




EXECUTIVE CHAMBERS
HONOLULU

NEIL ABERCROMBIE
GOVERNOR

October 30, 2014

TO: Ford N. Fuchigami, Interim Director
Department of Transportation

FROM: Neil Abercrombie
Governor 

SUBJECT: Acceptance of the Kapālama Container Terminal and Tenant Relocations
Final Environmental Impact statement, Honolulu Harbor, O'ahu

I hereby accept the Final Environmental Impact Statement for the Kapalama Container Terminal and Tenant Relocations Project, as satisfactory fulfillment of the requirements of Chapter 343, Hawai'i Revised Statutes. The economic, social, and environmental impacts which will likely occur should this project be built, are adequately described in the statement. The analysis, together with the comments made by reviewers provide useful information to policy makers and the public.

My acceptance of the statement is an affirmation of the adequacy of that statement under the applicable laws. I find that the mitigation measures proposed in the environmental impact statement will minimize the negative impacts of the project.

In implementing this project, I direct the Hawai'i Department of Transportation-Harbors Division and/or its agent to perform these mitigation measures or comparable, equally effective alternatives at the discretion of the permitting agencies. The mitigation measures identified in the environmental impact statement are listed in the attached document.

Attachment

MITIGATION MEASURES
KAPALAMA CONTAINER TERMINAL AND TENANT RELOCATIONS
FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE
HAWAII DEPARTMENT OF TRANSPORTATION HARBORS DIVISION
Attachment to the Governor's Acceptance
October 2014

Mitigation measures for the Kapalama Container Terminal and Tenant Relocations Final Environmental Impact Statement is listed below. Permitting agencies are encouraged to incorporate the identified mitigation measures or better alternative in the permit conditions.

LAND USE

Kapālama Site

- 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.

Piers 24 – 28

- The vessels delivering dry-bulk cargo to Hawaiian Flour Mill'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.
- The new tenant at Piers 24 and 25 will need to coordinate continued access for the Harbor Police vessels to access their existing berths at the head of the slip.
- During construction, short-term impacts such as dust, noise, and runoff from the construction site will be addressed through implementation of BMPs and other management measures.

NAVIGABLE AIR SPACE

Kapālama Site & Piers 24 – 28

- The heights of cranes and construction equipment will follow the Federal Aviation Administration's (FAA) final navigable airspace recommendations.
- Construction or alteration situations that would require notifying FAA are detailed in 14 Code of Federal Regulations Part 77.9 and briefly summarized as follows:
 - ❖ Any construction or alteration that would exceed an imaginary 100:1 slope within 20,000 feet of the nearest runway;
 - ❖ An object that is 200 feet above ground level; or
 - ❖ Any object that penetrates into a runway imaginary surface.
- Construction and operational impacts along with associated mitigation under Alternative Action will be similar to the Proposed Action.

HAZADOUS SUBSTANCES/MATERIALS/WASTE AND PETROLEUM

Kapālama Site

- The DOT Harbors Division will conduct an Environmental Site Assessment Phase (ESA) II 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 that describes the work procedures and methods, 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 has been prepared for DOT-Harbors Division.
- Tenants who will be relocated from the area will be responsible for cleaning up their site per the Environmental Site Assessment recommendations when they vacate.
- Depending on the nature and extent of any contaminant, mitigation measures may include design and engineering methods adopted as part of the Proposed Action.
- 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-mentioned assessment and made part of the design documents.

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.

Piers 24 – 28

- The following has been identified to handle the chemicals of concern (COCs) at an area identified as Operating Unit 1C (OU1C), Pier 24 to Pier 28 area of operations:
 - ❖ 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 COCs identified as potential hazards are arsenic, beryllium, and lead.
 - ❖ Groundwater – Separate phase hydrocarbons, benzene, ethylbenzene, toluene, xylenes, naphthalene, and methyl tert butyl ether.
- The following has been or is being implemented to mitigate potential hazards.
 - ❖ Storm-drain replacement at Pier 26 to separate hydrocarbons.
 - ❖ Storm-drain replacement at Pier 24 to mitigate potential for future migration of separate phase hydrocarbons.
 - ❖ Separate phase hydrocarbon extraction wells in the northern portion of Operating Unit 1C (OU1C) and near Pier 24 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 to provide barriers to potential future separate phase hydrocarbons in the area where the maximum amounts occur relatively near the harbor walls.

- ❖ Sheet pile wall joint sealing along Piers 25 and 29 to render watertight to provide barriers to potential future separate phase hydrocarbon migration into harbor waters.
- ❖ HDOT-Harbors plan to construct a thick concrete cap over much of OU1C to provide additional protection against exposure to surface soils under the cap.
- Future activities in the OU1C area must comply with the Internal Controls (IC) Plan and include the following:
 - ❖ 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. The Iwilei District Participating Parties (IDPP) and the Department of Health (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. The Iwilei District Participating Parties (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.
- To mitigate potential hazards, Institutional Controls have been established for Soil Management Zones, Groundwater Management Zones, and Soil Gas Control Zones over OUC1, and are implemented by the IDPP.
- Mitigation measures established in the Environmental Hazard Management Plan (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 will 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 will be conducted by the new tenants prior to trenching or excavation activities. Potential risks to workers involved in grading or trenching activities will 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.
- Compliance with existing applicable laws and regulations associated with the handling and management of hazardous materials and waste will 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)
- The National Pollutant Discharge Elimination System (NPDES) permit will include, among other items, a best management practices plan, monitoring and reporting procedures, and designated personnel for compliance with the permit and regulations.
- The shipyard will also need to submit a Notification of Regulated Waste Activity (Environmental Protection Agency (EPA) Form 8700-12) for waste products regulated by the EPA under the Resource Conservation and Recovery Act (RCRA) and DOH under its amended hazardous waste rules (Hawai'i Administrative Rules, Chapter 11-260).
- Blasting and painting activities will be regulated by DOH under its fugitive dust rules (HAR 11-12 60.1-33).
- 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.
- Construction and operational impacts under the Alternative Action will be similar to the Proposed Action. Similar mitigation as above is recommended.

ROADWAYS AND TRAFFIC

Kapālama Site

- 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.
- Improvements within the shoulder area of Sand Island Access Road will 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 will 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 will be constructed onto Auiki Street, requiring work in the street sidewalk and curb area.
- Container trucks traveling to the inter-island cargo service will use an internal connection within the Kapālama site to reach the adjacent inter-island barge terminal. As a result, the Proposed Action will reduce the amount of truck trips on public roads between the two terminals.

- The proposed improvements at Sand Island Access Road and UH Snug Harbor Access intersection 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 Kapālāma site. Parking restrictions may be required near the new driveways along Auiki Street to provide adequate sight distance for vehicles at those access points.
- Passenger vehicle traffic will utilize Kalihi Street and the Auiki Street entrance, which carries more passenger cars; while the trucks will utilize Sand Island Access Road, which currently handles more truck traffic.
- Access to the Servco property adjacent to the Kapālāma site will also be limited to Auiki Street at the Servco driveway across Pu'uhale Street and the Mokauea Street intersection. Impacts to these intersections will be mitigated by the installation of a traffic signal at the Mokauea Street intersection, which is currently being installed by the City.
- Construction and operational impacts under the Alternative Action will be similar to the Proposed Action. Similar mitigation as above is recommended.

Piers 24 – 28

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

UTILITIES

Kapālāma Site

- The on-site water system may either use the same points-of-connection to the public utility water system or new points-of-connection. Honolulu Board of Water Supply (BWS) approval will be required prior to reactivating existing or constructing new points-of-connection to the BWS water system.
- Board of Water Supply approval for compliance with BWS and the Honolulu Fire Department (HFD) requirements, including on-site fire protection, cross-connection control, and backflow prevention, will 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 will require adjustments to accommodate the potential use of sheet piles in construction of the project's main pier. Adjustments will occur primarily around the sheet piles and landside of the pier.
- Construction impacts will be minimized by implementation of BMPs and compliance with applicable City and Department of Health permits and approvals.
- The Alternative Action will similarly have no adverse impact to the public water utility system. The BWS affirmation of the adequacy of the existing public water utility system will equally apply to the Alternative Action.
- The on-site sewer system will 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 will be required for new discharges to any new or existing points of connection to the City sewer system.

- 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 will be minimized by compliance with applicable City and Department of Health permits and approvals.
- The onsite drainage system will 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-Harbors Division or City approval will 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 Hawai'i Administrative Rules 11-55. 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.
- 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.
- 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 will be minimized given compliance with applicable City and DOH permits and approvals.
- The Proposed Action will repave the existing pavement surface for storing of shipping containers. The Proposed Action will include BMPs to meet the City's National Pollutant Discharge Elimination System (NPDES) MS4 permit requirements or DOT-Harbors MS4 permit requirements, depending on the system to which the on-site drainage system is connected.
- 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.
- It is anticipated that Hawaiian Electric Company (HECO) will 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 will consist of metal cabinets placed on concrete pads and concrete-encased polyvinyl chloride (PVC) conduits.
- Telephone and cable television service will be extended to the property from the existing off-site overhead lines in adjacent public roadway right of ways. Separate

service conduit laterals will be provided for Hawaiian Telcom and Oceanic Time Warner Cable.

- All conduits will be connected to a Hawaiian Telcom handhole or manhole before rising up the existing overhead pole in accordance with Joint Pole Committee rules.
- The construction of on-site electrical and telecommunications systems for the Proposed Action will consist of underground concrete-encased PVC conduits and manholes.
- Electrical power and telecommunications facilities will be designed and constructed per design codes and respective utility policies.
- The installation of on-site lighting and traffic signal improvement will 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 will require adjustments to accommodate the potential use of sheet piles in construction of the project's main pier. Adjustments will 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.
- Development of the site as a container yard capable of 24-hour operation will require the installation of area lights throughout the parcel to provide adequate illumination for safe operation of the articulated trucks and container lifts.
- A high-mast lighting system will be proposed for most of the container yard. The high-mast poles will 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 will be proposed to prevent glare into the adjacent properties.
- The fixtures will be shielded and directional to prevent upward light emissions and thereby minimize attractions to shearwaters.
- Construction of new below-ground gas lines may include excavation, temporary stockpiling of material, compaction of embankment material to fill excavations, and repaving. Construction will be accomplished in compliance with applicable permit requirements.
- There are no anticipated impacts to the Hawai'i Fueling Facilities Corporation 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.
- Storage tanks will need to comply with Environmental Protection Agency Spill Prevention, Control and Countermeasure (SPCC) regulations and Honolulu Fire Department fire protection ordinances.
- 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 will be tested for suitability. In the unlikely event that a material is

found to be hazardous, the material will be disposed of properly, in accordance with federal regulations.

- Waste will 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.
- As appropriate, the container terminal operator will implement recycling to reduce the volume of solid waste generated during operations and impacting H-POWER facility and landfills.
- Each specific tenant will be required to employ mitigation measures if its operation is in non-compliance with State and/or Federal regulations.

Piers 24 – 28

- The Pacific Shipyard International (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.
- 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 right of way. There are Board of Water Supply water meters at each point of connection. Connection to the BWS system and maintenance will be the responsibility of each tenant.
- The existing on-site sewer system consists of 8-inch and 6-inch diameter gravity lines and a 4-inch diameter pressure sewer lines. Connection to the City's sewer system and maintenance will be the responsibility of each tenant.
- 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.
- 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.
- Hawaiian Telcom and Oceanic Time Warner Cable distribution lines are routed on-site within the Pier 24–28 area through a system of underground cables and ducts. Connection to the off-site telecommunications system and maintenance will be the responsibility of each tenant.
- 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.
- The 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 will be minimized given compliance with applicable City and DOH permits and approvals.
- Operational impacts of the Proposed Action on the public utility water system will need to be assessed by the Board of Water Supply. Additional engineering

studies will 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, will 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.
- Use of Piers 24-28 will require reconstruction of on-site sewer utilities by the new tenants and compliance with current codes. The new system will consist of gravity sewer laterals, pressure sewers and sewage pumping stations, and will 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 Pacific Shipyard International and Atlantis Submarine personnel to Piers 24–28.
- Existing on-site sewer lines may be removed if they 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 will be minimized given compliance with applicable City and DOH permits and approvals.
- Use of Piers 24-28 will 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 will be reconfigured to correspond with new site configuration and likely use the same points of discharge to the harbor. DOT-Harbors Division approval will be required for new discharges to any new or existing points of connection to the drainage system.
- Honolulu Harbor has a small Municipal Separate Storm Sewer Systems (MS4) permit that 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 best management practice (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.
- The 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 will be minimized by compliance with applicable City and DOH permits and approvals.
- Potential construction impacts from the excavation, underground utility installation, backfill and paving for underground electrical and telecommunication utilities will be minimized by compliance with applicable regulatory requirements and implementation of BMPs.

- Electrical and telecommunications service to the project site will 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.
- The Proposed Action will include construction debris from construction of new facilities on the property. 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.
- Recycling will serve to reduce the volume of waste sent to the H-POWER facility and the City landfill.

PUBLIC SERVICES

Kapālama Site & Piers 24 - 28

- 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 Honolulu Fire Department. As part of the Board of Water Supply'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.

TOPOGRAPHY, GEOLOGY, AND SOILS

Kapālama Site

- Potential impacts during construction will 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 Department of Health (DOH).
- Best Management Practices (BMPs) will be incorporated as part of the Proposed Action.
- Construction impacts will also be avoided or minimized through compliance with appropriate siting, planning, and design standards, including the International Building Code (IBC).
- Construction activities will be completed in compliance with geotechnical engineering recommendations, which will be specific to the project design.
- Fill from excavation work will be used to the extent practicable to minimize the amount of fill from off-site sources to construct the proposed piers.
- City construction permits will require the implementation of Best Management Practices (BMPs) to minimize the potential for soil transport and fugitive dust emissions.
- The State issued National Pollutant Discharge Elimination Systems (NPDES) permits mandates the implementation of BMPs to any dewatering discharge, if required.
- Construction-related impacts will 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.

Piers 24 – 28

- Construction will involve excavation for the footings and foundations of the new buildings, trenching for utility lines, as well as grading and paving. These activities will be completed in compliance with geotechnical engineering recommendations, which will be specific to the proposed project design.
- Construction-related impacts will also be avoided or minimized through compliance with applicable regulatory requirements and engineering design standards.

HYDROLOGY

Kapālama Site & Piers 24 - 28

- Project design provisions and compliance with NPDES permit requirements will 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) will occur before construction begins and remain until permanent BMPs are in place.

NATURAL HAZARDS

Kapālama Site

- The proposed facilities will be designed and constructed in accordance with site-specific geotechnical and structural engineering investigations and comply with the International Building Code (IBC) seismic design criteria.
- DOT-Harbors Division is engaged in efforts to develop adaptation strategies to address the long term impacts of climate change. This includes collaborating with other agencies and incorporating climate change adaptation into harbor master plans and designs.
- Existing disaster preparedness and evacuation procedures will be implemented for personnel safety and to minimize impacts from those hazards.
- 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 will 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 will be developed in this area. Improvements will comply with applicable regulatory requirements.
 - ❖ For earthquake hazards, facilities will be designed based on site geotechnical and structural engineering investigations and comply with International Building Code (IBC) seismic design requirements.
 - ❖ For hurricane hazards, buildings will be designed to comply with the IBC requirements.
 - ❖ Existing disaster preparedness and evacuation procedures will 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.

Piers 24 – 28

- Flood, earthquake, and hurricane conditions and mitigations are similar to those of the Kapālāma site above.
 - ❖ Facility siting and design measures can be implemented, as needed, to minimize damage due to tsunami wave action.
 - ❖ Buildings, as currently proposed, will be outside of this zone. In addition, no change in elevations along the pier edges is 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.
- Existing disaster preparedness and evacuation procedures will 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.

CLIMATE AND AIR QUALITY

Kapālāma Site and Piers 24 – 28

- Air emissions from construction will consist primarily of fugitive dust and diesel powered equipment and vehicles. As required by Hawai'i Administrative Rules (HAR), §11-60.1-33, fugitive dust will be controlled during demolition, earthmoving, and truck transport.
- Permits under HAR §11-60.1 will be obtained by the operator of the regulated stationary source equipment used for construction if applicable, e.g., portable diesel generators.

NOISE

Kapālāma Site

- Hawai'i Administrative Rules (HAR) Chapter 11-46, provides controls for limiting noise during construction activities. These rules restrict construction noise during the hours before 7 a.m. and after 6 p.m. Monday through Friday, 9 a.m. to 6 p.m. 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 may 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 the Environmental Protection Agency (EPA) for dredging and in-water work.

- DOT-Harbors Division and its contractors will 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 will achieve approximately 7 decibels, A-weighted scale (dBA) sound reduction. This measure will reduce stationary and impulsive sounds to below the State's Zone B maximum permissible levels for daytime hours, however both sound types will still exceed the nighttime maximum permissible levels.
 - ❖ 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 will decrease noise levels at the residences.
 - ❖ 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 will 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.
 - ❖ Include sound attenuation treatments to all fixed machinery so that steady state noise levels do not exceed 50 decibels, A-weighted scale (dBA) during the nighttime hours and 60 dBA during the daytime at the nearest residence.

Piers 24 – 28

- 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 will not exceed the daytime level of 60 dBA.
- 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 will 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 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.

Hawaiian Flour Mill

- HFM would use Pier 20 for dry-bulk cargo unloading operations.
- 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 from 50 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 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 Hawai'i Flour Mill 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.

VISUAL RESOURCES

Kapālama Site

- The following measures may be considered during design of the area lighting system to minimize visual impacts:
 - ❖ 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.
 - ❖ 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.
 - ❖ Where feasible, locate buildings along the Auiki Street perimeter to block some of the area light from the Kalihi Kai neighborhood.

- ❖ Depending upon the height of the planned perimeter fencing, install slats in the fence mesh or shade cloth attached to the fence.
- ❖ Limit the area where night operations are required to the center of the container yard or closer to the Sand Island Access Road boundary.
- ❖ Minimize light spillage from the container inspection facility with roofing, half height walls, or similar provisions.
- ❖ Establish operational hours to limit the amount of area lighting required during the late evening and earlier morning hours.

Piers 24 – 28

- As with the Kapālama site, illumination will 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 will be curtailed.
- 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.

MARINE ENVIRONMENT

Kapālama Site

- During construction, Best Management Practices (BMPs) will be implemented for erosion and sediment control, as required under National Pollutant Discharge Elimination System (NPDES) permits. Storm water runoff will be contained on site.
- In compliance with various federal statutory and regulatory authorities, measures will 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 will be in place to reduce the occurrence of spills, stop sources of spills, contain and clean up spills, and properly dispose of spill materials.
- 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. For in-water construction activities, appropriate mitigation measures are expected to be developed during the U.S. Army Corps of Engineers review process.
- The dredged material will most likely be disposed of in the south O'ahu disposal site, a rectangular area approximately 1.5 miles wide and 2 miles long with a bottom depth of approximately 400 meters, located about 4 miles offshore from the mouth of Pearl Harbor.
- With respect to dredged material (sediment), significant impacts on the marine environment will 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.

- 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:
 - ❖ 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 will have to be segregated from other dredged materials, and handled in accordance with applicable regulations.
 - ❖ 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.

Piers 24 – 28

- Potential tenants will be required to comply with State and federal regulations and permitting procedures for any in-water construction.
- Potential impacts on marine biota at the Pier 24–28 site during operation of Pacific Shipyard and Atlantis Submarines will be addressed through compliance with management measures, including regulatory requirements and standard operating procedures.
- Storm water discharge will be avoided or minimized through compliance with NPDES permit conditions.
- Hazardous material spills will be avoided or minimized through implementation of pollution prevention measures.
- 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 will probably require a marine assessment to minimize impacts on living marine organisms.

TERRESTRIAL FLORA AND FAUNA

Kapalama Site

- To avoid unintentional introduction of new invasive species to O'ahu, all construction equipment and vehicles arriving from outside of the island of O'ahu will be washed and inspected prior to entering the project area. Inspection and cleaning activities will 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.
- Downward orientation and shielding of outdoor lights will be incorporated into the project to prevent upward light emissions and thereby minimize attraction to shearwaters.
- With the Proposed Action, the Department of Agriculture (DOA) will be able to develop the biosecurity facility needed to help prevent the spread of invasive species. The biosecurity facility will 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 will improve intervention efforts.

Piers 24 – 28

- During construction, to avoid unintentional introduction of invasive species to O'ahu, all construction equipment and vehicles arriving from outside of the island of O'ahu 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 are to include revegetation 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.
- Downward orientation and shielding of outdoor lights would be incorporated into the project to prevent upward light emissions and thereby minimize attraction to shearwaters.
- If a Department of the Army Permit is required, the U.S. Army Corps of Engineers will be satisfying its Endangered Species Act (ESA) Section 7 obligation with U.S. Fish and Wildlife Service. 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 operations are in non-compliance with State and/or federal regulations.

CULTURAL RESOURCES

Kapalama Site

- If human remains or subsurface archaeological resources are encountered during construction, work at the site in question would stop, and the State Historical Preservation Division will be contacted in accordance with State law and rules.

- Mitigation measures for historic structures include documentation, which has been completed, and an attempt to salvage intact architectural features. That attempt will be made during demolition.

Piers 24 – 28

- 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 will be contacted in accordance with State law and rules.
- All tenants will be required to employ mitigation measures if its operation is in non-compliance with State and/or federal regulations.