*0.550*	*0.542*	*0.500*	*0.500*	*0.779*	*0.931*	*0.450*	*0.953*	
15:00 - 16:00	6	5	43	5	209	11	13	6	16	81	469	9	873	

Intersection of Auiki Street and Kalihi Street (unsignalized) - Tuesday 25 October 2011

	Kalihi Street			Auiki Street						Auiki Street				
	Southbound approach			Westbound approach			Northbound Approach			Eastbound approach				
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
AM Peak Period														
6:00 - 6:15	5		28		13	6				36	14		102	
6:15 - 6:30	4		30		5	4				27	21		91	
6:30 - 6:45	5		44		9	4				37	24		123	
6:45 - 7:00	4		37		7	2				58	20		128	444
7:00 - 7:15	1		29		11	4				40	21		106	448
7:15 - 7:30	0		42		5	3				29	29		108	465
7:30 - 7:45	**1**		**42**		**8**	**1**				**40**	**32**		**124**	**466**
7:45 - 8:00	**3**		**47**		**22**	**3**				**37**	**40**		**152**	**490**
8:00 - 8:15	**3**		**29**		**13**	**8**				**42**	**54**		**149**	**533**
8:15 - 8:30	**2**		**37**		**17**	**6**				**48**	**41**		**151**	**576**
8:30 - 8:45	0		26		21	4				39	33		123	575
8:45 - 9:00	2		21		29	6				36	50		144	567
peak hour, *PHF*	*0.750*	*0.000*	*0.824*	*0.000*	*0.682*	*0.563*	*0.000*	*0.000*	*0.000*	*0.870*	*0.773*	*0.000*	*0.947*	
7:30 - 8:30	**9**	**0**	**155**	**0**	**60**	**18**	**0**	**0**	**0**	**167**	**167**	**0**	**576**	
PM Peak Period														
15:00 - 15:15	4		46		15	3				54	54		176	
15:15 - 15:30	**7**		**36**		**8**	**5**				**64**	**73**		**193**	
15:30 - 15:45	**5**		**25**		**25**	**11**				**60**	**91**		**217**	
15:45 - 16:00	**3**		**21**		**18**	**8**				**47**	**72**		**169**	**755**
16:00 - 16:15	**7**		**19**		**15**	**11**				**61**	**68**		**181**	**760**
16:15 - 16:30	6		28		9	2				55	58		158	725
16:30 - 16:45	2		24		6	6				51	49		138	646
16:45 - 17:00	1		16		9	6				30	40		102	579
17:00 - 17:15	1		19		10	3				43	45		121	519
17:15 - 17:30	1		22		7	10				39	30		109	470
17:30 - 17:45	3		17		4	3				38	19		84	416
17:45 - 18:00	2		13		1	2				22	14		54	368
peak hour, *PHF*	*0.786*	*0.000*	*0.701*	*0.000*	*0.660*	*0.795*	*0.000*	*0.000*	*0.000*	*0.906*	*0.835*	*0.000*	*0.876*	
15:15 - 16:15	**22**	**0**	**101**	**0**	**66**	**35**	**0**	**0**	**0**	**232**	**304**	**0**	**760**	

APPENDIX B

TRAFFIC GENERATION COMPUTATIONS

Kapalama Container Yard

Traffic Generation

	AM Peak Hour		PM Peak Hour	
	enter	exit	enter	exit
estimate of 2011 activity = 250 kTEUs				
Existing (2011) counts, Horizon Yard				
cars	48	14	15	39
trucks	44	70	30	54
total	92	84	45	93
Estimate of 2039 activity at Kapalama				
based on 550 kTEUs				
cars	106	31	33	86
trucks	97	154	66	119
total	203	185	99	205

APPENDIX C

INTERSECTION ANALYSIS SUMMARY WORKSHEETS – EXISTING

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*1 Nimitz Sand Island Access*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2013*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	3	1	2	3	0	3	0	0	0	0	0
Lane group		T	R	L	T		L					
Volume, V (vph)		3150	785	350	1140		440					
% Heavy vehicles, %HV		5	0	5	5		9					
Peak-hour factor, PHF		0.95	0.95	0.95	0.95		0.95					
Pretimed (P) or actuated (A)		P	P	P	P		P					
Start-up lost time, l_1		2.0	2.0	2.0	2.0		2.0					
Extension of effective green, e		2.0	2.0	2.0	2.0		2.0					
Arrival type, AT		3	3	3	3		3					
Unit extension, UE		3.0	3.0	3.0	3.0		3.0					
Filtering/metering, I		1.000	1.000	1.000	1.000		1.000	1.000				
Initial unmet demand, Q_b		0.0	0.0	0.0	0.0		0.0					
Ped / Bike / RTOR volumes	0		0							0		
Lane width		12.0	12.0	12.0	12.0		12.0					
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N		N
Parking maneuvers, N_m												
Buses stopping, N_B		0	0	0	0		0					
Min. time for pedestrians, G_p	3.2									3.2		

Phasing	WB Only	Thru & RT	03	04	NB Only	06	07	08
Timing	G = *27.0*	G = *170.0*	G =	G =	G = *26.0*	G =	G =	G =
	Y = *6*	Y = *6*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *240.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		3316	826	368	1200		463					
Lane group capacity, c		3491	1144	376	4169		489					
v/c ratio, X		0.95	0.72	0.98	0.29		0.95					
Total green ratio, g/C		0.71	0.71	0.11	0.85		0.11					
Uniform delay, d_1		31.2	20.9	106.2	3.8		106.3					
Progression factor, PF		1.000	1.000	1.000	1.000		1.000					
Delay calibration, k		0.50	0.50	0.50	0.50		0.50					
Incremental delay, d_2		7.4	4.0	41.4	0.2		29.4					
Initial queue delay, d_3												
Control delay		38.6	24.9	147.6	3.9		135.7					
Lane group LOS		D	C	F	A		F					
Approach delay	35.8			37.7			135.7					
Approach LOS	D			D			F					
Intersection delay	43.8			X_c = 0.95			Intersection LOS			D		

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*1 Nimitz Sand Island Access*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2013*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	3	0	2	3	0	3	0	0	0	0	0
Lane group		T		L	T		L					
Volume, V (vph)		2375		200	2565		1005					
% Heavy vehicles, %HV		5		5	5		9					
Peak-hour factor, PHF		0.98		0.98	0.98		0.98					
Pretimed (P) or actuated (A)		P		P	P		P					
Start-up lost time, l_1		2.0		2.0	2.0		2.0					
Extension of effective green, e		2.0		2.0	2.0		2.0					
Arrival type, AT		3		3	3		3					
Unit extension, UE		3.0		3.0	3.0		3.0					
Filtering/metering, I		1.000		1.000	1.000		1.000	1.000				
Initial unmet demand, Q_b		0.0		0.0	0.0		0.0					
Ped / Bike / RTOR volumes	0									0		
Lane width		12.0		12.0	12.0		12.0					
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N		N
Parking maneuvers, N_m												
Buses stopping, N_B		0		0	0		0					
Min. time for pedestrians, G_p	3.2									3.2		

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *20.0*	G = *139.0*	G =	G =	G = *54.0*	G =	G =	G =
	Y = *6*	Y = *6*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *230.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		2423		204	2617		1026					
Lane group capacity, c		2979		290	3536		1059					
v/c ratio, X		0.81		0.70	0.74		0.97					
Total green ratio, g/C		0.60		0.09	0.72		0.23					
Uniform delay, d_1		35.4		102.1	19.6		87.2					
Progression factor, PF		1.000		1.000	1.000		1.000					
Delay calibration, k		0.50		0.50	0.50		0.50					
Incremental delay, d_2		2.6		13.4	1.4		21.1					
Initial queue delay, d_3												
Control delay		38.0		115.5	21.0		108.3					
Lane group LOS		D		F	C		F					
Approach delay	38.0			27.8			108.3					
Approach LOS	D			C			F					
Intersection delay	44.9			X_c = 0.84			Intersection LOS			D		

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	*JN*	Intersection	*2 Nimitz Puuhale*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2013 (EB RT = CFL)*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	1	0	2	0	0	1	1	1	1	0
Lane group	L	T	R		TR			LT	R	L	TR	
Volume, V (vph)	25	3205	785		1390	95	35	95	70	115	200	65
% Heavy vehicles, %HV	5	5	5		5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P		P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0	2.0		2.0			2.0	2.0	2.0	2.0	
Extension of effective green, e	2.0	2.0	2.0		2.0			2.0	2.0	2.0	2.0	
Arrival type, AT	3	3	3		3			3	3	3	3	
Unit extension, UE	3.0	3.0	3.0		3.0			3.0	3.0	3.0	3.0	
Filtering/metering, I	1.000	1.000	1.000		1.000			1.000	1.000	1.000	1.000	
Initial unmet demand, Q_b	0.0	0.0	0.0		0.0			0.0	0.0	0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0		12.0			12.0	12.0	12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0	0		0			0	0	0	0	
Min. time for pedestrians, G_p		3.2			3.2			3.2			3.2	

Phasing	EB Only	Thru & RT	03	04	NS Perm	06	07	08
Timing	G = 5.0	G = 168.0	G =	G =	G = 50.0	G =	G =	G =
	Y = 5	Y = 7	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	26	3374	826		1563			137	74	121	279	
Lane group capacity, c	36	3656	1267		2388			156	306	199	352	
v/c ratio, X	0.72	0.92	0.65		0.65			0.88	0.24	0.61	0.79	
Total green ratio, g/C	0.02	0.74	0.70		0.70			0.21	0.21	0.21	0.21	
Uniform delay, d_1	116.8	25.4	19.9		19.9			92.0	79.2	86.1	90.1	
Progression factor, PF	1.000	1.000	1.000		1.000			1.000	1.000	1.000	1.000	
Delay calibration, k	0.50	0.50	0.50		0.50			0.50	0.50	0.50	0.50	
Incremental delay, d_2	79.5	5.1	2.6		1.4			45.5	1.9	13.1	16.6	
Initial queue delay, d_3												
Control delay	196.3	30.5	22.5		21.3			137.5	81.1	99.2	106.7	
Lane group LOS	F	C	C		C			F	F	F	F	
Approach delay		30.0			21.3			117.7			104.4	
Approach LOS		C			C			F			F	
Intersection delay		35.4			X_C = 0.91		Intersection LOS				D	

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	*JN*	Intersection	*2 Nimitz Puuhale*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2013*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	0	1	3	0	0	1	1	1	1	0
Lane group	L	TR		L	TR			LT	R	L	TR	
Volume, V (vph)	45	2425	85	65	2570	70	90	145	75	70	85	95
% Heavy vehicles, %HV	5	5	5	5	5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0		2.0	2.0			2.0	2.0	2.0	2.0	
Extension of effective green, e	2.0	2.0		2.0	2.0			2.0	2.0	2.0	2.0	
Arrival type, AT	3	3		3	3			3	3	3	3	
Unit extension, UE	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Filtering/metering, I	1.000	1.000		1.000	1.000			1.000	1.000	1.000	1.000	
Initial unmet demand, Q_b	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0		12.0	12.0			12.0	12.0	12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0		0	0			0	0	0	0	
Min. time for pedestrians, G_p		3.2			3.2			3.2			3.2	

Phasing	EB Only	Thru & RT	WB Only	04	NS Perm	06	07	08
Timing	G = 8.0	G = 140.0	G = 10.0	G =	G = 60.0	G =	G =	G =
	Y = 5	Y = 7	Y = 5	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	47	2642		68	2779			248	79	74	189	
Lane group capacity, c	57	3126		72	3211			263	367	165	412	
v/c ratio, X	0.82	0.85		0.94	0.87			0.94	0.22	0.45	0.46	
Total green ratio, g/C	0.03	0.64		0.04	0.65			0.25	0.25	0.25	0.25	
Uniform delay, d_1	115.3	34.2		114.7	33.1			88.3	71.3	76.0	76.2	
Progression factor, PF	1.000	1.000		1.000	1.000			1.000	1.000	1.000	1.000	
Delay calibration, k	0.50	0.50		0.50	0.50			0.50	0.50	0.50	0.50	
Incremental delay, d_2	75.7	3.0		91.3	3.4			42.6	1.3	8.6	3.6	
Initial queue delay, d_3												
Control delay	191.0	37.2		206.1	36.5			130.9	72.7	84.6	79.9	
Lane group LOS	F	D		F	D			F	E	F	E	
Approach delay		39.9			40.5			116.8			81.2	
Approach LOS		D			D			F			F	
Intersection delay		46.1			X_C = 0.88		Intersection LOS				D	

HCS2000™ DETAILED REPORT

General Information		**Site Information**	
Analyst	*JN*	Intersection	*3 Nimitz Mokauea*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2013 (EB RT = CFL)*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	1	0	2	0	0	1	0	0	1	0
Lane group	L	T	R		TR			LTR			LTR	
Volume, V (vph)	25	3175	785		1410	70	50	95	50	80	105	25
% Heavy vehicles, %HV	5	5	5		5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.96	0.96	0.96		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or actuated (A)	P	P	P		P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0	2.0		2.0			2.0			2.0	
Extension of effective green, e	2.0	2.0	2.0		2.0			2.0			2.0	
Arrival type, AT	3	3	3		3			3			3	
Unit extension, UE	3.0	3.0	3.0		3.0			3.0			3.0	
Filtering/metering, I	1.000	1.000	1.000		1.000			1.000			1.000	
Initial unmet demand, Q_b	0.0	0.0	0.0		0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0		12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0	0		0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	03	04	NS Perm	06	07	08
Timing	G = *5.0*	G = *168.0*	G =	G =	G = *50.0*	G =	G =	G =
	Y = *5*	Y = *7*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *240.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	26	3307	818		1542			203			218	
Lane group capacity, c	36	3656	1267		2395			285			236	
v/c ratio, X	0.72	0.90	0.65		0.64			0.71			0.92	
Total green ratio, g/C	0.02	0.74	0.70		0.70			0.21			0.21	
Uniform delay, d_1	116.8	24.3	19.7		19.7			88.3			93.1	
Progression factor, PF	1.000	1.000	1.000		1.000			1.000			1.000	
Delay calibration, k	0.50	0.50	0.50		0.50			0.50			0.50	
Incremental delay, d_2	79.5	4.2	2.5		1.3			14.1			41.7	
Initial queue delay, d_3												
Control delay	196.3	28.6	22.3		21.0			102.4			134.8	
Lane group LOS	F	C	C		C			F			F	
Approach delay	28.4			21.0			102.4			134.8		
Approach LOS	C			C			F			F		
Intersection delay	32.8			X_c = 0.91			Intersection LOS			C		

HCS2000™ Version 4.1e

HCS2000™ DETAILED REPORT

General Information		**Site Information**	
Analyst	*JN*	Intersection	*3 Nimitz Mokauea*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2013*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	0	1	3	0	0	1	1	0	1	0
Lane group	L	TR		L	TR			LT	R		LTR	
Volume, V (vph)	70	2460	40	55	2550	95	110	170	80	30	60	40
% Heavy vehicles, %HV	5	5	5	5	5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0		2.0	2.0			2.0	2.0		2.0	
Extension of effective green, e	2.0	2.0		2.0	2.0			2.0	2.0		2.0	
Arrival type, AT	3	3		3	3			3	3		3	
Unit extension, UE	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Filtering/metering, I	1.000	1.000		1.000	1.000			1.000	1.000		1.000	
Initial unmet demand, Q_b	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0		12.0	12.0			12.0	12.0		12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0		0	0			0	0		0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	WB Only	04	NS Perm	06	07	08
Timing	G = *12.0*	G = *140.0*	G = *10.0*	G =	G = *56.0*	G =	G =	G =
	Y = *5*	Y = *7*	Y = *5*	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *240.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	74	2631		58	2784			295	84		137	
Lane group capacity, c	86	3217		72	3207			305	343		199	
v/c ratio, X	0.86	0.82		0.81	0.87			0.97	0.24		0.69	
Total green ratio, g/C	0.05	0.65		0.04	0.65			0.23	0.23		0.23	
Uniform delay, d_1	113.2	30.9		114.0	33.2			91.1	74.8		84.0	
Progression factor, PF	1.000	1.000		1.000	1.000			1.000	1.000		1.000	
Delay calibration, k	0.50	0.50		0.50	0.50			0.50	0.50		0.50	
Incremental delay, d_2	63.9	2.4		61.0	3.5			43.8	1.7		17.7	
Initial queue delay, d_3												
Control delay	177.1	33.3		175.1	36.7			134.9	76.5		101.8	
Lane group LOS	F	C		F	D			F	E		F	
Approach delay	37.2			39.5			122.0			101.8		
Approach LOS	D			D			F			F		
Intersection delay	45.1			X_c = 0.89			Intersection LOS			D		

HCS2000™ Version 4.1e

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	*JN*	Intersection	*4 Nimitz Kalihi*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2013 (EB RT = CFL)*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	1	0	2	0	1	1	1	1	2	0
Lane group	L	T	R		TR		L	T	R	L	TR	
Volume, V (vph)	30	3245	785		1385	95	45	140	100	165	360	45
% Heavy vehicles, %HV	5	5	5		5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.96	0.96	0.96		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or actuated (A)	P	P	P		P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	
Extension of effective green, e	2.0	2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	
Arrival type, AT	3	3	3		3		3	3	3	3	3	
Unit extension, UE	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Filtering/metering, I	1.000	1.000	1.000		1.000		1.000	1.000	1.000	1.000	1.000	
Initial unmet demand, Q_b	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0		12.0		12.0	12.0	12.0	12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0	0		0		0	0	0	0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 6.0	G = 167.0	G =	G =	G = 7.0	G = 13.0	G = 20.0	G =
	Y = 5	Y = 7	Y =	Y =	Y = 5	Y = 5	Y = 5	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	31	3380	818		1542		47	146	104	172	422	
Lane group capacity, c	43	3656	1259		2374		50	151	122	179	516	
v/c ratio, X	0.72	0.92	0.65		0.65		0.94	0.97	0.85	0.96	0.82	
Total green ratio, g/C	0.03	0.74	0.70		0.70		0.03	0.08	0.08	0.10	0.16	
Uniform delay, d_1	116.2	25.5	20.3		20.3		116.3	109.7	108.5	107.0	97.7	
Progression factor, PF	1.000	1.000	1.000		1.000		1.000	1.000	1.000	1.000	1.000	
Delay calibration, k	0.50	0.50	0.50		0.50		0.50	0.50	0.50	0.50	0.50	
Incremental delay, d_2	69.6	5.2	2.6		1.4		110.6	65.0	49.0	57.7	13.5	
Initial queue delay, d_3												
Control delay	185.8	30.7	22.9		21.7		226.9	174.6	157.6	164.7	111.1	
Lane group LOS	F	C	C		C		F	F	F	F	F	
Approach delay	30.3			21.7			176.9			126.6		
Approach LOS	C			C			F			F		
Intersection delay	43.4			X_c = 0.93			Intersection LOS			D		

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	*JN*	Intersection	*4 Nimitz Kalihi*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2013*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	0	1	3	0	1	1	1	1	2	0
Lane group	L	TR		L	TR		L	T	R	L	TR	
Volume, V (vph)	85	2470	15	90	2565	155	65	225	135	110	175	75
% Heavy vehicles, %HV	5	5	5	5	5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Extension of effective green, e	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Arrival type, AT	3	3		3	3		3	3	3	3	3	
Unit extension, UE	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Filtering/metering, I	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
Initial unmet demand, Q_b	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0		0	0		0	0	0	0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	Excl. Left	Thru & RT	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 14.0	G = 151.0	G =	G =	G = 10.0	G = 4.0	G = 34.0	G =
	Y = 5	Y = 7	Y =	Y =	Y = 5	Y = 5	Y = 5	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	87	2535		92	2775		66	230	138	112	256	
Lane group capacity, c	100	3099		100	3075		72	256	324	136	574	
v/c ratio, X	0.87	0.82		0.92	0.90		0.92	0.90	0.43	0.82	0.45	
Total green ratio, g/C	0.06	0.63		0.06	0.63		0.04	0.14	0.22	0.08	0.18	
Uniform delay, d_1	112.1	34.0		112.4	38.2		114.6	101.3	80.4	108.8	87.9	
Progression factor, PF	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
Delay calibration, k	0.50	0.50		0.50	0.50		0.50	0.50	0.11	0.50	0.50	
Incremental delay, d_2	59.6	2.5		70.2	4.9		84.5	35.2	0.9	40.8	2.5	
Initial queue delay, d_3												
Control delay	171.7	36.5		182.6	43.1		199.1	136.5	81.3	149.6	90.4	
Lane group LOS	F	D		F	D		F	F	F	F	F	
Approach delay	41.0			47.5			128.5			108.4		
Approach LOS	D			D			F			F		
Intersection delay	54.0			X_c = 0.90			Intersection LOS			D		

HCS2000™ DETAILED REPORT

General Information		**Site Information**	
Analyst	*JN*	Intersection	*5 Nimitz Waiakamilo*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2013 (EB RT = CFL)*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	1	0	2	1	0	1	1	1	1	1
Lane group	L	T	R		T	R		LT	R	L	LT	R
Volume, V (vph)	85	3480	785		1310	235	25	20	20	180	185	145
% Heavy vehicles, %HV	5	5	5		5	5	15	15	15	5	10	3
Peak-hour factor, PHF	0.96	0.96	0.96		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or actuated (A)	P	P	P		P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0
Extension of effective green, e	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0
Arrival type, AT	3	3	3		3	3		3	3	3	3	3
Unit extension, UE	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0
Filtering/metering, I	1.000	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000
Initial unmet demand, Q_b	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0	0		0	0		0	0	0	0	0
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	03	04	SB Only	NB Only	07	08
Timing	G = 13.0	G = 170.0	G =	G =	G = 27.0	G = 8.0	G =	G =
	Y = 5	Y = 7	Y =	Y =	Y = 5	Y = 5	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	89	3625	818		1365	245		47	21	188	193	151
Lane group capacity, c	93	3861	1282		2440	1307		54	47	193	194	261
v/c ratio, X	0.96	0.94	0.64		0.56	0.19		0.87	0.45	0.97	0.99	0.58
Total green ratio, g/C	0.05	0.78	0.71		0.71	0.85		0.03	0.03	0.11	0.11	0.17
Uniform delay, d_1	113.2	21.3	18.6		16.9	3.2		115.5	113.8	106.2	106.4	92.2
Progression factor, PF	1.000	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000
Delay calibration, k	0.50	0.50	0.50		0.50	0.50		0.50	0.50	0.50	0.50	0.50
Incremental delay, d_2	82.1	5.9	2.4		0.9	0.3		88.8	27.8	58.4	63.3	9.0
Initial queue delay, d_3												
Control delay	195.4	27.2	21.1		17.8	3.5		204.2	141.7	164.5	169.7	101.3
Lane group LOS	F	C	C		B	A		F	F	F	F	F
Approach delay	29.4			15.7			184.9			148.5		
Approach LOS	C			B			F			F		
Intersection delay	37.1			X_C = 0.94			Intersection LOS			D		

HCS2000™ Version 4.1e

HCS2000™ DETAILED REPORT

General Information		**Site Information**	
Analyst	*JN*	Intersection	*5 Nimitz Waiakamilo*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2013*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	0	1	3	1	0	1	1	1	1	1
Lane group	L	TR		L	T	R		LT	R	L	LT	R
Volume, V (vph)	140	2860	15	5	2510	265	10	25	15	130	130	290
% Heavy vehicles, %HV	5	5	5	5	5	5	15	15	15	5	10	3
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0		2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0
Extension of effective green, e	2.0	2.0		2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0
Arrival type, AT	3	3		3	3	3		3	3	3	3	3
Unit extension, UE	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Filtering/metering, I	1.000	1.000		1.000	1.000	1.000		1.000	1.000	1.000	1.000	1.000
Initial unmet demand, Q_b	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0		12.0	12.0	12.0		12.0	12.0	12.0	12.0	12.0
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0		0	0	0		0	0	0	0	0
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	WB Only	04	SB Only	NB Only	07	08
Timing	G = 22.0	G = 151.0	G = 5.0	G =	G = 27.0	G = 8.0	G =	G =
	Y = 5	Y = 7	Y = 5	Y =	Y = 5	Y = 5	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	146	2995		5	2615	276		36	16	135	135	302
Lane group capacity, c	158	3653		36	3348	1250		54	47	193	194	320
v/c ratio, X	0.92	0.82		0.14	0.78	0.22		0.67	0.34	0.70	0.70	0.94
Total green ratio, g/C	0.09	0.74		0.02	0.68	0.81		0.03	0.03	0.11	0.11	0.20
Uniform delay, d_1	108.2	20.4		115.4	26.3	5.1		114.7	113.4	102.6	102.5	94.1
Progression factor, PF	1.000	1.000		1.000	1.000	1.000		1.000	1.000	1.000	1.000	1.000
Delay calibration, k	0.50	0.50		0.50	0.50	0.50		0.50	0.50	0.50	0.50	0.50
Incremental delay, d_2	53.8	2.2		7.9	1.9	0.4		50.0	18.6	19.0	18.7	37.8
Initial queue delay, d_3												
Control delay	162.0	22.6		123.3	28.2	5.5		164.7	132.0	121.6	121.2	132.0
Lane group LOS	F	C		F	C	A		F	F	F	F	F
Approach delay	29.1			26.2			154.6			127.0		
Approach LOS	C			C			F			F		
Intersection delay	37.2			X_C = 0.81			Intersection LOS			D		

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HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*6 Auiki Sand Island Access*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/26/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2013*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	1	2	0	1	2	0
Lane group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	35	25	10	235	15	75	10	400	240	125	885	45
% Heavy vehicles, %HV	10	10	10	10	10	10	10	10	10	10	10	10
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of effective green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival type, AT		3			3		3	3		3	3	
Unit extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0		0	0		0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 39.0	G =	G =	G =	G = 4.0	G = 5.0	G = 52.0	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y = 5	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 120.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		74			342		11	674		132	979	
Lane group capacity, c		431			408		55	1345		191	1687	
v/c ratio, X		0.17			0.84		0.20	0.50		0.69	0.58	
Total green ratio, g/C		0.32			0.32		0.03	0.43		0.12	0.52	
Uniform delay, d_1		29.0			37.6		56.4	24.6		50.9	20.0	
Progression factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental delay, d_2		0.9			18.3		8.0	1.3		18.6	1.5	
Initial queue delay, d_3												
Control delay		29.8			55.8		64.4	25.9		69.5	21.5	
Lane group LOS		C			E		E	C		E	C	
Approach delay	29.8			55.8			26.6			27.2		
Approach LOS	C			E			C			C		
Intersection delay	31.5			$X_c = 0.66$			Intersection LOS			C		

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HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*6 Auiki Sand Island Access*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2013*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	1	2	0	1	2	0
Lane group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	40	60	10	175	20	145	5	700	505	115	425	20
% Heavy vehicles, %HV	5	5	5	5	5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of effective green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival type, AT		3			3		3	3		3	3	
Unit extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0		0	0		0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 40.0	G =	G =	G =	G = 5.0	G = 5.0	G = 50.0	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y = 5	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 120.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		115			354		5	1255		120	464	
Lane group capacity, c		477			441		72	1319		215	1638	
v/c ratio, X		0.24			0.80		0.07	0.95		0.56	0.28	
Total green ratio, g/C		0.33			0.33		0.04	0.42		0.13	0.50	
Uniform delay, d_1		29.0			36.4		55.3	33.8		49.4	17.5	
Progression factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental delay, d_2		1.2			14.3		1.9	15.6		10.1	0.4	
Initial queue delay, d_3												
Control delay		30.2			50.7		57.1	49.4		59.4	17.9	
Lane group LOS		C			D		E	D		E	B	
Approach delay	30.2			50.7			49.5			26.4		
Approach LOS	C			D			D			C		
Intersection delay	42.9			$X_c = 0.84$			Intersection LOS			D		

HCS2000™ Version 4.1e

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	JN	Intersection	7 Rd#2 Sand Island Access
Agency or Co.	Julian Ng Incorporated	Area Type	All other areas
Date Performed	8/28/2013	Jurisdiction	HDOT-HWY
Time Period	AM Peak Hour	Analysis Year	2013
		Project ID	Kapalama Container Yard

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	1	2	0	1	2	0
Lane group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	10	0	1	25	0	100	0	430	5	190	1000	15
% Heavy vehicles, %HV	10	10	10	10	10	10	10	10	10	10	10	10
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of effective green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival type, AT		3			3		3	3		3	3	
Unit extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0		0	0		0	0	
Min. time for pedestrians, G_p		3.2			3.2			3.2			3.2	

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 21.0	G =	G =	G =	G = 5.0	G = 6.0	G = 23.0	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y = 5	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 75.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		12			131		0	458		200	1069	
Lane group capacity, c		391			410		109	1007		350	1487	
v/c ratio, X		0.03			0.32		0.00	0.45		0.57	0.72	
Total green ratio, g/C		0.28			0.28		0.07	0.31		0.21	0.45	
Uniform delay, d_1		19.6			21.4		32.7	20.9		26.4	16.6	
Progression factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental delay, d_2		0.1			2.0		0.0	1.5		6.6	3.0	
Initial queue delay, d_3												
Control delay		19.8			23.4		32.7	22.4		33.1	19.6	
Lane group LOS		B			C		C	C		C	B	
Approach delay		19.8			23.4			22.4			21.8	
Approach LOS		B			C			C			C	
Intersection delay		22.0			X_C = 0.52		Intersection LOS				C	

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	JN	Intersection	7 Rd#2 Sand Island Access
Agency or Co.	Julian Ng Incorporated	Area Type	All other areas
Date Performed	8/28/2013	Jurisdiction	HDOT-HWY
Time Period	PM Peak Hour	Analysis Year	2013
		Project ID	Kapalama Container Yard

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	1	2	0	1	2	0
Lane group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	20	0	1	5	0	200	0	860	20	140	430	5
% Heavy vehicles, %HV	10	10	10	10	10	10	10	10	10	10	10	10
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of effective green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival type, AT		3			3		3	3		3	3	
Unit extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0		0	0		0	0	
Min. time for pedestrians, G_p		3.2			3.2			3.2			3.2	

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 17.0	G =	G =	G =	G = 5.0	G = 5.0	G = 28.0	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y = 5	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 75.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		22			216		0	926		147	458	
Lane group capacity, c		294			338		109	1224		328	1663	
v/c ratio, X		0.07			0.64		0.00	0.76		0.45	0.28	
Total green ratio, g/C		0.23			0.23		0.07	0.37		0.20	0.51	
Uniform delay, d_1		22.8			26.2		32.7	20.5		26.4	10.6	
Progression factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental delay, d_2		0.5			8.9		0.0	4.4		4.4	0.4	
Initial queue delay, d_3												
Control delay		23.3			35.2		32.7	24.9		30.7	11.0	
Lane group LOS		C			D		C	C		C	B	
Approach delay		23.3			35.2			24.9			15.8	
Approach LOS		C			D			C			B	
Intersection delay		23.0			X_C = 0.65		Intersection LOS				C	

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	*8 Harbor Access at SIAR*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/28/2013*	Analysis Year	*2013*
Analysis Time Period	*AM Peak Hour*		

Project Description *Kapalama Container Yard*

East/West Street: *Snug Harbor Access Road*	North/South Street: *Sand Island Access Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	10	440	0	10	905	30
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Hourly Flow Rate, HFR	11	494	0	11	1016	33
Percent Heavy Vehicles	10	--	--	10	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	1	0	0	25	0	10
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Hourly Flow Rate, HFR	1	0	0	28	0	11
Percent Heavy Vehicles	10	0	0	10	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	11	11		1			39	
C (m) (vph)	614	1012		165			134	
v/c	0.02	0.01		0.01			0.29	
95% queue length	0.05	0.03		0.02			1.13	
Control Delay	11.0	8.6		27.0			42.5	
LOS	B	A		D			E	
Approach Delay	--	--	27.0			42.5		
Approach LOS	--	--	D			E		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	*8 Harbor Access at SIAR*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/28/2013*	Analysis Year	*2013*
Analysis Time Period	*PM Peak Hour*		

Project Description *Kapalama Container Yard*

East/West Street: *Snug Harbor Access Road*	North/South Street: *Sand Island Access Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	885	0	5	370	40
Peak-Hour Factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Hourly Flow Rate, HFR	0	1041	0	5	435	47
Percent Heavy Vehicles	10	--	--	10	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	5	40	0	5
Peak-Hour Factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Hourly Flow Rate, HFR	0	0	5	47	0	5
Percent Heavy Vehicles	10	0	0	10	10	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	0	5		5			52	
C (m) (vph)	1023	618		506			331	
v/c	0.00	0.01		0.01			0.16	
95% queue length	0.00	0.02		0.03			0.55	
Control Delay	8.5	10.9		12.2			17.9	
LOS	A	B		B			C	
Approach Delay	--	--	12.2			17.9		
Approach LOS	--	--	B			C		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JN	Intersection	90 Puuhale Rd & Auiki St
Agency/Co.	Julian Ng Incorporated	Jurisdiction	HDOT-HWY
Date Performed	8/28/2013	Analysis Year	2013
Analysis Time Period	AM Peak Hour		
Project Description	Kapalama Container Yard		
East/West Street:	Auiki Street	North/South Street:	Puuhale Road
Intersection Orientation:	East-West	Study Period (hrs):	0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	40	360	20	15	190	40
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Hourly Flow Rate (veh/h)	43	387	21	16	204	43
Proportion of heavy vehicles, P_{HV}	10	--	--	10	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	10	5	45	5	95
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Hourly Flow Rate (veh/h)	0	10	5	48	5	102
Proportion of heavy vehicles, P_{HV}	10	10	10	10	10	10
Percent grade (%)		0			0	
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
Volume, v (vph)	43	16		15			155	
Capacity, c_m (vph)	1273	1109		369			503	
v/c ratio	0.03	0.01		0.04			0.31	
Queue length (95%)	0.10	0.04		0.13			1.30	
Control Delay (s/veh)	7.9	8.3		15.2			15.3	
LOS	A	A		C			C	
Approach delay (s/veh)	--	--	15.2			15.3		
Approach LOS	--	--	C			C		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JN	Intersection	90 Puuhale Rd & Auiki St
Agency/Co.	Julian Ng Incorporated	Jurisdiction	HDOT-HWY
Date Performed	8/28/2013	Analysis Year	2013
Analysis Time Period	PM Peak Hour		
Project Description	Kapalama Container Yard		
East/West Street:	Auiki Street	North/South Street:	Puuhale Road
Intersection Orientation:	East-West	Study Period (hrs):	0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	80	530	10	5	220	50
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Hourly Flow Rate (veh/h)	85	563	10	5	234	53
Proportion of heavy vehicles, P_{HV}	10	--	--	10	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	10	25	15	45	5	75
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Hourly Flow Rate (veh/h)	10	26	15	47	5	79
Proportion of heavy vehicles, P_{HV}	10	10	10	10	10	10
Percent grade (%)		0			0	
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
Volume, v (vph)	85	5		51			131	
Capacity, c_m (vph)	1231	961		229			316	
v/c ratio	0.07	0.01		0.22			0.41	
Queue length (95%)	0.22	0.02		0.83			1.96	
Control Delay (s/veh)	8.1	8.8		25.2			24.2	
LOS	A	A		D			C	
Approach delay (s/veh)	--	--	25.2			24.2		
Approach LOS	--	--	D			C		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	*91 Mokauea St & Auiki St*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/28/2013*	Analysis Year	*2013*
Analysis Time Period	*AM Peak Hour*		

Project Description *Kapalama Container Yard*

East/West Street: *Auiki Street* — North/South Street: *Mokauea Street*

Intersection Orientation: *East-West* — Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*80*	*325*	*25*	*15*	*210*	*15*
Peak-hour factor, PHF	*0.91*	*0.91*	*0.91*	*0.91*	*0.91*	*0.91*
Hourly Flow Rate (veh/h)	*87*	*357*	*27*	*16*	*230*	*16*
Proportion of heavy vehicles, P_{HV}	*12*	--	--	*12*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*10*	*5*	*5*	*10*	*0*	*55*
Peak-hour factor, PHF	*0.91*	*0.91*	*0.91*	*0.91*	*0.91*	*0.91*
Hourly Flow Rate (veh/h)	*10*	*5*	*5*	*10*	*0*	*60*
Proportion of heavy vehicles, P_{HV}	*12*	*12*	*12*	*12*	*12*	*12*
Percent grade (%)	*0*			*0*		
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
Volume, v (vph)	*87*	*16*		*20*			*70*	
Capacity, c_m (vph)	*1264*	*1122*		*287*			*601*	
v/c ratio	*0.07*	*0.01*		*0.07*			*0.12*	
Queue length (95%)	*0.22*	*0.04*		*0.22*			*0.39*	
Control Delay (s/veh)	*8.1*	*8.3*		*18.5*			*11.8*	
LOS	*A*	*A*		*C*			*B*	
Approach delay (s/veh)	--	--	*18.5*			*11.8*		
Approach LOS	--	--	*C*			*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	*91 Mokauea St & Auiki St*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/28/2013*	Analysis Year	*2013*
Analysis Time Period	*PM Peak Hour*		

Project Description *Kapalama Container Yard*

East/West Street: *Auiki Street* — North/South Street: *Mokauea Street*

Intersection Orientation: *East-West* — Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*80*	*470*	*10*	*5*	*210*	*10*
Peak-hour factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate (veh/h)	*84*	*494*	*10*	*5*	*221*	*10*
Proportion of heavy vehicles, P_{HV}	*10*	--	--	*10*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*15*	*5*	*15*	*5*	*5*	*45*
Peak-hour factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate (veh/h)	*15*	*5*	*15*	*5*	*5*	*47*
Proportion of heavy vehicles, P_{HV}	*10*	*10*	*10*	*10*	*10*	*10*
Percent grade (%)	*0*			*0*		
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
Volume, v (vph)	*84*	*5*		*35*			*57*	
Capacity, c_m (vph)	*1291*	*1021*		*290*			*554*	
v/c ratio	*0.07*	*0.00*		*0.12*			*0.10*	
Queue length (95%)	*0.21*	*0.01*		*0.41*			*0.34*	
Control Delay (s/veh)	*8.0*	*8.5*		*19.1*			*12.2*	
LOS	*A*	*A*		*C*			*B*	
Approach delay (s/veh)	--	--	*19.1*			*12.2*		
Approach LOS	--	--	*C*			*B*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	*92 Kalihi St & Auiki St*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/28/2013*	Analysis Year	*2013*
Analysis Time Period	*AM Peak Hour*		

Project Description *Kapalama Container Yard*

East/West Street: *Auiki Street*	North/South Street: *Kalihi Street*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*170*	*170*	*0*	*0*	*60*	*20*
Peak-hour factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate (veh/h)	*178*	*178*	*0*	*0*	*63*	*21*
Proportion of heavy vehicles, P_{HV}	*15*	--	--	*12*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*10*	*0*	*155*
Peak-hour factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate (veh/h)	*0*	*0*	*0*	*10*	*0*	*163*
Proportion of heavy vehicles, P_{HV}	*12*	*12*	*12*	*15*	*12*	*15*
Percent grade (%)	*0*			*0*		
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*					*L*		*R*
Volume, v (vph)	*178*					*10*		*163*
Capacity, c_m (vph)	*1435*					*384*		*953*
v/c ratio	*0.12*					*0.03*		*0.17*
Queue length (95%)	*0.42*					*0.08*		*0.62*
Control Delay (s/veh)	*7.9*					*14.6*		*9.6*
LOS	*A*					*B*		*A*
Approach delay (s/veh)	--	--				*9.8*		
Approach LOS	--	--				*A*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	*92 Kalihi St & Auiki St*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/28/2013*	Analysis Year	*2013*
Analysis Time Period	*PM Peak Hour*		

Project Description *Kapalama Container Yard*

East/West Street: *Auiki Street*	North/South Street: *Kalihi Street*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*230*	*305*	*0*	*0*	*65*	*35*
Peak-hour factor, PHF	*0.88*	*0.88*	*0.88*	*0.88*	*0.88*	*0.88*
Hourly Flow Rate (veh/h)	*261*	*346*	*0*	*0*	*73*	*39*
Proportion of heavy vehicles, P_{HV}	*5*	--	--	*12*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*20*	*0*	*100*
Peak-hour factor, PHF	*0.88*	*0.88*	*0.88*	*0.88*	*0.88*	*0.88*
Hourly Flow Rate (veh/h)	*0*	*0*	*0*	*22*	*0*	*113*
Proportion of heavy vehicles, P_{HV}	*12*	*12*	*12*	*5*	*12*	*5*
Percent grade (%)	*0*			*0*		
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*					*L*		*R*
Volume, v (vph)	*261*					*22*		*113*
Capacity, c_m (vph)	*1459*					*231*		*957*
v/c ratio	*0.18*					*0.10*		*0.12*
Queue length (95%)	*0.65*					*0.31*		*0.40*
Control Delay (s/veh)	*8.0*					*22.2*		*9.3*
LOS	*A*					*C*		*A*
Approach delay (s/veh)	--	--				*11.4*		
Approach LOS	--	--				*B*		

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APPENDIX D

INTERSECTION ANALYSIS SUMMARY WORKSHEETS – FUTURE BASELINE (2039)

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*1 Nimitz Sand Island Access*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2039 baseline*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	3	1	2	3	0	3	0	0	0	0	0
Lane group		T	R	L	T		L					
Volume, V (vph)		3310	1035	380	1375		535					
% Heavy vehicles, %HV		5	0	5	5		9					
Peak-hour factor, PHF		0.96	0.96	0.96	0.96		0.96					
Pretimed (P) or actuated (A)		P	P	P	P		P					
Start-up lost time, l_1		2.0	2.0	2.0	2.0		2.0					
Extension of effective green, e		2.0	2.0	2.0	2.0		2.0					
Arrival type, AT		3	3	3	3		3					
Unit extension, UE		3.0	3.0	3.0	3.0		3.0					
Filtering/metering, I		1.000	1.000	1.000	1.000		1.000	1.000				
Initial unmet demand, Q_b		0.0	0.0	0.0	0.0		0.0					
Ped / Bike / RTOR volumes	0		0							0		
Lane width		12.0	12.0	12.0	12.0		12.0					
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N		N
Parking maneuvers, N_m												
Buses stopping, N_B		0	0	0	0		0					
Min. time for pedestrians, G_p		3.2									3.2	

Phasing	WB Only	Thru & RT	03	04	NB Only	06	07	08
Timing	G = *28.0*	G = *166.0*	G =	G =	G = *29.0*	G =	G =	G =
	Y = *6*	Y = *6*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *240.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		3448	1078	396	1432		557					
Lane group capacity, c		3409	1117	389	4107		545					
v/c ratio, X		1.01	0.97	1.02	0.35		1.02					
Total green ratio, g/C		0.69	0.69	0.12	0.83		0.12					
Uniform delay, d_1		37.0	34.3	106.0	4.7		105.5					
Progression factor, PF		1.000	1.000	1.000	1.000		1.000					
Delay calibration, k		0.50	0.50	0.50	0.50		0.50					
Incremental delay, d_2		18.3	19.7	50.3	0.2		44.2					
Initial queue delay, d_3												
Control delay		55.3	54.1	156.3	4.9		149.7					
Lane group LOS		E	D	F	A		F					
Approach delay	55.0			37.7			149.7					
Approach LOS	D			D			F					
Intersection delay	58.1			X_C = 1.01			Intersection LOS			E		

HCS2000™ DETAILED REPORT

General Information		**Site Information**	
Analyst	*JN*	Intersection	*1 Nimitz Sand Island Access*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2039 baseline*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	3	0	2	3	0	3	0	0	0	0	0
Lane group		T		L	T		L					
Volume, V (vph)		2875		200	3105		930					
% Heavy vehicles, %HV		5		5	5		9					
Peak-hour factor, PHF		0.98		0.98	0.98		0.98					
Pretimed (P) or actuated (A)		P		P	P		P					
Start-up lost time, l_1		2.0		2.0	2.0		2.0					
Extension of effective green, e		2.0		2.0	2.0		2.0					
Arrival type, AT		3		3	3		3					
Unit extension, UE		3.0		3.0	3.0		3.0					
Filtering/metering, I		1.000		1.000	1.000		1.000	1.000				
Initial unmet demand, Q_b		0.0		0.0	0.0		0.0					
Ped / Bike / RTOR volumes	0									0		
Lane width		12.0		12.0	12.0		12.0					
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N		N
Parking maneuvers, N_m												
Buses stopping, N_B		0		0	0		0					
Min. time for pedestrians, G_p	3.2									3.2		

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = 16.0	G = 153.0	G =	G =	G = 54.0	G =	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		2934		204	3168		949					
Lane group capacity, c		3142		223	3594		1015					
v/c ratio, X		0.93		0.91	0.88		0.93					
Total green ratio, g/C		0.64		0.07	0.73		0.22					
Uniform delay, d_1		39.0		111.3	24.6		91.3					
Progression factor, PF		1.000		1.000	1.000		1.000					
Delay calibration, k		0.50		0.50	0.50		0.50					
Incremental delay, d_2		6.6		41.6	3.5		16.4					
Initial queue delay, d_3												
Control delay		45.6		152.9	28.1		107.6					
Lane group LOS		D		F	C		F					
Approach delay	45.6			35.7			107.6					
Approach LOS	D			D			F					
Intersection delay	49.1			X_c = 0.93			Intersection LOS			D		

HCS2000™ DETAILED REPORT

General Information		**Site Information**	
Analyst	*JN*	Intersection	*2 Nimitz Puuhale*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2039 baseline (EB RT = CFL)*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	1	0	2	0	0	1	1	1	1	0
Lane group	L	T	R		TR			LT	R	L	TR	
Volume, V (vph)	30	3375	1035		1640	115	40	115	70	140	225	75
% Heavy vehicles, %HV	5	5	5		5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P		P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0	2.0		2.0			2.0	2.0	2.0	2.0	
Extension of effective green, e	2.0	2.0	2.0		2.0			2.0	2.0	2.0	2.0	
Arrival type, AT	3	3	3		3			3	3	3	3	
Unit extension, UE	3.0	3.0	3.0		3.0			3.0	3.0	3.0	3.0	
Filtering/metering, I	1.000	1.000	1.000		1.000			1.000	1.000	1.000	1.000	
Initial unmet demand, Q_b	0.0	0.0	0.0		0.0			0.0	0.0	0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0		12.0			12.0	12.0	12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0	0		0			0	0	0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	03	04	NS Perm	06	07	08
Timing	G = 5.0	G = 162.0	G =	G =	G = 56.0	G =	G =	G =
	Y = 5	Y = 7	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 240.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	32	3553	1089		1847			163	74	147	316	
Lane group capacity, c	36	3532	1222		2302			162	343	210	394	
v/c ratio, X	0.89	1.01	0.89		0.80			1.01	0.22	0.70	0.80	
Total green ratio, g/C	0.02	0.72	0.68		0.68			0.23	0.23	0.23	0.23	
Uniform delay, d_1	117.2	34.0	31.8		27.6			92.0	74.3	84.3	86.8	
Progression factor, PF	1.000	1.000	1.000		1.000			1.000	1.000	1.000	1.000	
Delay calibration, k	0.50	0.50	0.50		0.50			0.50	0.50	0.50	0.50	
Incremental delay, d_2	118.6	16.6	10.0		3.1			72.3	1.4	17.7	15.7	
Initial queue delay, d_3												
Control delay	235.8	50.6	41.8		30.7			164.3	75.7	102.0	102.5	
Lane group LOS	F	D	D		C			F	E	F	F	
Approach delay	49.8			30.7			136.7			102.3		
Approach LOS	D			C			F			F		
Intersection delay	51.1			X_c = 1.01			Intersection LOS			D		

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*2 Nimitz Puuhale*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2039 baseline*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	0	1	3	0	0	1	1	1	1	0
Lane group	L	TR		L	TR			LT	R	L	TR	
Volume, V (vph)	55	2935	105	80	3085	75	110	170	90	85	95	115
% Heavy vehicles, %HV	5	5	5	5	5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0		2.0	2.0			2.0	2.0	2.0	2.0	
Extension of effective green, e	2.0	2.0		2.0	2.0			2.0	2.0	2.0	2.0	
Arrival type, AT	3	3		3	3			3	3	3	3	
Unit extension, UE	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Filtering/metering, I	1.000	1.000		1.000	1.000			1.000	1.000	1.000	1.000	
Initial unmet demand, Q_b	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0		12.0	12.0			12.0	12.0	12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0		0	0			0	0	0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	WB Only	04	NS Perm	06	07	08
Timing	G = 8.0	G = 133.0	G = 11.0	G =	G = 66.0	G =	G =	G =
	Y = 5	Y = 7	Y = 5	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	58	3200		84	3326			295	95	89	221	
Lane group capacity, c	57	2983		79	3090			273	404	161	452	
v/c ratio, X	1.02	1.07		1.06	1.08			1.08	0.24	0.55	0.49	
Total green ratio, g/C	0.03	0.61		0.05	0.63			0.28	0.28	0.28	0.28	
Uniform delay, d_1	116.0	47.0		114.5	44.5			87.0	67.4	74.4	72.9	
Progression factor, PF	1.000	1.000		1.000	1.000			1.000	1.000	1.000	1.000	
Delay calibration, k	0.50	0.50		0.50	0.50			0.50	0.50	0.50	0.50	
Incremental delay, d_2	124.3	40.0		119.6	41.2			77.6	1.4	13.0	3.7	
Initial queue delay, d_3												
Control delay	240.3	87.0		234.1	85.7			164.6	68.8	87.4	76.6	
Lane group LOS	F	F		F	F			F	E	F	E	
Approach delay	89.7			89.4			141.3			79.7		
Approach LOS	F			F			F			E		
Intersection delay	91.9			X_c = 1.08			Intersection LOS			F		

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HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*3 Nimitz Mokauea*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2039 baseline (EB RT = CFL)*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	1	0	2	0	0	1	0	0	1	0
Lane group	L	T	R		TR			LTR			LTR	
Volume, V (vph)	30	3405	1035		1670	80	55	115	60	100	120	30
% Heavy vehicles, %HV	5	5	5		5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.96	0.96	0.96		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or actuated (A)	P	P	P		P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0	2.0		2.0			2.0			2.0	
Extension of effective green, e	2.0	2.0	2.0		2.0			2.0			2.0	
Arrival type, AT	3	3	3		3			3			3	
Unit extension, UE	3.0	3.0	3.0		3.0			3.0			3.0	
Filtering/metering, I	1.000	1.000	1.000		1.000			1.000			1.000	
Initial unmet demand, Q_b	0.0	0.0	0.0		0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0		12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0	0		0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	03	04	NS Perm	06	07	08
Timing	G = 5.0	G = 161.0	G =	G =	G = 57.0	G =	G =	G =
	Y = 5	Y = 7	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	31	3547	1078		1823			240			260	
Lane group capacity, c	36	3512	1214		2296			329			258	
v/c ratio, X	0.86	1.01	0.89		0.79			0.73			1.01	
Total green ratio, g/C	0.02	0.71	0.67		0.67			0.24			0.24	
Uniform delay, d_1	117.2	34.5	32.2		27.8			84.4			91.5	
Progression factor, PF	1.000	1.000	1.000		1.000			1.000			1.000	
Delay calibration, k	0.50	0.50	0.50		0.50			0.50			0.50	
Incremental delay, d_2	111.4	17.7	9.8		2.9			13.3			58.0	
Initial queue delay, d_3												
Control delay	228.6	52.2	42.0		30.7			97.7			149.5	
Lane group LOS	F	D	D		C			F			F	
Approach delay	51.0			30.7			97.7			149.5		
Approach LOS	D			C			F			F		
Intersection delay	51.0			X_c = 1.01			Intersection LOS			D		

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HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*3 Nimitz Mokauea*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2039 baseline*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	0	1	3	0	0	1	1	0	1	0
Lane group	L	TR		L	TR			LT	R		LTR	
Volume, V (vph)	85	2975	50	65	3055	115	130	190	80	35	70	50
% Heavy vehicles, %HV	5	5	5	5	5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0		2.0	2.0			2.0	2.0		2.0	
Extension of effective green, e	2.0	2.0		2.0	2.0			2.0	2.0		2.0	
Arrival type, AT	3	3		3	3			3	3		3	
Unit extension, UE	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Filtering/metering, I	1.000	1.000		1.000	1.000			1.000	1.000		1.000	
Initial unmet demand, Q_b	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0		12.0	12.0			12.0	12.0		12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0		0	0			0	0		0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	WB Only	04	NS Perm	06	07	08
Timing	G = 12.0	G = 137.0	G = 9.0	G =	G = 60.0	G =	G =	G =
	Y = 5	Y = 7	Y = 5	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis, T = 0.25 — Cycle Length, C = 240.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	89	3185		68	3337			337	84		164	
Lane group capacity, c	86	3155		64	3125			314	367		195	
v/c ratio, X	1.03	1.01		1.06	1.07			1.07	0.23		0.84	
Total green ratio, g/C	0.05	0.64		0.04	0.64			0.25	0.25		0.25	
Uniform delay, d_1	114.0	43.0		115.5	43.5			90.0	71.6		85.5	
Progression factor, PF	1.000	1.000		1.000	1.000			1.000	1.000		1.000	
Delay calibration, k	0.50	0.50		0.50	0.50			0.50	0.50		0.50	
Incremental delay, d_2	106.9	18.4		130.9	37.8			71.6	1.4		33.3	
Initial queue delay, d_3												
Control delay	220.9	61.4		246.4	81.3			161.6	73.0		118.8	
Lane group LOS	F	E		F	F			F	E		F	
Approach delay	65.7			84.6			143.9			118.8		
Approach LOS	E			F			F			F		
Intersection delay	80.3			X_c = 1.07			Intersection LOS			F		

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HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*4 Nimitz Kalihi*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2039 baseline (EB RT = CFL)*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	1	0	2	0	1	1	1	1	2	0
Lane group	L	T	R		TR		L	T	R	L	TR	
Volume, V (vph)	40	3485	1035		1640	115	55	170	120	200	410	55
% Heavy vehicles, %HV	5	5	5		5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.97	0.97	0.97		0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Pretimed (P) or actuated (A)	P	P	P		P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	
Extension of effective green, e	2.0	2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	
Arrival type, AT	3	3	3		3		3	3	3	3	3	
Unit extension, UE	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Filtering/metering, I	1.000	1.000	1.000		1.000		1.000	1.000	1.000	1.000	1.000	
Initial unmet demand, Q_b	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0		12.0		12.0	12.0	12.0	12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0	0		0		0	0	0	0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 6.0	G = 161.0	G =	G =	G = 8.0	G = 15.0	G = 23.0	G =
	Y = 5	Y = 7	Y =	Y =	Y = 5	Y = 5	Y = 5	Y =

Duration of Analysis, T = 0.25 — Cycle Length, C = 240.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	41	3593	1067		1810		57	175	124	206	480	
Lane group capacity, c	43	3532	1214		2288		57	173	141	201	583	
v/c ratio, X	0.95	1.02	0.88		0.79		1.00	1.01	0.88	1.02	0.82	
Total green ratio, g/C	0.03	0.72	0.67		0.67		0.03	0.10	0.10	0.12	0.18	
Uniform delay, d_1	116.9	34.0	31.7		27.7		116.0	108.5	107.1	106.0	94.8	
Progression factor, PF	1.000	1.000	1.000		1.000		1.000	1.000	1.000	1.000	1.000	
Delay calibration, k	0.50	0.50	0.50		0.50		0.50	0.50	0.50	0.50	0.50	
Incremental delay, d_2	124.0	19.6	9.2		2.9		119.2	71.5	49.0	70.1	12.4	
Initial queue delay, d_3												
Control delay	240.8	53.6	40.9		30.6		235.2	180.0	156.1	176.1	107.3	
Lane group LOS	F	D	D		C		F	F	F	F	F	
Approach delay	52.4			30.6			180.5			128.0		
Approach LOS	D			C			F			F		
Intersection delay	60.1			X_c = 1.02			Intersection LOS			E		

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HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*4 Nimitz Kalihi*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2039 baseline*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	*1*	*3*	*0*	*1*	*3*	*0*	*1*	*1*	*1*	*1*	*2*	*0*
Lane group	*L*	*TR*		*L*	*TR*		*L*	*T*	*R*	*L*	*TR*	
Volume, V (vph)	*105*	*2980*	*20*	*110*	*3070*	*185*	*75*	*260*	*155*	*130*	*190*	*90*
% Heavy vehicles, %HV	*5*	*5*	*5*	*5*	*5*	*5*	*5*	*5*	*10*	*5*	*10*	*3*
Peak-hour factor, PHF	*0.98*	*0.98*	*0.98*	*0.98*	*0.98*	*0.98*	*0.98*	*0.98*	*0.98*	*0.98*	*0.98*	*0.98*
Pretimed (P) or actuated (A)	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*
Start-up lost time, l_1	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	
Extension of effective green, e	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	
Arrival type, AT	*3*	*3*		*3*	*3*		*3*	*3*	*3*	*3*	*3*	
Unit extension, UE	*3.0*	*3.0*		*3.0*	*3.0*		*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	
Filtering/metering, I	*1.000*	*1.000*		*1.000*	*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	
Initial unmet demand, Q_b	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	
Ped / Bike / RTOR volumes	*0*		*0*	*0*		*0*	*0*		*0*	*0*		*0*
Lane width	*12.0*	*12.0*		*12.0*	*12.0*		*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking maneuvers, N_m												
Buses stopping, N_B	*0*	*0*		*0*	*0*		*0*	*0*	*0*	*0*	*0*	
Min. time for pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	WB Only	Thru & RT	EB Only	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = *15.0*	G = *131.0*	G = *14.0*	G =	G = *10.0*	G = *2.0*	G = *36.0*	G =
	Y = *5*	Y = *7*	Y = *5*	Y =	Y = *5*	Y = *5*	Y = *5*	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *240.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	*107*	*3061*		*112*	*3322*		*77*	*265*	*158*	*133*	*286*	
Lane group capacity, c	*100*	*3119*		*107*	*3075*		*72*	*272*	*343*	*122*	*572*	
v/c ratio, X	*1.07*	*0.98*		*1.05*	*1.08*		*1.07*	*0.97*	*0.46*	*1.09*	*0.50*	
Total green ratio, g/C	*0.06*	*0.63*		*0.06*	*0.63*		*0.04*	*0.15*	*0.23*	*0.07*	*0.18*	
Uniform delay, d_1	*113.0*	*42.6*		*112.5*	*44.5*		*115.0*	*101.5*	*79.0*	*111.5*	*88.8*	
Progression factor, PF	*1.000*	*1.000*		*1.000*	*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	
Delay calibration, k	*0.50*	*0.50*		*0.50*	*0.50*		*0.50*	*0.50*	*0.11*	*0.50*	*0.50*	
Incremental delay, d_2	*110.2*	*12.3*		*100.1*	*42.8*		*126.4*	*48.4*	*1.0*	*107.7*	*3.1*	
Initial queue delay, d_3												
Control delay	*223.2*	*55.0*		*212.6*	*87.3*		*241.4*	*149.9*	*80.0*	*219.2*	*91.9*	
Lane group LOS	*F*	*D*		*F*	*F*		*F*	*F*	*F*	*F*	*F*	
Approach delay	*60.6*			*91.4*			*141.9*			*132.3*		
Approach LOS	*E*			*F*			*F*			*F*		
Intersection delay	*84.1*			X_C = *1.06*			Intersection LOS			*F*		

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*5 Nimitz Waiakamilo*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2039 baseline (EB RT = CFL)*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	*1*	*3*	*1*	*0*	*2*	*1*	*0*	*1*	*1*	*1*	*1*	*1*
Lane group	*L*	*T*	*R*		*T*	*R*		*LT*	*R*	*L*	*LT*	*R*
Volume, V (vph)	*105*	*3900*	*1035*		*1555*	*285*	*30*	*25*	*25*	*220*	*220*	*170*
% Heavy vehicles, %HV	*5*	*5*	*5*		*5*	*5*	*15*	*15*	*15*	*5*	*10*	*3*
Peak-hour factor, PHF	*0.96*	*0.96*	*0.96*		*0.96*	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*	*0.96*
Pretimed (P) or actuated (A)	*P*	*P*	*P*		*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*
Start-up lost time, l_1	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Extension of effective green, e	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*		*2.0*	*2.0*	*2.0*	*2.0*	*2.0*
Arrival type, AT	*3*	*3*	*3*		*3*	*3*		*3*	*3*	*3*	*3*	*3*
Unit extension, UE	*3.0*	*3.0*	*3.0*		*3.0*	*3.0*		*3.0*	*3.0*	*3.0*	*3.0*	*3.0*
Filtering/metering, I	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Initial unmet demand, Q_b	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Ped / Bike / RTOR volumes	*0*		*0*	*0*		*0*	*0*		*0*	*0*		*0*
Lane width	*12.0*	*12.0*	*12.0*		*12.0*	*12.0*		*12.0*	*12.0*	*12.0*	*12.0*	*12.0*
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking maneuvers, N_m												
Buses stopping, N_B	*0*	*0*	*0*		*0*	*0*		*0*	*0*	*0*	*0*	*0*
Min. time for pedestrians, G_p	*3.2*			*3.2*			*3.2*			*3.2*		

Phasing	EB Only	Thru & RT	03	04	SB Only	NB Only	07	08
Timing	G = *16.0*	G = *164.0*	G =	G =	G = *30.0*	G = *8.0*	G =	G =
	Y = *5*	Y = *7*	Y =	Y =	Y = *5*	Y = *5*	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *240.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	*109*	*4063*	*1078*		*1620*	*297*		*57*	*26*	*229*	*229*	*177*
Lane group capacity, c	*115*	*3799*	*1237*		*2354*	*1288*		*54*	*47*	*215*	*216*	*301*
v/c ratio, X	*0.95*	*1.07*	*0.87*		*0.69*	*0.23*		*1.06*	*0.55*	*1.07*	*1.06*	*0.59*
Total green ratio, g/C	*0.07*	*0.77*	*0.68*		*0.68*	*0.84*		*0.03*	*0.03*	*0.13*	*0.13*	*0.19*
Uniform delay, d_1	*111.6*	*27.5*	*29.7*		*22.7*	*3.9*		*116.0*	*114.2*	*105.0*	*105.0*	*88.4*
Progression factor, PF	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*		*1.000*	*1.000*	*1.000*	*1.000*	*1.000*
Delay calibration, k	*0.50*	*0.50*	*0.50*		*0.50*	*0.50*		*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
Incremental delay, d_2	*70.8*	*37.4*	*8.6*		*1.7*	*0.4*		*138.9*	*39.6*	*79.7*	*78.0*	*8.2*
Initial queue delay, d_3												
Control delay	*182.4*	*64.9*	*38.3*		*24.4*	*4.3*		*254.9*	*153.9*	*184.7*	*183.0*	*96.5*
Lane group LOS	*F*	*E*	*D*		*C*	*A*		*F*	*F*	*F*	*F*	*F*
Approach delay	*61.9*			*21.3*			*223.3*			*159.5*		
Approach LOS	*E*			*C*			*F*			*F*		
Intersection delay	*61.6*			X_C = *1.07*			Intersection LOS			*E*		

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*5 Nimitz Waiakamilo*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2039 baseline*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	0	1	3	1	0	1	1	1	1	1
Lane group	L	TR		L	T	R		LT	R	L	LT	R
Volume, V (vph)	170	3425	15	5	3010	325	15	30	20	155	160	345
% Heavy vehicles, %HV	5	5	5	5	5	5	15	15	15	5	10	3
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0		2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0
Extension of effective green, e	2.0	2.0		2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0
Arrival type, AT	3	3		3	3	3		3	3	3	3	3
Unit extension, UE	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Filtering/metering, I	1.000	1.000		1.000	1.000	1.000		1.000	1.000	1.000	1.000	1.000
Initial unmet demand, Q_b	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0		12.0	12.0	12.0		12.0	12.0	12.0	12.0	12.0
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0		0	0	0		0	0	0	0	0
Min. time for pedestrians, G_p		3.2			3.2			3.2			3.2	

Phasing	EB Only	Thru & RT	WB Only	04	NB Only	SB Only	07	08
Timing	G = 25.0	G = 148.0	G = 5.0	G =	G = 8.0	G = 27.0	G =	G =
	Y = 5	Y = 7	Y = 5	Y =	Y = 5	Y = 5	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	177	3584		5	3135	339		47	21	161	167	359
Lane group capacity, c	179	3653		36	3286	1198		54	47	193	194	372
v/c ratio, X	0.99	0.98		0.14	0.95	0.28		0.87	0.45	0.83	0.86	0.97
Total green ratio, g/C	0.10	0.74		0.02	0.67	0.78		0.03	0.03	0.11	0.11	0.24
Uniform delay, d_1	107.4	29.4		115.4	36.6	7.5		115.5	113.8	104.3	104.7	90.5
Progression factor, PF	1.000	1.000		1.000	1.000	1.000		1.000	1.000	1.000	1.000	1.000
Delay calibration, k	0.50	0.50		0.50	0.50	0.50		0.50	0.50	0.50	0.50	0.50
Incremental delay, d_2	64.4	11.1		7.9	8.2	0.6		88.8	27.8	32.6	36.3	38.6
Initial queue delay, d_3												
Control delay	171.8	40.5		123.3	44.8	8.1		204.2	141.7	137.0	141.0	129.2
Lane group LOS	F	D		F	D	A		F	F	F	F	F
Approach delay		46.7			41.3			184.9			133.9	
Approach LOS		D			D			F			F	
Intersection delay		53.0			X_C = 0.95		Intersection LOS				D	

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*6 Auiki & Sand Island Access*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2039 baseline*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	1	2	0	1	2	0
Lane group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	40	30	10	230	20	100	10	390	270	175	915	55
% Heavy vehicles, %HV	10	10	10	10	10	10	10	10	10	10	10	10
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of effective green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival type, AT		3			3		3	3		3	3	
Unit extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0		0	0		0	0	
Min. time for pedestrians, G_p		3.2			3.2			3.2			3.2	

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 44.0	G =	G =	G =	G = 7.0	G = 7.0	G = 42.0	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y = 5	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 120.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		85			368		11	695		184	1021	
Lane group capacity, c		474			463		96	1080		260	1467	
v/c ratio, X		0.18			0.79		0.11	0.64		0.71	0.70	
Total green ratio, g/C		0.37			0.37		0.06	0.35		0.16	0.45	
Uniform delay, d_1		25.8			34.0		53.6	32.7		47.9	26.4	
Progression factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental delay, d_2		0.8			13.2		2.4	3.0		15.0	2.8	
Initial queue delay, d_3												
Control delay		26.6			47.1		56.0	35.7		62.9	29.2	
Lane group LOS		C			D		E	D		E	C	
Approach delay		26.6			47.1			36.0			34.3	
Approach LOS		C			D			D			C	
Intersection delay		36.5			X_C = 0.72		Intersection LOS				D	

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*6 Auiki & Sand Island Access*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*10/29/2012*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2039 baseline*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	1	2	0	1	2	0
Lane group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	50	70	10	175	25	195	5	690	540	155	390	25
% Heavy vehicles, %HV	5	5	5	5	5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of effective green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival type, AT		3			3		3	3		3	3	
Unit extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0		0	0		0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 55.0	G =	G =	G =	G = 2.0	G = 10.0	G = 73.0	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y = 5	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 160.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		135			411		5	1282		161	432	
Lane group capacity, c		454			450		21	1438		183	1800	
v/c ratio, X		0.30			0.91		0.24	0.89		0.88	0.24	
Total green ratio, g/C		0.34			0.34		0.01	0.46		0.11	0.55	
Uniform delay, d_1		38.4			50.2		78.2	39.9		70.5	18.7	
Progression factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental delay, d_2		1.7			25.5		25.0	8.7		41.0	0.3	
Initial queue delay, d_3												
Control delay		40.0			75.7		103.2	48.6		111.5	19.0	
Lane group LOS		D			E		F	D		F	B	
Approach delay	40.0			75.7			48.8			44.1		
Approach LOS	D			E			D			D		
Intersection delay	51.7			X_C = 0.90			Intersection LOS			D		

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HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*7 Rd#2 Sand Island Access Rd*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2039 baseline*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	0	0	1	2	0	1	2	0
Lane group		LTR					L	TR		L	TR	
Volume, V (vph)	10	0	0				0	525	0	0	1225	15
% Heavy vehicles, %HV	10	10	10				10	10	10	10	10	10
Peak-hour factor, PHF	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P				P	P	P	P	P	P
Start-up lost time, l_1		2.0					2.0	2.0		2.0	2.0	
Extension of effective green, e		2.0					2.0	2.0		2.0	2.0	
Arrival type, AT		3					3	3		3	3	
Unit extension, UE		3.0					3.0	3.0		3.0	3.0	
Filtering/metering, I		1.000					1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b		0.0					0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0			0		0	0		0
Lane width		12.0					12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N		N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0					0	0		0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	02	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 10.0	G =	G =	G =	G = 1.0	G = 6.0	G = 38.0	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y = 5	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 75.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		11					0	553		0	1305	
Lane group capacity, c		219					22	1666		263	2145	
v/c ratio, X		0.05					0.00	0.33		0.00	0.61	
Total green ratio, g/C		0.13					0.01	0.51		0.16	0.65	
Uniform delay, d_1		28.4					36.5	11.0		26.5	7.5	
Progression factor, PF		1.000					1.000	1.000		1.000	1.000	
Delay calibration, k		0.50					0.50	0.50		0.50	0.50	
Incremental delay, d_2		0.4					0.0	0.5		0.0	1.3	
Initial queue delay, d_3												
Control delay		28.8					36.5	11.5		26.5	8.8	
Lane group LOS		C					D	B		C	A	
Approach delay	28.8						11.5			8.8		
Approach LOS	C						B			A		
Intersection delay	9.7			X_C = 0.51			Intersection LOS			A		

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HCS2000™ DETAILED REPORT

General Information		**Site Information**	
Analyst	*JN*	Intersection	*7 Rd#2 Sand Island Access Rd*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2039 baseline*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	0	0	1	2	0	1	2	0
Lane group		LTR					L	TR		L	TR	
Volume, V (vph)	30	0	0				0	1115	0	0	520	5
% Heavy vehicles, %HV	10	10	10				10	10	10	10	10	10
Peak-hour factor, PHF	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P				P	P	P	P	P	P
Start-up lost time, l_1		2.0					2.0	2.0		2.0	2.0	
Extension of effective green, e		2.0					2.0	2.0		2.0	2.0	
Arrival type, AT		3					3	3		3	3	
Unit extension, UE		3.0					3.0	3.0		3.0	3.0	
Filtering/metering, I		1.000					1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b		0.0					0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0			0		0	0		0
Lane width		12.0					12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N		N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0					0	0		0	0	
Min. time for pedestrians, G_p		3.2			3.2			3.2			3.2	

Phasing	EB Only	02	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 7.0	G =	G =	G =	G = 1.0	G = 3.0	G = 44.0	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y = 5	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 75.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		32					0	1174		0	552	
Lane group capacity, c		154					22	1930		197	2277	
v/c ratio, X		0.21					0.00	0.61		0.00	0.24	
Total green ratio, g/C		0.09					0.01	0.59		0.12	0.69	
Uniform delay, d_1		31.4					36.5	10.0		29.0	4.2	
Progression factor, PF		1.000					1.000	1.000		1.000	1.000	
Delay calibration, k		0.50					0.50	0.50		0.50	0.50	
Incremental delay, d_2		3.0					0.0	1.4		0.0	0.3	
Initial queue delay, d_3												
Control delay		34.5					36.5	11.4		29.0	4.5	
Lane group LOS		C					D	B		C	A	
Approach delay		34.5						11.4			4.5	
Approach LOS		C						B			A	
Intersection delay		9.6			X_c = 0.47		Intersection LOS				A	

TWO-WAY STOP CONTROL SUMMARY

General Information		**Site Information**	
Analyst	*JN*	Intersection	*7 Road #2 & Sand Island Access*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/28/2013*	Analysis Year	*2039 Baseline*
Analysis Time Period	*AM Peak Hour*		
Project Description *Kapalama Container Yard*			
East/West Street: *Road No. 2*		North/South Street: *Sand Island Access Road*	
Intersection Orientation: *North-South*		Study Period (hrs): *0.25*	

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	525	0	0	1225	15
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Hourly Flow Rate, HFR	0	589	0	0	1376	16
Percent Heavy Vehicles	10	--	--	10	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	
Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	10	0	0
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Hourly Flow Rate, HFR	0	0	0	11	0	0
Percent Heavy Vehicles	10	0	0	10	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	0	0		0			11	
C (m) (vph)	448	929					119	
v/c	0.00	0.00					0.09	
95% queue length	0.00	0.00					0.30	
Control Delay	13.0	8.9					38.3	
LOS	B	A					E	
Approach Delay	--	--					38.3	
Approach LOS	--	--					E	

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JN	Intersection	7 Road #2 & Sand Island Access
Agency/Co.	Julian Ng Incorporated	Jurisdiction	HDOT-HWY
Date Performed	8/29/2013	Analysis Year	2039 baseline
Analysis Time Period	PM Peak Hour		
Project Description	Kapalama Container Yard		
East/West Street:	Road No. 2	North/South Street:	Sand Island Access Road
Intersection Orientation:	North-South	Study Period (hrs):	0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	1115	0	0	520	5
Peak-Hour Factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Hourly Flow Rate, HFR	0	1311	0	0	611	5
Percent Heavy Vehicles	10	--	--	10	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	30	0	0
Peak-Hour Factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Hourly Flow Rate, HFR	0	0	0	35	0	0
Percent Heavy Vehicles	10	0	0	10	10	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	0	0		0			35	
C (m) (vph)	907	483					243	
v/c	0.00	0.00					0.14	
95% queue length	0.00	0.00					0.50	
Control Delay	9.0	12.5					22.3	
LOS	A	B					C	
Approach Delay	--	--				22.3		
Approach LOS	--	--				C		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JN	Intersection	8 Harbor Access at SIAR
Agency/Co.	Julian Ng Incorporated	Jurisdiction	HDOT-HWY
Date Performed	8/29/2013	Analysis Year	2039
Analysis Time Period	AM Peak Hour		
Project Description	Kapalama Container Yard		
East/West Street:	Snug Harbor Access Road	North/South Street:	Sand Island Access Road
Intersection Orientation:	North-South	Study Period (hrs):	0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	10	535	0	0	1095	35
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Hourly Flow Rate, HFR	11	601	0	0	1230	39
Percent Heavy Vehicles	10	--	--	10	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	30	0	10
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Hourly Flow Rate, HFR	0	0	0	33	0	11
Percent Heavy Vehicles	10	0	0	10	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	11	0		0			44	
C (m) (vph)	502	919					169	
v/c	0.02	0.00					0.26	
95% queue length	0.07	0.00					0.99	
Control Delay	12.3	8.9					33.6	
LOS	B	A					D	
Approach Delay	--	--				33.6		
Approach LOS	--	--				D		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	*8 Harbor Access at SIAR*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/29/2013*	Analysis Year	*2039 baseline*
Analysis Time Period	*PM Peak Hour*		

Project Description *Kapalama Container Yard*	
East/West Street: *Snug Harbor Access Road*	North/South Street: *Sand Island Access Road*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*0*	*1070*	*0*	*0*	*470*	*50*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*0*	*1258*	*0*	*0*	*552*	*58*
Percent Heavy Vehicles	*10*	--	--	*10*	--	--
Median Type	*Two Way Left Turn Lane*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*1*	*2*	*0*
Configuration	*L*	*T*	*TR*	*L*	*T*	*TR*
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*46*	*0*	*5*
Peak-Hour Factor, PHF	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*	*0.85*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*54*	*0*	*5*
Percent Heavy Vehicles	*10*	*0*	*0*	*10*	*10*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*	*L*		*LTR*			*LTR*	
v (vph)	*0*	*0*		*0*			*59*	
C (m) (vph)	*912*	*507*					*271*	
v/c	*0.00*	*0.00*					*0.22*	
95% queue length	*0.00*	*0.00*					*0.81*	
Control Delay	*8.9*	*12.1*					*21.9*	
LOS	*A*	*B*					*C*	
Approach Delay	--	--				*21.9*		
Approach LOS	--	--				*C*		

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	*10 Puuhale Rd & Auiki St*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/28/2013*	Analysis Year	*2039 baseline*
Analysis Time Period	*AM Peak Hour*		

Project Description *Kapalama Container Yard*	
East/West Street: *Auiki Street*	North/South Street: *Puuhale Road*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*45*	*420*	*50*	*20*	*225*	*45*
Peak-hour factor, PHF	*0.93*	*0.93*	*0.93*	*0.93*	*0.93*	*0.93*
Hourly Flow Rate (veh/h)	*48*	*451*	*53*	*21*	*241*	*48*
Proportion of heavy vehicles, P_{HV}	*10*	--	--	*10*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LTR*			*LTR*		
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*25*	*15*	*45*	*55*	*10*	*100*
Peak-hour factor, PHF	*0.93*	*0.93*	*0.93*	*0.93*	*0.93*	*0.93*
Hourly Flow Rate (veh/h)	*26*	*16*	*48*	*59*	*10*	*107*
Proportion of heavy vehicles, P_{HV}	*10*	*10*	*10*	*10*	*10*	*10*
Percent grade (%)	*0*			*0*		
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration		*LTR*			*LTR*	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LTR*	*LTR*		*LTR*			*LTR*	
Volume, v (vph)	*48*	*21*		*90*			*176*	
Capacity, c_m (vph)	*1228*	*1021*		*310*			*370*	
v/c ratio	*0.04*	*0.02*		*0.29*			*0.48*	
Queue length (95%)	*0.12*	*0.06*		*1.18*			*2.47*	
Control Delay (s/veh)	*8.1*	*8.6*		*21.3*			*23.2*	
LOS	*A*	*A*		*C*			*C*	
Approach delay (s/veh)	--	--	*21.3*			*23.2*		
Approach LOS	--	--	*C*			*C*		

HCS2000™ Version 4.1d

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	JN	Intersection	10 Puuhale Rd & Auiki St
Agency/Co.	Julian Ng Incorporated	Jurisdiction	HDOT-HWY
Date Performed	8/28/2013	Analysis Year	2039 baseline
Analysis Time Period	PM Peak Hour		

Project Description Kapalama Container Yard

East/West Street:	Auiki Street	North/South Street:	Puuhale Road
Intersection Orientation:	East-West	Study Period (hrs):	0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	85	585	25	10	235	60
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Hourly Flow Rate (veh/h)	90	622	26	10	250	63
Proportion of heavy vehicles, P_{HV}	10	--	--	10	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	15	30	20	55	10	80
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Hourly Flow Rate (veh/h)	15	31	21	58	10	85
Proportion of heavy vehicles, P_{HV}	10	10	10	10	10	10
Percent grade (%)		0			0	
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
Volume, v (vph)	90	10		67			153	
Capacity, c_m (vph)	1203	901		190			241	
v/c ratio	0.07	0.01		0.35			0.63	
Queue length (95%)	0.24	0.03		1.49			3.86	
Control Delay (s/veh)	8.2	9.0		33.9			42.7	
LOS	A	A		D			E	
Approach delay (s/veh)	--	--	33.9			42.7		
Approach LOS	--	--	D			E		

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	JN	Intersection	11 Auiki Mokauea
Agency or Co.	Julian Ng Incorporated	Area Type	All other areas
Date Performed	8/30/2013	Jurisdiction	
Time Period	AM Peak Hour	Analysis Year	2039 baseline
		Project ID	Kapalama Container Yard

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group		LTR			LTR			LTR			LTR	
Volume, V (vph)	95	385	35	15	225	20	20	5	20	10	0	60
% Heavy vehicles, %HV	10	30	10	10	30	10	10	10	10	10	10	10
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			3			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 42.0	G =	G =	G =	G = 8.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis, T = 0.25 Cycle Length, C = 60.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		573			289			50			78	
Lane group capacity, c		935			997			179			193	
v/c ratio, X		0.61			0.29			0.28			0.40	
Total green ratio, g/C		0.70			0.70			0.13			0.13	
Uniform delay, d_1		4.7			3.4			23.4			23.8	
Progression factor, PF		1.000			1.000			1.000			1.000	
Delay calibration, k		0.50			0.50			0.50			0.50	
Incremental delay, d_2		3.0			0.7			3.9			6.2	
Initial queue delay, d_3												
Control delay		7.7			4.1			27.3			30.0	
Lane group LOS		A			A			C			C	
Approach delay	7.7			4.1			27.3			30.0		
Approach LOS	A			A			C			C		
Intersection delay	9.4			X_c = 0.58			Intersection LOS			A		

HCS2000™ DETAILED REPORT

General Information		**Site Information**	
Analyst	*JN*	Intersection	*11 Auiki Mokauea*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/30/2013*	Jurisdiction	
Time Period	*PM Peak Hour*	Analysis Year	*2039 baseline*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	*0*	*1*	*0*	*0*	*1*	*0*	*0*	*1*	*0*	*0*	*1*	*0*
Lane group		*LTR*			*LTR*			*LTR*			*LTR*	
Volume, V (vph)	*90*	*525*	*10*	*5*	*230*	*15*	*30*	*5*	*75*	*5*	*5*	*50*
% Heavy vehicles, %HV	*10*	*30*	*10*	*10*	*30*	*10*	*10*	*10*	*10*	*10*	*10*	*10*
Peak-hour factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Pretimed (P) or actuated (A)	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*	*P*
Start-up lost time, l_1		*2.0*			*2.0*			*2.0*			*2.0*	
Extension of effective green, e		*2.0*			*2.0*			*2.0*			*2.0*	
Arrival type, AT		*3*			*3*			*3*			*3*	
Unit extension, UE		*3.0*			*3.0*			*3.0*			*3.0*	
Filtering/metering, I		*1.000*			*1.000*			*1.000*			*1.000*	
Initial unmet demand, Q_b		*0.0*			*0.0*			*0.0*			*0.0*	
Ped / Bike / RTOR volumes	*0*		*0*	*0*		*0*	*0*		*0*	*0*		*0*
Lane width		*12.0*			*12.0*			*12.0*			*12.0*	
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking maneuvers, N_m												
Buses stopping, N_B		*0*			*0*			*0*			*0*	
Min. time for pedestrians, G_p		*3.2*			*3.2*			*3.2*			*3.2*	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = *42.0*	G =	G =	G =	G = *8.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *60.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		*694*			*279*			*122*			*68*	
Lane group capacity, c		*955*			*1016*			*185*			*198*	
v/c ratio, X		*0.73*			*0.27*			*0.66*			*0.34*	
Total green ratio, g/C		*0.70*			*0.70*			*0.13*			*0.13*	
Uniform delay, d_1		*5.5*			*3.3*			*24.7*			*23.6*	
Progression factor, PF		*1.000*			*1.000*			*1.000*			*1.000*	
Delay calibration, k		*0.50*			*0.50*			*0.50*			*0.50*	
Incremental delay, d_2		*4.8*			*0.7*			*17.0*			*4.7*	
Initial queue delay, d_3												
Control delay		*10.3*			*4.0*			*41.7*			*28.3*	
Lane group LOS		*B*			*A*			*D*			*C*	
Approach delay		*10.3*			*4.0*			*41.7*			*28.3*	
Approach LOS		*B*			*A*			*D*			*C*	
Intersection delay		*13.1*			X_C = *0.72*			Intersection LOS			*B*	

TWO-WAY STOP CONTROL SUMMARY

General Information		**Site Information**	
Analyst	*JN*	Intersection	*12 Kalihi St & Auiki St*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/28/2013*	Analysis Year	*2039 baseline*
Analysis Time Period	*AM Peak Hour*		
Project Description *Kapalama Container Yard*			
East/West Street: *Auiki Street*		North/South Street: *Kalihi Street*	
Intersection Orientation: *East-West*		Study Period (hrs): *0.25*	

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*200*	*195*	*0*	*0*	*75*	*20*
Peak-hour factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate (veh/h)	*210*	*205*	*0*	*0*	*78*	*21*
Proportion of heavy vehicles, P_{HV}	*15*	*--*	*--*	*12*	*--*	*--*
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*10*	*0*	*185*
Peak-hour factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate (veh/h)	*0*	*0*	*0*	*10*	*0*	*194*
Proportion of heavy vehicles, P_{HV}	*12*	*12*	*12*	*15*	*12*	*15*
Percent grade (%)	*0*			*0*		
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Control Delay, Queue Length, Level of Service								
Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*					*L*		*R*
Volume, v (vph)	*210*					*10*		*194*
Capacity, c_m (vph)	*1416*					*324*		*936*
v/c ratio	*0.15*					*0.03*		*0.21*
Queue length (95%)	*0.52*					*0.10*		*0.78*
Control Delay (s/veh)	*8.0*					*16.5*		*9.8*
LOS	*A*					*C*		*A*
Approach delay (s/veh)	*--*	*--*				*10.2*		
Approach LOS	*--*	*--*				*B*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	*12 Kalihi St & Auiki St*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/28/2013*	Analysis Year	*2039 baseline*
Analysis Time Period	*PM Peak Hour*		

Project Description *Kapalama Container Yard*
East/West Street: *Auiki Street* — North/South Street: *Kalihi Street*
Intersection Orientation: *East-West* — Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	260	345	0	0	80	40
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Hourly Flow Rate (veh/h)	295	392	0	0	90	45
Proportion of heavy vehicles, P_{HV}	5	--	--	12	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	0	0	0	25	0	100
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Hourly Flow Rate (veh/h)	0	0	0	28	0	113
Proportion of heavy vehicles, P_{HV}	12	12	12	5	12	5
Percent grade (%)	0			0		
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	0	0	1	0	1
Configuration				L		R

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT					L		R
Volume, v (vph)	295					28		113
Capacity, c_m (vph)	1431					186		933
v/c ratio	0.21					0.15		0.12
Queue length (95%)	0.77					0.52		0.41
Control Delay (s/veh)	8.2					27.8		9.4
LOS	A					D		A
Approach delay (s/veh)	--	--				13.0		
Approach LOS	--	--				B		

APPENDIX E
INTERSECTION ANALYSIS SUMMARY
WORKSHEETS – FUTURE WITH PROJECT (2039)

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	*JN*	Intersection	*1 Nimitz Sand Island Access*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2039 with project*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	3	1	2	3	0	3	0	0	0	0	0
Lane group		T	R	L	T		L					
Volume, V (vph)		3330	1035	365	1380		525					
% Heavy vehicles, %HV		5	0	5	5		9					
Peak-hour factor, PHF		0.96	0.96	0.96	0.96		0.96					
Pretimed (P) or actuated (A)		P	P	P	P		P					
Start-up lost time, l_1		2.0	2.0	2.0	2.0		2.0					
Extension of effective green, e		2.0	2.0	2.0	2.0		2.0					
Arrival type, AT		3	3	3	3		3					
Unit extension, UE		3.0	3.0	3.0	3.0		3.0					
Filtering/metering, I		1.000	1.000	1.000	1.000		1.000	1.000				
Initial unmet demand, Q_b		0.0	0.0	0.0	0.0		0.0					
Ped / Bike / RTOR volumes	0		0							0		
Lane width		12.0	12.0	12.0	12.0		12.0					
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N		N
Parking maneuvers, N_m												
Buses stopping, N_B		0	0	0	0		0					
Min. time for pedestrians, G_p	3.2									3.2		

Phasing	WB Only	Thru & RT	03	04	NB Only	06	07	08
Timing	G = 27.0	G = 167.0	G =	G =	G = 29.0	G =	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		3469	1078	380	1438		547					
Lane group capacity, c		3430	1124	376	4107		545					
v/c ratio, X		1.01	0.96	1.01	0.35		1.00					
Total green ratio, g/C		0.70	0.70	0.11	0.83		0.12					
Uniform delay, d_1		36.5	33.4	106.5	4.7		105.5					
Progression factor, PF		1.000	1.000	1.000	1.000		1.000					
Delay calibration, k		0.50	0.50	0.50	0.50		0.50					
Incremental delay, d_2		18.2	18.6	49.1	0.2		39.5					
Initial queue delay, d_3												
Control delay		54.7	52.0	155.6	4.9		145.0					
Lane group LOS		D	D	F	A		F					
Approach delay	54.1			36.4			145.0					
Approach LOS	D			D			F					
Intersection delay	56.6			X_C = 1.01			Intersection LOS			E		

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	*JN*	Intersection	*1 Nimitz Sand Island Access*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2039 with project*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	3	0	2	3	0	3	0	0	0	0	0
Lane group		T		L	T		L					
Volume, V (vph)		2880		195	3120		910					
% Heavy vehicles, %HV		5		5	5		9					
Peak-hour factor, PHF		0.98		0.98	0.98		0.98					
Pretimed (P) or actuated (A)		P		P	P		P					
Start-up lost time, l_1		2.0		2.0	2.0		2.0					
Extension of effective green, e		2.0		2.0	2.0		2.0					
Arrival type, AT		3		3	3		3					
Unit extension, UE		3.0		3.0	3.0		3.0					
Filtering/metering, I		1.000		1.000	1.000		1.000	1.000				
Initial unmet demand, Q_b		0.0		0.0	0.0		0.0					
Ped / Bike / RTOR volumes	0									0		
Lane width		12.0		12.0	12.0		12.0					
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N		N
Parking maneuvers, N_m												
Buses stopping, N_B		0		0	0		0					
Min. time for pedestrians, G_p	3.2									3.2		

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = 16.0	G = 153.0	G =	G =	G = 54.0	G =	G =	G =
	Y = 6	Y = 6	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		2939		199	3184		929					
Lane group capacity, c		3142		223	3594		1015					
v/c ratio, X		0.94		0.89	0.89		0.92					
Total green ratio, g/C		0.64		0.07	0.73		0.22					
Uniform delay, d_1		39.1		111.1	24.9		90.8					
Progression factor, PF		1.000		1.000	1.000		1.000					
Delay calibration, k		0.50		0.50	0.50		0.50					
Incremental delay, d_2		6.7		37.7	3.6		14.0					
Initial queue delay, d_3												
Control delay		45.8		148.8	28.5		104.8					
Lane group LOS		D		F	C		F					
Approach delay	45.8			35.6			104.8					
Approach LOS	D			D			F					
Intersection delay	48.6			X_C = 0.93			Intersection LOS			D		

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	JN	Intersection	2 Nimitz Puuhale
Agency or Co.	Julian Ng Incorporated	Area Type	All other areas
Date Performed	8/28/2013	Jurisdiction	HDOT-HWY
Time Period	AM Peak Hour	Analysis Year	2039 w/project (EB RT = CFL)
		Project ID	Kapalama Container Yard

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	1	0	2	0	0	1	1	1	1	0
Lane group	L	T	R		TR			LT	R	L	TR	
Volume, V (vph)	30	3395	1035		1625	115	45	115	70	140	230	75
% Heavy vehicles, %HV	5	5	5		5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.95	0.95	0.95		0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P		P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0	2.0		2.0			2.0	2.0	2.0	2.0	
Extension of effective green, e	2.0	2.0	2.0		2.0			2.0	2.0	2.0	2.0	
Arrival type, AT	3	3	3		3			3	3	3	3	
Unit extension, UE	3.0	3.0	3.0		3.0			3.0	3.0	3.0	3.0	
Filtering/metering, I	1.000	1.000	1.000		1.000			1.000	1.000	1.000	1.000	
Initial unmet demand, Q_b	0.0	0.0	0.0		0.0			0.0	0.0	0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0		12.0			12.0	12.0	12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0	0		0			0	0	0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	03	04	NS Perm	06	07	08
Timing	G = 5.0	G = 160.0	G =	G =	G = 58.0	G =	G =	G =
	Y = 5	Y = 7	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	32	3574	1089		1832			168	74	147	321	
Lane group capacity, c	36	3491	1207		2274			162	355	217	408	
v/c ratio, X	0.89	1.02	0.90		0.81			1.04	0.21	0.68	0.79	
Total green ratio, g/C	0.02	0.71	0.67		0.67			0.24	0.24	0.24	0.24	
Uniform delay, d_1	117.2	35.0	33.5		28.8			91.0	72.7	82.5	85.2	
Progression factor, PF	1.000	1.000	1.000		1.000			1.000	1.000	1.000	1.000	
Delay calibration, k	0.50	0.50	0.50		0.50			0.50	0.50	0.50	0.50	
Incremental delay, d_2	118.6	21.7	11.0		3.2			80.8	1.3	15.7	14.2	
Initial queue delay, d_3												
Control delay	235.8	56.7	44.5		32.0			171.8	74.0	98.2	99.4	
Lane group LOS	F	E	D		C			F	E	F	F	
Approach delay	55.1			32.0			141.9			99.0		
Approach LOS	E			C			F			F		
Intersection delay	55.0			X_C = 1.03			Intersection LOS			D		

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	JN	Intersection	2 Nimitz Puuhale
Agency or Co.	Julian Ng Incorporated	Area Type	All other areas
Date Performed	8/28/2013	Jurisdiction	HDOT-HWY
Time Period	PM Peak Hour	Analysis Year	2039 with project
		Project ID	Kapalama Container Yard

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	0	1	3	0	0	1	1	1	1	0
Lane group	L	TR		L	TR			LT	R	L	TR	
Volume, V (vph)	55	2935	110	85	3095	75	115	175	90	85	100	115
% Heavy vehicles, %HV	5	5	5	5	5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0		2.0	2.0			2.0	2.0	2.0	2.0	
Extension of effective green, e	2.0	2.0		2.0	2.0			2.0	2.0	2.0	2.0	
Arrival type, AT	3	3		3	3			3	3	3	3	
Unit extension, UE	3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	
Filtering/metering, I	1.000	1.000		1.000	1.000			1.000	1.000	1.000	1.000	
Initial unmet demand, Q_b	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0		12.0	12.0			12.0	12.0	12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0		0	0			0	0	0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	WB Only	04	NS Perm	06	07	08
Timing	G = 8.0	G = 133.0	G = 11.0	G =	G = 66.0	G =	G =	G =
	Y = 5	Y = 7	Y = 5	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	58	3205		89	3337			305	95	89	226	
Lane group capacity, c	57	2982		79	3090			268	404	154	452	
v/c ratio, X	1.02	1.07		1.13	1.08			1.14	0.24	0.58	0.50	
Total green ratio, g/C	0.03	0.61		0.05	0.63			0.28	0.28	0.28	0.28	
Uniform delay, d_1	116.0	47.0		114.5	44.5			87.0	67.4	75.0	73.1	
Progression factor, PF	1.000	1.000		1.000	1.000			1.000	1.000	1.000	1.000	
Delay calibration, k	0.50	0.50		0.50	0.50			0.50	0.50	0.50	0.50	
Incremental delay, d_2	124.3	40.8		139.7	42.6			97.4	1.4	14.8	3.9	
Initial queue delay, d_3												
Control delay	240.3	87.8		254.2	87.1			184.4	68.8	89.8	77.0	
Lane group LOS	F	F		F	F			F	E	F	E	
Approach delay	90.5			91.5			157.0			80.7		
Approach LOS	F			F			F			F		
Intersection delay	94.1			X_C = 1.09			Intersection LOS			F		

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	*JN*	Intersection	*3 Nimitz Mokauea*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2039 w/project (EB RT = CFL)*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	1	0	2	0	0	1	0	0	1	0
Lane group	L	T	R		TR			LTR			LTR	
Volume, V (vph)	30	3405	1035		1660	80	60	115	60	100	125	30
% Heavy vehicles, %HV	5	5	5		5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.96	0.96	0.96		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or actuated (A)	P	P	P		P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0	2.0		2.0			2.0			2.0	
Extension of effective green, e	2.0	2.0	2.0		2.0			2.0			2.0	
Arrival type, AT	3	3	3		3			3			3	
Unit extension, UE	3.0	3.0	3.0		3.0			3.0			3.0	
Filtering/metering, I	1.000	1.000	1.000		1.000			1.000			1.000	
Initial unmet demand, Q_b	0.0	0.0	0.0		0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0		12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0	0		0			0			0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	03	04	NS Perm	06	07	08
Timing	G = 5.0	G = 161.0	G =	G =	G = 57.0	G =	G =	G =
	Y = 5	Y = 7	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	31	3547	1078		1812			246			265	
Lane group capacity, c	36	3512	1214		2296			320			261	
v/c ratio, X	0.86	1.01	0.89		0.79			0.77			1.02	
Total green ratio, g/C	0.02	0.71	0.67		0.67			0.24			0.24	
Uniform delay, d_1	117.2	34.5	32.2		27.6			85.4			91.5	
Progression factor, PF	1.000	1.000	1.000		1.000			1.000			1.000	
Delay calibration, k	0.50	0.50	0.50		0.50			0.50			0.50	
Incremental delay, d_2	111.4	17.7	9.8		2.8			16.2			59.7	
Initial queue delay, d_3												
Control delay	228.6	52.2	42.0		30.5			101.5			151.2	
Lane group LOS	F	D	D		C			F			F	
Approach delay	51.0			30.5			101.5			151.2		
Approach LOS	D			C			F			F		
Intersection delay	51.2			X_C = 1.01			Intersection LOS			D		

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HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	*JN*	Intersection	*3 Nimitz Mokauea*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2039 with project*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	0	1	3	0	0	1	1	0	1	0
Lane group	L	TR		L	TR			LT	R		LTR	
Volume, V (vph)	85	2975	50	65	3060	115	135	195	55	35	70	50
% Heavy vehicles, %HV	5	5	5	5	5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0		2.0	2.0			2.0	2.0		2.0	
Extension of effective green, e	2.0	2.0		2.0	2.0			2.0	2.0		2.0	
Arrival type, AT	3	3		3	3			3	3		3	
Unit extension, UE	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Filtering/metering, I	1.000	1.000		1.000	1.000			1.000	1.000		1.000	
Initial unmet demand, Q_b	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0		12.0	12.0			12.0	12.0		12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0		0	0			0	0		0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	WB Only	04	NS Perm	06	07	08
Timing	G = 12.0	G = 137.0	G = 9.0	G =	G = 60.0	G =	G =	G =
	Y = 5	Y = 7	Y = 5	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	89	3185		68	3342			347	58		164	
Lane group capacity, c	86	3155		64	3125			314	367		190	
v/c ratio, X	1.03	1.01		1.06	1.07			1.11	0.16		0.86	
Total green ratio, g/C	0.05	0.64		0.04	0.64			0.25	0.25		0.25	
Uniform delay, d_1	114.0	43.0		115.5	43.5			90.0	70.3		86.1	
Progression factor, PF	1.000	1.000		1.000	1.000			1.000	1.000		1.000	
Delay calibration, k	0.50	0.50		0.50	0.50			0.50	0.50		0.50	
Incremental delay, d_2	106.9	18.4		130.9	38.5			82.0	0.9		37.2	
Initial queue delay, d_3												
Control delay	220.9	61.4		246.4	82.0			172.0	71.2		123.3	
Lane group LOS	F	E		F	F			F	E		F	
Approach delay	65.7			85.2			157.6			123.3		
Approach LOS	E			F			F			F		
Intersection delay	81.3			X_C = 1.08			Intersection LOS			F		

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HCS2000™ DETAILED REPORT

General Information	***Site Information***
Analyst *JN*	Intersection *4 Nimitz Kalihi*
Agency or Co. *Julian Ng Incorporated*	Area Type *All other areas*
Date Performed *8/28/2013*	Jurisdiction *HDOT-HWY*
Time Period *AM Peak Hour*	Analysis Year *2039 w/project (EB RT = CFL)*
	Project ID *Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	1	0	2	0	1	1	1	1	2	0
Lane group	L	T	R		TR		L	T	R	L	TR	
Volume, V (vph)	40	3485	1035		1630	115	55	170	120	200	415	55
% Heavy vehicles, %HV	5	5	5		5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.97	0.97	0.97		0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Pretimed (P) or actuated (A)	P	P	P		P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	
Extension of effective green, e	2.0	2.0	2.0		2.0		2.0	2.0	2.0	2.0	2.0	
Arrival type, AT	3	3	3		3		3	3	3	3	3	
Unit extension, UE	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Filtering/metering, I	1.000	1.000	1.000		1.000		1.000	1.000	1.000	1.000	1.000	
Initial unmet demand, Q_b	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0		12.0		12.0	12.0	12.0	12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0	0		0		0	0	0	0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 6.0	G = 161.0	G =	G =	G = 8.0	G = 15.0	G = 23.0	G =
	Y = 5	Y = 7	Y =	Y =	Y = 5	Y = 5	Y = 5	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	41	3593	1067		1799		57	175	124	206	485	
Lane group capacity, c	43	3532	1214		2288		57	173	141	201	583	
v/c ratio, X	0.95	1.02	0.88		0.79		1.00	1.01	0.88	1.02	0.83	
Total green ratio, g/C	0.03	0.72	0.67		0.67		0.03	0.10	0.10	0.12	0.18	
Uniform delay, d_1	116.9	34.0	31.7		27.5		116.0	108.5	107.1	106.0	95.0	
Progression factor, PF	1.000	1.000	1.000		1.000		1.000	1.000	1.000	1.000	1.000	
Delay calibration, k	0.50	0.50	0.50		0.50		0.50	0.50	0.50	0.50	0.50	
Incremental delay, d_2	124.0	19.6	9.2		2.8		119.2	71.5	49.0	70.1	13.0	
Initial queue delay, d_3												
Control delay	240.8	53.6	40.9		30.3		235.2	180.0	156.1	176.1	108.0	
Lane group LOS	F	D	D		C		F	F	F	F	F	
Approach delay	52.4			30.3			180.5			128.3		
Approach LOS	D			C			F			F		
Intersection delay	60.1			X_c = 1.02			Intersection LOS			E		

HCS2000™ DETAILED REPORT

General Information	***Site Information***
Analyst *JN*	Intersection *4 Nimitz Kalihi*
Agency or Co. *Julian Ng Incorporated*	Area Type *All other areas*
Date Performed *8/28/2013*	Jurisdiction *HDOT-HWY*
Time Period *PM Peak Hour*	Analysis Year *2039 with project*
	Project ID *Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	0	1	3	0	1	1	1	1	2	0
Lane group	L	TR		L	TR		L	T	R	L	TR	
Volume, V (vph)	105	2980	20	110	3070	185	80	265	155	130	195	90
% Heavy vehicles, %HV	5	5	5	5	5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Extension of effective green, e	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Arrival type, AT	3	3		3	3		3	3	3	3	3	
Unit extension, UE	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Filtering/metering, I	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
Initial unmet demand, Q_b	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0		0	0		0	0	0	0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	WB Only	Thru & RT	EB Only	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 15.0	G = 131.0	G = 14.0	G =	G = 10.0	G = 2.0	G = 36.0	G =
	Y = 5	Y = 7	Y = 5	Y =	Y = 5	Y = 5	Y = 5	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 240.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	107	3061		112	3322		82	270	158	133	291	
Lane group capacity, c	100	3119		107	3075		72	272	343	122	573	
v/c ratio, X	1.07	0.98		1.05	1.08		1.14	0.99	0.46	1.09	0.51	
Total green ratio, g/C	0.06	0.63		0.06	0.63		0.04	0.15	0.23	0.07	0.18	
Uniform delay, d_1	113.0	42.6		112.5	44.5		115.0	101.9	79.0	111.5	88.9	
Progression factor, PF	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
Delay calibration, k	0.50	0.50		0.50	0.50		0.50	0.50	0.11	0.50	0.50	
Incremental delay, d_2	110.2	12.3		100.1	42.8		148.7	52.7	1.0	107.7	3.2	
Initial queue delay, d_3												
Control delay	223.2	55.0		212.6	87.3		263.7	154.6	80.0	219.2	92.1	
Lane group LOS	F	D		F	F		F	F	F	F	F	
Approach delay	60.6			91.4			149.0			132.0		
Approach LOS	E			F			F			F		
Intersection delay	84.6			X_c = 1.07			Intersection LOS			F		

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	*JN*	Intersection	*5 Nimitz Waiakamilo*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2039 w/ project (EB RT = CFL)*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	1	0	2	1	0	1	1	1	1	1
Lane group	L	T	R		T	R		LT	R	L	LT	R
Volume, V (vph)	105	3900	1035		1555	285	30	25	25	220	220	160
% Heavy vehicles, %HV	5	5	5		5	5	15	15	15	5	10	3
Peak-hour factor, PHF	0.96	0.96	0.96		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or actuated (A)	P	P	P		P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0
Extension of effective green, e	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0
Arrival type, AT	3	3	3		3	3		3	3	3	3	3
Unit extension, UE	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0
Filtering/metering, I	1.000	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000
Initial unmet demand, Q_b	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0	0		0	0		0	0	0	0	0
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	03	04	SB Only	NB Only	07	08
Timing	G = 16.0	G = 164.0	G =	G =	G = 30.0	G = 8.0	G =	G =
	Y = 5	Y = 7	Y =	Y =	Y = 5	Y = 5	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 240.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	109	4063	1078		1620	297		57	26	229	229	167
Lane group capacity, c	115	3799	1237		2354	1288		54	47	215	216	301
v/c ratio, X	0.95	1.07	0.87		0.69	0.23		1.06	0.55	1.07	1.06	0.55
Total green ratio, g/C	0.07	0.77	0.68		0.68	0.84		0.03	0.03	0.13	0.13	0.19
Uniform delay, d_1	111.6	27.5	29.7		22.7	3.9		116.0	114.2	105.0	105.0	87.7
Progression factor, PF	1.000	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000
Delay calibration, k	0.50	0.50	0.50		0.50	0.50		0.50	0.50	0.50	0.50	0.50
Incremental delay, d_2	70.8	37.4	8.6		1.7	0.4		138.9	39.6	79.7	78.0	7.2
Initial queue delay, d_3												
Control delay	182.4	64.9	38.3		24.4	4.3		254.9	153.9	184.7	183.0	94.9
Lane group LOS	F	E	D		C	A		F	F	F	F	F
Approach delay	61.9			21.3			223.3			160.1		
Approach LOS	E			C			F			F		
Intersection delay	61.5			X_C = 1.07			Intersection LOS			E		

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	*JN*	Intersection	*5 Nimitz Waiakamilo*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2039 with project*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	1	3	0	1	3	1	0	1	1	1	1	1
Lane group	L	TR		L	T	R		LT	R	L	LT	R
Volume, V (vph)	170	3425	15	5	3010	325	15	30	20	155	160	345
% Heavy vehicles, %HV	5	5	5	5	5	5	15	15	15	5	10	3
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1	2.0	2.0		2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0
Extension of effective green, e	2.0	2.0		2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0
Arrival type, AT	3	3		3	3	3		3	3	3	3	3
Unit extension, UE	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Filtering/metering, I	1.000	1.000		1.000	1.000	1.000		1.000	1.000	1.000	1.000	1.000
Initial unmet demand, Q_b	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width	12.0	12.0		12.0	12.0	12.0		12.0	12.0	12.0	12.0	12.0
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B	0	0		0	0	0		0	0	0	0	0
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	Thru & RT	WB Only	04	NB Only	SB Only	07	08
Timing	G = 25.0	G = 148.0	G = 5.0	G =	G = 8.0	G = 27.0	G =	G =
	Y = 5	Y = 7	Y = 5	Y =	Y = 5	Y = 5	Y =	Y =
Duration of Analysis, T = 0.25						Cycle Length, C = 240.0		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v	177	3584		5	3135	339		47	21	161	167	359
Lane group capacity, c	179	3653		36	3286	1198		54	47	193	194	372
v/c ratio, X	0.99	0.98		0.14	0.95	0.28		0.87	0.45	0.83	0.86	0.97
Total green ratio, g/C	0.10	0.74		0.02	0.67	0.78		0.03	0.03	0.11	0.11	0.24
Uniform delay, d_1	107.4	29.4		115.4	36.6	7.5		115.5	113.8	104.3	104.7	90.5
Progression factor, PF	1.000	1.000		1.000	1.000	1.000		1.000	1.000	1.000	1.000	1.000
Delay calibration, k	0.50	0.50		0.50	0.50	0.50		0.50	0.50	0.50	0.50	0.50
Incremental delay, d_2	64.4	11.1		7.9	8.2	0.6		88.8	27.8	32.6	36.3	38.6
Initial queue delay, d_3												
Control delay	171.8	40.5		123.3	44.8	8.1		204.2	141.7	137.0	141.0	129.2
Lane group LOS	F	D		F	D	A		F	F	F	F	F
Approach delay	46.7			41.3			184.9			133.9		
Approach LOS	D			D			F			F		
Intersection delay	53.0			X_C = 0.95			Intersection LOS			D		

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	JN	Intersection	6 Auiki & Sand Island Access
Agency or Co.	Julian Ng Incorporated	Area Type	All other areas
Date Performed	8/28/2013	Jurisdiction	HDOT-HWY
Time Period	AM Peak Hour	Analysis Year	2039 with project
		Project ID	Kapalama Container Yard

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	1	2	0	1	2	0
Lane group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	40	30	10	215	20	100	10	390	250	195	885	55
% Heavy vehicles, %HV	10	10	10	10	10	10	10	10	10	10	10	10
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of effective green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival type, AT		3			3		3	3		3	3	
Unit extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0		0	0		0	0	
Min. time for pedestrians, G_p		3.2			3.2			3.2			3.2	

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 44.0	G =	G =	G =	G = 7.0	G = 7.0	G = 42.0	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y = 5	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 120.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		85			352		11	674		205	990	
Lane group capacity, c		476			465		96	1084		260	1467	
v/c ratio, X		0.18			0.76		0.11	0.62		0.79	0.67	
Total green ratio, g/C		0.37			0.37		0.06	0.35		0.16	0.45	
Uniform delay, d_1		25.8			33.3		53.6	32.4		48.6	26.1	
Progression factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental delay, d_2		0.8			11.0		2.4	2.7		21.1	2.5	
Initial queue delay, d_3												
Control delay		26.6			44.3		56.0	35.1		69.7	28.6	
Lane group LOS		C			D		E	D		E	C	
Approach delay		26.6			44.3			35.4			35.6	
Approach LOS		C			D			D			D	
Intersection delay		36.5			X_c = 0.71		Intersection LOS				D	

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	JN	Intersection	6 Auiki & Sand Island Access
Agency or Co.	Julian Ng Incorporated	Area Type	All other areas
Date Performed	10/29/2012	Jurisdiction	HDOT-HWY
Time Period	PM Peak Hour	Analysis Year	2039 with project
		Project ID	Kapalama Container Yard

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	1	2	0	1	2	0
Lane group		LTR			LTR		L	TR		L	TR	
Volume, V (vph)	50	70	10	160	25	195	5	670	515	155	385	25
% Heavy vehicles, %HV	5	5	5	5	5	5	5	5	10	5	10	3
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1		2.0			2.0		2.0	2.0		2.0	2.0	
Extension of effective green, e		2.0			2.0		2.0	2.0		2.0	2.0	
Arrival type, AT		3			3		3	3		3	3	
Unit extension, UE		3.0			3.0		3.0	3.0		3.0	3.0	
Filtering/metering, I		1.000			1.000		1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b		0.0			0.0		0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0		12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0		0	0		0	0	
Min. time for pedestrians, G_p		3.2			3.2			3.2			3.2	

Phasing	EW Perm	02	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 55.0	G =	G =	G =	G = 2.0	G = 10.0	G = 73.0	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y = 5	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 160.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		135			396		5	1234		161	427	
Lane group capacity, c		453			454		21	1440		183	1799	
v/c ratio, X		0.30			0.87		0.24	0.86		0.88	0.24	
Total green ratio, g/C		0.34			0.34		0.01	0.46		0.11	0.55	
Uniform delay, d_1		38.4			49.2		78.2	38.8		70.5	18.6	
Progression factor, PF		1.000			1.000		1.000	1.000		1.000	1.000	
Delay calibration, k		0.50			0.50		0.50	0.50		0.50	0.50	
Incremental delay, d_2		1.7			20.1		25.0	6.8		41.0	0.3	
Initial queue delay, d_3												
Control delay		40.1			69.3		103.2	45.6		111.5	18.9	
Lane group LOS		D			E		F	D		F	B	
Approach delay		40.1			69.3			45.8			44.3	
Approach LOS		D			E			D			D	
Intersection delay		49.1			X_c = 0.87		Intersection LOS				D	

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*7 Rd#2 Sand Island Access Rd*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*AM Peak Hour*	Analysis Year	*2039 with project*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	0	0	1	2	0	1	2	0
Lane group		LTR					L	TR		L	TR	
Volume, V (vph)	0	0	0				0	505	0	0	1180	15
% Heavy vehicles, %HV	10	10	10				10	10	10	10	10	10
Peak-hour factor, PHF	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P				P	P	P	P	P	P
Start-up lost time, l_1		2.0					2.0	2.0		2.0	2.0	
Extension of effective green, e		2.0					2.0	2.0		2.0	2.0	
Arrival type, AT		3					3	3		3	3	
Unit extension, UE		3.0					3.0	3.0		3.0	3.0	
Filtering/metering, I		1.000					1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b		0.0					0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0			0		0	0		0
Lane width		12.0					12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N		N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0					0	0		0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	02	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 10.0	G =	G =	G =	G = 1.0	G = 6.0	G = 38.0	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y = 5	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 75.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		0					0	532		0	1258	
Lane group capacity, c		230					22	1666		263	2144	
v/c ratio, X		0.00					0.00	0.32		0.00	0.59	
Total green ratio, g/C		0.13					0.01	0.51		0.16	0.65	
Uniform delay, d_1		28.2					36.5	10.9		26.5	7.3	
Progression factor, PF		1.000					1.000	1.000		1.000	1.000	
Delay calibration, k		0.50					0.50	0.50		0.50	0.50	
Incremental delay, d_2		0.0					0.0	0.5		0.0	1.2	
Initial queue delay, d_3												
Control delay		28.2					36.5	11.4		26.5	8.5	
Lane group LOS		C					D	B		C	A	
Approach delay							11.4			8.5		
Approach LOS							B			A		
Intersection delay	9.4			X_c = 0.48			Intersection LOS			A		

HCS2000™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*JN*	Intersection	*7 Rd#2 Sand Island Access Rd*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/28/2013*	Jurisdiction	*HDOT-HWY*
Time Period	*PM Peak Hour*	Analysis Year	*2039 with project*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	0	0	1	2	0	1	2	0
Lane group		LTR					L	TR		L	TR	
Volume, V (vph)	0	0	0				0	1100	0	0	500	5
% Heavy vehicles, %HV	10	10	10				10	10	10	10	10	10
Peak-hour factor, PHF	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Pretimed (P) or actuated (A)	P	P	P				P	P	P	P	P	P
Start-up lost time, l_1		2.0					2.0	2.0		2.0	2.0	
Extension of effective green, e		2.0					2.0	2.0		2.0	2.0	
Arrival type, AT		3					3	3		3	3	
Unit extension, UE		3.0					3.0	3.0		3.0	3.0	
Filtering/metering, I		1.000					1.000	1.000		1.000	1.000	
Initial unmet demand, Q_b		0.0					0.0	0.0		0.0	0.0	
Ped / Bike / RTOR volumes	0		0	0			0		0	0		0
Lane width		12.0					12.0	12.0		12.0	12.0	
Parking / Grade / Parking	N	0	N	N		N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0					0	0		0	0	
Min. time for pedestrians, G_p	3.2			3.2			3.2			3.2		

Phasing	EB Only	02	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = 7.0	G =	G =	G =	G = 1.0	G = 3.0	G = 44.0	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y = 5	Y = 5	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 75.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		0					0	1158		0	531	
Lane group capacity, c		161					22	1930		197	2277	
v/c ratio, X		0.00					0.00	0.60		0.00	0.23	
Total green ratio, g/C		0.09					0.01	0.59		0.12	0.69	
Uniform delay, d_1		30.8					36.5	9.9		29.0	4.2	
Progression factor, PF		1.000					1.000	1.000		1.000	1.000	
Delay calibration, k		0.50					0.50	0.50		0.50	0.50	
Incremental delay, d_2		0.0					0.0	1.4		0.0	0.2	
Initial queue delay, d_3												
Control delay		30.8					36.5	11.3		29.0	4.4	
Lane group LOS		C					D	B		C	A	
Approach delay							11.3			4.4		
Approach LOS							B			A		
Intersection delay	9.1			X_c = 0.44			Intersection LOS			A		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	*7 Road #2 & Sand Island Access*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/28/2013*	Analysis Year	*2039 with project*
Analysis Time Period	*AM Peak Hour*		
Project Description	*Kapalama Container Yard*		
East/West Street:	*Road No. 2*	North/South Street:	*Sand Island Access Road*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	505	0	0	1180	15
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Hourly Flow Rate, HFR	0	567	0	0	1325	16
Percent Heavy Vehicles	10	--	--	10	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	
Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	10	0	0
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Hourly Flow Rate, HFR	0	0	0	11	0	0
Percent Heavy Vehicles	10	0	0	10	0	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	0	0		0			11	
C (m) (vph)	470	948					128	
v/c	0.00	0.00					0.09	
95% queue length	0.00	0.00					0.28	
Control Delay	12.7	8.8					35.8	
LOS	B	A					E	
Approach Delay	--	--				35.8		
Approach LOS	--	--				E		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	*7 Road #2 & Sand Island Access*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/29/2013*	Analysis Year	*2039 with project*
Analysis Time Period	*PM Peak Hour*		
Project Description	*Kapalama Container Yard*		
East/West Street:	*Road No. 2*	North/South Street:	*Sand Island Access Road*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	1100	0	0	500	5
Peak-Hour Factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Hourly Flow Rate, HFR	0	1294	0	0	588	5
Percent Heavy Vehicles	10	--	--	10	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	
Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	30	0	0
Peak-Hour Factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Hourly Flow Rate, HFR	0	0	0	35	0	0
Percent Heavy Vehicles	10	0	0	10	10	0
Percent Grade (%)	0			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	0	0		0			35	
C (m) (vph)	926	490					250	
v/c	0.00	0.00					0.14	
95% queue length	0.00	0.00					0.48	
Control Delay	8.9	12.3					21.7	
LOS	A	B					C	
Approach Delay	--	--				21.7		
Approach LOS	--	--				C		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	*8 Harbor Access at SIAR*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/29/2013*	Analysis Year	*2039 with project*
Analysis Time Period	*AM Peak Hour*		
Project Description	*Kapalama Container Yard*		
East/West Street:	*Snug Harbor Access Road*	North/South Street:	*Sand Island Access Road*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	10	360	10	145	905	35
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Hourly Flow Rate, HFR	11	404	11	162	1016	39
Percent Heavy Vehicles	10	--	--	10	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	5	0	155	30	0	10
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Hourly Flow Rate, HFR	5	0	174	33	0	11
Percent Heavy Vehicles	10	0	0	10	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	11	162		179			44	
C (m) (vph)	610	1085		673			60	
v/c	0.02	0.15		0.27			0.73	
95% queue length	0.06	0.52		1.07			3.18	
Control Delay	11.0	8.9		12.3			158.0	
LOS	B	A		B			F	
Approach Delay	--	--	12.3			158.0		
Approach LOS	--	--	B			F		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	*8 Harbor Access at SIAR*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/29/2013*	Analysis Year	*2039 with project*
Analysis Time Period	*PM Peak Hour*		
Project Description	*Kapalama Container Yard*		
East/West Street:	*Snug Harbor Access Road*	North/South Street:	*Sand Island Access Road*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	880	10	65	385	50
Peak-Hour Factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Hourly Flow Rate, HFR	0	1035	11	76	452	58
Percent Heavy Vehicles	10	--	--	10	--	--
Median Type	Two Way Left Turn Lane					
RT Channelized			0			0
Lanes	1	2	0	1	2	0
Configuration	L	T	TR	L	T	TR
Upstream Signal		0			0	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	10	0	140	46	0	5
Peak-Hour Factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Hourly Flow Rate, HFR	11	0	164	54	0	5
Percent Heavy Vehicles	10	0	0	10	10	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LTR			LTR	
v (vph)	0	76		175			59	
C (m) (vph)	997	615		451			187	
v/c	0.00	0.12		0.39			0.32	
95% queue length	0.00	0.42		1.81			1.28	
Control Delay	8.6	11.7		18.0			32.9	
LOS	A	B		C			D	
Approach Delay	--	--	18.0			32.9		
Approach LOS	--	--	C			D		

TWO-WAY STOP CONTROL SUMMARY

General Information / Site Information

Analyst	*JN*	Intersection	*10 Puuhale Rd & Auiki St*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/28/2013*	Analysis Year	*2039 with project*
Analysis Time Period	*AM Peak Hour*		

Project Description *Kapalama Container Yard*
East/West Street: *Auiki Street* — North/South Street: *Puuhale Road*
Intersection Orientation: *East-West* — Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	45	420	50	20	210	50
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Hourly Flow Rate (veh/h)	48	451	53	21	225	53
Proportion of heavy vehicles, P_{HV}	10	--	--	10	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	25	15	45	60	10	100
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Hourly Flow Rate (veh/h)	26	16	48	64	10	107
Proportion of heavy vehicles, P_{HV}	10	10	10	10	10	10
Percent grade (%)	0			0		
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
Volume, v (vph)	48	21		90			181	
Capacity, c_m (vph)	1240	1021		315			370	
v/c ratio	0.04	0.02		0.29			0.49	
Queue length (95%)	0.12	0.06		1.15			2.59	
Control Delay (s/veh)	8.0	8.6		20.9			23.7	
LOS	A	A		C			C	
Approach delay (s/veh)	--	--	20.9			23.7		
Approach LOS	--	--	C			C		

TWO-WAY STOP CONTROL SUMMARY

General Information / Site Information

Analyst	*JN*	Intersection	*10 Puuhale Rd & Auiki St*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/28/2013*	Analysis Year	*2039 with project*
Analysis Time Period	*PM Peak Hour*		

Project Description *Kapalama Container Yard*
East/West Street: *Auiki Street* — North/South Street: *Puuhale Road*
Intersection Orientation: *East-West* — Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	85	560	25	10	220	70
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Hourly Flow Rate (veh/h)	90	595	26	10	234	74
Proportion of heavy vehicles, P_{HV}	10	--	--	10	--	--
Median type	Undivided					
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration	LTR			LTR		
Upstream Signal		0			0	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	15	30	20	55	10	80
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Hourly Flow Rate (veh/h)	15	31	21	58	10	85
Proportion of heavy vehicles, P_{HV}	10	10	10	10	10	10
Percent grade (%)	0			0		
Flared approach		N			N	
Storage		0			0	
RT Channelized?			0			0
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
Volume, v (vph)	90	10		67			153	
Capacity, c_m (vph)	1209	922		202			257	
v/c ratio	0.07	0.01		0.33			0.60	
Queue length (95%)	0.24	0.03		1.38			3.48	
Control Delay (s/veh)	8.2	8.9		31.4			37.7	
LOS	A	A		D			E	
Approach delay (s/veh)	--	--	31.4			37.7		
Approach LOS	--	--	D			E		

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	*JN*	Intersection	*11 Auiki Mokauea*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/30/2013*	Jurisdiction	
Time Period	*AM Peak Hour*	Analysis Year	*2039 with project*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group		LTR			LTR			LTR			LTR	
Volume, V (vph)	95	370	35	15	210	25	20	5	20	10	0	65
% Heavy vehicles, %HV	10	30	10	10	30	10	10	10	10	10	10	10
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			3			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p		3.2			3.2			3.2			3.2	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 42.0	G =	G =	G =	G = 8.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 60.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		556			278			50			83	
Lane group capacity, c		935			998			180			193	
v/c ratio, X		0.59			0.28			0.28			0.43	
Total green ratio, g/C		0.70			0.70			0.13			0.13	
Uniform delay, d_1		4.6			3.4			23.4			23.9	
Progression factor, PF		1.000			1.000			1.000			1.000	
Delay calibration, k		0.50			0.50			0.50			0.50	
Incremental delay, d_2		2.8			0.7			3.8			6.9	
Initial queue delay, d_3												
Control delay		7.4			4.0			27.2			30.8	
Lane group LOS		A			A			C			C	
Approach delay	7.4			4.0			27.2			30.8		
Approach LOS	A			A			C			C		
Intersection delay	9.5			X_C = 0.57			Intersection LOS			A		

HCS2000™ DETAILED REPORT

General Information		Site Information	
Analyst	*JN*	Intersection	*11 Auiki Mokauea*
Agency or Co.	*Julian Ng Incorporated*	Area Type	*All other areas*
Date Performed	*8/30/2013*	Jurisdiction	
Time Period	*PM Peak Hour*	Analysis Year	*2039 with project*
		Project ID	*Kapalama Container Yard*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N_1	0	1	0	0	1	0	0	1	0	0	1	0
Lane group		LTR			LTR			LTR			LTR	
Volume, V (vph)	95	510	10	5	220	20	30	5	75	10	5	50
% Heavy vehicles, %HV	10	30	10	10	30	10	10	10	10	10	10	10
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Pretimed (P) or actuated (A)	P	P	P	P	P	P	P	P	P	P	P	P
Start-up lost time, l_1		2.0			2.0			2.0			2.0	
Extension of effective green, e		2.0			2.0			2.0			2.0	
Arrival type, AT		3			3			3			3	
Unit extension, UE		3.0			3.0			3.0			3.0	
Filtering/metering, I		1.000			1.000			1.000			1.000	
Initial unmet demand, Q_b		0.0			0.0			0.0			0.0	
Ped / Bike / RTOR volumes	0		0	0		0	0		0	0		0
Lane width		12.0			12.0			12.0			12.0	
Parking / Grade / Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking maneuvers, N_m												
Buses stopping, N_B		0			0			0			0	
Min. time for pedestrians, G_p		3.2			3.2			3.2			3.2	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 42.0	G =	G =	G =	G = 8.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =
Duration of Analysis, T = 0.25					Cycle Length, C = 60.0			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted flow rate, v		684			272			122			73	
Lane group capacity, c		950			1016			185			195	
v/c ratio, X		0.72			0.27			0.66			0.37	
Total green ratio, g/C		0.70			0.70			0.13			0.13	
Uniform delay, d_1		5.4			3.3			24.7			23.7	
Progression factor, PF		1.000			1.000			1.000			1.000	
Delay calibration, k		0.50			0.50			0.50			0.50	
Incremental delay, d_2		4.7			0.6			17.0			5.4	
Initial queue delay, d_3												
Control delay		10.1			4.0			41.7			29.1	
Lane group LOS		B			A			D			C	
Approach delay	10.1			4.0			41.7			29.1		
Approach LOS	B			A			D			C		
Intersection delay	13.2			X_C = 0.71			Intersection LOS			B		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	*12 Kalihi St & Auiki St*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/28/2013*	Analysis Year	*2039 with project*
Analysis Time Period	*AM Peak Hour*		

Project Description *Kapalama Container Yard*	
East/West Street: *Auiki Street*	North/South Street: *Kalihi Street*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*200*	*185*	*0*	*0*	*60*	*20*
Peak-hour factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate (veh/h)	*210*	*194*	*0*	*0*	*63*	*21*
Proportion of heavy vehicles, P_{HV}	*15*	--	--	*12*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*10*	*0*	*190*
Peak-hour factor, PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Hourly Flow Rate (veh/h)	*0*	*0*	*0*	*10*	*0*	*200*
Proportion of heavy vehicles, P_{HV}	*12*	*12*	*12*	*15*	*12*	*15*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*					*L*		*R*
Volume, v (vph)	*210*					*10*		*200*
Capacity, c_m (vph)	*1435*					*335*		*953*
v/c ratio	*0.15*					*0.03*		*0.21*
Queue length (95%)	*0.51*					*0.09*		*0.79*
Control Delay (s/veh)	*7.9*					*16.1*		*9.8*
LOS	*A*					*C*		*A*
Approach delay (s/veh)	--	--				*10.1*		
Approach LOS	--	--				*B*		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*JN*	Intersection	*12 Kalihi St & Auiki St*
Agency/Co.	*Julian Ng Incorporated*	Jurisdiction	*HDOT-HWY*
Date Performed	*8/28/2013*	Analysis Year	*2039 with project*
Analysis Time Period	*PM Peak Hour*		

Project Description *Kapalama Container Yard*	
East/West Street: *Auiki Street*	North/South Street: *Kalihi Street*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*265*	*330*	*0*	*0*	*70*	*45*
Peak-hour factor, PHF	*0.88*	*0.88*	*0.88*	*0.88*	*0.88*	*0.88*
Hourly Flow Rate (veh/h)	*301*	*375*	*0*	*0*	*79*	*51*
Proportion of heavy vehicles, P_{HV}	*5*	--	--	*12*	--	--
Median type	*Undivided*					
RT Channelized?			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*0*	*0*	*0*	*25*	*0*	*105*
Peak-hour factor, PHF	*0.88*	*0.88*	*0.88*	*0.88*	*0.88*	*0.88*
Hourly Flow Rate (veh/h)	*0*	*0*	*0*	*28*	*0*	*119*
Proportion of heavy vehicles, P_{HV}	*12*	*12*	*12*	*5*	*12*	*5*
Percent grade (%)		*0*			*0*	
Flared approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized?			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Control Delay, Queue Length, Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*					*L*		*R*
Volume, v (vph)	*301*					*28*		*119*
Capacity, c_m (vph)	*1437*					*188*		*943*
v/c ratio	*0.21*					*0.15*		*0.13*
Queue length (95%)	*0.79*					*0.51*		*0.43*
Control Delay (s/veh)	*8.2*					*27.5*		*9.4*
LOS	*A*					*D*		*A*
Approach delay (s/veh)	--	--				*12.8*		
Approach LOS	--	--				*B*		

APPENDIX D

Noise Studies

D-1
Noise Study-Kapālama Site

D-2
Noise Study-Pacific Shipyards International Site

D-3
Noise Study-Hawaiian Flour Mill Site

REPORT OF NOISE MEASUREMENT RESULTS AND BARRIER NOISE STUDY; PROPOSED KAPALAMA CONTAINER TERMINAL HONOLULU HARBOR, OAHU, HAWAII

JULY 1, 2013

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII
HARBORS DIVISION

A noise study was performed of the potential future noise levels associated with dockside and container yard activities at the proposed Kapalama Container Terminal Facility at Pier 42 and 46, Honolulu Harbor. The effectiveness of potential noise mitigation measures, such as a sound wall in the vicinity of the north (mauka) boundary, was also evaluated at the closest residence located approximately 80 feet mauka of the makai Right-of-Way along Auiki Street. A conceptual site plan depicting the location of the proposed container terminal improvements, sound wall, and closest residence are depicted in Figures 1 through 3. The overall objective of the noise mitigation measures was to minimize noise impacts associated with container loading and unloading operations during a typical busy day at the proposed container terminal.

Methodology. To determine the amount of sound attenuation of the noise from future container loading and unloading operations needed to approximate existing background ambient noise levels at the closest residence, existing nighttime background noise measurements were obtained at Locations A, B, C, and G where shown in Figure 2. Background ambient noise levels at the closest second floor residence near Location G are presently controlled by aircraft, local and distant traffic, mechanical equipment operating within Honolulu Harbor, and mechanical equipment operating at business establishments on Mary Street. The potential addition of noise from the container terminal during the nighttime period is considered to represent the greatest risk of adverse noise impacts at the closest residence to the proposed project.

Noise modeling of the sound levels of container handling and transporting equipment [gantry crane diesel engines, 45 Ton lifts (Top Handlers), tractor-trailer trucks, container terminal yard trucks (or Hustlers), banging, horns, and back-up alarms] was performed to predict the potential noise levels at the closest residence resulting from container handling operations at the proposed container terminal. In addition, the effectiveness of a sound barrier located along and in the vicinity of the north boundary of the proposed Container Terminal Facility for each type of equipment noise source was evaluated (see Figure 3). The effectiveness of 15 to 30 foot high walls in attenuating potential noise from future container loading and unloading operations were evaluated. Figure 3 depicts the assumed locations of the various container handling and transporting equipment (S1 through S8) from which resulting noise levels at the closest residence were calculated with and without a sound attenuating wall and for wall heights of 15 to 30 feet.

Source noise measurements (obtained at approximately 20 to 200 feet distance from the noise generating equipment) of 45 Ton container handling lifts, tractor-trailer trucks, banging, horns, and back-up alarms were obtained at Pier 40, Honolulu Harbor, since these were expected to be similar to the typical noise sources associated with future container loading and unloading operations at the proposed Kapalama Container Terminal Facility. Truck air brake release noise levels obtained from prior projects were also used during the current noise modeling effort. In addition, close-in source noise measurements of the gantry crane diesel engine and repositioning alarm, of a Top Handler loading empty containers onto a Hustler, and of a Top Handler performing

This report prepared by Y. Ebisu & Associates.

lifting operations at high engine rpm were obtained at the Horizon Lines facility on Sand Island during container ship loading and unloading operations on July 5, 2012. Nighttime noise measurements were also obtained during container ship loading and unloading operations at more distant off-site Locations D, E, and F shown in Figure 2.

The noise modeling was performed using inverse square law for hemispherical spreading of a sound from a source at or near the ground, with inclusion of molecular absorption and anomalous excess attenuation effects. The modeling equation used to predict sound levels at any given distance from a noise source was:

$$L_p = L_w - 20 \times \text{Log}(d) - [d \times a(f)] / 100 - 8$$

where:

L_p = Sound pressure level in decibels (re 2×10^{-5} Pa) at distance d (in meters),
L_w = Sound power level of noise source in decibels (re picowatt), and
a(f) = Molecular absorption plus anomalous excess attenuation in decibels per 100 meters. For the 9 standard Octave Bands from 31.5 Hz to 8,000 Hz, the a(f) values used were 0.1, 0.16, 0.27, 0.39, 0.66, 1.08, 1.9, 3.47, and 5.2.

The sound attenuation associated with a barrier or wall which obstructs the visual line of sight between the noise source and receptor (or listener) was modeled using the following equations:

$$\text{Barrier Attenuation} = 20 \times \text{Log}\{ [\text{sqrt}(G)] / \tanh(G)\} + 5 \text{ dB for } N \geq -0.2, \text{ or } = 0 \text{ otherwise.}$$

where:

$$G = (2 \times Pi \times N)^{1/2}, \text{ and } N = \pm\ 2 \times (A + B - d) / L,$$

where:

L = wavelength of sound, in meters,
N = dimensionless Fresnel number,
Pi = 3.141593
A + B = shortest path length of wave travel over the barrier between source and receptor, in meters,
d = straight-line distance between source and receptor, in meters,
\+ sign = used when receptor in shadow (attenuation) zone, and
\- sign = used when receptor in bright (zero attenuation) zone.

Using the noise model, various heights of a sound barrier located along or near the north boundary were used to evaluate the effects of sound attenuation of container loading and unloading noise at the closest residence located approximately 50 feet

north of Location G. It was determined during these efforts that the banging noise would be the most difficult to attenuate because of their relatively high impulsive sound level and the potentially high elevation of the noise source. In addition, back-up alarms would also be difficult to attenuate due to their relatively high sound levels and the concentration of the sound in a narrow frequency band near 1,000 Hz. In addition, the required mobility of the banging and back-up alarm noise sources made them impossible to attenuate with additional walls located near the banging or back-up alarm sources.

Nevertheless, the heights of a sound attenuating wall near the north boundary were varied between 15 and 30 feet above the elevation of the hardened areas of the proposed Kapalama Container Terminal facility, and the sound levels from container handling and transporting equipment were predicted at the closest residence near Location G. A receptor ear elevation of 16 feet above the Kapalama Container Terminal hardened ground surface was used in performing the noise model calculations at the closest residence. The sound wall top elevations were assumed to be level at 15, 20, 25, and 30 feet above the elevation of the hardened ground surface of the container terminal. For noise modeling purposes, elevations of the 45 Ton Top Handlers and tractor-trailer trucks were assumed to range from 5 to 16 feet above the hardened ground level. Elevations of the back-up alarms and air brake noise sources were assumed to be 3 to 7 feet above hardened ground level. The diesel engines powering the gantry cranes were assumed to be 10 and 208 feet above the hardened ground level. Banging noise was assumed to originate at 24 feet above the hardened ground level.

Sound Attenuation Goals. Considering how noise affects residences in different ways and as a result are perceived differently, below is a description on various approaches to how noise could be attenuated to achieve different levels of desired noise conditions. These approaches establish goals that range from reducing risks of adverse noise impacts to near zero replicating a condition of no effect to meeting the regulatory noise limits established by the State Department of Health. In order to reduce the risk of adverse noise impact at the closest noise sensitive receptor to near zero, the noise from container loading and unloading operations will need to be reduced to approximately 46 dBA This will be very difficult to do, even at noise buffer distances of 1,500 to 2,000 feet, since it will require sound attenuation in excess of 20 dBA from the sound attenuating wall. Sound attenuating walls should not be expected to provide more than 20 dBA of attenuation.

A second possible goal of the sound attenuating wall was to reduce the noise sources within the Container Terminal facility by at least 7 dBA. This sound attenuation reduction goal is equal to that used by the Hawaii State Department of Transportation (DOT), Highways Division, for roadway vehicle (cars, trucks, buses, motorcycles, etc.)

noise sources [see "Highway Noise Policy and Abatement Guidelines" (April 25, 2011 with corrections dated November 29, 2011)].

Another possible goal of the sound attenuation wall was to limit the maximum noise levels from the container terminal operations to less than the 70 dBA for steady sources and to less than 80 dBA for impulsive sources. The 70 and 80 dBA noise limits correspond to the State Department of Health (DOH) regulatory limits for fixed noise sources at or beyond the property boundaries of lands zoned for Industrial uses [see "Title 11, Administrative Rules, Department of Health, Chapter 46, Community Noise Control" (September 12, 1996)]. While the container handling equipment and vehicles are probably exempt from the 70 dBA (for steady noise) and 80 dBA (for impulsive noise) limits because they are mobile noise sources, the 70 dBA and 80 dBA benchmarks were used as another Not-To-Exceed design goal for the sound attenuation wall if feasible.

Other possible noise mitigation measures were discussed, such as quieting of the noise sources, use of broadband back-up alarms instead of high frequency beeper type alarms, restrictions on the operations within selected container stacking areas during the night; and sound attenuation treatment of the noise sensitive residences.

Predictions of the resulting sound levels from the proposed Container Terminal if selected noise mitigation measures were implemented without the sound attenuating wall shown in Figure 3 were also included in this study. These noise mitigation measures included: the replacement of the diesel engine power sources at the new gantry cranes with utility power from Hawaiian Electric Company (HECO); and the replacement of beeper type backup alarms with broadband noise backup alarms. These sound level predictions included expected sound levels at receptor locations mauka of Auiki Street, which would be shielded by existing two and three story buildings along Mary, Hoe, Silva, and Kahai Streets.

Noise Measurement Results. The measured A-Weighted background noise levels during the night at Locations A, B, C, and G are shown in Figures 4 through 7. A-Weighted sound levels were obtained using the A-Scale setting of the sound level meter, which best represents the response characteristics of the human ear. Locations A, B, and G surround the closest residence which is approximately midway between Locations A and G in Figure 2. Many 2-story residences are also located in the middle of Hoe Street near Location C. Location C was considered to be typical of the quieter locations which are removed from the major roadways and are shielded from distant noise sources by surrounding buildings. Location B was considered to be typical of the noisiest location, with the background noise controlled by nearby operating machinery. Locations A and G were considered to be typical of those locations which are exposed to the existing harbor noise sources as well as to intermittent local traffic. Based on these measurement results, it was concluded that unless the noise levels from nighttime container handling operations are less than 50 dBA along Auiki Street, they

will probably be audible at the closest residence near Location G. The high frequency beeper type backup alarms will need to be even lower and less than 35 dBA to be inaudible at the closest residence near Location G.

Measurements of nighttime container handling operations outside the existing Horizon Lines Container Terminal were obtained along Sand Island Access Road at Locations D, E, and F where shown in Figure 2. These results are shown in Figures 8, 9, and 10, and do not include the noise from vehicles traveling on Sand Island Access Road. At these three locations, the container handling activity within the Horizon Lines Container Terminal and the backup alarms from operating equipment were clearly audible. From these measurements, it was concluded that the spillover noise levels ranged from 55 dBA to 73 dBA.

Figures 11 through 14 depict the close-in measurement results within the existing Horizon Lines Container Terminal. Figure 15 depicts the noise levels associated with a tractor trailer reversing with backup alarm to a full stop at approximately 81 feet distance.

Noise Modeling Results. Predictions of container handling and transporting equipment noise levels at the closest residence mauka of Location G were performed and compared with the project sound attenuation goals and the measured background ambient noise levels for the nighttime time period. Container handling and transporting equipment were located at Locations S1 through S8 within the hardened pavement area of the proposed Container Terminal where shown in Figure 3. In addition, diesel engine power units for three gantry cranes were located at DE1, DE2, and DE3. The diesel engines at DE1 and DE3 were assumed to be 208 above the hardened pavement, and the diesel engine at DE2 was assumed to be 10 feet above the hardened pavement.

For noise modeling purposes, a solid wall of varying heights was located along or near the north boundary of the proposed Kapalama Container Terminal facility. Wall heights of 15, 20, 25, and 30 feet above the hardened pavement surface of the Kapalama Container Terminal facility were evaluated to determine their effectiveness in attenuating the noise from container handling and transporting equipment at the closest residence mauka of Location G. Because of the second floor elevation of the closest residence and the relatively tall heights of the project noise sources, walls of 15 feet in height or less would not provide any sound attenuation. It should be noted that the majority of the existing residences mauka of Auiki Street are 2 story structures.

Figures 16 through 19 present the predicted sound levels of the operating equipment within the proposed Kapalama Container Terminal facility at the closest residence mauka of Location G. The approximate slant distances to the noise source locations (S1 through S8) are indicated on the horizontal axes of the figures. From Figures 16 through 19, it is clear that it will be very difficult to reduce all noise sources to background noise levels of approximately 46 dBA at the closest residence, so nighttime noise from the proposed Kapalama Container Terminal facility will probably be audible at the closest residence without mitigation measures. Therefore, this goal to attenuate all noise sources to inaudible levels at the closest residence was considered to be unattainable.

The other goal of achieving the State DOH noise limit of 70 dBA for steady noise sources and 80 dBA for impulsive noise sources should be achievable with or without a sound attenuating wall. Even though these DOH noise level limits are not technically applicable to mobile sources (such as trucks, Hustlers, and Top Handlers), they are achievable using the equipment that is anticipated to operate at the proposed Kapalama Container Terminal facility.

The third goal of achieving approximately 7 dBA of noise attenuation using the wall along or near the north boundary of the facility is achievable, but would require a continuous wall (without see-through openings) of approximately 25 feet height above the hardened ground surface. If this 25 foot high wall can be constructed where shown in Figure 3 within the available property boundaries; if one or more of the three closest residents does not object to the construction of the wall; and if the wall does not cost more than $60,000 times the total number benefited receptors north of Auiki Street, the 25 foot high wall shown in Figure 3 would qualify for inclusion in this project if the State DOT, Highways Division, noise policy guidelines for feasibility and reasonableness were applied to this DOT, Harbors Division, project. The total number of benefited residences north of Auiki Street were estimated to total approximately 35, and are all located no further north than the Silva/Kalihi or Kahai/Libby Street intersections. Using the State DOT, Highways Division, noise policy, if the total cost of the 25 foot high sound attenuating wall shown in Figure 3 exceeds $2,100,000, it should not qualify for inclusion in this project.

Predicted Sound Levels without Sound Attenuating Wall. If a sound attenuating wall is not constructed, the predicted sound levels at the closest residence mauka of Location G are shown in Figure 20. The predicted sound levels in Figure 20 assume no quieting measures such as the replacement of the diesel engines at the gantry cranes with utility power or the replacement of high frequency backup alarms with broadband backup alarms. With HECO power sources at the gantry cranes, it was assumed that the electric motor drives at the gantry cranes would not be audible along Auiki Street. The broadband backup alarms would be similar in overall sound level to the high frequency backup alarms, but would be much more difficult to aurally detect due their less distinctive aural characteristics.

Figure 21 depicts receptor Locations C, C2, and C3 which are shielded by existing two and three story buildings mauka of Auiki Street. Predictions of sound levels at these three receptor locations without the sound attenuating wall (shown in Figure 3) but with the HECO power sources at the gantry cranes and with broadband backup alarms are shown in Figures 22 through 24.

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Recommendations. Noise generated by the container yard and its operating equipment will be within the State DOH noise level limits, however, to achieve the "inaudible" sound attenuating goal is impossible, and to implement the minimum "7 dBA sound attenuating" goal using State DOT, Highways Division noise policy definition of "reasonable" and "feasible" may not be possible. Hence, other suggested methods of minimizing potential noise impacts on residences mauka of the proposed Kapalama Container Terminal are available for application on the project.

- Require the replacement of high frequency beeper type backup alarms with broadband noise backup alarms. The primary reason for recommending the use of broadband noise backup alarms for Container Terminal vehicles is to reduce the distance at which the alarms would be audible within the neighboring communities. For the same sound emission level (in dBA) as the high frequency beeper type backup alarm, the audible distances within the surrounding community may be reduced by a factor of three because it is more difficult for the human ear and brain to detect a broadband noise source instead of a coherent and unique, high frequency, beeper type, noise source. The broadband noise sources should also be provided with automatic controls which adjust the sound emission level based on background noise level.

- Use the north section of the Container Terminal area closest to the existing residences for daytime loading (pickup) and unloading (delivery) by off-site tractor trailers, and not for overnight stacking of the empty and full containers which are moved at night to/from the cargo vessel.

- Require diesel engines with sound attenuation kits for the new gantry cranes which are planned for the Kapalama Container Terminal. Approximately 10 dBA of additional quieting beyond those provided by the existing diesel engine at the Horizon Lines facility should be required. Alternately, replace the diesel engines with utility (HECO) power sources.

- Require that the tenants at the Kapalama Container Terminal facility utilize the quietist equipment available which also meet their operational requirements.

- Following completion of the proposed Kapalama Container Terminal facility, and in response to any complaints regarding noise emissions from the facility at noise sensitive residences, perform sound level measurements at the complaint's residence similar to those obtained at Locations D, E, and F (see Figures 2, 8, 9, and 10) to determine if sound levels associated with the container terminal operations exceed the Federal Housing Administration / Housing and Urban Development (FHA/HUD) noise standard of 65 DNL (Day Night Average Sound Level) for residences. If the noise levels resulting from the Kapalama Container Terminal facility exceed 65 DNL at the residence, provide sound attenuation treatment in the form of closure and air conditioning for the affected residence.

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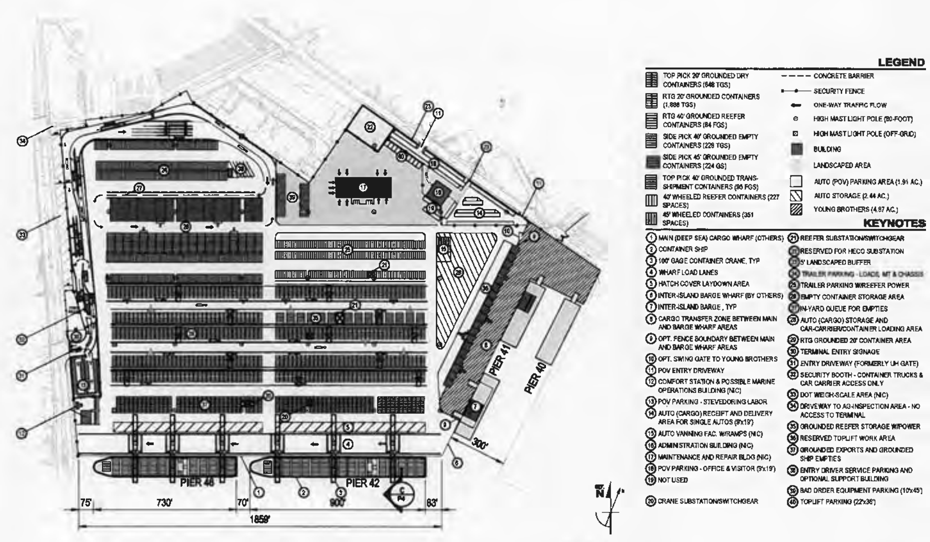
- Include sound attenuation treatments to all fixed machinery such that the equipment's sound levels do not exceed 50 dBA at the closest residence.



CONCEPTUAL PLAN - HIGH DENSITY

FIGURE 1

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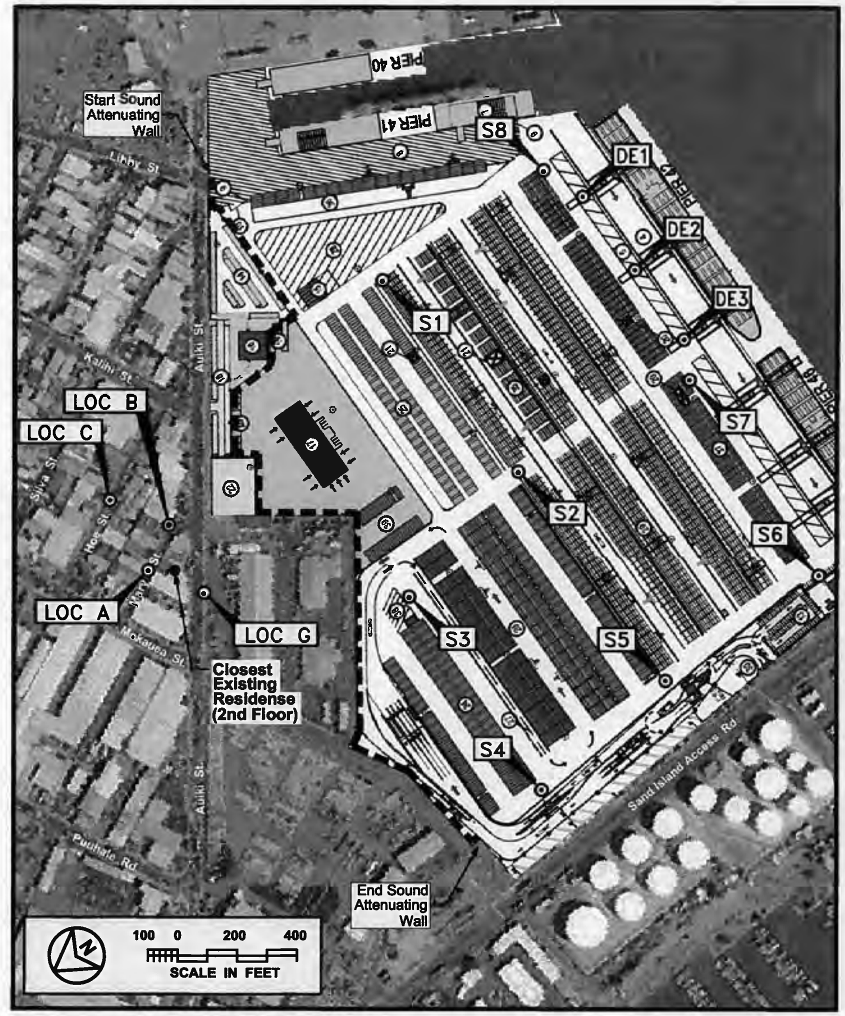
PROJECT LOCATION MAP AND
NOISE MEASUREMENT LOCATIONS

FIGURE
2



MODELED NOISE SOURCE LOCATIONS
AND LOCATION OF SOUND ATTENUATING WALL

FIGURE
3

D-1. Noise Study-Kapalama Site

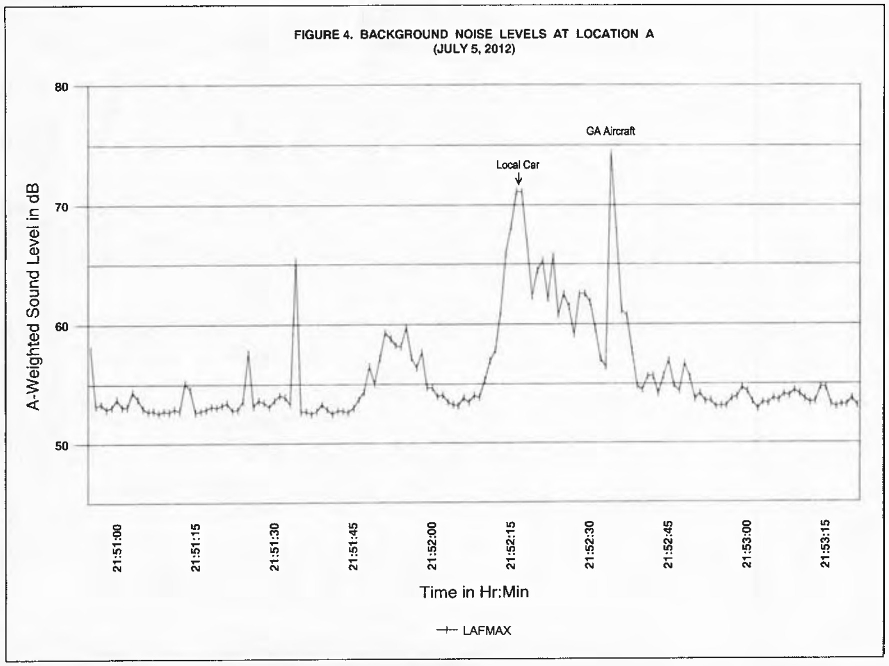


FIGURE 4. BACKGROUND NOISE LEVELS AT LOCATION A
(JULY 5, 2012)
A-Weighted Sound Level in dB
80
70
60
50
GA Aircraft
Local Car
21:51:00
21:51:15
21:51:30
21:51:45
21:52:00
21:52:15
21:52:30
21:52:45
21:53:00
21:53:15
Time in Hr:Min
LAFMAX

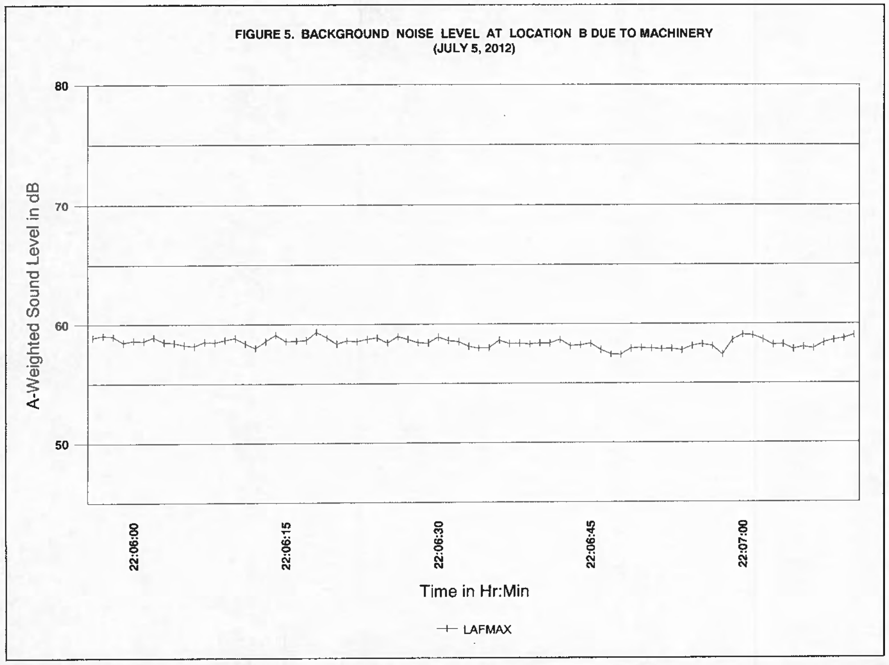


FIGURE 5. BACKGROUND NOISE LEVEL AT LOCATION B DUE TO MACHINERY
(JULY 5, 2012)
A-Weighted Sound Level in dB
80
70
60
50
22:06:00
22:06:15
22:06:30
22:06:45
22:07:00
Time in Hr:Min
LAFMAX

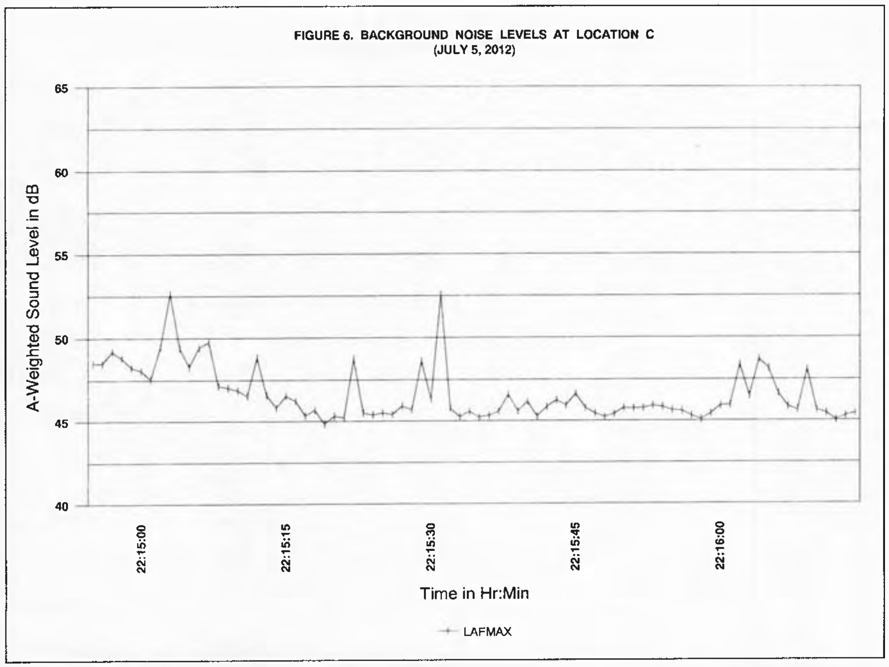


FIGURE 6. BACKGROUND NOISE LEVELS AT LOCATION C
(JULY 5, 2012)
A-Weighted Sound Level in dB
65
60
55
50
45
40
22:15:00
22:15:15
22:15:30
22:15:45
22:16:00
Time in Hr:Min
LAFMAX

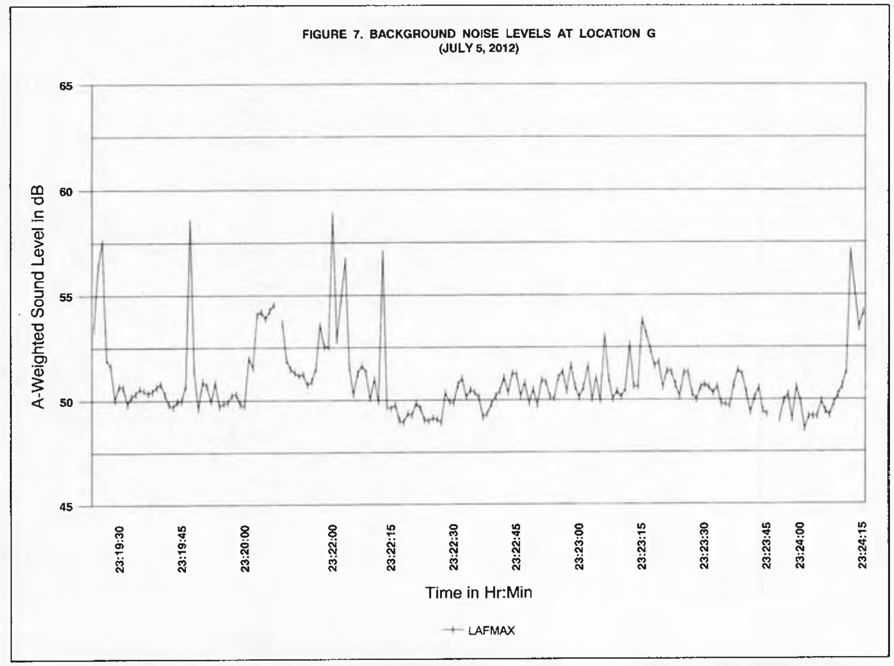


FIGURE 7. BACKGROUND NOISE LEVELS AT LOCATION G
(JULY 5, 2012)
A-Weighted Sound Level in dB
65
60
55
50
45
23:19:30
23:19:45
23:20:00
23:22:00
23:22:15
23:22:30
23:22:45
23:23:00
23:23:15
23:23:30
23:23:45
23:24:00
23:24:15
Time in Hr:Min
LAFMAX

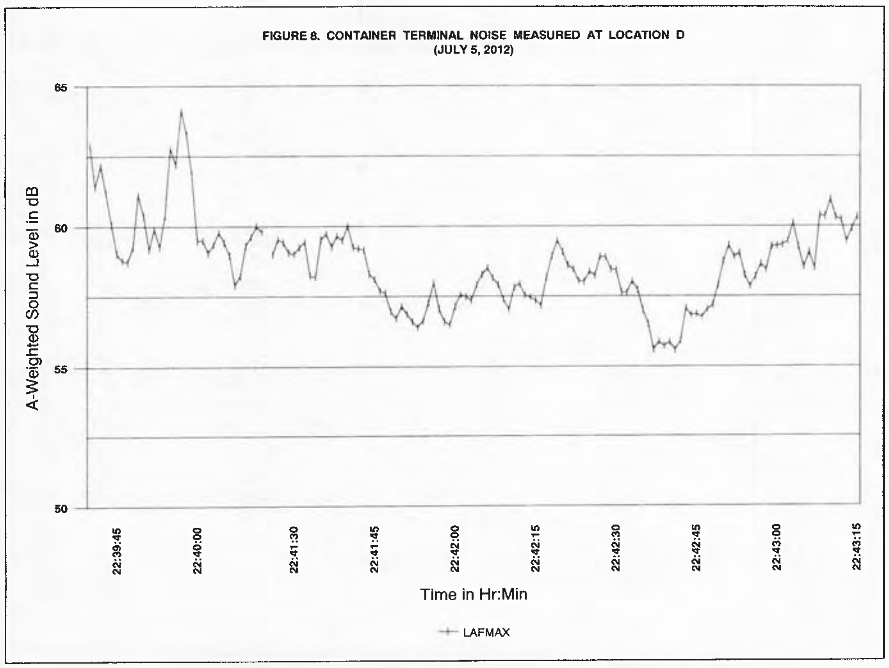


FIGURE 8. CONTAINER TERMINAL NOISE MEASURED AT LOCATION D
(JULY 5, 2012)
A-Weighted Sound Level in dB
65
60
55
50
22:39:45
22:40:00
22:41:30
22:41:45
22:42:00
22:42:15
22:42:30
22:42:45
22:43:00
22:43:15
Time in Hr:Min
LAFMAX

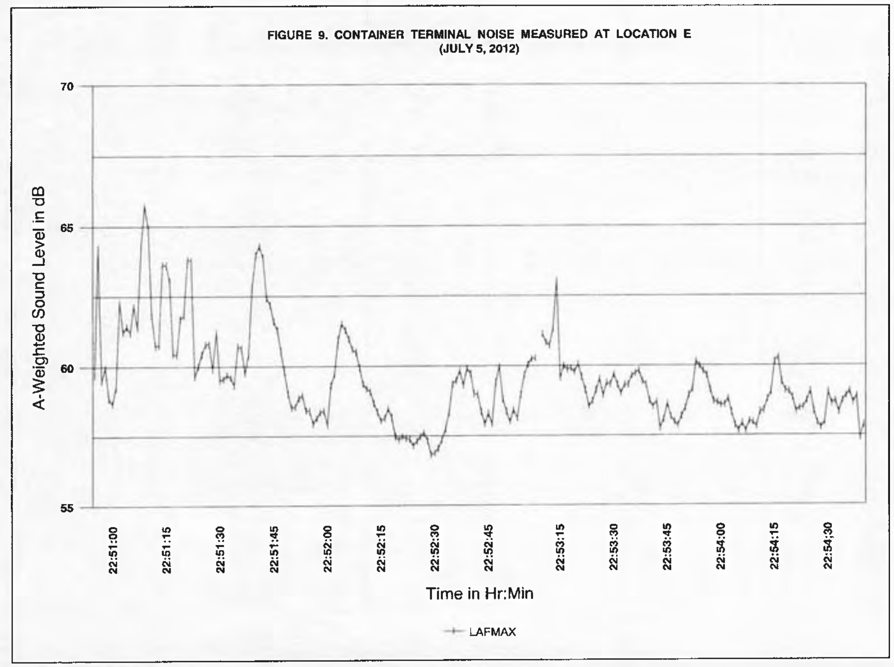


FIGURE 9. CONTAINER TERMINAL NOISE MEASURED AT LOCATION E
(JULY 5, 2012)
A-Weighted Sound Level in dB
70
65
60
55
22:51:00
22:51:15
22:51:30
22:51:45
22:52:00
22:52:15
22:52:30
22:52:45
22:53:15
22:53:30
22:53:45
22:54:00
22:54:15
22:54:30
Time in Hr:Min
LAFMAX

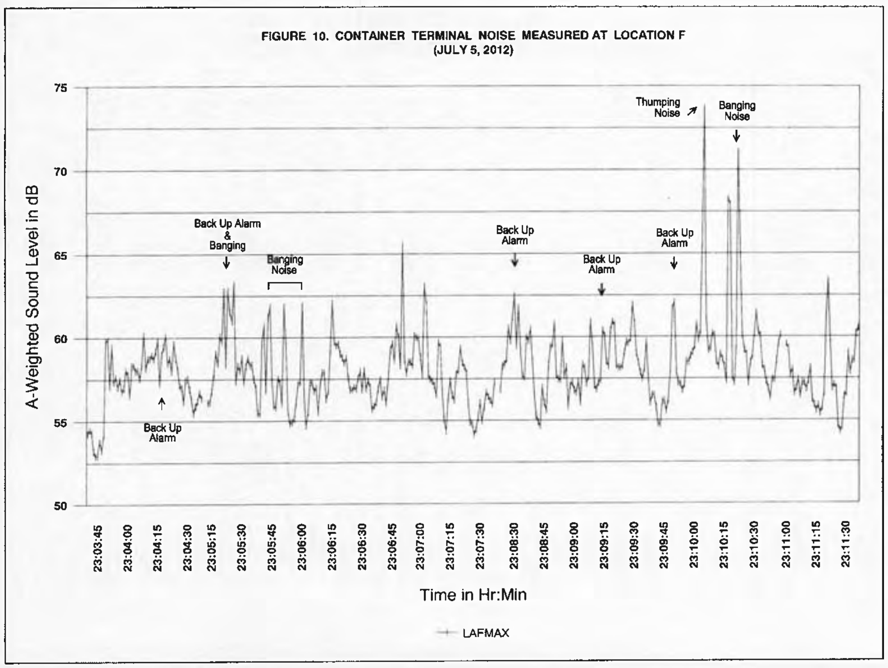


FIGURE 10. CONTAINER TERMINAL NOISE MEASURED AT LOCATION F
(JULY 5, 2012)
A-Weighted Sound Level in dB
Time in Hr:Min
Back Up Alarm & Banging
Banging Noise
Back Up Alarm
Thumping Noise
Banging Noise
LAFMAX

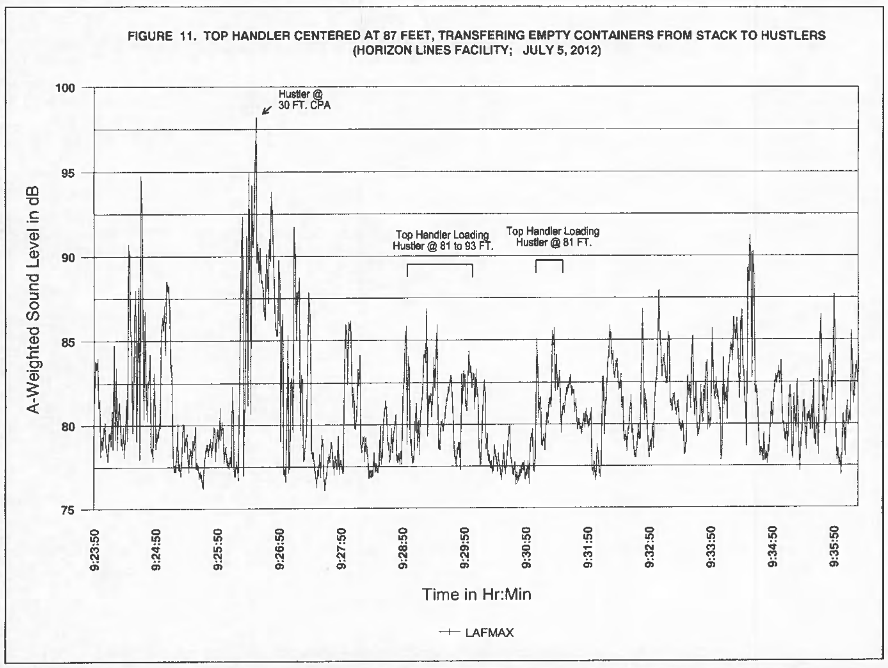


FIGURE 11. TOP HANDLER CENTERED AT 87 FEET, TRANSFERING EMPTY CONTAINERS FROM STACK TO HUSTLERS
(HORIZON LINES FACILITY; JULY 5, 2012)
A-Weighted Sound Level in dB
Time in Hr:Min
Hustler @ 30 FT. CPA
Top Handler Loading Hustler @ 81 to 93 FT.
Top Handler Loading Hustler @ 81 FT.
LAFMAX

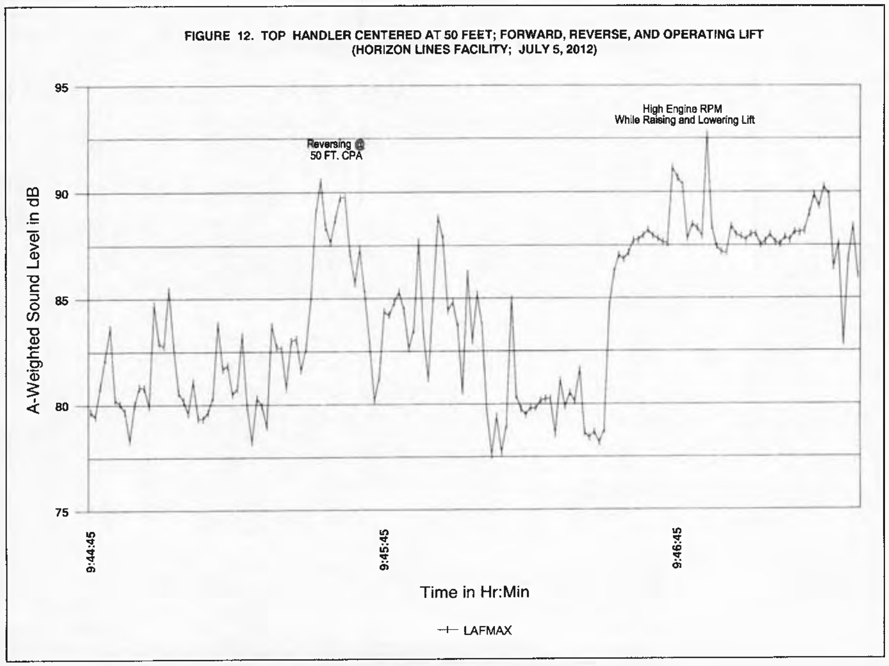


FIGURE 12. TOP HANDLER CENTERED AT 50 FEET; FORWARD, REVERSE, AND OPERATING LIFT
(HORIZON LINES FACILITY; JULY 5, 2012)
High Engine RPM
While Raising and Lowering Lift
Reversing @
50 FT. CPA
95
90
85
80
75
A-Weighted Sound Level in dB
9:44:45
9:45:45
9:46:45
Time in Hr:Min
LAFMAX

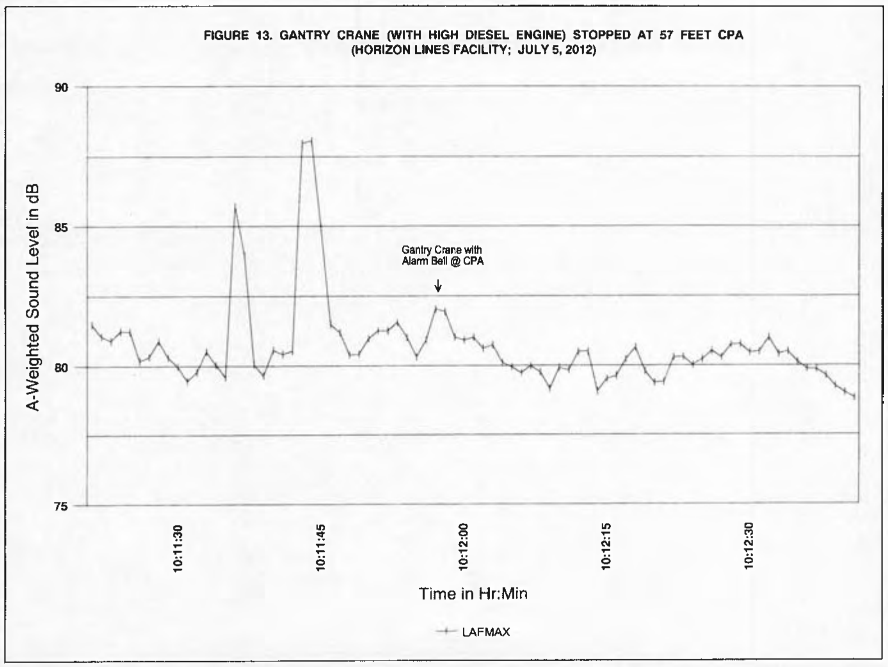


FIGURE 13. GANTRY CRANE (WITH HIGH DIESEL ENGINE) STOPPED AT 57 FEET CPA
(HORIZON LINES FACILITY; JULY 5, 2012)
Gantry Crane with
Alarm Bell @ CPA
90
85
80
75
A-Weighted Sound Level in dB
10:11:30
10:11:45
10:12:00
10:12:15
10:12:30
Time in Hr:Min
LAFMAX

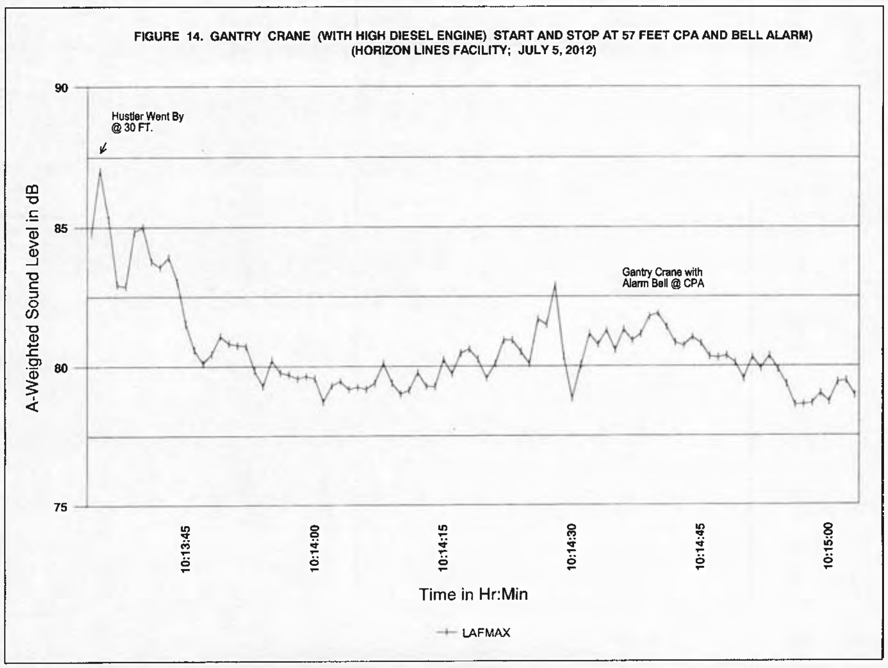


FIGURE 14. GANTRY CRANE (WITH HIGH DIESEL ENGINE) START AND STOP AT 57 FEET CPA AND BELL ALARM)
(HORIZON LINES FACILITY; JULY 5, 2012)
Hustler Went By @ 30 FT.
Gantry Crane with Alarm Bell @ CPA
A-Weighted Sound Level in dB
90
85
80
75
10:13:45
10:14:00
10:14:15
10:14:30
10:14:45
10:15:00
Time in Hr:Min
LAFMAX

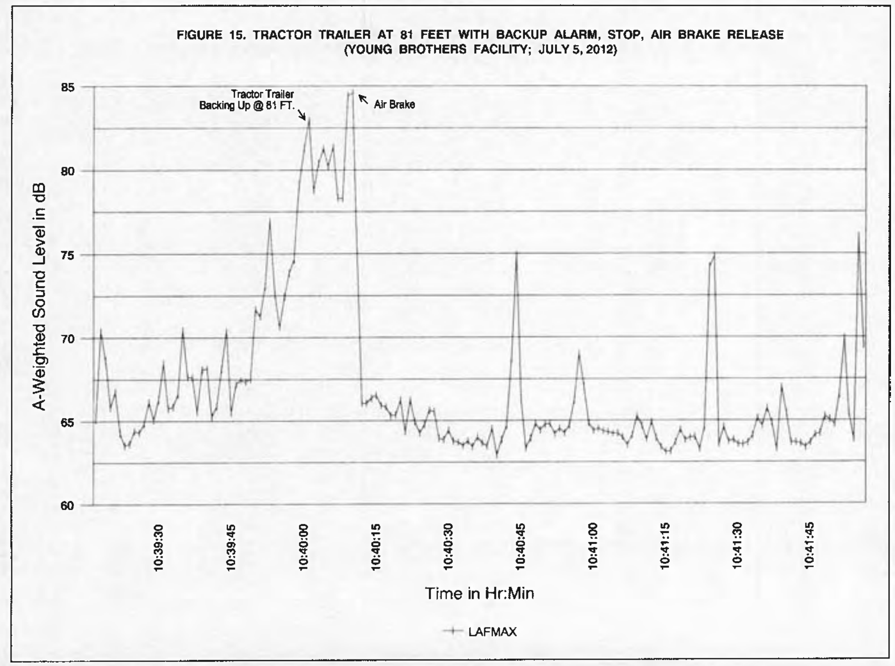
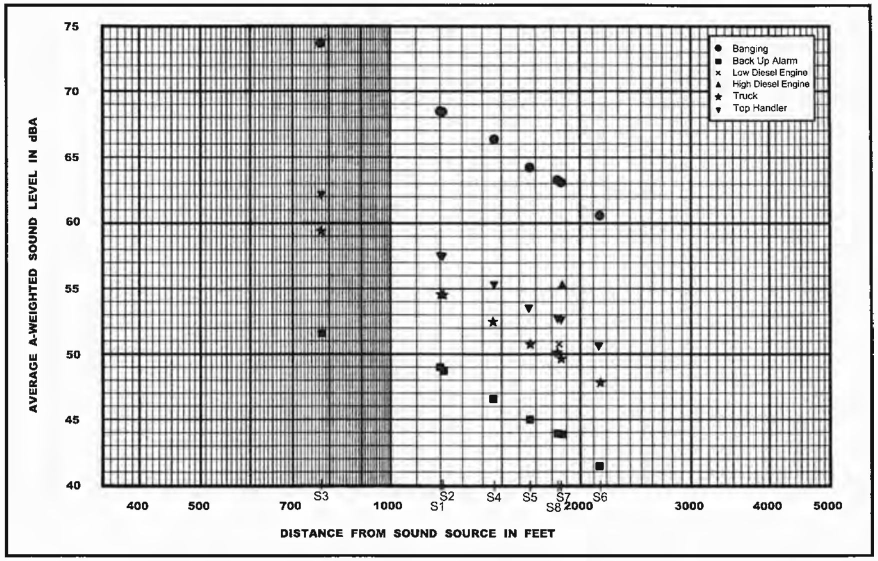
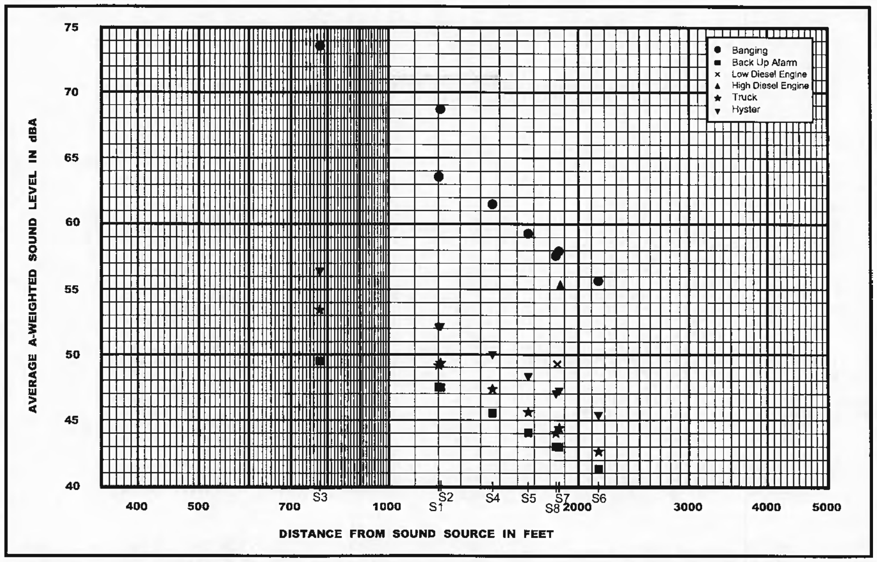


FIGURE 15. TRACTOR TRAILER AT 81 FEET WITH BACKUP ALARM, STOP, AIR BRAKE RELEASE
(YOUNG BROTHERS FACILITY; JULY 5, 2012)
Tractor Trailer Backing Up @ 81 FT.
Air Brake
A-Weighted Sound Level in dB
85
80
75
70
65
60
10:39:30
10:39:45
10:40:00
10:40:15
10:40:30
10:40:45
10:41:00
10:41:15
10:41:30
10:41:45
Time in Hr:Min
LAFMAX



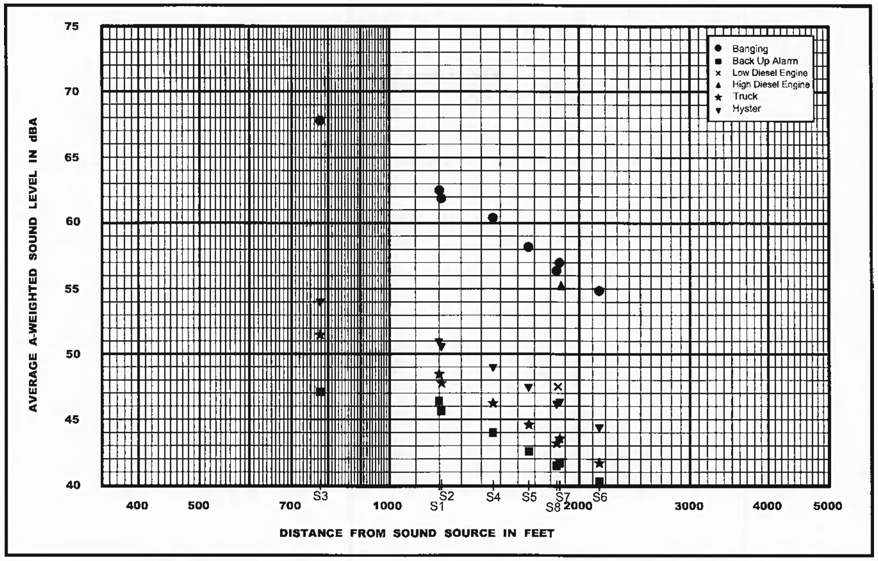
PREDICTED MAXIMUM SOUND LEVELS OF CONTAINER TERMINAL EQUIPMENT AT CLOSEST NOISE SENSITIVE RECEPTOR WITH 15 FT HIGH WALL

FIGURE 16



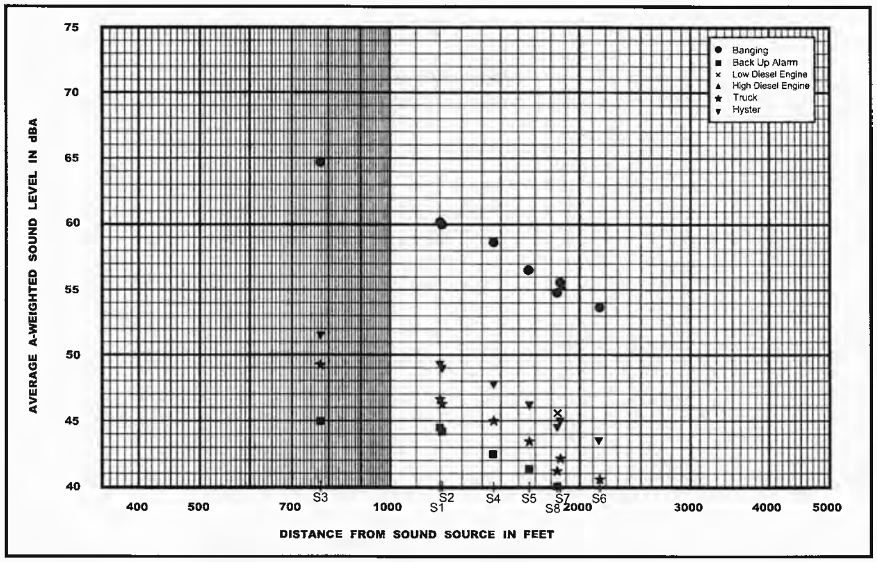
PREDICTED MAXIMUM SOUND LEVELS OF CONTAINER TERMINAL EQUIPMENT AT CLOSEST NOISE SENSITIVE RECEPTOR WITH 20 FT HIGH WALL

FIGURE 17



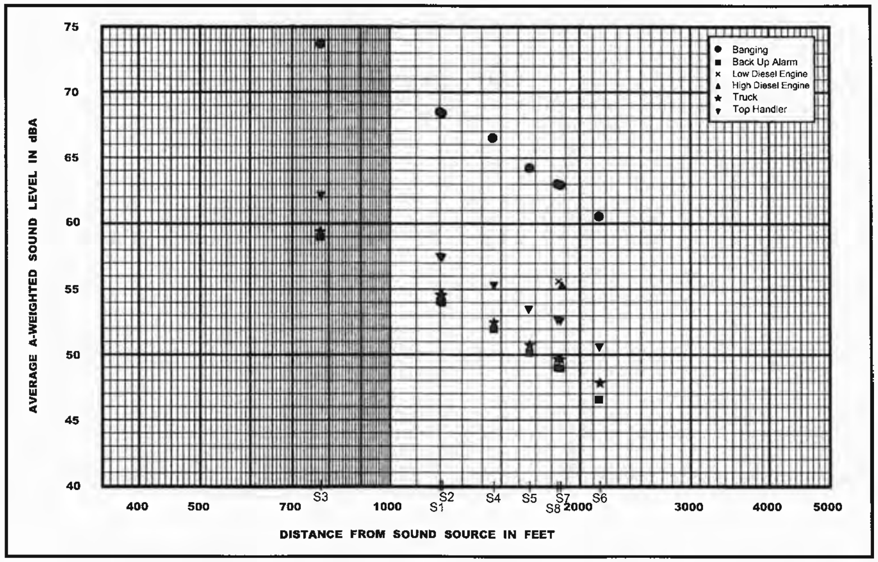
PREDICTED MAXIMUM SOUND LEVELS OF CONTAINER TERMINAL EQUIPMENT AT CLOSEST NOISE SENSITIVE RECEPTOR WITH 25 FT HIGH WALL

FIGURE 18



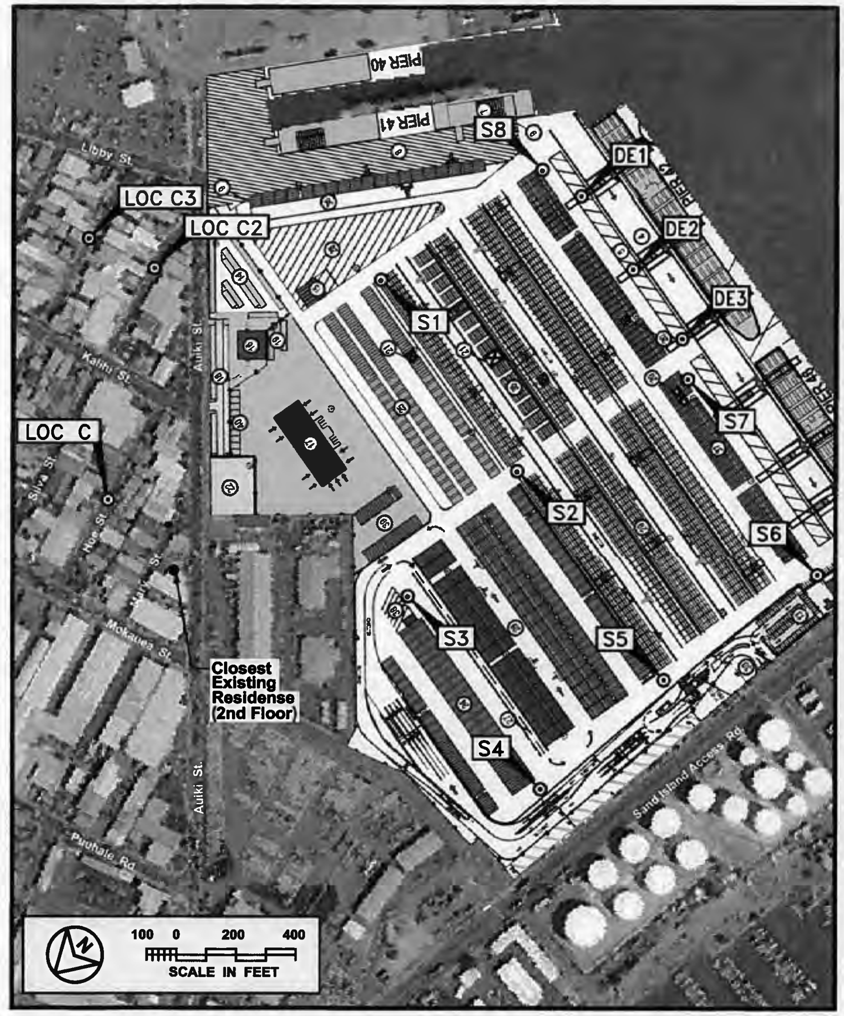
PREDICTED MAXIMUM SOUND LEVELS OF CONTAINER TERMINAL EQUIPMENT AT CLOSEST NOISE SENSITIVE RECEPTOR WITH 30 FT HIGH WALL

FIGURE 19



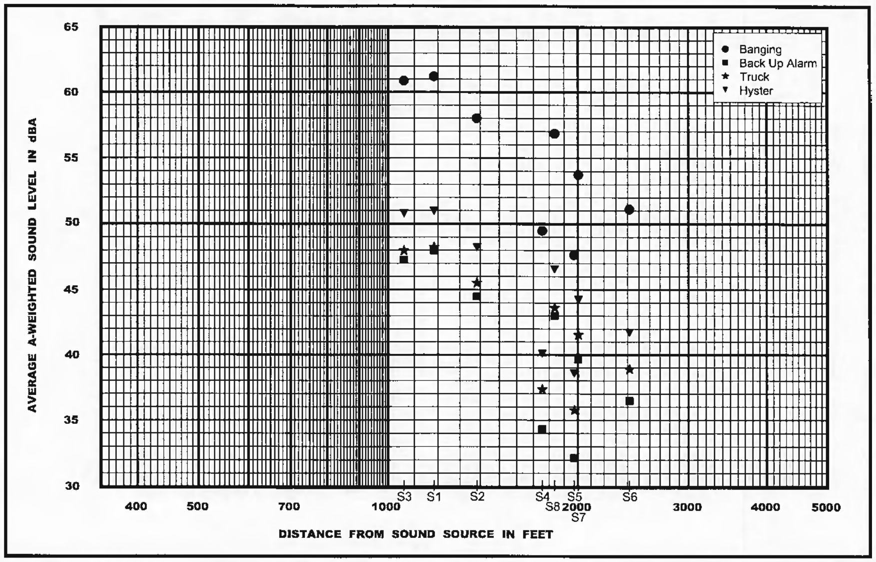
PREDICTED MAXIMUM SOUND LEVELS OF CONTAINER TERMINAL EQUIPMENT AT CLOSEST NOISE SENSITIVE RECEPTOR WITHOUT WALL

FIGURE 20



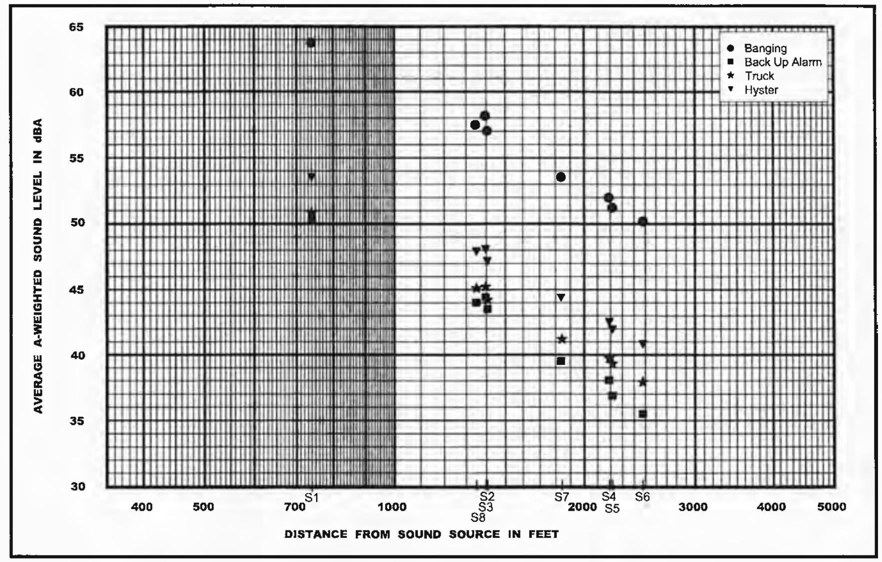
MODELED NOISE SOURCE LOCATIONS
AND LOCATIONS OF NOISE SENSITIVE RECEPTORS
MAUKA OF AUIKI STREET

FIGURE 21



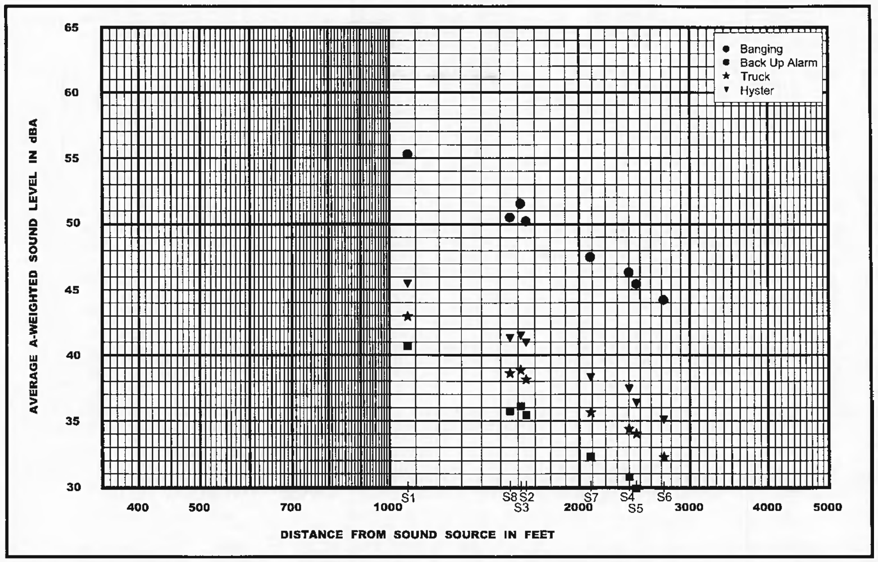
PREDICTED MAXIMUM SOUND LEVELS OF CONTAINER TERMINAL EQUIPMENT AT RECEPTOR LOCATION C WITHOUT WALL

FIGURE 22



PREDICTED MAXIMUM SOUND LEVELS OF CONTAINER TERMINAL EQUIPMENT AT RECEPTOR LOCATION C2 WITHOUT WALL

FIGURE 23



PREDICTED MAXIMUM SOUND LEVELS OF CONTAINER TERMINAL EQUIPMENT AT RECEPTOR LOCATION C3 WITHOUT WALL

FIGURE 24

Acoustic Study for the Pacific Shipyards International Relocation from Pier 41 to Piers 24 and 25, Honolulu Harbor

June 2012

Department of Transportation
State of Hawaii
Harbors Division

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CHAPTER I. SUMMARY

The future noise levels associated with the proposed relocation of the existing Pacific Shipyards International (or Pacific Shipyards) from Pier 41 to Piers 24 and 25 in Honolulu Harbor were evaluated for their potential impacts on noise sensitive receptors in the project environs. Future noise levels and potential impacts associated with the relocated shipyard operations were evaluated.

Along Nimitz Highway, which is expected to service the project traffic, traffic noise levels at noise sensitive receptors closest to the project site are not expected to change significantly. Due to the relatively low volumes of project traffic (100 vehicles per hour or less) when compared to the high volumes of non-project traffic (4,500 to 6,500 vehicles per hour) on Nimitz Highway, traffic noise level increases should be less then 0.1 dB and will be difficult to measure. Traffic noise level increases associated with the Pacific Shipyards relocation to Piers 24 and 25 should not result in adverse traffic noise impacts.

Noise from on site activities at the relocated Pacific Shipyards facility should not result in adverse noise impacts at the closest noise sensitive receptor (Harbor Village Apartments) if the noisy shipyard operations are limited to the daytime hours. Hammering and chipping operations may be audible and exceed existing nighttime and early morning background noise levels at the closest noise sensitive receptor. During the daytime hours, the background noise levels at the closest noise sensitive receptor will be higher than the noise levels from the relocated shipyard activities, and therefore, adverse noise impacts are not expected during daytime shipyard operations.

During the quieter nighttime hours, pneumatic chipping and hammering operations at Pacific Shipyards may be audible at noise sensitive receptors in Downtown Honolulu. This is due to the lower background noise levels, more favorable atmospheric propagation conditions during darkness, and the greater amount of low frequency noise components in pneumatic chipping and hammering operations.

Therefore, prior to scheduling nighttime work at the relocated shipyard facility, measurements of the noisy operations should be made at the closest noise sensitive receptor during the quietist periods of the nighttime and/or early morning hours when the shipyard work is anticipated to occur. If different types of equipment are used in the future, daytime noise measurements are also recommended to evaluate the risks of noise impacts during nighttime and early morning operations. If noise mitigation measures are required due to complaints regarding noise from nighttime shipyard operations, the total noise level associated with nighttime (between 10:00 pm and 7:00 am) shipyard work should be attenuated so as to not exceed 50 dBA at the closest noise sensitive residence.

Adverse impacts from construction noise are not expected to occur due to the large buffer distances (at least 1,800 feet) from the project site to the closest residences, and construction noise mitigation measures should not be required. The

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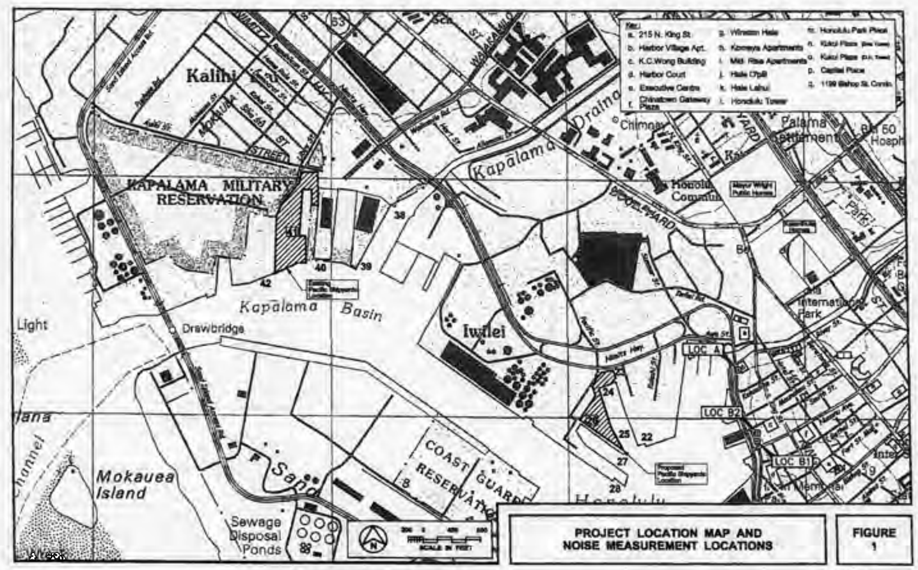
implementation of State DOH construction noise permit procedures will require that noisy construction activities do not occur during the nighttime, Sundays, and holidays. Adverse impacts from construction noise are not expected to be in the "public health and welfare" category due to the temporary nature of the work and due to the administrative controls available for its regulation. Instead, these impacts will probably be limited to the temporary degradation of the quality of the acoustic environment in the immediate vicinity of the construction work sites.

CHAPTER II. PURPOSE

The primary objective of this study was to describe the future noise levels and potential noise impacts associated with the proposed relocation of the Pacific Shipyards International (or Pacific Shipyards) facility from Pier 41 in the Kapalama Terminal area to Piers 24 and 25 in Honolulu Harbor. The locations of the existing and proposed locations for Pacific Shipyards are shown in Figure 1. The relocation of Pacific Shipyards is part of the development of the proposed Kapalama Container Terminal project, which will displace the Pacific Shipyards from the area.

Roadway traffic noise levels and impacts associated with the relocation of Pacific Shipyards were to be determined along the primary access roadways which are expected to service the shipyard traffic. A specific objective was to determine future traffic noise levels associated with the relocation project traffic, and the potential noise impacts associated with relocation project traffic. Recommendations for minimizing traffic noise impacts were to be provided as required.

Assessments of possible noise impacts from on-site activities and as well as from short term construction noise at the proposed location for Pacific Shipyards were also included in the noise study objectives. Recommendations for minimizing these noise impacts were to be provided as required.



PROJECT LOCATION MAP AND NOISE MEASUREMENT LOCATIONS

FIGURE 1

CHAPTER III. NOISE DESCRIPTORS AND THEIR RELATIONSHIP TO LAND USE COMPATIBILITY

The noise descriptor currently used by federal agencies to assess environmental noise is the Day-Night Average Sound Level (DNL or Ldn). This descriptor incorporates a 24-hour average of instantaneous A-Weighted sound levels as read on a standard Sound Level Meter. The maximum A-Weighted sound level occurring while a noise source such as a heavy truck or aircraft is moving past a listener (i.e., the maximum sound level from a "single event") is referred to as the "Lmax value". The mathematical product (or integral) of the instantaneous sound level times the duration of the event is known as the "Sound Exposure Level", or Lse, which is analogous to the energy of the time-varying sound levels associated with a single event.

The DNL values represent the average noise during a typical day of the year. DNL exposure levels of 55 or less are typical of quiet rural or suburban areas. DNL exposure levels of 55 to 65 are typical of urbanized areas with medium to high levels of activity and street traffic. DNL exposure levels above 65 are representative of densely developed urban areas and areas fronting high volume roadways.

By definition, the minimum averaging period for the DNL descriptor is 24 hours. Additionally, sound levels which occur during the nighttime hours of 10:00 PM to 7:00 AM are increased by 10 decibels (dB) prior to computing the 24-hour average by the DNL descriptor. Because of the averaging used, DNL values in urbanized areas typically range between 50 and 75 DNL. In comparison, the typical range of intermittent noise events may have maximum Sound Level Meter readings between 75 and 105 dBA. A more complete list of noise descriptors is provided in Appendix B to this report. In Appendix B, the Ldn descriptor symbol is used in place of the DNL descriptor symbol.

Table 1, extracted from Reference 1, categorizes the various DNL levels of outdoor noise exposure with severity classifications. Table 2, also extracted from Reference 1, presents the general effects of noise on people in residential use situations. Figure 2, extracted from Reference 2, presents suggested land use compatibility guidelines for residential and nonresidential land uses. A general consensus among federal agencies has developed whereby residential housing development is considered acceptable in areas where exterior noise does not exceed 65 DNL. This value of 65 DNL is used as a federal regulatory threshold for determining the necessity for special noise abatement measures when applications for federal funding assistance are made.

As a general rule, noise levels of 55 DNL or less occur in rural areas, or in areas which are removed from high volume roadways. In urbanized areas which are shielded from high volume streets, DNL levels generally range from 55 to 65 DNL, and are

TABLE 1

EXTERIOR NOISE EXPOSURE CLASSIFICATION (RESIDENTIAL LAND USE)

NOISE EXPOSURE CLASS	DAY-NIGHT SOUND LEVEL	EQUIVALENT SOUND LEVEL	FEDERAL (1) STANDARD
Minimal Exposure	Not Exceeding 55 DNL	Not Exceeding 55 Leq	Unconditionally Acceptable
Moderate Exposure	Above 55 DNL But Not Above 65 DNL	Above 55 Leq But Not Above 65 Leq	Acceptable(2)
Significant Exposure	Above 65 DNL But Not Above 75 DNL	Above 65 Leq But Not Above 75 Leq	Normally Unacceptable
Severe Exposure	Above 75 DNL	Above 75 Leq	Unacceptable

Notes: (1) Federal Housing Administration, Veterans Administration, Department of Defense, and Department of Transportation.

(2) FHWA uses the Leq instead of the Ldn descriptor. For planning purposes, both are equivalent if: (a) heavy trucks do not exceed 10 percent of total traffic flow in vehicles per 24 hours, and (b) traffic between 10:00 PM and 7:00 AM does not exceed 15 percent of average daily traffic flow in vehicles per 24 hours. The noise mitigation threshold used by FHWA for residences is 67 Leq.

TABLE 2

EFFECTS OF NOISE ON PEOPLE
(Residential Land Uses Only)

EFFECTS[1] / DAY-NIGHT AVERAGE SOUND LEVEL IN DECIBELS	Hearing Loss	Speech Interference		Annoyance[2]	Average Community Reaction[4]	General Community Attitude Towards Area
		Indoor	Outdoor			
	Qualitative Description	%Sentence Intelligibility	Distance in Meters for 95% Sentence Intelligibility	% of Population Highly Annoyed[3]		
75 and above	May Begin to Occur	98%	0.5	37%	Very Severe	Noise is likely to be the most important of all adverse aspects of the community environment.
70	Will Not Likely Occur	99%	0.9	25%	Severe	Noise is one of the most important adverse aspects of the community environment.
65	Will Not Occur	100%	1.5	15%	Significant	Noise is one of the important adverse aspects of the community environment.
60	Will Not Occur	100%	2.0	9%	Moderate to Slight	Noise may be considered an adverse aspect of the community environment.
55 and below	Will Not Occur	100%	3.5	4%		Noise considered no more important than various other environmental factors.

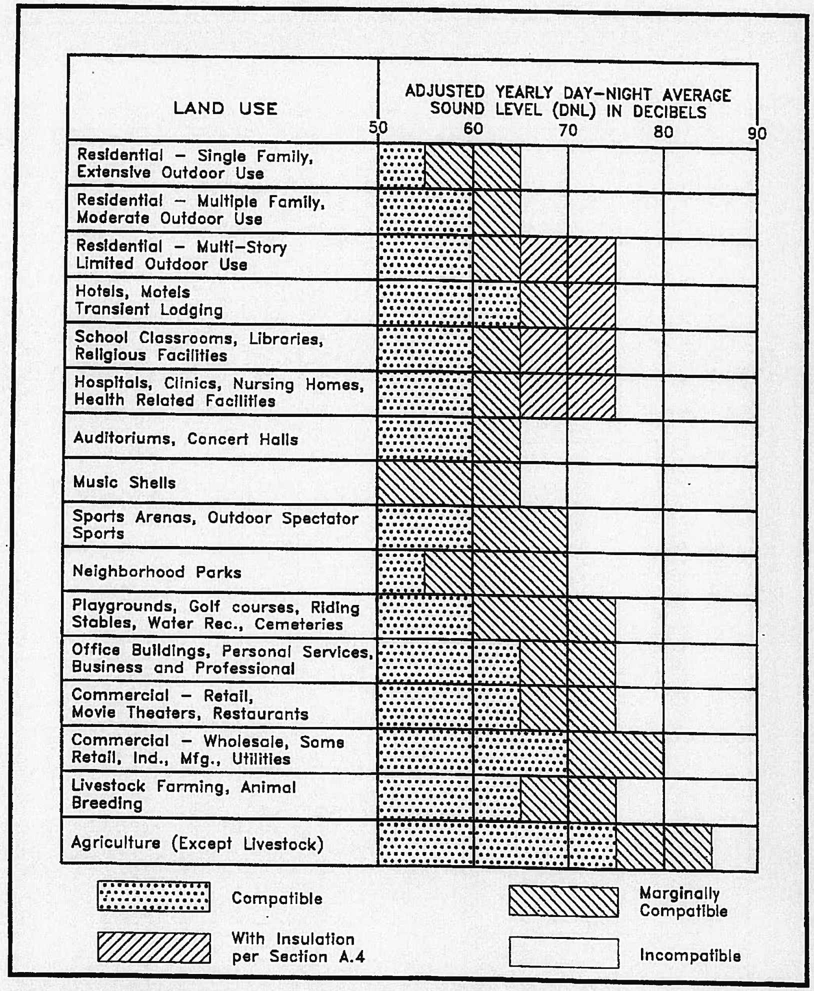
1. "Speech Interference" data are drawn from the following tables in EPA's "Levels Document": Table 3, Fig. D-1, Fig. D-2, Fig. D-3. All other data from National Academy of Science 1977 report "Guidelines for Preparing Environmental Impact Statements on Noise, Report of Working Group 69 on Evaluation of Environmental Impact of Noise."

2. Depends on attitudes and other factors.

3. The percentages of people reporting annoyance to lesser extents are higher in each case. An unknown small percentage of people will report being "highly annoyed" even in the quietest surroundings. One reason is the difficulty all people have in integrating annoyance over a very long time.

4. Attitudes or other non-acoustic factors can modify this. Noise at low levels can still be an important problem, particularly when it intrudes into a quiet environment.

NOTE: Research implicates noise as a factor producing stress-related health effects such as heart disease, high-blood pressure and stroke, ulcers and other digestive disorders. The relationships between noise and these effects, however, have not as yet been quantified.



LAND USE COMPATIBILITY WITH YEARLY AVERAGE DAY-NIGHT AVERAGE SOUND LEVEL (DNL) AT A SITE FOR BUILDINGS AS COMMONLY CONSTRUCTED.
(Source: American National Standards Institute S12.9-1998/Part 5)

FIGURE 2

usually controlled by motor vehicle traffic noise. Residences which front major roadways can be exposed to levels of 65 DNL. Due to noise shielding effects from intervening structures, interior lots are usually exposed to 3 to 10 DNL lower noise levels than the front lots which are not shielded from the traffic noise.

For the purposes of determining an acceptable level of exterior noise for residences, federal agencies have determined that an exterior noise level of 65 DNL or lower is considered acceptable. These federal agencies include the Federal Aviation Administration (FAA), Department of Defense (DOD); Federal Housing Administration, Housing and Urban Development (FHA/HUD), and Veterans Administration (VA). This standard is applied nationally (see Reference 3).

For office, commercial, industrial, and other non-noise sensitive land uses, exterior noise levels as high as 70 to 75 DNL are generally considered acceptable. Exceptions to this occur when naturally ventilated office and other commercial establishments are exposed to exterior levels which exceed 65 DNL. The State Department of Health (DOH) regulates the noise levels from fixed machinery by imposing maximum allowable sound levels at the property boundaries for various zoning categories (see Reference 4). Because of the Industrial Zoning of the project site, the allowable noise levels from fixed machinery at or beyond the project site boundaries is 70 dBA during the daytime and nighttime periods. The noise levels of portable or movable equipment (such as trucks, front end loaders, fork lifts, etc.) are not subject to the 70 dBA limit under DOH noise regulations.

Due to the relatively large (1,800+ feet) buffer distances between the proposed Pacific Shipyards site and noise sensitive receptors, regulation of the noise levels during construction of the shipyard facility is not as critical as it would be within an urban area. Construction noise levels are regulated by the State DOH using a curfew system (Reference 4) whereby noisy construction activities are not normally permitted during the nighttime periods, on Sundays, and on holidays. Construction activities are normally allowed during the normal daytime work hours on weekdays and on Saturdays using a system involving the issuance of construction noise permits.

CHAPTER IV. GENERAL STUDY METHODOLOGY

General. Computer noise modeling was used to describe the noise levels associated with shipyard activities at the closest noise sensitive receptors across Nimitz Highway. The noise levels of shipyard activities such as Needle Gun work; chipping and pounding; sandblasting; and water blasting were measured at the existing Pacific Shipyards facility at Pier 41, and were used to form a basis for modeling the noise levels from the relocated facility at Piers 24 and 25. The noise from these equipment and operations at the relocated facility and from motor vehicles traveling along the primary access roads to the relocated shipyard facility were evaluated. Risks of adverse noise impacts from shipyard operations, traffic, and short term construction noise were determined, and possible noise mitigation measures were provided as applicable.

Traffic Noise Measurements. Traffic noise measurements were obtained at Locations B1 and B2 along Nimitz Highway (see Figure 1) in March and April of 2012 to validate the traffic noise model, and to describe background ambient noise levels during low and high volume traffic conditions. The U.S. Federal Highway Administration Traffic Noise Model (TNM) Version 2.5 (Reference 5) was used to calculate existing and future traffic noise levels, with the traffic noise measurements used to validate the reasonableness of the traffic noise predictions provided by the TNM. The results of these traffic noise measurements and their comparison with TNM predictions are shown in Table 3.

Because background noise levels at the noise sensitive receptor locations closest to Piers 24 and 25 are controlled by traffic along Nimitz Highway, the lowest background noise levels at these receptor locations tend to occur during the early morning hours between 2:00 and 3:00 am. Background ambient noise measurements were obtained at Location A (see Figure 1) at 9:30 pm and 2:46 am on March 12-13, 2012. The minimum background noise level recorded was 49.4 dBA, when no traffic was on the highway near the measurement location. During the normal workday period, minimum background noise levels are approximately 7 to 10 dBA higher than 49.4 dBA.

Noise During Shipyard Activities. Measurements of noise levels associated with various shipyard activities were performed in June and July 2011. Major noise sources associated with the Pacific Shipyards operations were assumed to include Needle Guns, chipping and hammering, indoor sandblasting, and water blasting. Based on the measurements of these noise sources at the existing Pier 41 facility, noise level predictions were made at the closest noise sensitive receptors to the proposed Pier 24 and Pier 25 facility. The noise modeling was performed using inverse square law for hemispherical spreading of a sound from a source at or near the ground, with inclusion of molecular absorption and anomalous excess attenuation effects. The modeling equation used to predict sound levels at any given distance from an on-site noise source was:

$$L_p = L_w - 20 \times \text{Log}(d) - [d \times a(f)] / 100 - 8$$

TABLE 3

TRAFFIC AND BACKGROUND NOISE MEASUREMENT RESULTS

LOCATION	Time of Day (HRS)	Ave. Speed (MPH)	Hourly Traffic Volume AUTO	Hourly Traffic Volume M.TRUCK	Hourly Traffic Volume H.TRUCK	Measured Leq (dB)	Predicted Leq (dB)
B1. 70 FT from the center-line of Nimitz Hwy. (3/24/12)	0143 TO 0243	47	468	9	5	66.2	66.1
B2. 100 FT from the center-line of Nimitz Hwy. (4/3/12)	1408 TO 1513	33	4,362	149	133	69.4	69.4

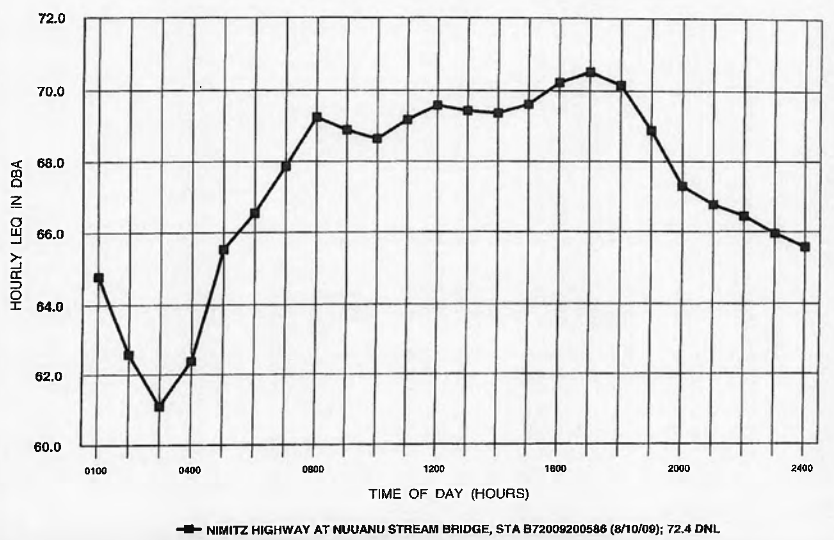
where:

L_p = Sound pressure level in decibels (re 2×10^{-5} Pa) at distance d (in meters),
L_w = Sound power level of noise source in decibels (re picowatt), and
a(f) = Molecular absorption plus anomalous excess attenuation in decibels per 100 meters. For the 9 standard Octave Bands from 31.5 Hz to 8,000 Hz, the a(f) values used were 0.1, 0.16, 0.27, 0.39, 0.66, 1.08, 1.9, 3.47, and 5.2.

Traffic Noise Level Predictions. The traffic noise study for the proposed Kapalama Container Terminal (Reference 6) estimates that traffic generated by the proposed Pacific Shipyards operations at Piers 24 and 25 should not exceed 100 vehicles per hour. It was assumed that Pacific Street and Nimitz Highway would be the primary access roadways to the relocated Pacific Shipyards facility. Traffic on Nimitz Highway is the primary background noise source in the vicinity of Piers 24 and 25. Using this information, the increase in traffic noise levels along Nimitz Highway associated with the addition of 100 vehicles per hour was estimated using the TNM Version 2.5. For existing and future traffic along the roadways servicing the project site, it was assumed that the average noise levels, or Leq(h), during the pm peak traffic hour were approximately 2.0 dBA less than the 24-hour DNL along those roadways. The relationships between the hourly noise levels along Nimitz Highway at 100 feet from the centerline and the resulting DNL values are shown in Figure 3. The graphs in the figures were developed using traffic counts provided by the Hawaii State Department of Transportation (Reference 7).

Construction Noise. Evaluations of potential construction noise impacts at noise sensitive properties closest to the proposed Pier 24 and Pier 25 shipyard facility were also provided. Risks of adverse noise impacts from construction activities at Pier 24 and Pier 25 were evaluated, and mitigation measures were recommended as required.

FIGURE 3. NIMITZ HIGHWAY HOURLY LEQ'S AT 100 FT. FROM C.L.; STA. B72009200586; AT NUUANU STREAM BRIDGE



CHAPTER V. EXISTING NOISE LEVELS

Traffic on Nimitz Highway controls the background noise levels at noise sensitive receptors closest to the proposed Pacific Shipyards facility at Piers 24 and 25. Figure 3 shows the variations in traffic noise levels at 100 feet from the centerline of Nimitz Highway at Nuuanu Stream Bridge. Existing peak hour traffic noise levels along Nimitz Highway are estimated to range from 69 to 71 Leq(h) at 100 foot distance from the centerline.

Existing background ambient noise levels at the proposed shipyard relocation site are relatively high due to the proximity of the proposed shipyard facility site to Nimitz Highway. Nimitz Highway is also adjacent to the closest noise sensitive receptors to the east in Downtown Honolulu. For this reason, and particularly during the normal working hours, background ambient noise levels at the closest noise sensitive receptors are relatively high, and will tend to mask the noise emissions from the proposed shipyard facility.

Nighttime and early morning traffic noise level measurements at Locations A and B1 (see Tables 3 and 4) indicate that background ambient noise levels are relatively high during vehicle passbys, but drop to 48 or 51 dBA when no traffic is flowing on Nimitz Highway during the nighttime and early morning hours. This information was used to predict the audibility of the shipyard noise sources at the closest noise sensitive receptors on the mauka side of Nimitz Highway during the nighttime and early morning period.

Background ambient noise levels along Nimitz Highway are relatively high during periods of traffic flow as indicated by the hourly variations of traffic noise levels at 100 feet from the centerline of Nimitz Highway shown in Figure 3. In addition, background ambient noise levels when traffic is not present along Nimitz Highway typically remain above 56 to 59 dBA during the daytime and remain above 48 to 51 dBA during the nighttime and early morning hours.

TABLE 4
SUMMARY OF BACKGROUND AMBIENT NOISE LEVELS AT LOCATION A

LOCATION: CHINATOWN PARKING GARAGE

DATE: March 12-13, 2012   2250 DATA; VARIOUS MINUTE RECORDS AT 3RD FLOOR LOCATION

Start Time	End Time	LOC	Lmax	Lmin	Leq	L1	L5	L10	L50	L90	L95	L99	Event Description
21:20	21:40	A	87.9	51.1	71.7	79.0	76.6	75.4	69.4	57.8	55.5	53.1	2121 - Horn; 2140 - Cycle
02:30	02:35	A	81.3	47.8	64.4	75.6	70.6	68.5	54.3	49.4	49.1	48.6	Traffic on Nimitz
02:36	02:56	A	79.6	47.6	61.9	73.1	68.9	65.6	52.6	49.6	49.3	48.8	Traffic on Nimitz
02:58	02:59	A	53.1	49.4	50.9	52.9	52.6	52.2	50.7	50.0	49.9	49.6	No traffic on Nimitz

LOCATION: CHINATOWN PARKING GARAGE

DATE: March 14, 2012

2238 DATA: CONTINUOUS AT 3RD FLOOR LOCATION

Start Time	End Time	LOC	Lmax	Lmin	Leq	L1	L5	L10	L50	L90	L95	L99	Event Description
01:00	02:00	A	94.7	51.0	67.8	79.6	74.7	70.4	56.5	53.3	52.8	52.1	Traffic on Nimitz
02:00	03:00	A	88.0	51.2	65.7	77.7	72.4	68.8	56.2	52.8	52.5	52.0	Traffic on Nimitz
03:00	03:36	A	91.3	51.4	65.9	78.3	72.1	67.6	54.9	53.0	52.6	52.2	Traffic on Nimitz
03:42	04:00	A	86.3	49.8	68.8	80.8	75.8	72.7	59.9	53.6	52.9	51.6	Traffic on Nimitz

Notes:

a. Leq = Average A-Weighted Sound Level (in dBA)
b. Lmax = Maximum A-Weighted Sound Level (in dBA)
c. Lmin = Minimum A-Weighted Sound Level (in dBA)
d. L10 = A-Weighted Sound Level (in dBA) which was exceeded 10 percent of the time.
e. L90 = A-Weighted Sound Level (in dBA) which was exceeded 90 percent of the time.
f. Lxx = A-Weighted Sound Level (in dBA) which was exceeded xx percent of the time.

CHAPTER VI. FUTURE NOISE ENVIRONMENT

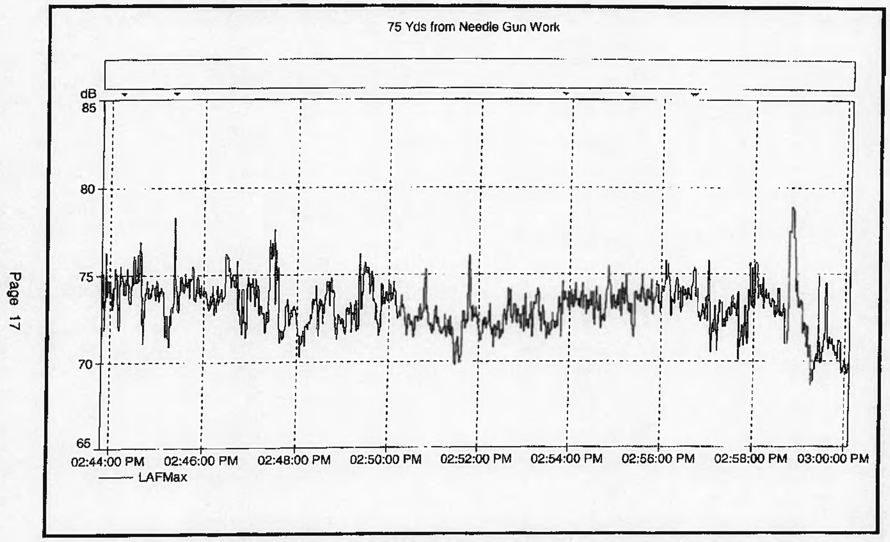
Motor Vehicle Traffic Noise. With or without the proposed relocation of Pacific Shipyards to Piers 24 and 25, future traffic noise levels along Nimitz Highway are expected to be similar to existing traffic noise levels. The non-project, peak hour traffic volumes on Nimitz Highway at Nuuanu Stream Bridge will probably range from 4,500 to 6,500 vehicles per hour based on August 2010 traffic counts by the Hawaii State Department of Transportation. The addition of 100 project vehicles per hour to these baseline traffic volumes will increase non-project traffic noise levels by less than 0.1 dB, which is not significant, and which will be very difficult to measure. Therefore, with or without the proposed shipyard relocation project, future traffic noise levels along the Nimitz Highway (and at the closest noise sensitive receptors to the shipyard facility) should not increase significantly.

Shipyard Facility Operations. Predictions of the noise levels associated with Pacific Shipyards operations at the proposed Pier 24 and Pier 25 facility were based on the measured noise levels during Needle Gun operations, chipping and hammering on a floating dry dock, sandblasting indoors with outdoor dust collector operating, and during water blasting operations. Samples of these measurements are shown in Figures 4 through 7. Spherical spreading plus molecular absorption and excess ground attenuation were used to calculate the sound levels at the closest noise sensitive receptors (Harbor Village Apartments) to the proposed shipyard facility.

Table 5 presents the predicted noise levels of the various shipyard operations at the closest noise sensitive receptor. The lower range of the predicted noise levels are more likely to occur during the daytime period (due to upward refraction of the sound rays from the sources and/or excess ground attenuation effects), while the higher noise levels are more likely to occur during the nighttime periods (due to the downward refraction of the sound rays from the sources and negligible excess ground attenuation effects). In addition to these sound propagation effects, the background ambient noise levels at the receptor locations are typically lower during the nighttime and early morning periods, so the risks of the shipyard noise sources being audible at the noise sensitive receptor locations are greater during the nighttime and early morning periods than during the normal daytime working periods.

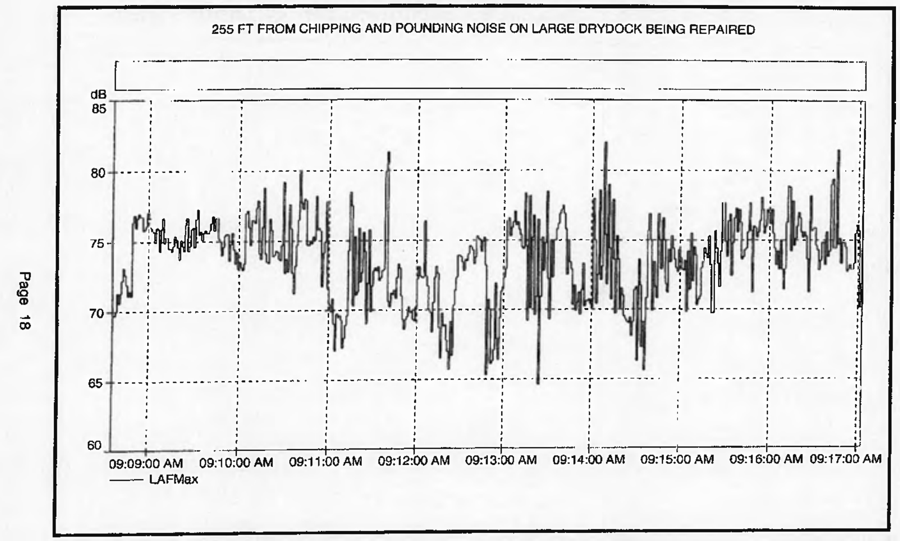
Minimum background ambient noise levels during the quiet nighttime and early morning periods are approximately 48 to 51 dBA at the closest noise sensitive receptor locations. Based on the results shown in Table 5, use of pneumatic chippers and hammers during the nighttime and early morning hours could cause complaints from noise sensitive receptors in Downtown Honolulu. Water blasting, sand blasting, needle gun, and dust collector operations would probably not cause complaints from noise sensitive receptors in Downtown Honolulu.

During the daytime working hours, background ambient noise levels at the closest noise sensitive receptor locations typically remain above 56 to 59 dBA. Based



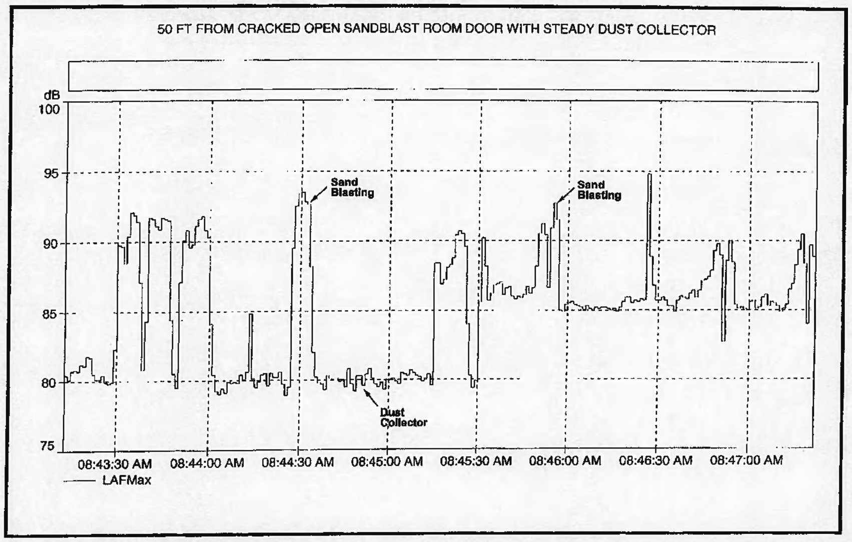
TIME HISTORY OF A-WEIGHTED SOUND LEVELS VS. TIME AT 225 FEET FROM NEEDLE GUN WORK (JUNE 23, 2011)

FIGURE 4



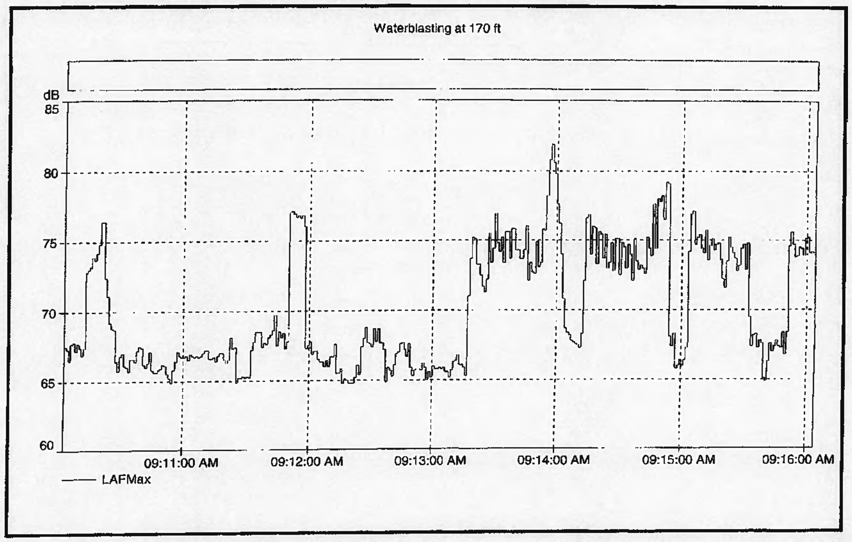
TIME HISTORY OF A-WEIGHTED SOUND LEVELS VS. TIME AT 255 FEET FROM CHIPPING AND POUNDING WORK ON LARGE DRY DOCK (JUNE 28, 2011)

FIGURE 5



TIME HISTORY OF A-WEIGHTED SOUND LEVELS VS. TIME AT 50 FEET FROM SANDBLAST ROOM DOOR WITH DUST COLLECTOR BACKGROUND NOISE (JUNE 28, 2011)

FIGURE 6



TIME HISTORY OF A-WEIGHTED SOUND LEVELS VS. TIME AT 170 FEET FROM WATER BLASTING OPERATIONS (JULY 9, 2011)

FIGURE 7

TABLE 5
SUMMARY OF SHIPYARD NOISE SOURCES

NOISE SOURCE	SOUND LEVEL AT 200 FEET (dBA)	DISTANCE (FEET) TO CLOSEST RECEPTOR	PREDICTED NOISE LEVEL @ RECEPTOR	SOURCE AUDIBLE? DAYTIME	SOURCE AUDIBLE? NIGHTTIME
Needle Gun	73.9	1,800	40.9 to 48.9 dBA	No	No
Chipping & Hammering	78.8	1,800	46.0 to 53.5 dBA	No	Yes
Dust Collector	71.4	1,688	41.2 to 48.1 dBA	No	No
Indoor Sandblasting	76.3	1,688	40.8 to 48.0 dBA	No	No
Water Blasting	76.8	1,800	38.0 to 45.8 dBA	No	No

on the results shown in Table 5, risks of noise complaints associated with shipyard operations from noise sensitive receptors in Downtown Honolulu should not be a concern during daytime working hours.

CHAPTER VII. POTENTIAL NOISE IMPACTS ASSOCIATED WITH THE PROPOSED PROJECT AND POSSIBLE MITIGATION MEASURES

Traffic Noise Impacts. The increases in noise levels attributable to Pacific Shipyards project traffic are predicted to be difficult to perceive and should not be significant along Nimitz Highway, which would service the relocated Pacific Shipyards facility. Because of the very small increases in traffic noise levels associated with this relocation project, risks of potential noise impacts from project traffic are considered to be very low at existing noise sensitive receptors along Nimitz Highway. For these reasons, existing noise sensitive buildings in the project area should not require sound attenuation measures as a result of increased traffic noise associated with the proposed project.

Noise Impacts Associated with Shipyard Operations. The noise levels from Pacific Shipyards operations at Pier 24 and Pier 25 should not exceed the daytime DOH noise limit for multifamily dwellings at the closest noise sensitive receptors in Downtown Honolulu. During the normal daytime working hours, the noise from shipyard operations should not be audible at these noise sensitive receptors. Therefore, risks of adverse noise impacts from daytime shipyard operations should be near zero.

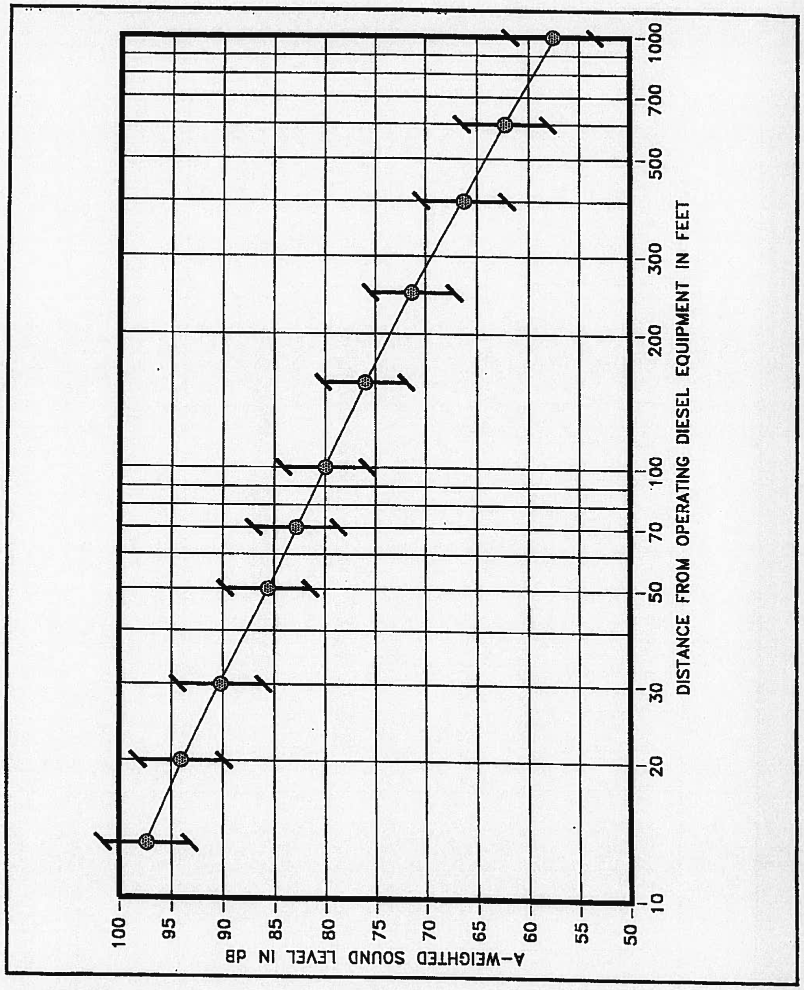
During the quieter nighttime hours, pneumatic chipping and hammering operations may be audible at noise sensitive receptors in Downtown Honolulu. This is due to the lower background noise levels, more favorable atmospheric propagation conditions during darkness, and the greater amount of low frequency noise components in pneumatic chipping and hammering operations. During the quieter nighttime hours, risks of noise complaints from water blasting operations are relatively low. If all of the operations shown in Table 5 occur simultaneously, risks of adverse noise impacts will increase due to the increase in total noise emissions from the shipyard. For example, if Needle Gun, Dust Collector, Indoor Sandblasting, and Water Blasting operations occur simultaneously, the total noise level at the closest noise sensitive receptor would range from 46.4 to 53.8 dBA, and be similar to the predicted noise levels of the pneumatic chipping and hammering operations.

The noise from indoor sandblasting operations at the new facility will need to be contained (or attenuated) to the same degree that is provided by the existing building at Pier 41. The use of lightweight fabric structures for the indoor sandblasting operations should be evaluated for their sound containment (or attenuation) properties prior to construction. In general, lightweight fabric structures will provide less sound attenuation than heavy (metal) structures.

It appears that the noise from shipyard operations at Pier 24 and Pier 25 should not exceed the DOH 60 dBA limit for the daytime (7:00 am to 10:00 pm) at multifamily residences or commercial establishments. Therefore, risks of adverse noise impacts from daytime shipyard operations should be low. However, there is some risk of exceeding the DOH 50 dBA limit during the nighttime (10:00 pm to 7:00 am).

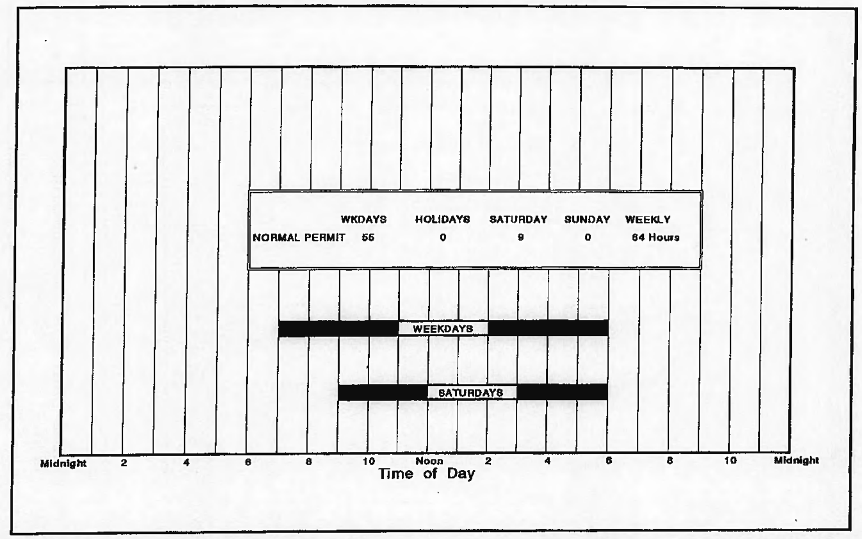
Therefore, prior to scheduling nighttime work at the relocated shipyard facility, measurements of the noisy operations should be made at the closest noise sensitive receptor during the quietist periods of the nighttime and/or early morning hours when the shipyard work is anticipated to occur. If different types of equipment are used in the future, daytime noise measurements are also recommended to evaluate the risks of noise impacts during nighttime and early morning operations. If noise mitigation measures are required due to complaints regarding noise from nighttime shipyard operations, the total noise level associated with nighttime (between 10:00 pm and 7:00 am) shipyard work should be attenuated so as to not exceed 50 dBA at the closest noise sensitive residence.

Construction Noise Impacts. Construction noise levels are anticipated to range between 44 to 56 dBA at the closest residences during the entire project construction period. Typical levels of noise from construction activity (excluding pile driving activity) are shown in Figure 8. Adverse impacts from construction noise are not expected to occur due to the large buffer distances (at least 1,800 feet) from the project site to the closest residences, and construction noise mitigation measures should not be required. The implementation of State DOH construction noise permit procedures (see Reference 4) will require that noisy construction activities do not occur during the nighttime, Sundays, and holidays (see Figure 9). Therefore, adverse noise impacts are not expected to occur from construction activities on the Pacific Shipyards project site.



ANTICIPATED RANGE OF CONSTRUCTION NOISE LEVELS VS. DISTANCE

FIGURE 8



AVAILABLE WORK HOURS UNDER DOH PERMIT PROCEDURES FOR CONSTRUCTION NOISE

FIGURE 9

APPENDIX A. REFERENCES

(1) "Guidelines for Considering Noise in Land Use Planning and Control;" Federal Interagency Committee on Urban Noise; June 1980.

(2) American National Standard, "Sound Level Descriptors for Determination of Compatible Land Use," ANSI S12.9-1998/ Part 5; Acoustical Society of America.

(3) "Environmental Criteria and Standards, Noise Abatement and Control, 24 CFR, Part 51, Subpart B;" U.S. Department of Housing and Urban Development; July 12, 1979.

(4) "Title 11, Administrative Rules, Chapter 46, Community Noise Control;" Hawaii State Department of Health; September 23, 1996.

(5) "FHWA Highway Traffic Noise Model User's Guide;" FHWA-PD-96-009, Federal Highway Administration; Washington, D.C.; January 1998 and Version 2.5 Upgrade (April 14, 2004).

(6) Draft "Traffic Impact Report, Kapalama Container Terminal;' Julian Ng, Inc. & Belt Collins Hawaii LLC; May 2012.

(7) Traffic Counts for Station B72009200586; Nimitz Highway At Nuuanu Stream Bridge; Hawaii State Department of Transportation, Highways Division; August 10, 2009.

APPENDIX B

EXCERPTS FROM EPA'S ACOUSTIC TERMINOLOGY GUIDE

Descriptor Symbol Usage

The recommended symbols for the commonly used acoustic descriptors based on A-weighting are contained in Table I. As most acoustic criteria and standards used by EPA are derived from the A-weighted sound level, almost all descriptor symbol usage guidance is contained in Table I.

Since acoustic nomenclature includes weighting networks other than "A" and measurements other than pressure, an expansion of Table I was developed (Table II). The group adopted the ANSI descriptor-symbol scheme which is structured into three stages. The first stage indicates that the descriptor is a level (i.e., based upon the logarithm of a ratio), the second stage indicates the type of quantity (power, pressure, or sound exposure), and the third stage indicates the weighting network (A, B, C, D, E.....). If no weighting network is specified, "A" weighting is understood. Exceptions are the A-weighted sound level and the A-weighted peak sound level which require that the "A" be specified. For convenience in those situations in which an A-weighted descriptor is being compared to that of another weighting, the alternative column in Table II permits the inclusion of the "A". For example, a report on blast noise might wish to contrast the LCdn with the LAdn.

Although not included in the tables, it is also recommended that "Lpn" and "LepN" be used as symbols for perceived noise levels and effective perceived noise levels, respectively.

It is recommended that in their initial use within a report, such terms be written in full, rather than abbreviated. An example of preferred usage is as follows:

The A-weighted sound level (LA) was measured before and after the installation of acoustical treatment. The measured LA values were 85 and 75 dB respectively.

Descriptor Nomenclature

With regard to energy averaging over time, the term "average" should be discouraged in favor of the term "equivalent". Hence, Leq, is designated the "equivalent sound level". For Ld, Ln, and Ldn, "equivalent" need not be stated since the concept of day, night, or day-night averaging is by definition understood. Therefore, the designations are "day sound level", "night sound level", and "day-night sound level", respectively.

The peak sound level is the logarithmic ratio of peak sound pressure to a reference pressure and not the maximum root mean square pressure. While the latter is the maximum sound pressure level, it is often incorrectly labelled peak. In that sound level meters have "peak" settings, this distinction is most important.

"Background ambient" should be used in lieu of "background", "ambient", "residual", or "indigenous" to describe the level characteristics of the general background noise due to the contribution of many unidentifiable noise sources near and far.

With regard to units, it is recommended that the unit decibel (abbreviated dB) be used without modification. Hence, DBA, PNdB, and EPNdB are not to be used. Examples of this preferred usage are: the Perceived Noise Level (Lpn was found to be 75 dB. Lpn = 75 dB). This decision was based upon the recommendation of the National Bureau of Standards, and the policies of ANSI and the Acoustical Society of America, all of which disallow any modification of bel except for prefixes indicating its multiples or submultiples (e.g., deci).

Noise Impact

In discussing noise impact, it is recommended that "Level Weighted Population" (LWP) replace "Equivalent Noise Impact" (ENI). The term "Relative Change of Impact" (RCI) shall be used for comparing the relative differences in LWP between two alternatives.

Further, when appropriate, "Noise Impact Index" (NII) and "Population Weighed Loss of Hearing" (PHL) shall be used consistent with CHABA Working Group 69 Report Guidelines for Preparing Environmental Impact Statements (1977).

APPENDIX B (CONTINUED)

TABLE I

A-WEIGHTED RECOMMENDED DESCRIPTOR LIST

TERM	SYMBOL
1. A-Weighted Sound Level	L_A
2. A-Weighted Sound Power Level	L_{WA}
3. Maximum A-Weighted Sound Level	L_{max}
4. Peak A-Weighted Sound Level	L_{Apk}
5. Level Exceeded x% of the Time	L_x
6. Equivalent Sound Level	L_{eq}
7. Equivalent Sound Level over Time (T) (1)	$L_{eq(T)}$
8. Day Sound Level	L_d
9. Night Sound Level	L_n
10. Day-Night Sound Level	L_{dn}
11. Yearly Day-Night Sound Level	$L_{dn(Y)}$
12. Sound Exposure Level	L_{SE}

(1) Unless otherwise specified, time is in hours (e.g. the hourly equivalent level is $L_{eq(1)}$). Time may be specified in non-quantitative terms (e.g., could be specified a $L_{eq(WASH)}$ to mean the washing cycle noise for a washing machine).

SOURCE: EPA ACOUSTIC TERMINOLOGY GUIDE, BNA 8-14-78,

APPENDIX B (CONTINUED)

TABLE II

RECOMMENDED DESCRIPTOR LIST

TERM	A-WEIGHTING	ALTERNATIVE(1) A-WEIGHTING	OTHER(2) WEIGHTING	UNWEIGHTED
1. Sound (Pressure)(3) Level	L_A	L_{pA}	L_B, L_{pB}	L_p
2. Sound Power Level	L_{WA}		L_{WB}	L_W
3. Max. Sound Level	L_{max}	L_{Amax}	L_{Bmax}	L_{pmax}
4. Peak Sound (Pressure) Level	L_{Apk}		L_{Bpk}	L_{pk}
5. Level Exceeded x% of the Time	L_x	L_{Ax}	L_{Bx}	L_{px}
6. Equivalent Sound Level	L_{eq}	L_{Aeq}	L_{Beq}	L_{peq}
7. Equivalent Sound Level (4) Over Time(T)	$L_{eq(T)}$	$L_{Aeq(T)}$	$L_{Beq(T)}$	$L_{peq(T)}$
8. Day Sound Level	L_d	L_{Ad}	L_{Bd}	L_{pd}
9. Night Sound Level	L_n	L_{An}	L_{Bn}	L_{pn}
10. Day-Night Sound Level	L_{dn}	L_{Adn}	L_{Bdn}	L_{pdn}
11. Yearly Day-Night Sound Level	$L_{dn(Y)}$	$L_{Adn(Y)}$	$L_{Bdn(Y)}$	$L_{pdn(Y)}$
12. Sound Exposure Level	L_S	L_{SA}	L_{SB}	L_{Sp}
13. Energy Average Value Over (Non-Time Domain) Set of Observations	$L_{eq(e)}$	$L_{Aeq(e)}$	$L_{Beq(e)}$	$L_{peq(e)}$
14. Level Exceeded x% of the Total Set of (Non-Time Domain) Observations	$L_{x(e)}$	$L_{Ax(e)}$	$L_{Bx(e)}$	$L_{px(e)}$
15. Average L_x Value	L_x	L_{Ax}	L_{Bx}	L_{px}

(1) "Alternative" symbols may be used to assure clarity or consistency.

(2) Only B-weighting shown. Applies also to C,D,E,.....weighting.

(3) The term "pressure" is used only for the unweighted level.

(4) Unless otherwise specified, time is in hours (e.g., the hourly equivalent level is Leq(1). Time may be specified in non-quantitative terms (e.g., could be specified as Leq(WASH) to mean the washing cycle noise for a washing machine.

Report of Noise Measurement Results and Grain Ship Noise Study Proposed Kapalama Container Terminal Honolulu Harbor, Oahu, Hawaii

September 7, 2012

Department of Transportation
State of Hawaii
Harbors Division

A noise study was performed of the potential future noise levels associated with dockside activities associated with future grain ship unloading activities at Pier 20, Honolulu Harbor. As a result of the proposed relocation of Pacific Shipyards International (PSI) to Pier 24 and 25, an end to the current grain ship unloading operations at the adjacent Pier 23 is anticipated.

Currently, Hawaiian Flour Mill (HFM) uses Piers 22 and 23 to berth grain ships at 4 to 5 month intervals, unloads the grain from the grain ships, and conveys the grain to its silos at Pier 23. Due to the size of the PSI drydocks to be berthed at PIers 24 and 25, the grain ships will probably use Pier 20 during grain unloading operations. It is anticipated that tractor trailer trucks will be used to haul the grain from Pier 20 to the HFM underground conveyor system located in the general vicinity of the HFM silos (see Figure 1). The grain ship's crane will be used to transfer the grain from the ship to the trucks on Pier 20; the trucks will transport the load to the HFM silo dumping area; and return to Pier 20 to receive another load of grain. A small front end loader will operate in the grain dumping area to transfer the grain to the underground conveyor system. The grain ship unloading operation (at at maximum rate of four truckloads per hour) is expected to occur continuously over multiple 24-hour periods until the grain ship is totally unloaded.

Methodology. Sound level measurements of current grain ship unloading operations were obtained at Pier 23 during the night of April 16, 2012. Figure 2 depicts the sound levels associated with unloading of the grain from the grain ship to a grain hopper located on the dock using a clamshell bucket attached to a shipboard crane. The large impulse noise events were caused by the banging of the clamshell bucket against the top of the grain hopper. The lower noise level floor was controlled by the noise from the grain ship's operating machinery. Additional measurements at 100 to 270 feet from the grain hopper were obtained to develop the source noise levels of the grain unloading operations from the ship to a hopper located on the pier.

Noise modeling of the sound levels of tractor-trailer trucks, front end loader, banging, horns, and back-up alarms were performed to predict the potential noise levels at the closest residence during grain unloading operations at Pier 20. Potential noise levels during the grain unloading and transporting operations at Pier 20 were calculated at the closest residential building at Harbor Village Apartments. The noise modeling was performed using inverse square law for hemispherical spreading of a sound from a source at or near the ground, with inclusion of molecular absorption and anomalous excess attenuation effects. The modeling equation used to predict sound levels at any given distance from a noise source was:

$$L_p = L_w - 20 \times \text{Log}(d) - [d \times a(f)] / 100 - 8$$

where:

L_p = Sound pressure level in decibels (re 2×10^{-5} Pa) at distance d (in meters),

L_w = Sound power level of noise source in decibels (re picowatt), and

a(f) = Molecular absorption plus anomalous excess attenuation in decibels per 100 meters. For the 9 standard Octave Bands from 31.5 Hz to 8,000 Hz, the a(f) values used were 0.1, 0.16, 0.27, 0.39, 0.66, 1.08, 1.9, 3.47, and 5.2.

Results and Conclusions. A summary of the sound level predictions at the closest residences to the possible grain loading operations at Pier 20 are shown in Table 1. A minimum nighttime background noise level of 50 dBA was assumed for comparison with the predicted noise levels from the grain unloading and transporting operations between Pier 20 and the HFM grain silos. As indicated in Table 1, predicted noise levels during grain unloading and transporting operations are not expected to exceed the 70 dBA State Department of Health (DOH) noise limit for operations using fixed machinery on properties zoned for Industrial uses.

The louder noise sources, such as the banging of the clamshell bucket against the grain hopper, horns, and the backup alarms, will probably be audible at Harbor Village Apartments during the nighttime when background noise levels are lowest. Because of this, there is a risk of noise complaints occurring during grain unloading and transporting operations at Pier 20.

Recommended Noise Mitigation Measures. The following noise mitigation measures are recommended to reduce the risk of noise complaints during the grain unloading operations at Pier 20:

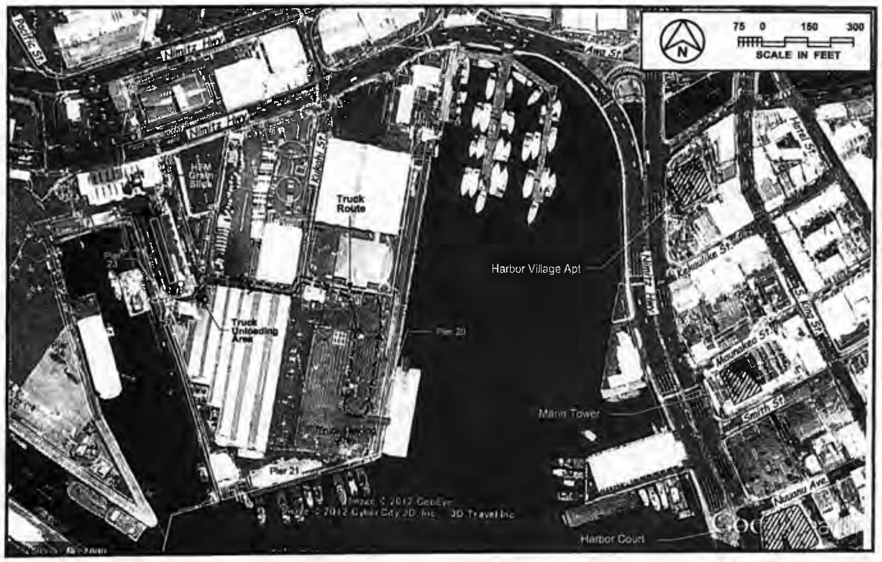
- The use of horns for signaling truck movements should be replaced with lights or radio frequency devices unless it can be demonstrated via sound tests that the horns are not audible during the quietist nighttime period at the closest residences.

- Beeper type backup alarms should be replaced with broadband noise backup alarms with automatically variable output level unless it can be demonstrated via sound tests that the beeper type backup alarms are not audible during the quietist nighttime period at the closest residences.

- The tractor trailer trucks should minimize engine speed to the lowest rpm possible, and attempt to not exceed a noise level of 80 dBA at 50 feet distance during the nighttime hours.

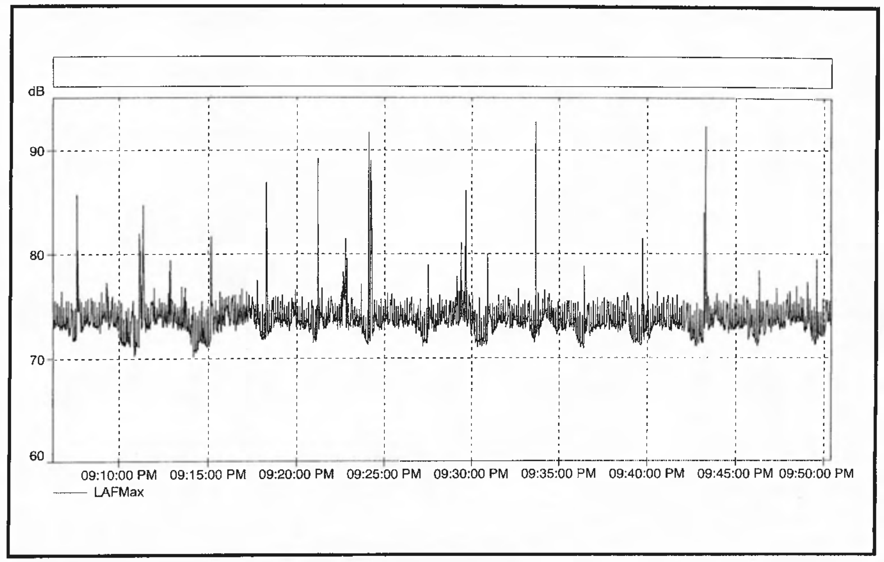
- The grain hoppers used on the pier or on the trucks should be outfitted with resilient bumpers to minimize the level of impact noise during contact between the hopper and the clamshell bucket.

- If noise complaints occur as a result of nighttime grain unloading operations at Pier 20, and HFM is not able to reduce the noise levels to acceptable levels of approximately 50 dBA at the complainant, restrictions in the hours of the nighttime grain unloading operations may need to be considered.



HFM GRAIN UNLOADING AREAS AND SILOS
(PIER 23 OR PIER 20)

FIGURE 1



MEASUREMENTS OF SOUND LEVELS
DURING GRAIN UNLOADING OPERATIONS

FIGURE 2

TABLE 1
SUMMARY OF GRAIN UNLOADING NOISE SOURCES

NOISE SOURCE	SOUND LEVEL AT 200 FEET (dBA)	DISTANCE (FEET) TO CLOSEST RECEPTOR	PREDICTED NOISE LEVEL @ RECEPTOR	------- SOURCE AUDIBLE? ------- DAYTIME	NIGHTTIME
Steady Noise from Grain Ship	64.3	900	46 to 50 dBA	No	No
Maximum Impact Noise At Grain Hopper	82.7	1,000	62 to 66 dBA	No	Yes
Non-Impact Noise At Grain Hopper	73.1	1,250	53 to 57 dBA	No	Yes
Tractor Truck Moving In Que	68.3	1,600	41 to 50 dBA	No	No
Tractor Truck Dumping Load	67.9	1,600	37 to 45 dBA	No	No
Front End Loader	72.3	1,600	44 to 50 dBA	No	No
Beeper Type Back-Up Alarm	71.3	1,575	44 to 52 dBA	No	Yes
Broadband Noise Back-Up Alarm	76.1	1,575	46 to 53 dBA	No	Yes
Truck Horn	73.9	1,100	50 to 59 dBA	No	Yes

APPENDIX E

Marine Biological Community Structure Report

E-1
Marine Biological Community Structure Report

E-2
Marine Surveys of Pacific Shipyards Dock Areas

AN ASSESSMENT OF THE MARINE BIOLOGICAL COMMUNITY STRUCTURE IN THE VICINITY OF THE PROPOSED KAPALAMA CONTAINER TERMINAL HONOLULU, HAWAIʻI

State of Hawaii
Department of Transportation
Harbors Division

October 15, 2012

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All surveys were performed by Marine Research Consultants, Inc.

EXECUTIVE SUMMARY

The State of Hawai'i, Department of Transportation Harbors Division (DOT-H) is proposing to develop a new container terminal in Honolulu Harbor, O'ahu, which is the principal port of entry for all container cargo entering and exiting the State. Construction of a pier is proposed with berthing capacity for two container ships as well as cargo barges. The main pier (identified as Piers 42 and 43) will require dredging and filling in the harbor waters fronting the existing Kapalama site in order to accommodate docking of container ships. The present design of the project could involve complete infilling of a docking area known as Snug Harbor, which is presently occupied by the University of Hawai'i (UH), School of Ocean and Earth Science and Technology's (SOEST) Marine Center (MC).

At the eastern end of the Kapalama site, a second pier (identified as Pier 41) would be modified for use by an interisland barge cargo operator. The existing Pier would be demolished and rebuilt with a slip area widened from the existing 256 feet to 300 feet between Piers 40 and 41. In addition Pacific Shipyards, is planning to move two large dry-docks from Pier 41 to Piers 24-25 within the central region of Honolulu Harbor. At this point in time, the only activities planned for this move are pier side improvements with no in-water construction with the possible exception of placement of spuds (vertical rods) that are mechanically lowered to rest on the Harbor floor to stabilize the dry dock used for ship repairs.

To provide input to the Environmental Impact Statement (EIS) for this project, a qualitative and quantitative assessment was conducted that describes the existing marine biotic communities within the areas proposed for re-development. This report provides the requisite data for the Hawaii Revised Statutes (HRS) Chapter 343 EIS and the U.S. Army Corps of Engineers (USACE) National Environmental Policy Act (NEPA) requirement. The ultimate use of this information is for the Clean Water Act (CWA) Section 404 Permit from the U.S. Army Corps of Engineers.

Methods employed in the assessment follow to the extent possible the techniques set out in the "Draft Planning Aid Report-Marine Biological Survey Protocols" (DPAR) prepared for the Army Corps of Engineers (ACOE) by the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). In order to minimize the statistical uncertainty that is inherent in determining population structure from extrapolation of data that includes only partial coverage of the populations, the field effort included examination of the entirety of the area within the survey boundaries. The resultant data products consist of qualitative and quantitative censuses of the entire populations within the survey envelope.

Quantitative *in-situ* evaluation of stony corals was accomplished by measuring the length of the longest axis in centimeters (cm) of every coral colony resulting in a complete census of the coral community. During survey swims along the length of survey sector, all observed non-cryptic invertebrates and algae were identified to the lowest taxonomic level, and estimates of abundance were recorded. Numerical abundance of fish by species (or lowest possible taxonomic level) as well as body length were recorded during swims spanning the length of each survey sector.

All of the physical structures within the survey area can be considered "non-natural" as they are all created or modified by human activity. The physical structure of the survey area is composed of three distinct forms: 1) undeveloped dredged shorelines with narrow (several meters) nearly flat shelves

that abut the shoreline and terminate in a steep slope that extends to the mud/silt channel floor; 2) vertical concrete square pilings that support (or previously supported) pier decks, and 3) solid sheet pilings that support pier decks. A consistent characteristic of these areas is a ubiquitous coating of fine-grained silty sediment over all non-living surfaces.

Virtually all non-living surfaces of the concrete pilings and metal sheet-pilings that comprise the piers within Kapalama Basin are covered with an encrustation of remnant mollusk shells that form the substratum for settlement for other invertebrates. Quantitative evaluation of the coral community yielded a total count of 5,173 coral colonies among eleven species. Total counts in individual size-classes ranged from a low of 159 ($>80\leq160$ cm) to a high of 1,727 ($>2\leq5$ cm). Overall density of coral colonies within the entire survey area was 0.36 colonies per square meter (col m^{-2}).

Pocillopora damicornis accounted for the most colonies (1,840), followed by *Leptastrea purpurea* (1,497) and *Porites lobata* (1,039). These three species account for about 85% of the total observed colonies. *Montipora patula* and *M. capitata* also occurred throughout the Harbor in growth forms of thin overlapping plates growing on vertical pilings. Most of the large plating colonies contained areas of sediment accumulation abutting seemingly unaffected live tissue. No coral bleaching or diseases were noted during the course of the survey.

Qualitative surveys in the vicinity of Piers 24-28 in the central area of Honolulu Harbor revealed some very different community structure than observed in the Kapalama Basin area. In particular, the pilings comprising Piers 24 and 26 contained skeletal remains of large colonies that were either completely or nearly completely devoid of living tissue. The occurrence of these large dead colonies indicates that there has been either at least one event of extreme stress of sufficient magnitude to completely overwhelm coral defense mechanisms resulting in mortality of mature colonies. Such stress may result from episodic periods of high sediment input and deposition, or long-term mooring of vessels against the piers that block available light for a period sufficient to result in mortality. Also observed during the qualitative investigation was an area at the end of Piers 27-28 consisting of a dredged section of shallow reef platform populated with large corals and high numbers of reef fish.

At present, the Center for Biological Diversity is petitioning the National Oceanographic and Atmospheric Administration (NOAA) to list 82 species of reef building corals as endangered species. Contained in this list are two species that were observed during the Kapalama Basin surveys. Four hundred thirty six colonies of *Montipora patula* were counted, comprising about 8.4% of the total number of colonies, while only 5 colonies of *C. ocellina* were encountered, all of which were less than 5 cm in longest dimension.

Forty-five species of invertebrates were identified during surveys, including 20 sponges, 4 tunicates, 5 bryozoans, 5 annelids, 5 molluscs, 2 echinoderms, 2 arthropods and 2 sea slugs. Of the 45 species, 15 are identified as Introduced species. Overall, invertebrates were far more abundant on the vertical piers and pilings than on the flatter dredged shoreline shelves and slopes. Among the non-coral invertebrates abundance and diversity of sponges was highest with 10 species classed as "Abundant". In contrast to invertebrates, which occurred abundantly throughout the area of study, frondose algae were nearly absent at all survey locations.

A total of 1,902 fish were counted comprised of 38 species. Approximately half the number of fish consisted of two large schools of sardines that we observed transiting two of the survey sectors. Overall, numbers of fish observed in sectors composed of concrete piles were lower than counts on sectors consisting of dredged shorelines. While the entire survey area is a restricted access zone and likely experiences little on no direct recreational or commercial fishing pressure, there is some recreational fishing in neighboring areas. Total Biomass of fish in the survey area was calculated to be 1,902 grams.

Regulated species observed during the Kapalama Basin surveys consisted of several fish, including a school of aholehole (*Kuhlia xenura*), parrotfish (*Scarus psittacus*) and a single papio (*Caranx melamphygus*). The only regulated species of invertebrate observed were a single octopus (*Octopus cyanea*) and several sea urchins *Echinothrix diadema*. It is possible that burrows noted within the sediment floor of the basin may be from shrimp (`opae); however, no individuals were observed.

No endangered or protected species as recognized by the Federal and State of Hawaii Agencies were observed during surveys.

I. BACKGROUND and PROPOSED ACTION

The State of Hawai'i, Department of Transportation (DOT), Harbors Division (DOT-H) is proposing to develop a new container terminal in Honolulu Harbor, O'ahu, which is the principal port of entry for all container cargo entering and exiting the State. The proposed project would increase the existing container terminal capacity to accommodate anticipated future cargo volumes. The proposed development includes a container yard with necessary support buildings, entry and exit gates, security fencing, parking, gantry cranes and container-handling equipment, onsite utilities, outdoor lighting, and other ancillary features.

On the waterfront, a pier would be constructed with berthing capacity for two container ships and cargo barges. The main pier (identified as Piers 42 and 43) would be designed with a revetment and piling system (Figure 1). Based on Corps of Engineers soundings from 2007, existing depths in the area range from 13 to 30 feet, indicating that dredging would be necessary to achieve the required depth of 40 (mean lower low water (MLLW)) to accommodate container ships that would dock at the pier. The present design of the project would include filling in a docking area known as Snug Harbor, which is presently occupied by the University of Hawai'i (UH), School of Ocean and Earth Science and Technology's (SOEST) Marine Center (MC).

At the eastern end of the Kapalama site, a secondary pier (identified as Pier 41) would be reconstructed for future use by an interisland barge cargo operator. The existing structures of Pier 41 would be demolished and a new pier built that would increase the width of the slip area between Piers 40 and 41 from 256 feet to 300 feet (Figure 1). Such widening would maximize use of the slip area for barges that currently operate in the adjacent slips, as well as for larger barges that are expected to be brought into service to increase interisland transport efficiency. The reconstruction of Pier 41 would include either a revetment and piling system or a bulkhead wall.

In addition to the re-development of the Kapalama area, one of the present tenants, Pacific Shipyards Inc., is planning to move two existing dry-docks to the area of Piers 24-25 within the central region of Honolulu Harbor. At this point in time, the only activities planned for this move are pier side improvements with no in-water construction, with the possible exception of placement of temporary spuds (vertical rods) that are mechanically lowered to rest on the Harbor floor to stabilize one of the dry docks used for ship repairs. However, at a later date Pacific Shipyard Inc. may request refinements of the present plan that could require more involved in-water construction. To accommodate the proposed re-development, the Atlantis Submarine operation is also moving from the present location to the Pier 26-27 area. However, at this time there are no plans for dredging or infilling of any areas in the vicinity of Piers 24-27.

This report presents a detailed qualitative and quantitative assessment of the existing conditions within the areas proposed for re-development of the Kapalama area of Honolulu Harbor. These assessments provide the requisite data for the HRS Chapter 343 EIS and the USACE's NEPA requirement for the project. The ultimate use of this information is for the Clean Water Act (CWA) Section 404 Permit from the U.S. Army Corps of Engineers.

II. METHODS

A. Rationale for Selection of Sampling Area

A preliminary survey of the region of interest was conducted on April 5, 2012 in order to generally describe the level of colonization and ecological composition of the marine community that currently exists within the proposed project area. The preliminary survey consisted of underwater swims along the entirety of area proposed for re-development. While representative habitats and typical community assemblages within the survey envelope were documented by photography, no quantitative data was collected during the preliminary survey. Results of the preliminary survey revealed that the area to be assessed for the present project consists primarily of existing piers, pilings, and dredged channel walls. Macro-biota occurs extensively on vertical surfaces of these structures, and is not abundant on the surface of the soft sediment column that comprises the horizontal surfaces of the harbor floor.

Methods employed in the present assessment follow to the extent possible the techniques set out in the "Draft Planning Aid Report-Marine Biological Survey Protocols" prepared for the Army Corps of Engineers (ACOE) by the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). However, the Draft Planning Aid Report includes protocols specifically designed to evaluate community structure of horizontal reef surfaces, and does not include specific protocols for surveying vertical surfaces, and particularly vertical surfaces that are not continuous such as pilings. As a result, modification of some techniques presented in the Draft Planning Aid Report were deemed necessary in order to accurately census the existing communities.

Present plans for the re-development of the Kapalama Basin include elimination of all existing surfaces within the survey area. Hence, the major focus of the present assessment was to gather data on the total population of macro-benthos and fish on, and in the vicinity of these surfaces. To follow protocols in the Draft Planning Aid Report, preliminary planning for the survey included the utilization of transect methods to evaluate selected regions of the survey area. A transect can be defined as a sampling unit of surface area used to monitor distribution of populations within a given larger area. Representative transects are normally used in studies where the entire area of interest is so large that surveying the entire region is not practical. In these cases, the results of representative transect surveys are extrapolated using statistical methods to arrive at an estimate of population parameters for the entire area of interest. As stated in the Draft Aid Planning Protocols, "the number of sampling units should be based on a power analysis for large-scale impacts to reefs. Reference materials dealing with the same geographic region and taxa are used for reference purposes to facilitate determination of sampling effort. It is important to document how sample sizes are determined and the confidence interval it represents."

For the Kapalama Container Terminal survey, the occurrence of biota on vertical, rather than horizontal structures presents several problems with respect to designing survey protocols to follow transect methods described in the Draft Planning Aid Report. First, laying a tape or line on the floor of the ocean and enumerating organisms within a series of representative quadrats of equal area is not directly applicable to vertical surfaces. During the original planning stages of the present study, it was proposed that an alternate "vertical transect" technique would enumerate biotic composition on

the entirety of representative pilings, with subsequent extrapolation of transect results to provide estimates of the entire population within the re-development footprint. In addition, selection of the size of each sample unit based in power analysis based on large scale impacts to reefs was not applicable, as the areas of study are not technically reefs.

With these considerations, several points became apparent to the Principal Investigator with respect to developing a method to maximize the accuracy of censusing the populations of interest. The modified protocol consisted of including all pilings and other settleable surfaces in the quantitative and qualitative assessments, rather than random or stratified random selections. The decision to increase the survey area was deemed appropriate to alleviate concerns about selection of appropriate sample sizes, and because resources were available, both in terms of time and personnel, to easily complete the assessment of all available surfaces. As a result, the quantitative data gathered, particularly of coral colony size-frequency, can be considered a more precise representation of the entire population than extrapolation from representative samplings, and may be considered a complete census of the coral community. The method of characterizing the size-frequency distribution of the entire coral population of a survey area has been previously used in other studies. These studies include the evaluation of coral populations on the pier-breakwater of the North Kawaihae Small Boat Harbor in preparation of repairing damage to the pier from an earthquake that occurred in 2006 (Marine Research Consultants, 2009), and the evaluation of corals on the Barge Slip Ramp at Kwajalein Atoll in preparation for a program to relocate corals prior to rebuilding of the Ramp (National Marine Fisheries Service 2012).

B. Survey Sector Determination

To organize the field program, the area of Kapalama Basin under study was divided into twelve sectors, designated by letters A-L, based on either the "straight-line" faces of each Pier and dredged channel shelf (Figure 2). Several of the sectors were large enough to be divided into sub-sectors with the intent of evaluating spatial variability within a single pier face or dredged channel shelf. Figures 3-5, created from Google Earth images provide detailed views of Sectors A-B, C-G, and H-L, respectively. Figure 6 shows the area of central Honolulu Harbor that includes Piers 24-28. The area of Pier 24 shown in red in Figure 6 marks the proposed location of the Pacific Shipyards dry-docks. This specific area was evaluated quantitatively in a similar fashion as Sectors A-L in Kapalama Basin. The other areas of Piers 25-28 shown in yellow in Figure 6 were surveyed in a qualitative fashion for invertebrate abundance, although fish abundance was quantified.

Each of the sectors can be thought of as an area with a width dimension defined by the distance from the surface of the water to the harbor floor, and a length dimension equal to the distance from the start to the end of the sector. The latitude and longitude of the start and end of each sector are shown in Table 1.

Sector A, located on the southern shoreline of Kapalama Basin adjacent to the Sand Island Container Terminal, was included within the survey plan in order to gather baseline data that would be of use to determine potential effects of any sediment plumes created during the channel dredging phase of the re-development plan. Sector A is the only area within the Kapalama survey zone where the existing shoreline and piers are not planned for removal or modification. Sector H on Pier 41 is the present location of the Pacific Shipyards dry-docks, as well as other active marine repair facilities. Owing to safety issues with continuous ongoing work on the dry-docks, as well as continuous permanent mooring of the dry-docks to the piers since 2000 (personal communication from PSI), pilings in this sector were not surveyed during either the preliminary survey or the present investigation. The omission of Sector 41 is not considered to result in a substantial under-estimation of total biotic resources as observations under vessels much smaller than the dry-docks that appear to have been moored for considerable periods of time revealed pilings barren of reef corals and most other macro-biota. The lack of macrobiota on these piers is presumably a result of prolonged shading from sunlight. As a result the only group of marine organisms that is likely to occur under the dry docks in sufficient number would motile organisms, primarily fish.

C. *In-situ* Survey Methods

In-water surveys were carried out during the period six days between June 29, 2012 to July 10, 2012 by a team of six people diving from a 21-foot boat using SCUBA gear. Dr. Steven Dollar supervised all field operations, assisted by Laura Birse, Leigh Kroeger, Stephen Matadobra, Catherine Harris and Caroline Dias. The latter four assistants are members of the University of Hawaii Marine Options Program (MOP), while two (LK and SM) are graduates of the Quantitative Underwater Ecological Survey Techniques (QUEST) program run by the University of Hawaii at Hilo, and are all students in fields of marine biology. Training through these academic activities has provided these assistants with the expertise to contribute to the data collection required for the present project. In addition to training on various field survey techniques, the QUEST training includes identification of coral diseases, and one of the assistant investigators (SM) is presently assisting in a project researching the status of coral diseases on reefs in Hawaii.

For evaluation of each sector, the boat was positioned at one end of the sector, and the investigator tasked with enumerating fish entered the water and swam along the pier face or reef shelf toward the distal end of the sector, recording number of individuals and body length. Substantial suspended particulate material throughout most of the survey area limited visibility to a distance of approximately 2-4 meters. Such limited sight paths likely resulted in an unavoidable underestimate of fish. After allowing a sufficient time to prevent scattering of fish, two investigators entered the water to conduct evaluation of non-coral invertebrates. Directly after, two other investigators entered to conduct quantitative surveys of coral colony abundance. The last investigator followed the survey crew with a camera and recorded photographically all aspects of the survey areas.

As described above the goal of the survey was to assess the entire benthic and fish communities within entire survey envelope. Such coverage was accomplished by all investigators moving in a slow vertical zigzag fashion up and down each piling, or along each dredged shoreline area. While water depth ranged from about 7-10 meters along the pier faces, biota was generally not abundant in the upper meter of the water column or within 2-3 meters of the Harbor floor. Hence, the zone of biotic colonization consisted of a vertical area ranging from approximately 3-6 meters wide. Similarly, on the dredged shorelines, biota occurred primarily on the upper horizontal shelves and not on the vertical channel walls. Total in-water survey time was logged as approximately 36 hours. With a linear survey dimension of approximately 1,800 meters, survey coverage averaged about 50 meters per team-hour in the water.

1. Coral Community Survey Metrics

a. Coral Colony Abundance and Size

Quantitative *in-situ* evaluation of stony corals was accomplished by measuring the length of the longest axis in centimeters of each coral colony. This method employed is used in the QUEST program and uses a 1.6 m PVC rod marked with colored tape to designate the boundaries of seven size-classes (<2 centimeters (cm), >2≤5 cm, >5≤10 cm, >10 ≤20 cm, >20≤40 cm, >40≤80 cm, and >80≤160 cm). A category of >160 cm was also included as extending beyond the end of the rod, but no corals of this size were encountered. Measurements were made by a two-person dive team, with one diver holding the rod over the longest axis of each colony, while another diver recorded presence within the size-class and species on waterproof data sheets. With replicate examination of all areas by two investigators, observation and measurements of all coral colonies was considered to be complete. In cases where multiple colonies appeared to have coalesced into a single amalgamated colony with no distinct margin, the amalgamated structure was considered a single colony. In cases where large colonies had experienced partial mortality creating bare areas between living tissue, the investigator determined by best judgment if the remaining living tissue was the remnants of the single older colony, or from recent settlement of multiple new colonies on the bared limestone substratum. Working in a team fashion to record size-class data proved to be an efficient method for rapid, yet thorough documentation of the whole survey area.

b. Morphological Growth Form and Evidence of Stress

Colonies were also classed into growth form categories (e.g., branching, encrusting, and plating). Also noted were visible signs of disease, sediment stress, bleaching, or necrotic tissue. As described in the Draft Planning Aid, "Percent of dead/live tissue is visually estimated within the same 10 m x 1 m belt" is interpreted to indicate that the overall percentage of dead/live within a survey unit was estimated. Evidence of fragmentation was not noted owing to growth primarily on vertical surfaces which did not retain fragments. Fission was also not noted, as all colonies were identified as single units of calcium carbonate deposition.

c. Rugosity

Rugosity is a measure of 3-dimensional structure defined as the ratio of chord length to surface contour length, ignores the composition of the substratum. However, owing to the vertical nature of the large majority of the subject area it is was not possible to measure rugosity using traditional methods of calculating the ratio of chord length to surface length.

d. Two-dimensional Area Cover

As noted above, water clarity throughout the majority of the survey area was limited to a maximum of several meters, owing to high concentrations of suspended particular material throughout the water column. As a result, photographs taken beyond a distance of about one meter from the subject resulted in consistently blurred images that would not have served well for post-processing to evaluate coral community abundance. Hence, photographs were not employed to estimate two-dimensional area cover, and were only used to record general views of the survey areas and to provide documentation used for species identification. Numerous photographs are included as Figures in this report to provide the reader with visuals of the somewhat unique communities and habitats under study.

e. Coral Community Statistics

Following tabulation of all colonies by size-class per sector, several indices of community structural biodiversity were calculated. These include Species Richness, which is the number of species encountered, and Swartz's Index of Species Dominance, which is the number of species that accounts for 75% of the total number of coral colonies. The Shannon-Weiner Diversity Index (H') takes into account relative abundance of species and includes both species richness and evenness. Communities with a large number of species that are evenly distributed are the most diverse and communities with few species that are dominated by one species are the least diverse. The Shannon-Weiner index is defined as:

$H' = -\sum[(n_i/N) \times \ln(n_i/N)]$, where n_i =number of colonies of species I, N = total number of colonies, and ln = natural log.

In order to calculate densities of coral colonies, the area available for colonization was estimated. The dimensional components of surface area calculations shown in Table 1 consist of: 1) the lengths of each sector; 2) average water depths (derived from hydrographic survey data provided by DOT-H); 3) the widths of each of the dredged shoreline sectors, defined as the distance from the shoreline to the bottom of the channel wall; 4) the number of column pilings along each pier face, as counted on construction drawings provided by DOT-H, and 5) the light-exposed surface area of each piling based on the length of the piling from the water surface to the Harbor floor. Field observations indicated that macro-biotic colonization (particularly of corals) occurred only on the outer facing surfaces of the column piles exposed to light. Hence, light-exposed surface area was defined as the front and two sides of each square column (note that in Section E, where pilings were not covered by a pier structure, all four sides of each column are considered light-exposed). Total surface area of each sector, and the total survey area was calculated as the product of the number of pilings and the surface area of each piling (Table 1).

2. Non-Coral Macro-invertebrate Community Metrics

As is typical in most Harbors in Hawaii, sessile macro-benthos such as sponges, mollusks, bryozoans and hydroids occurred abundantly on most light-exposed submerged surfaces. During zigzag survey swims, all observed invertebrates inhabiting the area were identified to the lowest taxonomic level, and estimates of abundance were recorded. Following investigation of each sector each observed species was assigned an abundance class of RARE (less than 10 individuals or colonies observed), COMMON (~10-50 individuals or colonies observed) and ABUNDANT (greater than 50 individuals or colonies observed). As many of the common fouling community invertebrates exist in very high abundance throughout the Harbor, and many do not have discrete individual or colonial growth forms, the classification into abundance classes rather than exact numerical estimates provides an adequate database for evaluation of community structure.

3. Algae Community Metrics

In contrast to benthic invertebrates, the results of the preliminary baseline survey indicated that algae are not an abundant colonizer of the vertical structures comprising the subject area. As a result, algal transect-quadrat surveys were not deemed necessary. In the few instances where algae was observed, species were noted as part of the coral and invertebrate assessments.

4. Fish Community Metrics

Numerical abundance of individuals by species (or lowest possible taxonomic level) was recorded along with approximate length of each individual during swims spanning the length of each survey sector. As mentioned above, owing to poor water clarity and avoidance of divers, it is likely that estimates of fish abundance are likely skewed low.

Biomass of fish was calculated using the regression equation $W=aL^b$, where W = weight (grams), L = length (cm), and a and b are species-specific constants (Schneider et. al. 2000). A graph of log W versus log L forms a straight line with a slope of b and a Y-axis intercept (log W) of log a. Invariably, b is close to 3.0 for all species. For the calculation of W in this report, L was estimated during field surveys for all fish observed, and values of a and b were taken from Fishbase.us/search.php which lists these constants for 3,584 species.

5. Incidental Sightings of Threatened and Endangered Species

Incidental sightings of protected and endangered marine mammals and reptiles were noted, along with estimates of species, size, tumors, obvious injuries and any other distinguishing markings. However, during the course of fieldwork, no marine mammals or turtles were observed.

6. Regulated and Invasive Species

Data collection included notation of regulated and introduced species, as well as candidate species for endangered status.

III. RESULTS and DISCUSSION

A. Physical Structure

All of the physical structures within the survey area consist of either man-made materials (e.g., structural composition of piers and pilings), or natural resources that have been altered by human activity in the form of dredged channel walls and shoreline shelves.

Sectors A, B and F consist of undeveloped dredged shorelines with narrow (several meters wide) flat shelves that abut the shoreline and terminate in a steep nearly vertical slope that extends to the channel floor. A consistent characteristic of these areas is a coating of fine-grained silty sediment over all non-living surfaces, although the sediment cover was substantially higher in Sectors B and F than in Sector A. In Sector A, which borders the southern side of Harbor entrance channel, a portion of the shoreline consists of large boulders that have probably been placed in the water to retard erosion of the shoreline. In Sector B, the shelf and slope structure grades into a rubble bed beyond the Sand Island Bridge. Biotic settlement in all areas of dredged shoreline, particularly settlement by stony corals, was far more prominent on the flat shelves than the slopes. Figures 7-8 show typical structural features of Sector A, while Figure 9-11 shows the shelf and slopes in Sector B.

The floor of the entire Harbor adjacent to all survey sites within Kapalama Basin consists of deposits of fine-grained silty mud that is pocked with openings from burrowing fauna. Throughout the Harbor, extensive metal and wood debris was noted on the harbor floor adjacent to piers (Figure 12). Observations of the Harbor floor throughout the survey area revealed no colonization by corals or other macro-benthos on the mud surface.

The physical structure of Sectors C, D, E, I, J, consist of square concrete pilings (0.489 m dimension of each side) that extend into the mud comprising the Harbor floor (Figure 12). Most of the surface area of the pilings not covered by living biota is encrusted with remnant mollusc shells. The coating of mollusc shell forms the settlement substratum for other invertebrates. Figures 13-20 provide views of concrete piles located in Sector C, along with typical colonizing organisms. In Sector D the vertical piles support a submerged horizontal concrete slab that supports the pier structure. As with the vertical piles, the horizontal slab is fully encrusted with remnant mollusc shells and living invertebrates (Figure 21).

Sector E consists of a matrix of approximately 180 partially submerged concrete piles extending from the shoreline (Figure 22). Exposed re-bar extending from the tops of these piles suggests that a pier was removed from the piling foundation. As a result, the submerged piles provide a relatively unique habitat in that light is not restricted within the matrix of columns as is the case on pilings overtopped by piers. Sector E contains some of the largest coral colonies within the Kapalama basin area (Figures 22-26). The seaward terminus of Sector E at the western origin of Sector F is also somewhat unique, consisting of a dredged shelf/slope region similar to areas A and B. The presence of the pilings as well as the dredged shelf and slope at the juncture of Sectors E and F results in higher structural habitat complexity than other regions of the Kapalama survey area, reflected in one of the more diverse aggregations of reef fish noted in the survey (Figure 27).

Further to the east, Sector F consists of an undeveloped dredged shoreline, although unlike Sectors A and B, the slope and shelf are nearly covered with extensive metal, wood and rubber debris (Figures 28-30).

Sectors K and L consist of solid vertical corrugated metal sheet piling that is also covered with a solid layer of remnant mollusk shells. While no quantitative measurements were conducted of suspended sediment in the water column, visibility in Sectors K and L of the Harbor appeared to be less than in the Sectors closer to Snug Harbor. The apparent lower suspended sediment loads within the water column may be a factor in the settlement and growth of an extensive array of corals and other invertebrates (Figures 33-38).

B. Biotic Community Structure

1. Coral Communities

Colonization of existing hard substratum by corals was observed throughout the survey area of Honolulu Harbor. It is generally assumed that reef-building corals require water conditions characterized by low suspended particulate loads and sediment deposition. While effects of high sedimentation are one of the most important physical stresses considered detrimental to corals, it is clear from the communities that exist within Kapalama Basin that several species of coral are able to successfully colonize habitats where high levels of suspended and settling particulate solids are typical conditions.

It was also evident that exposure to light is another important limiting factor regulating coral community structure within the Kapalama Basin and central region of Honolulu Harbor. Reef-building (hermatypic) corals by definition require light for the metabolic contribution of photosynthetic algae (zooxanthellae) that are mutualistic symbionts within coral tissues. As a result, corals, as well as most other macro-invertebrates, were generally limited to the outer facing surfaces of pilings that are exposed to direct solar insolation for at least part of the day. In addition, corals were generally limited to a vertical zone extending from about one meter below the surface of the water to a depth of approximately 6.1 m (20 feet). Above and below these boundaries, pilings were essentially devoid of coral colonization. Examination of piers and pilings under ships or other floating objects that were moored on a long-term basis revealed little or no live coral growth.

Table 2 shows results of all size-class measurements of each coral species collected at the twelve sampling sectors in the Kapalama Basin and Pier 24. Table 3 summarizes these data in terms of all species pooled within each sector. A total of 5,173 coral colonies were measured, with counts ranging from a low of 92 (Sector D) to a high of 1,201 (Sector K). Total counts in individual size classes ranged from 159 (>80≤160 cm) to 1,727 (>2≤5 cm). The number of coral species encountered within sectors ranged from 4 (Sector B) to 9 (Sector K). Shannon-Wiener diversity indices ranged from 0.67 (Sector C) to 1.61 (Sector K) (Table 3). Swartz's Species Dominance, defined as the number of species that account for 75% of the colonies, ranged from 1 (Sector F) to 4 (Sectors K) (Table 3). The peak number of colonies, highest diversity (H') and Swartz's Species Dominance in Sector K indicates that the sheet-piling comprising the submerged surface in this area provides the most suitable settling habitat for the largest number of corals.

Eleven species of coral were encountered over the course of the survey. Size-class counts of colonies in each sector are shown for eight species in Table 4 (3 species had observations of less than 5 colonies). Pooled data for each species in each size-class is shown in Table 5. When all sectors are pooled, the species with the most colonies is *Pocillopora damicornis* (1,840), followed by *Leptastrea purpurea* (1,497) and *Porites lobata* (1,039). These three species account for about 85% of the total observed colonies. *Pocillopora damicornis*, which occurs in a finely branching growth form, is restricted to habitats with limited wave stress. In Hawaii, such areas are primarily wave-protected embayments, where sedimentation is often high. The proliferation of this species throughout every sector of Kapalama Basin indicates that this species is indeed adapted to high sediment areas. In particular, the large coalescing colonies occurring on the dredged platform of Sector B are likely one of the densest populations, along with the largest colonies of this species found on Oahu (Figures 10-

11). Many of the large coalesced colonies of *P. damicornis* were observed with dead patches encrusted with calcareous algae. However, these areas also contained multiple small colonies that were either remaining living remnants or new recruits on available hard substratum (Figure 10).

The second most abundant species was *Leptastrea purpurea*, which occurs within the Harbor as small generally round or oval shaped encrustations (Figures 21 and 39). All colonies observed were less than 20 cm in longest diameter (Table 3). Few of the smaller size-classes of both *P. damicornis* and *L. purpurea* exhibited signs of sediment damage.

The third most abundant coral species, *Porites lobata*, is generally considered the most abundant coral on Hawaiian reefs. *Porites lobata* occurred in every sector within Kapalama Basin (as did *P. damicornis*). Within sectors A, B, and C, the growth form of *P. lobata* was restricted to small encrusting lobed colonies below 20 cm in dimension (Figure 8). In sectors E through K, however, large multi-lobed colonies of *P. lobata* were common on column piles and sheet-piling (Figures 25 and 35). Typically these large colonies of *P. lobata* contained areas covered with accumulated sediment with no living tissue underneath.

The fourth and fifth most abundant corals were *Montipora patula* and *M. capitata*. While these two species were sparse in occurrence in sectors B and C, they were both abundant in sectors E and K, occurring on vertical pilings often as expansive growth forms of thin overlapping plates. Such an overlapping growth form is likely an adaptation to maximize exposure to available light (Figures 22, 23, 24, 33 and 34). Without exception, these large plating colonies contained areas of sediment accumulation abutting healthy seemingly unaffected live tissue. In many cases, colonies of both species of *Montipora* occurred on the same piling, with touching colony margins. Similar growth forms of *Montipora* spp. have been observed by the author in other Harbor environments in Hawaii, particularly Kahului and Hana Harbors on Maui.

Other corals observed in the Kapalama Basin area are *Pavona varians*, with a growth form consisting of flat encrustations. *Pavona varians* occurred primarily on the sheet-piling of Sector K (Figure 37). *Porites compressa*, commonly referred to as "finger coral" is often one of the most abundant corals in wave-sheltered Hawaiian environments and on deep reef slopes. Only three colonies of *P. compressa* were observed in Kapalama Basin, all occurring in Sector D (Figure 36). One colony each of *Porites monticulosa* (Figure 37) and *Pocillopora eydouxi* were observed throughout the study area, both of which occurred in Sector K (Figure 38).

As the census of coral colony distribution comprised the entire surface area available for settlement, it was possible to calculate the density of coral colony occurrence in each survey sector (Table 6). Coral densities, defined as colonies per square meter (col m^{-2}) of available substratum provide a normalized index that can be used to compare distribution within both sectors and size classes. The overall density of coral for the entire survey area was 0.362 col m^{-2}. With respect to sectors, colony density ranged from 0.124 col m^{-2} in Sector E to 0.983 col m^{-2} in Sector F. With respect to size-class, density ranged from 0.011 col m^{-2} for the $>80\leq160$ cm class (there were no corals observed in the >160 m class) to 0.121 colonies in the $>2\leq5$ cm class. As with the number of colonies, the lowest density of corals occurs in the three largest size classes (Table 6).

In addition to measuring the long axis of each coral colony, qualitative notation of growth form was also a component of the survey. After noting growth forms during the initial surveys, it quickly became apparent that each species assumed a specific growth form that remained consistent throughout the survey. To this effect, it can be stated that *Pocillopora damicornis* always occurred in a hemisphere of fine branches; *Leptastrea purpurea* always occurred as circular or oval flat encrustations seldom larger than 10 cm; *Porites lobata* always occurred in rounded lumpy mounds, while *P. compressa* always occurred as amalgamated branching masses. *Montipora* spp. assumed the most plastic of growth forms with small colonies under 20 cm generally occurring as flat encrustations and larger colonies assuming combinations of overlapping plates, flat patches, and spires, often with all growth forms occurring on the same colony. Hence, there were no species that occurred in distinctly different growth forms.

A consistent characteristic of nearly every colony larger than approximately 20 cm was an area of deposited sediment with no underlying living tissue. As the number of such colonies would be in the thousands, a listing of the percentage of sediment cover for each colony was beyond the scope of the survey. Percentage cover of sediment ranged from less than 1% on some of the smaller corals to on the order of 90% on some of the larger corals. There were no observations of distinctly bleached coral or coral disease. Apparently healthy tissue abutted areas of sediment deposition with no harmful effect. Several of the larger heads of *Porites lobata* contained numerous white marks, but it was judged that these were the result of fish grazing rather than disease.

Part of the coral community assessment included a qualitative evaluation of Piers 24-28 which are proposed as areas where commercial operations that presently occupy Piers 40-42 will relocate. Qualitative surveys of these areas revealed some very different community structure than observed in the Kapalama Basin area. In particular, the pilings comprising Piers 24 and 26 contained skeletal remains of large colonies that were either completely or partially devoid of living tissue (Figures 40-42). The occurrence of these large dead colonies suggests that either there has been at least one event of sediment input and deposition of sufficient magnitude to completely overwhelm coral defense mechanisms, or that these areas were the locations of long-term mooring of vessels which restricted light for a period sufficient to result in complete mortality.

Also observed during the qualitative investigation was an area of the end of Piers 27-28 consisting of a dredged section of shallow reef platform. Large boulders on the edge of the platform provide a complex habitat for reef fish and coral settlement (Figure 45). The dredged edges of the platform provide a habitat for extensive growth of corals including large hemispherical colonies of *Porites lobata*, and vertical sheets of overlapping plates of *Montipora* spp. (Figures 46-47). The Harbor floor off the end of Piers 27-28 also consisted of a more solid sand-mud substratum than the silt-mud found elsewhere throughout the Kapalama Basin. Water clarity in this area was also noticeably higher than in the Kapalama region. Hence, the combination of physical factors of abundant substratum and enhanced water quality result in a richer biotic community off the end of Piers 27-28 than anywhere else in the survey area.

Of particular interest are the observations that in several survey areas there were skeletal remains of large colonies some of which contained what appeared to be new recruits, and some of which were completely devoid of coral. Such colonies were apparent for large colonies of *P. damicornis* at Sector B (Figure 10) and *Montipora* spp. at Pier 26 (Figures 40-42). The relevance of these observations is that while the age of construction of original pier structures may be determined, it cannot necessarily be assumed that the ages of the colonizing coral community is commensurate. It is apparent from the existence of large, but completely dead skeletal remains that episodic events have occurred throughout the harbor that elevated stress levels to the point of complete mortality of living communities. Such catastrophic stresses typically occur on naturally occurring reefs in Hawaii, primarily through destructive forces of hurricanes or other severe wave events. Similar effects may occur within the Harbor when flood conditions deliver sediment loads to the Harbor which overwhelm physiological defenses.

At present, the Center for Biological Diversity is petitioning the National Oceanographic and Atmospheric Administration (NOAA) to list 82 species of reef building corals as endangered species. Contained in this list are two species that were observed during the Kapalama Basin surveys. Four hundred thirty six colonies of *Montipora patula* were counted, comprising about 8.4% of the total number of colonies. *Montipora patula* is only of the most common corals observed throughout Hawaii on naturally occurring reefs. The other species listed that was observed was *Cyphastrea ocellina*. While *M. patula* was commonly observed throughout the Harbor, often occurring in large colonies, only five colonies of C. *ocellina* were encountered, all of which were less than 5 cm in longest dimension.

In summary, census of size-classes of species abundance provides a comprehensive depiction of the coral community structure within the hard substratum areas of Kapalama Basin where re-development activities are planned. These data, including abundance, diversity and density provide a quantitative analysis that portrays the coral community within Kapalama Basin. While all species occurring in the area must be considered resistant to high loading of particulate material, it is apparent that individual coral species are adapted to particular sub-zones of physical conditions. In particular, *Pocillopora damicornis* proliferates on the dredged channel shelves of Sectors B and F, while large overlapping plating colonies of *Montipora* spp. thrive on the vertical surfaces of pilings on west-facing piers (Sectors E and K). Conversely, east facing piers C and I had relatively few large colonies.

<u>2. Non-Coral Macro-Invertebrate Communities</u>

Of Hawaii's invertebrates that have established communities in marine and brackish waters, 301 species are introduced (non-native) while 117 are cryptogenic (unknown origin) (Carlton and Eldredge 2009). This is particularly relevant to Hawaiian harbors, where shipping and fouling are the penultimate cause of invasive species growth on pilings and hull bottoms. Other sources of fouling are from ballast water and solid ballast taken on by ships. These species originated largely from the Indo-Pacific region, but also from the tropical western Atlantic and Caribbean regions (R. DeFelice, L. Eldredge and J. Carlton 2001).

Kapalama Basin is characterized by a high density of sponges, tunicates, bivalves and bryozoans. Forty-five species of non-coral macro-invertebrates were identified in the Kapalama Basin surveys, including 20 sponges, 4 tunicates, 5 bryozoans, 5 annelids, 5 molluscs, 2 echinoderms and 2 arthropods (Table 7). Of the 45 species, 15 are identified as Introduced species (Table 7) (Staples

and Cowie 2001). Overall, invertebrates were far more abundant on the piers and pilings than on the dredged shorelines of Sectors A and B.

Abundance and diversity of sponges was highest with 10 species classed as "Abundant." At least one these Abundant species occurred in every survey sector. The red encrusting sponge *Porbus amaranthus* was present in every sector of the harbor, where it occurred in larger colonies on pilings and smaller colonies on rock outcroppings (Table 5, Figure 15). The sponges *Leucetta* sp., *Mycale armata* and *Zygomycale parishii* were also commonly cited on the cement pilings. *Liosina paradoxa* formed large colonies, which were abundant in Sectors A- D, but was not recorded after this sector. *Sigmadocia* sp., *Chalinula* sp., *Dysidea* sp. and *Suberites zeteki* were very common, with small to medium colonies present on hard substrates throughout the survey.

Tunicates were the next most abundant group if invebrates, with the black sea squirt *Phallusia nigra*, the solitary ascidian *Herdmania momus*, and the gray sea squirt *Ascidia sydneiensis* occurring in large numbers throughout the sectors composed of pilings (Figures 13-20 show representative invertebrate species observed in Snug Harbor). Of note was the relative lack of living molluscs with only 3 species occurring abundantly. As noted above, virtually all of the exposed hard surfaces were encrusted with a layer of dead mollusc shells, although the living component of this class was very small. Also of note was the common occurrence of the banded coral shrimp *Stenopis hispidis*, which were routinely observed on large coral colonies.

Descriptive comparisons between sectors offer insight to the value of these harbor invertebrates and habitat function. Overall, the cement piling substratum showed little variation between sectors and sustained very high densities of macro-invertebrates, even with the layers of thick sedimentation. Sectors A, B, F, and G were habitats characterized by extensive sediment deposition on narrow rocky shelves and slopes, and typically contained smaller, compact colonies of sessile macroinvertebrates and lower abundances of macrofauna compared to vertical pilings. *Sabellastarte spectabilis* (Featherduster worms) were present in nearly every sector, but most prominent in rock outcroppings of these habitats.

<u>3. Algal Communities</u>

In contrast to invertebrates which occurred throughout the area of study, frondose algae were surprisingly scarce at all survey locations. Only three species of algae were observed, the most common of which was *Dictyosphaeria cavernosa*. Two small areas of *D. cavernosa* were observed, one on a concrete pile in Sector C, and the other on the sheet-piling of Sector K (Figure 38). The two other species observed were *Dictyota* sp. and *Codium edule*, both in Sector C. It is apparent that physical conditions within Honolulu Harbor are not conducive to algal growth.

While algal growth was essentially absent from the reef at the juncture of Piers 27 and 28, a small patch of the Hawaiian seagrass *Halophila hawaiiana* was observed on the harbor floor adjacent to the dredged channel wall (Figure 48). Halophila occurs as pairs of leaves on petioles along a continuous rhizome rooted in the sand. While this area was not within the region of quantitative surveys the patch of *H. hawaiiana* was estimated to be approximately 5 meters in longest dimension, with approximately 100 emergent leaf pairs per square meter. This was the only occurrence of the seagrass noted in the survey.

4. Fish Communities

While the fish assemblages found in Kapalama basin include species that are typical of Hawaiian reef ecosystems, there was substantial variability in both the number of species and individuals observed within different sectors of the survey area. A total of 1,902 individuals were counted comprised of 39 species (Table 8). When several large schools (~500 individual per school) of goldspot sardines (*Herklotsichthys quadrimaculatus*) that were observed transiting several of the survey areas are not included, the fish count is 902 individuals.

Overall, numbers of fish observed in sectors composed of concrete piles (C, E, I, J) were lower than counts on sectors consisting of dredged shorelines. Fish were most abundant in the "reef" area off the end of Pier 28, where 198 individuals were counted distributed between16 species (Table 8). Fish and corals flourished in this area, making it the region within the Harbor survey area most closely resembling a "natural" reef. Within the Kapalama Basin area, the largest numbers of fish were observed in Sectors B (149) and G (250). The lowest number of fish were observed in Sectors D(2), J (17) and L (17). The low numbers in sectors J and L are likely a result of the short span of the sectors.

The most frequently observed fish within Kapalama Basin (other than *H. quadrimaculatus*) was the ring-tailed surgeonfish (*Acanthurus blochii*) which occurred in all sectors (Table 9). Other common surgeonfish included the convict surgeonfish (*Acanthurus triostegus*) and the yellow tang (*Zebrasoma flavescens*). The Hawaiian whitespotted toby (*Canthigaster jactator*), the damselfish *Dasyllus ablisella*, were observed frequently at nearly every survey site. Of the butterflyfish, the threadfin butterflyfish (*Chaetodon auriga*) and raccoon butterflyfish (*Chaetodon lunula*) were the most frequently observed. Several barracuda (*Sphyraena barracuda*) were observed among the pilings of Sectors C, D and I.

Biomass of fish encountered during surveys by species in each sector are shown in Table 10 and summarized in Table 11. Total biomass for the entire project site is estimated at 97,652 g, with the highest biomass in Sector G (20,979 g), and the lowest in Sector D (21g) (Table 11). In terms of species, biomass ranged from 9 gm for *Chromis hanui* (Hawaiian bicolor chromis), with only a single individual encountered to 17,440 g for the 200 individuals of *Kuhlia xenura* (aholehole). Six species had biomass less than 100 g, 16 species had total biomass between 100 and 1,000 g, 13 species were between 1,000 and 10,000 g, while 3 species had biomass greater than 10,000 g.

Biomass density (biomass per square meter) was calculated at the total biomass per sector divided by the surface area of each sector as shown in Table 1 (Table 11). Biomass density ranged from 29.9 g/m^2 in Sector G to 0.18 g/m^2 in Sector A.

It is important to note that the entire survey area is a restricted access zone and likely experiences little or no direct fishing pressure, although fishing does occur in neighboring areas. Hence the fish communities observed are not likely substantially affected by direct fishing pressure at the site of the proposed Container Terminal. As a result, community structure is the area of the proposed redevelopment is largely in response to physical conditions. Only two areas observed were considered preferable habitats with relatively high densities of reef fish (off the end of Sectors E and

F), and off the end of Piers 27-28. In both of these areas, habitat consisted of a reef shelf and slope. None of the pilings observed in this study could be considered preferred habitats for reef fish.

The fish species found in Kapalama basin are typical of Hawaiian reef and harbor habitats. The harbor provides a three-dimensional structured habitat for the fish, noticeable in areas of dredged shorelines and associated debris fields and coral structures. Few or no fish were observed on the mud/silt habitats of the harbor floor. The most abundant fish communities were observed in the vicinity of the juncture of Piers 27 and 28, where structural composition of the channel floor most closely resembled natural reef. No construction action is currently proposed for the area at the terminus of Piers 27 and 28 where the most well developed reef structures occur.

5. Incidental Sightings of Threatened and Endangered Species

Several species of marine animals that occur in Hawaiian waters have been declared threatened or endangered by Federal jurisdiction. The threatened green sea turtle (*Chelonia mydas*) occurs commonly throughout the Hawaiian Islands, and are frequently observed throughout the south shore of Oahu. The endangered hawksbill turtle (*Eretmochelys imbricata*) is known infrequently from Hawaiian waters. No green sea or hawksbill turtles were observed during the course of underwater surveys within Kapalama Basin or the central area of Honolulu Harbor.

Populations of the endangered humpback whale (*Megaptera novaeangliae*) winter in the Hawaiian Islands from December to April. The present survey was conducted in June and July when whales are absent from Hawaiian waters. During the season when present, humpback whales, as well as other cetaceans may occasionally enter the Harbor. The Hawaiian monk seal, (*Monachus schauinslandi*) is an endangered earless seal that is endemic to the waters off the Hawaiian Islands. Monk seals commonly haul out of the water onto sandy beaches to rest. No seals were observed during survey work, and there are no beaches within the survey area that could serve as haul-out sites.

6. Regulated and Invasive Species,

The State of Hawai'i Department of Land and Natural Resources (DLNR) Division of Aquatic Resources lists a variety of "regulated" marine fishes and invertebrates. Marine invertebrates include primarily species valued as food sources, including abalone, various clams and oysters, crabs, shrimp, lobsters, and sea urchins (for complete list and scientific names of regulated species, see http://hawaii.gov/dlnr/dar/regulated_fish_names.html. No commercial or recreational fishing operations occur in the survey area.

The only regulated species within the Kapalama Basin observed during surveys were several fish, including a school of aholehole (*Kuhlia xenura*), parrotfish (*Scarus psittacus*) and a single papio (*Caranx melamphygus*). With regard to invertebrates, the only listed species observed was a single octopus (*Octopus cyanea*) and several sea urchins *Echinothrix diadema*. It is possible that burrows noted within the sediment floor of the basin may be from shrimp (\`opae); however, no individuals were observed.

As noted above, of the 418 introduced and cryptogenic species, 15 introduced species were identified during the surveys in Kapalama Basin and central Honolulu Harbor as part of the fouling communities on piers and pilings.

IV. CONCLUSIONS

Quantitative and qualitative results of field investigations of the areas of Honolulu Harbor that are proposed for re-development under the proposed Kapalama Container Terminal reveal a varied array of habitats, each with characteristic biotic composition. The varied community structure is likely a result of varied species physiological tolerances to sub-optimal physical condition, particularly sediment and light availability.

The *in-situ* census of marine organisms assembled during for this assessment provide a data base of coral, other macro-invertebrates and fish distribution throughout the potential impact area. Other functional attributes, such as recruitment and contribution to topographic complexity may be extracted from the data base in order to assess the recovery potential of the area. Abundance, form and size are basic parameters for determining size and age structure of coral communities. While the entirety of vertical substratum of the area is man-made and of known age, caution should be exercised when projecting age-population structure based on age of substratum.

The proposed actions will result in complete loss of existing hard substratum habitat occupied by existing invertebrate and fish assemblages. However, replacement of the existing structures will likely result in similar man-made habitats which will afford the same opportunity for settlement and growth. Dredging may temporarily increase sediment loading to the water column which will disperse with current and tidal flow. As noted at all areas throughout the survey, suspended and deposited sediment are a dominant component of the harbor habitats. As harbor communities are thus pre-adapted to sediment stress, the potential indirect impacts to biotic communities that are left in place during the re-development will likely not be as severe as it would be to communities that do not develop in an environment characterized by consistently high sediment.

V. REFERENCES CITED

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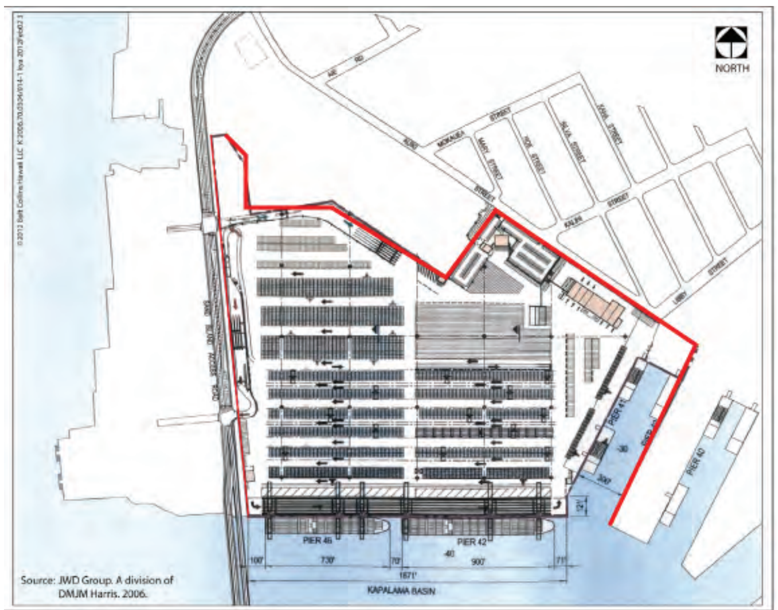

FIGURE 1. Proposed design plan of Kapalama Container Terminal, Honolulu Harbor, Hawaii. Red line delineates boundaries of proposed Kapalama Container Terminal. Proposed configuration includes filling in of existing berthing area of Snua Harbor. construction of new Piers 42 and 46. and modification of Piers 40 and 41.

FIGURE 2. Aerial photograph of Kapalama Basin section of Honolulu Harbor showing survey sectors for A-L used in assessing marine biological composition.

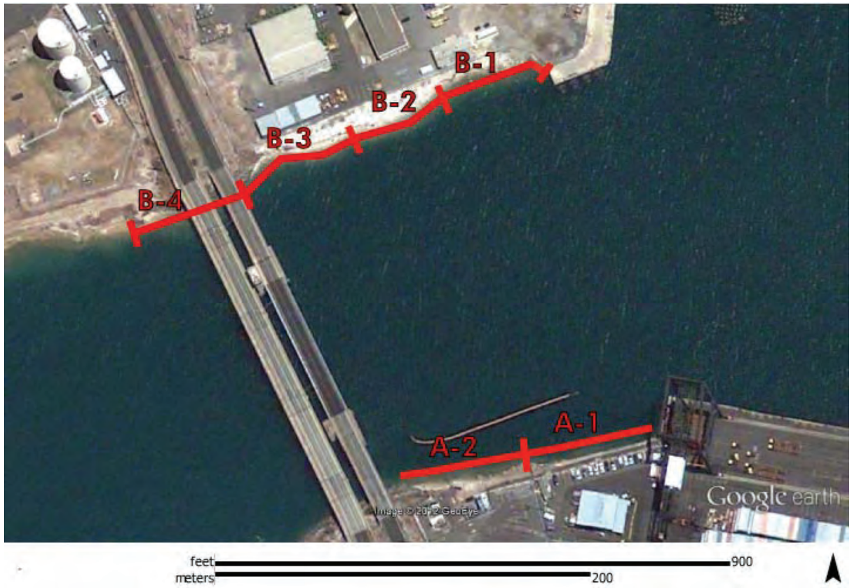

FIGURE 3. Locations of sampling areas A and B along the dredged shorelines on the south and north sides of the Kapalama Basin entrance channel to Honolulu Harbor. For location of area relative to entire survey region of Kapalama Basin, see Figure 1.

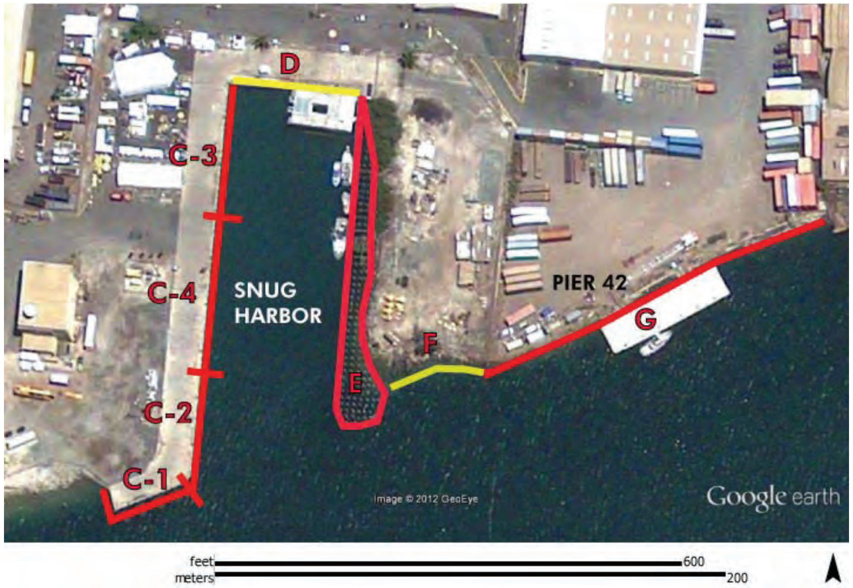

FIGURE 4. Locations of sampling areas C through G along Snug Harbor and Pier 42 adjacent to Kapalama Military Reservation. For location of area relative to entire survey region of Kapalama Basin, see Figure 1.

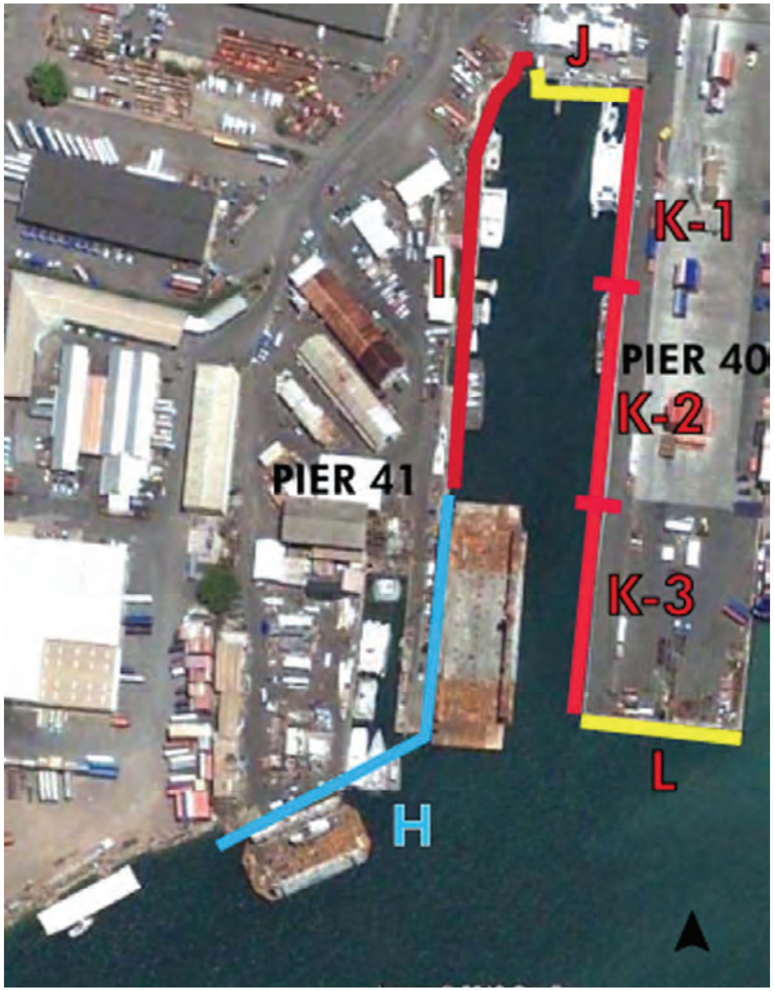

FIGURE 5. Locations of sampling sections H through L along Piers 40 and 41 adjacent to Kapalama Military Reservation. Section H, shown in blue, was not surveyed owing to permanent mooring of dry docks and other vessels along entire pier frontage. For location of area relative to entire survey region of Kapalama Basin, see Figure 1.

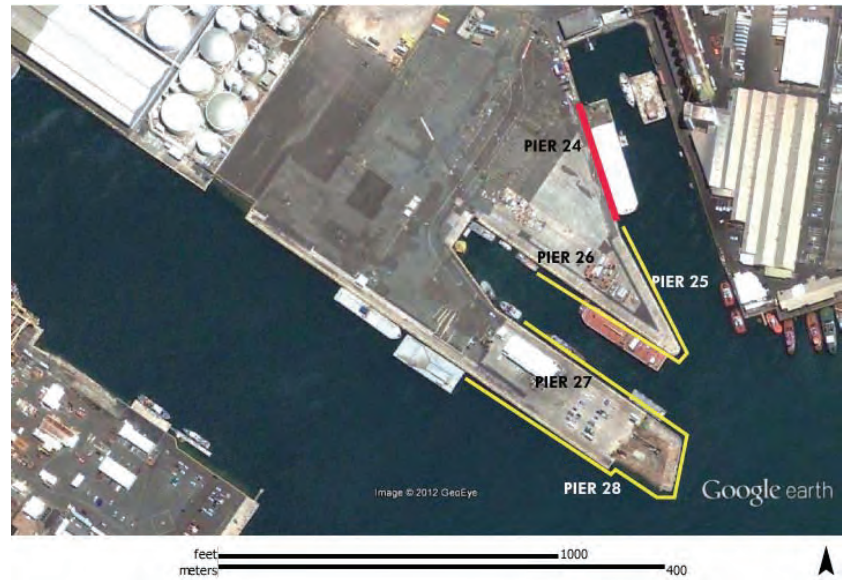

FIGURE 6. Aerial photograph of central portion of Honolulu Harbor showing Piers 24-28. Area depicted by red line is proposed mooring site of Pacific Shipyards Dry Dock. This area was quantitatively evaluated for coral abundance similar to survey area in Kapalama Basin. Piers 25-28, shown in yellow, were qualitatively described.

TABLE 1. Latitude and longitude of start and end, and linear length of each survey sector in Kapalama Basin and Pier 24, Honolulu Harbor. Linear width is distance from shoreline to channel wall on sectors with reef shelf. "Pilings" is count of column piles on outer edge of piers. Piling area is area of each submerged piling exposed to light. Sheet indicates solid sheet piling. Surface area is available substratum available for coral settlement in terms of reef shelves or exposed piling surfaces. For locations of survey sectors, see Figures 3-6.

SURVEY SECTOR		LATITUDE deg min	LONGITUDE deg min	LINEAR LENGTH (m)	LINEAR WIDTH (m)	WATER DEPTH (m)	PILINGS (number)	PILING AREA (m^2)	SURFACE AREA (m^2)
A-1	START	21° 18.844'	157° 53.166'	71	8				568
	END	21° 18.832'	157° 53.207'						
A-2	START	21° 18.832'	157° 53.207'	64	7				448
	END	21° 18.823'	157° 53.246'						
B-1	START	21° 18.942'	157° 53.201'	60	8				480
	END	21° 18.935'	157° 53.233'						
B-2	START	21° 18.935'	157° 53.233'	60	10				600
	END	21° 18.925'	157° 53.258'						
B-3	START	21° 18.925'	157° 53.258'	60	8				480
	END	21° 18.910'	157° 53.293'						
B-4	START	21° 18.910'	157° 53.293'	74	9				666
	END	21° 18.897'	157° 53.329'						
C-1	START	21° 18.944'	157° 53.200'	38		8.5	15	12	181
	END	21° 18.944'	157° 53.182'						
C-2	START	21° 18.944'	157° 53.182'	42		8.5	16	12	200
	END	21° 18.968'	157° 53.179'						
C-4	START	21° 18.968'	157° 53.179'	63		7.9	24	12	279
	END	21° 19.000'	157° 53.176'						
C-3	START	21° 19.000'	157° 53.176'	49		8.8	19	13	242
	END	21° 19.028'	157° 53.173'						
D	START	21° 19.028'	157° 53.173'	49		7.6	19	11	209
	END	21° 19.025'	157° 53.144'						
E	START	21° 19.025'	157° 53.144'	125	10	7.6	180	11	2736
	END	21° 18.955'	157° 53.146'						
F	START	21° 18.963'	157° 53.139'	41	10				410
	END	21° 18.967'	157° 53.115'						
G	START	21° 18.967'	157° 53.115'	142		8.8	55	13	702
	END	21° 18.993'	157° 53.056'						
I	START	21° 19.095'	157° 52.973'	214		7.9	82	12	949
	END	21° 19.185'	157° 52.953'						
J	START	21° 19.185'	157° 52.953'	58		9.1	sheet		528
	END	21° 19.192'	157° 52.920'						
K-1	START	21° 19.192'	157° 52.920'	98		9.7	sheet		951
	END	21° 19.142'	157° 52.926'						
K-2	START	21° 19.142'	157° 52.926'	109		10.7	sheet		1166
	END	21° 19.083'	157° 52.932'						
K-3	START	21° 19.083'	157° 52.932'	98		10.7	sheet		1049
	END	21° 19.029'	157° 52.936'						
L	START	21° 19.029'	157° 52.936'	77		10.7	sheet		824
	END	21° 19.024'	157° 52.893'						
P-24	START	21° 18.704'	157° 52.229'	108		10.1	42	15	613
	END	21° 18.648'	157° 52.212'						
TOTAL AVAILABLE SURFACE AREA FOR CORAL SETTLEMENT									14,281

TABLE 2. Counts of coral colonies according to size classes on survey sectors in Kapalama Basin and Pier 24. Only coral species occurring in each sector are shown for that sector. Species marked with an "*" are presently petitioned to be included under the Endangered Species Act. For location of sectors, see Figures 2-

SECTOR A-1	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites compressa					1				1
Porites lobata	4	37	21	1					63
Pocillopora meandrina				1					1
Pocillopora damicornis	13	26	31	2					72
Montipora capitata		6	5	1	4				16
*Montipora patula**	3	3	2	7	2				17
Leptastrea purpurea	10	17							27
Pavona varians		3	2						5
TOTAL	30	92	61	12	7	0	0	0	202

SECTOR A-2	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata	12	53	14	9					88
Pocillopora meandrina		1							1
Pocillopora damicornis	21	43	25	2					91
Montipora capitata		12	17	12	2				43
*Montipora patula**	2	4	12	8	6				32
TOTAL	35	113	68	31	8	0	0	0	255

SECTOR B-1	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata	14	12	3	11					40
Pocillopora damicornis	3	12	17	34	47	35		21	169
Leptastrea purpurea		1							1
TOTAL	17	25	20	45	47	35	0	21	210

SECTOR B-2	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata	25	10							35
Pocillopora damicornis	16	18	13	17	7	2			73
Leptastrea purpurea	1	1							2
TOTAL	42	29	13	17	7	2	0	0	110

SECTOR B-3	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata	4	2							6
Pocillopora damicornis	8	6	5		1				20
Montipora capitata		2							2
TOTAL	12	10	5	0	1	0	0	0	28

TABLE 2. Cont. (2)

SECTOR B-4	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata	3								3
Pocillopora damicornis	14	10	8	3					35
Montipora capitata				1					1
TOTAL	17	10	8	4	0	0	0	0	39

SECTOR C-1	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata	2	2		4		2			10
Pocillopora meandrina		1							1
Pocillopora damicornis		6	10	1					17
Montipora capitata				1	1				2
*Montipora patula**					1				1
Leptastrea purpurea	1	2							3
TOTAL	3	11	10	6	2	2	0	0	34

SECTOR C-2	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata			1						1
Pocillopora damicornis		4	9	8					21
Montipora capitata		1							1
Leptastrea purpurea	18	8							26
TOTAL	18	13	10	8	0	0	0	0	49

SECTOR C-3	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata		2	2	1					5
Pocillopora damicornis	1	14	16	1					32
*Montipora patula**	1	1	2						4
Leptastrea purpurea	171	132	30						333
TOTAL	173	149	50	2	0	0	0	0	374

SECTOR C-4	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata		1	4						5
Pocillopora damicornis	2	1	10	6					19
Montipora capitata			1						1
*Montipora patula**		4	2	1					7
Leptastrea purpurea	64	92	5						161
TOTAL	66	98	22	7	0	0	0	0	193

Table 2. cont. (3)

SECTOR D	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata			4						4
Pocillopora damicornis	2	2	5						9
Montipora capitata				1	1	2	1		5
*Montipora patula**		1	1		1				3
Leptastrea purpurea	16	54							70
*Cyphastrea ocellina**	1								1
TOTAL	19	57	10	1	2	2	0	0	91

SECTOR E	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata		5	6	7	7	8	3		36
Pocillopora damicornis	16	29	67	57	14	1			184
Montipora capitata		4	12	6	4	14	24		64
*Montipora patula**		2	1	8	2	10	12		35
Leptastrea purpurea	5	9							14
*Cyphastrea ocellina**	2	2							4
Pavona varians			1	1					2
TOTAL	23	51	87	79	27	33	39		339

SECTOR F	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Pocillopora meandrina		1							1
Pocillopora damicornis	42	40	94	131	25	2			334
Montipora capitata		16	4	3	3	1	1	0	28
*Montipora patula**		7	11	4	2	1			25
Leptastrea purpurea	1	2							3
Pavona varians				1					1
TOTAL	43	66	109	139	30	4	1	0	392

SECTOR G	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata	6	46	38	10	3	11	2	0	116
Pocillopora meandrina			1	4					5
Pocillopora damicornis	12	64	107	205	5				393
Montipora capitata		2	9						11
*Montipora patula**		5	14	1	1	1			22
Leptastrea purpurea	12	12							24
Pavona varians			1		2				3
TOTAL	30	129	170	220	11	12	2	0	574

Table 2. cont. (4)

SECTOR I	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata		7	31	192	8	2			240
Pocillopora meandrina			2						2
Pocillopora damicornis		8	24	16					48
Montipora capitata		1		1	1				3
*Montipora patula**			1	14	1	7			23
Leptastrea purpurea	29	32	111						172
TOTAL	29	48	169	223	10	9	0	0	488

SECTOR J	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata	20	48	16	2	1	2	1		90
Pocillopora damicornis	4	10	5						19
Montipora capitata			4	5	5	1	2		17
*Montipora patula**		26	3	3	1	1	1		35
Leptastrea purpurea	2	112	9						123
TOTAL	26	196	37	10	7	4	4	0	284

SECTOR K-1	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites compressa						1			1
Porites lobata		7	11	9	13	7	11		58
Pocillopora meandrina		2	1						3
Pocillopora damicornis	3	18	2	3	3	2			31
Montipora capitata		1	1	1	3	4	2		12
*Montipora patula**				2	5	4	6		17
Leptastrea purpurea	35	255	11						301
TOTAL	38	283	26	15	24	18	19	0	423

SECTOR K-2	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites compressa							2	0	2
Porites lobata		3	89	22	21	8	8		151
Pocillopora damicornis	12	91	4	1					108
Montipora capitata		1	3	1	6	9	21		41
*Montipora patula**		3	4	13	14	11	7		52
Leptastrea purpurea	16	63	2						81
Cyphastrea ocellina		1							1
Pavona varians			2	1	3	2	1		9
TOTAL	28	162	104	38	44	30	39	0	445

Table 2. cont. (5)

SECTOR K-3	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata		4	9	11	16	6	5		51
Porites duerdeni									0
Porites monticulosa							1		1
Pocillopora eydouxi				1					1
Pocillopora damicornis	8	56	10	5	2				81
Montipora capitata				4	6	12	3		25
*Montipora patula**			9	13	42	38	18		120
Leptastrea purpurea	6	21	3						30
*Cyphastrea ocellina**									0
Pavona varians			3	13	4	4			24
TOTAL	14	81	34	47	70	60	27	0	333

SECTOR L	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata			3	2	3	3	2		13
Pocillopora damicornis	22	52	4						78
Montipora capitata			1	1					2
*Montipora patula**			5	6	10	12	4		37
Leptastrea purpurea	2	6							8
Pavona varians						2			2
TOTAL	24	58	13	9	13	17	6	0	140

SECTOR P-24	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata	1	3	3	4	1	1			13
Pocillopora meandrina			1						1
Pocillopora damicornis			4		1				5
Montipora capitata			1	3	2	3			9
*Montipora patula**			1		3	2			6
Leptastrea purpurea	13	42	46	17					118
Pavona varians				4	2				6
TOTAL	14	45	56	28	9	6	0	0	158

TABLE 3. Summary counts of total coral colonies of all species combined by size class on survey sectors in Kapalama Basin and Pier 24. Also shown are the percentage of total coral colonies from each sector, number of species per sector (Sp. #), Shannon-Wiener diversity index for total colony counts per species per sector (H'), and Swartz's Species Dominance (SSD) for each sector. For location of sectors, see Figures 2-6.

	SIZE CLASS (cm)													
SECTOR	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL	TOTAL	% TOT.	Sp. #	H'	SSD
A-1	30	92	61	12	7	0	0	0	202	457	8.83	8	1.48	3
A-2	35	113	68	31	8	0	0	0	255					
B-1	17	25	20	45	47	35	21	0	210	387	7.48	4	0.69	2
B-2	42	29	13	17	7	2	0	0	110					
B-3	12	10	5	0	1	0	0	0	28					
B-4	17	10	8	4	0	0	0	0	39					
C-1	3	11	10	6	2	2	0	0	34	650	12.57	6	0.67	2
C-2	18	13	10	8	0	0	0	0	49					
C-3	173	149	50	2	0	0	0	0	374					
C-4	66	98	22	7	0	0	0	0	193					
D	19	57	10	1	2	2	1	0	92	92	1.78	6	0.89	2
E	23	51	87	79	27	33	39	0	339	339	6.55	7	1.33	3
F	43	67	112	144	32	4	1	0	403	403	7.79	7	0.68	1
G	30	129	170	220	11	12	2	0	574	574	11.10	7	0.98	2
I	29	48	169	223	10	9	0	0	488	488	9.43	6	1.14	2
J	26	196	37	10	7	4	4	0	284	284	5.49	5	1.33	2
K-1	38	283	26	15	24	18	19	0	423	1201	23.22	9	1.61	4
K-2	28	162	104	38	44	30	39	0	445					
K-3	14	81	34	47	70	60	27	0	333					
L	24	58	13	9	13	17	6	0	140	140	2.71	6	1.18	2
P-24	14	45	56	28	9	6	0	0	158	158	3.05	7	0.98	2
TOTAL	701	1727	1085	946	321	234	159	0	5173	5173	100			

TABLE 4. Summary counts of coral colonies for eight most abundant species at each survey sector in the vicinity of Kapalama Basin and Pier 24. Species marked with an "*" are presently petitioned to be included under the Endangered Species Act. For locations of survey sectors, see Figures 2-6.

SPECIES	SIZE CLASS (cm)								
Porites lobata	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
A-1	4	37	21	1					63
A-2	12	53	14	9					88
B-1	14	12	3	11					40
B-2	25	10							35
B-3	4	2							6
B-4	3								3
C-1	2	2		4		2			10
C-2			1						1
C-3		2	2	1					5
C-4		1	4						5
D			4						4
E		5	6	7	7	8	3		36
F		1	3	5	2				11
G	6	46	38	10	3	11	2		116
I		7	31	192	8	2			240
J	20	48	16	2	1	2	1		90
K-1		7	11	9	13	7	11		58
K-2		3	89	22	21	8	8		151
K-3		4	9	11	16	6	5		51
L			3	2	3	3	2		13
P-24	1	3	3	4	1	1			13
TOTAL	91	243	258	290	75	50	32	0	1039

SPECIES	SIZE CLASS (cm)								
Pocillopora damicornis	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
A-1	13	26	31	2					72
A-2	21	43	25	2					91
B-1	3	12	17	34	47	35	21		169
B-2	16	18	13	17	7	2			73
B-3	8	6	5		1				20
B-4	14	10	8	3					35
C-1		6	10	1					17
C-2		4	9	8					21
C-3	1	14	16	1					32
C-4	2	1	10	6					19
D	2	2	5						9
E	16	29	67	57	14	1			184
F	42	40	94	131	25	2	1		335
G	12	64	107	205	5				393
I		8	24	16					48
J	4	10	5						19
K-1	3	18	2	3	3	2			31
K-2	12	91	4	1					108
K-3	8	56	10	5	2				81
L	22	52	4						78
P-24			4		1				5
TOTAL	199	510	470	492	105	42	22	0	1840

SPECIES	SIZE CLASS (cm)								
Montipora capitata	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
A-1		6	5	1	4				16
A-2		12	17	12	2				43
B-1									0
B-2									0
B-3		2							2
B-4				1					1
C-1				1	1				2
C-2		1							1
C-3									0
C-4			1						1
D				1	1	2	1		5
E		4	12	6	4	14	24		64
F		16	4	3	3	1	1		28
G		2	9						11
I		1		1	1				3
J			4	5	5	1	2		17
K-1		1	1	1	3	4	2		12
K-2		1	3	1	6	9	21		41
K-3				4	6	12	3		25
L			1	1					2
P-24			1	3	2	3			9
TOTAL	**0**	**46**	**58**	**41**	**38**	**46**	**54**	**0**	**283**

SPECIES	SIZE CLASS (cm)								
*Montipora patula**	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
A-1	3	3	2	7	2				17
A-2	2	4	12	8	6				32
B-1									0
B-2									0
B-3									0
B-4									0
C-1					1				1
C-2									0
C-3	1	1	2						4
C-4		4	2	1					7
D		1	1		1				3
E		2	1	8	2	10	12		35
F		7	11	4	2	1			25
G		5	14	1	1	1			22
I			1	14	1	7			23
J		26	3	3	1	1	1		35
K-1				2	5	4	6		17
K-2		3	4	13	14	11	7		52
K-3			9	13	42	38	18		120
L			5	6	10	12	4		37
P-24			1		3	2			6
TOTAL	6	56	68	80	91	87	48	0	436

TABLE 4. cont. (2)

SPECIES	SIZE CLASS (cm)								
Leptastrea purpurea	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
A-1	10	17							27
A-2									0
B-1		1							1
B-2	1	1							2
B-3									0
B-4									0
C-1	1	2							3
C-2	18	8							26
C-3	171	132	30						333
C-4	64	92	5						161
D	16	54							70
E	5	9							14
F	1	2							3
G	12	12							24
I	29	32	111						172
J	2	112	9						123
K-1	35	255	11						301
K-2	16	63	2						81
K-3	6	21	3						30
L	2	6							8
P-24	13	42	46	17					118
TOTAL	402	861	217	17	0	0	0	0	1497

SPECIES	SIZE CLASS (cm)								
Pocillopora meandrina	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
A-1				1					1
A-2		1							1
B-1									0
B-2									0
B-3									0
B-4									0
C-1		1							1
C-2									0
C-3									0
C-4									0
D									0
E									0
F		1							1
G			1	4					5
I			2						2
J									0
K-1		2	1						3
K-2									0
K-3									0
L									0
P-24			1						1
TOTAL	0	5	5	5	0	0	0	0	15

SPECIES	SIZE CLASS (cm)								
*Cyphastrea ocellina**	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
A-1									0
A-2									0
B-1									0
B-2									0
B-3									0
B-4									0
C-1									0
C-2									0
C-3									0
C-4									0
D	1								1
E	2	2							4
F									0
G									0
I									0
J									0
K-1									0
K-2									0
K-3									0
L									0
P-24									0
TOTAL	3	2	0	0	0	0	0	0	5

SPECIES	SIZE CLASS (cm)								
Pavona varians	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
A-1		3	2						5
A-2									0
B-1									0
B-2									0
B-3									0
B-4									0
C-1									0
C-2									0
C-3									0
C-4									0
D									0
E			1	1					2
F				1					1
G			1		2				3
I									0
J									0
K-1									0
K-2			2	1	3	2	1		9
K-3			3	13	4	4			24
L						2			2
P-24				4	2				6
TOTAL	0	3	9	20	11	8	1	0	52

TABLE 5. Summary counts of coral colonies by species at each survey sector in the vicinity of Kapalama Basin and Pier 24. Species marked with an "*" are presently petitioned to be included under the Endangered Species Act. For locations of survey sectors, see Figures 2-6.

SPECIES	SIZE CLASS (cm)									
	<2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL	% TOTAL
Pocillopora damicornis	199	511	470	492	105	42	21	0	1840	35.57
Leptastrea purpurea	402	861	217	17	0	0	0	0	1497	28.94
Porites lobata	91	243	258	290	75	50	32	0	1039	20.09
*Montipora patula**	6	56	68	80	91	87	48	0	436	8.43
Montipora capitata	0	46	58	41	38	46	54	0	283	5.47
Pavona varians	0	3	9	20	11	8	1	0	52	1.01
Pocillopora meandrina	0	5	5	5	0	0	0	0	15	0.29
*Cyphastrea ocellina**	3	2						0	5	0.10
Porites compressa	0	0	0	0	1	1	2	0	4	0.08
Pocillopora eydouxi				1				0	1	0.02
Porites monticulosa							1	0	1	0.02
TOTAL	701	1727	1085	946	321	234	159	0	5173	100

TABLE 6. Summary counts of total coral colonies of all species combined by size class (No COL) on survey sectors in Kapalama Basin and Pier 24. Also shown are the densities of total coral colonies (DENSITY)) from each sector in terms of colonies per square meter of colonizable surface of each sector (DENSITY = NO. COL./m ^{2}). Colonizable area (m^{2}) of each sector is shown in Table 1. For location of sectors, see Figures 2-6.

SECTOR	SIZE CLASS (cm)																TOTAL	
	≤2		>2≤5		>5≤10		>10≤20		>20≤40		>40≤80		>80≤160		>160			
	No COL	DENSITY	No COL	DENSITY	No COL	DENSITY	No COL	DENSITY	No COL	DENSITY	No COL	DENSITY	No COL	DENSITY	No COL	DENSITY	No COL	DENSITY
A-1	30	0.053	92	0.162	61	0.107	12	0.021	7	0.012	0	0	0	0	0	0	202	0.356
A-2	35	0.078	113	0.252	68	0.152	31	0.069	8	0.018	0	0	0	0	0	0	255	0.569
TOTAL A	65	0.064	205	0.202	129	0.127	43	0.042	15	0.015	0	0	0	0	0	0	457	0.450
B-1	17	0.035	25	0.052	20	0.042	45	0.094	47	0.098	35	0.073	21	0.044	0	0	210	0.438
B-2	42	0.070	29	0.048	13	0.022	17	0.028	7	0.012	2	0.003	0	0	0	0	110	0.183
B-3	12	0.025	10	0.021	5	0.010	0	0.000	1	0.002	0	0	0	0	0	0	28	0.058
B-4	17	0.026	10	0.015	8	0.012	4	0.006	0	0.000	0	0	0	0	0	0	39	0.059
TOTAL B	88	0.040	74	0.033	46	0.021	66	0.030	55	0.025	37	0.017	21	0.009	0	0	387	0.174
C-1	3	0.017	11	0.061	10	0.055	6	0.033	2	0.011	2	0.011	0	0	0	0	34	0.188
C-2	18	0.090	13	0.065	10	0.050	8	0.040	0	0.000	0	0	0	0	0	0	49	0.245
C-4	66	0.273	98	0.405	22	0.091	7	0.029	0	0.000	0	0	0	0	0	0	193	0.692
C-3	173	0.620	149	0.534	50	0.179	2	0.007	0	0.000	0	0	0	0	0	0	374	1.545
TOTAL C	260	0.288	271	0.300	92	0.102	23	0.025	2	0.002	2	0.002	0	0	0	0	650	0.721
D	19	0.133	57	0.399	10	0.070	1	0.007	2	0.014	2	0.014	1	0.007	0	0	92	0.440
E	23	0.008	51	0.019	87	0.032	79	0.029	27	0.010	33	0.012	39	0.014	0	0	339	0.124
F	43	1.049	67	1.634	112	2.732	144	3.512	32	0.780	4	0.098	1	0.024	0	0	403	0.983
G	30	0.062	129	0.268	170	0.353	220	0.457	11	0.023	12	0.025	2	0.004	0	0	574	0.818
I	29	0.045	48	0.074	169	0.260	223	0.343	10	0.015	9	0.014	0	0	0	0	488	0.514
J	26	0.049	196	0.371	37	0.070	10	0.019	7	0.013	4	0.008	4	0.008	0	0	284	0.538
K-1	38	0.040	283	0.298	26	0.027	15	0.016	24	0.025	18	0.019	19	0.020	0	0	423	0.445
K-2	28	0.024	162	0.139	104	0.089	38	0.033	44	0.038	30	0.026	39	0.033	0	0	445	0.382
K-3	14	0.013	81	0.077	34	0.032	47	0.045	70	0.067	60	0.057	27	0.026	0	0	333	0.317
TOTAL K	80	0.025	526	0.166	164	0.052	100	0.032	138	0.044	108	0.034	85	0.027	0	0	1201	0.379
L	24	0.029	58	0.070	13	0.016	9	0.011	13	0.016	17	0.021	6	0.007	0	0	140	0.170
P-24	14	0.023	45	0.073	56	0.091	28	0.046	9	0.015	6	0.010	0	0	0	0	158	0.258
TOTAL	**701**	**0.049**	**1727**	**0.121**	**1085**	**0.076**	**946**	**0.066**	**321**	**0.022**	**234**	**0.016**	**159**	**0.011**	**0**	**0**	**5173**	**0.362**

TABLE 7. Estimates of invertebrate abundance in survey sectors in the region of the proposed Kapalama Container Terminal. Abundance classes are grouped as follows: R=rare (less than 10 individuals or colonies observed per sector; C=common (10-50 individuals or colonies per sector), and A=abundant (greater than 50 individuals or colonies per sector). "I" indicates introduced species. For locations of survey sectors, see Figures 2-6.

	Sector	A	B				C				D	E	F
	Sector Number	1-2	1	2	3	4	1	2	3	4	1	1	1
SPONGES	*Batzella sp.*												
	Callyspongia diffusa												
	Chalinula pseudomolitba			R				C	R	C	R	R	R
	Chondrosia chucalla						R	R				R	
	Clathria sp.						R	R	R	R	R		
	Dactylospongia						R	R	C	C			
	Dysidea cf. avara						R	R	R	R	R	R	R
	Dysidea herbacea	R		R		R	A	A	R	R		C	C
	Gelloides fibrosa (I)	R			A		A	A	A	R	R	A	A
	Halichondria coerulea						R	R		R			
	Haliclona caerulea (I)			R			A		C	R		C	C
	Hyrtios sp.						A	A	R	A	R	R	A
	Leucetta sp.	A				A	A	A	R	A	R	R	C
	Liosina paradoxa	A				A	A	A	R	R		R	R
	Mycale armata (I)	A			A		A	A	R	A		A	C
	Phorbas amaranthus			A	A		A	A	C	A	A	A	A
	Sigmadocia sp.						C	C	C	C			
	Spirastrealla vagabunda						R	R	A	A		C	C
	Suberites zeteki (I)	R					R	R		R		C	C
	Zygomycale parishii (I)	R					A	A		R			A
TUNICATES	*Ascidia sydneiensis* (I)		R				R	C	A	R		R	A
	Didemnum sp.	R	R			A	R	R	R	R		C	R
	Herdmania momus		R		R	R		A	R	A		C	C
	Phallusia nigra (I)	A				R	A	A	C	A		A	A
SLUGS	*Plakobranchus ocellatus*		C	C	C	C	R	R		R			
	Tambja morosa		R		R		A	C		R		R	
BRYOZOANS	*Amathia distans* (I)		C	R	C	C	A	A	R	A		R	A
	Bugula stolonifera (I)							A		A	A	A	R
	Disporella violacea							R		A		R	
	Reteporellina denticulata							R		R		R	
	Schizoporella errata (I)	R											R
ANNELIDS	*Chaetopterus sp.* (I)						R	R		R		R	
	Loimia medusa		R		R	A						R	
	Sabellastarte spectabilis (I)	A	A	A	C	A			R	A		A	R
	Salmacina dysteri (I)		R	R		R	A	A		R		R	R
	Spirobranchus	R								R		R	
ECH*	*Echinothrix sp.*	R											
	Tripneutes gratilla		C	R	R	C							
MOLLUSCS	*Anomia nobilis* (I)						A	A		A		A	A
	Balanus amphitrite (I)						A	A	R	A	A	A	A
	Morula sp.				R								
	Octopus cyanea	R											
	Pinctada margaritifera						R	C	R	R	R	R	C
ARTH**	*Grapsus grapsus*		R	R		R						R	
	Stenopis hispidus							R		R		C	

* ECHINODERMS

** ARTHROPODS

TABLE 7. cont. (2).

	Sector	G	I	J	K			L	Pier 25	Pier 26	Pier 27	Pier 28
	Sector Number	1	1	1	1	2	3	1	1	1	1	1
SPONGES	*Batzella sp.*				R	R	R	C				
	Callyspongia diffusa								R			R
	Chalinula pseudomolitba	R	C	A	C	C	A	C	R		R	R
	Chondrosia chucalla								C	R	C	C
	Clathria sp.			R	R	R	R	R	R	R	R	R
	Dactylospongia				R	R	R	R	R	R	C	R
	Dysidea cf. avara			R	R	R	R		C	R	R	R
	Dysidea herbacea	R	A	C	A	R	R	C	R			C
	Gelloides fibrosa (I)	A	A	A	A	A	A	A	A	A	A	A
	Halichondria coerulea											
	Haliclona caerulea (I)	R		R	C	C	C	R				
	Hyrtios sp.	R	R	R		C		C	R			
	Leucetta sp.		C	A	A	A	A	A	C	R	R	R
	Liosina paradoxa		C					R		A	A	A
	Mycale armata (I)	A	A	C	A	A	C	C	A	C	A	A
	Phorbas amaranthus	A	A	A	A	A	A	A	A	C	A	A
	Sigmadocia sp.		C	C	R	R	R	R	A	A	R	C
	Spirastrealla vagabunda	R	A	A	A	A	A	A	A	A	A	A
	Suberites zeteki (I)		C						C	C	R	R
	Zygomycale parishii (I)	R		A		A	A	A	A	C	A	A
TUNICATES	*Ascidia sydneiensis* (I)		A	A	A	A	A	A	A	A	A	A
	Didemnum sp.	R	R			R						
	Herdmania momus	R	A	A	A	A	A	A	C	C	C	C
	Phallusia nigra (I)	C	A	A	A	A	A	A	A	C	C	C
SLUGS	*Plakobranchus ocellatus*											
	Tambja morosa							R		R	R	R
BRYOZOANS	*Amathia distans* (I)	R	A	A	R	R	C	C		C	R	A
	Bugula stolonifera (I)	R	X	C	C	R	R	R	R	C	R	A
	Disporella violacea											
	Reteporellina denticulata											
	Schizoporella errata (I)		E									
ANNELIDS	*Chaetopterus sp.* (I)										R	
	Loimia medusa											
	Sabellastarte spectabilis (I)	C	C	C	A	A	A	A		C	C	
	Salmacina dysteri (I)		E				C	R				A
	Spirobranchus											
ECH*	*Echinothrix sp.*											
	Tripneutes gratilla	R										
MOLLUSCS	*Anomia nobilis* (I)	A	A	A	A	A	A	A				
	Balanus amphitrite (I)	A	A	C	C	C	C	C				
	Morula sp.											
	Octopus cyanea											
	Pinctada margaritifera	A	C	C	C	C	C	R				
ARTH**	*Grapsus grapsus*	R			C	A	C	C				
	Stenopis hispidus			R	C	A	A	A			R	

* ECHINODERMS

** ARTHROPODS

TABLE 8. Reef fish abundance (NO.) and estimated length (size) counted in survey sectors in the vicinity of Kapalama Basin and Honolulu Harbors Piers 24-28. For locations of survey sectors, see Figures 2-6.

SECTOR	SPECIES	NO.	Size (cm)
A	*Acanthurus blochii*	2	8
	Chaetodon ornatissimus	1	8
		1	10
	Chromis hanui	1	8
	Dascyllus albisella	9	2
		3	5
	Gomphosus varius	2	8
	Scarus psittacus	1	6
		4	8
	Synodus dermatogenys	1	4
		1	12
	Zebrasoma flavescens	1	4
TOTAL		27	
B-1	*Acanthurus blochii*	1	12
		1	15
	Chaetodon auriga	1	8
	Dascyllus albisella	5	2
		6	4
		3	8
		2	12
	Scarus psittacus	2	12
B-2	*Canthegaster jactator*	1	12
	Dascyllus albisella	1	10
	Herklotsichthys quadrimaculatus	~500	6
B3	NONE		
B4	*Abudefduf vaigiensis*	12	8
		10	15
		12	18
		25	20
	Acanthurus blochii	9	15
	Acanthurus olivaceus	1	20
	Acanthurus triostegus	6	15
		8	22
	Canthecaster jactator	2	8
		2	10
	Chaetodon auriga	1	20
	Chaetodon lunulatus	1	20
	Myripristis kuntee	1	25
	Scarus psittacus	8	8
		4	15
	Synodus dermatogenys	1	25
	Zanclus cornutus	5	20
	Zebrasoma flavescens	12	10
		6	12
TOTAL		649	
C-1	*Acanthurus blochii*	2	10
	Canthegaster jactator	1	6
	Chaetodon auriga	8	8
	Chaetodon lunula	4	12
	Chaetodon lunulatus	2	10
	Chaetodon reticulatus	1	8
	Kyphosus spp.	6	20
	Ostracion meleagris	1	20
	Stegastes fasciolatus	1	20
	Zanclus cornutus	1	20
	Zebrasoma flavescens	2	10
C-2	*Acanthurus blochii*	1	25
	Canthegaster jactator	1	5
	Chaetodon lunula	1	10
	Sphyraena barracuda	1	50
C3	*Canthegaster jactator*	1	5
	Sphyraena barracuda	1	50
C4	*Diodon holocanthus*	1	35
TOTAL		36	

SECTOR	SPECIES	NO.	Size (cm)
TOTAL		38	
D	*Acanthurus blochii*	1	8
	Canthegaster jactator	1	5
TOTAL		2	
E	*Abudefduf vaigiensis*	10	8
		20	15
	Acanthurus blochii	4	25
	Acanthurus unicornis	1	35
	Chaetodon auriga	1	10
	Herklotsichthys quadrimacula	~500	5
	Sphyraena barracuda	1	50
	Sphyraena barracuda	1	30
TOTAL		538	
F	*Acanthurus blochii*	7	10
		1	12
	Canthegaster jactator	1	8
	Chaetodon auriga	1	15
	Dascyllus albisella	2	4
		3	12
	Herklotsichthys quadrimacula	40	5
	Lutjanus fulvus	6	20
	Zebrasoma flavescens	2	10
TOTAL		63	
G	*Acanthurus blochii*	1	8
		3	10
		5	12
	Acanthurus blochii	12	15
	Acanthurus triostegus	1	8
		6	10
		4	12
	Canthegaster jactator	1	8
	Chaetodon auriga	1	10
	Diodon histrix	1	20
	Gymnomuraena zebra	1	40
	Kuhlia xenura	200	20
	Lutjanus fulvus	1	15
	Naso lituratus	1	15
	Stegastes fasciolatus	1	15
	Zanclus cornutus	2	10
	Zebrasoma flavescens	1	8
		3	10
		5	12
TOTAL		250	
I	*Abudefduf vaigiensis*	2	8
		3	10
		2	12
	Acanthurus blochii	3	12
	Acanthurus triostegus	3	10
		1	12
	Canthegaster jactator	1	8
	Chaetodon auriga	1	10
	Chaetodon lunula	1	10
	Lutjanus fulvus	1	12
		2	25
	Scarus psittacus	2	6
		2	12
	Sphyraena barracuda	1	100
	Zanclus cornutus	2	15
TOTAL		27	
J	*Acanthurus blochii*	1	10
	Canthegaster jactator	2	8
	Chaetodon auriga	1	10
		3	15
	Chaetodon lunula	2	12
	Chaetodon lunula	6	15
	Chaetodon lunulatus	1	12
	Zanclus cornutus	1	15
TOTAL		17	

TABLE 8. cont. (2)

SECTOR	SPECIES	NO.	Size (cm)
K1	*Abudefduf vaigiensis*	30	20
	Canthegaster jactator	1	10
	Chaetodon lunulatus	1	8
	Dascyllus albisella	2	5
		1	8
	Zebrasoma flavescens	1	12
K2	*Canthecaster jactator*	1	5
		1	8
	Chaetodon auriga	2	10
K3	*Acanthurus blochii*	2	10
	Acanthurus dussumieri	1	15
	Acanthurus triostegus	1	10
	Canthegaster jactator	1	8
		2	8
		1	10
	Chaetodon lunula	1	25
	Zanclus cornutus	1	25
	Zebrasoma flavescens	1	15
TOTAL		51	
L	*Abudefduf vaigiensis*	4	12
	Acanthurus blochii	1	10
	Canthegaster jactator	3	8
	Chaetodon auriga	2	12
	Chaetodon ephippium	2	12
	Dascyllus albisella	1	8
		1	15
	Scarus psittacus	2	8
	Zebrasoma flavescens	1	5
TOTAL		17	
PIER 24	*Acanthurus dussumieri*	6	25
	Sphyraena barracuda	1	50
TOTAL		7	
PIER 26	*Canthegaster jactator*	1	8
	Chaetodon unimaculatus	2	12
	Dascyllus albisella	2	20
	Heniochus diphreutes	8	10
	Naso hexacanthus	1	25
	Thalassoma duperrey	1	15
TOTAL		15	
PIER 27	*Chaetodon auriga*	1	4
	Diodon holocanthus	1	20
	Ostracion meleagris	1	15
	Zanclus cornutus	1	18
TOTAL		4	

SECTOR	SPECIES	NO.	Size (cm)
SECTOR	SPECIES	NO.	Size (cm)
PIER 28	*Abudefduf vaigiensis*	6	12
		5	15
	Acanthurus blochii	6	15
		10	20
	Acanthurus dussumieri	20	5
		1	15
	Acanthurus triostegus	2	8
		4	10
		10	15
	Caranx melampygus	1	30
	Chaetodon auriga	1	25
	Chaetodon unimaculatus	1	20
	Dascyllus albisella	14	4
	Dascyllus albisella	10	5
		12	10
		6	15
	Lutjanus fulvus	10	18
		3	20
		4	25
	Mulloidichthys flavolineatus	30	28
	Scarus psittacus	8	8
	Stegastes marginatus	2	25
	Thalassoma duperrey	1	8
		2	28
	Zanclus cornutus	4	15
		1	18
		4	20
		3	25
	Zebrasoma flavescens	2	8
		10	15
		5	20
TOTAL		198	
GRAND TOTAL		**1902**	

TABLE 9. Reef fish abundance (NO.)and estimated length (size) in cm. by species counted in survey sectors in the vicinity of Kapalama Basin and Honolulu Harbors Piers 24-28. For locations of survey sectors, see Figures 2-6.

SPECIES	SECTOR	NO.	SIZE
Abudefduf vaigiensis	B	12	8
	B	10	15
	B	12	18
	B	25	20
	E	10	8
	E	20	15
	I	2	8
	I	3	10
	I	2	12
	K	30	20
	L	4	12
	PIER 28	6	12
	PIER 28	5	15
TOTAL		141	
Acanthurus blochii	A	2	8
	B	1	12
	B	1	15
	B	9	15
	C	2	10
	C	1	25
	D	1	8
	E	4	25
	F	1	8
	F	7	10
	F	1	12
	G	1	8
	G	3	10
	G	5	12
	G	12	15
	I	3	12
	J	1	10
	K	2	10
	L	1	10
	PIER 28	6	15
	PIER 28	10	20
TOTAL		74	
Acanthurus dussumieri	K	1	15
	PIER 25	6	25
	PIER 28	20	5
	PIER 28	1	15
TOTAL		28	
Acanthurus olivaceus	B	1	20
Acanthurus triostegus	B	6	15
	B	8	22
	G	1	8
	G	6	10
	G	4	12
	I	3	10
	I	1	12
	K	1	10
	PIER 28	2	8
	PIER 28	4	10
	PIER 28	10	15
TOTAL		46	
Acanthurus unicornis	E	1	35

SPECIES	SECTOR	NO.	SIZE
Caranx melampygus	PIER 28	1	30
Canthigaster jactator	B	1	12
	B	2	8
	B	2	10
	C	1	6
	C	1	5
	C	1	5
	D	1	5
	F	1	8
	G	1	8
	I	1	8
	J	2	8
	K	1	10
	K	1	5
	K	1	8
	K	1	8
	K	2	8
	K	1	10
	L	3	8
	PIER 26	1	8
TOTAL		25	
Chaetodon auriga	B	1	8
	B	1	20
	C	8	8
	E	1	10
	F	1	15
	G	1	10
	I	1	10
	J	1	10
	J	3	15
	K	2	10
	L	2	12
	PIER 27	1	4
	PIER 28	1	25
TOTAL		24	
Chaetodon ephippium	L	2	12
Chaetodon lunula	C	4	12
	C	1	10
	I	1	10
	J	2	12
	J	6	15
	K	1	25
TOTAL		15	
Chaetodon lunulatus	B	1	20
	C	2	10
	K	1	8
	J	1	12
TOTAL		5	
Chaetodon ornatissimus	A	1	8
	A	1	10
TOTAL		2	
Chaetodon reticulatus	C	1	8
Chaetodon unimaculatus	PIER 26	2	12
	PIER 28	1	20
TOTAL		3	
Chromis hanui	A	1	8

TABLE 9. continued (2)

SPECIES	SECTOR	NO.	SIZE
Dascyllus albisella	A	9	2
	A	3	5
	B	5	2
	B	6	4
	B	3	8
	B	2	12
	B	1	10
	F	2	4
	F	3	12
	K	2	5
	K	1	8
	L	1	8
	L	1	15
	PIER 26	2	20
	PIER 28	14	4
	PIER 28	10	5
	PIER 28	12	10
	PIER 28	6	15
TOTAL No.		**83**	
Diodon histrix	G	1	20
Diodon holocanthus	D	1	35
	PIER 27	1	20
TOTAL No.		**2**	
Gomphosus varius	A	2	8
Gymnomuraena zebra	G	1	40
Heniochus diphreutes	PIER 26	8	10
Herklotsichthys quadrimaculatus	B	~500	6
	E	~500	5
	F	40	5
TOTAL No.		**1040**	
Kyphosus spp.	C	6	20
Kuhlia xenura	G	~200	20
Lutjanus fulvus	F	6	20
	G	1	15
	I	1	12
	I	2	25
	PIER 28	10	18
	PIER 28	3	20
	PIER 28	4	25
TOTAL No.		**27**	
Mulloidichthys flavolineatus	PIER 28	30	28
Myripristis kuntee	B	1	25
Naso hexacanthus	PIER 26	1	25
Naso lituratus	G	1	15
Ostracion meleagris	C	1	20
	PIER 27	1	15
TOTAL No.		**2**	
Scarus psittacus	A	1	6
	A	4	8
	B	2	12
	B	8	8
	B	4	15
	I	2	6
	I	2	12
	L	2	8
	PIER 28	8	8
TOTAL No.		**33**	
Sphyraena barracuda	C	2	50
	E	1	30
	E	1	50
	I	1	100
	PIER 24	1	50
TOTAL No.		**6**	
Stegastes fasciolatus	C	1	20
	G	1	15
TOTAL No.		**2**	
Stegastes marginatus	PIER 28	2	25
Synodus dermatogenys	A	1	4
	A	1	12
	B	1	25
TOTAL No.		**3**	
Thalassoma duperrey	PIER 26	1	15
	PIER 28	1	8
	PIER 28	2	28
TOTAL No.		**4**	
Zanclus cornutus	B	5	20
	C	1	20
	G	2	10
	I	2	15
	J	1	15
	K	1	25
	PIER 27	1	18
	PIER 28	4	15
	PIER 28	1	18
	PIER 28	4	20
	PIER 28	3	25
TOTAL No.		**25**	
Zebrasoma flavescens	A	1	4
	B	12	10
	B	6	12
	C	2	10
	F	2	10
	G	1	8
	G	3	10
	G	5	12
	K	1	12
	K	1	15
	L	1	5
	PIER 28	2	8
	PIER 28	10	15
	PIER 28	5	20
TOTAL No.		**52**	
GRAND TOTAL		**1902**	

TABLE 10. Calculations of fish biomass by species based on number of fish and estimated length determined during in-situ surveys in the vicinity of the proposed Kapalama Container Terminal in Honolulu Harbor. The length-weight relationship of $W=aL^b$, and coefficients a and b are from FishBase.com.

SPECIES	SECTOR	NO.	SIZE (L)	Coeff.a	Coeff.b	W(g) = aLb	W*NO. (g)	W/SECTOR (g)	
Abudefduf vaigiensis	B	12	8	0.00989	3.267	8.82	105.87	B	6692.67
	B	10	15	0.00989	3.267	68.78	687.84		
	B	12	18	0.00989	3.267	124.79	1497.45		
	B	25	20	0.00989	3.267	176.06	4401.51		
	E	10	8	0.00989	3.267	8.82	88.22	E	1463.90
	E	20	15	0.00989	3.267	68.78	1375.68		
	I	2	8	0.00989	3.267	8.82	17.64	I	138.87
	I	3	10	0.00989	3.267	18.29	54.87		
	I	2	12	0.00989	3.267	33.18	66.36		
	K	30	20	0.00989	3.267	176.06	5281.81	K	5281.81
	L	4	12	0.00989	3.267	33.18	132.72	L	132.72
	PIER 28	6	12	0.00989	3.267	33.18	199.08	PIER 28	543.00
	PIER 28	5	15	0.00989	3.267	68.78	343.92		
Acanthurus blochii	A	2	8	0.0251	3.144	17.34	34.68	A	34.68
	B	1	12	0.0251	3.144	62.03	62.03	B	1313.17
	B	1	15	0.0251	3.144	125.11	125.11		
	B	9	15	0.0251	3.144	125.11	1126.02		
	C	2	10	0.0251	3.144	34.97	69.94	C	693.38
	C	1	25	0.0251	3.144	623.44	623.44		
	D	1	8	0.0251	3.144	17.34	17.34	D	17.34
	E	4	25	0.0251	3.144	623.44	2493.77	E	2493.77
	F	1	8	0.0251	3.144	17.34	17.34	F	324.15
	F	7	10	0.0251	3.144	34.97	244.78		
	F	1	12	0.0251	3.144	62.03	62.03		
	G	1	8	0.0251	3.144	17.34	17.34	G	1933.77
	G	3	10	0.0251	3.144	34.97	104.90		
	G	5	12	0.0251	3.144	62.03	310.16		
	G	12	15	0.0251	3.144	125.11	1501.36		
	I	3	12	0.0251	3.144	62.03	186.10	I	186.10
	J	1	10	0.0251	3.144	34.97	34.97	J	34.97
	K	2	10	0.0251	3.144	34.97	69.94	K	69.94
	L	1	10	0.0251	3.144	34.97	34.97	L	34.97
	PIER 28	6	15	0.0251	3.144	125.11	750.68	PIER 28	3841.77
	PIER 28	10	20	0.0251	3.144	309.11	3091.09		
Acanthurus dussumieri	K	1	15	0.0426	2.868	100.56	100.56	K	100.56
	PIER 25	6	25	0.0426	2.868	435.21	2611.28	PIER 25	2611.28
	PIER 28	20	5	0.0426	2.868	4.31	86.12	PIER 28	186.68
	PIER 28	1	15	0.0426	2.868	100.56	100.56		
Acanthurus olivaceus	B	1	20	0.0384	3.055	362.22	362.22	B	362.22
Acanthurus triostegus	B	6	15	0.0213	3.081	89.52	537.12	B	2867.75
	B	8	22	0.0213	3.081	291.33	2330.63		
	G	1	8	0.0213	3.081	12.91	12.91	G	346.96
	G	6	10	0.0213	3.081	25.67	154.00		
	G	4	12	0.0213	3.081	45.01	180.05		
	I	3	10	0.0213	3.081	25.67	77.00	I	122.01
	I	1	12	0.0213	3.081	45.01	45.01		
	K	1	10	0.0213	3.081	25.67	25.67	K	25.67
	PIER 28	2	8	0.0213	3.081	12.91	25.81	PIER 28	1023.67
	PIER 28	4	10	0.0213	3.081	25.67	102.67		
	PIER 28	10	15	0.0213	3.081	89.52	895.19		
Acanthurus unicornis	E	1	35	0.0179	2.789	362.46	362.46	E	362.46
Caranx melampygus	PIER 28	1	30	0.0269	2.974	664.83	664.83	PIER 28	664.83

TABLE 10. continued (2).

SPECIES	SECTOR	NO.	SIZE (L)	Coeff.a	Coeff.b	W(g) = aLb	W * NO. (g)	W/SECTOR (g)	
Canthigaster jactator	B	1	12	0.0266	3	45.96	45.96	B	126.40
	B	2	8	0.0266	3	13.62	27.24		
	B	2	10	0.0266	3	26.60	53.20		
	C	1	6	0.0266	3	5.75	5.75	C	11.49
	C	1	5	0.0266	3	3.33	3.33		
	C	1	5	0.0266	3	3.33	3.33		
	D	1	5	0.0266	3	3.33	3.33	D	3.33
	F	1	5	0.0266	3	3.33	3.33	F	16.94
	F	1	8	0.0266	3	13.62	13.62		
	G	1	8	0.0266	3	13.62	13.62	G	13.62
	I	1	8	0.0266	3	13.62	13.62	I	13.62
	J	2	8	0.0266	3	13.62	27.24	J	27.24
	K	1	10	0.0266	3	26.60	26.60	K	111.00
	K	1	5	0.0266	3	3.33	3.33		
	K	1	8	0.0266	3	13.62	13.62		
	K	1	8	0.0266	3	13.62	13.62		
	K	2	8	0.0266	3	13.62	27.24		
	K	1	10	0.0266	3	26.60	26.60		
	PIER 26	1	8	0.0266	3	13.62	13.62	PIER 26	13.62
Chaetodon auriga	B	1	8	0.0312	2.953	14.49	14.49	B	231.31
	B	1	20	0.0312	2.953	216.82	216.82		
	C	8	8	0.0312	2.953	14.49	115.90	C	115.90
	E	1	10	0.0312	2.953	28.00	28.00	E	28.00
	F	1	15	0.0312	2.953	92.72	92.72	F	92.72
	G	1	10	0.0312	2.953	28.00	28.00	G	28.00
	I	1	10	0.0312	2.953	28.00	28.00	I	28.00
	J	1	10	0.0312	2.953	28.00	28.00	J	306.15
	J	3	15	0.0312	2.953	92.72	278.15		
	K	2	10	0.0312	2.953	28.00	56.00	K	56.00
	L	2	12	0.0312	2.953	47.97	95.94	L	95.94
	PIER 27	1	4	0.0312	2.953	1.87	1.87	PIER 27	1.87
	PIER 28	1	25	0.0312	2.953	419.06	419.06	PIER 28	419.06
Chaetodon ephippium	L	2	12	0.0225	3.061	45.24	90.49	L	90.49
Chaetodon lunula	C	4	12	0.0384	2.885	49.86	199.45	C	228.91
	C	1	10	0.0384	2.885	29.47	29.47		
	I	1	10	0.0384	2.885	29.47	29.47	I	29.47
	J	2	12	0.0384	2.885	49.86	99.72	J	669.24
	J	6	15	0.0384	2.885	94.92	569.52		
	K	1	25	0.0384	2.885	414.37	414.37	K	414.37
Chaetodon lunulatus	B	1	20	0.0409	2.791	174.94	174.94	B	174.94
	C	2	10	0.0409	2.791	25.28	50.55	C	50.55
	K	1	8	0.0409	2.791	13.56	13.56	K	13.56
	J	1	12	0.0409	2.791	42.05	42.05	J	42.05
Chaetodon ornatissimus	A	1	8	0.0384	2.885	15.48	15.48	A	44.95
	A	1	10	0.0384	2.885	29.47	29.47		
Chaetodon reticulatus	C	1	8	0.0468	2.758	14.49	14.49	C	14.49
Chaetodon unimaculatus	PIER 26	2	12	0.0533	2.833	60.82	121.64	PIER 26	121.64
	PIER 28	1	20	0.0533	2.833	258.55	258.55	PIER 28	258.55
Chromis hanui	A	1	8	0.0169	3	8.65	8.65	A	8.65
Dascyllus albisella	A	9	2	0.0303	3	0.24	2.18	A	13.54
	A	3	5	0.0303	3	3.79	11.36		
	B	5	2	0.0303	3	0.24	1.21	B	59.39
	B	6	4	0.0303	3	1.94	11.64		
	B	3	8	0.0303	3	15.51	46.54		
	F	2	4	0.0303	3	1.94	3.88	F	160.95
	F	3	12	0.0303	3	52.36	157.08		
	K	2	5	0.0303	3	3.79	7.58	K	23.09
	K	1	8	0.0303	3	15.51	15.51		
	L	1	8	0.0303	3	15.51	15.51	L	117.78
	L	1	15	0.0303	3	102.26	102.26		

TABLE 10. continued (3).

SPECIES	SECTOR	NO.	SIZE (L)	Coeff.a	Coeff.b	W(g) = aLb	W * NO. (g)	W/SECTOR (g)	
Dascyllus albisella	PIER 26	2	20	0.0303	3	242.40	484.80	PIER 26	484.80
	PIER 28	14	4	0.0303	3	1.94	27.15	PIER 28	1042.20
	PIER 28	10	5	0.0303	3	3.79	37.88		
	PIER 28	12	10	0.0303	3	30.30	363.60		
	PIER 28	6	15	0.0303	3	102.26	613.58		
Diodon histrix	G	1	20	0.532	2.276	486.47	486.47	G	486.47
Diodon holocanthus	PIER 27	1	20	0.119	2.63	314.24	314.24	PIER 27	314.24
Gomphosus varius	A	2	8	0.0099	3	5.07	10.14	A	10.14
Gymnomuraena zebra	G	1	40	0.0005	3.268	86.00	86.00	G	86.00
Heniochus diphreutes	PIER 26	8	10	0.0271	3.061	31.19	249.49	PIER 26	249.49
Herklotsichthys quadrimaculatus	B	500	6	0.0124	3.005	2.70	1351.25	B	1351.25
	E	500	5	0.0124	3.005	1.56	781.26	E	781.26
	F	40	5	0.0124	3.005	1.56	62.50	F	62.50
Kyphosus spp.	C	6	20	0.0179	3	143.20	859.20	C	859.20
Kuhlia xenura	G	200	20	0.0109	3	87.20	17440.00	G	17440.00
Lutjanus fulvus	F	6	20	0.0211	2.974	156.15	936.91	F	936.91
	G	1	15	0.0211	2.974	66.37	66.37	G	66.37
	I	1	12	0.0211	2.974	34.18	34.18	I	640.62
	I	2	25	0.0211	2.974	303.22	606.44		
	PIER 28	10	18	0.0211	2.974	114.15	1141.47	PIER 28	2822.79
	PIER 28	3	20	0.0211	2.974	156.15	468.45		
	PIER 28	4	25	0.0211	2.974	303.22	1212.87		
Mulloidichthys flavolineatus	PIER 28	30	28	0.0089	3.06	238.61	7158.38	PIER 28	7158.38
Myripristis kuntee	B	1	25	0.0206	3.151	523.33	523.33	B	523.33
Naso hexacanthus	PIER 26	1	25	0.0424	2.854	414.08	414.08	PIER 26	414.08
Naso lituratus	G	1	15	0.0497	2.839	108.46	108.46	G	108.46
Ostracion meleagris	C	1	20	0.373	2.229	296.28	296.28	C	296.28
	PIER 27	1	15	0.373	2.229	156.03	156.03	PIER 27	156.03
Scarus psittacus	A	1	6	0.0258	2.903	4.68	4.68	A	47.87
	A	4	8	0.0258	2.903	10.80	43.19		
	B	2	12	0.0258	2.903	35.03	70.07	B	424.28
	B	8	8	0.0258	2.903	10.80	86.37		
	B	4	15	0.0258	2.903	66.96	267.84		
	I	2	6	0.0258	2.903	4.68	9.37	I	79.43
	I	2	12	0.0258	2.903	35.03	70.07		
	L	2	8	0.0258	2.903	10.80	21.59	L	21.59
	PIER 28	8	8	0.0258	2.903	10.80	86.37	PIER 28	86.37
Sphyraena barracuda	C	2	50	0.05	2.517	944.66	1889.33	C	1889.33
	E	1	30	0.05	2.517	261.15	261.15	E	1205.81
	E	1	50	0.05	2.517	944.66	944.66		
	I	1	100	0.05	2.517	5407.17	5407.17	I	5407.17
	PIER 24	1	50	0.05	2.517	944.66	944.66	PIER 25	944.66
Stegastes fasciolatus	C	1	20	0.0296	3	236.80	236.80	C	236.80
	G	1	15	0.0296	3	99.90	99.90	G	99.90
	PIER 28	2	25	0.0296	3	462.50	925.00	PIER 28	925.00
Synodus dermatogenys	A	1	4	0.0067	3.201	0.57	0.57	A	19.64
	A	1	12	0.0067	3.201	19.08	19.08		
	B	1	25	0.0067	3.201	199.93	199.93	B	199.93
Thalassoma duperrey	PIER 26	1	15	0.0155	2.89	38.84	38.84	PIER 26	38.84
	PIER 28	1	8	0.0155	2.89	6.31	6.31	PIER 28	477.99
	PIER 28	2	28	0.0155	2.89	235.84	471.68		

TABLE 10. continued (4).

SPECIES	SECTOR	NO.	SIZE (L)	Coeff.a	Coeff.b	W(g) = aLb	W * NO. (g)	W/SECTOR (g)	
Zanclus cornutus	B	5	20	0.0147	3.37	356.28	1781.39	B	1781.39
	C	1	20	0.0147	3.37	356.28	356.28	C	356.28
	G	2	10	0.0147	3.37	34.46	68.92	G	68.92
	I	2	15	0.0147	3.37	135.13	270.26	I	270.26
	J	1	15	0.0147	3.37	135.13	135.13	J	135.13
	K	1	25	0.0147	3.37	755.74	755.74	K	755.74
	PIER 27	1	18	0.0147	3.37	249.80	249.80	PIER 27	249.80
	PIER 28	4	15	0.0147	3.37	135.13	540.51	PIER 28	4482.65
	PIER 28	1	18	0.0147	3.37	249.80	249.80		
	PIER 28	4	20	0.0147	3.37	356.28	1425.11		
	PIER 28	3	25	0.0147	3.37	755.74	2267.23		
Zebrasoma flavescens	A	1	4	0.0286	2.94	1.68	1.68	A	1.68
	B	12	10	0.0286	2.94	24.91	298.91	B	554.37
	B	6	12	0.0286	2.94	42.58	255.45		
	C	2	10	0.0286	2.94	24.91	49.82	C	49.82
	F	2	10	0.0286	2.94	24.91	49.82	F	49.82
	G	1	8	0.0286	2.94	12.93	12.93	G	300.53
	G	3	10	0.0286	2.94	24.91	74.73		
	G	5	12	0.0286	2.94	42.58	212.88		
	K	1	12	0.0286	2.94	42.58	42.58	K	124.62
	K	1	15	0.0286	2.94	82.05	82.05		
	L	1	5	0.0286	2.94	3.25	3.25	L	3.25
	PIER 28	2	8	0.0286	2.94	12.93	25.85	PIER 28	1802.14
	PIER 28	10	15	0.0286	2.94	82.05	820.49		
	PIER 28	5	20	0.0286	2.94	191.16	955.79		
TOTAL									97,562

TABLE 11. Summary of total fish biomass in the vicinity of proposed Kapalama Container Terminal by survey sector (left), species in alphabetical order (center), and species in order of descending biomass (right). Biomass density for each sector is calucated as biomass per square meter of area of available substratum shown in Table 1 (area was not calculated for Piers 25-28). For locations of sectors, see Figures 2-6.

SECTOR	TOTAL BIOMASS (g)	DENSITY (g/m^2)
A	181	0.18
B	16,662	7.49
C	4,803	5.32
D	21	0.10
E	6,335	2.32
F	1,644	4.01
G	20,979	29.88
I	6,916	7.29
J	1,215	2.30
K	6,976	2.20
L	497	0.60
Pier 24	945	1.54
Pier 25	2,611	NA
Pier 26	1,322	NA
Pier 27	722	NA
Pier 28	25,733	NA
TOTAL	97,562	

SPECIES	TOTAL BIOMASS (g)
Abudefduf vaigiensis	14,253
Acanthurus blochii	10,978
Acanthurus dussumieri	2,899
Acanthurus olivaceus	362
Acanthurus triostegus	4,386
Acanthurus unicornis	362
Canthigaster jactator	337
Caranx melampygus	665
Chaetodon auriga	1,403
Chaetodon ephippium	90
Chaetodon lunula	1,342
Chaetodon lunulatus	281
Chaetodon ornatissimus	45
Chaetodon reticulatus	14
Chaetodon unimaculatus	380
Chromis hanui	9
Dascyllus albisella	1,901
Diodon histrix	486
Diodon holocanthus	314
Gomphosus varius	10
Gymnomuraena zebra	86
Heniochus diphreutes	249
Herklotsichthys quadrimaculatus	2,195
Kuhlia xenura	17,440
Kyphosus spp.	859
Lutjanus fulvus	4,467
Mulloidichthys flavolineatus	7,158
Myripristis kuntee	523
Naso hexacanthus	414
Naso lituratus	108
Ostracion meleagris	452
Scarus psittacus	660
Sphyraena barracuda	9,447
Stegastes fasciolatus	1,262
Synodus dermatogenys	220
Thalassoma duperrey	517
Zanclus cornutus	8,100
Zebrasoma flavescens	2,886
TOTAL	97,562

SPECIES	TOTAL BIOMASS (g)
Chromis hanui	9
Gomphosus varius	10
Chaetodon reticulatus	14
Chaetodon ornatissimus	45
Gymnomuraena zebra	86
Chaetodon ephippium	90
Naso lituratus	108
Synodus dermatogenys	220
Heniochus diphreutes	249
Chaetodon lunulatus	281
Acanthurus olivaceus	362
Acanthurus unicornis	362
Canthigaster jactator	337
Chaetodon unimaculatus	380
Naso hexacanthus	414
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Caranx melampygus	665
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Stegastes fasciolatus	1,262
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Chaetodon auriga	1,403
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Zebrasoma flavescens	2,886
Acanthurus dussumieri	2,899
Acanthurus triostegus	4,386
Lutjanus fulvus	4,467
Mulloidichthys flavolineatus	7,158
Zanclus cornutus	8,100
Sphyraena barracuda	9,447
Acanthurus blochii	10,978
Abudefduf vaigiensis	14,253
Kuhlia xenura	17,440
TOTAL	97,562

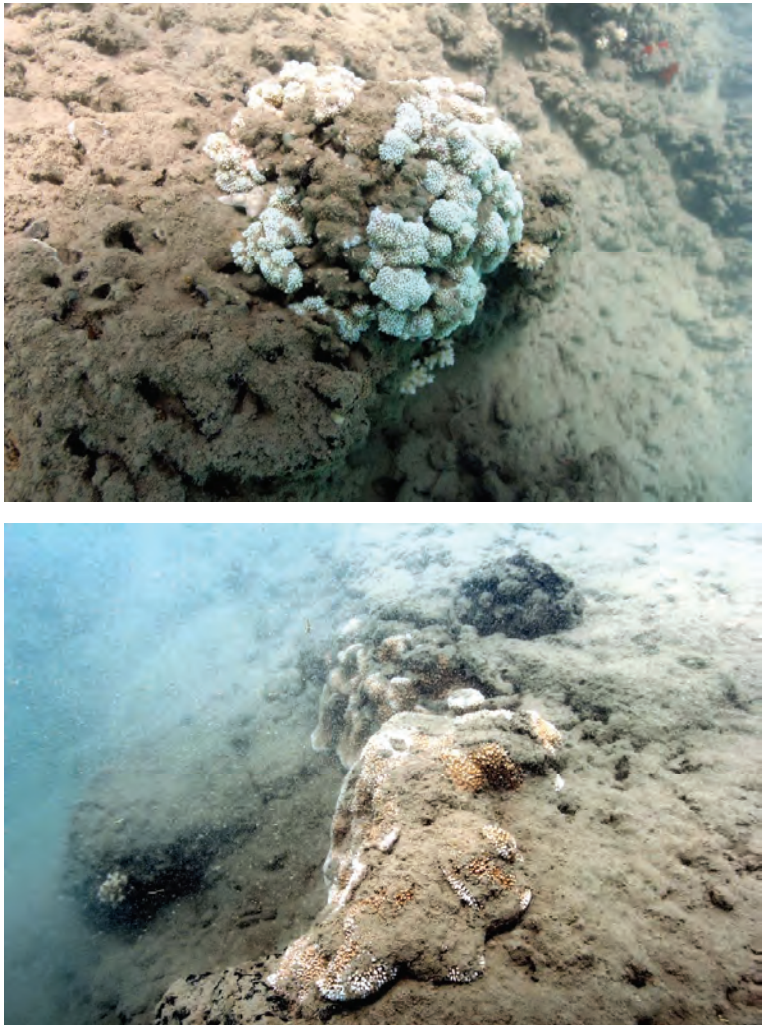


FIGURE 7. SECTOR A. Colonies of *Montipora capitata* on the edge of the dredged channel wall of Sector A-1. Note sediment cover over portions of colonies in both photos. For location of Sector A-1, see Figure 3.

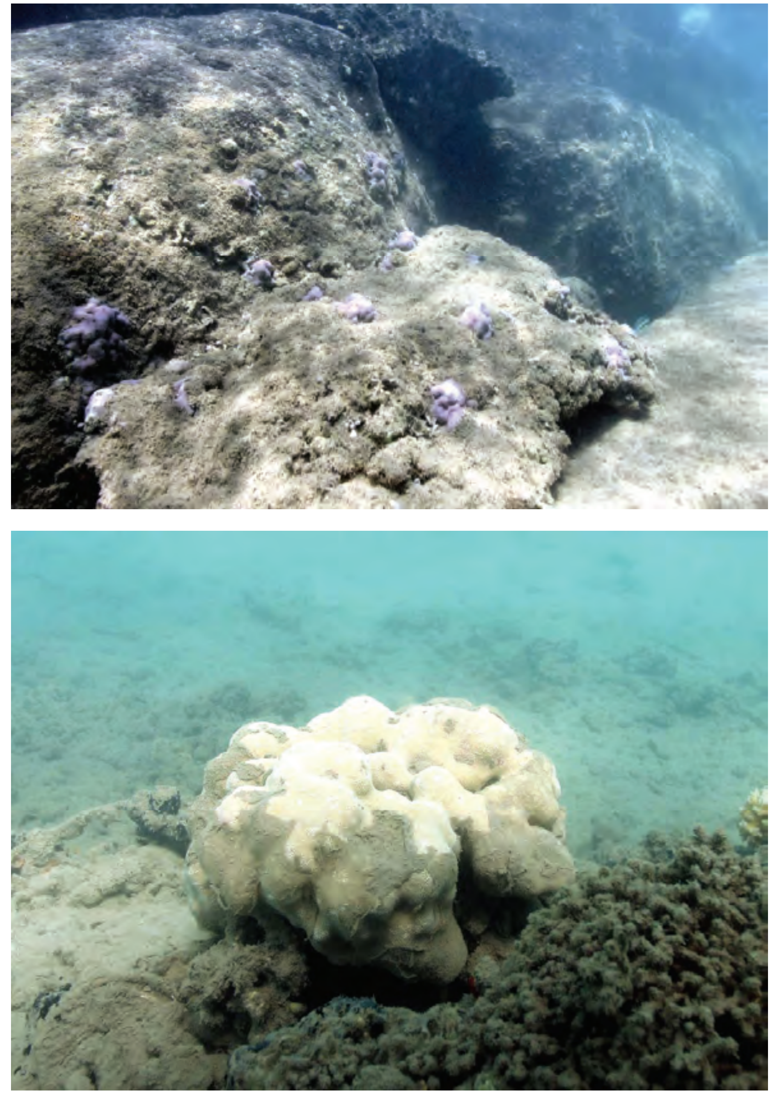


FIGURE 8. SECTOR A. Colonies of *Porites lobata* on the edge of the dredged channel wall of Sector A-1. Numerous small blue colonies were abundant throughout Sector A (top). Sediment covers all sides of larger colony in lower photo. For location of Sector A-1, see Figure 3.

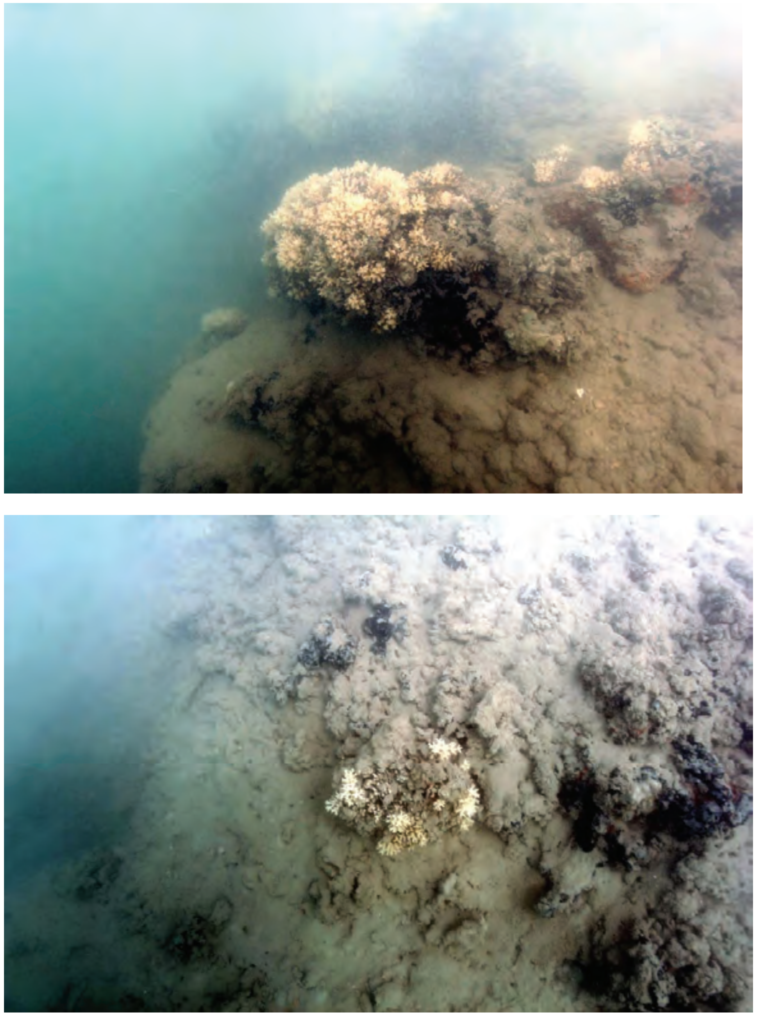


FIGURE 9. SECTOR B. Colonies of *Pocillopora damicornis* on the edge of the dredged channel wall of Sector B-2. Note extensive cover of fine-grained silt-mud over entire shelf and slope surface. For location of Sector B-2, see Figure 3.

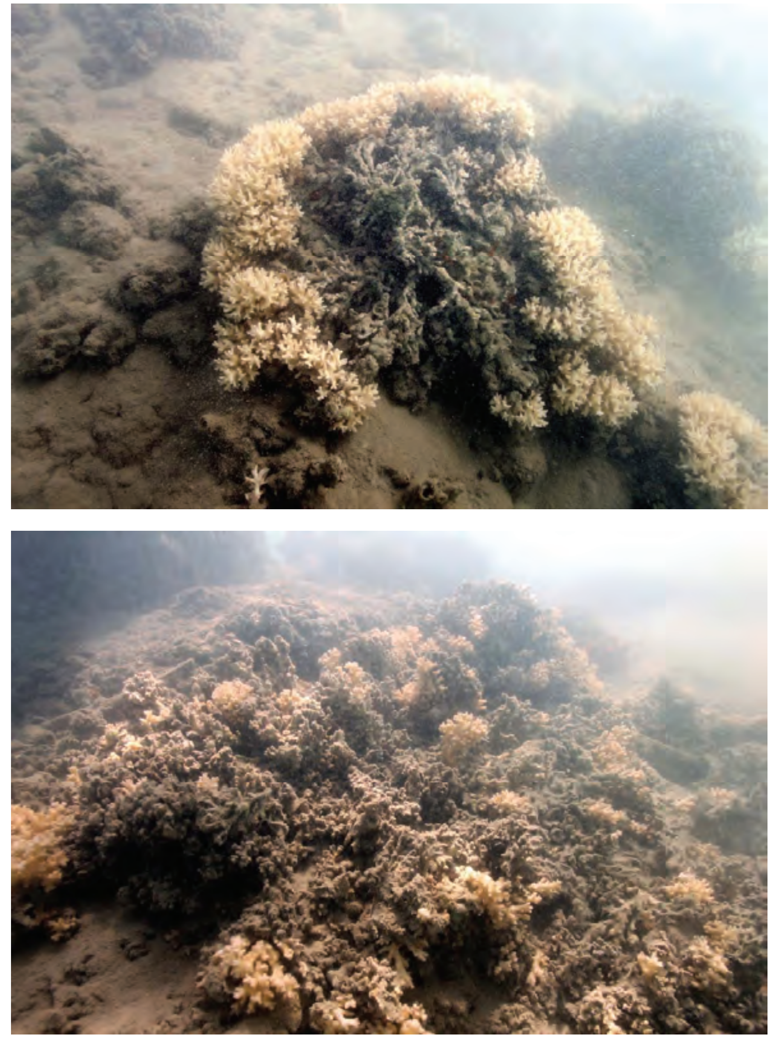


FIGURE 10. SECTOR B. Colonies of *Pocillopora damicornis* on the edge of the dredged channel wall of Sector B-1. In both photos, portions of the colonies are dead and encrusted with coralline algae. In both photos, it is not apparent if the living portions of the colonies are remnants from older larger colonies that have suffered partial mortality, or smaller individual colonies that have recolonized the older skeletal structure. For location of Sector B-1, see Figure 3.

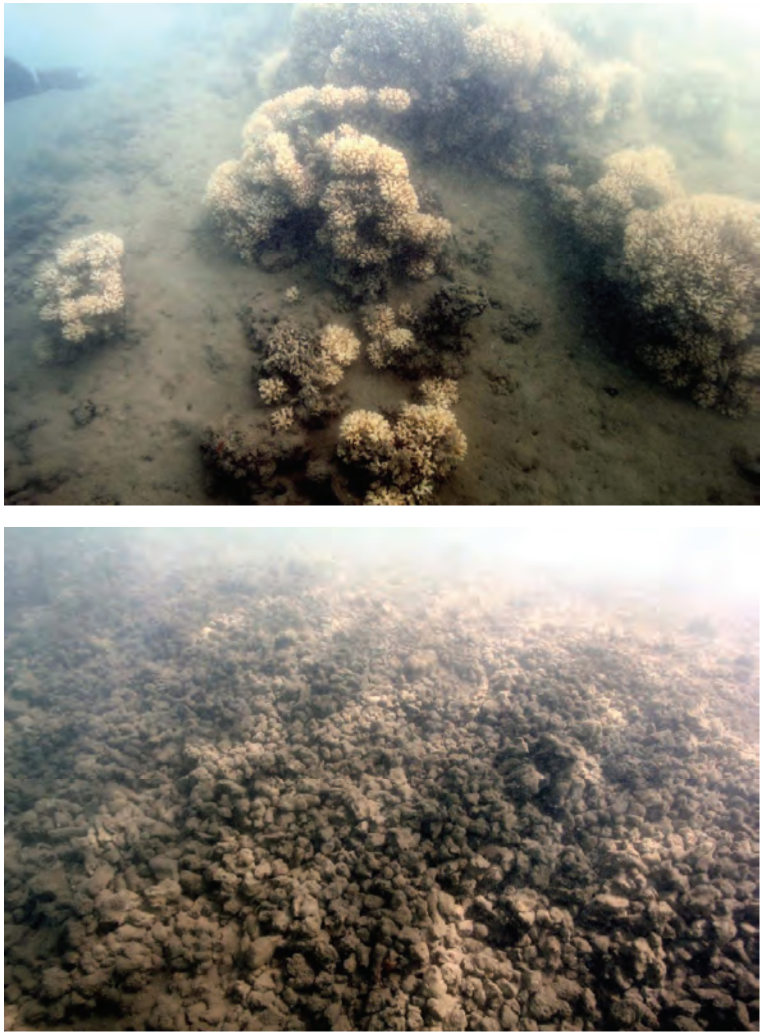


FIGURE 11. SECTOR B. Clustered colonies of *Pocillopora damicornis* on the top of the dredged channel shelf of Sector B-3. Bottom photo shows rubble bed that covers much of the top of the dredged channel shelf of Sector B-4. Colonies of P. damicornis were far less abundant in Sector B-4 compared to Sectors B1-3. For location of Sectors B-3 and B-4, see Figure 3.

FIGURE 12. SECTOR C. Divers conducting benthic surveys measuring and recording size-class of corals on vertical pilings of Sector C-1using rod marked with size class designations (top). Juncture of piling and sediment surface along with discarded debris on floor of Snug Harbor (bottom). For location of Sectors C-1, see Figure 4.

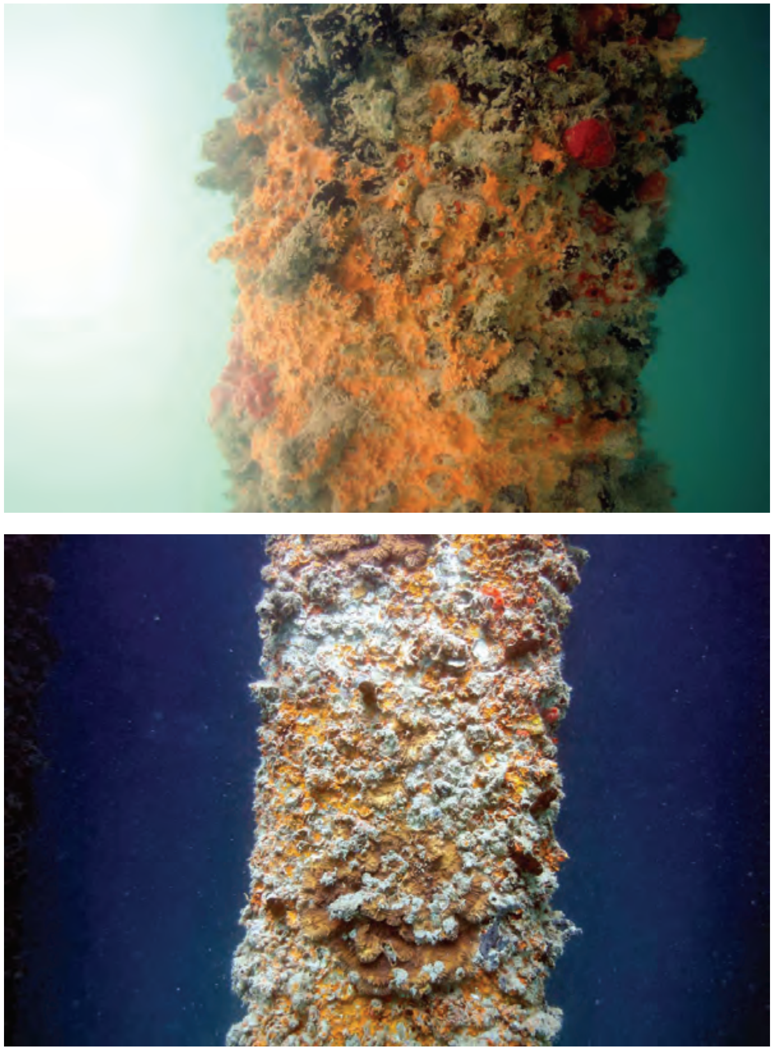


FIGURE 13. SECTOR C. Typical invertebrate colonizers on pilings comprising Snug Harbor include orange colored sponges *Mycale armata* (top) and *Dactyospongia* sp. (bottom). Piling in bottom photo is also encrusted with the coral *Pavona varians*. For location of Sector C, see Figure 4.

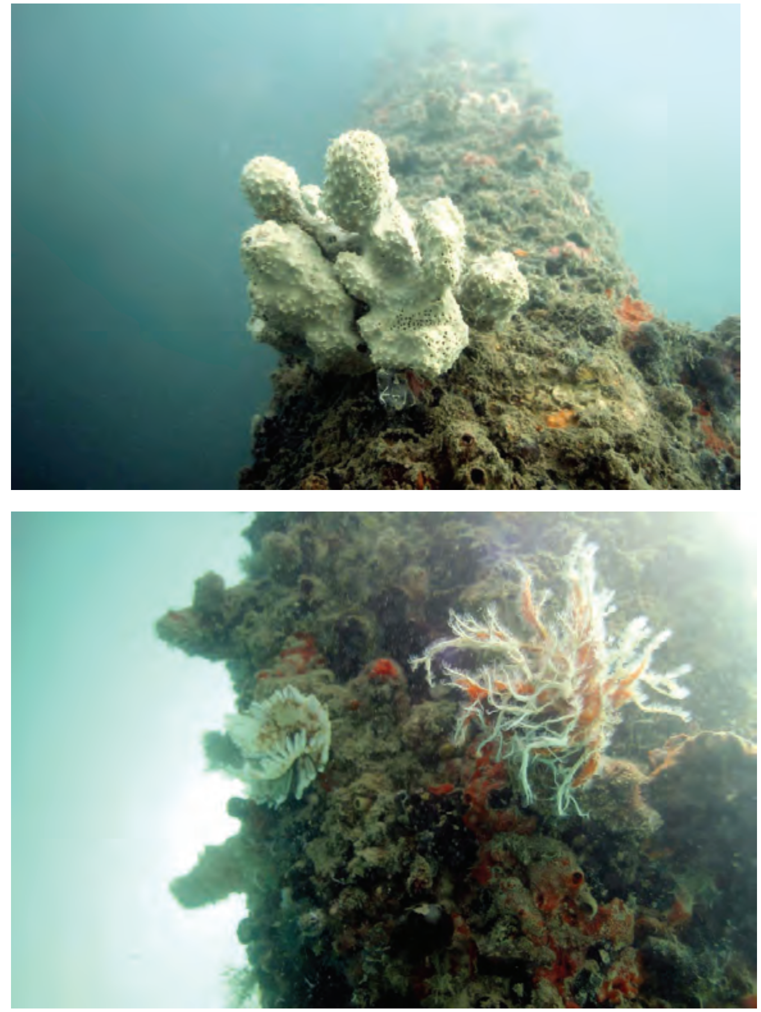


FIGURE 14. SECTOR C. Typical invertebrate colonizers on pilings comprising Snug Harbor include sponges *Liosina paradoxa* (top),the serpulid worm *Salmacina dysteri* (bottom right) and the polychaete worm *Sabellastarte spectabilis* (bottom left). For location of Sector C, see Figure 4.

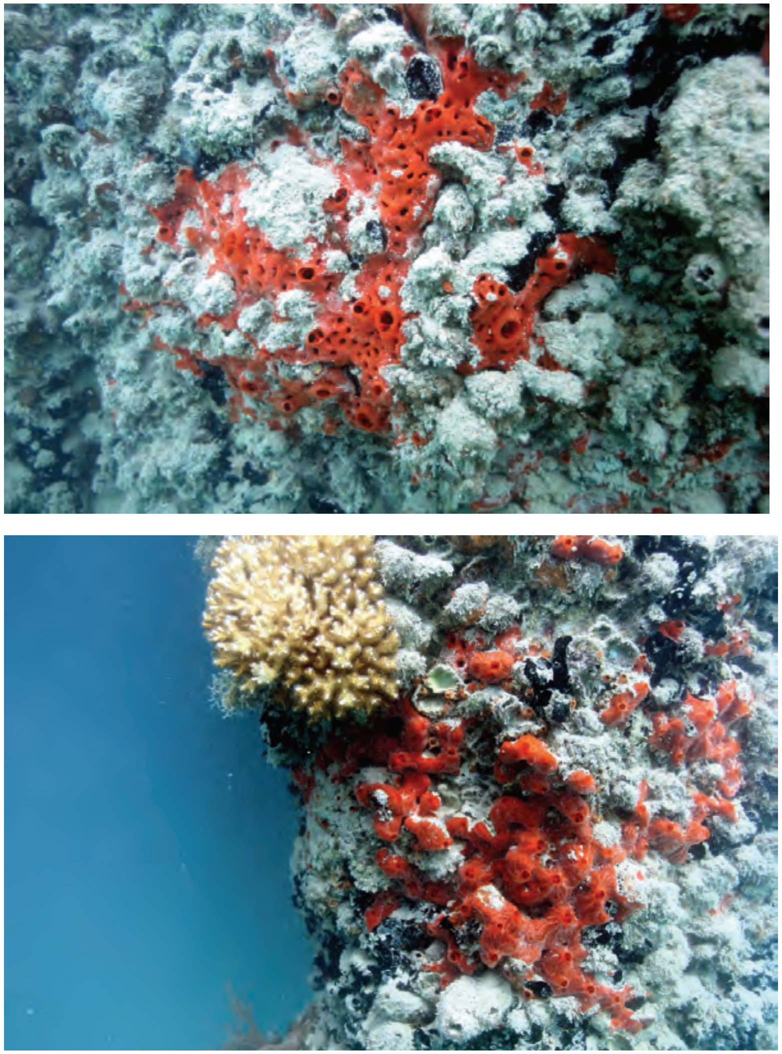


FIGURE 15. SECTOR C. Typical invertebrate colonizers on pilings comprising Snug Harbor include sponges *Mycale* sp. (top) and *Phorbas amaranthus* (bottom). For location of Sector C, see Figure 4.

FIGURE 16. SECTOR C. Typical invertebrate colonizers on pilings comprising Snug Harbor include sponges *Sigmadocia* sp. (top), *Chondrosia chucalla* (black), *Mycale* sp. (orange) in bottom photo. For location of Sector C, see Figure 4.

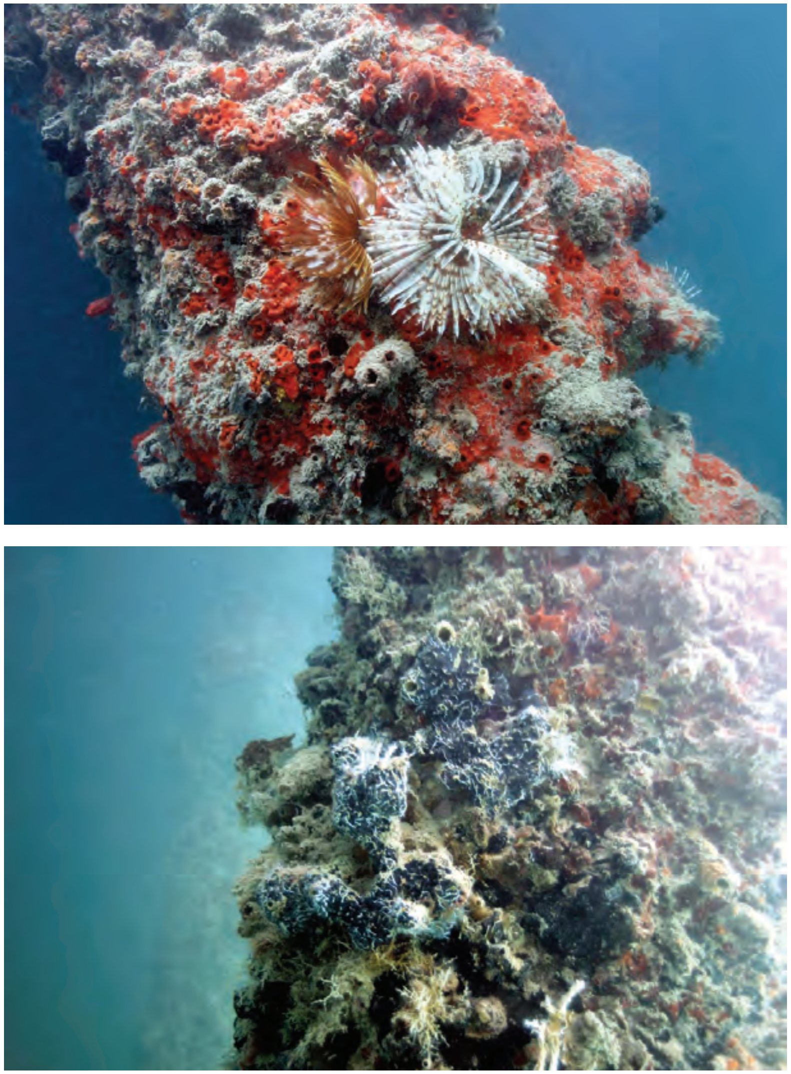


FIGURE 17. SECTOR C. Typical invertebrate colonizers on pilings comprising Snug Harbor include sponges *Clathria* sp. (top) and *Gelloides fibrosa* (bottom). For location of Sector C, see Figure 4.

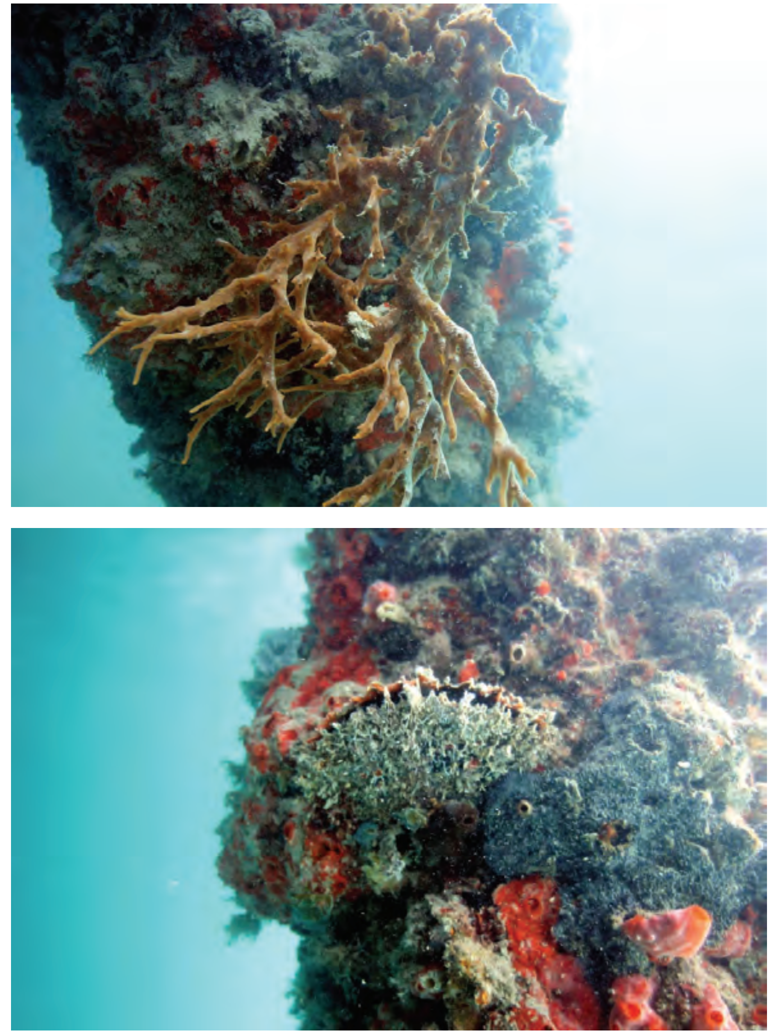


FIGURE 18. SECTOR C. Typical invertebrate colonizers on pilings comprising Snug Harbor include the sponge *Callyspongia diffusa* (top) and the bivalve *Pinctada margaritifera* (bottom). For location of Sector C, see Figure 4.

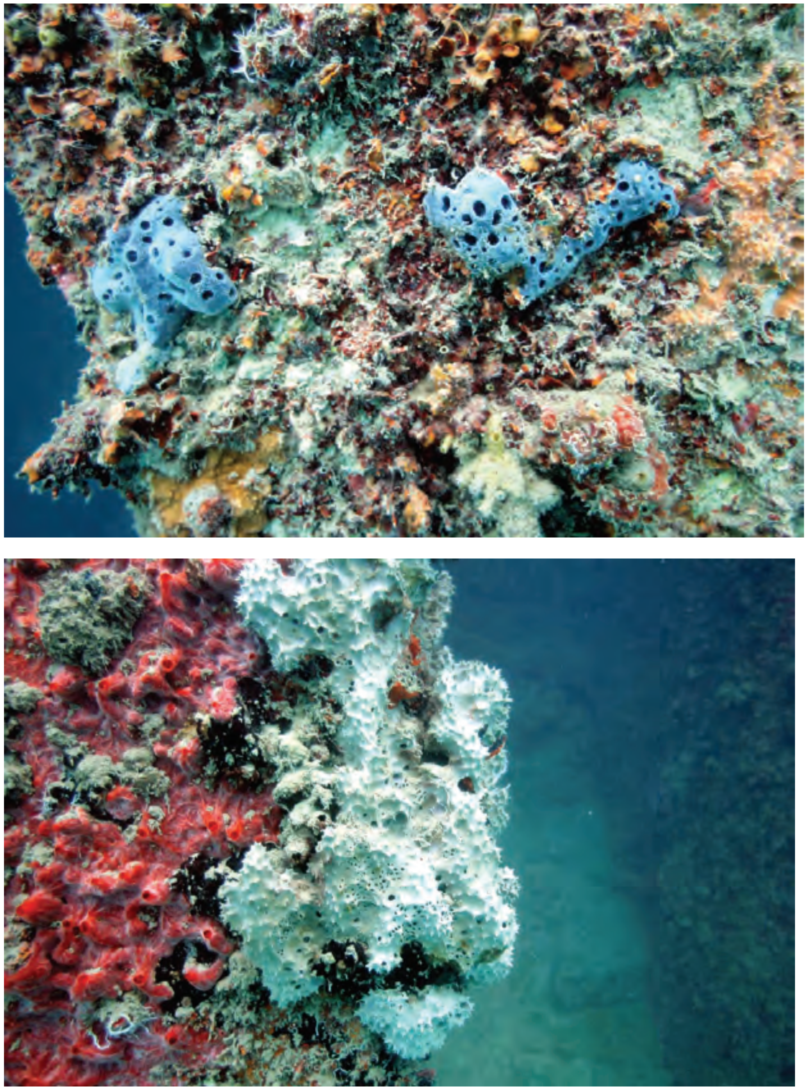


FIGURE 19. SECTOR C. Typical invertebrate colonizers on pilings comprising Snug Harbor include the sponges *Chalinula pseudomolitba* (top) and *Liosina paradoxa* (bottom). For location of Sector C, see Figure 4.

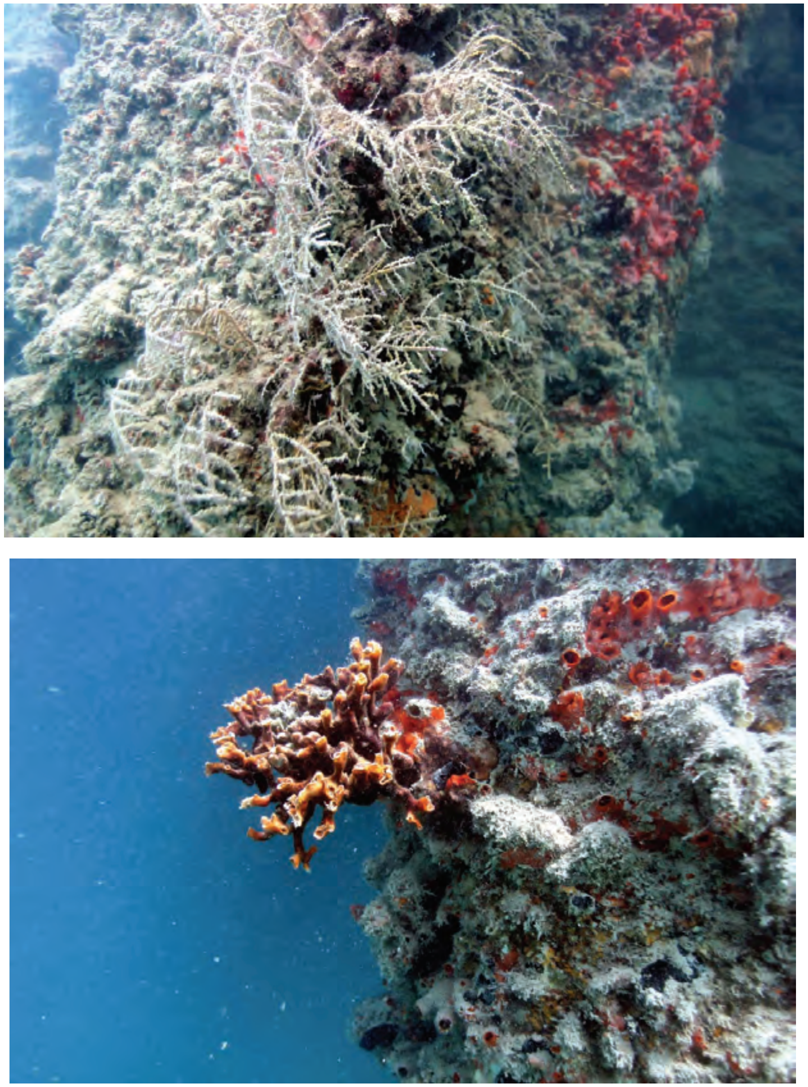


FIGURE 20. SECTOR C. Typical invertebrate colonizers on pilings comprising Snug Harbor include the bryozoans *Amansia distans* (top) and *Schizoporella errata* (bottom). For location of Sector C, see Figure 4.

FIGURE 21. SECTOR D. Various species of sponges (*Zygomycale parishii* (pink) and *Phorbas amaranthus* (red) colonizing submerged edge of Snug Harbor in Sector D (top). Several round colonies of *Leptastrea purpurea* on Pier edge (bottom). For location of Sector D, see Figure 4.

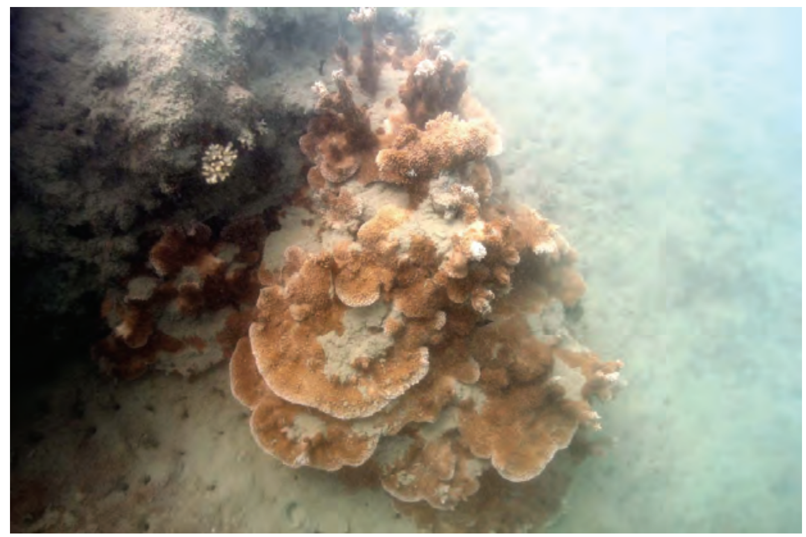


FIGURE 22. SECTOR E. Top photo shows field of 180 square concrete pilings on the east shoreline of Snug Harbor that comprise Sector E. Bottom photo shows multi-tiered colony of *Montipora capitata* growing on edge of dredged channel wall at juncture of Sectors D and E. For location of Sector E, see Figure 4.

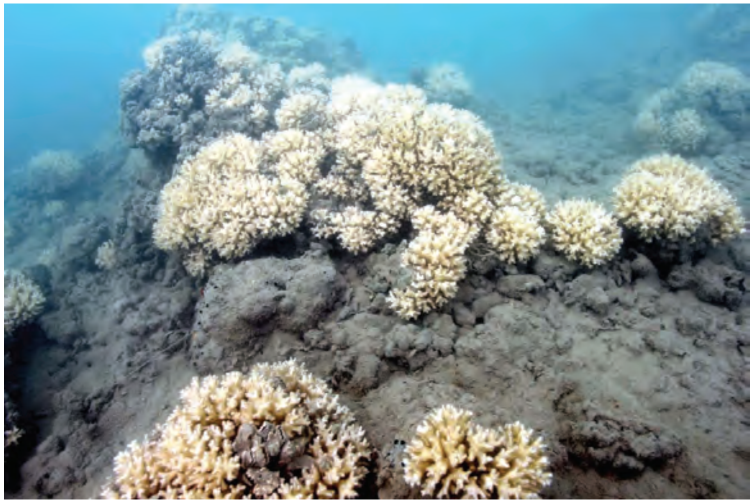
FIGURE 23. SECTOR E. Top photo shows branching colony of *Montipora capitata* encircling piling in Sector E. The branching growth form of *M. capitata* was rare throughout the survey area. Bottom photo shows more typical growth formof *M. capitata* observed in the survey area as a mass of overlapping thin plates. For location of Sector E, see Figure 4.

FIGURE 24. SECTOR E. Top and bottom photos show typical overlapping plating growth form of *Montipora patala* on pilings in Sector E. For location of Sector E, see Figure 4.

FIGURE 25. SECTOR E. Top and bottom photos show typical mounded growth form of *Porites lobata* on pilings in Sector E. For location of Sector E, see Figure 4.

FIGURE 26. SECTOR E. Top photos shows typical finely branched growth form of *Pocillopora damicornis* occurring on pilings in Sector E. Bottom photo shows flat encrusting colony of *Pavona varians* which occurred rarely within Sector E. For location of Sector E, see Figure 4.

FIGURE 27. SECTOR E. Two views of the southern terminus of the pilings comprising Sector E at the edge of Kapalama Basin. The sloping dredged face and array of pilings provides one of the only habitats within the Kapalama survey area where fish were considered abundant. Top photo shows school of blue-lined surgeonfish (*Acanthurus nigroris*). Fish in center of bottom photo are black-tailed snapper *(Lutjanus fulvus)*. For location of Sector E, see Figure 4.



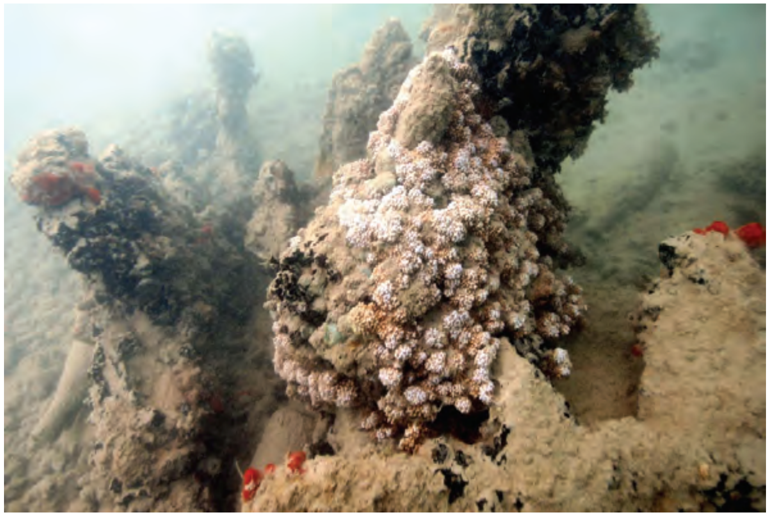


FIGURE 28. SECTOR F. Top photo shows typical assemblages of *Pocillopora damicornis* occurring on dredged shelf at western corner of Sector F. Bottom photo shows colony of *Montipora patula* encrusting metal debris on the dredged shelf within Sector F. For location of Sector F, see Figure 4.

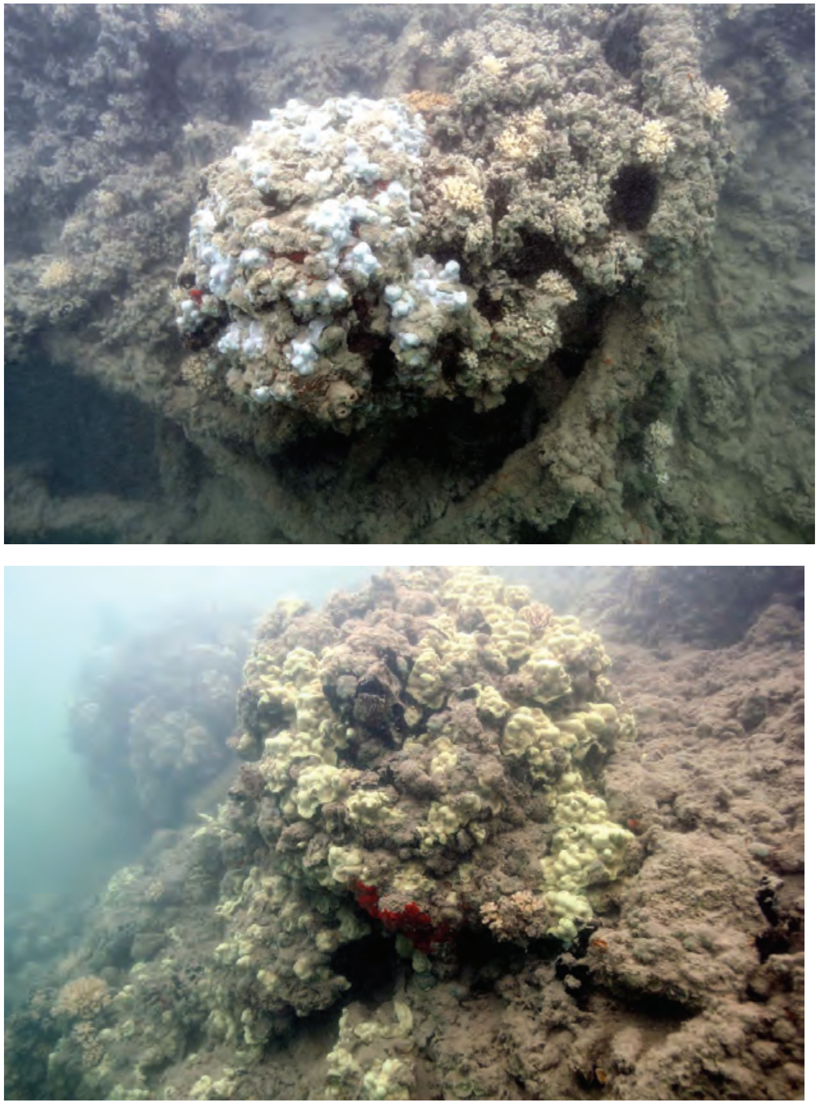


FIGURE 29. SECTOR F. Two photos showing large heads of *Porites lobata* occurring on dredged shelf comprising Sector F. Note partial mortality of all large coral colonies. For location of Sector F, see Figure 4.

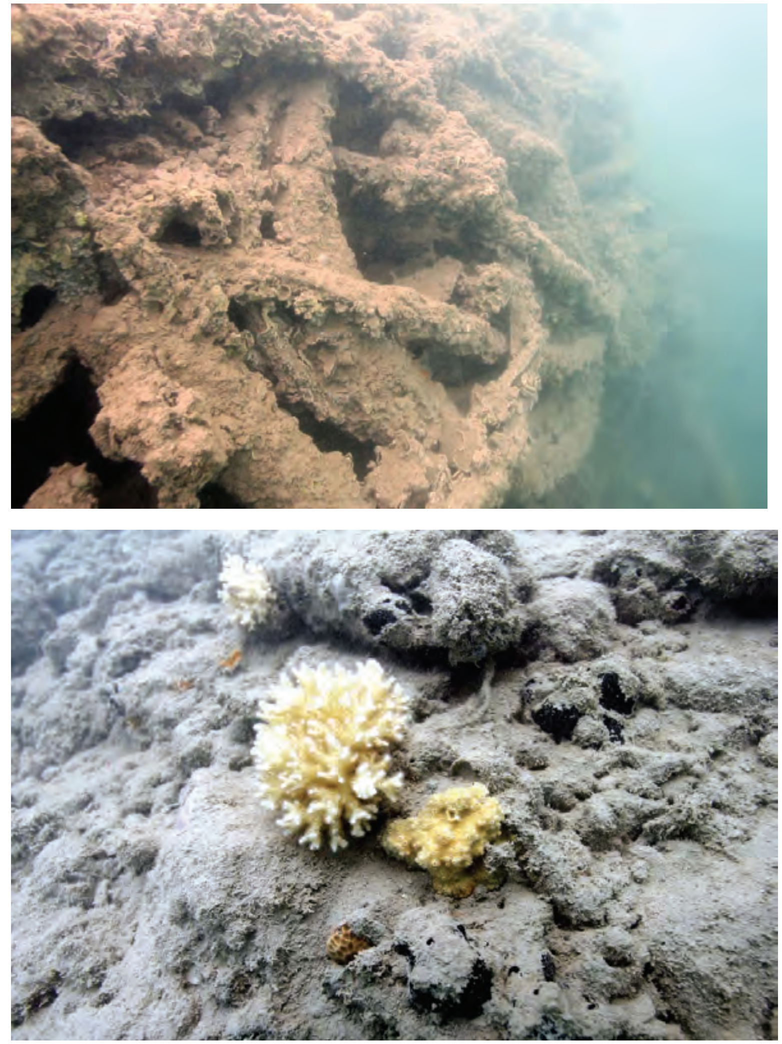


FIGURE 30. SECTOR F. Upper photo shows encrusted debris covering vertical channel wall at eastern end of Sector F. Numerous dead and sediment covered colonies of Porites lobata can be discerned on the debris. Bottom photo shows small colonies of *Pocillopora damicornis*, *Cyphastrea ocellina*, and *Leptastrea purpurea* on dredged shelf of Sector F. *Pocillopora damicornis* and *L. purpurea* were abundant throughout the survey area while C. *ocellina* was rarely observed. For location of Sector F, see Figure 4.

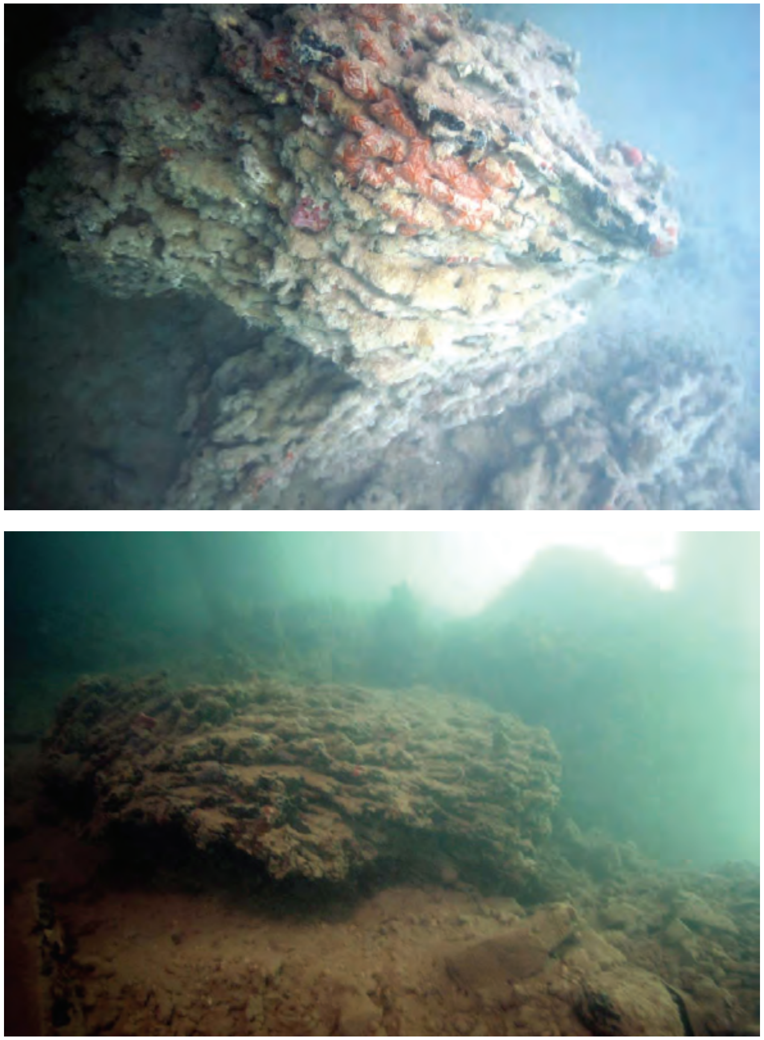


FIGURE 31. SECTOR I. Two photos showing large chunks of calved off sections of old reef that are likely remnants of dredging of Pier 41. For location of Sector I, see Figure 5.

FIGURE 32. SECTOR I. Two photos showing coral colonies growing on dredged platform at inland end of Sector I. For location of Sector I, see Figure 5.

FIGURE 33. SECTOR K. Two photos showing large flat colonies of *Montipora patula* growing on vertical sheet piling comprising Sector K. For location of Sector K, see Figure 5.

FIGURE 34. SECTOR K. Two photos of colonies of *Montipora capitata* growing on vertical sheet piling comprising Sector K. For location of Sector K, see Figure 5.

FIGURE 35. SECTOR K. Two photos of colonies of *Porites lobata* growing on vertical sheet piling comprisin Sector K. For location of Sector K, see Figure 5.

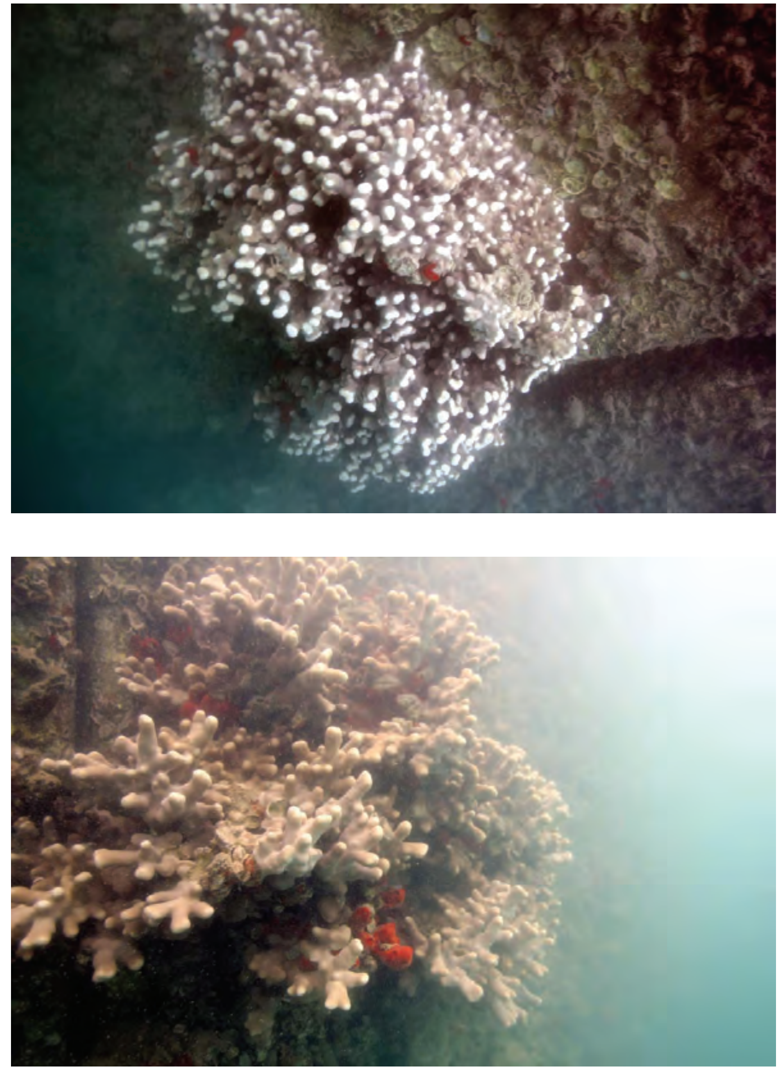
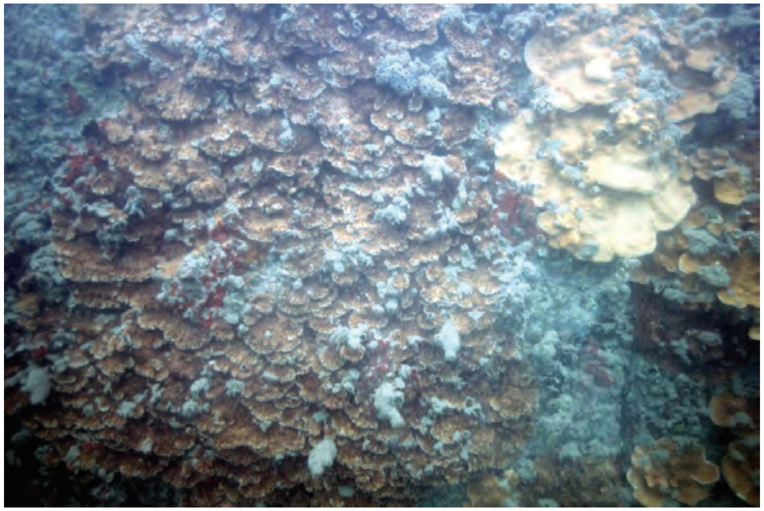


FIGURE 36. SECTOR K. Two photos of colonies of *Porites compressa* growing on vertical sheet piling comprising Sector K. This sector was the only location within the Kapalama Basin survey area where large colonies of *P. compressa* occurred. For location of Sector K, see Figure 5.



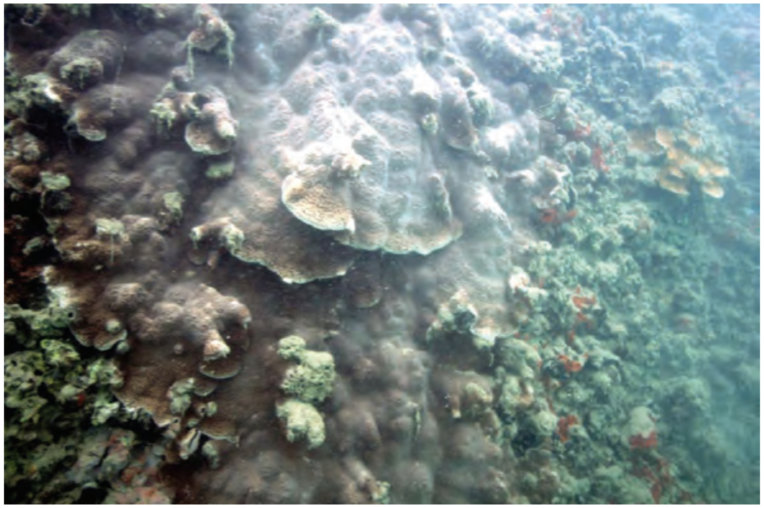


FIGURE 37. SECTOR K. Upper photo shows large colony of overlapping plates of *Pavona varians* on sheet piling comprising Sector K. While other colonies of *P. varians* was observed sporadically in other sectors of the Kapalama survey area, none were as large as the one shown. Lower photo shows a large encrusting colony of *Porites monticulosa*, which was the only colony of this species observed anywhere in the study area. For location of Sector K, see Figure 5.

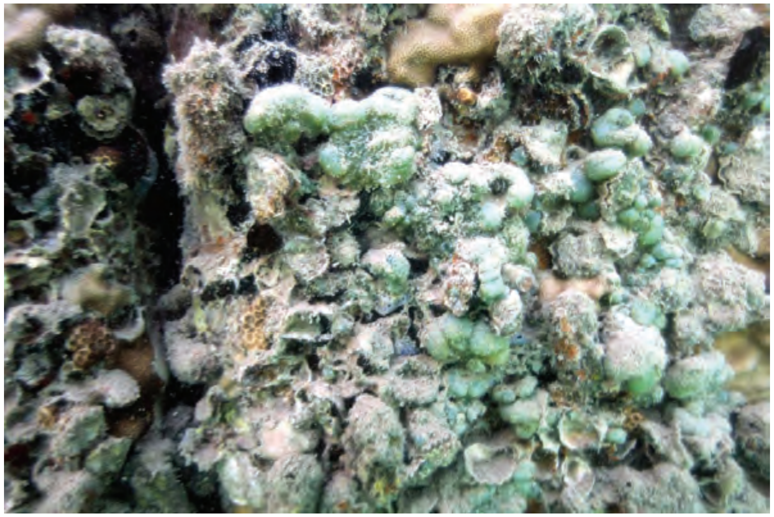


FIGURE 38. SECTOR K. Upper photo shows single colony of *Pocillopora eydouxi* on sheet piling comprising Sector K. This colony was the only one of the species observed in the Kapalama survey area. Lower photo shows encrustations of the green alga *Dictyosphaeria cavernosa* growing on the sheet piling of Sector K. Frondose algae were extremely rare throughout the Kapalama survey area. For location of Sector K, see Figure 5.

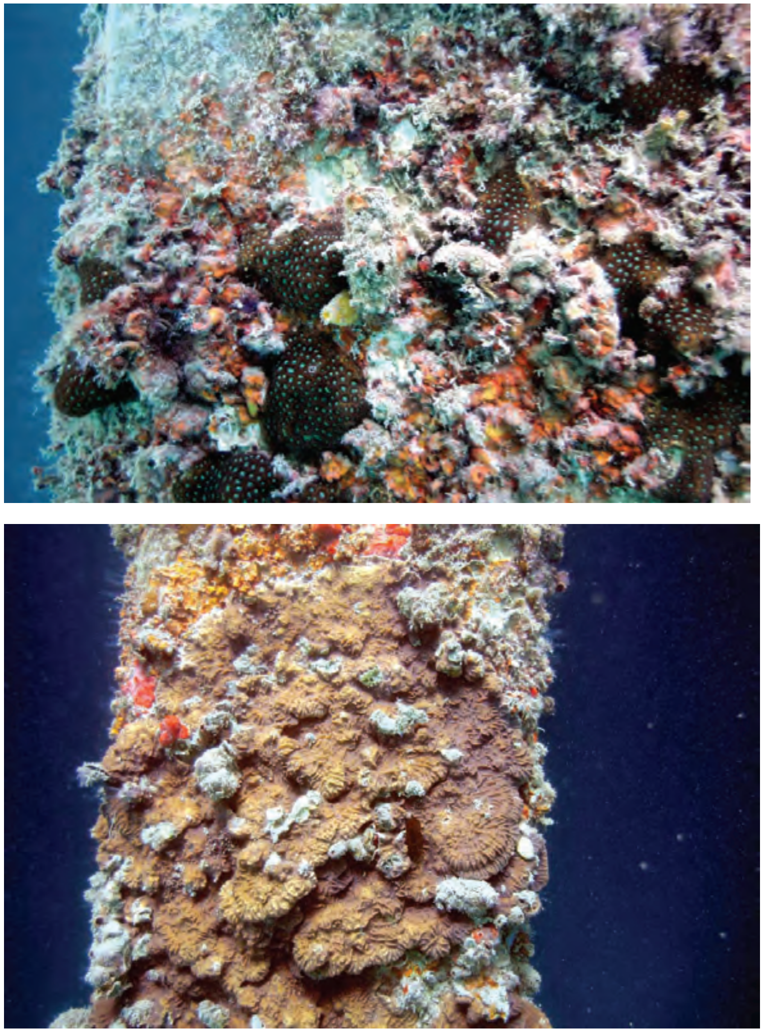


FIGURE 39. SECTOR P-24. Colonies of *Leptastrea purpurea* (top) and *Pavona varians* (bottom) on concrete piles on Pier 24 in area proposed for placement of PSI drydock. For location of Sector P-24, see Figure 6.

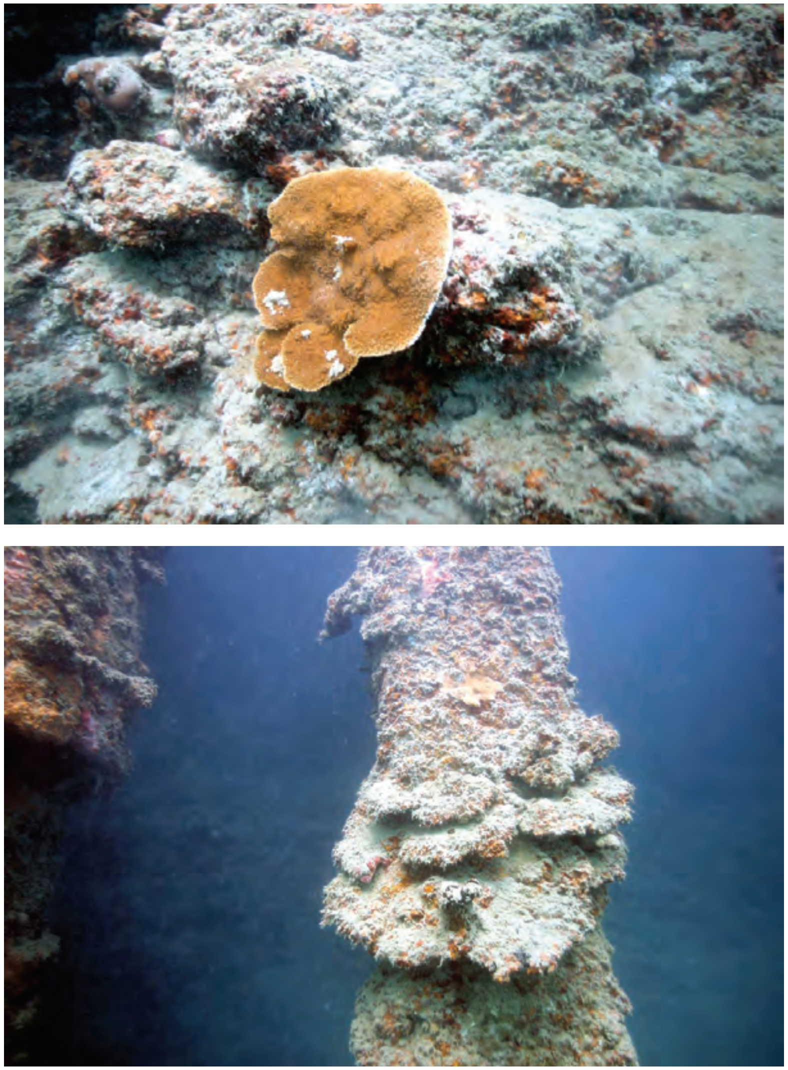


FIGURE 40 SECTOR P-24. Colony of *Montipora capitata* growing of dredged shoreline underneath Pier 24 (top). Bottom photo shows skeletal remnants of overlapping plating colony, likely *Montipora* spp., on concrete piles on Pier 24 in area proposed for placement of PSI dry dock. For location of Sector P-24, see Figure 6.

FIGURE 41. SECTOR P-26. Colonies of *Montipora* spp. on pilings comprising Pier 26. Note in bottom photo separation of plates in discrete "sub-colonies" that may be either the resulting remnants of partial mortality of a large colony or settlement of growth of multiple new colonies on older remnant structure. For location of Sector P-26, see Figure 6.

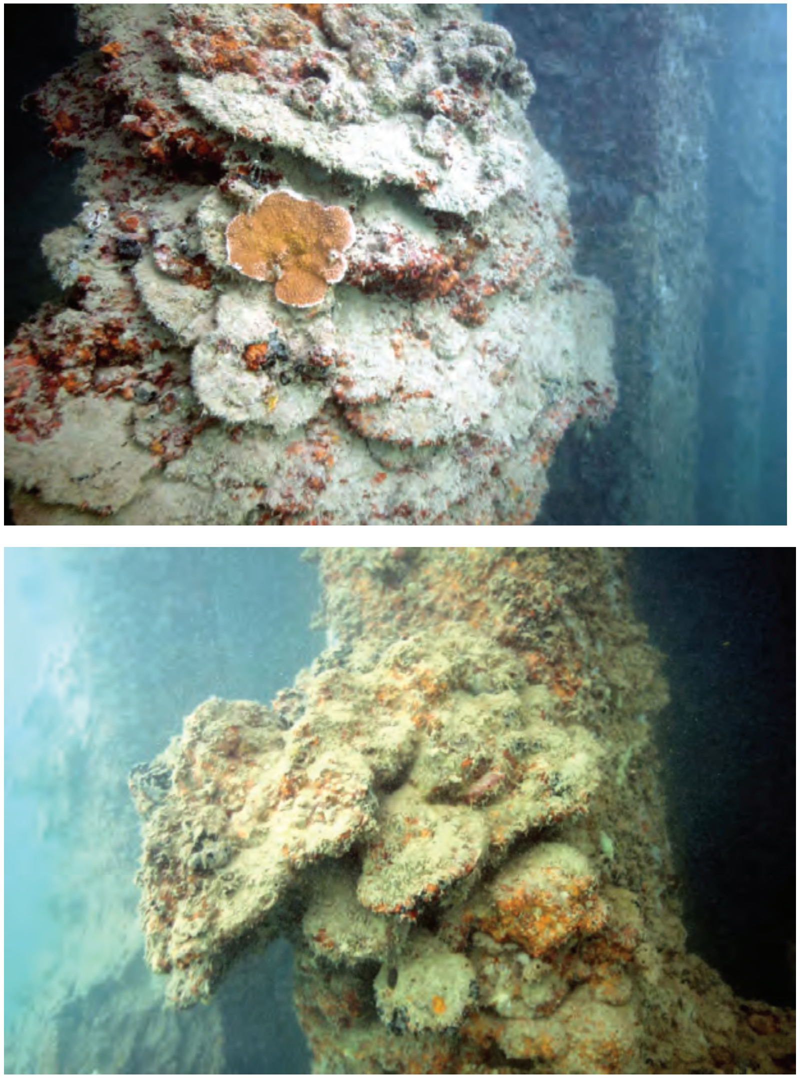


FIGURE 42. SECTOR P-26. Colonies of predominantly dead *Montipora* spp. on pilings comprising Pier 26. Small colony of *M. capitata* in top photo may be either the resulting remnants of partial mortality of a large colony or settlement of growth of multiple new colonies on older remnant structure. For location of Sector P-26, see Figure 6.

FIGURE 43. SECTOR P-27. Colonies of *Montipora capitata* on pilings comprising Pier 27. Note difference in appearance of colonies compared to those on Pier 26 (Figures 41 and 42) in terms of lack of dead portions of colonies. For location of Sector P-27, see Figure 6.

FIGURE 44. SECTOR P-27. Colonies of *Montipora patula* on pilings comprising Pier 27. Note difference in appearance of colonies compared to those on Pier 26 (Figures 41 and 42) in terms of lack of dead portions of colonies. For location of Sector P-27, see Figure 6.

FIGURE 45. SECTOR P-28. Hemispherical colony *Porites lobata* approximately one meter in diameter on boulder shelf (bottom). Corals in this area showed less impact from sediment deposition than anywhere else in the survey region. For location of Sector P-28, see Figure 6.

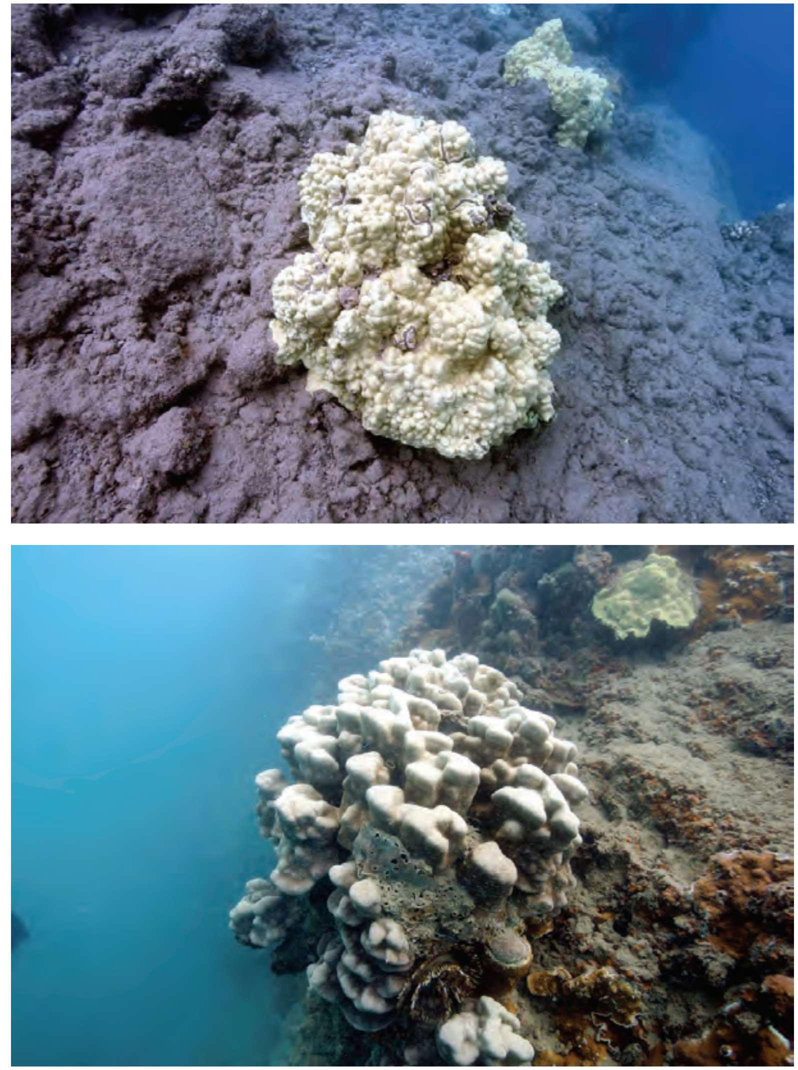


FIGURE 46. SECTOR P-28. Colonies of *Porites lobata* on dredged shelf near end of Pier 28 (top). Bottom photo shows colony of *Porites duerdeni*, which was not observed in any other survey sectors. Corals in this area showed less impact from sediment deposition than anywhere else in the survey region. For location of Sector P-28, see Figure 6.

FIGURE 47. SECTOR P-28. Near solid cover of overlapping plates of *Montipora capitata* (top) and *Montipora patula* (bottom) lining dredged edge of Pier 28. For location of Sector P-28, see Figure 6.

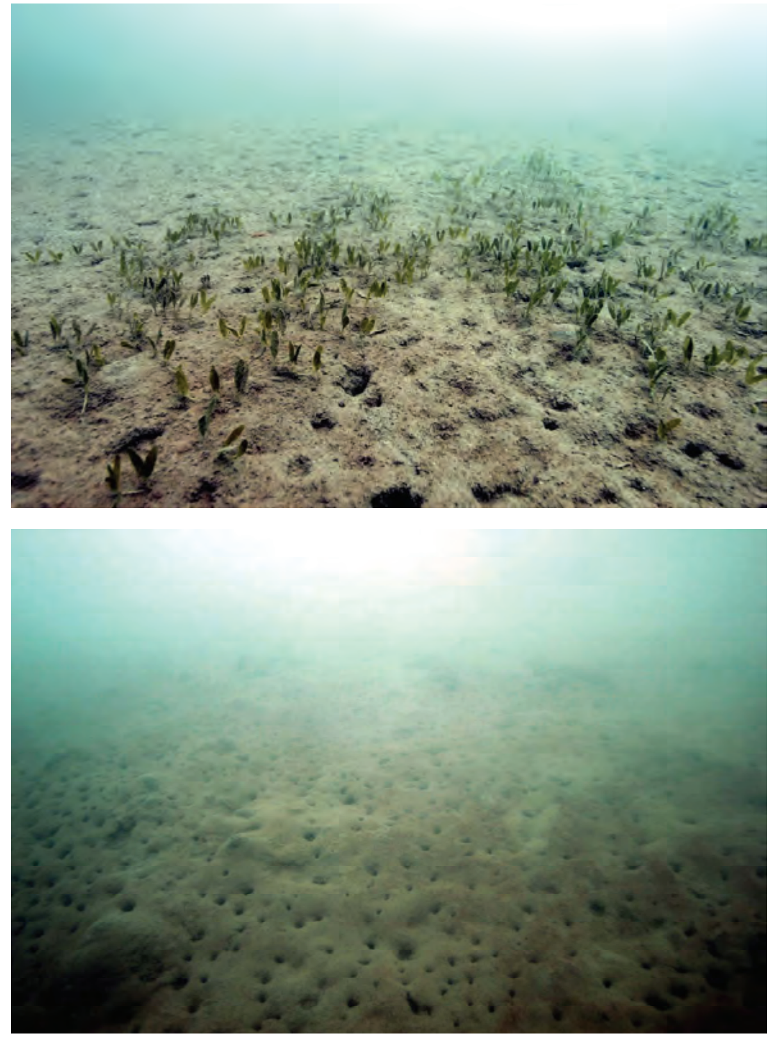


FIGURE 48. SECTOR P-28. Patch of seagrass *Halophila hawaiiana* on floor of Honolulu Harbor near the junction of Piers 27-28 (top). Seagrass was not observed in any other regions of the survey area. Bottom photo shows typical view of silt-mud bottom of Honolulu Harbor pocked with numerous openings from burrowing infauna. For locations of Piers 27-28, see Figure 6.

MARINE
RESEARCH
CONSULTANTS
1039 WAAKAUA PL. HON. HI 96825

December 4, 2012

Carter Luke, PE
Engineering Program Manager
Department of Transportation, Harbors Division
79 South Nimitz Highway
Honolulu, HI 967813

RE: Marine Surveys of Pacific Shipyards Dock Areas

Dear Mr. Luke;

Owing to hazardous diving conditions in the vicinity of the Pacific Shipyards International (PSI) working dry docks, the pier structures on Piers 41 and 42 were not included in the original biological assessments of the area of Honolulu Harbor that will be affected by the proposed Kapalama Container Terminal. On November 1, 2012 arrangements were made with PSI to allow divers to conduct an underwater survey of the docks to assess biotic populations inhabiting the area in order to provide complete coverage of the area that will potentially be affected by the proposed activity.

Piers 41 and 42 were designated as "Section H" for the Biological Assessment of the Kapalama Area. For the present evaluation, Section H was further divided into four subsections (H-1, H-2, H-3, H-4) (Figure 1). Sub-section H-1 is the berthing site for the PSI dry dock "KeKaulana", sub-sections H-2 and H-3 are the berthing site for numerous commercial boats, and sub-section H-4 is the berthing site for the PSI dry dock "Kapilipono."

Overall, the physical structure of the entirety of Sector H in Honolulu Harbor is similar to other sectors surveyed in Kapalama basin. The dredged silt bottom and vertical pier wall give very little three dimensional complexity for a reef habitat. As Sector H had the highest density of large vessels moored for extended periods of time, biotic colonization of the pier faces was lowest of any other survey sector of the Kapalama area. Summaries of the observations of each sub-sector are presented below; quantification of coral colony abundance by size-class is shown in Table 1, while fish abundance and biomass is shown in Table 2.

Sub-sector H-1

The pier face comprising Sub-sector H-1consists of corrugated concrete sheet-piling that extends the length of the dry dock KeKaulana, although the dry dock is separated from the pier by a distance of approximately 10 feet. The gap provides exposure to light for at least part of the day, resulting in colonization by some corals, consisting predominantly of small branching

colonies of *Pocillopora damicornis* (Figure 2). Other corals observed were small colonies of *Porites lobata* and *Montipora* spp., *Pavona varians* and *Leptastrea purpurea*. Other macro-invertebrate colonization consisted primarily of small sponges. The fishes observed during the survey were typical of other surveys in the harbor, although abundance was less than in most other sectors. The most abundant fish in Sector H-1 was damselfish *Abudefduf abdominalis*.

Sub-sector H-2

Sub-sector H-2 consists of sheet-piling similar to sub-sector H-1. The majority of the piers in this area are docking space for a number of commercial catamarans that appear to be semi-permanently moored. Coral colonies consisted primarily of small encrustations of *Porites lobata* and *Montipora* spp. (Figure 3, top). The innermost portion of the piers were colonized by numerous small encrustations of *Leptastrea purpurea* (Figure 3, bottom).

Sub-sector H-3

Sub-sector H-3 contains the fewest number of moored vessels which is reflected by the highest cover and diversity of coral of the sub-sectors comprising Sector H. The corrugated face of the pier is colonized primarily by numerous small encrusting colonies of Porites lobata and Montipora spp. Of particular interest is that at the outer facing end of Sub-sector H-3 near the juncture with sub-sector H-4 is the only area within Sector H with development of a community of larger coral colonies (Figure 5, top). This small community consists primarily of larger mound-shaped colonies of Porites lobata, as well as several branching colonies of P. compressa. As no vessels were moored in this area, and the orientation maximizes exposure to direct sunlight, the pier face provides a suitable combination of physical factors for settlement and prolonged growth of coral. Reef fish were also most abundant in this area with the occurrence of a school of ring-tailed surgeonfish (Acanthurus blochii), as well as several other species (Table 2).

Sub-sector H-4

Sub-sector H-4 consists of mooring area for the large PSI dry dock Kapilipono. The dry dock is moored securely against the pier resulting is no exposure to ambient light to the pier and pilings. Inspection of the exposed pier using underwater lights revealed no colonization of corals and only very minor coverage by other invertebrates (Figure 5). Within the arc of the underwater light, five fish were observed during the inspection of the length of the piers underlying the dry-dock (Table 2).

In summary, surveys of the submerged areas of Piers 41 and 42 occupied by PSI dry docks and other moored commercial vessels revealed somewhat similar biotic community structure as observed in other sectors of the piers within the Kapalama basin area of Honolulu Harbor. The principal difference between this sector and much of the other areas of the Harbor is that the continual presence of moored vessels appears to restrict available light, hence restricting the development of larger colonies which were found on piers and pilings in other areas of the Harbor. The extreme of this situation occurs along the expanse of Pier 41 where the dry dock Kapilipono is permanently moored flush against the pier, resulting in complete elimination of conditions suitable for coral settlement and growth. The one area that represents an exception to the pattern is the small region at the end of the finger pier separating Piers 41 and 42. At this location, a small area is colonized by a larger, well developed coral structures. Observations of these corals, as well as all of the corals in the other regions of Sector H did not reveal the presence of coral disease. This observation is consistent with the results from inspection of the corals inhabiting the piers in the Kapalama Basin which were consistently free of coral disease.

Sincerely,

Steven Dollar, Ph.D

FIGURE 1. Aerial image of Piers 41 and 42 in Honolulu Harbor showing locations of Pacific Shipyards two floating dry-docks KeKaulana and Kapilipono. Yellow and red lines denotes sector H, and sub-sectors H-1, H-2, H-3 and H-4 used in marine assessment of Kapalama Basin.

TABLE 1. Counts of coral colonies according to size classes on survey sub-sectors of Sector H in Kapalama Basin. Only coral species occurring in each sector are shown for that sector. For location of sectors, see Figure 1.

SECTOR H-1	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata		5	3	1	1				10
Pocillopora damicornis	31	28	26	16					101
Montipora capitata		1	2	1					4
Montipora patula			2	1					3
Leptastrea purpurea	2	3							5
Pavona varians				2	2				4
TOTAL	33	37	33	21	3	0	0	0	127

SECTOR H-2	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata	15	53	12	2					82
Pocillopora damicornis	12	26							38
Montipora capitata			1						1
Montipora patula		2							2
Leptastrea purpurea	87	15							102
TOTAL	114	96	13	2	0	0	0	0	225

SECTOR H-3	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata	76	64	37	10	11	12	2		212
Porites compressa						2			2
Pocillopora damicornis	12	6							18
Montipora capitata		2	4						6
Montipora patula		6	8	2					16
Leptastrea purpurea	21	23	3						47
TOTAL	109	101	52	12	11	14	2	0	301

SECTOR H-4	SIZE CLASS (cm)								
SPECIES	≤2	>2≤5	>5≤10	>10≤20	>20≤40	>40≤80	>80≤160	>160	TOTAL
Porites lobata									0
Pocillopora damicornis									0
Leptastrea purpurea									0
TOTAL	0	0	0	0	0	0	0	0	0

TABLE 2. Fish abundance and biomass in Sector H, Kapalama Basin, Honolulu Harbor.

Sub-Sector	Species	Abundance	Size (cm)	Biomass (g)
H-1	*Mulloidichthys flavolineatus*	1	20	85.2
	Canthecaster jactator	2	10	53.2
	Chaetodon lunula	1	10	29.5
	Chaetodon auriga	1	10	28.0
	Abudefduf abdominalis	20	8	176.4
	Zanclus cornutus	1	10	34.5
H-2	*Abudefduf abdominalis*	10	9	129.6
	Abudefduf vaigiensis	5	10	91.4
	Acanthurus blochii	9	15	1126.0
	Stegastes marginatus	1	15	99.9
	Chaetodon auriga	2	10	56.0
H-3	*Acanthurus blochii*	40	12	2481.3
	Chaetodon auriga	2	10	56.0
	Zebrasoma veliferum	1	10	24.9
	Abudefduf vaigiensis	12	10	219.5
	Naso lituratus	2	18	364.0
	Zebrasoma flavescens	1	8	12.9
H-4	*Chaetodon auriga*	4	12	191.9
	Acanthurus blochii	1	15	125.1
TOTAL		116		5385.4

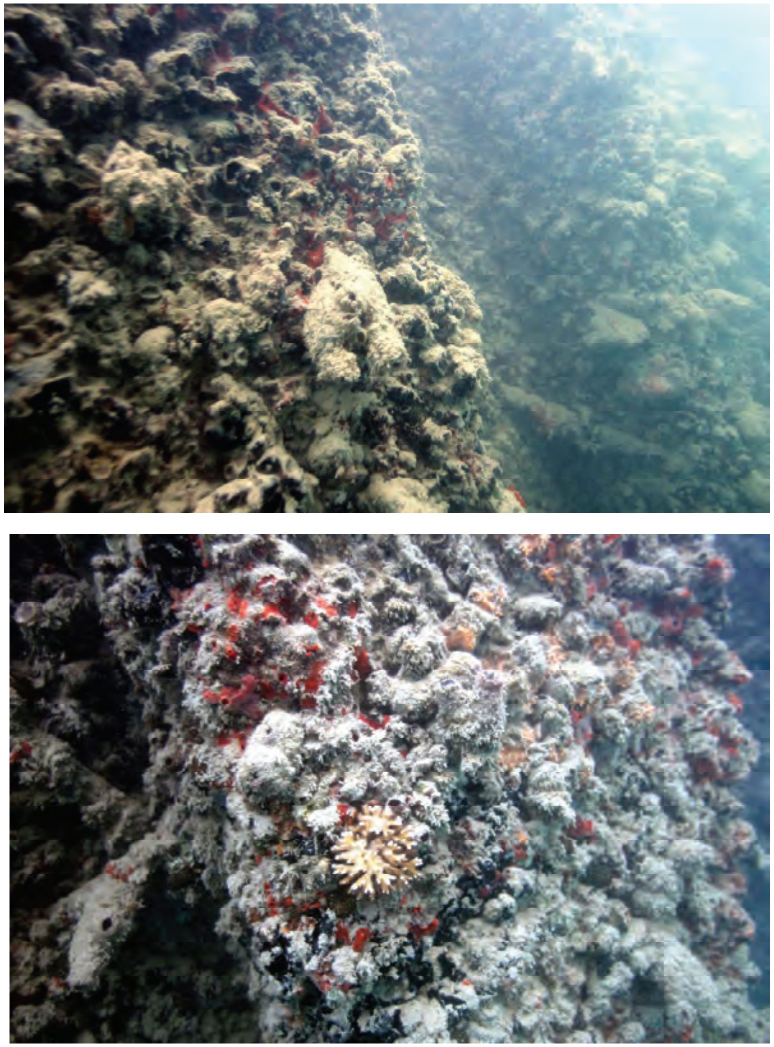


FIGURE 2. Two photos of sheet-piling wall of Pier 42 designated as Section H-1 in Figure 1 inshore of PSI dry-dock KeKaulana. Predominant corals in this section were small branching colonies of *Pocillopora damicornis* as seen in bottom photo.

FIGURE 3. Two photos of sheet-piling wall of Pier 42 designated as Section H-2 in Figure 1 under moored commercial boats. Predominant corals in this section were small encrusting colonies of *Porites lobata* (top photo) *and Leptastrea purpurea* (bottom photo).

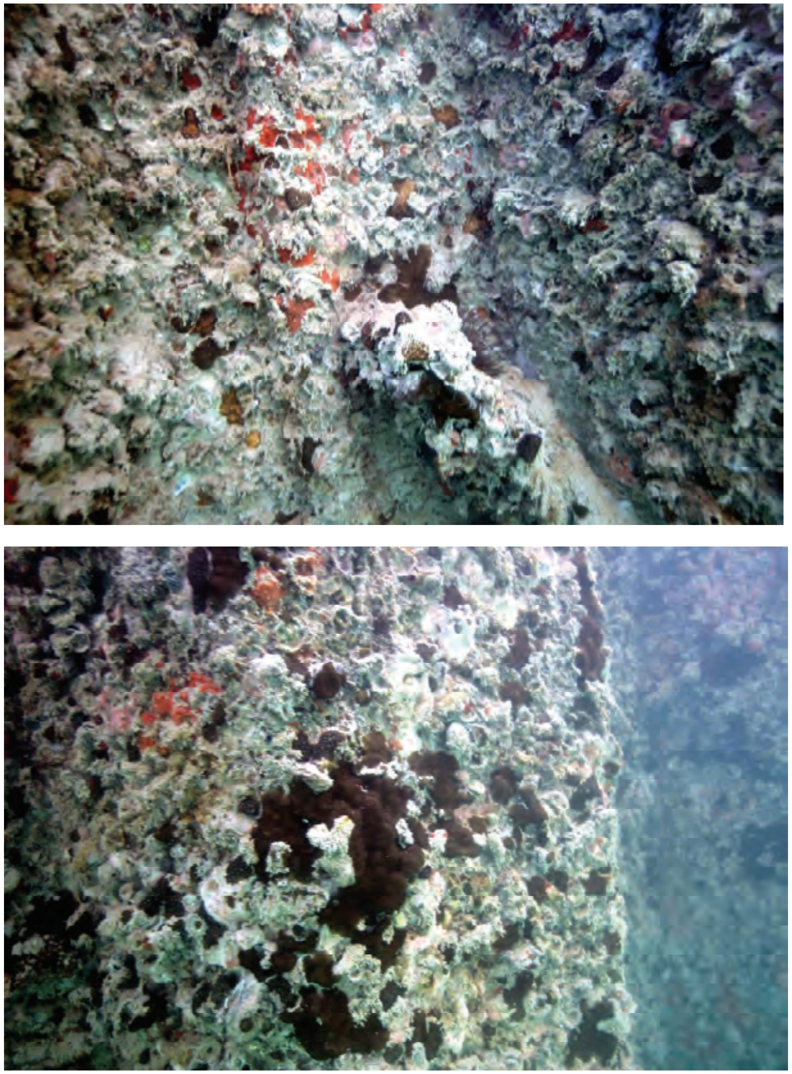


FIGURE 4. Two photos of sheet-piling wall of Pier 41 designated as Section H-3 in Figure 1 under moored commercial boats. Predominant corals in this section were small encrusting colonies of *Porites lobata* in both top and bottom photos.

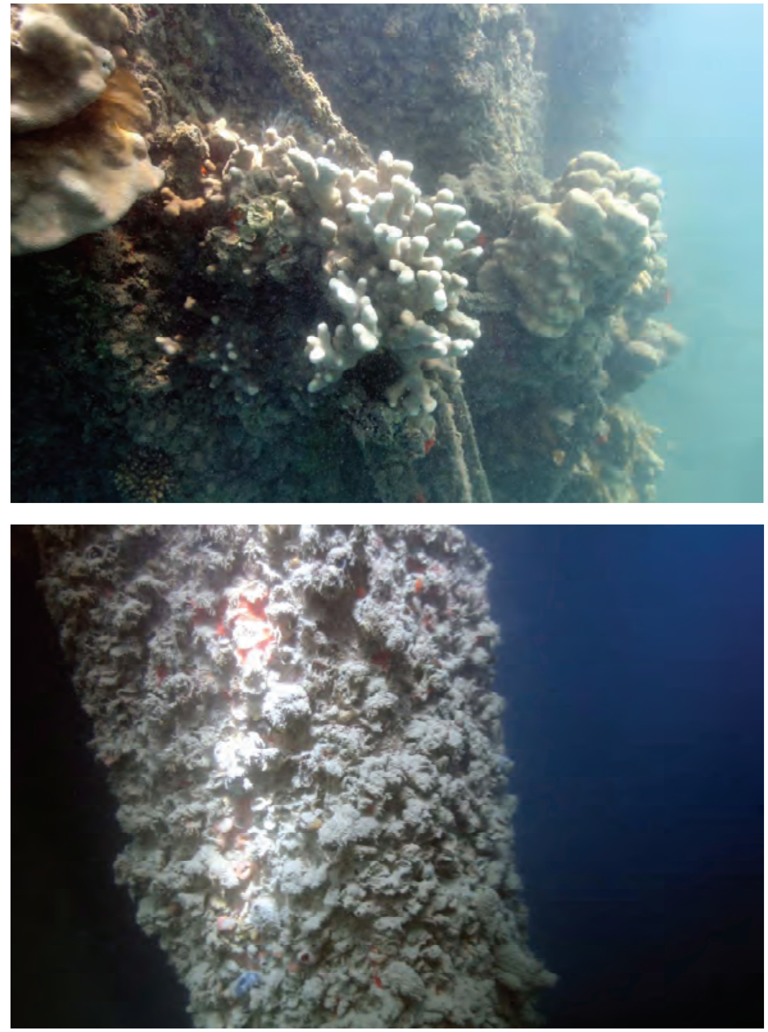


FIGURE 5. Top photo shows end of Pier 41 at juncture of sub-sections H-3 and H-4 in Figure 1 adjacent to PSI dry-dock Kapilipono. This was the only area of Section H with what can be considered large coral colonies of *Porites lobata* and *P. compressa*. Lower photo shows one of the pilings in sub-section H-4 under dry-dock that does not contain any coral colonization.

APPENDIX F

Flora and Fauna Survey

F-1
Flora and Fauna Survey

Flora and Fauna Survey for the Proposed Kapalama Container Terminal and Pacific Shipyards International Relocation Site

Hawaii Department of Transportation (HDOT)
Harbors Division
October 2012

Introduction

In support of the Kapalama Container Terminal Environmental Impact Statement (EIS) at Kapalama, O'ahu, SWCA Environmental Consultants[1] conducted a flora and fauna survey of the proposed Kapalama Container Terminal and the Pacific Shipyards International Relocation Site (see Appendix A).

This report summarizes the findings of the flora and fauna survey conducted by SWCA biologists Tiffany Thair and Ling Ong on June 19, 2012. An additional fauna survey at Pier 44/45 was conducted on the evening of June 20, 2012. The objectives of the flora and fauna survey were:

1. Identify and document the presence and distribution of plant species and vegetation communities within the project sites;
2. Identify and document the presence of bird, mammal, amphibian, reptile, and invertebrate macrofauna which occur at the project sites;
3. Identify any state or federally listed candidate, threatened, or endangered species, species of concern and/or rare (either locally or state-wide) species found or known to occur at the project site; and
4. Describe any known resource issues and conflicts unique to the project sites.

Project Description:
Hawai'i Department of Transportation (DOT)-Harbors is proposing to redevelop the former Kapalama Military Reservation (KMR) property at Honolulu Harbor into the new Kapalama Container Terminal to handle current and projected cargo volumes. If new capacity is not developed in the near future, major reductions in service time and increases in cost at the Sand Island terminals are expected. By 2020, the movement and handling of cargo will effectively be constrained with significant impacts on Hawai'i's economy. Expansion of container terminal capacity in Honolulu Harbor is a high priority to assure that continuing growth in cargo volumes entering the state is accommodated. As part of this expansion, Pacific Shipyard International is being relocated from its current premises to Piers 24-28.

Methods:
Pedestrian surveys of the two project sites were conducted on June 19, 2012. The biologists documented all vascular plant and animal species (birds, mammals, amphibians, and reptiles) observed within the project sites. Ornamental species planted in pots were not documented because it is assumed these plants will be taken to relocated sites. Areas more likely to support native plants (i.e., rocky outcrops, shady areas) were more intensively examined. For the avian surveys, approximately 10 minutes of observation time was spent at the end of each pier in order to document seabirds flying over the waters adjacent to the piers. An evening survey was conducted at Piers 44/45 (SNUG Harbor) from 7:30 – 8:30 pm. This evening survey was conducted because users of the pier (Port Operations Manager Ross Barnes and Hawaii Institute of Marine Biology employee Warren Cortez) reported unidentified seabirds roosting in the mangrove trees and concrete pilings at Piers 44/45.

[1] SWCA Consultants , Honolulu Office, Bishop Square ASB Tower, 1001 Bishop Street, Suite 2800, Honolulu, Hawaii 96813

Results and Discussion:

The two project sites are heavily disturbed due to ongoing industrial activities. The 90 acre Proposed Kapalama Container Terminal site is mostly covered in asphalt and concrete with numerous buildings and warehouses. Similarly, nearly the entire relocated Pacific Shipyards International site is paved and cars, equipment, boats, and containers are spread throughout the area.

<u>Flora (Proposed Kapalama Container Terminal):</u>

No state or federally listed threatened, endangered, or candidate endangered plant species (USFWS 2012), or rare native Hawaiian plant species, were observed at the Proposed Kapalama Container Terminal during the survey. The Proposed Kapalama Container Terminal does not contain critical habitat for threatened or endangered plants, as designated by the U.S. Fish and Wildlife Service.

One hundred and five (105) plant species were recorded at the Kapalama site during the survey. Of these, five species are considered native to the Hawaiian Islands. The indigenous species include: moa (*Psilotum nudum*), kīpūkai (*Heliotropium curassavicum*), milo (*Thespesia populnea*), and ʻuhaloa (*Waltheria indica*). All of these species are common in disturbed coastal areas throughout the Hawaiian Islands (Wagner et al. 1999). The endemic ʻākia (*Wikstroemia uva-ursi*) that was observed was planted and is often used in landscaping (Staples and Herbst 2005). A list of all plant species observed by SWCA biologists within the proposed Kapalama Container Terminal is included as an Appendix (Appendix B) to this letter report.

Large areas of the site are paved and therefore devoid of vegetation. The minimal vegetation within the project site is comprised of ornamental plants maintained near buildings or weedy non-native grasses and herbaceous plants that are common in disturbed coastal areas. Naturally growing plants are mostly confined to cracks in the concrete and shady areas near equipment and buildings. Buffelgrass (*Cenchrus ciliaris*), swollen fingergrass (*Chloris barbata*), and Natal redtop (*Melinis repens*) are particularly abundant in these areas. Non-native herbaceous species found scattered sparsely throughout the site or in isolated patches include *Bidens alba* var. *radiata*, *Flaveria trinervia*, coat buttons (*Tridax procumbens*), *Heliotropium procumbens*, hairy spurge (*Euphorbia hirta*), prostrate spurge (*Euphorbia prostrata*), Florida beggarweed (*Desmodium tortuosum*), and creeping indigo (*Indigofera hendecaphylla*). The shoreline at Piers 44/45, contains a dense thicket of red mangrove (*Rhizophora mangle*) and scattered ironwood trees (*Casurina equisetifolia*) bordering the pier.

<u>Fauna (Proposed Kapalama Container Terminal):</u>

Twelve birds species were observed during the surveys (Table 1). Two of these are native (white tern (*Gygis alba*), and the cosmopolitan black-crowned night heron (*Nycticorax nycticorax*)) and one is a migratory bird (ruddy turnstone (*Arenaria interpres*)). All three species are protected by the Migratory Bird Treaty Act (MBTA), and the white tern is state-listed as threatened on the island of Oahu (see Appendix C for species description of listed birds). No **federally** listed threatened, endangered, or candidate bird, mammal, or insect species were observed during at the Proposed Kapalama Container Terminal or in the vicinity. The project site does not contain critical habitat and is not near critical habitat for any listed vertebrate or invertebrate species. The proposed project is not likely to impact nesting or feeding habitat of any native bird species.

Table 1. Bird Species Observed at the Proposed Kapalama Container Terminal and PSI Relocation Site.

E= endemic; I = indigenous, M=Migrant, NN = non-native permanent resident; *T*= State threatened; MBTA = Migratory Bird Treaty Act

Common Name	Scientific Name	Status[1]	MBTA	Proposed Kapalama Container Terminal	PSI Site
Great frigatebird	*Fregata minor*	I	X		X
Cattle egret	*Bubulcus ibis*	NN	X	X	X
Black-crowned night heron	*Nycticorax nycticorax*	I	X	X	X
Domestic chicken	*Gallus gallus*	NN			
Ruddy turnstone	*Arenaria interpres*	M	X	X	
White tern	*Gygis alba*	I, *T*	X	X	X
Rock pigeon	*Columbia livia*	NN			X
Spotted dove	*Streptopelia chinensis*	NN		X	X
Zebra dove	*Geopelia striata*	NN		X	X
Red-vented bulbul	*Pycnonotus cafer*	NN		X	
Red-whiskered bulbul	*Pycnonotus jocosus*	NN		X	
Common myna	*Acridotheres tristis*	NN		X	
Red-crested cardinal	*Paroaria coronata*	NN		X	
House finch	*Carpodacus mexicanus*	NN	X	X	X
House sparrow	*Passer domesticus*	NN		X	
	Total species			**12**	**8**

Two white terns were observed flying in the distance from Pier 44/45 approximately 800 m away. Approximately 30 ruddy turnstones were observed roosting on the concrete pilings of the disused pier at Pier 44/45 in the evening of June 20, 2012. A black-crowned night heron was also seen flying overhead that evening. These bird species are typical of coastal environments on the south shore of Oʻahu. The other nine introduced bird species that were seen during the survey are species commonly found within urban environments. Cattle egrets (*bubulcus ibis*) were often observed transiting overhead, while the other species were mostly associated with the trees at the project site. No seabirds were observed roosting at the site, and the identity of the birds observed by operators could not be verified.

Other native seabirds that could occasionally be present at the site include the wedge-tailed shearwater (*Puffinus pacificus*), and state and federally threatened Newell's shearwater (*Puffinus auricularis newelli*). See Appendix C for a description of listed bird species. Both species are also protected by the Migratory Bird Treaty Act. Wedge-tailed and Newell's shearwaters flying over the project site may become attracted by lights, become disoriented and grounded. These birds are then highly susceptible to predation by introduced mammals, collision with vehicles or other structures, or die of exhaustion. Although no known breeding colonies of either of these species are present along the south shore of Oahu, downed birds of both species are occasionally reported from the area. Other migratory birds that could also be present at the Kapalama Container Terminal include the Pacific golden plover (*Pluvialis fulva*), wandering tattler (*Heteroscelus incanus*) and sanderling (*Calidris alba*). These birds may occasionally use the short stretch of natural shoreline along between Sand Island Access road and Pier 44/45.

The state and federally listed endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) was not observed during the evening survey at Piers 44/45. There is a possibility that Hawaiian hoary bats could roost in the trees on site, but given the level of disturbance within the area, the possibility of bats roosting or breeding in the trees appears to be small. Therefore, no impacts to this species are anticipated. Several cats (*Felis catus*) and mongooses (*Herpestes javanicus*) were observed within the proposed Kapalama Container Terminal site. An operator at the site mentioned to SWCA biologists that she feeds the cats every day. Although not observed during this survey, rats (*Rattus* spp.) and mice (*Mus musculus*) and also likely present at the site. Non-native geckos (Gekkonidae) were heard during the evening survey. The only insects seen during the survey were an unidentified wasp (order Hymenoptera and suborder Apocrita) and the Sonoran carpenter bee (*Xylocopa sonorina*).

<u>Flora (Pacific Shipyards International Relocation Site):</u>

No state or federally listed threatened, endangered, or candidate endangered plant species (USFWS 2012), or rare native Hawaiian plant species, were observed at the project site during the survey. The Pacific Shipyards International Relocation site does not contain critical habitat for threatened or endangered plants, as designated by the U.S. Fish and Wildlife Service.

Forty-six (46) plant species were recorded at the Pacific International Relocation site during the survey. Of these, only two species (moa and ʻuhaloa) are native to the Hawaiian Islands. These two indigenous species are common in disturbed coastal areas throughout the Hawaiian Islands (Wagner et al. 1999). A list of all plant species observed by SWCA biologists within the relocated Pacific International Relocation site is included as an Appendix (Appendix D) to this letter report.

The majority of the site is devoid of vegetation with about 5% of the site having vegetative cover. Buffelgrass, swollen fingergrass, and Natal redtop are among the grasses scattered throughout the area, particularly in concrete cracks and shadier areas. Pigweed (*Portulaca oleracea*) occurs widely within concrete cracks and love-in-a-mist (*Passiflora foetida*) is found climbing along fences. A small patch of vegetation occurs at the end of Pier 27 and is dominated by buffelgrass, koa haole (*Leucaena leucocephala*), and sourbush (*Pluchea carolinensis*). Several ornamental plants are present outside the Harbor Police building.

<u>Fauna (Pacific Shipyards International Relocation Site):</u>

Eight bird species were observed during the site visit (Table 1), of which three are native (great frigate bird, white tern, black-crowned night heron). All three native species are protected by the Migratory Bird Treaty Act (Table 1), and the white tern is state listed as threatened on the island of Oahu. No **federally** listed threatened, endangered, or candidate

endangered animal species (USFWS 2012), were observed at the Pacific Shipyards International Relocation Site during the survey. The Pacific Shipyards International Relocation Site does not contain critical habitat for threatened or endangered plants as designated by the U.S. Fish and Wildlife Service.

Two white tern flocks, consisting of two to five individuals each, were observed flying in the distance from Piers 25 and 27at a distance of approximately 400 - 800 m. A black-crowned night heron and great frigate bird were seen flying overhead during the survey. The great frigate bird was foraging approximately 100-200 m off the pier. These birds are typical of coastal environments along the south shore of Oahu. The six introduced bird species observed during this survey are commonly found within urban environments on Oahu.

Other native seabirds that could occasionally be present at the site include the wedge-tailed shearwater (*Puffinus pacificus*), and state and federally threatened Newell's shearwater (*Puffinus auricularis newelli*). See Appendix C for a description of listed bird species. Both species are also protected by the Migratory Bird Treaty Act. Wedge-tailed and Newell's shearwaters flying over the project site may become attracted by lights, become disoriented and grounded. These birds are then highly susceptible to predation by introduced mammals, collision with vehicles or other structures, or die of exhaustion. Although no known breeding colonies of either of these species are present along the south shore of Oahu, downed birds of both species are occasionally reported from the area.Due to the lack of natural (non-cemented) shoreline and vegetation at the Pacific Shipyards International Relocation Site, no migratory birds are expected to be present on-site.

Hawaiian hoary bats are not expected to roost on-site due to the lack of trees in the area.

The only mammal observed at the site was a mouse (*Mus musculus*). Although not observed during this survey rats (*Rattus* spp.) are likely present at the site. No insects, reptiles or amphibians were observed.

Discussion and Recommendations:
The proposed modifications at the Proposed Kapalama Container Terminal and Pacific Shipyards International Relocation Site are not expected to have a significant adverse impact on any state or federally listed candidate, threatened, or endangered species, species of concern, and/or rare plants. The entire site has been intensively disturbed and highly altered by human activity since the late 18th Century (Wil-Chee Planning Inc 1999). The flora within the project site is predominantly non-native (95% non-native at Kapalama and 96% non-native at Pacific Shipyards International Relocation). The native plants found at the sites are commonly found on Oahu, as well as the other main Hawaiian Islands.

The native birds that were observed during the survey or that could potentially be using the site or flying overhead are seabirds and shorebirds. The great frigate bird and the state-threatened white tern were observed foraging at some distance from the affected piers. If measures are emplaced to maintain water quality during the construction of the project, there should be no effect on the distribution of their prey or the foraging abilities of these species.

Other seabirds such as the wedge-tailed shearwater or the state and federally threatened Newell's shearwater may occasionally fly overhead. These birds are susceptible to fallout due to light attraction, particularly during the fledgling season (October and November for both species). One Newell's shearwater was turned in to Sea Life Park from Honolulu Harbor in 2007 (Sea Life Park Unpublished data) and a wedge-tailed shearwater was found at Pier 7 as recently as in 2011 (SWCA, Ong, personal observations). If the modifications proposed for either site result in a significant increase in lighting, additional impacts to these species in terms of increased fallout probability could occur. Shielding lights to prevent upward radiation has been shown to reduce seabird attraction (Reed et al. 1985, Telfer et al. 1987) and could be used to prevent additional impacts to Newell's and wedge-tailed shearwaters from occurring.

Other birds such as the black-crowned night heron may also fly overhead but do not appear to use either project site and are not susceptible to light attraction, therefore this species is not expected to be impacted by the modifications. Shorebirds such as the ruddy turnstone will be displaced when the shoreline between Sand Island Access Road and Piers 44/45 is modified. It is unlikely that suitable roosting habitat for the ruddy turnstone will remain after the modifications, but the displaced individuals are anticipated to be able to find alternate roost sites in the vicinity, particularly around Keehi Lagoon which is less than 0.5 mi (0.8 km) from the project sites.

SWCA recommends that native Hawaiian plants be used for landscaping at the project sites to the maximum extent practicable. Potential coastal native plants that may be appropriate for landscaping include: naupaka (*Scaevola taccada*), ʻākulikuli (*Sesuvium portulacastrum*), ʻilima (*Sida fallax*), and pōhinahina (*Vitex rotundifolia*). If native plants do not meet landscaping objectives, plants with a low risk of becoming invasive may be substituted. Additional information on selecting appropriate plants for landscaping can be obtained from the following sites:

- http://www.botany.hawaii.edu/faculty/daehler/wra/default2.htm
- http://nativeplants.hawaii.edu/
- http://www.hear.org/alternativestoinvasives/

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Wagner, W.L., D.R. Herbst, and S.H. Sohmer. 1999. *Manual of the Flowering Plants of Hawaiʻi*. 2 vols. Rev. ed. Honolulu: University of Hawaiʻi Press and Bishop Museum Press.

Wil-Chee Planninc, Inc. 1999. Final Enivronemntal Impact Statement for the Oahu Commercial Harbors 2020 Master Plan Intermediate Phase. Prepared for State Department of Transportation, Harbors Division.

Appendices

Appendix A – Location of project sites

Appendix B - List of plant species observed within the Proposed Kapalama Container Terminal

Appendix C – Species descriptions of state or federally threatened or endangered species

Appendix D - List of plant species observed within the Pacific Shipyards International Relocation Site

Appendix A

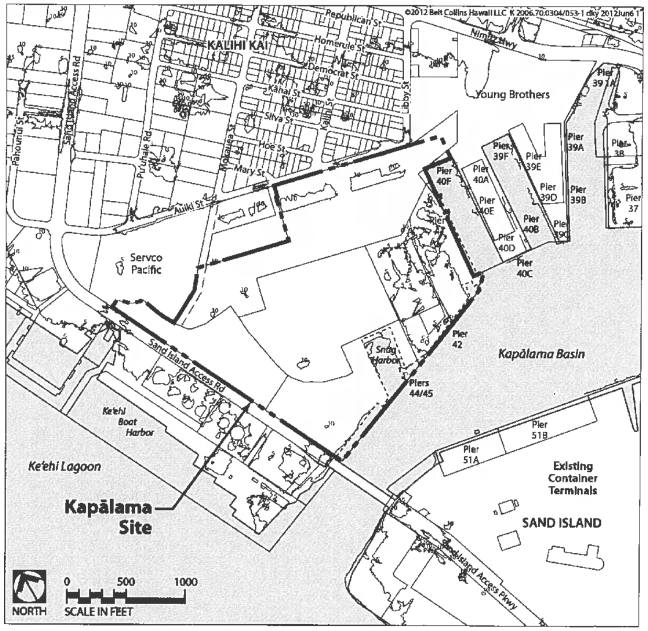

Figure 1-X
Kapalama Site Topography

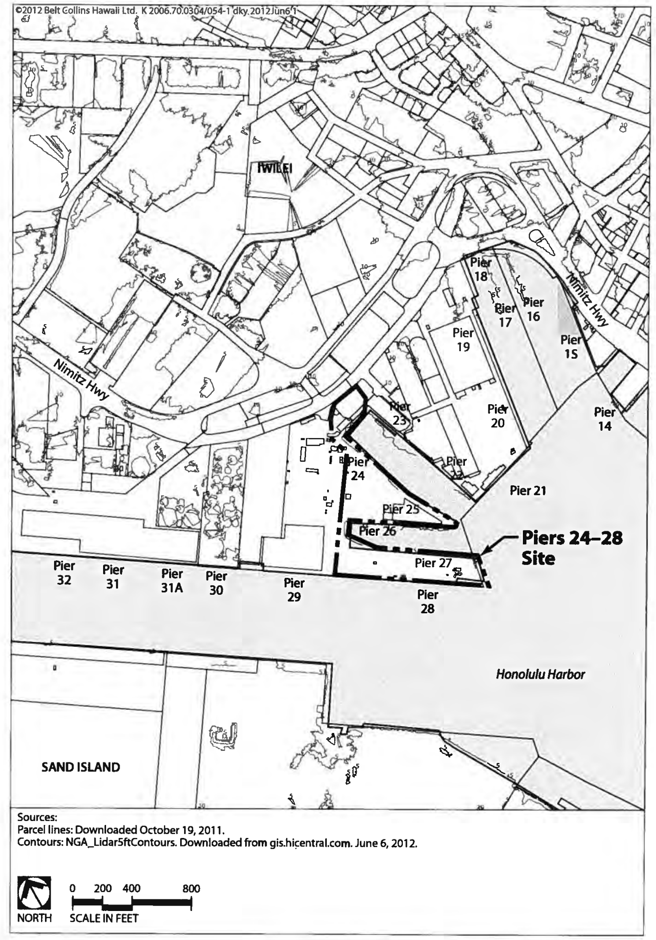

Figure X-X
Relocation Site Topography

APPENDIX B

CHECKLIST OF PLANTS OBSERVED AT KAPALAMA SITE LOCATED WEST OF SAND ISLAND ACCESS ROAD ON JUNE 19, 2012.

The following checklist is an inventory of all the plant species observed by SWCA biologists on June 19, 2012 during the survey of the Kapalama site located west of Sand Island Access Road, as designated by Belt Collins, on the Island of O'ahu, Hawai'i. The plant names are arranged alphabetically by family and then by species into four groups: Gymnosperms, Ferns & Lycophytes, Monocots and Dicots. The taxonomy and nomenclature of the ferns and lycophytes is in accordance with Palmer (2003) and Evenhuis and Eldredge (2011). The taxonomy and nomenclature of the flowering plants are in accordance with Wagner et al. (1999), Wagner and Herbst (2003), and Staples and Herbst (2005). Recent name changes are those recorded in Wagner et al. (2012).

Status:

E = endemic = native only to the Hawaiian Islands.
I = indigenous= native to the Hawaiian Islands and elsewhere.
P = Polynesian = introduced by Polynesians.
X =introduced/ alien = all those plants brought to the Hawaiian Islands by humans, intentionally or accidentally, after Western contact (Cook's arrival in the islands in 1778).

Relative Site Abundance:

A = Abundant = forming a major part of the vegetation within the survey area.
C = Common = widely scattered throughout the area or locally abundant within a portion of it.
U = Uncommon = scattered sparsely throughout the area or occurring in a few small patches.
R = Rare = only a few isolated individuals within the survey area.

Scientific Name	Common & Hawaiian Name(s)	Status	Abundance
GYMNOSPERMS			
Araucaria columnaris (G. Forster) J. D. Hooker	Cook pine	X	R
FERNS AND LYCOPHYTES			
Lomariopsidaceae			
Nephrolepis brownii (Desv.) Hovenkamp & Miyam.		X	R

Scientific Name	Common & Hawaiian Name(s)	Status	Abundance
Polypodiaceae			
Phymatosorus grossus (Langsd. & Fisch.) Brownlie	laua'e	X	U
Psilotaceae			
Psilotum nudum (L.) P. Beauv.	moa, moa nahele	I	R
Pteridaceae			
Pteris vittata L.	ladder brake, cliff brake	X	R
Pityrogramma calomelanos (L.) Link	silver fern	X	R
Thelypteridaceae			
Cyclosorus parasiticus (L.) Farw.	--	X	R
MONOCOT			
Agavaceae			
Dracaena angustifolia Roxburgh	--	X	U
Dracaena sp.		X	R
Araceae			
Monstera deliciosa	monstera, swiss cheese plant	X	R
Epipremnum pinnatum (L.) Engl.	taro vine, pothos, golden pathos	X	R
Pritchardia sp.	loulu	X	R
Syngonium podophyllum Schott	nephthytis	X	R

Scientific Name	Common & Hawaiian Name(s)	Status	Abundance
Arecaceae			
Cocos nucifera L.	niu, ololani, coconut	P	R
Dypsis lutescens (H. Wendland) Beentje & J. Dransfield	areca palm, butterfly palm	X	U
Veitchia merrillii (Beccari) H. E. Moore	Christmas palm, Manila palm	X	R
Asparagaceae			
Cordyline fruticosa (L.) A. Chev.	ti, kī	X	R
Sansevieria trifasciata Prain	mother-in-law's tongue, bowstring-hemp	X	R
Poaceae			
Bothriochloa pertusa (L.) A. Camus	pitted beardgrass	X	U
Cenchrus ciliaris L.	buffelgrass	X	A
Chloris barbata Sw.	swollen fingergrass	X	A
Chloris radiata (L.) Sw.	radiate fingergrass	X	R
Cynodon dactylon (L.) Pers.	Bermuda grass	X	U
Eragrostis amabilis (L.) Wight & Arn.	--	X	U
Melinis repens (Willd.) Zizka	Natal redtop, Natal grass	X	A
Sporobolus indicus (L.) R.Br.	West Indian dropseed, smutgrass	X	U
Urochloa maxima (Jacq.) R.D. Webster	Guinea grass	X	R
Strelitziaceae			
Ravenala madagascariensis Sonnerat	traveler's palm	X	R

Scientific Name	Common & Hawaiian Name(s)	Status	Abundance
DICOT			
Acanthaceae			
Asystasia gangetica (L.) T. Anderson	Chinese violet	X	R
Pseuderanthernurn carruthersii (Seemann) Guillaumin	--	X	R
Aizoaceae			
Sesuvium verrucosum Raf.	verrucose seapurslane, western sea purslane	X	U
Trianthema portulacastrum L.		X	R
Amaranthaceae			
Alternanthera pungens Kunth	khaki weed	X	U
Amaranthus spinosus L.	spiny amaranth	X	R
Amaranthus viridis L.	slender amaranth, pakai	X	R
Anacardiaceae			
Schinus terebinthifolius Raddi	Christmas berry, wilelaiki	X	U
Apocynaceae			
Adenium obesum (Forsskal) J. Roemer & J. A. Schultes	desert-rose	X	R
Carissa macrocarpa (Ecklon) A. de Candolle	Natal plum	X	R
Plumeria rubra L.	plumeria	X	R
Plumeria sp.	plumeria	X	R

Scientific Name	Common & Hawaiian Name(s)	Status	Abundance
Asteraceae			
Bidens alba var. *radiata* (Sch.Bip.) Ballard ex Melchert	--	X	C
Bidens pilosa L.	kī, kī nehe	X	U
Calyptocarpus vialis Less.	--	X	R
Emilia fosbergii Nicolson	pualele	X	R
Flaveria trinervia (Spreng.) C. Mohr	--	X	C
Conyza bonariensis (L.) Cronq.	hairy horseweed	X	U
Lactuca sativa L.	prickly lettuce	X	R
Pluchea carolinensis (Jacq.) G. Don	sourbush	X	U
Pluchea indica (L.) Less.	Indian fleabane, Indian pluchea	X	R
Sonchus oleraceus L.	sow thistle, pualele	X	R
Tridax procumbens L.	coat buttons	X	C
Verbesina encelioides (Cav.) Benth. & Hook.	golden crown-beard	X	U
Bataceae			
Batis maritima L.	pickleweed	X	U
Bignoniaceae			
Spathodea campanulata P. Beauv.	African tulip tree, fountain tree	X	R
Tabebuia heterophylla (A. P. de Candolle) Britton	pink tacoma	X	R

Scientific Name	Common & Hawaiian Name(s)	Status	Abundance
Boraginaceae			
Heliotropium curassavicum L.	kīpūkai, nena, seaside heliotrope	I	U
Heliotropium procumbens Mill. var. *depressum* (Cham.) Fosberg	--	X	C
Tournefortia argentea L.f.	tree heliotrope	X	R
Brassicaceae			
Lepidium virginicum L.	--	X	R
Caricaceae			
Carica papaya L.	papaya	X	R
Casuarinaceae			
Casuarina equisetifolia L.	common ironwood	X	R
Clusiaceae			
Clusia rosea Jacq.	autograph tree	X	R
Convolvulaceae			
Ipomoea obscura (L.) Ker Gawl.	morning glory	X	U
Cucurbitaceae			
Momordica charantia L.	balsam pear, bitter melon	X	R
Euphorbiaceae			
Breynia disticha J. R. & G. Forster	foliage flower, snowbush	X	R
Codiaeum variegatum (L.) Blume	croton	X	U

Scientific Name	Common & Hawaiian Name(s)	Status	Abundance
Euphorbia hirta L.	hairy or garden spurge	X	C
Euphorbia leucocephala Lotsy	flor-de-nino	X	R
Euphorbia prostrata Aiton	prostrate spurge	X	C
Fabaceae			
Crotalaria incana L.	fuzzy rattlepod	X	R
Mimosa pudica L. subsp. *unijuga* (Duchass. & Walp.) Griseb.	sensitive plant, sleeping grass	X	R
Desmanthus pernambucanus (L.) Thell.	slender or virgate mimosa	X	U
Desmodium tortuosum (Sw.) DC.	Florida beggarweed	X	C
Erythrina variegata L.	Indian coral tree	X	R
Indigofera hendecaphylla Jacq.	creeping indigo	X	C
Leucaena leucocephala (Lam.) de Wit	koa haole	X	U
Prosopis pallida (Humb. & Bonpl. ex Willd.) Kunth	kiawe, algaroba, mesquite	X	R
Samanea saman (Jacq.) Merr.	monkeypod, rain tree	X	R
Lamiaceae			
Hyptis pectinata (L.) Poit.	comb hyptis	X	U
Leonotis nepetifolia (L.) R. Br.	lion's ear	X	R
Lauraceae			
Persea americana Mill.	avocado, alligator pear	X	R

Scientific Name	Common & Hawaiian Name(s)	Status	Abundance
Malvaceae			
Abutilon grandifolium (Willd.) Sweet	hairy abutilon, maʻo	X	R
Hibiscus rosa-sinensis L.	Chinese hibiscus	X	R
Malvastrum coromandelianum subsp. *coromandelianum* (L.) Garcke	false mallow	X	R
Sida acuta N.L. Burm.	--	X	R
Sida ciliaris L.	--	X	U
Sida rhombifolia L.	--	X	R
Thespesia populnea (L.) Sol. Ex Corrêa	milo	I	R
Waltheria indica L.	ʻuhaloa	I	U
Moraceae			
Ficus benjamina L.	weeping fig	X	R
Ficus microcarpa L.f.	Chinese banyan	X	R
Nyctaginaceae			
Boerhavia coccinea Mill.	--	X	U
Bougainvillea sp.		X	U
Oxalidaceae			
Oxalis corniculata L.	yellow wood sorrel, ʻihi ʻai	P?	R
Portulacaceae			
Portulaca oleracea L.	pigweed, ʻākulikuli kula	X	U

Scientific Name	Common & Hawaiian Name(s)	Status	Abundance
Rhizophoraceae			
Rhizophora mangle L.	red mangrove	X	C
Rubiaceae			
Oldenlandia corymbosa L.	--	X	R
Spermacoce assurgens Ruiz & Pav.	buttonweed	X	R
Rutaceae			
Murraya paniculata (L.) W. Jack	Chinese-box, mock orange	X	R
Solanaceae			
Nicotiana glauca R.C. Graham	tree tobacco	X	R
Solanum lycopersicum var. *cerasiforme* (Dunal) D.M. Spooner, G.J. Anderson & R.K. Jansen	tomato	X	R
Thymelaeaceae			
Wikstroemia uva-ursi A. Gray	ʻākia	E	R
Urticaceae			
Pilea microphylla (L.) Liebm.	artillery plant, rockweed	X	U
Verbenaceae			
Duranta erecta L.	duranta, golden dewdrop	X	R
Vitex trifolia L.	blue vitex	X	R
Zygophyllaceae			
Tribulus terrestris L.	puncture vine	X	R

Appendix C Species Descriptions of State or Federally Threatened or Endangered Species

White Tern or Manu-o-Ku (*Gygis alba*)

Status: Not federally listed but the Oʻahu population was listed as threatened by the State of Hawaiʻi in 1986 (Hawaii Administrative Rules, Title 13, Part 2, Chapter 124). The species is also federally protected by the Migratory Bird Treaty Act (MBTA) and it is also the official bird of the City and County of Honolulu.

Species description: The white tern is entirely white with a black ring around the eye, black bill with a blue base, and dark gray legs and feet. This species is common in the Northwestern Hawaiian Islands (NWHI) with an estimated 15,000 breeding pairs. Of the main Hawaiian island, the white tern is only found on the island of Oʻahu and was first breeding pair was documented in 1961 at Koko Head (Ord 1961). The species has since spread along the south-east coast of Oahu (Morgan 2007) and has increased to an estimated 250 breeding pairs in 2002. Nesting occurs year round with a most eggs laid between January and April. On Oahu, these birds nest in many species of large trees and banyans *(Ficus* spp.), monkeypod *(Samanea saman,*), mahogany *(Swietenia mahogany*), and kukui *(Aleurites moluccana*) are the most often used (Vanderwerf 2003). The Oahu population is considered to be increasing and robust (Vanderwerf 2003).

References:

Morgan L. 2007. Manu-o-ku named the official bird of Honolulu. ʻElepaio 67(4):25-27

Ord MW. 1961. White Tern at Koko Head, Oahu. ʻElepaio 22:17-18.

Vanderwerf EA. 2003. Distribution, abundance and breeding biology of white terns on Oahu, Hawaii. Wilson Bulletin 115(3): 258-262

Newell's Shearwater or ʻAʻo(*Puffinus auricularis newelli*)

Status: Federally and state listed as Threatened. The species is also federally protected by the Migratory Bird Treaty Act (MBTA).

Species description: The Newell's shearwater is an endemic Hawaiian sub-species of the nominate species, Townsend's shearwater (*Puffinus a. auricularis*) of the eastern Pacific. Based on data collected in the 1990's the population of Newell's shearwater was estimated to be approximately 84,000 breeding and non breeding birds, with a possible range of 57,000 to 115,000 birds (Ainley et al. 1997). Radar studies on Kauaʻi showed a 63% decrease in detections of shearwaters between 1993 and 2001 (Day et al. 2003). More recently, Holmes (Planning Solutions Inc. 2010) suggest a 75% population decrease between 1993 and 2008, based on radar surveys and Save Our Shearwater (SOS) data. This puts the 2008 total population estimate on the order of 21,000 birds. Recent radar studies suggest the species may also nest on Oʻahu in small numbers (Day and Cooper 2008). The Newell's shearwater breeding season begins in April, when birds return to prospect for nest sites. A pre-laying exodus follows in late April and possibly May; egg laying begins in the first two weeks of June and likely continues through the early part of July. Pairs produce one egg, and the average incubation period is thought to be approximately 51 days (Telfer 1986). The fledging period is approximately 90 days, and most fledging takes place in October and November, with a few birds still fledging into December (NESH Working Group 2005).

Declines in Newell's shearwater populations are attributed to loss of nesting habitat, predation by introduced mammals (mongoose, feral cats, rats and feral pigs) at nesting sites, collision with powerlines and other anthropogenic structures, and fallout of juvenile birds associated with disorientation from urban lighting (Ainley et al. 1997; Mitchell et al. 2005; Hays and Conant 2007).

References:

Ainley, D.G., T.C. Telfer, and M.H. Reynolds. 1997. Townsend's and Newell's Shearwater (*Puffinus auricularis*). In *The Birds of North America*, No. 297, edited by A. Poole and F. Gill. The Birds of North America, Inc., Philadelphia, PA.

Day, R.H., and B.A. Cooper. 2008. Results of Endangered Seabird and Hawaiian Hoary Bat Surveys on Northern Oahu Island, Hawaii, October 2007 and July 2008. Prepared by ABR, Inc., Forest Grove, OR and Fairbanks, AK for First Wind LLC.

Day, R.H., B.A. Cooper, and T.C. Telfer. 2003a. Decline of Townsend's (Newell's) Shearwaters (*Puffinus auricularis newelli*) on Kauai, Hawaii. *The Auk* 120:669-679.

Hays, W.S.T., and S. Conant. 2007. Biology and Impacts of Pacific Island Invasive Species. 1. A Worldwide Review of Effects of the Small Indian Mongoose, *Herpestes javanicus* (Carnivora:Herpestidae). *Pacific Science* 61(1):3-16.

Mitchell, C., C. Ogura, D.W. Meadows, A. Kane, L. Strommer, S. Fretz, D. Leonard, and A. McClung. 2005. Hawaii's Comprehensive Wildlife Conservation Strategy. Department of Land and Natural Resources, Honolulu, HI. Available at: http://www.state.hi.us/dlnr/DLNR/cwcs/index.html.

NESH Working Group 2005. DRAFT Newell's Shearwater Five-year Workplan. Available at: http://state.hi.us/dlnr/DLNR/fbrp/docs/NESH_5yrPlan_Sept2005.pdf.

Planning Solutions, Inc., Rana Biological Consulting, Inc. and Ebbin Moser + Skaggs LLP. 2010. Short-term Seabird Habitat Conservation Plan Kauaʻi Island Utility Cooperative. Prepared for Kauaʻi Island Utility Cooperative.

Telfer, T.C. 1986. Newell's shearwater nesting colony establishment study on the island of Kauai. Final Report, Statewide Pittman-Robertson Program. State of Hawaiʻi Department of Lands and Natural Resources, Honolulu, HI.

Hawaiian Hoary Bat or ʻŌpeʻapeʻa (*Lasiurus cinereus semotus*)

Status: The Hawaiian hoary bat is state and federally listed as Endangered.

Species description: The Hawaiian hoary bat is the only land mammal native to the Hawaiian Islands. The species has been recorded on Kauaʻi, Oʻahu, Molokaʻi, Maui, and Hawaiʻi, but no historical population estimates or information exist for this subspecies. Population estimates for all islands in the state in the recent past have ranged from hundreds to a few thousand bats (Menard 2001).

Hawaiian hoary bats roost in native and non-native vegetation from 3 to 29 ft. (1-9 m) above ground level. They have been observed roosting in ʻōhiʻa (*Metrosideros polymorpha*), hala (*Pandanus tectorius*), coconut palms (*Cocos nucifera*), kukui (*Aleurites moluccana*), kiawe (*Prosopis pallida*), avocado (*Persea* *americana*), mango (*Mangifera indica*), shower trees (*Cassia javanica*), pūkiawe (*Leptecophylla tameiameiae*), and fern clumps. They are also suspected to roost in eucalyptus (*Eucalyptus* spp.) and Sugi pine (*Cyrptomeria japonica*) stands. Hawaiian hoary bats have been known to use both native and non-native habitats for feeding and roosting (Mitchell et al. 2005). Water courses and edges (e.g., coastlines and forest/pasture boundaries) appear to be important foraging areas (Grindal et al. 1999, Francl et al. 2004, Brooks and Ford 2005, Morris 2008, Menzel et al. 2002).

It is suspected that breeding primarily occurs between April and August. Lactating females have been documented from June to August, indicating that this is the period when non-volent young are most likely to be present. Breeding has only been documented on the Islands of Hawai'i and Kaua'i (Baldwin 1950; Kepler and Scott 1990; Menard 2001). It is not known whether bats observed on other islands breed locally or only visit these islands during non-breeding periods.

References:

Baldwin, P.H. 1950. Occurrence and Behavior of the Hawaiian Bat. *Journal of Mammalogy* 31:455–456.

Brooks, R.T. and W.M. Ford 2005. Bat Activity in a forest landscape of central Massachusettes. *Northeastern Naturalist* 12(4): 447-462.

Francl, K.E., W.M. Ford and S.B. Castleberry 2004. Bat activity in central Appalachian wetlands. *Georgia Jounal of Science* 62:87-94

Grindal S.D., J.L. Morisette, and R.M. Brigham (1999) Concentration of bat activity in riparian habitats over an elevational gradient. Canadian Journal of Zoology 77:972-977

Kepler, C.B., and J.M. Scott. 1990. Notes on the Distribution and Behavior of the Endangered Hawaiian Hoary Bat (*Lasiurus cinereus semotus*), 1964–1983. '*Elepaio* 50: 59-64.

Menard, T. 2001. Activity Patters of the Hawaiian Hoary Bat (*Lasiurus cinereus semotus*) in Relation to Reproductive Time Periods. Master's thesis, University of Hawai'i at Mānoa.

Menzel, M.A., T.C. Carter, J.M. Menzel, M.F. Ford, and B.R. Chapman. 2002. Effects of group selection silviculture in bottomland hardwoods on the spatial activity pattern of bats. *Forest Ecology and Management* 162: 209-218.

Mitchell, C., C. Ogura, D.W. Meadows, A. Kane, L. Strommer, S. Fretz, D. Leonard, and A. McClung. 2005. Hawaii's Comprehensive Wildlife Conservation Strategy. Department of Land and Natural Resources, Honolulu, HI. Available at: http://www.state.hi.us/dlnr/DLNR/cwcs/index.html.

Morris, A.D. 2008. Use of Forest Edges by Bats in a Managed Pine Forest Landscape in Coastal North Carolina. MS Thesis, University of North Carolina. 43 pp.

APPENDIX D

CHECKLIST OF PLANTS OBSERVED AT RELOCATED PACIFIC SHIPYARDS INTERNATIONAL (PSI) SITE ON JUNE 19, 2012.

The following checklist is an inventory of all the plant species observed by SWCA biologists on June 19, 2012 during the survey of the relocated Pacific Shipyards International site located near Piers 24-26, as designated by Belt Collins, on the Island of O'ahu, Hawai'i. The plant names are arranged alphabetically by family and then by species into three groups: Ferns & Lycophytes, Monocots and Dicots. The taxonomy and nomenclature of the ferns and lycophytes is in accordance with Palmer (2003) and Evenhuis and Eldredge (2011). The taxonomy and nomenclature of the flowering plants are in accordance with Wagner et al. (1999), Wagner and Herbst (2003), and Staples and Herbst (2005). Recent name changes are those recorded in Wagner et al. (2012).

Status:
- E = endemic = native only to the Hawaiian Islands.
- I = indigenous= native to the Hawaiian Islands and elsewhere.
- P = Polynesian = introduced by Polynesians.
- X =introduced/ alien = all those plants brought to the Hawaiian Islands by humans, intentionally or accidentally, after Western contact (Cook's arrival in the islands in 1778).

Relative Site Abundance:
- A = Abundant = forming a major part of the vegetation within the survey area.
- C = Common = widely scattered throughout the area or locally abundant within a portion of it.
- U = Uncommon = scattered sparsely throughout the area or occurring in a few small patches.
- R = Rare = only a few isolated individuals within the survey area.

Scientific Name	Common & Hawaiian Name(s)	Status	Abundance
FERNS AND LYCOPHYTES			
Psilotaceae			
Psilotum nudum (L.) P. Beauv.	moa, moa nahele	I	R
Pteridaceae			
Adiantum raddianum C. Presl	--	X	R

Scientific Name	Common & Hawaiian Name(s)	Status	Abundance
MONOCOT			
Aloeaceae			
Aloe vera (L.) Burm. f.	aloe	X	R
Asparagaceae			
Cordyline fruticosa (L.) A. Chev.	ti, kī	X	R
Cyperaceae			
Cyperus rotundus L.	nut grass, kili'o'opu	X	R
Poaceae			
Bothriochloa pertusa (L.) A. Camus	pitted beardgrass	X	U
Cenchrus ciliaris L.	buffelgrass	X	C
Chloris barbata Sw.	swollen fingergrass	X	C
Eragrostis amabilis (L.) Wight & Arn.	--	X	U
Melinis repens (Willd.) Zizka	Natal redtop, Natal grass	X	C
Urochloa maxima (Jacq.) R.D. Webster	Guinea grass	X	R
DICOT			
Aizoaceae			
Trianthema portulacastrum L.	--	X	R

Scientific Name	Common & Hawaiian Name(s)	Status	Abundance
Amaranthaceae			
Amaranthus viridis L.	slender amaranth, pakai	X	R
Asteraceae			
Bidens alba var. *radiata* (Sch.Bip.) Ballard ex Melchert	--	X	R
Bidens pilosa L.	kī, kī nehe	X	R
Calyptocarpus vialis Less.	--	X	R
Conyza bonariensis (L.) Cronq.	hairy horseweed	X	R
Emilia fosbergii Nicolson	pualele	X	R
Hypochoeris radicata L.	smooth cat's-ear	X	R
Pluchea carolinensis (Jacq.) G. Don	sourbush	X	R
Tridax procumbens L.	coat buttons	X	U
Verbesina encelioides (Cav.) Benth. & Hook.	golden crown-beard	X	R
Boraginaceae			
Heliotropium procumbens Mill. var. *depressum* (Cham.) Fosberg	--	X	R
Brassicaceae			
Lepidium virginicum L.	--	X	R
Convolvulaceae			
Ipomoea obscura (L.) Ker Gawl.	morning glory	X	R

Scientific Name	Common & Hawaiian Name(s)	Status	Abundance
Euphorbiaceae			
Codiaeum variegatum (L.) Blume	croton	X	R
Euphorbia hirta L.	hairy or garden spurge	X	U
Euphorbia hypericifolia (L.)	graceful spurge	X	R
Euphorbia prostrata Aiton	prostrate spurge	X	U
Fabaceae			
Desmanthus pernambucanus (L.) Thell.	slender or virgate mimosa	X	R
Indigofera hendecaphylla Jacq.	creeping indigo	X	R
Leucaena leucocephala (Lam.) de Wit	koa haole	X	U
Lamiaceae			
Hyptis pectinata (L.) Poit.	comb hyptis	X	R
Malvaceae			
Sida ciliaris L.	--	X	U
Waltheria indica L.	ʻuhaloa	I	U
Moraceae			
Ficus microcarpa L.f.	Chinese banyan	X	R
Ficus sp.	banyan, fig	X	R
Nyctaginaceae			
Boerhavia coccinea Mill.	--	X	U

Scientific Name	Common & Hawaiian Name(s)	Status	Abundance
Oxalidaceae			
Oxalis corniculata L.	yellow wood sorrel, ʻihi ʻai, ʻihi ʻawa	P?	R
Passifloraceae			
Passiflora foetida L.	love-in-a-mist	X	C
Phyllanthaceae			
Phyllanthus debilis Klein ex Willd.	niruri	X	R
Portulacaceae			
Portulaca oleracea L.	pigweed, ʻākulikuli kula	X	C
Nicotiana glauca R.C. Graham	tree tobacco	X	R
Rubiaceae			
Oldenlandia corymbosa L.	--	X	U
Spermacoce assurgens Ruiz & Pav.	buttonweed	X	R
Urticaceae			
Pilea microphylla (L.) Liebm.	artillery plant, rockweed	X	R

APPENDIX G

Invasive Species Report

G-1
Invasive Species Report

Recommendations for Terrestrial And Marine Invasive Species Control During Construction Of The Proposed Kapalama Container Terminal And Pacific Shipyards International Relocation Site

Hawaii Department of Transportation (HDOT)

Harbors Division

October 2012

Introduction

Hawai‘i Department of Transportation (HDOT)-Harbors is proposing to redevelop the former Kapalama Military Reservation (KMR) property at Honolulu Harbor into the new Kapalama Container Terminal to handle current and projected cargo volumes. In support of the Kapalama Container Terminal Environmental Impact Statement (EIS), SWCA Environmental Consultants (SWCA)[1] was tasked to provide recommendations on how to minimize the unintentional introduction or spread of terrestrial and marine invasive species during construction of the proposed project.

The U.S. Presidential Executive Order 13112 signed by President Clinton on February 3, 1999, calls for Federal agencies not to “authorize, fund or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States…”, an invasive species is defined as “an alien species (a species that is not native to the region or area) whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Alien species may consist of weeds (plants), pests (vertebrates and invertebrates) or pathogens. This Executive Order was signed to prevent the introduction of invasive species and provide for their control. Hawai‘i Revised Statutes (HRS), Chapter 152 (Noxious Weed Control) prohibits the introduction or transport of “specific noxious weeds or their seeds or vegetative reproductive parts into any area designated pursuant to section 152-5 as free or reasonably free of those noxious weeds” (§152-3). The objectives of Hawai‘i Administrative Rules (HAR), Title 4, Chapter 68 are to implement the requirements of HRS Chapter 152, and to establish criteria for designation, control, or eradication of noxious weeds (§4-68-1). HAR Title 4, Chapter 68 contains a list of plant species designated as noxious weeds by the Department of Agriculture for eradication or control purposes.

Most introduced marine species arrive in Hawaii through hull fouling, or solid ballast or ballast water. Several species such the algae *Kappaphycus spp.* and the black snapper (*Lutjantus fulvus*) were deliberately introduced for food or economic reasons. DLNR is legislatively authorized to manage the aquatic resources of the State (HRS. § 187A- 2(1)) and is designated as the lead State agency for preventing the introduction of alien aquatic organisms and carrying out the destruction of them through the regulation of ballast water discharges and hull fouling organisms (HRS § 187A-32 (a)). As for the deliberate introduction of new species into Hawaii waters, no species of aquatic life or wildlife may be deliberately introduced by the department into the State of Hawai‘i, whether it be from outside the State into the State or from one area within the State to another area in the State, unless the introduction is recommended by the DLNR and authorized by its rules (HRS §197-3). In addition, no person shall release any live non-native fish or other live non-native aquatic life being held in an aquarium or other confinement for scientific study, exhibition, display, sale, or for any other purpose, into any waters of the State, except as provided in Section 187A-2(4) HRS (HRS. § 187A-6.5).

[1] SWCA Consultants , Honolulu Office, Bishop Square ASB Tower, 1001 Bishop Street, Suite 2800, Honolulu, Hawaii 96813

Measures to Minimize the Spread of Terrestrial Invasive Species

Weedy non-native grasses and herbaceous plants are common throughout the project area (SWCA 2012). Because these weedy non-native grasses and herbaceous plants are also widespread on Oahu, their control is not expected to result in a significant decrease in their number or distribution. Therefore, the primary goal is to minimize the potential for introducing new invasive species to the project area. Particularly attention should be paid to prevent the introduction of invasive species that are not currently documented on Oahu. SWCA recommends the following invasive species minimization measures.

Decontamination of off-island/out-of-country construction equipment, vehicles, and materials
To avoid the unintentional introduction or transport of new terrestrial invasive species to Oahu all construction equipment and vehicles arriving from outside of the Island of Oahu should be washed and inspected prior to entering the project area. In addition, construction materials arriving from outside of Oahu should also be washed and/or visually inspected (as appropriate) for excessive debris, plant materials, and invasive or harmful non-native species (plants, amphibians, reptiles and insects). When possible, raw materials (gravel, rock, soil) should be purchased from a local supplier on Oahu to avoid introducing non-native species not present on the island. Inspection and cleaning activities should be conducted at a designated location. HDOT-Harbors should document all inspection and cleaning activities using inspection forms.

The inspector needs to be a qualified botanist/entomologist that is able to identify invasive species that are of concern relevant to the point of origin of the equipment, vehicle or material (e.g. brown treesnakes (*Boiga irregularis*) are of concern if materials are originating from Guam). Invasive species that should be checked for during inspections for the Island of Oahu can be found at:

- Hawaii State-listed Noxious Weeds
  http://plants.usda.gov/java/noxious?rptType=State&statefips=15
- Department of Agriculture (DOA) Plant Pest Control
  http://hawaii.gov/hdoa/pi/ppc
- Coordinating Group on Alien Pest Species (CGAPS)
  http://www.hawaiiinvasivespecies.org/cgaps/terrestrial.html
- Oahu Invasive Species Committee
  http://www.hawaiiinvasivespecies.org/iscs/oisc/

SWCA also recommends training all construction personnel on the identification and reporting of Oahu Invasive Species Committee Priority Target Species (http://www.hawaiiinvasivespecies.org/iscs/oisc/).

Revegetation/Landscaping
If HDOT intends to revegetate or landscape portions of the project area by hydroseeding and/or outplanting, SWCA recommends that off-site sources of revegetation materials (seed mixes, mulches, etc.) are certified weed-free or inspected prior to revegetation. All areas that are hydroseeded should be monitored for six months after hydroseeding by a qualified botanist to enable early detection/rapid response of any new problematic and/or invasive species inadvertently introduced as part of the seed mixes. Problematic and/or invasive species include Oahu Invasive Species Committee's (OISC) priority target species, species listed as noxious by HAR, Title 4, Chapter 68, and other species considered to be potentially problematic by the qualified project botanist. If a problematic and/or invasive species is detected during this monitoring, appropriate remedial actions should be undertaken as needed to facilitate containment or eradication of the target species.

SWCA recommends that native Hawaiian plants be employed for landscaping to the maximum extent practicable. Potential coastal native plants that may be appropriate for landscaping include: naupaka (*Scaevola taccada*), ilima (*Sida fallax*), akulikuli (*Sesuvium portulacastrum*), and pohinahina (*Vitex rotundifolia*). If native plants do not meet landscaping objectives, plants with a low risk of becoming invasive may be substituted. Additional information on selecting appropriate plants for landscaping can be obtained from the following sites:

- http://nativeplants.hawaii.edu/
- http://www.botany.hawaii.edu/faculty/daehler/wra/default2.htm
- http://www.hear.org/alternativestoinvasives/

Measures to Minimize the Spread of Marine Invasive Species

A survey of marine species within the project area was conducted by Marine Research Consultants in June and July 2012 (MRC Inc. 2012). All algae, coral, fish and other macroinvertebrate species encountered were identified. The introduced species identified in the report are the primary focus of the discussion below.

Algae
No introduced or invasive marine algae were found during the marine surveys of the project site (MRC 2012). *Kappaphycus spp.,* an invasive algal species was recorded in Honolulu Harbor in 2002 (Smith et al. 2002) but WAS not seen during the marine survey conducted for this project. This species spreads mainly by fragmentation and regeneration and research has documented the species overgrowing and killing coral (Global Invasive Species Database 2005).

Fish
Only one species of introduced fish was observed during the survey – the black snapper (*Lutjantus fulvus*). This species is established in the coastal waters of Hawaii but not abundant. The black snapper is classified under Management Class 4 (Species that are: Established; Impacts Unclear) under the State of Hawaii Aquatic Invasive Species (AIS) Management Plan (DAR 2003). The proposed construction activities are not expected to increase the populations of the black snapper or increase its range of occurrence.

Invertebrates
The introduced invertebrate species found during the marine survey by MRC Inc. (2012) are listed below (Table 1) along with their current distribution in Hawaii and potential ecosystem impacts. All the introduced species were considered abundant or common in the survey areas. Aside from the sponges, almost all the recorded introduced species are already widespread in the main Hawaiian Islands. Introduced sponges are mainly confined to several harbors on the islands and in embayments such as Kaneohe Bay (Eldredge and Smith 2001). While not recorded during

the marine surveys for this project, the invasive barnacle *Chthamalus proteus* was recorded in SNUG harbor (which is part of the project site) in 2006 (USGS 2006, see also Eldredge and Smith 2001). *C. proteus* is considered invasive and has been reported on all the main Hawaiian Islands, mostly in harbors and along the south shore of O'ahu (Global Invasive Species Database 2007). *C. proteus* potentially threatens to alter natural substrates through dense colonization, which could lead to habitat conversion, a change in settlement patterns of native species and could exclude benthic algal grazers such as opihi (limpets). *C. proteus* is also classified as Management Class 3 (for species classified as: Established, Potential for Impacts, No Known Effective or Practical Control Techniques) in the State of Hawaii Aquatic Invasive Species (AIS) Management Plan (DAR 2003). Four other invertebrate species documented during the marine surveys, two sponges (*Mycale armata, Haliclona caerulea*) and two bryozoans (*Amathia distans, Schizoporella errata*) are classified under Management Class 4 (Species that are: Established; Impacts Unclear) under the State of Hawaii Aquatic Invasive Species (AIS) Management Plan (DAR 2003).

Table 1. List of Introduced Invertebrate Species Found During the MRC Inc. Survey (MRC 2012)

Invertebrate Species	Fragmentation or Regeneration?	Distribution in Hawaii	Impact (adapted from Eldredge and Smith 2001)
Sponges			
Gelloides fibrosa	Y	Harbors (Oahu, Maui, Kauai), Kaneohe Bay (Oahu)	observations suggest competition for space with native invertebrates. Possible threat to corals in protected habitats, such as Kaneohe Bay.
Haliclona caerulea	Y	Harbors (Oahu, Maui, Kauai, Midway), Kaneohe Bay, Keehi Lagoon (O'ahu)	some competition for space with native species likely
Mycale armata	Y	Harbors (Oahu, Maui), Kaneohe Bay (Oahu)	observations suggests competition for space with native species including reef building corals
Suberites zeteki	Y	Harbors (Oahu, Kauai), Kaneohe Bay (Oahu)	some competition for space with native species likely
Zygomycale parishii	Y	Harbors (Oahu, Maui), Kaneohe Bay, Keehi Lagoon, Barber's Point (O'ahu)	observations suggests competition for space with native species
Tunicates			
Ascidia sydneiensis	N	Throughout the main islands and Midway Atoll in harbors and embayments.	probably competes with other shallow-water invertebrates for space, especially in the fouling community.
Phallusia nigra	N	Throughout the main islands, primarily in harbors	probably competes with other shallow-water invertebrates for space, especially in the fouling community.
Bryozoans			
Amathia distans	N	Throughout main Hawaiian Islands and also Midway Atoll.	presumed minimal
Bugula stolonifera	N	unknown	unknown

Schizoporella errata	N	Throughout the main islands and Midway Atoll	probably competes with other shallow-water invertebrates for space, especially in the fouling community.
Annelids			
Chaetopterus sp.	Y	Throughout main Hawaiian Islands, especially in harbors and embayments	observations suggest competition for space with other invertebrates
Sabellastarte spectabilis	Y	Shallow water throughout main islands	most likely minimal
Salmacina dysteri	Y	global species, Hawaiian waters at depths to 200-600 meters and as being found across a wide variety of habitat facies in the Islands	assumed to be minimal
Molluscs			
Anomia nobilis	N	Widespread Indo-Pacific and Hawaiian Islands	observations suggest competition for space with other fouling invertebrates
Balanus amphitrite	N	Throughout the main Hawaiian Islands	unstudied

<u>Techniques to Prevent the Spread of Invasive/Introduce Marine Species</u>

The dredging and filling activities proposed for this project are most likely to result in the fragmentation of biological material. Hence, the introduced or invasive species that are able to disperse and regenerate from fragments are the most likely to have negative impacts on the marine environment during the construction phase of this project. These fragments, if allowed to move through the water column or along sea floor, have the potential to disperse to areas outside of the harbor and could colonize areas where they are currently not present.

Therefore invasive or introduced species that should be targeted during construction would be those that:

1) can regenerate through fragmentation; and
2) are currently are restricted in distribution in Hawaii.

Based on these two criteria, target species would include all five introduced sponge species documented during the marine surveys and the invasive marine algae *Kappaphycus spp.* which has been recorded in Honolulu Harbor, but not within the survey area.

Suggested measures to reduce fragmentation and to prevent the dispersal of fragments are listed as follows.

Operational Controls (reducing fragmentation) - Practices that reduce the suspension of sediment into the water column will tend to reduce fragmentation of invasive species as well (e.g. by reducing the speed of operations). Some examples include:

- Reduce the falling velocity of buckets on mechanical dredges, especially before seafloor impact, to minimize both fragmentation and dispersion of invasive species
- Reduce the travel speed of buckets to prevent spillage of dredged sediment
- When using a hydraulic dredge, do not move the head faster than it can pump sediment to prevent suspension of fragments into the water column

Engineering Controls (prevention of the dispersal of fragments)
Silt curtains

- Silt curtains must be deployed and maintained around areas where dredging and filling will occur for the full duration of all dredging and filling related work to prevent fragments from migrating out of the immediate area.
- Silt curtains must cover the full depth of the water column, from the surface to having the ballast chain rest on the seafloor, to effectively contain the dispersion of fragments of introduced/invasive species. Sponges are negatively buoyant and are likely to fall to the sea floor and roll with the water movement. However, the fragments of algae *Kappaphycus spp.* float and could be found on the water surface.
- Prior to silt curtain retrieval, biological fragments should be removed from the seafloor and surface along the silt curtains. This may be achieved, for example, by having a diver use a suction pump to remove biological fragments (sponges, algae etc.) from the sea floor and surface. Surface fragments may also be scooped up with a fine mesh net.

Disposal of dredged materials (prevention of re-introduction)
Until properly disposed of, dredged sediments should be stored in a way that prevents both runoff and biological fragments from being washed back into coastal areas.

References:

Division of Aquatic Resources (DAR). 2003. State of Hawaii Aquatic Invasive Species Management Plan, Final Version. Prepared thourgh: Shluker A.D. The Nature Conservancy Hawaii.

Eldredge L.G. and Smith C.M. 2001. A Guidebook of Introduced Marine Species in Hawaii. Bishop Museum Technical Report 21.

Global Invasive Species Database. 2007.*Chthamalus proteus*. Available from: http://www.issg.org/database/species/ecology.asp?si=1078&fr=1&sts=sss&lang=EN [Accessed Aug 20, 2102]

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Marine Research Consultants (MRC) Inc. 2012. An Assessment of the Marine Biological Community Structure in the Vicinity of the Proposed Kapalama Container Terminal, Honolulu, Hawaii. Prepared for Belt Collins, Hawaii.

Smith, J. E., C. L. Hunter, and C. M. Smith. 2002. Distribution and Reproductive Characteristics of Nonindigenous and Invasive Marine Algae in the Hawaiian Islands. Pacific Science, vol. 56, no. 3: 299-315

SWCA 2012. Flora and Fauna Survey for the Proposed Kapalama Container Terminal and Pacific Shipyards International Relocation Site. Letter Report to Belt Collins, Hawaii.

United States Geological Survey (USGS). 2006. *Chthamalus proteus*. USGS Nonindigenous Aquatic Species Database.

APPENDIX H

State Historic Preservation Division Letters

H-1
State Historic Preservation Division Letters

LINDA LINGLE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

June 20, 2007

Ms. Sandra Pfund, Project Director
Hawai'i Harbors Project
Pier 10 Terminal, 2nd Floor, 600 Fort Street
Honolulu, Hawai'i 96813

LOG NO: 2007.2090
DOC NO: 0706BF09
Architecture

Dear Ms. Pfund:

SUBJECT: Chapter 6E-8 (HRS) Review
Redevelopment of the Former Kapalama Military Reservation - Demolition of Remaining Portion
Hawai'i Harbors Project (HHP) – Master Plan for Harbor Infrastructure Improvement and Expansion
Honolulu, Hawai'i
TMK: (1) 1-2-025:002

Thank for the submission of the historic architectural survey of the former KMR site.

After reviewing the survey (LOG NO.:2006.0829, DOC NO.: 0603ST32) the SHPD finds the survey to meet the proposed mitigation from our letter dated April 3, 2006.

We believe that the determination for the proposed demolition is "no adverse effects" per Chapter 6E-8 (HRS). Thank you for the opportunity to comment. Should you have any questions regarding architectural concerns please call Susan Tasaki in our Oahu office at (808) 692-8032.

Aloha,

Melanie A. Chinen, Administrator
State Historic Preservation Division

BTF:jen

cc: Tonia Moy, Fung Associates, 1833 Kalakaua Ave., Suite 1008, Honolulu, HI 96815

NEIL ABERCROMBIE
GOVERNOR OF HAWAII

RECEIVED
2012 DH
2011 JAN -6 PM 1:07
BELT COLLINS HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAHUHIHEWA BUILDING
601 KAMOKILA BLVD, KAPOLEI HI 96707

DATE: December 12, 2011

LOG: 2011.3125
DOC: 1112RS23

TO: Glen T. Koyama
Project Manager
Belt Collins Hawaii Ltd.
2153 North King Street, Unit 200
Honolulu, HI 96819-4554

SUBJECT: **Section 6E-42 Historic Preservation Review**
National Historic Preservation Act (NHPA) Section 106 Review
Project: Environmental Impact Statement Preparation Notice
Permit # (None)
Owner: Harbors Division, Department of Transportation, Hawaii State Government
Location: Former Kapalama Military Reservation
Tax Map Key: (1) 1-2-025:002

This letter is in response to materials dated November 21, 2011 and received by SHPD on November 23, 2011, regarding submission of an *Final Environmental Assessment/Environmental Impact Statement Preparation Notice Kapalama Container Terminal Honolulu Harbor* to be located at the former Kapalama Military Reservation. The project would remove existing ex-military warehouses, relocate existing tenants, pave the former building footprints, dredge the harbor, and alter the shoreline for construction of new container piers. The Area of Potential Effect (APE) would be the parcel and the harbor immediately adjacent.

The property was created in the early part of the 20th century by filling in a series of fishponds along the makai side of Kalihi-Kapalama-Palama. A cargo container terminal was first proposed as early as 1989. The former Kapalama Military Base buildings could potentially be eligible under Criterion C (Military Architecture during World War II and Korea).

However, as part of an earlier mitigation, SHPD agreed to documentation of the Kapalama Military Reservation before demolition. SHPD in 2007 received the report entitled *Historic Architectural Survey of Former Kapalama Military Reservation and Hawaiian Dredging Sites* (Fung and Associates for the Department of Transportation).

In a letter dated June 20, 2007, SHPD's Architecture Branch concurred with a determination of "no adverse effect" for the *Master Plan for Harbor Infrastructure Improvement and Expansion*. Our architectural office continues to hold that position. As for archaeology concerns covering alteration of the shoreline, our Oahu Archaeologist, Nona Naboa, also concurs with a determination of "no adverse effect" for archaeology.

Thus **SHPD accepts the report.** Please provide a hardcopy to this office for the SHPD Library.

Any questions should be addressed to Ross W. Stephenson, SHPD Historian, at (808) 692-8028 (office), (808) 497-2233 (cell) or ross.w.stephenson@hawaii.gov.

Mahalo for the opportunity to comment.

AWestfall

Angie Westfall
Architecture Branch Chief, Hawaii Historic Preservation Division

In the event that historic resources, including human skeletal remains, lava tubes, and lava blisters/bubbles are identified during construction activities, all work should cease in the immediate vicinity of the find, the find should be protected from additional disturbance, and the State Historic Preservation Division should be contacted immediately at (808) 692-8015.