DEPARTMENT OF ENVIRONMENTAL SERVICES
KA ʻOIHANA LAWELAWE KAIĀPUNI
CITY AND COUNTY OF HONOLULU

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IN REPLY REFER TO:
WEC.PE 25-041

October 31, 2025

Ms. Mary Alice Evans, Director
Office of Planning and Sustainability Development
State of Hawaiʻi
235 South Beretania Street, 6th Floor
Honolulu, Hawaiʻi 96813

Dear Ms. Evans:

SUBJECT: Awa Street Wastewater Pump Station Improvements and Rehabilitation
TMK 1-5-040:003
Honolulu, Oʻahu

The City and County of Honolulu, Department of Environmental Services is transmitting the subject Draft Environmental Assessment and Anticipated Finding of No Significant Impact (DEA-AFONSI) for the subject project. The DEA-AFONSI has been prepared pursuant to Chapter 343, Hawaiʻi Revised Statues, and Chapter 11-200.1, Hawaiʻi Administrative Rules.

We respectfully request that the DEA-AFONSI be published in the next available issue of the Environmental Notice. Materials required for the publication are being provided via the Environmental Review Program's online form.

Should you have any questions, please contact Audrey Uyema Pak from our Division of Wastewater Engineering and Construction at (808) 768-8766.

Sincerely,

Digitally signed by
Babcock, Roger W
Date: 2025.11.02
08:29:30 -10'00'

Roger Babcock, Jr., Ph.D., P.E.
Director

Enclosure

cc: ENV/OAS

From: dbedt.opsd.erp@hawaii.gov
To: DBEDT OPSD Environmental Review Program
Subject: New online submission for The Environmental Notice
Date: Friday, November 14, 2025 9:08:14 AM

Action Name

Awa Street Wastewater Pump Station Improvements and Rehabilitation

Type of Document/Determination

Draft environmental assessment and anticipated finding of no significant impact (DEA-AFNSI)

HRS §343-5(a) Trigger(s)

- (1) Propose the use of state or county lands or the use of state or county funds

Judicial district

Honolulu, O‘ahu

Tax Map Key(s) (TMK(s))

(1) 1-5-040:003

Action type

Agency

Other required permits and approvals

none

Proposing/determining agency

Department of Environmental Services

Agency jurisdiction

City and County of Honolulu

Agency contact name

Audrey Uyema Pak

Agency contact email (for info about the action)

Audrey.uyemapak@honolulu.gov

Email address for receiving comments

comments@townscapeinc.com

Agency contact phone

(808) 768-8766

Agency address

1000 Uluohia Street, Suite 308
Kapolei, Hawaii 96707
United States
Map It

Is there a consultant for this action?

Yes

Consultant

Townscape, Inc.

Consultant contact name

Aaron Teper

Consultant contact email

aaron@townscapeinc.com

Consultant contact phone

(808) 550-3893

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900 Fort Street Mall
Suite 1160
Honolulu, Hawaii 96813
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Map It

Action summary

The Awa Street Wastewater Pump Station Improvements and Rehabilitation is a proposed project led by the City and County of Honolulu's Department of Environmental Services Division of Wastewater Engineering and Construction. The project aims to address aging infrastructure, environmental vulnerabilities, and regulatory compliance for the WWPS facility. The primary goals of the project are to: improve capacity and functionality to meet current and projected sewer flow demands; address structural degradation caused by aging infrastructure; and enhance resilience to threats from sea level rise, tsunamis, and hurricanes.

External site improvements include repaving driveways, replacing fences and lighting, hardening entryways to mitigate water intrusion, and reinforcing the concrete foundation. Internal improvements consist of replacing four sewage pumps, relocating essential infrastructure above projected inundation levels, and rehabilitating aging infrastructure. Additionally, the project plans to enhance emergency generator operations by demolishing and rebuilding the existing facility and replacing the underground fuel storage tank with an aboveground tank.

Reasons supporting determination

Refer to section 6.

Attached documents (signed agency letter & EA/EIS)

- WEC.PE-25-041_Awa_ADA1.pdf
- Awa_Internal_Preliminary_Draft_EA_November-2025_to-ERP_Full_ADA1.pdf

ADA Compliance certification (HRS §368-1.5):

The authorized individual listed below certifies that documents submitted are unlocked, searchable, and ADA compliant. Audio files include transcripts, captions, or alternative descriptions.

Action location map

- Project_Site1.zip

Authorized individual
Aaron Teper
Authorized individual email
aaron@townscapeinc.com
Authorized individual phone
(808) 550-3893
Authorization
• The above named authorized individual hereby certifies that he/she has the authority to make this submission.

Draft Environmental Assessment
for the
Awa Street Wastewater Pump Station
Improvements and Rehabilitation
Honolulu, Oʻahu, Hawaiʻi

Prepared For:

City and County of Honolulu

Department of Environmental Services

CITY AND COUNTY OF HONOLULU

ENV
Community. Commitment. Continuity.

Prepared By:

TOWNSCAPE INC

November 2025

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Draft Environmental Assessment
Awa Street Wastewater Pump Station Improvements and Rehabilitation
Honolulu, Oʻahu, Hawaiʻi

Tax Map Key (1)1-5-040:003

This environmental document has been prepared pursuant to Chapter 343, Hawaiʻi Revised Statutes.

Prepared For:

City and County of Honolulu
Department of Environmental Services
1000 Ulu‘ōhi‘a Street Suite 308
Kapolei, Hawai‘i 96707

Prepared By:

Townscape, Inc.
900 Fort Street Mall, Suite 1160
Honolulu, Hawai‘i 96813

November 2025

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List of Abbreviations

Abbreviation	Definition
AST	Aboveground Storage Tank
BMPs	Best Management Practices
BWS	Board of Water Supply
CFR	Code of Federal Regulations
City	City and County of Honolulu
CWRM	Commission on Water Resource Management
DAR	Division of Aquatic Resources
DLNR	Department of Land and Natural Resources
DOFAW	Division of Forestry and Wildlife
DOH	Department of Health
DOT	Department of Transportation
DP	Development Plan
EA	Environmental Assessment
ENV	Department of Environmental Services, City
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
HAR	Hawai‘i Administrative Rules
HART	Honolulu Authority for Rapid Transit
HECO	Hawaiian Electric Company, Inc.
HFD	City and County of Honolulu Fire Department
HNL	Honolulu International Airport
HPD	City and County of Honolulu Police Department
HRS	Hawai‘i Revised Statutes
LUO	Land Use Ordinance
MCC	Motor Control Center

Abbreviation	Definition
MGD	Million gallons per day
NFPA	National Fire Protection Association
PLC	Programmable Logic Controller
PUC	Primary Urban Center
SCADA	Supervisory Control and Data Acquisition
SHPD	State Historic Preservation Division
SLR	Sea level rise
TOD	Transit Oriented Development
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
WWPS	Wastewater Pump Station
WWTP	Wastewater Treatment Plant

PROJECT SUMMARY

Project Name:	Awa Street Wastewater Pump Station Improvements and Rehabilitation
Proposing and Determining Agency:	City & County of Honolulu Department of Environmental Services 1000 Ulu‘ōhi‘a Street Suite 308 Kapolei, Hawai'i 96707
HRS, Chapter 343 Trigger	Use of State or County lands or the use of State or County funds
Location:	Honolulu, O‘ahu, Hawai‘i
Tax Map Keys:	1-5-040:003, State of Hawai‘i Department of Transportation Harbor Division
Project Address:	190 North Nimitz Highway Honolulu, Hawai‘i 96817
Land Area:	0.1265 acres (or 5,510 square feet) parcel area
Recorded Fee Owner:	State of Hawai‘i (Fee Owner) City & County of Honolulu (Lessee)
Existing Use:	Wastewater Pump Station
Proposed Use:	Wastewater Pump Station
Community Plan Region:	Primary Urban Center
Land Use Designations:	
State Land Use	Urban
County Zoning	IMX-1 Industrial-Commercial Mixed Use
Special Management Area:	Not in Special Management Area
Proposed Action:	The proposed project involves upgrading current facilities for climate resilience and replaces outdated infrastructure to support current sewer flow. It includes rebuilding the emergency generator facility, updating the pump station with new pumps, replacing sewers, floodproofing exteriors and interiors, and replacing the underground fuel storage tank with an aboveground tank.
Agency Determination:	Anticipated Finding of No Significant Impact

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1 Introduction

1.1 Project Background and Need

The Awa Street Wastewater Pump Station (WWPS) Improvements and Rehabilitation is a proposed project led by the City and County of Honolulu's (City) Department of Environmental Services (ENV) Division of Wastewater Engineering and Construction. The project aims to address aging infrastructure, environmental vulnerabilities, and regulatory compliance for the WWPS facility. The primary goals of the project are to:

1. Improve capacity and functionality to meet current and projected sewer flow demands;
2. Address structural degradation caused by aging infrastructure; and
3. Enhance the facility's resilience to threats from sea level rise (SLR), tsunamis, and hurricanes.

In 2010, planning efforts were initiated by the City under the U.S. Environmental Protection Agency to renovate and upsize the Awa Street WWPS. Early plans focused on upgrading the existing facility. However, ENV petitioned to construct a new Waiakamilo trunk sewer line to divert wastewater flow instead of upsizing the Awa Street WWPS with the goal of eventually decommissioning the facility. By 2017, due to technical and cost constraints, ENV decided to keep the Awa Street WWPS in operation. In 2021, an assessment conducted by Carollo Engineering identified significant vulnerabilities related to SLR, tsunamis, and hurricanes, reinforcing the need to modernize the Awa Street WWPS.

Additionally, pursuant to Hawai‘i Administrative Rules (HAR) 11-280.1, underground storage tanks (USTs) and piping installed before August 9, 2013, must be upgraded to include secondary containment and must use interstitial monitoring to detect releases from tanks and piping by July 15, 2028.

Environmental review of this project is required by Hawai‘i Revised Statutes (HRS) Chapter 343. The statutory trigger for the preparation of this Environmental Assessment (EA) is the use of State or County funds and lands.

1.2 Awa Street WWPS Location and Description

The Awa Street WWPS, located at 190 North Nimitz Highway in Honolulu, sits at the ‘Ewa edge of Chinatown alongside the Nu‘uanu Stream. The facility is situated within the median formed by the split lanes of Nimitz Highway (see Figure 1). Vehicular access to the Awa Street WWPS is normally from Nimitz Highway, however, due to ongoing lane closures associated with the Honolulu Authority on Rapid Transit (HART) construction, alternative access will be available from Awa Street (see Figure 2).

Areas serviced by the Awa Street WWPS include: Kalihi, Kalihi Valley, Iwilei and Liliha/Kapālama. Wastewater collected at this facility is pumped downstream to the Hart

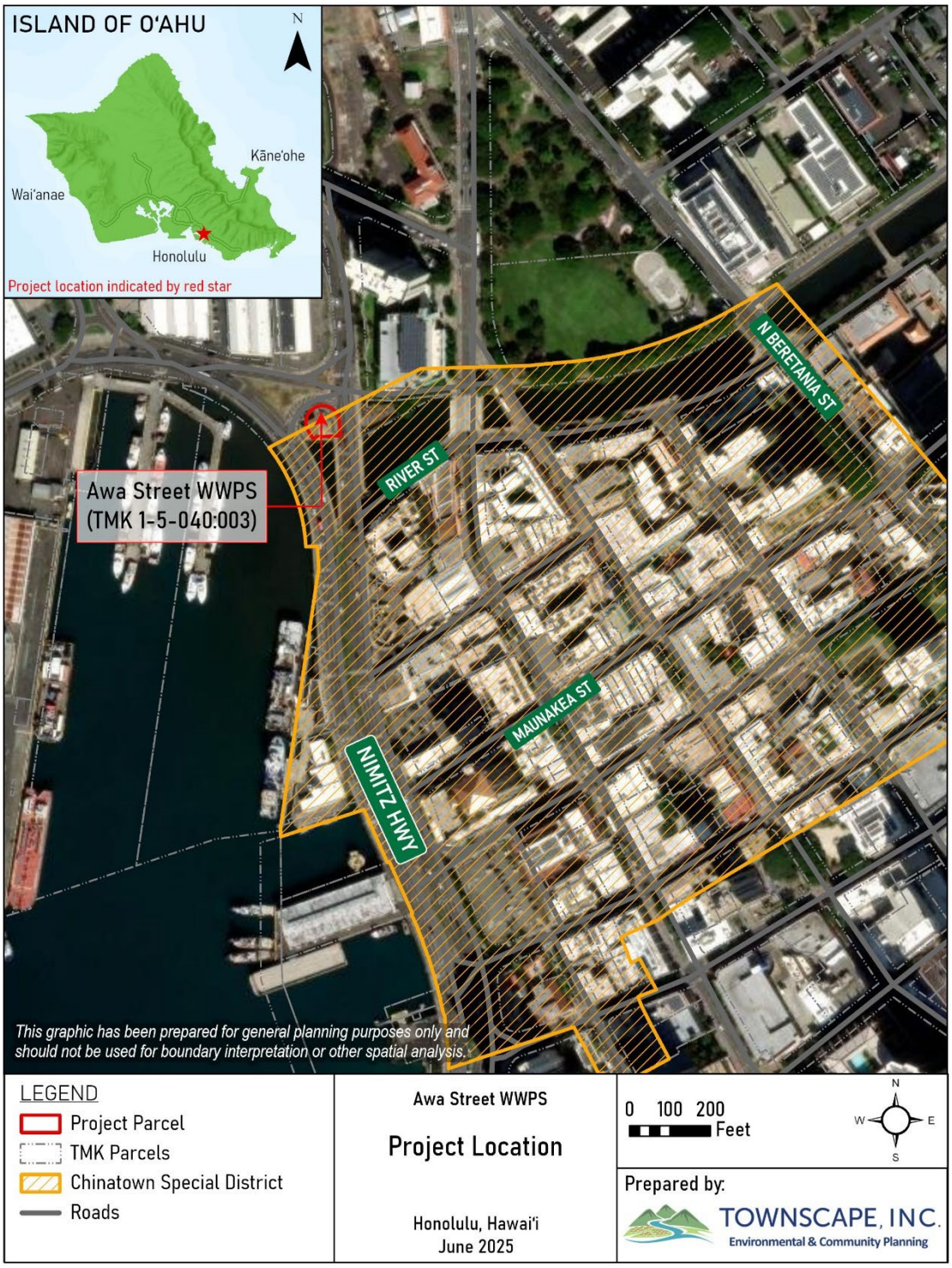
Street WWPS and then conveyed to the Sand Island Wastewater Treatment Plant (WWTP).

The land occupied by the WWPS is owned by the State of Hawai‘i Department of Transportation (DOT) and leased to the City. The site encompasses approximately 0.1265 acres (5,510 square feet) and is surrounded by concrete paving with minimal vegetation present around the facility. Barbed wire fencing surrounds the parcel.

The State Land Use Designation classifies the site as Urban. The City and County of Honolulu’s Land Use Ordinance (LUO) designates the parcel as IMX-1 Industrial-Commercial Mixed Use. Since the State designation is Urban, the site follows the IMX-1 zoning, as Urban areas fall under the jurisdiction of the City.

A section of the project site is within the Chinatown Special District, one of seven Special Districts on O‘ahu. The objective of the Chinatown Special District is to protect and preserve the distinct historical and cultural value of the area. The Chinatown Special District is the oldest section of downtown Honolulu, characterized by its distinctive architecture and urban design. It is protected under the "Revised Ordinances of Honolulu; Titles VI: Land Use; Article 9: Special District Regulations; § 21-9.60 Chinatown special district".

Figure 1: Project Location



1.3 Existing Facilities

This section is based on information described in the Awa Street WWPS – Draft Preliminary Engineering Report (2025) prepared by Okahara and Associates, Inc.

The Awa Street WWPS was constructed in 1952 and began operation in 1953. Currently, the facility consists of wet well, three levels pump station (ground floor, intermediate floor and pump room floor), a ventilation system, and an adjacent generator room. The ground floor of the facility is at grade and contains the pump motors, supply fans, Supervisory Control and Data Acquisition (SCADA) cabinet, float wells, Motor Control Center (MCC), supply fans, and auxiliary spaces such as a storage room, shower, toilet, and valve floor stands. Each pump motor is connected and powers a single pump located below in the pump room. The SCADA system continuously monitors operational parameters of the WWPS, including the wet well levels, discharge pressure, flow rate, and pump activity. The intermediate floor is the first subgrade level and contains the sewage pump discharge piping, exhaust fans, and exhaust discharge systems.

Located on the pump floor are four active pumps that manage the movement of wastewater through the wet well. In addition to the pumps, the pump room includes a monitoring system that detects pressure levels and wastewater buildup in the wet well. Once the wet well levels hit a certain height (7.0 feet below mean sea level), the pumps will activate and convey the wastewater downstream until wastewater levels fall back down (13.0 feet below mean sea level). If the wet well levels hit a critical height of 3 feet above mean sea level and the pumps cannot convey all the wastewater in time, it will overflow into the emergency overflow pipe. The emergency overflow pipe will then prevent spillage of wastewater by containing and rerouting overflow from the wet well. At full operational capacity, the four pumps can convey 8,875 gallons per minute or 12.87 million gallons per day (MGD).

A 200-linear-foot, 20-inch cast iron pipeline force main is connected to and served by the Awa Street WWPS. The force main allows for the pumpage of wastewater to higher elevations when gravity flow is insufficient. A 36-inch gravity sewer main transports and discharges water into the Awa Street WWPS. Discharge wastewater is then sent through the four operating pumps to the force main, which conveys the wastewater to the Kapālama Relief Sewer transporting flow downstream to the Hart Street WWPS and ultimately to the Sand Island WWTP. The force main can handle up to 14.1 MGD. The static head of the force main is 10.6 feet at low water level, with peak flow levels reaching 15.0 feet. In other words, the pumps must push wastewater upward by 10.6 feet under normal conditions, and up to 15 feet during peak flows.

To provide backup power to the WWPS, an emergency generator facility is located on-site. The generator room houses a 135-kW diesel-powered standby generator, an automatic transfer switch, fuel monitoring panel, and 50-gallon day tank. Attached to the generator facility is a 1,000-gallon UST that feeds the day tank to provide backup power

during outages. In the event of commercial power loss, the automatic transfer switch immediately shifts the WWPS operation to emergency power. Once automatic power transfer is initiated the day tank activates and allows for rapid response during outages. The external UST automatically refills the day tank, ensuring a constant supply of diesel fuel. The standby generator is not directly connected to the force main, meaning it cannot convey wastewater through the force main when the facility is out of power. However, it does supply power to all four pumps and can provide up to 80 hours of emergency operation when fuel tanks are full.

1.4 Proposed Action

To extend the service life of the Awa Street WWPS and protect it from climate related hazards, a range of mechanical engineering, civil engineering, electrical engineering and architectural upgrades are proposed. The upgrades aim to improve flood resilience, increase efficiency, reduce redundant infrastructure, and adjust to new sewer flow demands (see Figures 2 to 7).

Civil Improvements (see Figure 4)

The following civil engineering enhancements to the site are proposed:

- Widen and repave the north driveway entrance and exit.
- Add a temporary alternative access route to the site from Awa Street during the construction phase using Trackout control mats (see Figure 2).
- Modify the perimeter fencing on-site to improve security and deter unauthorized encampment.
- Replace the existing fence and gate with a new six-foot barbed wired fence. Install the new fencing up to the edge of the existing sidewalk to discourage houseless encampments.
- Restore and repave the concrete surface above the area where the UST will be removed.
- Replace existing ground cover with loose gravel topping over a geotextile weed control fabric.
- Demolish or cut and plug the abandoned irrigation valves that interfere with construction activities.

Civil upgrades to the site are designed to improve functionality, long-term maintainability, and enhance security. New grading and fencing measures will deter trespassing, accommodate HART construction plans, and prevent erosion. Driveway and lighting upgrades to the site will increase safety by improving access and visibility. Alternative entrance and exit routes from Awa Street will be used to maintain access during lane closures along Nimitz Highway related to the HART construction.

Mechanical Improvements

The following mechanical engineering improvements are proposed:

- Replace the vertical sewage pumps with horizontal dry pit submersible pumps (reducing overall capacity from 12.87 MGD to 12.0 MGD).
- Replace both the suction and discharge sewage pipes in the wet well and dry well.
- Install a new meter vault sloped to the sump pit with attached duplex sump pumps that discharge into the wet well.
- Replace the existing venturi flow meter with an electromagnetic flow meter, that has remote digital displays and submersible capabilities to withstand flooding.
- Upgrade the existing ventilation system within the pump station, including installation of new exhausts, fans, and ducts. The new exhaust system will ventilate into the dry well and follow volumetric flow requirements.
- Install a new emergency bypass connection to the force main, allowing for wastewater to bypass the Awa Street WWPS's pumps during shutdown, emergencies, and construction (see Figure 6).
- Remove the existing fuel system which includes an UST and install a new fuel system including a 1,000-gallon aboveground storage tank (AST), that is National Fire Protection Agency (NFPA) Compliant (see Figure 4).
- Replace the existing diesel day tank with a 60-gallon day tank, equipped with two supply pumps, one return pump, and an auxiliary hand pump.
- Replace all existing fuel piping with type 316 stainless steel piping and the existing galvanized potable water piping with copper pipe.
- Replace the existing water supply meter.

The mechanical upgrades will improve the reliability of the WWPS, allowing for safer and more efficient operation. Sewage pump operation capacity is being reduced as peak flow rates have decreased overtime for the wastewater serviced by the Awa Street WWPS. By reducing system redundancies and enhancing access to key monitoring systems, operators will be better equipped to manage the facility under varying conditions. New ventilation systems inside the facility will prevent buildup of toxic air within the wet and dry wells. The installation of a dedicated bypass connection to the WWPS will ensure that the critical function of moving wastewater downstream can continue during service disruptions. All components have been selected for durability with long-term climate risks considered.

Electrical Improvements

The following electrical improvements for the current project are proposed:

- Relocate the MCC, SCADA, and Programmable Logic Controller (PLC) to the maximum allowable height for flood protection.
- Increase the emergency generator power capacity to 250kW to accommodate the full electrical load of the four new pumps running simultaneously.
- Replace the existing service equipment if deemed necessary. However, since the equipment was installed in 2023 it may be reused.
- Replace all existing interior and exterior light fixtures with new LED light fixtures, due to corrosion of current units.
- Mount new exterior light fixtures directly to the pump station wall.
- Install electrical feeders, control and instrumental wiring for the new submersible sewage pumps, and the new supply/exhaust fans on both the pump floor and ground floor.
- Reuse 2023-installed SCADA equipment unless replacement is required.

Electrical improvements to the site focus on improving resilience and modernizing operations. Elevating the MCC and PLC to the maximum allowable height will protect critical systems from inundation. A new generator with increased power capacity will support the operation of all four pumps simultaneously, improving performance during power outages. New LED lighting will enhance visibility and reduce maintenance. Additionally, there is potential for reusing the existing SCADA equipment as it was replaced during the 2023 renovation of the site.

Architectural Improvements

The following architectural designs for the facility are proposed:

- Demolish and reconstruct the existing generator room following all clearance requirements for the installation of the new generator (see Figure 7).
- Enhance the structural resilience of the WWPS to withstand flooding, storm surges and tsunami events up to 12 feet above mean sea level.
- Replace existing doors with new watertight doors or a gate for increased flood protection.
- Install a secondary set of doors on the eastern side of the building to achieve watertight properties, while retaining original doors for historic purposes.
- Infill existing pump building windows with concrete to strengthen structure and reduce vulnerability to water intrusion, while maintaining exterior facade.

- Install aluminum posts at each door opening of the pump room and generator vault to protect against various types of flooding in the facility.
- Repaint the exterior and interior of the building.
- Refurbish and clean the on-site restroom.
- Apply slip-resistant epoxy flooring and coating throughout the WWPS.
- Select historically compatible hardware, fixtures, accessories and materials .

Architectural designs for the facility prioritize flood protection while maintaining the building's external façade. Flood protection measures are based on the 12-foot maximum flood height of potential inundation from tsunami and hurricane storm surge impacts. Watertight doors and sealed openings to the pump station and generator building will minimize water intrusion and protect facility operation. Roof and drainage systems are designed to prevent ground settlement caused by uncontrolled runoff. The new generator building will be constructed on top of the previous site but with enhanced flood resistance and stability, supporting the long-term viability of the station.

Structural Improvements

The following structural enhancements are proposed:

- Construct a deep foundation using concrete piles and beams for the reconstructed generator room to minimize ground settlement.
- Install and mount built-up stainless-steel hanger supports onto the existing concrete beams in the pump room.
- Install four concrete valve supports for the new sewage pumps.
- Install concrete pads for the new pumps and AST.
- Repair the concrete foundation of the pump station and interior surfaces of the wet well.
- Install a new elevated working platform to provide access to the MCC and SCADA systems positioned at the maximum allowable height.
- Demolish the existing meter vault and replace it with a new concrete meter vault located north of the pump station building.

Structural improvements proposed focus on ensuring the long-term functionality of the site under future flood conditions, seismic conditions, and natural ground settlement. The new generator building will have a deeper concrete foundation to prevent ground settlement that hampered the old facility. Reinforced and elevated concrete foundations are key enhancements designed to protect critical infrastructure and maintain access during flooding events.

Figure 2 Traffic Control Plan

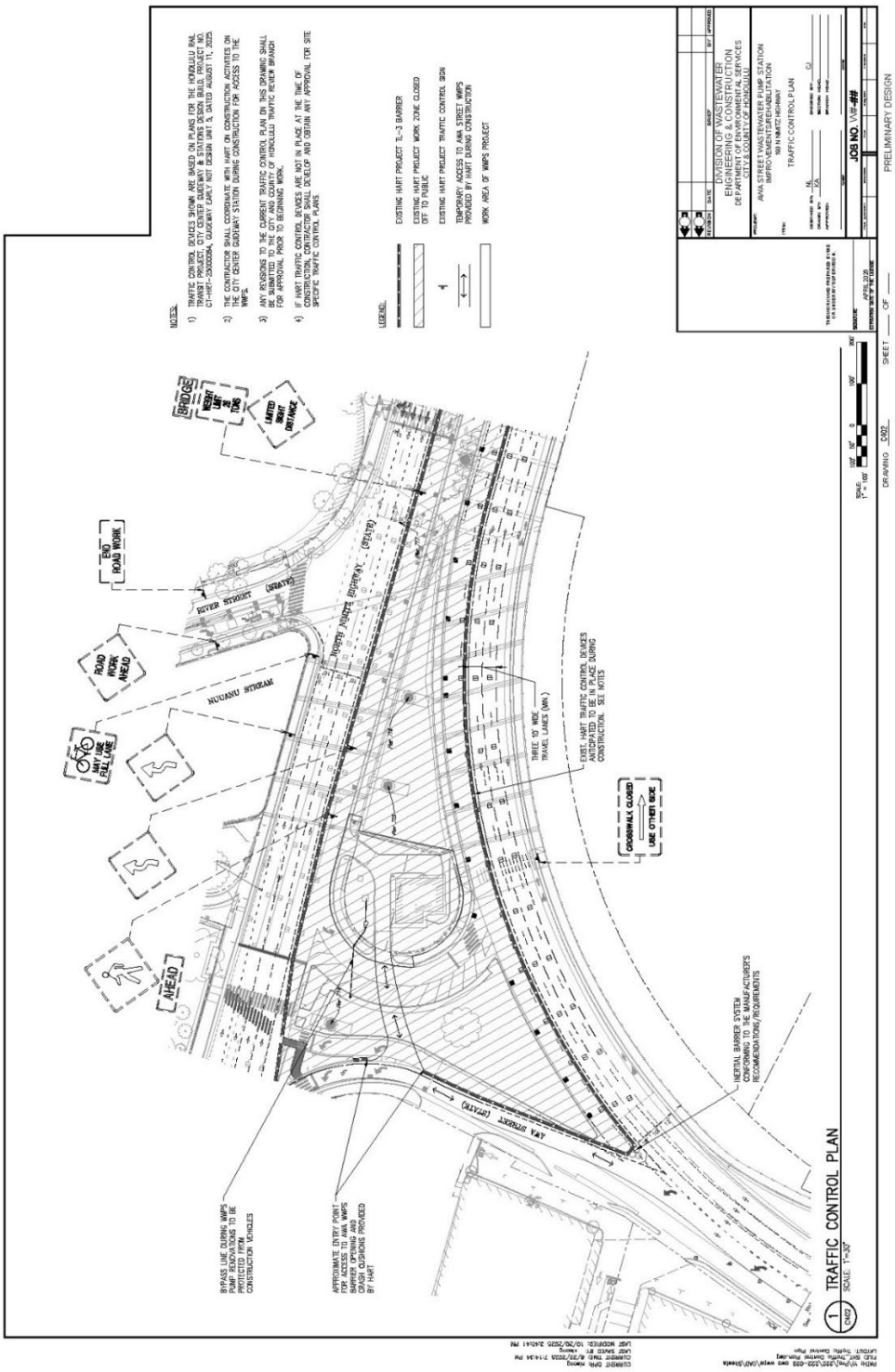


Figure 3 View of the Awa Street WWPS Facing Downtown

Figure 4 Site Plan with Proposed Actions

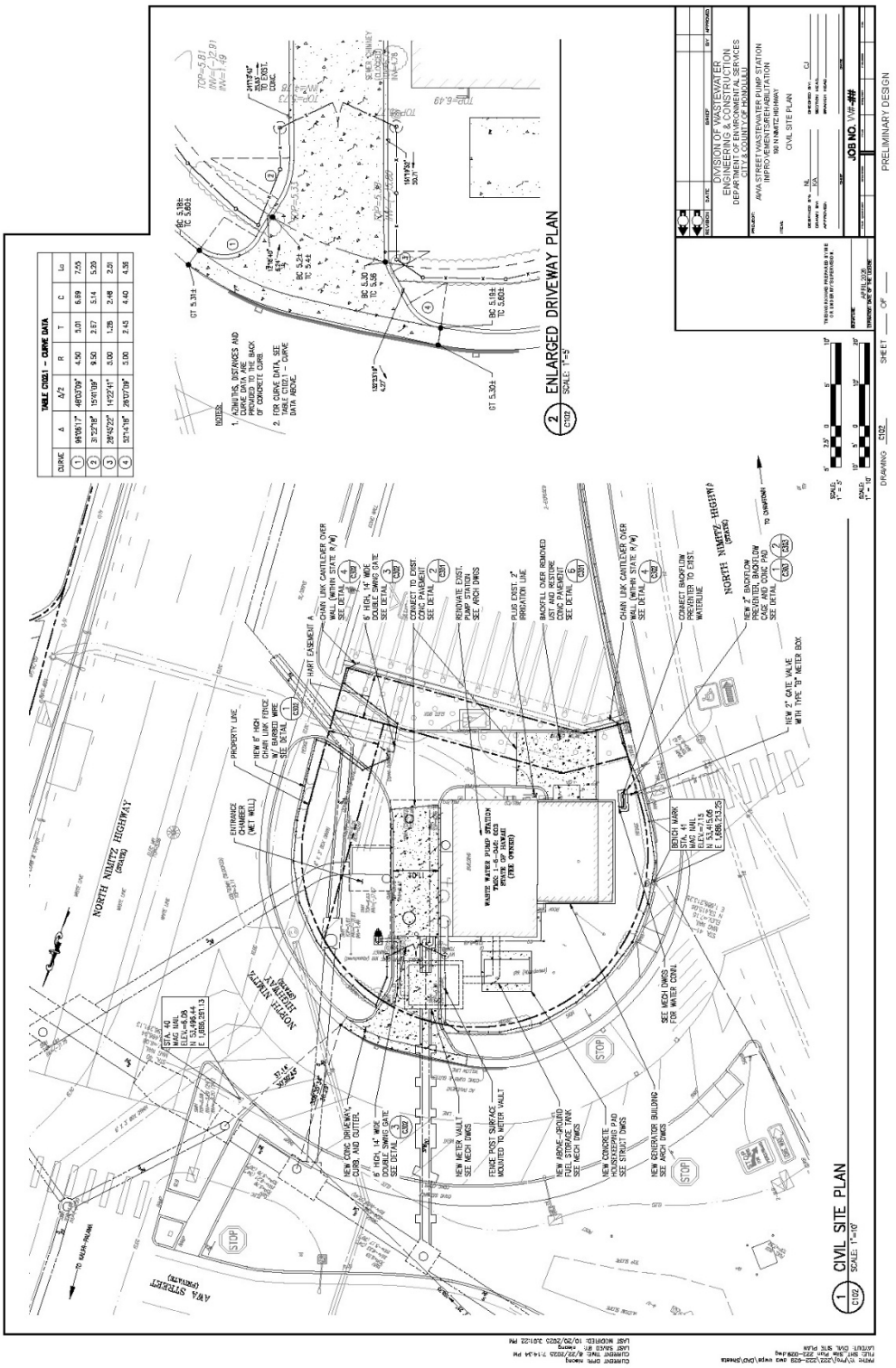


Figure 5 Existing Sectional View of the Awa Street WWPS

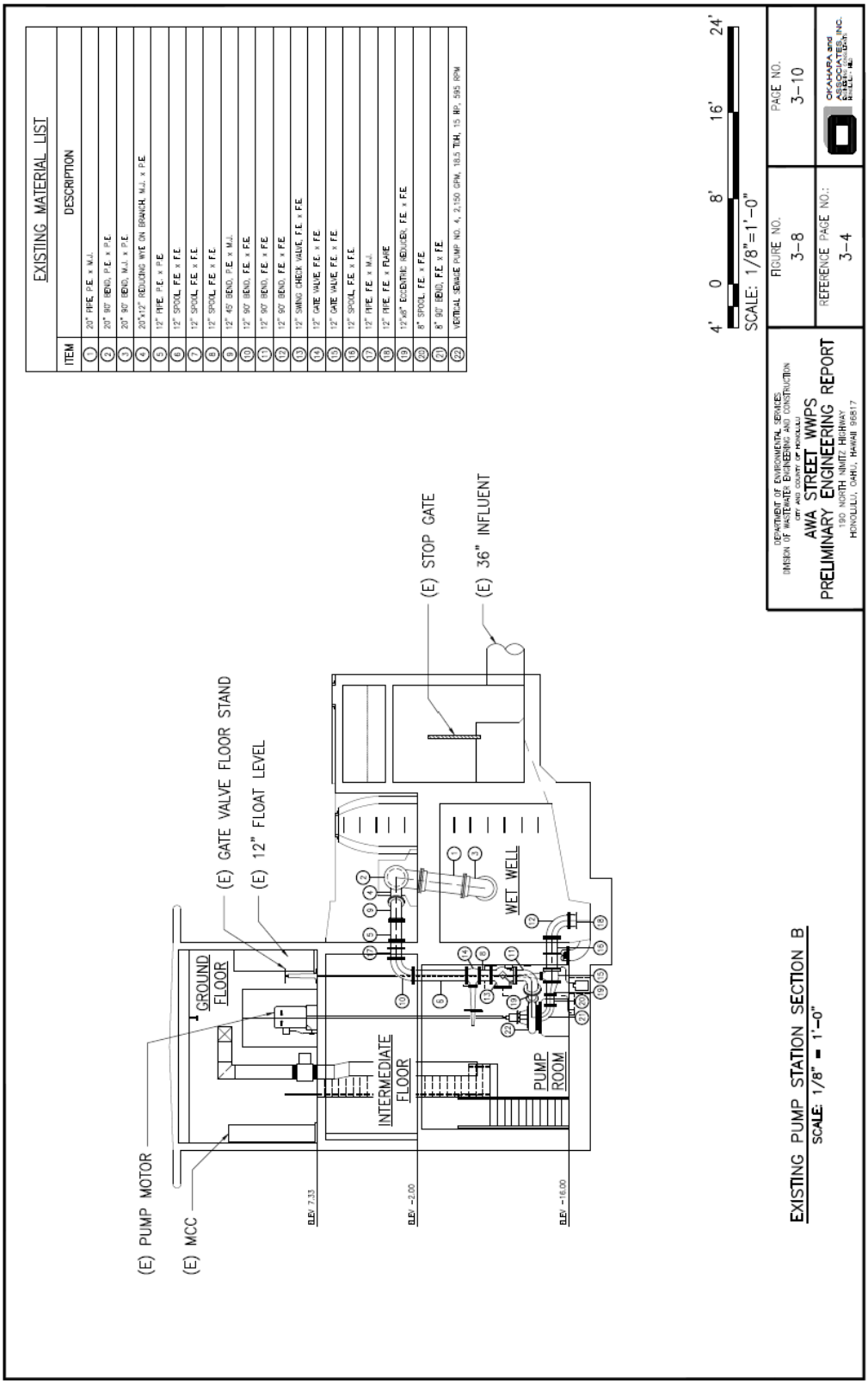


Figure 6 Bypass Plan

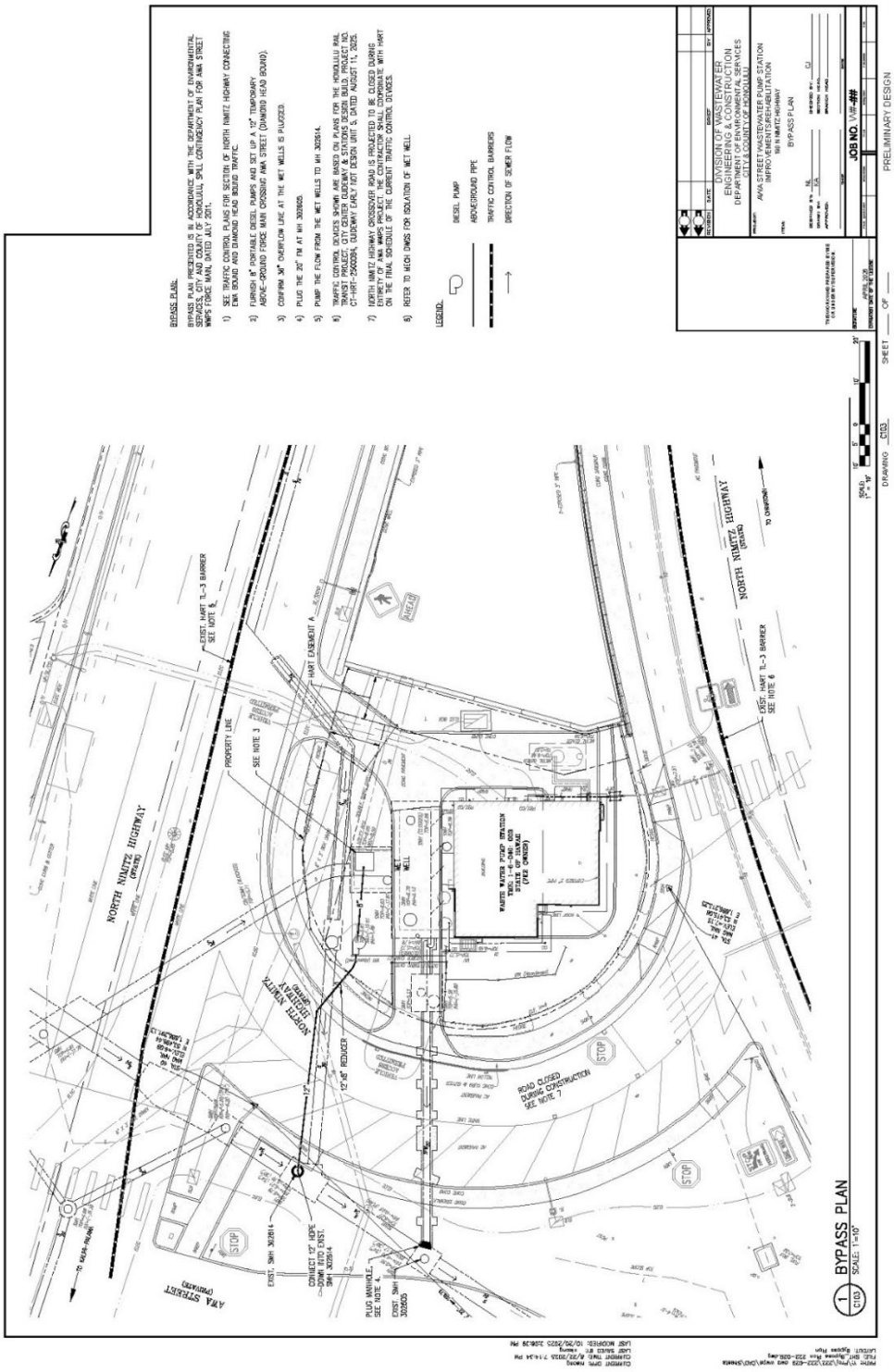
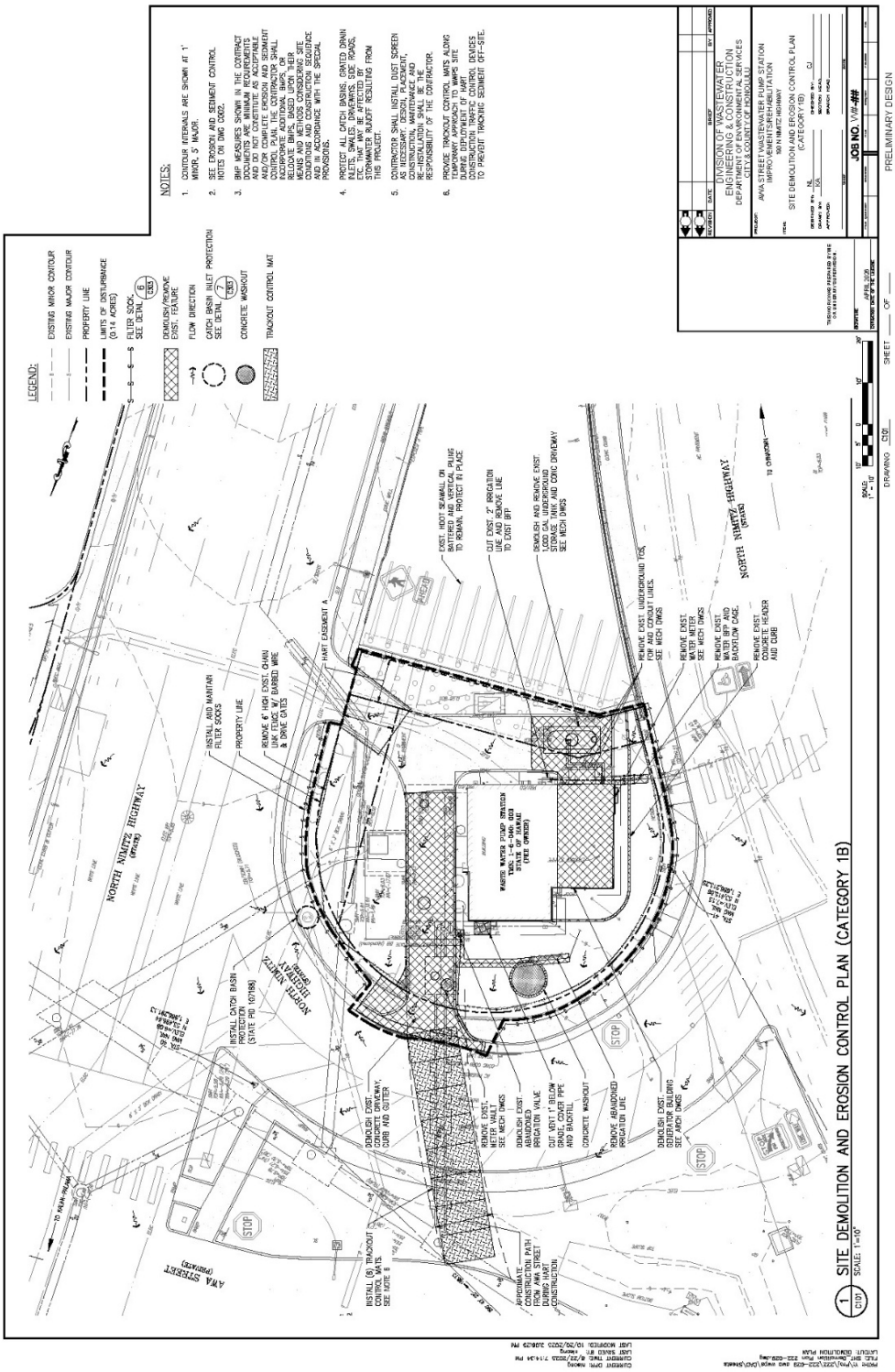


Figure 7 Site Demolition and Erosion Control Plan



2 Environment, Potential Impacts, and Mitigation

2.1 Physical Environment

2.1.1 Climate and Rainfall

Oʻahu experiences two primary climate seasons: a hot, dry summer and a slightly cooler, wet winter. Due to Oʻahu's proximity to the equator, the island maintains warm temperatures throughout the year. However, varied terrain and topography can impact regional climate significantly. The leeward and southern coasts of Oʻahu, including urban Honolulu, are traditionally much drier and hotter than the windward and central areas of the island. Given its proximity to the coast and low elevation, the Awa Street WWPS is situated in one of the hottest and driest areas of Oʻahu. Average monthly rainfall in the region ranges from one to five inches. Average monthly temperature maximums reach high-80s-degree Fahrenheit during the summer season, and mid-70s-degree Fahrenheit during the rainy season (Longman et al., 2024).

Impacts and Mitigation Measures

The proposed project is not anticipated to have any impact on the existing climatic conditions of the area. No mitigation measures are proposed.

2.1.2 Topography, Geology and Soils

The Island of Oʻahu is defined by two mountain ranges, the Waiʻanae and Koʻolau Ranges. The mountain ranges separate the island between a windward coast, central valley, and leeward coast, creating distinct geological conditions. Located downstream of the Nuʻuanu Watershed, the Awa Street WWPS is on the southern coast of the Koʻolau Range and is approximately ten to fifteen feet above the mean sea level.

Human development is prevalent in the area, and the Awa Street WWPS is surrounded by mixed-fill soil (see Figure 8). According to the United States Geological Survey, the site consists of surficial deposits of fill soil formed during the Holocene Epoch. The United States Department of Agriculture Natural Resource Conservation Service data indicates that the soil is 65.9% Sandy, 15% Clay, and 19.1% Silt (Sandy Loam). Sandy loam and the low representative slop gradient of the site make it ideal for development.

See Figure 8 for more information about the soil and topographic range for the project site and surrounding area.

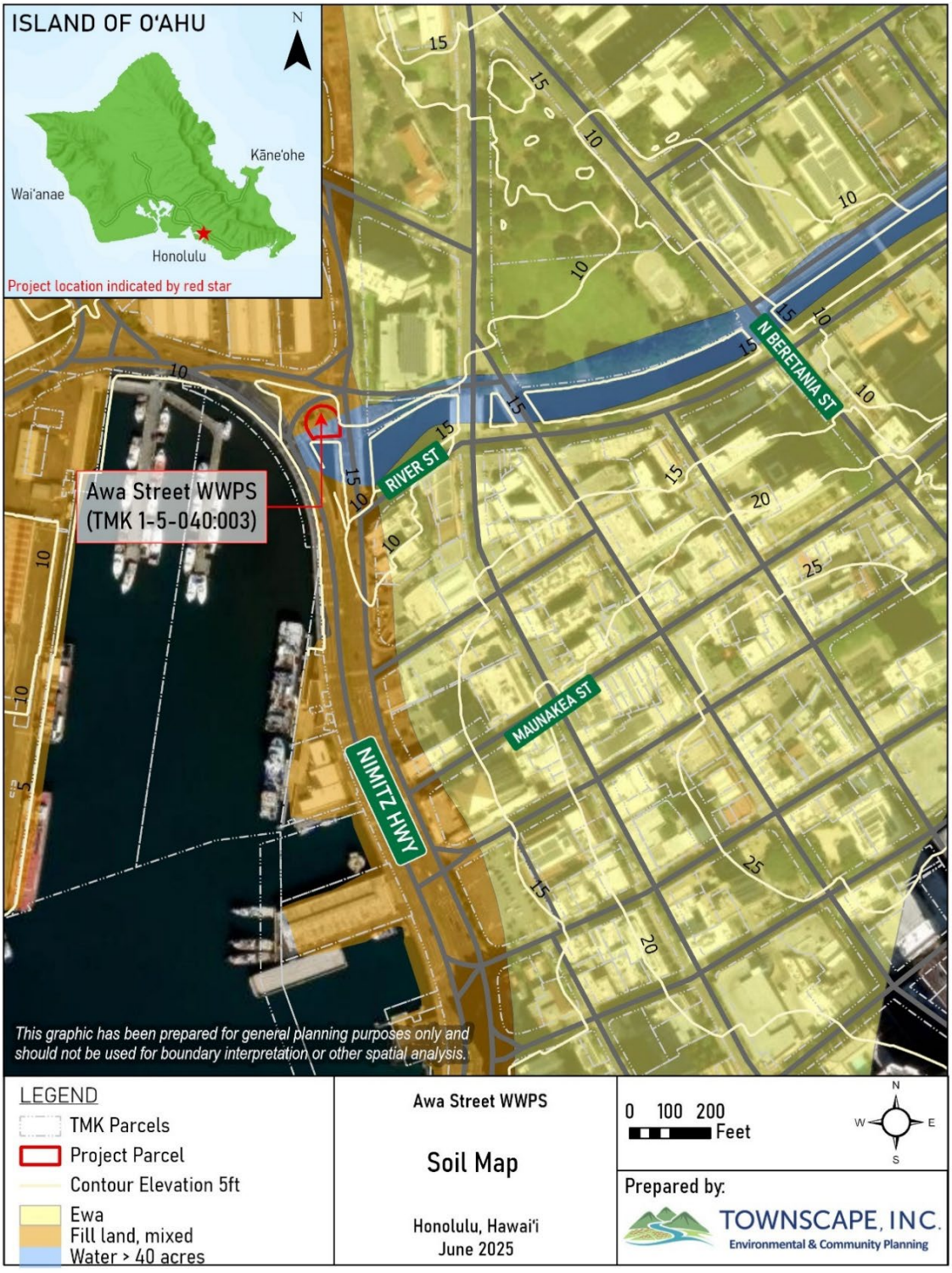
Impacts and Mitigation Measures

No significant impact to the ground topography, geology, or soil is anticipated. Most of the proposed actions for the WWPS will take place on disturbed areas of the site, either through internal renovations and/or demolition and reconstruction within the existing footprint. Although major changes to topography are not expected, the grading of the driveway will be improved during the repaving phase. For the proposed removal of the

UST, the disturbed area will be repaved and restored. Minor soil disturbances may occur during demolition of the emergency generator facility; however, best management practices (BMPs) will be implemented to mitigate impacts. Below are mitigation measures and BMPs recommended by several State entities.

- In an early consultation letter from the Commission on Water Resource Management dated May 23, 2025, it is recommended that stormwater management practices should:
    - Protect existing hydrology;
    - Maintain on-site infiltration; and
    - Prevent polluted runoff from entering nearby waterways.
- In an early consultation letter from the Division of Aquatic Resources (DAR), dated May 22, 2025, it is recommended that the following measures for mitigating erosion during construction should be implemented:
    - Consider weather conditions when timing construction, preferably scheduling construction activities during low rain or no rain conditions.
    - Halt all construction during storm like conditions or when conditions pose a potential threat to the watershed.
    - Secure the site during storms so runoff into natural waterbodies is minimized.
    - Level landscape with the intention of reducing long-term erosion and land-based sources of pollution.
    - Install appropriate barriers (sediment barriers/bags, petroleum absorption diapers, etc.) to limit the amount of sediment or land-based sources of pollution to the maximum practical extent.
    - Incorporate the use of environmentally friendly inert construction materials where possible.
    - Plant native vegetation down slope of the construction to filter sedimentation and pollutant runoff from entering nearby bodies of water.
    - Monitor and report any minor sediment and erosion that enters the Nu‘uanu stream or ocean to the DAR.

Figure 8 Soil Surrounding Awa Street WWPS



2.1.3 Natural Hazards

According to the Federal Emergency Management Agency (FEMA) National Risk Index, the census tract containing the Awa Street WWPS is classified as having a "relatively high risk" for natural disasters. The area may experience potentially damaging hazards, including tsunamis, hurricanes, coastal flooding, and earthquakes. Figure 9 illustrates the potential flood levels within the facility caused by different natural hazards; earthquakes are not included in the graphic.

Tsunami

The site is within a designated Tsunami Evacuation Zone (see Figure 10). Due to the low elevation of the site and coastal location, the State recommends evacuation during tsunamis. The FEMA National Risk Index assigns the site a tsunami hazard score of 100, indicating an “extremely high-level” risk (FEMA National Risk Index, 2023). Potential inundation levels due to tsunamis may be found in Figure 9.

Hurricanes

The potential for hurricanes exists across all of Hawai‘i, especially during the Pacific Hurricane season from June through November. According to the FEMA National Risk Index, hurricanes for the census tract receive a score of 78.1, indicating a “relatively moderate risk”. Hawai‘i has a 68.5% chance of experiencing a hurricane of any magnitude within 60 nautical miles in any given year (HI-EMA, 2023). Hurricanes do not frequently make landfall in Hawai‘i; however, they often bring intense winds, heavy rainfall, and storm surges. Potential flood inundation levels due to hurricane storm surges may be found in Figure 9.

Sea Level Rise

SLR has the potential to threaten life and property in coastal and low-elevation areas. The *Sea Level Rise II* guidance document (2022) by the City's Climate Change Commission recommends that the City set the Intermediate High (1.78 m, 5.8 ft by 2100) SLR scenario as a planning and policy benchmark for all planning and public infrastructure projects. Due to the Awa Street WWPS’s proximity to the Nu‘uanu Stream and ocean, there is a significant risk of inundation with 5.8 ft of SLR (see Figure 11).

In a letter dated May 20, 2025, the Department of Planning and Permitting recommended that the Draft EA should include mitigation measures to protect against SLR, which are described below.

Flooding

According to the Flood Hazard Assessment Tool (2025) provided by the Department of Land and Natural Resources (DLNR), the site is primarily located in Zone X (moderate risk) with a small section located in the VE flood zone (high risk) (see Figure 10). Flood Zone X corresponds with areas that have lower to moderate risks of flooding or areas protected from the 100-year flood. Flood Zone VE corresponds with areas subject to inundation by the 100-year flood, with additional hazards due to storm-induced velocity

wave action. The FEMA National Risk Index assigns the site a score of 77 “relatively moderate” for riverine flooding and a score of 94.1 “relatively moderate” for coastal flooding, reinforcing the threat of inundation in the area.

Earthquakes

Earthquakes on Oʻahu are infrequent and typically low magnitude. Oʻahu does not sit on any major fault lines; however, the potential for earthquakes still exists. There are three primary earth processes that contribute to earthquakes on the Hawaiian Islands: volcanic activity, tectonic fault slippage, and mantle pressure resulting from the islands' weight on the Earth's crust (USGS, 2017). An early consultation letter from the Department of Emergency Management, dated May 28, 2025, mentioned the need to address earthquakes as a potential risk to the Awa Street WWPS. The FEMA National Risk Index assigns a “relatively high-risk” earthquake score to the Awa Street WWPS’s census tract area, which is higher than the “moderately high-risk” earthquake score for Honolulu County as a whole.

Wildfires

The DLNR Division of Forestry and Wildlife (DOFAW) Fire Management Program classifies the project area as having a low fire risk based on the region’s historic wildfire record, and low fire prone vegetation levels. FEMA provides “no-rating” score for the region reinforcing the low threat of wildfire. Therefore, the likelihood of wildfires occurring at the Awa Street WWPS is low.

Impacts and Mitigation Measures

Threats to people and property from unpredictable natural events will always be present. The Awa Street WWPS project is not anticipated to increase the likelihood or potential severity of natural hazards that are prone to occur in the surrounding environment.

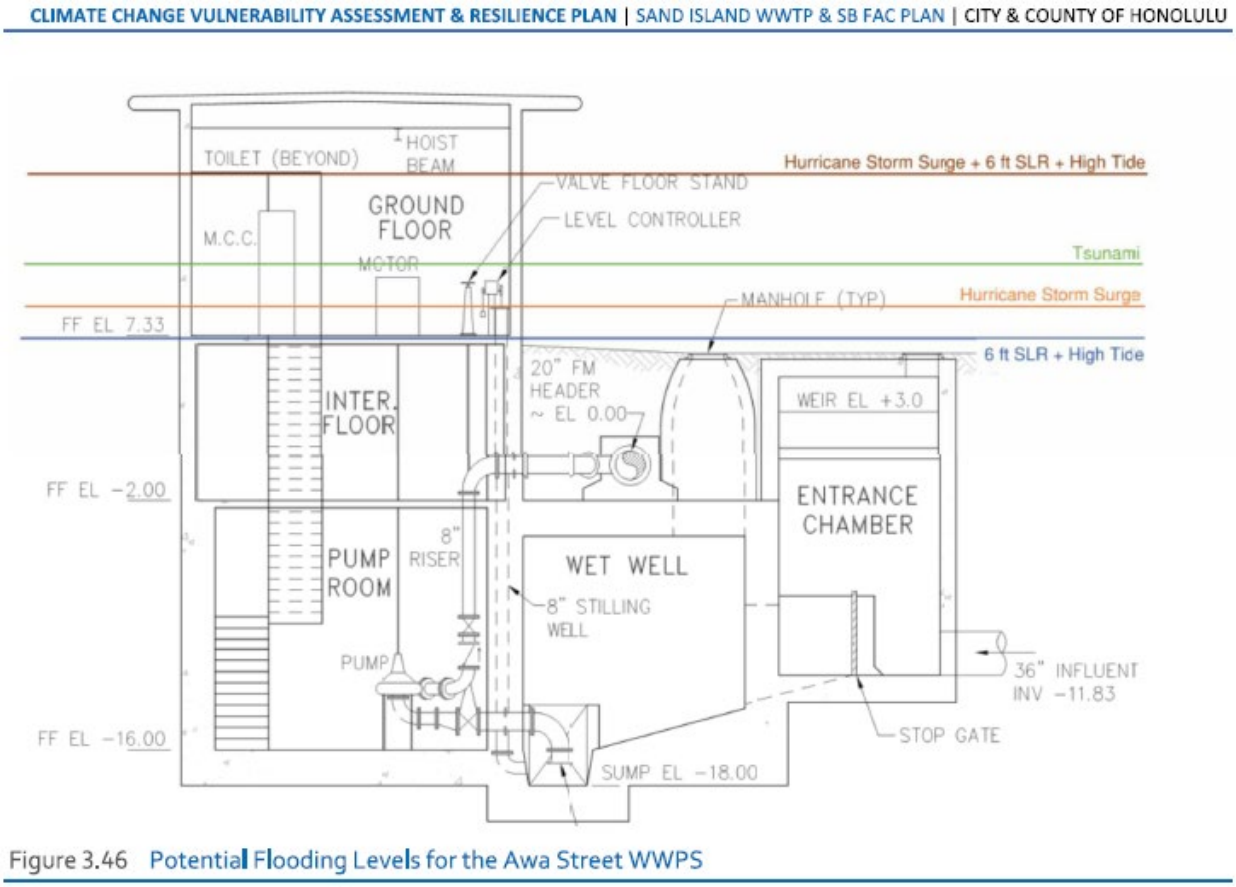
One of the primary objectives of the project is to increase the facility’s resistance to the threats posed by SLR, hurricanes, tsunamis, and associated inundation. In response to these natural hazards the project proposes the following flood-resistant infrastructure improvements:

- Installation of waterproof windows, a metal flood door, and concrete infill to prevent against flood intrusion.
- Installation of waterproof mitigation to the new fault meter vault.
- Replacement and elevation of the MCC to a height greater than the tsunami inundation elevation or the maximum allowable height of the building, whichever is higher.
- Upgrades to the roof drainage system, to reduce settlement and leaking during storms.

- Installation of new ventilation system inlet/outlets above the projected tsunami flood level of twelve feet mean sea level.

Yogi Kwong Engineers is preparing a Geotechnical Report to assess the project and provide guidance on building stability with respect to erosion, settlement, and natural hazards. The project will follow the report's recommendations to ensure that the facilities can withstand these hazards.

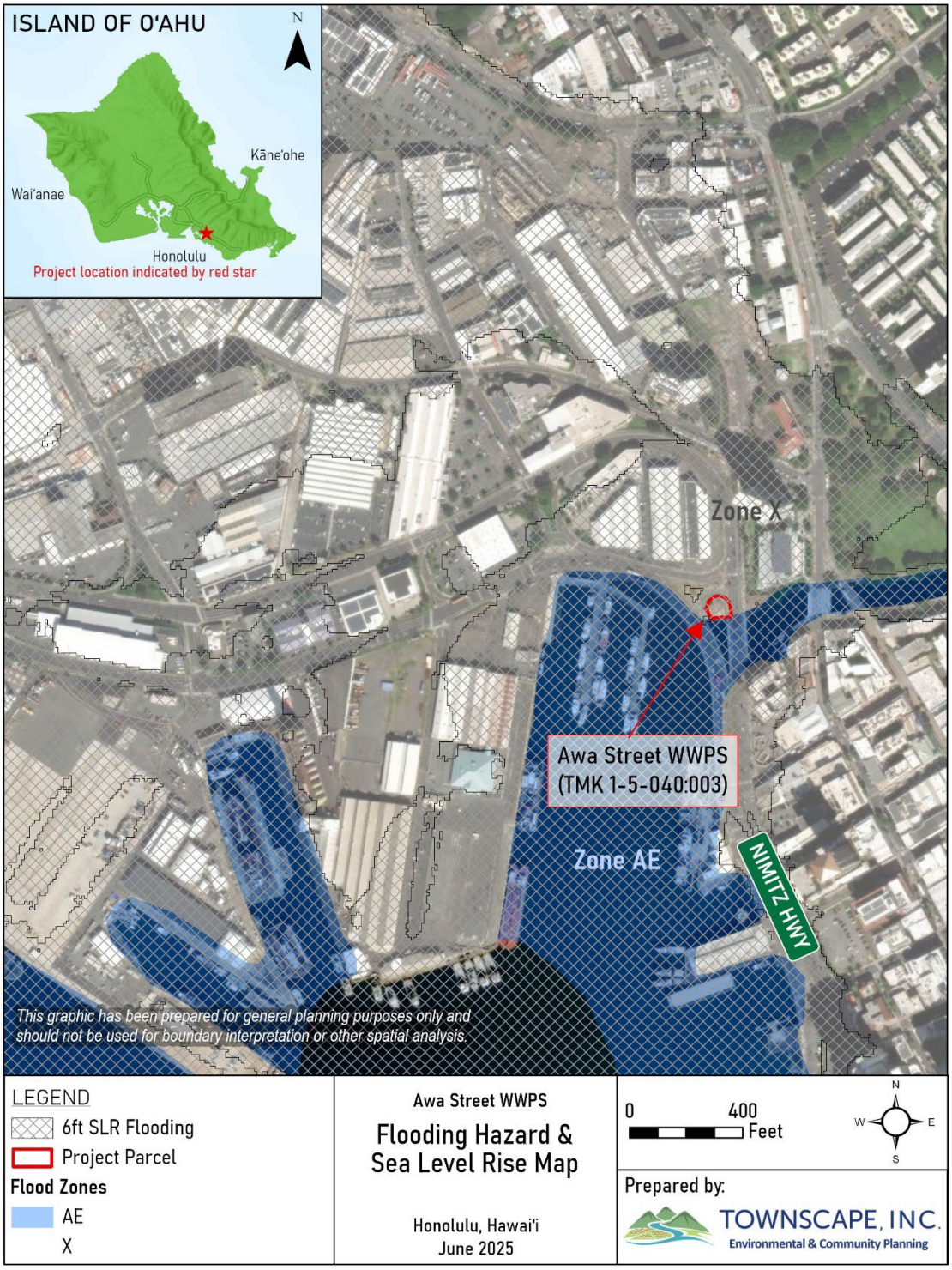
Figure 9 Potential Flooding Levels for the Awa Street WWPS



Source: Field Investigation Summary for Awa Street Wastewater Pump Station Improvements/Rehabilitation, Okahara and Associates, Inc. (2023).

Figure 10 Tsunami Evacuation Zone

Figure 11 Awa Street WWPS Flood Risk Map



2.2 Archaeological, Historical and Cultural Resources

The project site is in Nuʻuanu, ahupuaʻa of Honolulu, within the moku (district) of Kona, on the island of Oʻahu. The Awa Street WWPS is situated alongside the Honolulu Harbor, which was historically a small, reef-enclosed basin, fed by the Nuʻuanu stream. Although the site is now fully urbanized, Nuʻuanu and the surrounding ahupuaʻa of Honolulu have a rich history, formerly serving as the heartland of the Kingdom of Oʻahu.

In pre-contact Hawaiʻi, the mauka regions of Nuʻuanu supported both wet and dryland taro farming along the stream and in the valleys. Nuʻuanu became revered, and many taro farms in the area produced food only for the King (Sterling, 1978). According to moʻolelo (stories), the mauka areas also served as key routes to other parts of the island. Ancient Hawaiians traveled through Nuʻuanu to reach the Windward Coast of Oʻahu. The area was sometimes inhabited by bandits, requiring the Kings of Oʻahu to address these challenges to maintain access to other regions (Sterling, 1978).

Makai Nuʻuanu, where the site is located, was home to fishponds and reefs providing ample food to ancient Hawaiians and the Hawaiian Kingdom. Nuʻuanu, especially in the makai region (present-day downtown, Iwilei, and Honolulu Harbor), was initially named Kou and began as a small settlement. Over time, it evolved into the epicenter of the largest city in Hawaiʻi. As Kamehameha I unified the Hawaiian Kingdom, Nuʻuanu played was key in the conquest of Oʻahu, and the famed battle of Nuʻuanu took place there.

In modern history, Nuʻuanu experienced rapid development as Honolulu emerged as the key center for governance, commerce, and immigration. Unlike other shallow reefs of Oʻahu, the coastal waters of Nuʻuanu allow for deep-sea vessels to easily enter, making it an ideal location for the Honolulu Harbor. This advantage led to the rapid development of the harbor and influenced King Kamehameha III's decision to declare Honolulu the capital of Hawaiʻi. As the harbor continued to grow and was widened, development increased in the surrounding area where the Awa Street WWPS now stands. Fishponds were removed, and shipping became a priority in the region. With the harbor's development, Nuʻuanu became an important hub for trade and immigration to the Hawaiian Kingdom prior to annexation.

As of 1978, two heiau, or traditional Hawaiian places of worship, were documented in Nuʻuanu, although their names are now lost to time (Sterling, 1978). Heiau continue to hold cultural significance for Native Hawaiians and are treated with respect. While the Awa Street WWPS is not on or near a known heiau, past construction in Nuʻuanu has faced criticism and concerns about potential desecration (Sterling, 1978).

Building on the cultural and historical context of Nuʻuanu, the current pump building at the Awa Street WWPS was constructed in 1952 and is individually eligible for listing on the National and Hawaiʻi Register of Historic Places. The WWPS is an example of a wastewater pump building designed in a modest blend of the Art Deco and Art Moderne

architectural styles. Designed by prominent modernist architects Philip Fisk, Allen Johnson, Vladimir Ossipoff, and Alfred Preis of The Associated Architects, the building has maintained its historical integrity and design for over seven decades.

A full historical report on the site and existing facilities is being prepared by FIA Architects.

Impacts and Mitigation Measures

No impacts to existing archaeological, historical, or cultural resources are anticipated. Proposed upgrades to the pump station will focus on internal wastewater management processes, with minimal impact on the external facade. Additionally, the proposed demolition and redevelopment of the non-historic emergency generator facility will adhere to practices that minimize disturbance to the historic pump station and the site's visual aesthetic. To further support this approach, it is recommended that the project follows the Secretary of the Interior's Standards for the Treatment of Historic Properties. The following recommendations are provided to assist in preserving the historic aesthetic of the pump building:

- Consider overall aesthetics of the historic site, historic pump building, and surrounding properties.
- Preserve and maintain the property setback, orientation, size, and approach roads in the site layout and building.
- Select historically compatible hardware, fixtures, accessories, and materials.
- Repair and replace damaged or deteriorated materials in-kind. Deteriorated historic features (i.e., roofing materials and roof structure, exterior walls, windows, textures or patterns, and hardware) shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials.
- Use exterior and interior painting as needed to match the existing color.
- Wherever possible and in line with proposed scope of work, avoid impact to character-defining features. Any new additions or alternations should be non-detracting to the overall site and differentiated and compatible with the massing, size, scale, and architectural features to protect the historic integrity.
- If new additions and alterations have an effect of the historic pump building, appropriate mitigation in compliance with the HRS Chapter 6E should be consulted with the State Historic Preservation Division (SHPD) and followed.

In the event that any unexpected iwi or other historical remains are uncovered during the various phases of construction (e.g., excavation and trenching), the contractor will be required to halt construction activities and notify the SHPD immediately of the

discovery. The contractor will prevent the disturbance or taking of any discovered archaeological, historic, or cultural resources to the extent possible by instituting the described mitigation measures (i.e., halt construction and immediately notify SHPD) and enforcing their implementation.

2.3 Floral and Faunal Resources

Early consultation letters from both DAR (dated May 22, 2025) and DOFAW (dated June 24, 2025) indicated that several protected species could potentially occur in the vicinity of the project site. These include 1) several species of seabirds, 2) honu or green sea turtle (*Chelonia mydas*), 3) ʻīlio holo i ka uaua or Hawaiian monk seal (*Monachus schauinslandi*), 4) manu-o-Kū or white tern *(Gygis alba),* and 5) pueo or Hawaiian short-eared owl *(Asio flammeus sandwichensis)*.

According to the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation webpage, the following species may appear near the project site:

- Hawaiian hoary bat – *Lasiurus cinereus semotus* – Endangered
- Band-rumped storm petrel – *Hydrobates castro* – Endangered
- Hawaiian common gallinule – *Gallinula galeata sandvicensis* – Endangered
- Hawaiian coot – *Fulica alai* – Endangered
- Hawaiian duck – *Anas wyvilliana* – Endangered
- Hawaiian petrel – *Prerodroma sandwichensis* – Endangered
- Hawaiian stilt – *Himantopus mexicanus knudseni* – Endangered
- Newell's shearwater – *Puffinus newelli* – Threatened
- ʻApapane – *Himatione sanguinea* – Migratory bird
- Black noddy – *Anous minutus melanogenys* – Migratory bird
- Black-footed albatross – *Phoebastria nigripes* – Migratory bird
- Bristile-thighed curlew – *Numenius tahitiensis* – Migratory bird
- Laysan albatross – *Phoebastria immutabilis* – Migratory bird
- Oʻahu ʻamakihi – *Chlorodrepanis flava* – Migratory bird
- Red-tailed tropicbird – *Phaethon rubricauda* – Migratory bird
- Wandering tattle – *Tringa incana* – Migratory bird
- Green sea turtle – *Chelonia mydas* – Threatened
- Hawksbill sea turtle – *Eretmochelys imbricata* – Endangered

USFWS also identified the following flora for the region:

- ʻAkoko – *Euphorbia celastroides var. kaenana* – Endangered
- ʻEnaʻena - *Pseudognaphalium sandwicensium* – Endangered
- Carter's panicgrass – *Panicum fauriei var. carteri* – Endangered

- ʻIhi – *Portulaca villosa* – Endangered
- ʻOhai – *Sesbania tomentosa* – Endangered
- Pōpolo – *Solanum nelsonii* – Endangered

Impacts and Mitigation Measures

The Awa Street WWPS improvements will take place on previously developed land. While the USFWS identified flora for the area, native plants are not present at the site. The existing ground cover consists of loose gravel over a geotextile fabric, presumably to deter any vegetation growth. The project is unlikely to have a significant impact on regional flora or fauna. To further minimize potential effects on local flora and fauna, a series of BMPs will be implemented to ensure that both construction and permanent infrastructure limit any potential impact on the natural behavior of species that may interact with the site.

The following mitigation measures are provided by DAR and DOFAW as part of the early consultation for this EA:

- In the event protected species such as the Hawaiian monk seal or sea turtles are observed near the construction site, contractors should take appropriate measures to avoid disturbing natural processes including:
    - Cease construction activity until the animal leaves on its own accord.
    - Increase protective measures if a seal pup is nearby.
    - Report any interactions between protected species and construction or repair activities to the National Oceanic and Atmospheric Administration Protected Species Division and the State of Hawaiʻi Division of Conservation and Resources Enforcement.
- Perform construction activities during the daytime, thereby reducing the impact of artificial lighting on sea turtles, fish, crabs, and birds in the vicinity.
- Train workers on recognizing State-listed waterbirds, seabirds, monk seals, and sea turtles.
- Limit permanent lighting that risks seabird attraction. If needed, permanent lighting should be shielded, angled downward, or equipped with a sensor or timer. Additionally, minimize artificial lighting at night during peak seabird fledging season from September 15 – December 15.
- Halt all activities within a 100-foot radius (30 meters) should any State-listed waterbirds or seabirds be observed amid construction operations. Once the bird departs the area on its own, work can resume as usual.
- Minimize barbed wire to reduce hazards to seabirds and Hawaiian bats.
- Manu-o-Kū or white tern *(Gygis alba),* is a State threatened seabird, and is known to nest near the project. DOFAW recommends having a qualified biologist

check the site to see if there is a presence of white terns. If nesting is found, BMPs will be followed.

- Pueo or Hawaiian short-eared owl *(Asio flammeus sandwichensis),* a State endangered species, can occur on-site. The following measures are recommended to protect this species:
    - Remove any non-native mammals on-site.
    - Engage qualified biologists to monitor the site for two to three nights to notice any activity, especially during breeding season.
    - Enact a 100-meter buffer zone if nesting is noticed and halt all activities until nesting is complete.
- Place bait stations and provide covered trash receptacles to reduce presence of non-native mammals on-site.
- Consult the O‘ahu Invasive Species Committee to learn of any high-risk species on-site or in the area.

Additional species-specific guidelines are available from the USFWS Information for Planning and Consultation website.

2.4 Environmental Quality

2.4.1 Visual Resources

Located in the median between the split lanes of Nimitz Highway, the Awa Street WWPS sits in a developed area of Downtown Honolulu. The site’s visual and physical environment is as follows:

- To the south lies Nu‘uanu Stream,
- To the east is the westbound lane of the Nimitz Highway and low-midrise buildings including a parking structure and condominium.
- To the north is a mix of developed commercial/industrial land.
- To the west is the eastbound lane of the Nimitz Highway, beyond which are various piers in Honolulu Harbor.

The WWPS is highly visible due to its distinctive location, positioned between two highway lanes, Nu‘uanu Stream, and Honolulu Harbor. The highway lanes, stream, and harbor each serve as physical buffers that isolate the WWPS from the adjacent built environment.

The property is secured with a six-foot tall chain link fence with three strands of barbed wire secured on the top. The southern edge of the site bordering Nu‘uanu Stream contains a short concrete wall. Houseless encampments are often present along the site boundaries and adjacent to the fencing.

Furthermore, the pump station building on-site must maintain certain exterior visual aesthetics as required by the Chinatown Historic District and the building's own historical status.

Impacts and Mitigation Measures

No significant impact on the area's visual resources is anticipated. Planned improvements on-site are consistent with the surrounding developed area and do not intrude into previously undeveloped land. The primary facade of the pump station building will remain intact, and most construction activities will occur within the existing structure.

The site's new fencing and gate will feature a six-foot-tall chain-link fence with three strands of barbed wire; however, it will extend beyond the site boundary by two-feet infringing on the highway right of way. Calculations were undertaken to ensure that the Awa Street turnaround will maintain a safe stopping sight distance of 80 feet. The new fencing, which extends two feet past the site boundary, allows for a site distance visibility of 85 feet, within the safe range. A Use and Occupancy Agreement will be required with DOT.

The Primary Urban Center (PUC) Development Plan (DP) requires preservation of public views in high-intensity areas and maintenance of mauka-makai view corridors. The site is in a high-intensity region; however, it does not impede any mauka-makai view corridors or exceed height guidelines. Additionally, the site is not situated within a significant public view range of any major mountain or ocean as defined by the PUC DP.

The demolition and reconstruction of the emergency energy structure will be confined to the existing footprint. The proposed new AST will be situated in front of the existing pump building and will not exceed the height of current structures, thereby preserving existing sight lines and ocean views.

2.4.2 Acoustic Characteristics

Acoustic conditions in the vicinity of the Awa Street WWPS are influenced by multiple sources. Constant traffic from Nimitz Highway creates prominent background noises, as it is one of the main roadways connecting the Airport and Kalihi to Waikīkī/Downtown. Passing ships, container handling, and other industrial activities in relation to Honolulu Harbor contribute additional noise to the acoustic environment. Additionally, the HART skyline rail will add to the acoustic environment once construction is completed. In a letter dated May 23, 2025, the DOT indicated the potential for aircraft noise associated with the WWPS's proximity to Honolulu International Airport (HNL).

Impacts and Mitigation Measures

The proposed construction of a new AST, internal pump station upgrades, external site renovations, and the demolition of the emergency generator facility will all temporarily

generate noise at the site. Temporary, intermittent noise from construction vehicles, heavy equipment, and excavation is unavoidable and will raise ambient noise levels during these operations. To mitigate noise impacts, construction will occur during daytime hours to avoid excessive nighttime noise. Given the existing ambient noise from nearby Honolulu Harbor, Nimitz Highway, and HNL, the project is not expected to result in a significant increase in overall regional noise levels.

Noise data from the new pump and generator will be reviewed to determine the sound reduction needed to meet the State Department of Health (DOH) limits. In Hawai‘i, the maximum allowable noise level for industrial land is 70 decibels (dBA) during both day and night, as specified in DOH Haw. Code R. § 11-46-4. Additionally, the DOH will recommend duct acoustic treatments as needed to meet standards, ensuring compliance and minimizing the community impact.

In an acoustic report dated August 22, 2025, prepared by Y. Ebisu & Associates, it provided design recommendations for the new emergency generator room that complies with DOH noise requirements for industrial mixed-use land. The report includes specific recommendations for wall thickness, installation type, doors, mufflers, air openings, and noise suppression technology. Please refer to the acoustic report in Appendix C for further details on noise generation and mitigation strategies for the new emergency generator room.

In addition, the project will follow BMPs to control noise levels during the construction phase. Temporary noise reduction measures during construction may include, but are not limited to, the use of sound walls, sound blankets and curtains, equipment mufflers, and low-noise generators.

2.4.3 Air Quality

According to the DOH air quality across Honolulu is generally consistent and falls within the “good” rating. Prevailing trade winds typically help disperse odors and maintain good air circulation along the south shore of O‘ahu. However, air quality near the Awa Street WWPS may be slightly poorer when compared to that of the City overall due to localized air pollutants from traffic along the Nimitz Highway. The site’s location near Honolulu Harbor may also contribute to the presence of localized air pollutants.

In an early consultation letter dated May 23, 2025, the DOT indicated that occasional aircraft flights over or near the project location may contribute fumes, smoke, vibrations, and odors to the site due to its proximity to HNL.

Impacts and Mitigation Measures

No significant impacts to air quality are anticipated from the project. Minor impacts related to ambient odor levels may occur during the use of the proposed emergency bypass system due to the brief external exposure of the pipe before connecting to the sewer. The design team has identified this concern, and action will be taken to minimize the odor by limiting external exposure.

Air quality impacts are expected to be minor, short-term, and limited to the construction and demolition period, when fugitive dust and emissions may occur. The project will implement standard BMPs to incorporate into the construction process to mitigate the air pollution posed by demolition and construction of structures, such as sprinkling exposed sediments with water to maintain moisture.

In an early consultation letter dated May 23, 2025, the DOT recommended the following carbon emission mitigation strategies:

- Incorporate elements that encourage and enhance the use of multiple types of transportation.
- Implement energy-efficient technologies and practices, such as light-emitting diode lighting.
- Use sustainable, recycled, or low-emission materials in construction and manufacturing.

2.4.4 Hazardous Materials

The proposed AST will store up to 1,000 gallons of diesel fuel for the WWPS facility operations. Stored fuel is regulated under NFPA 30 (Flammable and Combustible Liquids Code), the Honolulu Fire Code, Revised Ordinances of Honolulu Chapter 66, and Clean Water Act Spill Prevention, Control and Counter Measures rule (40 Code of Federal Regulations (CFR) 112). An assessment conducted by Environmental Science International found that on-site lead and mercury levels in the soil exceeded concentrations above the DOH Hazard Evaluation and Emergency Response Office Tier 1 Environmental Action Levels.

Impacts and Mitigation Measures

To minimize the risk of fuel spillage into the watershed, the proposed AST will be placed near the Nimitz turnaround area of the property, set back further from both the ocean and Nuʻuanu Stream. At least 36 inches of clearance will be maintained around the AST. The AST will be installed on a concrete containment pad designed to hold 110% of its volume, in accordance with Environmental Protection Agency and NFPA guidelines. Secondary containment with interstitial monitoring will also be provided in compliance with regulatory requirements.

The proposed fuel storage tank will be designed, installed, and maintained in accordance with all applicable federal, State, and local regulations. With appropriate containment and emergency measures in place, the project is not expected to result in significant adverse impacts related to hazardous materials. The upgrades to the storage tank system shall be in strict accordance with the guidelines and requirements set forth in the Federal Register, 40 CFR Part 280, and the American Petroleum Institute's recommended practice 2015, "Safe Entry and Cleaning of Petroleum Storage Tanks" and shall adhere to all required safety precautions.

If any fuel spillages or existing leaks are found as a result of construction, the Contractor shall report them to the Hazard Evaluation and Emergency Response unit of the DOH.

In the Hazmat report prepared by the Environmental Science International in May 2025, development of a Lead Compliance Plan as part of the construction phase, in accordance with the Occupational Safety and Health Administration Lead in Construction Standard (29 CFR 1926.62), is recommended. This recommendation was made to reduce the amount of lead that persists in the soil on-site. Elevated concentrations of lead-based contaminants in soil are often associated with historical motor vehicle operations. Given the high volume of traffic passing by the WWPS, it is likely that lead has accumulated in the surrounding soil. Although leaded gasoline was fully banned in 1996, lead can remain in soil for hundreds of years and requires human intervention to completely remove it.

2.5 Public Infrastructure & Services

2.5.1 Site Access, Circulation and Traffic

Normally, vehicular access to the project site is from the westbound lanes of the Nimitz Highway via two separate concrete driveways; however, due to HART construction and lane closures, access routes will be available from Awa Street in accordance with HART. The site is bordered by both eastbound and westbound lanes of Nimitz Highway, which can experience heavy traffic flow during peak hours. Access to the site is secured and restricted by locked gates and a barbed wire fence, supporting controlled entry.

To improve access conditions during the HART construction, the project will widen the northern entryway, install light fixtures, and replace the existing fenced gates. These improvements will support the minimal on-site circulation, which consists of a small, paved area that allows for the maneuvering of maintenance vehicles and equipment. As a result of the facility's operational needs, ongoing traffic generation will remain minimal, primarily involving City staff performing maintenance, inspections, and emergency responses.

Impacts and Mitigation Measures

Construction and HART lane closures are expected to affect traffic on the Nimitz Highway. Both directions may experience increased volume from vehicles transporting materials and workers to and from the WWPS site. To reduce disruptions, it is recommended that construction deliveries and vehicle movement be scheduled outside of peak traffic hours.

Traffic around the site may increase further as the HART has announced extended lane closures on Nimitz Highway around the site between August 18, 2025, and September 2030. One lane in both the eastbound and westbound directions between Iwilei Road and Bishop Street will be closed 24 hours a day, 7 days a week, during the duration of construction. The Awa Street WWPS project timeline overlaps with that of the HART

construction. The associated traffic between the two projects may cause significant delays; as needed, alternative detours will be put in place during construction periods. The HART recommends using King and Beretania Streets as alternative eastbound and westbound routes to bypass the construction area.

In a letter from the Honolulu Police Department (HPD) dated May 13, 2025, HPD requested that adequate notification be made to all residents and businesses about traffic delays and road closures prior to actual events.

2.5.2 Potable Water

Water service is supplied by the Honolulu Board of Water Supply (BWS) via a 12-inch water main along North Nimitz Highway. The property is serviced by a 1-1/2-inch water meter through a two-inch water lateral. In an early consultation letter dated May 21, 2025, the BWS confirmed that the existing water system at the Awa Street WWPS is adequate to support the project even with reduced system wide capacity for Honolulu from the Red Hill contamination event.

Impacts and Mitigation Measures

No significant increases in potable water demands are anticipated from the project. The final determination on the total availability of water will be confirmed during the building permit application process. To limit demand on the region's potable water sources, the project will, when applicable, implement water efficient fixtures and practices.

In an early consultation letter dated May 21, 2025, the BWS recommended the following measures to mitigate impacts on potable water resources:

- Utilize non-potable water for irrigation, including rain catchment.
- Implement voluntary water conservation strategies targeting a ten percent reduction in use.
- Prioritize drought tolerant plants on-site.
- Comply with BWS Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.
- Submit all construction drawings to the BWS for approval.

2.5.3 Wastewater

As stated earlier, wastewater from Awa Street WWPS is conveyed to the Hart Street WWPS, which then pumps the wastewater to the Sand Island WWTP. A 36-inch gravity sewer main transports wastewater to the Awa Street WWPS and discharges it into the pump station's entrance chamber. Effluent from the WWPS is then discharged into a 54-inch gravity sewer main through a 20-inch force main. The new pumps will reduce the pumping capacity of the Awa Street WWPS by approximately 1 MGD to align with lower sewer flow rates. However, rehabilitating the key systems at the Awa Street WWPS will improve overall service reliability, ensuring continued effective wastewater

management for the community. Predictable and efficient wastewater services support the economic and social well-being of the areas served by the WWPS.

Impacts and Mitigation Measures

Minor impacts to wastewater management services are anticipated during the construction phase, and BMPs will be implemented. To ensure that wastewater services remain uninterrupted during the pump replacement, temporary mitigation measures will include installing a bypass system and using portable diesel pumps to convey wastewater downstream. Both systems will connect to the force main, allowing wastewater to bypass the Awa Street WWPS and go towards the Sand Island WWTP. These measures will help protect workers from hazardous wastewater exposure and ensure continued service for the community.

2.5.4 Power and Communications

Power is provided to the pump station by the Hawaiian Electric Company (HECO) via an underground feeder connected to service equipment mounted on the exterior wall of the facility. The source of the feeder is located on the east side of Nimitz Highway across from the site. The related HECO handhole on the south side of the building appears to have been installed sometime after mid-2023.

If HECO service is interrupted, the on-site emergency generator supplies backup power. Specifically, an Onan 135kW generator powers the emergency system, ensuring continued operation of the facility.

To support operations, on-site communication is managed by a SCADA system, which provides both local and remote monitoring of the facility. The SCADA system was updated in 2022 to enhance oversight and coordination.

Impacts and Mitigation Measures

No significant adverse impacts on power and communication systems are anticipated. The proposed WWPS upgrades will relocate the existing SCADA cabinet to an elevation higher than the tsunami inundation flood elevation.

In an early consultation letter dated June 23, 2025, HECO expressed no objections to the proposed project. HECO requested that all their existing infrastructure remain in use and be accessible during the construction phase.

2.5.5 Emergency Service Facilities

Law enforcement in the area is provided by the HPD. The nearest police station is the Downtown Substation located in Chinatown at 79 North Hotel Street, approximately 0.3 miles from the project site.

Fire protection and first responder emergency services are provided by the Honolulu Fire Department (HFD). The nearest fire station is the Central Fire Station, located at 104 South Beretania Street, approximately 0.7 miles from the project site.

The nearest medical facility is The Queen's Medical Center, located at 1301 Punchbowl Street, approximately 1.2 miles from the project site.

Impacts and Mitigation Measures

No significant impacts to fire, police, or medical services are anticipated to occur from the proposed site. In an early consultation letter dated May 16, 2025, the HFD stated that the project must follow all applicable codes in the Revised Ordinances of Honolulu Chapter 20 regarding Flammable and Combustible Liquid Storage Tanks.

In an early consultation letter dated May 13, 2025, the HPD requested that the contractor install and maintain all necessary lights, signs, barricades, and other safety equipment during the construction phase of the project. No other comments regarding emergency services were submitted.

2.5.6 Recreational Resources

The Awa Street WWPS is located near the Honolulu Harbor waterfront, which provides access to recreational activities such as fishing, boating, and waterfront walking paths. Mauka of the WWPS is ʻAʻala Park that offers open green space.

Impacts and Mitigation Measures

The project is not expected to have any impact on recreational resources.

2.5.7 Honolulu Authority for Rapid Transit

The HART project "Skyline" is Honolulu's major public transport initiative, designed to connect the PUC of Honolulu and the Secondary Urban Center of Kapolei in the district of ʻEwa. The Skyline rail line will run directly over the Awa Street WWPS. Kūwili (Iwilei) station and the associated transit-oriented development district will be serviced in part by the Awa Street WWPS.

Impacts and Mitigation Measures

Construction of "Skyline" piers 714 and 715 is scheduled to occur from August 2025 to September 2030. This timeline will overlap with the proposed timeline for the Awa Street WWPS Improvements and Rehabilitation project. The temporary construction bridge (trestle) will be directly above the Awa Street WWPS. To reinforce the trestle, steel piping will be installed in the ground; however, this steel piping may interfere with the installation of the WWPS emergency bypass system. Construction of the trestle may also require a temporary intrusion onto the Awa Street WWPS property.

The design team is aware of any potential conflicting construction timelines and infrastructure remnants, referred to here as "leftovers," from the Skyline project. In this context, "leftovers" from the Skyline project refer to any infrastructure or development components, such as materials, equipment, or temporary supports, that remain present after construction is complete. Constant coordination and communication will occur over the entire design and construction phases to ensure that both projects can be

completed in a timely manner. Timeline adjustments and design modifications will be explored as needed to prevent interference between the two projects. Currently, adaptive designs have already been proposed by the project to accommodate HART construction. These include developing an alternative access route to the site that avoids lane closures on the Nimitz Highway (see Figure 2).

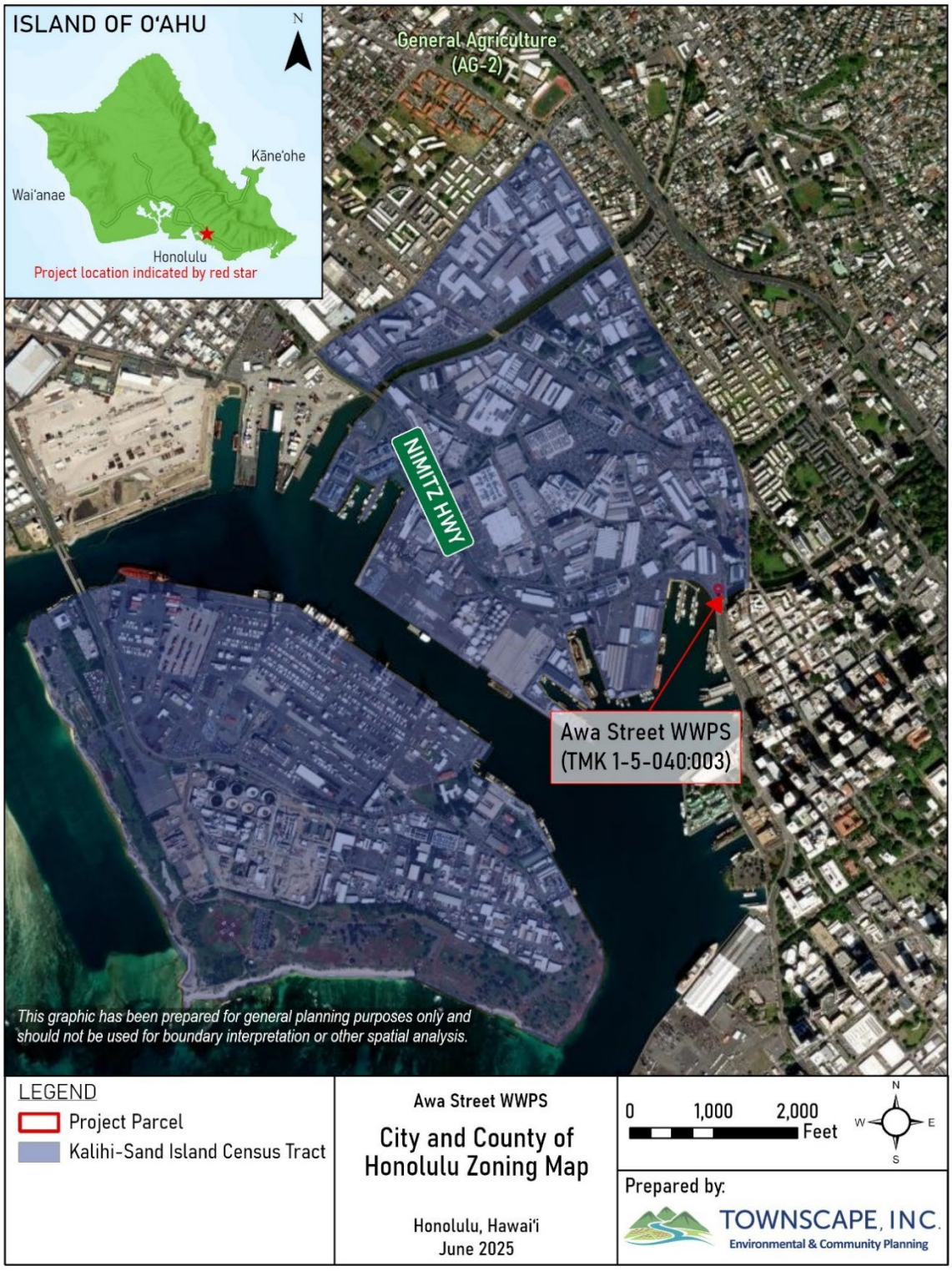
2.6 Socio-Economic Characteristics

The project site is situated in Census Tract 15003005700 (see Figure 12), within the Kalihi-Sand Island neighborhoods of Urban Honolulu. The region has a population of 2,483 people, and a population density of 621.3 people per square kilometer. The area has a moderate vacancy rate of nine percent with 91% of housing units occupied (US Census Population Dynamics, 2020). Approximately 17% of the population is of Native Hawaiian/Pacific Islander ancestry, with the largest percentage of the population of Asian heritage (47%). The median household income in the census tract ($49,967) is far below the national average ($77,719).

Impacts and Mitigation Measures

The project involves construction activities that will create short-term jobs in design and construction. The project will not affect existing population levels or housing. The proposed upgrades will not significantly alter the capacity of the WWPS but will enhance the ability to handle sewer flow and climatic threats. The community can expect continued reliable wastewater services even during disaster events, which support the economic and social welfare of the community served by the WWPS.

Figure 12 Census Tract Location



3 Relationship to Plan, Policies, and Controls

3.1 Hawai‘i State Plan

The Hawai‘i State Plan, HRS Chapter 226, outlines broad goals, policies, and objectives to serve as guidelines for the future growth and development of the State. It also provides a basis for determining priorities, allocating limited resources, and improving coordination of State and County plans, policies, programs, projects, and regulatory activities. The Hawai‘i State Plan establishes a set of themes, goals, objectives, and policies that are meant to guide the State’s long-range growth and development activities. Applicable sections of HRS Chapter 226 to the proposed project are discussed below.

§226-13 Objectives and policies for the physical environment--land, air, and water quality.

Objective 1: Maintenance and pursuit of improved quality in Hawai‘i’s land, air and water resources.

Policy 2: Promote the proper management of Hawai‘i’s land and water resources.

Policy 3: Promote effective measures to achieve desired quality in Hawai‘i’s surface, ground, and coastal waters.

Policy 5: Reduce the threat of life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.

§226-14 Objective and policies for facility systems--in general.

Policy 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.

Policy 2: Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.

Policy 6: Assess a range of options to mitigate the impacts of SLR to existing and planned state facilities.

§226-15 Objectives and policies for facility systems--solid and liquid wastes.

Objective 1: Maintenance of basic public health and sanitation standards relating to treatment and disposal of solid and liquid wastes.

Objective 2: Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.

Policy 1: Encourage the adequate development of sewerage facilities that complement planned growth.

Discussion:

The Awa Street WWPS Improvements and Rehabilitation project aligns with the objectives and policies outlined in the Hawai‘i State Plan by delivering essential upgrades to critical infrastructure. One of the primary goals of the Hawai‘i State Plan is to enhance the resilience of the WWPS against future disruption and natural hazards. The construction of an AST will reduce the risk of environmental contamination, supporting the State’s objectives to maintain sewage facilities that meet public health and sanitation standards. By incorporating infrastructure capable of withstanding inundation events, the project also safeguards vital WWPS systems from natural disasters, specifically hurricanes, storm surges, tsunamis, and flooding.

3.2 State Land Use District

The State Land Use Law (HRS Chapter 205) is intended to preserve, protect, and encourage the development of lands in the State for uses which are best suited to the public health and welfare for Hawai‘i’s people. All lands in the State are classified into four land use districts by the State of Hawai‘i, Land Use Commission: Urban, Rural, Agricultural, and Conservation.

The project site is entirely located within the Urban District, which is regulated by county zoning (see Section 3.8 City and County of Honolulu LUO). The proposed project is a permissible public use and structure within the Urban District, which has residential neighborhoods, commercial enterprises, industrial development, and community facilities such as public buildings.

3.3 State Coastal Zone Management Program

In 1977, Hawai‘i enacted HRS Chapter 205A, Hawai‘i Coastal Zone Management Program, to implement the state’s coastal policies and regulations. The program was designed to coordinate federal, state, and county agency efforts in the comprehensive management of Hawai‘i’s coastal resources. It is administered by the State of Hawai‘i, Office of Planning and Sustainable Development, while the four individual counties are responsible for local implementation through the Special Management Area permit and Shoreline Setback Variance.

The objective of the act is to protect, preserve, and restore recreational, historic, and scenic resources as well as implement the State’s ocean resources management plan and protect coastal ecosystems.

The objectives and policies from HRS Chapter 205A-2, along with a discussion of how the project conforms to these objectives and policies, are provided below.

RECREATIONAL RESOURCES

Objective: Provide coastal recreational opportunities accessible to the public.

Policies:

A *Improve coordination and funding of coastal recreational planning and management; and*

B *Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:*

I *Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;*

II *Requiring replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;*

III *Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;*

IV *Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;*

V *Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;*

VI *Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;*

VII *Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and*

VIII *Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of section 46-6.*

Discussion:

The proposed project at the Awa Street WWPS is not anticipated to impact shoreline access for recreational use. While the project is near the coast, it is on currently developed land and not near any recreational resources.

HISTORIC RESOURCES

Objective: 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.

Policies:

A Identify and analyze significant archaeological resources;

B Maximize information retention through preservation of remains and artifacts or salvage operations; and

C Support state goals for protection, restoration, interpretation, and display of historic resources.

Discussion:

Given the parcel's location within a historical district (Chinatown Special District), the proposed project must comply with all applicable requirements under Article 9 Special District Regulations § 21-9.60 Chinatown Special District. The existing pump building, built in 1952, is over 50 years old and is now considered a historic building. Any new development on-site should not detract from the historic integrity of the structure and take into accounts its architectural character. All proposed additions and alterations to the historic pump station will adhere to the appropriate mitigation requirements outlined in HRS Chapter 6E. Although the generator room is not considered historic, the reconstruction must respect the original massing and complement the character of the historic pump station. Recommendations by the SHPD will be followed to protect cultural resources, should any additional historic resources be discovered during construction.

SCENIC AND OPEN SPACE RESOURCES

Objective: Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.

Policies:

A Identify valued scenic resources in the coastal zone management area;

B 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; and

D Encourage those developments that are not coastal dependent to locate in inland areas.

Discussion:

Visual impacts to the existing scenery are anticipated to be minimal. The project site is located within the median of the Nimitz Highway, an area already characterized by transportation and utility infrastructure. As such, coastal views and surrounding scenery have already been altered by previous development.

The proposed project involves replacing the existing fencing around the property, the emergency generator facilities, and the fuel storage facilities. Proposed fencing will maintain the same height and barbed wire design as the existing fence. While the fence will be extended to the edge of the sidewalk, it will not have a significant impact on open spaces or scenic resources.

By placing the AST on the north side of the property, in front of the existing pump station, the AST will not detract from the nearby scenery.

The new generator building will be designed to match the style and aesthetics of the existing pump station, preserving visual consistency. Constructing the new generator facility on the same footprint as the previous emergency power structure will further minimize its visual impact.

COASTAL ECOSYSTEMS

Objective: Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.

Policies:

A Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;

B Improve the technical basis for natural resource management;

C Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;

D 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; and

E 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.

Discussion:

The project proposes significant upgrades to the Awa Street WWPS by replacing aging infrastructure and enhancing disaster resilience. Given the facility's proximity to the ocean and Nu'uanu Stream, these improvements are designed to reduce the risk of inundation-related failures that could result in the discharge of contaminants into coastal waters.

Multiple upgrades are proposed within the pumping facility, including replacing the existing pumps with newer models that are designed to accommodate current and future projected sewer flow. Replacing the pumps will ensure continued wastewater conveyance to the Hart Street WWPS and ultimately to the Sand Island WWTP, supporting ecosystem protection by providing proper handling of wastewater before discharge.

In alignment with the policy to enhance containment and stewardship of marine resources, the existing UST will be decommissioned and replaced with a modern AST. The new AST will provide better access for maintenance, enhanced leak detection, and greater secondary containment capacity. Importantly, the AST will be located farther from Nu'uanu Stream than the current UST, reducing the risk of contamination from fuel spills or structural failure.

ECONOMIC USES

Objective: Provide public or private facilities and improvements important to the State's economy in suitable locations.

Policies:

A Concentrate coastal dependent development in appropriate areas;

B 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; and

C 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.

Discussion:

WWPS's are crucial for supporting City infrastructure, economic activity and wastewater management. Without proper wastewater management public health could be a serious risk which would significantly impact economic productivity. The proposed upgrades are coastal-related, given that the facility is located near the coast. Being an essential public utility, the WWPS facility services the wastewater from the Kalihi and Kalihi Valley areas. By upgrading the facility's infrastructure to withstand natural hazards and improving sewer management, the WWPS can continue to service communities during power outages, storm surges, and other hazardous events, thereby supporting health, safety, and economic stability during crises.

COASTAL HAZARDS

Objective: Reduce hazard to life and property from coastal hazards.

Policies:

A Develop and communicate adequate information about coastal hazards;

B Control development in areas subject to coastal hazards;

C Ensure that developments comply with requirements of the Federal Flood Insurance Program;

D Prevent coastal flooding from inland projects.

Discussion:

The Awa Street WWPS is in an area subject to storm surges, hurricanes, tsunamis and flooding. These coastal hazards can inundate the WWPS; the proposed facility and site updates incorporate multiple design features to mitigate risks from such events. Flood-resistant improvements will include the installation of waterproof doors, sealed windows, and reinforced penetration holes to prevent water intrusion. Within the pump station, upgrades will consider all flood pathways and remove any key instruments that may be damaged from flooding. These include moving critical management panels and controls and positioning them at maximum allowable elevation.

The existing generator facility and associated UST are vulnerable to potential threats, including flooding, erosion, and ground settlement. To address the ground settlement issues that have occurred at the existing generator facility, the reconstructed building will include additional concrete reinforcement, specifically designed to mitigate these issues. Furthermore, removing the UST and relocating the new AST away from the Nu‘uanu stream will reduce the risk of environmental contamination from flooding and erosion.

Additionally, the project will not increase runoff or alter drainage patterns in a way that could contribute to coastal flooding.

MANAGING DEVELOPMENT

Objective: Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

Policies:

A Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;

B Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and

C 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.

Discussion:

The project will require several permits and regulatory approvals, including compliance with the Coastal Zone Management Act, DOH requirements for fuel storage, floodplain management standards, and the Chapter 343 Environmental Review process. The project team has coordinated with relevant regulatory agencies and provided public access to project information through the EA, which outlines potential short-term impacts and long-term benefits of the project. By providing early consultation and information on the project, the EA supports public awareness and participation in the development review process.

PUBLIC PARTICIPATION

Objective: Stimulate public awareness, education, and participation in coastal management.

Policies:

A Promote public involvement in coastal zone management processes;

B 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 related issues, developments, and government activities;

C Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

Discussion:

The proposed project aims to foster public awareness and transparency by promoting communication and engagement throughout the EA process. Early and consistent coordination with State and County-level government agencies ensures that information about the project's development is shared publicly.

BEACH PROTECTION

Objective: Protect beaches for public use and recreation.

Policies:

- A *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;*
- B *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 *Minimize the construction of public erosion-protection structures seaward of the shoreline;*
- D *Prohibit private property owners from creating a public nuisance by inducing or cultivating the private property owner's vegetation in a beach transit corridor; and*

Discussion:
The proposed project site is within a developed area and setback from the shoreline, thus avoiding interference with natural shoreline processes. No erosion-protection structures are planned seaward of the site. The project is not situated near a public beach or recreation area, and no impacts to such resources are anticipated.

MARINE RESOURCES

Objective: Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

Policies:

- A *Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;*
- B *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;*
- D *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; and

E *Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.*

Discussion: See discussion section above Coastal Ecosystems.

3.4 Chinatown Special District

The Chinatown Special District is the oldest section of downtown Honolulu, characterized by its distinctive architecture and urban design that reflect its historic significance. It was established to preserve and enhance the historic character of Chinatown. The district is protected under the "Revised Ordinances of Honolulu; Titles VI: Land Use; Article 9: Special District Regulations; § 21-9.60 Chinatown special district". Chinatown is listed in the National Register of Historic Places.

Like many historic urban centers, Chinatown has faced substantial decline in its vibrancy due to economic hardship and the physical deterioration of commercial and residential structures, which has diminished the cultural aesthetic. While urban renewal projects and new developments have been implemented to revitalize the community, external pressure for high-density development has threatened the historic environment of Chinatown. Therefore, it is essential to preserve Chinatown's buildings, architectural styles, and overall aesthetic to protect the historical integrity of the area. The following are the objectives outlined in ROH; Titles VI: Land Use; Article 9: Special District Regulations: § 21-9.60 Chinatown special district.

Objectives:

A *Help promote the long-term economic viability of the Chinatown special district as a unique community of retail, office, and residential uses;*

B *Retain the low-rise urban form and character of the historic interior core of Chinatown while allowing for moderate redevelopment at the mauka and makai edges of the district;*

C *Retain and enhance pedestrian-oriented commercial uses and building design, particularly on the ground level;*

D *Preserve and restore, to the extent possible, buildings and sites of historic, cultural, or architectural significance, and encourage new development that is compatible with and complements these buildings and sites, primarily through building materials and finishes, architectural detailing, and provisions for pedestrian amenities, such as storefront windows and historic signage details;*

E *Improve traffic circulation with emphasis on pedestrian linkages within and connecting outside Chinatown;*

F *Retain makai view corridors as a visual means of maintaining the historic link between Chinatown and the harbor;*

G Encourage a variety of signage and graphics that reflect and complement the district's ethnic vitality and diversity, and that are compatible with and complement buildings and sites within the district; and

H Encourage outdoor lighting for the purpose of contributing to a lively, friendly, and safe urban environment.

Discussion:

The Awa Street WWPS project, located within the Chinatown Special District, incorporates various architectural design and construction techniques that prioritize the preservation of the existing historical facility. Where feasible, deteriorated elements of the historic pump station will be restored rather than replaced to maintain historical value. Additionally, new exterior lighting will be installed on the premises, promoting a safer environment. The reconstruction of the non-historical generator building incorporates multiple design techniques to ensure compatibility with the historic pump station's aesthetic. Overall, the project enables moderate redevelopment of critical wastewater infrastructure to meet the neighborhood's shifting needs, while preserving the historic pump station, thereby adhering to the conditions of the Chinatown Special District.

3.5 Downtown Neighborhood Transit-Oriented Development Plan

The Downtown Neighborhood Transit-Oriented Development (TOD) Development Plan guides development for the TOD zones around the Iwilei, Chinatown, and Downtown rail transit stations. The TOD areas refer to the quarter to half-mile radius (easy walking distance) of the new Honolulu Skyline rail stations. TOD planning can enhance the value and accessibility of public transportation, while promoting orderly growth.

The Downtown Neighborhood TOD consists of three rail stations (Iwieli, Chinatown and Downtown) that will service the downtown financial district, Chinatown, warehouses/industrial areas in Iwilei, and residential Palama. Planning for the Downtown TOD will focus on development that enhances the employment center of the city by increasing waterfront accessibility, preserving historic elements of Chinatown, providing increased residential housing, and developing Iwilei into a new high-intensity mixed-use district. TOD planning will transform the surrounding communities of Downtown Honolulu into mixed-use walkable districts that are all connected by highspeed public transit.

The Awa Street WWPS is within the Chinatown TOD area. The planned Iwilei station also has existing sewer infrastructure that connects to the Awa Street WWPS.

There are six guiding principles that are core to the development of the Downtown Neighborhood TOD:

1. Develop a vibrant mixed-use downtown.

2. Enhance downtowns waterfront orientation.
3. Expand housing opportunities and provide a range of house types.
4. Balance density with green space.
5. Create an integrated and convenient transportation network.
6. Provide quality public improvements.

Applicable goals and policies from the Downtown Neighborhood TOD relevant to the project are provided below.

> **Goal - LU-G11:** Preserve the height and scale of development in the core of Chinatown's historic district
>
> **Goal - PF-G6:** Facilitate development of infrastructure— including wastewater, water, drainage, and high-speed broadband internet systems— that is designed and timed to be consistent with project capacity requirements and development occupancy.
>
> **Policy - PF-P12:** Require development and redevelopment projects to comply with best practices for low impact development-based stormwater management.
>
> **Policy - PF-P10:** Prepare a comprehensive infrastructure master plan for the Iwilei/Kapalama station areas. This plan should include details on water, wastewater, and drainage systems layout, as well as more precise alignment of new streets, and a financing plan that ensures that improvements will be realized and not become a constraint to development

Discussion:

The Awa Street WWPS project will improve wastewater infrastructure to minimize potential service disruptions, support increased downtown density and strengthen disaster resilience. Adhering to the Downtown TOD goal PF-G6, the project aims to implement new pumps that are designed for specific current and future sewer flow rates. Following the goal LU-G11, the project will preserve the historic pump building by maintaining its size and scale. Additionally, by rehabilitating and upgrading facilities, the Awa Street WWPS will continue to deliver reliable wastewater transportation and treatment for the Downtown Neighborhood TOD areas. By enhancing wastewater management operations, the project will directly support policies that are promoting new housing and business development.

3.6 City and County of Honolulu General Plan

The O'ahu General Plan (2021) contains aspirational objectives and policies that address the physical, social, cultural, economic, and environmental concerns affecting the City. The Honolulu City Council adopted the General Plan on December 1, 2021 and the mayor signed it on January 14, 2022. Applicable objectives and policies from the General Plan relevant to the project are provided below.

III. Natural Environment and Resource Stewardship

Objective A: To protect and preserve the natural environment.

Policy 1: Protect O‘ahu's natural environment, especially the shoreline, valleys, and ridges, from incompatible development.

Policy 4: Require development projects to give due consideration to natural features and hazards such as slope, inland and coastal erosion, flood hazards, water-recharge areas, and existing vegetation, as well as to plan for coastal hazards that threaten life and property.

Policy 7: Protect the natural environment from damaging levels of air, water, carbon, and noise pollution.

Policy 12: Plan, prepare for and mitigate the impacts of climate change on the natural environment, including strategies of adaptation.

Objective B: To preserve and enhance natural landmarks and scenic views of O‘ahu for the benefit of both residents and visitors as well as future generations.

Policy 3: Locate and design public facilities, infrastructure and utilities to minimize the obstruction of scenic views.

V. Transportation and Utilities

Objective C: To ensure reliable, cost-effective, and responsive service for all utilities with equitable access for residents.

Policy 1: Maintain and upgrade utility systems in order to avoid major breakdowns and service interruptions.

Policy 2: Provide improvements to utilities in existing neighborhoods to reduce substandard conditions, and increase resilience to use fluctuations, natural hazards, extreme weather, and other climate impacts.

Objective D: To maintain transportation and utility systems which support O‘ahu as a desirable place to live and visit.

Policy 1: Provide adequate resources to ensure the maintenance and improvement of transportation systems and utilities.

Policy 5: Evaluate impacts of SLR on existing public infrastructure, especially sewage treatment plants, roads, and other public and private utilities located along or near O‘ahu’s coastal areas, and avoid the placement of future public infrastructure in threatened areas.

VII. Physical Development and Urban Design

Objective B: To plan and prepare for the long-term physical impacts of climate change.

> Policy 1: Integrate climate change adaptation into the planning, design, and construction of all significant improvements to and development of the built environment.

Objective G: To promote and enhance the social and physical character of O‘ahu’s older towns and neighborhoods.

> Policy 3: Provide and maintain roads, public facilities and utilities without damaging the character of older communities.

VIII. Public Safety and Community Resilience

Objective B: To protect residents and visitors and their property against natural disasters and other emergencies, traffic and fire hazards, and unsafe conditions.

> Policy 2: Require all developments in areas subject to floods and tsunamis, and coastal erosion to be located and constructed in a manner that will not create any health or safety hazards or cause harm to natural and public resources.

Discussion:

The Awa Street WWPS project aligns with the objectives and policies of the City and County of Honolulu's General Plan. It aims to enhance climate resilience by addressing risks associated with SLR, hurricanes, and tsunamis while upgrading critical wastewater management facilities. The project will replace degraded and outdated systems within the existing WWPS with flood-resistant infrastructure that can handle current and future sewer flow projections, thereby protecting public health. The proposed improvements, updates, and rehabilitation are designed to be compatible with the surrounding environment and support long-term wastewater management.

3.7 Primary Urban Center Development Plan

The City and County of Honolulu has divided O‘ahu into eight planning areas by ordinance, each with a DP or a Sustainable Communities Plan that outlines the vision, objectives, and goals for future development in the area. These community-oriented plans are intended to help guide land use planning and development on O‘ahu. The PUC DP encompasses the urban areas of Southern O‘ahu, from Kahala to Pearl City, an area that includes the Awa Street WWPS.

The City and County of Honolulu updated the PUC DP in April 2025 to address key challenges that have intensified over the past two decades, including rising housing costs, climate change risks, and transportation congestion. The updated plan sets a 25-

year vision, prioritizing diverse housing, multimodal transportation with a focus on rail transit-oriented development, urban greening, and climate adaptation. Community input was gathered through pop-up events, workshops, meetings, and website updates to ensure local concerns were addressed. The PUC DP is guided by ten overarching goals:

1. Growth + Development
2. Placemaking + Character
3. Housing
4. Parks + Public Open Space
5. Mobility + Connectivity
6. Healthy Communities
7. SLR + Coastal Hazards Planning
8. Water Resources
9. Economic Development
10. Civic Facilities + Services

Applicable objectives and policies from the PUC DP relevant to the project are provided below.

Sea Level Rise + Coastal Hazards Planning

Goal SLR-2: Long-range planning to increase area-wide adaptation and resilience.

Policy SLR-2.2: Address potential impacts to surrounding sites for project level adaptation measures.

Policy SLR-2.4: Incorporate SLR / coastal hazard considerations in the planning, design, and maintenance of facilities and infrastructure.

Goal SLR-3: Coordinate infrastructure planning for SLR across agencies.

Policy SLR-3.1: Support collaborative resilience planning for new and existing infrastructure.

Water Resources

Goal WR-2: Protect ground and surface water quality from polluting land uses.

Policy WR-2.1: Protect drinking water aquifers, and surface and nearshore waters from contamination by developed land uses, urban runoff, underground fuel storage, and illegal dumping.

Goal WR-3: Maintain resilient water infrastructure systems.

Policy WR-3.3: Improve coordination of wastewater infrastructure and land use planning.

Civic Facilities + Services

Goal PS-2: Plan for Emergency Management and Hazard Mitigation in the PUC.

Policy PS-2.2: Strengthen pre- and post- disaster planning.

Discussion:

The proposed Awa Street WWPS project aligns with multiple goals, objectives, and policies outlined in the PUC DP. Long-term objectives related to water resources, public services, and coastal hazards are addressed by upgrading wastewater management infrastructure.

The project incorporates climate resilience measures into its design, including enhanced flood resistance and improved emergency power generation. Upgrading the emergency power and flood resistance allows for continued operation that can withstand coastal SLR and extreme weather events. Additionally, replacing the UST with an AST will improve access to the fuel tank, facilitate maintenance, and reduce the risk associated with leakage and inundation. The upgrades to the existing pump station and redevelopment of the emergency power facility contribute to the overall goals of the PUC DP, particularly the protection of ground, surface, and nearshore waters.

3.8 City and County of Honolulu Land Use Ordinance

The LUO regulates land use in accordance with adopted land use policies, including the City's General Plan and the Development/Sustainable Community Plans. The project site is located within the IMX-1 Industrial-Commercial Mixed-Use District, and the development is considered under public uses and structures, which are permitted in the IMX-1 District. No discretionary land use permit is required for uses conducted by, or for structures owned or managed by, the federal government, the State of Hawai‘i or the City to fulfill a government function, activity or service for public benefit and in accordance with public policy.

4 Possible Alternatives

4.1 No Action

The no action alternative plan on the proposed project would maintain the status quo of the Awa Street WWPS. This alternative is not feasible; the proposed project aims to address critical issues related to outdated and aging facilities, as well as long-term SLR threats. The WWPS is currently outdated, with much of the pump station being over sixty years old, requiring rehabilitation to manage altered sewer flow projections. Furthermore, the Awa Street WWPS is vulnerable to potential hazards associated with SLR and extreme weather events. Without addressing these external and internal threats, the site has the potential to be inundated, which would hamper wastewater flow in the service area.

Additionally, the project is removing the existing UST, which is required by HAR Chapter 11-280.1. To perform no action at the Awa Street WWPS would increase risk to the environment and public health due to ineffective wastewater management and fuel leakage into streams, soil, and coastal areas.

4.2 Delayed Action

A delayed action implies that a project of similar scope and size to the proposed action would occur at an unspecified future date. Similar to the "no action" alternative, delaying any action on-site would increase the threat of environmental and public health crises in the surrounding area. The facility, although intact and operational, faces multiple potential hazards that need to be addressed in the upcoming project; further delays would hinder the WWPS's ability to withstand risks. Furthermore, the Awa Street WWPS will need to be efficient for future TOD planned stations, residential development, and increased mixed-use density in Iwilei. In addition, as stated in HAR Chapter 11-280.1, the AST improvements must be completed before July 15, 2028. Postponing the construction would result in missing this deadline; therefore, it is not a feasible option.

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5 Permits and Approvals

The exact permitting and approval requirements will be determined during the design phase, and the following list contains permits and approvals that may be required for the proposed project.

State of Hawai‘i

- AST Notification (DOH Hazardous Waste Branch)
- Community Noise Permit
- Community Noise Variance
- Non-Covered and/or Covered Source Permit (Air Quality)
- Oversized and Overweight Vehicles on State Highways Permit
- Disability and Communication Access Board Review
- State Historic Preservation Division Review (SHPD)
- Use and Occupancy Agreement

City and County of Honolulu

- Application
- Building Permit
- Grubbing, Grading, and Stockpiling Permit
- Erosion Control Plan/Best Management Practices
- Flammable/Combustible Liquid Permit (HFP)
- DPR Right of Entry Permit
- Special District Permit

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6 Determination

According to HAR §11-200.1-13, an agency must determine whether an action may have a significant impact on the environment, considering all phases of the project, its expected primary and secondary impacts, cumulative effects with other projects, and its short- and long-term effects. In making this determination, the rules establish "significance criteria" to guide the consideration of potential environmental effects.

The proposed project is not likely to have a significant impact on the physical or human environment based on the analysis presented in this document. The ENV anticipates that the appropriate determination is a Finding of No Significant Impact (FONSI). The supporting rationale for this finding as set forth in HAR §11-200.1-13 is discussed below.

(1) Irrevocably commit a natural, cultural, or historic resource;

The proposed project is not expected to cause loss of or damage to natural, cultural, or historic resources. One of the primary goals of the project is to protect a historic pump station from natural disasters by improving flood resilience. Additionally, the proposed improvements will safeguard the surrounding community from potential environmental and public health risks associated with WWPS deterioration or malfunction. Planned improvements include floodproofing of the existing WWPS, upgrading interior pumps to accommodate changing sewer flows, reconstructing the emergency power facility, and replacing the UST with an AST. All work will occur on previously developed land, resulting in minimal changes to the facility's footprint. The reconstruction of the emergency power station, the most significant external modification, will be confined to the existing footprint. If biological resources are present, recommendations from DAR and DOFAW will be implemented to mitigate construction impacts.

(2) Curtail the range of beneficial uses of the environment;

The proposed project does not limit or prevent future beneficial uses of the surrounding environment. Located between the planned Skyline Kūwili (Iwilei) and Hōlau (Chinatown) rail stations, the project will improve beneficial uses of the surrounding environment by providing enhanced wastewater management services, which will support TOD planning initiatives. All work will take place on previously developed land and does not involve expansion beyond existing grounds. The WWPS improvements will adjust to new sewer flow needs, maintain essential wastewater management, and lower potential hazardous fuel leaks into the environment.

(3) Conflicts with the State's environmental policies or long-term environmental goals established by law;

The project does not conflict with the State's environmental policies or long-term environmental goals. Rather, the project aligns with multiple State environmental goals by reducing the risk of fuel leakage, enhancing climate adaptation, improving disaster preparedness, and facilitating utility updates in key development areas. Additionally, flood resilience and an upgraded AST will safeguard wastewater management during power outages and flooding emergencies.

(4) Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community or State;

The project is not anticipated to have an adverse effect on economic, social, or cultural welfare. BMPs during construction are expected to minimize temporary disruptions, and the upgrades to the site will improve long-term reliability of the wastewater infrastructure, prevent system failures, enhance emergency preparedness, and safeguard community health. The project will benefit economic and social welfare by protecting critical utility services.

(5) Have a substantial adverse effect on public health;

The project is not projected to have an adverse effect on public health. Construction and demolition on the site will follow BMPs to reduce any fugitive dust, noise, and intermittent traffic. However, public health risks, if there are any, will be minor and temporary. Instead, the proposed project will improve public health by developing climate resilience and emergency preparedness of critical wastewater infrastructure. Additionally, the project will reduce the potential of diesel leaks associated with an UST by replacing it with an AST.

(6) Involve adverse secondary impacts, such as population changes or effects on public facilities;

No significant adverse secondary impacts are anticipated due to the proposed project. Temporary traffic disruptions on the Nimitz Highway and at the Nimitz Highway turnaround in front of the property may occur during the widening of the access driveway and material transport. The proposed project will follow DOT recommendations and ensure that any lane closure is made public in advance of the event. Upgrades are expected to have a positive impact on the environmental sustainability, reliability, adaptiveness, and long-term resilience of the existing public facility.

(7) Involves a substantial degradation of environmental quality;

No substantial degradation of the environmental quality is expected as a result of the proposed project. All work will occur within the existing developed site. The AST will be installed near the front entrance of the pump station with a small footprint, well within previously paved areas. Implementing BMPs during construction will limit sedimentation and runoff into nearby water systems. The project will also enhance flood resilience of the pump building, new generator building, and the AST, thereby reducing the potential for contaminants and fuel spillage entering the environment.

(8) Be individually limited but cumulatively has substantial adverse effect upon the environment or involve a commitment for larger actions;

The project itself is limited in scope. However, the proposed project at the Awa Street WWPS will overlap with HART's construction of piers 714 and 715. This overlap may potentially increase cumulative effects on the surrounding environment. Simultaneous construction can increase acoustics, air pollution, sedimentation runoff, fugitive dust, and traffic congestion. Teams from both projects will maintain constant communication to limit hazardous interactions within a small radius and follow BMPs. These efforts may include identifying proper traffic bypasses, scheduling alternative construction days to limit overlap, ensuring BMPs are followed, and removing non-essential construction infrastructure that would impede either project.

(9) Have a substantial effect on rare, threatened, or endangered species, or their habitat;

Major effects on rare, threatened, or endangered species, or critical habitat is not anticipated. In consultation with DAR and DOFAW, BMPs will be used if any species of significance is found on-site.

(10) Have a substantial adverse effect on air or water quality or ambient noise levels;

No substantial adverse effect on air quality or water quality or ambient noise levels is expected. Any potential impacts will be temporary and limited to construction-related disturbances, which will be mitigated through BMPs. Instead, the project will help protect water quality in the Nu‘uanu Stream by reducing potential threats of fuel leaks and flooding from bringing contaminants into the water.

(11) Have substantial adverse effect on is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;

The project is located in a potentially environmentally hazardous area, as it falls within a tsunami evacuation zone, a SLR-threatened zone, a hurricane storm surge area, a flood-prone region, and a moderate earthquake risk zone. Flood resilience on-site will be increased by hardening the external facilities, installing metal doors, adding reinforced concrete to the windows, sealing all external holes, and moving key control panels within the facility above the maximum height allowable. To protect against earthquakes and ground settlement, reinforced concrete beams will be installed under the new generator facility. Additionally, the UST is being removed, and the replacement AST will be set back from the stream and reinforced with concrete.

(12) Have a substantial adverse effect on scenic vistas and view planes identified in county or state plans or studies; or

No substantial adverse effect on scenic vistas or view planes is anticipated as a result of the project. The proposed project will remain within its fenced parcel and maintain its current size. The PUC DP requires preservation of public views in high-intensity areas and maintenance of mauka-makai view corridors. The site is in a high-intensity region; however, it does not impede any mauka-makai view corridors or exceed height guidelines. Additionally, the site is not situated within a significant public view range of any major mountain or ocean as defined by the PUC DP.

(13) Require substantial energy consumption or emit substantial greenhouse gas.

The overall scope of the project is not expected to require considerable amounts of energy consumption. Temporary diesel-powered construction equipment and generators will be used during the reconstruction of the emergency generator building, replacement of the pumps, and installation of the AST. No mitigation is proposed for the temporary impacts during development.

The WWPS operations do not emit significant amounts of greenhouse gases, and all upgrades will enhance the facility's efficiency, thereby lowering energy needs. In the long-term, the emergency power generator uses diesel power from the fuel tank system; however, that will remain the status quo.

7 Public Agency Review and Consultation

An Early Consultation Letter and Handout was sent on April 25, 2025, to initiate the environmental review process. A list of consulted agencies, organizations, and interest groups are listed below. There were 14 formal responses to the early consultation letter, as indicated by the below. A copy of the Early Consultation Letter and Handout, as well as copies of the responses received, are included in the Appendix.

State of Hawai‘i

- Department of Land and Natural Resources ✓
  - Aha Moku Advisory Committee
  - Commission on Water Resource Management ✓
  - Division of Aquatic Resources ✓
  - Division of Boating and Ocean Recreation ✓
  - Division of Forestry and Wildlife ✓
  - Engineering Division
  - Land Division ✓
  - Office of Conservation and Coastal Lands
- Department of Transportation ✓
- Hawai‘i Emergency Management Agency
- Department of Health
- Office of Hawaiian Affairs
- Office of Planning and Sustainable Development
- Department of Hawaiian Home Lands
- Senate District 13 (Senator Karl Rhoads)
- House District 28 (Representative Daniel Holt)

City and County of Honolulu

- Board of Water Supply ✓
- Department of Design and Construction ✓
- Department of Emergency Management ✓
- Department of Land Management
- Department of Facilities Maintenance
- Department of Environmental Services
- Department of Parks and Recreation
- Department of Planning & Permitting ✓
- Department of Transportation Services
- Honolulu Fire Department ✓
- Honolulu Police Department ✓
- Department of Climate Change, Sustainability, and Resiliency
- Honolulu City Council District 6 (Tyler Dos Santos-Tam)
- Office of the Mayor City and County of Honolulu
- Kalihi-Kapālama Neighborhood Board No.15

Organizations and Associations

Hawaiian Electric Company ✓
Hawai‘i Telecom
Hawai‘i Gas Company
Hawai‘i Authority for Rapid Transportation

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Appendix A

Early Consultation Letter, Handout, and Responses

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BOARD OF WATER SUPPLY
KA 'OIHANA WAI
CITY AND COUNTY OF HONOLULU

630 SOUTH BERETANIA STREET • HONOLULU, HAWAI'I 96843
Phone: (808) 748-5000 • www.boardofwatersupply.com

RICK BLANGIARDI
MAYOR
MEIA

ERNEST Y. W. LAU, P.E.
MANAGER AND CHIEF ENGINEER
MANAKIA A ME KAHU WILIKĪ

ERWIN KAWATA
DEPUTY MANAGER
HOPE MANAKIA

NĀ'ĀLEHU ANTHONY, Chair
JONATHAN KANESHIRO, Vice Chair
BRYAN P. ANDAYA
LANCE WILHELM
KĒHAULANI PU'U
EDWIN H. SNIFFEN, Ex-Officio
GENE C. ALBANO, P.E., Ex-Officio

May 21, 2025

Ms. Gabrielle Sham
Townscape, Inc.
900 Fort Street Mall Suite 1160
Honolulu, Hawai'i 96813

Dear Ms. Sham:

Subject: Your Letter Dated April 25, 2025 Requesting Comments on the Draft Environmental Assessment Early Consultation for the 'Awa Street Wastewater Pump Station Improvements/Rehabilitation Project off 'Awa Street – Tax Map Key: 4-4-037: 014

Thank you for your letter regarding the proposed wastewater pump station improvements project.

The existing water system is currently adequate to accommodate the proposed development. However, please be advised that the existing Honolulu water system capacity has been reduced due to the shut-down of the Hālawa Shaft pumping station as a proactive measure to prevent fuel contamination from the Navy's Red Hill Bulk Storage Tank fuel releases. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval, pending evaluation of the water system conditions at that time on a first-come, first-served basis. 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.

We continue to request 10% voluntary water conservation of all customers until new sources are completed and require water conservation measures in all new developments. If water consumption significantly increases, progressively restrictive conservation measures may be required to avoid low water pressures and disruptions of water service.

Presently, there is no moratorium on the issuance of new and additional water services. Water distributed via the BWS water systems remains safe for consumption. The BWS is closely monitoring water usage and will keep the public informed with the latest findings. Please visit our website at www.boardofwatersupply.com and www.protectoahuwater.org for the latest updates and water conservation tips.

When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission, and daily storage.

Water conservation measures are required for all proposed developments. These measures include utilization of nonpotable water for irrigation using rain catchment, drought tolerant plants, xeriscape landscaping, efficient irrigation systems, such as a drip system and moisture sensors, and the use of Water Sense labeled ultra-low flow water fixtures and toilets.

The proposed project is subject to BWS Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the Building Permit Applications.

The construction drawings should be submitted for our approval, and the construction schedule should be coordinated to minimize impact to the water system.

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 Barry Usagawa, Water Resources Division at (808) 748-5900.

Very truly yours,

ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

DEPARTMENT OF DESIGN AND CONSTRUCTION
KA 'OIHANA HAKULAU A ME KE KĀPILI
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR • HONOLULU, HAWAI'I 96813
PHONE: (808) 768-8480 • FAX: (808) 768-4567 • WEBSITE: honolulu.gov

RICK BLANGIARDI
MAYOR
MEIA

HAKU MILLES, P.E.
DIRECTOR
PO'O

MARK YONAMINE, P.E.
DEPUTY DIRECTOR
HOPE PO'O

May 12, 2025

SENT VIA EMAIL

Ms. Gabrielle Sham
gabrielle@townscapeinc.com

Dear Ms. Sham:

Subject: Early Consultation Request for Draft Environmental Assessment (DEA)
Awa Street Wastewater Pump Station Improvements/Rehabilitation
Honolulu, Island of O'ahu
Tax Map Key 1-5-040:003

Thank you for the opportunity to review and comment. The Department of Design and Construction has no comments to offer at this time.

Should you have any questions, please contact me at (808) 768-8480.

Sincerely,

Haku Milles, P.E., LEED AP
Director

HM:krn (939029)

Outlook

Fw: Awa Street Wastewater Pump Station Improvements - Early Consultation - Land Use Permits Division

From Gabrielle Sham <Gabrielle@townscapeinc.com>
Date Tue 5/20/2025 1:19 PM
To Sean Aoki <sean@townscapeinc.com>

From: Beatty, Alexander D <abeatty@honolulu.gov>
Sent: Tuesday, May 20, 2025 10:46 AM
To: Gabrielle Sham <Gabrielle@townscapeinc.com>
Subject: Awa Street Wastewater Pump Station Improvements - Early Consultation - Land Use Permits Division

Good morning Gabrielle,

This is in response to the subject request. The Department of Planning and Permitting would like an opportunity to comment in detail on the Draft Environmental Assessment, when it is available.

Considering the limited information available now, we have the following comments:

1. The DEA should address and, if present, propose mitigation measures to protect against the impacts of Sea Level Rise.
2. The site appears to be in the Chinatown Special District, and may be in the future Transit Oriented Development Special District. The DEA should disclose these conditions and discuss compliance with the relevant objectives and standards.
3. All necessary permits should be disclosed, such as Special District Permits, Zoning Waivers, and other development permits.
4. The DEA should discuss the Skyline Project and its relationship to the site.
5. Although the site is heavily influenced by infrastructure needs (wastewater, transit), it also serves as an important gateway on a main transit route leading from the Airport to Downtown and Waikiki beyond. The DEA should discuss any design features meant to capitalize on this important location, either in relationship to the above-mentioned Special Districts, or otherwise.

Thank you for this opportunity to provide preliminary comments, and we looking forward to learning more and providing formal comments on the Draft EA.

ALEX D. BEATTY
URBAN DESIGN BRANCH
DEPARTMENT OF PLANNING AND PERMITTING
650 SOUTH KING STREET, 7TH FLOOR
HONOLULU, HAWAII 96813
PHONE: (808) 768-8032

HONOLULU POLICE DEPARTMENT
KA 'OIHANA MĀKA'I O HONOLULU
CITY AND COUNTY OF HONOLULU
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TELEPHONE: (808) 529-3111 • WEBSITE: www.honolulupd.org

RICK BLANGIARDI MAYOR MEIA

ARTHUR J. LOGAN CHIEF
KAHU MAKA'I

KEITH K HORIKAWA
RADE K VANIC DEPUTY
CHIEFS HOPE LUHA NUI
MAKA'I

Our Reference EO-SH

May 13, 2025

SENT VIA EMAIL

Ms. Gabrielle Sham
gabrielle@townscapeinc.com

Dear Ms. Sham:

This is in response to your letter dated April 25, 2025, requesting input for the Draft Environmental Assessment for the proposed City and County of Honolulu, Department of Environmental Services, Fuel Storage Tank Improvements for the Awa Street Wastewater Pump Station in Honolulu.

The Honolulu Police Department (HPD) recommends that all necessary lights, signs, barricades, and other safety equipment be installed and maintained by the contractor during the construction phase of the project. Additionally, adequate notification should be made to area businesses and residents prior to possible road closures, as any impact to pedestrian and/or vehicular traffic or construction-related debris could lead to complaints. Lastly, the HPD recommends a long-term plan to migitate the tracking of dirt, gravel, and debris to minimize potential environmental impacts from all affected areas.

If there are any questions, please call Acting Major Henry Roberts of District 1 (Central Honolulu) at (808) 723-3327.

Sincerely,

GLENN HAYASHI
Assistant Chief of Police
Support Services Bureau

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES | KA 'OIHANA KUMUWAIWAI 'ĀINA
COMMISSION ON WATER RESOURCE MANAGEMENT | KE KAHUWAI PONO
P.O. BOX 621
HONOLULU, HAWAII 96809

May 23, 2025

REF: RFD.6441.3

TO: Mr. Ian Hirokawa, Acting Administrator
Land Division

FROM: Ciara W.K. Kahahane, Deputy Director
Commission on Water Resource Management

MAY 28 2025
RPC.

SUBJECT: Awa Street Wastewater Pump Station Improvements/Rehabilitation

FILE NO.: RFD.6441.3
TMK NO.: (1) 1-5-040:003

Thank you for the opportunity to review the subject document. The Commission on Water Resource Management (CWRM) is the agency responsible for administering the State Water Code (Code). Under the Code, all waters of the State are held in trust for the benefit of the citizens of the State, therefore all water use is subject to legally protected water rights. CWRM strongly promotes the efficient use of Hawaii's water resources through conservation measures and appropriate resource management. For more information, please refer to the State Water Code, Chapter 174C, Hawaii Revised Statutes, and Hawaii Administrative Rules, Chapters 13-167 to 13-171. These documents are available via the Internet at http://dlnr.hawaii.gov/cwrm.

Our comments related to water resources are checked off below.

- [ ] 1. We recommend coordination with the county to incorporate this project into the county's Water Use and Development Plan. Please contact the respective Planning Department and/or Department of Water Supply for further information.
- [ ] 2. We recommend coordination with the Engineering Division of the State Department of Land and Natural Resources to incorporate this project into the State Water Projects Plan.
- [ ] 3. We recommend coordination with the Hawaii Department of Agriculture (HDOA) to incorporate the reclassification of agricultural zoned land and the redistribution of agricultural resources into the State's Agricultural Water Use and Development Plan (AWUDP). Please contact the HDOA for more information.
- [ ] 4. We recommend that water efficient fixtures be installed and water efficient practices implemented throughout the development to reduce the increased demand on the area's freshwater resources. Reducing the water usage of a home or building may earn credit towards Leadership in Energy and Environmental Design (LEED) certification. More information on LEED certification is available at http://www.usgbc.org/leed. A listing of fixtures certified by the EAP as having high water efficiency can be found at http://www.epa.gov/watersense.
- [x] 5. We recommend the use of best management practices (BMP) for stormwater management to minimize the impact of the project to the existing area's hydrology while maintaining on-site infiltration and preventing polluted runoff from storm events. Stormwater management BMPs may earn credit toward LEED certification. More information on stormwater BMPs can be found at http://planning.hawaii.gov/czm/initiatives/low-impact-development/
- [ ] 6. We recommend the use of alternative water sources, wherever practicable.
- [ ] 7. We recommend participating in the Hawaii Green Business Program, that assists and recognizes businesses that strive to operate in an environmentally and socially responsible manner. The program description can be found online at http://energy.hawaii.gov/green-business-program.
- [ ] 8. We recommend adopting landscape irrigation conservation best management practices endorsed by the Landscape Industry Council of Hawaii. These practices can be found online at http://www.hawaiiscape.com/wp-content/uploads/2013/04/LICH_Irrigation_Conservation_BMPs.pdf.

- [x] 9. There may be the potential for ground or surface water degradation/contamination and recommend that approvals for this project be conditioned upon a review by the State Department of Health and the developer's acceptance of any resulting requirements related to water quality.
- [ ] 10. The proposed water supply source for the project is located in a designated water management area, and a Water Use Permit is required prior to use of water. The Water Use Permit may be conditioned on the requirement to use dual line water supply systems for new industrial and commercial developments.
- [ ] 11. The Hawaii Water Plan is directed toward the achievement of the utilization of reclaimed water for uses other than drinking and for potable water needs in one hundred per cent of State and County facilities by December 31, 2045 (§174C-31(g)(6), Hawaii Revised Statutes). We strongly recommend that this project consider using reclaimed water for its non-potable water needs, such as irrigation. Reclaimed water may include, but is not limited to, recycled wastewater, gray water, and captured rainwater/stormwater. Please contact the Hawai'i Department of Health, Wastewater Branch, for more information on their reuse guidelines and the availability of reclaimed water in the project area.
- [ ] 12. A Well Construction Permit(s) is (are) are required before the commencement of any well construction work.
- [ ] 13. A Pump Installation Permit(s) is (are) required before ground water is developed as a source of supply for the project.
- [ ] 14. There is (are) well(s) located on or adjacent to this project. If wells are not planned to be used and will be affected by any new construction, they must be properly abandoned and sealed. A permit for well abandonment must be obtained.
- [ ] 15. Ground-water withdrawals from this project may affect streamflows, which may require an instream flow standard amendment.
- [ ] 16. A Stream Channel Alteration Permit(s) is (are) required before any alteration can be made to the bed and/or banks of a steam channel.
- [ ] 17. A Stream Diversion Works Permit(s) is (are) required before any stream diversion works is constructed or altered.
- [ ] 18. A Petition to Amend the Interim Instream Flow Standard is required for any new or expanded diversion(s) of surface water.
- [ ] 19. The planned source of water for this project has not been identified in this report. Therefore, we cannot determine what permits or petitions are required from our office, or whether there are potential impacts to water resources.

- [ ] OTHER:

If you have any questions, please contact Ryan Imata of the Groundwater Regulation Branch at (808) 587-0225 or Katie Roth of the Planning Branch (808) 587-0216.

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

May 9, 2025

MEMORANDUM

TO: **DLNR Agencies:**
_X_ Div. of Aquatic Resources (kendall.l.tucker@hawaii.gov)
_X_ Div. of Boating & Ocean Recreation (richard.t.howard@hawaii.gov)
_X_ Engineering Division (DLNR.ENGR@hawaii.gov)
_X_ Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
__ Div. of State Parks
_X_ Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
__ Office of Conservation & Coastal Lands
_X_ Land Division – O'ahu District (barry.w.cheung@hawaii.gov)
_X_ Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

FROM: Ian C. Hirokawa, Acting Land Administrator
SUBJECT: **Early Consultation Request for Draft Environmental Assessment for Awa Street Wastewater Pump Station Improvements/Rehabilitation**
LOCATION: Honolulu, Island of O'ahu, TMK (1)1-5-040:003
APPLICANT: Townscape, Inc. on behalf of the City and County of Honolulu, Department of Environmental Services

Transmitted for your review and comment is information on the above-referenced subject matter.

Please submit comments by **May 23, 2025.** If no response is received by this date, we will assume your agency has no comments. Should you have any questions about this request, please contact Dayna Vierra at dayna.k.vierra@hawaii.gov. Thank you.

BRIEF COMMENTS:

( ) We have no objections.
( ) We have no comments.
( ) We have no additional comments.
(☑) Comments are included/attached

Signed:
Print Name: Brian J. Neilson- Administrator
Division: Aquatic Resources
Date: 05/22/2025

Attachments

STATE OF HAWAIʻI | KA MOKUʻĀINA ʻO HAWAIʻI
DEPARTMENT OF LAND AND NATURAL
RESOURCES DIVISION OF AQUATIC RESOURCES
1151 PUNCHBOWL STREET, ROOM 330
HONOLULU, HAWAII 96813

Date: 5/22/25
DAR # 6894

MEMORANDUM

TO: Brian J. Neilson
DAR Administrator

FROM: Kate Gonzalez, Aquatic Biologist

SUBJECT: Early Consultation Request for Draft Environmental Assessment for Awa Street Wastewater Pump Station Improvements/Rehabilitation

Request Submitted by: Townscape, Inc.

Location of Project: 190 North Nimitz Highway, Honolulu, Island of Oʻahu, 96817
TMK: (1)1-5-040:003

Brief Description of Project:

The Awa Street Wastewater Pump Station (WWPS) has been in service since 1953. The proposed project includes upgrading the existing facility to enhance its performance to meet current and future projected sewer flows; address structure issues caused by aging and ground
settlement; and improve the wastewater pump station to withstand inundation due to global sea
level rise, tsunami events, and hurricanes.
Planned upgrades include replacing aging pumps and equipment; installing perimeter lighting;
replacing and modifying the fence layout; repaving and widening the driveway; improving

Comments:

☐ No Comments ☑ Comments Attached

Thank you for providing DAR the opportunity to review and comment on the proposed project. Should there be any changes to the project plan, DAR requests the opportunity to review and comment on those changes.

Comments Approved: _____ Date: 05/22/2025

Brian J. Neilson
DAR Administrator

DAR# 6894

Brief Description of Project

main, generator building, automatic transfer switch, generator, day tank, and building ventilation
system; and removing the underground fuel storage tank and replacing with an aboveground
fuel storage tank.

DAR# 6894

Comments

Erosion/LBSP:

DAR recommends that Applicant implement the following mitigation measures for mitigation of erosion and land-based sources of pollution (LBSP).

Mitigation Measure 1. Applicant should consider the proximity of the proposed action to aquatic resources during design and construction. Landscape leveling should be such that long-term erosion and LBSP are minimized.

Mitigation Measure 2. During the construction phase of the proposed action, Applicant should utilize appropriate barriers (e.g., sediment barriers/bags, petroleum absorption diapers, etc.) to limit the amount of sediment or LBSP (e.g., petroleum products, chemicals, debris, etc.) to the maximum extent practicable.

Mitigation Measure 3. Applicant should utilize environmentally inert construction materials to the extent practicable.

Mitigation Measure 4. Applicant should consider the weather while performing construction. Some work may be performed during low rain conditions, but all construction should be halted during storm conditions or when storm conditions threaten the watershed. The site should be secured during storm conditions so that runoff into nearby natural waterbodies is unlikely.

DAR would like to request notification, photo documentation, and GPS coordinates for any occurrence where above-average amounts of sediment or pollution have entered the water or drainage systems, to assess the impact, if any.

Native Biota:

Artificial lighting from construction sites can disorient and confuse marine wildlife such as sea turtles, fish, crabs, and birds. The disruption of their natural rhythms can have long-lasting consequences on their survival and population dynamics.

DAR# 6894

Comments

DAR recommends that construction activities occur during the daylight hours to the extent possible. All outdoor lighting should be fully shielded and pointed downward. Outdoor lighting should be turned off when not necessary, and automatic sensors are recommended.

All on-site workers should be trained on recognizing State-listed waterbirds and seabirds (https://dlnr.hawaii.gov/wildlife/birds/). Should any State-listed waterbirds or seabirds be observed amid construction operations, all activities within a 100-foot radius (30 meters) must halt, and proximity to the bird must be avoided. Once the bird departs the area on its own, work can resume as usual.

Sedimentation:

Sedimentation can introduce suspended solids, nutrients, and pollutants into aquatic ecosystems, leading to turbidity, reduced light penetration, and impaired water quality. Implement erosion and sediment control measures such as silt fences, sediment traps, and erosion control blankets to minimize soil disturbance and sediment runoff during construction activities.

Vegetation buffers: Maintain vegetative buffers along coastal areas to stabilize soil, reduce erosion, and filter sediment-laden runoff before it reaches the ocean.

Stormwater management: Implement stormwater management practices such as permeable pavement, vegetated swales, and retention ponds to reduce stormwater runoff volume and pollutant loads.

Monitoring and compliance: Consider establishing monitoring protocols to assess sedimentation levels, water quality parameters, and compliance with regulatory requirements throughout the project lifecycle.

DAR# 6894

Comments

DAR would like to request notification, photo-documentation, and GPS-coordinates for any occurrence where above-average amounts of sediment have entered the water, in order to assess impact, if any.

Protected Marine Species:

In the event that protected species such as the Hawaiian monk seal, other marine mammal, or sea-turtle is observed in close proximity to the construction site, and the activities being conducted may be considered as a "negligent or intentional act which results in disturbing or molesting a marine mammal", contractors should take appropriate action to modify activities in order to avoid disturbance to the regular behavior and activities of the animal. Appropriate action would include but is not limited to ceasing construction activity until the animal leaves the area of its own accord. If a pup is observed in the area, particular caution should be taken including creating a larger buffer between construction and the animals.
All staff working on-site will receive training to recognize the Hawaiian monk seal and sea turtles, as well as learn the necessary procedures to follow if these species are observed.
Any interaction between a protected species and the construction and repair activity proposed should be reported to the NOAA Protected Species Division and State of Hawaii DOCARE:

NOAA Marine Mammal Response Coordinators (Oahu): 808-220-7802

NOAA Sea Turtles (Oahu): Monday-Friday, 7:30am-4pm NOAA National Marine Fisheries Service - PIFSC Marine Turtle Biology and Assessment Program: (808) 725-5730

State of Hawaii Department of Land and Natural Resources (DLNR) Division of Conservation and Resources Enforcement (DOCARE): 808-643-3567

Barbed wire poses a large hazard for seabirds, especially fledgelings. Fences should not have barbed wire.

If incidental entanglement of protected species occurs DAR and the appropriate federal agency should be notified immediately.

DAR# 6894

Comments

Vegetation/Restoration:
DAR recommends that the applicant take steps to plant native vegetation that actively acts to retain surface storm-water run-off and sediment during precipitation events. Short grass will be likely ineffective at retaining surface stormwater run-off and sediment. Planting an effective vegetated buffer, down the slope of the construction site will help to capture soil and pollutants and absorb excess surface runoff from precipitation before they reach the shoreline.

DAR recommends planting native species. The most effective native soil/sand stabilizer and with water and sediment retention capabilities is Pohinahina (Vitex rotundifolia). Others include
`aki`aki (Sporobolus virginicus), Pa`u o Hi`iaka (Jaquemontia sandwicense), Pohuehue (Ipomoea pes-capre). The former species will act as a barrier much like a gravel berm, whereas the latter species are low-growing and hearty enough for walking on. They can be purchased at Hui Ku Maoli Ola nursery www.hawaiiannativeplants.com

Another good practice would be to keep all unearthed or loose soil covered by native vegetation (grass, shrubs and trees)so the rain doesn't have a chance to get at it and move it. Rain can carry large amounts of soil and freshwater to the coastline even on gentle slopes. Such introduction of soil, freshwater and nutrients could result in sediment plumes or nutrification which may permanently kill or negatively impact coral and associated marine organisms.

In addition, the applicant could consult with CTAHR for alternative vegetation options or consult the following literature:

University of Hawaii
College of Tropical Agriculture & Human Resources
Dept. of Natural Resources and Environmental Management
1910 East-West Road
Honolulu, HI 96822
(808) 956-7774
www.ctahr.hawaii.edu/nrem/

DEPARTMENT OF DESIGN AND CONSTRUCTION
KA 'OIHANA HAKULAU A ME KE KĀPILI
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR • HONOLULU, HAWAI'I 96813
PHONE: (808) 768-8480 • FAX: (808) 768-4567 • WEBSITE: honolulu.gov

RICK BLANGIARDI
MAYOR
MEIA

HAKU MILLES, P.E.
DIRECTOR
PO'O

MARK YONAMINE, P.E.
DEPUTY DIRECTOR
HOPE PO'O

May 12, 2025

SENT VIA EMAIL

Ms. Gabrielle Sham
gabrielle@townscapeinc.com

Dear Ms. Sham:

Subject: Early Consultation Request for Draft Environmental Assessment (DEA)
Awa Street Wastewater Pump Station Improvements/Rehabilitation
Honolulu, Island of O'ahu
Tax Map Key 1-5-040:003

Thank you for the opportunity to review and comment. The Department of Design and Construction has no comments to offer at this time.

Should you have any questions, please contact me at (808) 768-8480.

Sincerely,

Haku Milles, P.E., LEED AP
Director

HM:krn (939029)

Outlook

Fw: Early Consultation Request for DEA (Awa Street Wastewater Pump)

From Gabrielle Sham <Gabrielle@townscapeinc.com>
Date Wed 5/28/2025 9:41 AM
To Sean Aoki <sean@townscapeinc.com>

1 attachment (710 KB)
TOWNSCAPE_Early Consultation Request for DEA - Awa Street Wastewater Pump Station Improvements (2).pdf;

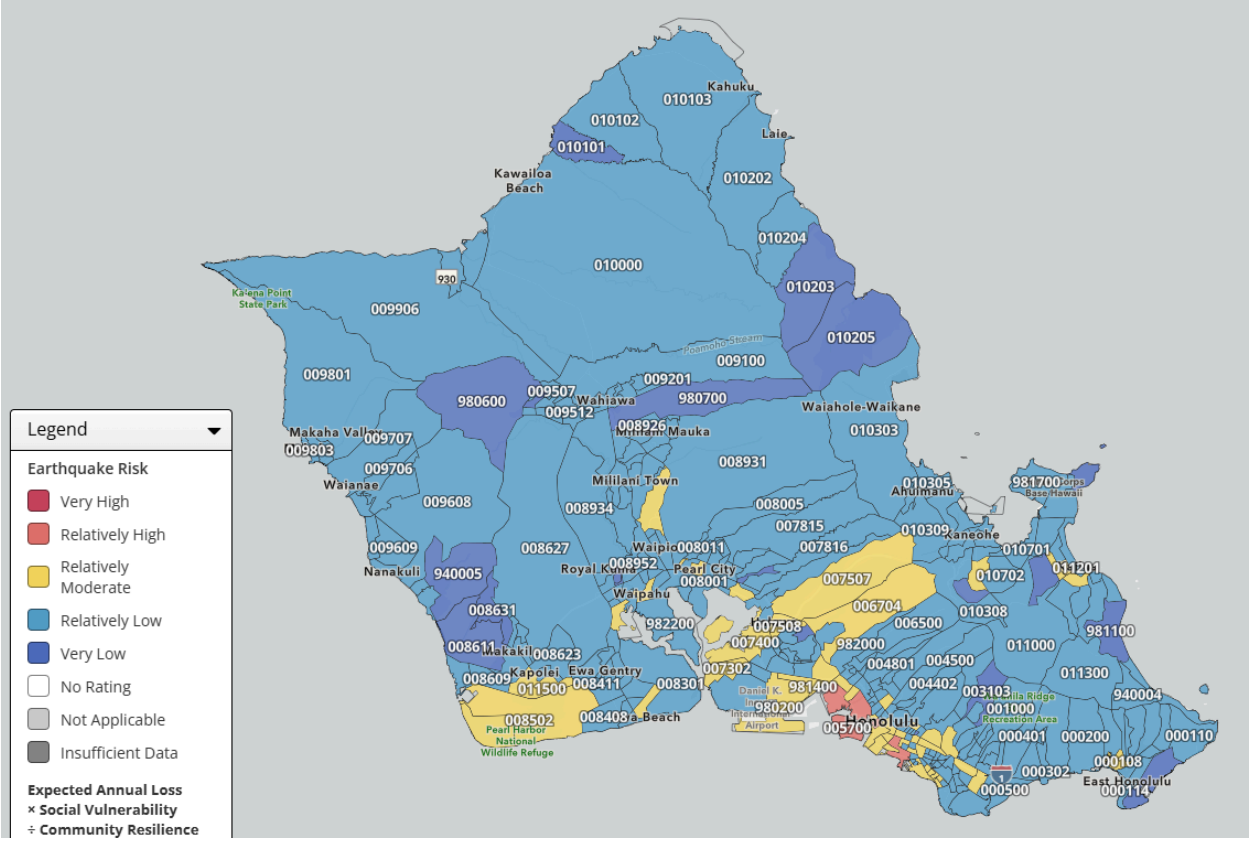
From: Keogh, Ian <ian.keogh@honolulu.gov>
Sent: Wednesday, May 28, 2025 9:41 AM
To: Gabrielle Sham <Gabrielle@townscapeinc.com>
Cc: Department of Emergency Management <dem@honolulu.gov>
Subject: Re: Early Consultation Request for DEA (Awa Street Wastewater Pump)

Please see the comment, below, from the City and County of Honolulu, Department of Emergency Management (re: attached memo for the DEA of the Awa Street Wastewater Pump)

The request for a DEA from Townscape, INC. addresses three main hazards that affect O'ahu: sea level rise, hurricane, and tsunami.

The other hazard that the DEA should address is earthquake, particularly geotechnical recommendations for seismic hazards. According to the FEMA National Risk Index (NRI) for earthquakes, the planned upgrade for the Awa Street WWPS is located between "relatively high" and "relatively moderate" on earthquake risk map for Honolulu (see map, below).

Any geotechnical recommendations that address soil liquefaction, or seismic bracing should greatly help mitigate this project against earthquake risk, as listed above.



[honolulu.gov/dem]

[hnlalert.gov]

HNL ALERT Sign up to stay informed at [HNLAlert.gov]HNLAlert.gov!

Ian M. Keogh

Staff Officer – Recovery & Mitigation
Department of Emergency Management
City and County of Honolulu

Desk: (808) 723-8954
Main Line: (808) 723-8960
Email: ian.keogh@honolulu.gov

[Honolulu.gov/dem]Honolulu.gov/dem

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[x.com/oahu_dem]

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

May 9, 2025

MEMORANDUM

TO: **DLNR Agencies:**
X Div. of Aquatic Resources (kendall.l.tucker@hawaii.gov)
X Div. of Boating & Ocean Recreation (richard.t.howard@hawaii.gov)
X Engineering Division (DLNR.ENGR@hawaii.gov)
X Div. of Forestry & Wildlife (rubyrosa.t.terrago@hawaii.gov)
__Div. of State Parks
X Commission on Water Resource Management (DLNR.CWRM@hawaii.gov)
__Office of Conservation & Coastal Lands
X Land Division – O'ahu District (barry.w.cheung@hawaii.gov)
X Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

FROM: Ian C. Hirokawa, Acting Land Administrator

SUBJECT: **Early Consultation Request for Draft Environmental Assessment for Awa Street Wastewater Pump Station Improvements/Rehabilitation**

LOCATION: Honolulu, Island of O'ahu, TMK (1)1-5-040:003

APPLICANT: Townscape, Inc. on behalf of the City and County of Honolulu, Department of Environmental Services

Transmitted for your review and comment is information on the above-referenced subject matter.

Please submit comments by **May 23, 2025.** If no response is received by this date, we will assume your agency has no comments. Should you have any questions about this request, please contact Dayna Vierra at dayna.k.vierra@hawaii.gov. Thank you.

BRIEF COMMENTS:

( ) We have no objections.
(X) We have no comments.
( ) We have no additional comments.
( ) Comments are included/attached

Signed: Richard Howard
Print Name: Richard Howard
Division: DOBOR
Date: 5/14/2025

Attachments

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

DAWN N. S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

STATE OF HAWAI'I | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA
LAND DIVISION

P.O. BOX 621
HONOLULU, HAWAII 96809

May 9, 2025

MEMORANDUM

FROM: **DLNR Agencies:**
X Div. of Aquatic Resources (kendall.I.tucker@hawaii.gov)
X Div. of Boating & Ocean Recreation (richard.t.howard@hawaii.gov)
X Engineering Division (DLNR.ENGR@hawaii.gov)
X Div. of Forestry & Wildlife (rubyrose.t.terrago@hawaii.gov)
__Div. of State Parks
X Commission on Water Resource Management(DLNR.CWRM@hawaii.gov)
__Office of Conservation & Coastal Lands
X Land Division – O'ahu District (barry.w.cheung@hawaii.gov)
X Aha Moku Advisory Committee (leimana.k.damate@hawaii.gov)

TO: Ian C. Hirokawa, Acting Land Administrator

SUBJECT: **Early Consultation Request for Draft Environmental Assessment for Awa Street Wastewater Pump Station Improvements/Rehabilitation**

LOCATION: Honolulu, Island of O'ahu, TMK (1)1-5-040:003

APPLICANT: Townscape, Inc. on behalf of the City and County of Honolulu, Department of Environmental Services

Transmitted for your review and comment is information on the above-referenced subject matter.

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BRIEF COMMENTS:

( ) We have no objections.
( ) We have no comments.
( ) We have no additional comments.
(☑) Comments are included/attached

Signed:
Print Name: JASON D. OMICK, Wildlife Program Mgr.
Division: Forestry and Wildlife
Date: Jun 25, 2025

Attachments

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA

STATE OF HAWAIʻI | KA MOKUʻĀINA ʻO HAWAIʻI
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA ʻOIHANA KUMUWAIWAI ʻĀINA

DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813

DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RYAN K.P. KANAKA'OLE
FIRST DEPUTY

CIARA W.K. KAHAHANE
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

June 24, 2025

Log no. 5013

MEMORANDUM

TO: Ian C. Hirokawa, Acting Administrator
Land Division

FROM: JASON D. OMICK, Wildlife Program Manager
Division of Forestry and Wildlife

SUBJECT: Early Consultation Request for Draft Environmental Assessment for Awa Street Wastewater Treatment Plant in Honolulu, Oʻahu

The Department of Land and Natural Resources (DLNR), Division of Forestry and Wildlife (DOFAW) has received your Early Consultation Request for Draft Environmental Assessment for the Awa Street Wastewater Pump Station in Honolulu on the island of Oʻahu; TMK (1) 1-5-040:003. The proposed project includes upgrading the existing facility to enhance its performance to meet current and future projected sewer flows, address structure issues caused by aging and ground settlement; and improve the wastewater pump station to withstand inundation due to globals sea rise, tsunami events, and hurricanes. Planned upgrades include replacing aging pumps and equipment, installing perimeter lighting, replacing and modifying the fence layout, repaving and widening the driveway, improving the building envelope, replacing the roof, and removing the underground fuel storage tank and replacing with an aboveground storage tank.

The State listed ʻōpeʻapeʻa or Hawaiian hoary bat (*Lasiurus semotus*) could potentially occur at or in the vicinity of the project and may roost in nearby trees. Any required site clearing should be timed to avoid disturbance to bats during their birthing and pup rearing season (June 1 through September 15). During this period woody plants greater than 15 feet (4.6 meters) tall should not be disturbed, removed, or trimmed. Barbed wire should also be avoided in any construction as bats can become ensnared and killed by such fencing material during flight.

Artificial lighting can adversely impact seabirds that may pass through the area at night by causing them to become disoriented. This disorientation can result in their collision with manmade structures or the grounding of birds. For nighttime work that might be required,

DOFAW recommends that all lights used be fully shielded to minimize the attraction of seabirds. Nighttime work that requires outdoor lighting should be avoided during the seabird fledging season, from September 15 through December 15, when young seabirds make their maiden voyage to sea. If nighttime construction is required during the seabird fledgling season (September 15 to December 15), we recommend that a qualified biologist be present at the project site to monitor and assess the risk of seabirds being attracted or grounded due to the lighting. If seabirds are seen circling around the area, lights should then be turned off. If a downed seabird is detected, please follow DOFAW's recommended response protocol by visiting https://dlnr.hawaii.gov/wildlife/seabird-fallout-season/. Permanent lighting also poses a risk of seabird attraction, and as such should be minimized or eliminated to protect seabird flyways and preserve the night sky. For illustrations and guidance related to seabird-friendly light styles that also protect seabirds and the dark starry skies of Hawai'i please visit https://dlnr.hawaii.gov/wildlife/files/2016/03/DOC439.pdf.

The State threatened manu-o-Kū or White Tern (*Gygis alba*) is known to nest in the vicinity of the proposed project. If tree trimming or removal is planned, DOFAW strongly recommends a qualified biologist survey for the presence of White Terns prior to any action that could disturb the trees. White Tern pairs typically lay their single egg on a tree branch with no nest. Eggs and chicks can be dislodged by construction equipment or workers that contact trees in which White Terns are nesting. As such, a tree protection program should be in place for any mature trees with nesting or roosting White Terns. For more information regarding detailed Best Management Practices when conducting tree care activities with manu-o-Kū present, please visit https://www.whiteterns.org/uploads/8/6/3/2/86323044/mok_tree_care_guidelines_190622.pdf If a nest is discovered, please notify the O'ahu Branch DOFAW at (808) 973-9778 for assistance.

State-listed waterbirds such as ae'o or Hawaiian stilt (*Himantopus mexicanus knudseni*), 'alae ke'oke'o or Hawaiian coot (*Fulica alai*), and the 'alae 'ula or Hawaiian gallinule (*Gallinula chloropus sandvicensis*) could potentially occur at or in the vicinity of the proposed project site. It is against State law to harm or harass these species. If any of these species are present during construction, all activities within 100 feet (30 meters) should cease and the bird or birds should not be approached. Work may continue after the bird or birds leave the area of their own accord. If a nest is discovered at any point, please contact the O'ahu Branch DOFAW Office at (808) 973-9778 and establish a buffer zone around the nest.

The State endangered pueo or Hawaiian short-eared owl (*Asio flammeus sandwichensis*) could potentially occur in the project vicinity. Pueo are most active during dawn and dusk twilights. Remove and exclude non-native mammals such as mongoose, cats, dogs, and ungulates from the nesting area. Minimize habitat alterations and disturbance during pueo breeding season. These birds' nest on the ground, and active nests have been found year-round. Before any potentially disturbing activities—like clearing vegetation, especially ground-based disturbance, DOFAW recommends a qualified biologist conduct surveys during crepuscular hours. Observation surveys should be done at those times from vantage points where they can see the whole project area for 2-3 nights before construction is to start. If any breeding displays are observed, it is likely there could be a nest. If pueo nests are detected in the area, a buffer zone should be established in which no activity occurs within a minimum

buffer distance of 100 meters until the nesting cycle is complete, and the chicks are capable of flight. O'ahu DOFAW staff should be notified at (808) 973-9778 of any nests or adult displayed breeding behavior.

DOFAW is concerned about the wastewater treatment facility attracting vulnerable birds to areas that may host nonnative predators such as cats, rodents, and mongooses. We therefore recommend taking action to minimize predator presence; i.e., remove cats, place bait stations for rodents and mongoose, and provide covered trash receptacles. Implementing additional mitigation measures is also recommended to avoid avian mortality during project design and during operation for the long term.

DOFAW recommends using native plant species for landscaping that are appropriate for the area; e.g., plants for which climate conditions are suitable for them to thrive, plants that historically occurred there, etc. Please do not plant invasive species. DOFAW also recommends referring to www.plantpono.org for guidance on the selection and evaluation of landscaping plants and to determine the potential invasiveness of plants proposed for use in the project.

We recommend consulting the O'ahu Invasive Species Committee (OISC) at (808) 266-7994 to help plan, design, and construct the project, learn of any high-risk invasive species in the area, and ways to mitigate their spread. Soil and plant material may contain detrimental fungal pathogens (like Rapid 'Ōhi'a Death), vertebrate and invertebrate pests (e.g. Little Fire Ants, and Coconut Rhinoceros Beetle), or invasive plant propagules (e.g. Albizia, Pampas Grass, Fireweed, etc.) that will harm our native ecosystems, and the unique native found within them. Therefore, DOFAW advances the guidance that all equipment and personal items—to include clothing and foot ware should be cleaned of excess soil and debris to minimize the risk of spreading invasive species. Additionally, DOFAW recommends minimizing the movement of plant or soil material between worksites. Suspect pests should be reported through the statewide pest hotline. Photos, videos, and locations can be shared at www.643pest.org or call: 743-PEST. All equipment, materials, and personnel should be cleaned of excess soil and debris to minimize the risk of spreading invasive species.

To prevent the spread of Rapid 'Ōhi'a Death (ROD), DOFAW requests that removal, pruning/trimming, and potentially injury to 'ōhi'a trees be avoided as much as possible. Wounds serve as entry points for ROD fungus and increase the odds that the tree will be infected and die. Also, clean gear/tools, clothes, footwear, and vehicles before and after use. Make sure to removal all loose soil from the aforementioned items, spray gear/tools with 70% rubbing alcohol, and wash clothes with hot water and soap. Wash tires and undercarriages of all vehicles/machinery with a high-pressure water source. If 'ōhi'a trees must be removed or pruned/trimmed, please conduct these activities on a still day to minimize blown sawdust and use a sharp saw to create chips rather than dust. Seal all wounds to these trees with a stump seal product (e.g. Spectricide, etc.). For more information, please consult https://cms.ctahr.hawaii.edu/rod.

The invasive Coconut Rhinoceros Beetle (*Oryctes rhinoceros*) or CRB is widespread on the island of O'ahu. CRB have been detected on other islands with moderate infestation on

Kauaʻi, one incipient site on Hawaiʻi Island, and only one positive site on Maui in 2023. Hawaii Department of Agriculture interim rule 24-1 restricts the movement of CRB-host material from the island of Oʻahu, which is defined as the Quarantine Area. Regulated material (host material or host plants) is considered a risk for potential CRB infestation. Host material for the beetle specifically includes 1) entire dead trees; 2) mulch, compost, trimmings, fruit and vegetative scraps, and 3) decaying stumps. CRB host plants include the live palm plants in the following genera: Washingtonia, Livistona, and Pritchardia (all commonly known as fan palms), Cocos (coconut palms), Phoenix (date palms), and Roystonea (royal palms). When such material or these specific plants are moved there is a risk of spreading CRB because they may contain CRB in any life stage. Inspection and/or treatment approved by HDOA is mandatory before inter-island transport. For more information regarding CRB, please visit https://dlnr.hawaii.gov/hisc/info/invasive-species-profiles/coconut-rhinoceros-beetle/.

We recommend that Best Management Practices are employed during and after the environmental restoration activities to contain any soils and sediment with the purpose of preventing damage to near-shore waters and marine ecosystems.

We appreciate your efforts to work with our office for the conservation of our native species. These comments are general guidelines and should not be considered comprehensive for this site or project. It is the responsibility of the applicant to do their own due diligence to avoid any negative environmental impacts. Should the scope of the project change significantly, or should it become apparent that threatened or endangered species may be impacted, please contact our staff as soon as possible. If you have additional questions, please contact Protected Species Habitat Conservation Planning associate Kinsley McEachern at (808) 587-0593 or Laurinda.k.mceachern.researcher@hawaii.gov.

Sincerely,

Jason D. Omick
Wildlife Program Manager

JOSH GREEN, M.D.
GOVERNOR
KE KIAʻĀINA

EDWIN H. SNIFFEN
DIRECTOR
KA LUNA HOʻOKELE

Deputy Directors
Nā Hope Luna Hoʻokele
DREANALEE K. KALILI
TAMMY L. LEE
CURT T. OTAGURO
ROBIN K. SHISHIDO

STATE OF HAWAIʻI | KA MOKUʻĀINA ʻO HAWAIʻI
DEPARTMENT OF TRANSPORTATION | KA ʻOIHANA ALAKAU
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO

DIR0001802
STP 8.3926

May 23, 2025

VIA EMAIL: gabrielle@townscapeinc.com

Ms. Gabrielle Sham
Townscape, Inc.
900 Fort Street Mall, Suite 1160
Honolulu, Hawaii 96813

Dear Ms. Sham:

Subject: Early Consultation for Draft Environmental Assessment
Awa Street Wastewater Pump Station (WWPS) Improvements / Rehabilitation
Honolulu, Oahu, Hawaii
Tax Map Keys: (1) 1-5-040: 003

Thank you for the letter, dated April 25, 2025, requesting the Hawaii Department of Transportation's (HDOT) review and comments on the subject project. The HDOT understands that the City and County of Honolulu, Department of Environmental Services, is proposing to upgrade the aging Awa Street WWPS to enhance its performance to meet current and future projected sewer flows.

The HDOT has the following comments:

1. The proposed project is approximately 0.63 miles from the property boundary of Daniel K. Inouye International Airport (HNL). All projects within 5 miles from Hawaii State airports are advised to read the Technical Assistance Memorandum (TAM) for guidance with development and activities that may require further review and permits. The TAM can be viewed at this link: http://files.hawaii.gov/dbedt/op/docs/TAM-FAA-DOT-Airports_08-01-2016.pdf.

2. The proposed project area is approximately 14,784 feet from the end of Runway 26R at HNL. Federal Aviation Administration (FAA) regulation requires the submittal of FAA Form 7460-1 Notice of Proposed Construction or Alteration pursuant to the Code of Federal Regulations, Title 14, Part 77.9, if the construction or alteration is within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with its longest runway more than 3,200 feet. Construction equipment and

staging area heights, including heights of temporary construction cranes, shall be included in the submittal. The form and criteria for submittal can be found at the following website: https://oeaaa.faa.gov/oeaaa/external/portal.jsp. Please provide a copy of the FAA response to the Part 77 analysis to the HDOT Airport Planning Section.

3. Due to the proximity to HNL, the applicant should be aware of potential noise from aircraft operations. There is also a potential for fumes, smoke, vibrations, odors, etc., resulting from occasional aircraft flight operations over or near the project location. These impacts may increase or decrease over time and are dependent on airport operations.

4. Describe strategies to reduce carbon emissions from the project, if any. Suggestions include:

    a. Incorporate elements that encourage and enhance the use of multiple types of transportation to reduce carbon emissions.

    b. Implement energy-efficient technologies and practices, such as light-emitting diode lighting.

    c. Use sustainable, recycled, or low-emission materials in construction and manufacturing.

Please submit any subsequent land use entitlement-related requests for review or correspondence to the HDOT Land Use Intake email address at DOT.LandUse@hawaii.gov.

If there are any questions, please contact Mr. Blayne Nikaido, Planner, Land Use Section of the HDOT Statewide Transportation Planning Office at (808) 831-7979 or via email at blayne.h.nikaido@hawaii.gov.

Sincerely,

EDWIN H. SNIFFEN
Director of Transportation

Outlook

Fw: Awa Street Wastewater Pump Station Improvements - Early Consultation - Land Use Permits Division

From Gabrielle Sham <Gabrielle@townscapeinc.com>
Date Tue 5/20/2025 1:19 PM
To Sean Aoki <sean@townscapeinc.com>

From: Beatty, Alexander D <abeatty@honolulu.gov>
Sent: Tuesday, May 20, 2025 10:46 AM
To: Gabrielle Sham <Gabrielle@townscapeinc.com>
Subject: Awa Street Wastewater Pump Station Improvements - Early Consultation - Land Use Permits Division

Good morning Gabrielle,

This is in response to the subject request. The Department of Planning and Permitting would like an opportunity to comment in detail on the Draft Environmental Assessment, when it is available.

Considering the limited information available now, we have the following comments:

1. The DEA should address and, if present, propose mitigation measures to protect against the impacts of Sea Level Rise.
2. The site appears to be in the Chinatown Special District, and may be in the future Transit Oriented Development Special District. The DEA should disclose these conditions and discuss compliance with the relevant objectives and standards.
3. All necessary permits should be disclosed, such as Special District Permits, Zoning Waivers, and other development permits.
4. The DEA should discuss the Skyline Project and its relationship to the site.
5. Although the site is heavily influenced by infrastructure needs (wastewater, transit), it also serves as an important gateway on a main transit route leading from the Airport to Downtown and Waikiki beyond. The DEA should discuss any design features meant to capitalize on this important location, either in relationship to the above-mentioned Special Districts, or otherwise.

Thank you for this opportunity to provide preliminary comments, and we looking forward to learning more and providing formal comments on the Draft EA.

ALEX D. BEATTY
URBAN DESIGN BRANCH
DEPARTMENT OF PLANNING AND PERMITTING
650 SOUTH KING STREET, 7TH FLOOR
HONOLULU, HAWAII 96813
PHONE: (808) 768-8032

Outlook

RE: Draft EA Early Consultation - Awa Street Wastewater Pump Station Improvements/Rehabilitaton

From Liu, Rouen <rouen.liu@hawaiianelectric.com>
Date Mon 6/23/2025 5:18 PM
To Aaron Teper <aaron@townscapeinc.com>
Cc Gabrielle Sham <Gabrielle@townscapeinc.com>; Castillo, Carlos <carlos.castillo@hawaiianelectric.com>; Kuwaye, Kristen <kristen.kuwaye@hawaiianelectric.com>

Dear Mr. Teper,

Thank you for the opportunity to review and comment on the subject project. Hawaiian Electric Company has no objections to the proposed project. Please note that if Hawaiian Electric has existing infrastructure on the subject property, continued access will be necessary for the maintenance of our infrastructure.

We greatly appreciate your efforts to keep us informed throughout the planning process. As the proposed Awa Street Wastewater Pump Station project comes to fruition, please continue to keep us informed.

Should you have any questions or require further clarification, please do not hesitate to contact me at (808) 772-2135.

Sincerely,
Rouen Liu (WA3 – PTA)
Permits Engineer
Hawaiian Electric Company
PO Box 2750
Honolulu, HI 96840-0001

HONOLULU FIRE DEPARTMENT
KA 'OIHANA KINAI AHI O HONOLULU
CITY AND COUNTY OF HONOLULU

636 SOUTH STREET • HONOLULU, HAWAI'I 96813
PHONE: (808) 723-7139 • FAX: (808) 723-7111 • WEBSITE: honolulu.gov

RICK BLANGIARDI
MAYOR
MEIA

SHELDON K. HAO
FIRE CHIEF
LUNA NUI KINAI AHI

JASON SAMALA
DEPUTY FIRE CHIEF
HOPE LUNA NUI KINAI AHI

May 16, 2025

Ms. Gabrielle Sham, Associate Planner
Townscape, Inc.
900 Fort Street Mall, Suite 1160
Honolulu, Hawai'i 96813

Dear Ms. Sham:

Subject: Early Consultation Request for Draft Environmental Assessment
'Awa Street Wastewater Pump Station Improvements/Rehabilitation
Honolulu, Island of O'ahu
Tax Map Key: 1-5-040: 003

In response to your letter received on May 8, 2025, regarding the abovementioned subject, the Honolulu Fire Department (HFD) reviewed the submitted information and requires that this project follow all applicable codes in the Revised Ordinances of Honolulu Chapter 20 regarding Flammable and Combustible Liquid Storage Tanks.

The abovementioned provisions are required by the HFD and may necessitate that additional requirements be met as determined by other agencies.

Should you have questions, please contact Battalion Chief Pao-Chi Hwang of our Fire Prevention Bureau at 808-723-7151 or hfdfpb1@honolulu.gov.

Sincerely,

CRAIG UCHIMURA
Assistant Chief

CU/MD:sk

Appendix B

Environmental Science International Hazmat Report

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Environmental Science International
354 Uluniu Street, Suite 304, Kailua, Hawaii 96734
(808) 261-0740 phone

ESI Project No. 124036

May 7, 2025

Okahara and Associates, Inc.
201 Merchant Street, Suite 1650
Honolulu, Hawaii 96813

Attention: Mr. Tyson Toyoma

Subject: Letter Report – Lead and Asbestos Survey / Soil Assessment for the Awa Street, Wastewater Pump Station Improvements/Rehabilitation Project, 190 North Nimitz Highway, Honolulu, Hawaii 96717.

Dear Mr. Toyoma,

This letter report documents Lead and Asbestos Survey / Soil Assessment performed on November 21, 2024, by Environmental Science International, Inc. [ESI] on behalf of Okahara and Associates Inc., at the Awa Street Wastewater Pump Station [WWPS], hereinafter referred to as the "Site." The Site is located at 190 North Nimitz Highway, Honolulu, Hawaii 96717 (Figure 1). At the time survey and assessment, the Site consisted of the WWPS building with exterior-associated piping and surrounding paved areas.

The purpose of the survey was to assess the areas of the WWPS building that will be disturbed during construction for lead paint and asbestos. The purpose of the soil assessment was to assess surface and subsurface soil that may be disturbed during construction for contaminants of potential concern [COPCs], including Total Petroleum Hydrocarbons as gasoline [TPH-g], Total Petroleum Hydrocarbons as diesel [TPH-d], Total Petroleum Hydrocarbons as oil [TPH-o], Benzene, Toluene, Ethylbenzene, and Xylenes [BTEX], Polycyclic Aromatic Hydrocarbons [PAHs], Polychlorinated Biphenyls [PCBs], Organochlorine Pesticides [OCPs], and Resource Conservation and Recovery Act [RCRA] 8 metals (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver, and Mercury).

Lead and Asbestos Survey

Asbestos Sampling and Analysis

On November 21, 2024, ESI personnel (Nicholas Parker and Tori Budke) inspected the aboveground structures for suspect ACM. The location, quantity, and condition of the suspect ACM were documented on ACM Sampling Logs. A total of 4 suspect ACMs were identified and are summarized below.

- Insulation and plaster.
- Textured wall and stucco.
- Textured plaster and concrete.
- Thermal System Insulation [TSI].

Following the inspection, ESI personnel collected 12 representative samples from suspect ACM. The samples were collected in accordance with Hawaii Administrative Rules [HAR] Title 11, Chapter 501, Section 7. The samples were placed in laboratory-supplied clear polyethylene Loctop sample bags and transported to Hawaii Analytical Laboratory [HAL] for analysis. A chain-of-custody [COC] form was used to track the samples from collection to final disposition at the laboratory. HAL is a participant in the National Voluntary Accreditation Program.

The samples were analyzed for asbestos by polarized light microscopy using Environmental Protection Agency [EPA] Method 600/R-93-116. Asbestos was not detected in any of the materials sampled. The laboratory results are summarized in Table 1. The sample locations are shown in Figure 2. The ACM Sampling Log with photographs of sampled materials are included in Appendix A. The laboratory report and COC forms are included in Appendix D.

TABLE 1
Summary of Asbestos Results
Awa Street WWPS
Lead and Asbestos Survey / Soil Assessment

Sample ID	Field Material Description	Location	Laboratory Material Description	% Asbestos
Gen-Wall-1a	White plaster on yellow insulation	Generator room, wall	White wrap	None Detected
			Yellow insulation	
Gen-Wall-1b	White plaster on yellow insulation	Generator room, wall	Silver/White wrap	None Detected
			Yellow insulation	
Gen-Wall-1c	White plaster on yellow insulation	Generator room, wall	Silver/White wrap	None Detected
			Yellow insulation	
Gen-Wall-2a	Beige textured stucco on wall	Generator room, wall	Gray cementitious material	None Detected
			Beige paint	
Gen-Wall-2b	Beige textured stucco on wall	Generator room, wall	Gray cementitious material	None Detected
			Gray cementitious material	
Gen-Wall-2c	Beige textured stucco on wall	Generator room, wall	Gray cementitious material	None Detected
			Gray cementitious material	
Gen-Wall-3a	Plaster on exterior concrete wall	WWPS building, exterior wall	Gray caulking	None Detected
			Gray cementitious material	
Gen-Wall-3b	Plaster on exterior concrete wall	WWPS building, exterior wall	Gray caulking	None Detected
			Gray cementitious material	
Gen-Wall-3c	Plaster on exterior concrete wall	WWPS building, exterior wall	Gray caulking	None Detected
			Yellow foam	
Gen-Floor-1a	Silver paint and TSI on concrete	WWPS building, exterior floor	Silver paint	None Detected
			Yellow foam	
Gen-Floor-1b	Silver paint and TSI on concrete	WWPS building, exterior floor	Silver paint	None Detected
			Yellow foam	
Gen-Floor-1c	Silver paint and TSI on concrete	WWPS building, exterior floor	Silver paint	None Detected
			Yellow foam	

Lead Paint Sampling and Analysis

On November 21, 2024, ESI personnel (Nicholas Parker and Tori Budke) inspected the aboveground structures for suspect lead paint. ESI personnel collected 12 paint chip samples from the WWPS building and associated pumps, pump piping, and metal wheel of the pump room. The samples were collected using a hammer and a chisel. Each sample consisted of approximately 0.25 grams of paint. The tools used to collect the samples were wiped clean between sample locations to avoid cross-contamination. The samples were placed into laboratory-supplied clear polyethylene Loctop sample bags and transported to HAL for analysis. HAL is a current participant in the National Lead and Laboratory Lead Accreditation Program [NLLAP]. A COC form was used to track the samples from collection to final disposition at the laboratory. A copy of the COC is included in Appendix E.

The samples were analyzed for lead using the National Institute for Occupational Safety and Health [NIOSH] Method 7082m. Lead was detected in six samples. Detected lead concentrations ranged from 250 to 33,000 mg/kg. The laboratory results are summarized in Table 2. The sample locations are shown in Figure 3 and 4. The Paint Chip Sampling Log with photographs are included in Appendix B.

TABLE 2
Summary of Lead Results
Awa Street WWPS
Lead and Asbestos Survey / Soil Assessment

Sample ID	Room Equivalent	Building Component	Color	Substrate	Condition	Lead Concentration (mg/kg)
Pb-1	Pump Room Bottom Floor	Floor	Red	Concrete	Fair	**1,100**
Pb-2	Pump Room Bottom Floor	Pump	Gray	Metal	Fair	<40
Pb-3	Pump Room Bottom Floor	Wall	Off-white	Concrete	Poor	**310**
Pb-4	Pump Room Bottom Floor	Pipe	Orange	Metal	Good	<45
Pb-5	Pump Room Top Floor	Metal Wheel	Red	Metal	Good	**33,000**
Pb-6	Generator Room	Wall	Beige	Metal	Fair	<46
Pb-7	Generator Room	Emergency Generator	Green	Metal	Good	<200
Pb-8	Building Exterior	Bollard	Yellow	Concrete	Fair	**620**
Pb-9	Generator Room	Door	Green	Metal	Good	<40
Pb-10	Building Exterior	Utility Pipe	Blue	Metal	Good	**400**
Pb-11	Building Exterior	Exterior Wall	Tan	Concrete	Good	**250**
Pb-12	Building Exterior	Pipe on Exterior Wall	Black	Metal	Good	<200

Red = Lead detected.
< Testing result is less than the numerical value listed.

Soil Assessment

The soil assessment consisted of dividing the unpaved areas of the Site into three Decision Units [DU] (DUs 1, 2, and 3) and collecting F The DUs and subsurface discrete soil sample locations are shown in Figure 5. A summary of the DUs is provided in Table 3.

TABLE 3
Summary of Decision Units
Awa Street WWPS
Lead and Asbestos Survey / Soil Assessment

DU	Description	Depth (feet bgs)	Area (sq. ft.)	No. of Increments
DU-1	East of Pump Station Bldg.	0 to 0.5	~1052	30
DU-2	South of Pump Station Bldg.	0 to 0.5	~335	30
DU-3	West of Pump Station Bldg.	0 to 0.5	~1109	30

bgs below ground surface
DU decision unit
sq. ft. square feet

Prior to sampling, each DU was scanned for subsurface utilities and structures using electromagnetic and ground penetrating radar equipment. The ground surface was marked to indicate the location of known and suspected subsurface utilities.

Multi-Increment Surface Soil Sampling and Analysis

One MI surface soil sample was collected from each DU. A total of three MI surface soil samples (DU-1, DU-2, and DU-3) were collected. In addition, two field replicate samples (DU-A and DU-B) were collected from DU-2. To collect each MI soil sample, 30 soil increment locations were established in each DU. The increment locations were evenly spaced across the DU based on visual observations. At each increment location, a trowel was used to collect approximately 60 grams of soil. All 30 soil increments from a DU were combined into a Ziploc bag to create one MI surface sample per DU. Each MI sample consisted of approximately 1,800 grams of soil. Following sample collection, the Ziploc bags were sealed and placed into a second Ziploc bag. The second bag was then sealed, labelled, and placed in a cooler with ice. The samples were then transported to Advanced Analytical Laboratory [AAL] for analysis. A COC form was completed and used to track the samples from collection to final disposition at the laboratory. A copy of the COC is included in Appendix F.

The samples were analyzed for TPH-d, TPH-o, PAHs, PCBs, OCPs, and RCRA 8 metals. Lead was detected in all surface soil samples at concentrations above the State of Hawaii Department of Health [DOH] Hazard Evaluation and Emergency Response [HEER] Office Tier 1 Environmental Action Levels [EALs]. Mercury was detected in one surface soil sample (DU-2) at a concentration above the DOH HEER Office Tier 1 EAL. None of the other COPCs were detected at concentrations above the DOH HEER Office Tier 1 EALs. A summary of the analytical Results is provided in Appendix C. DOH HEER Office Tier 1 EAL exceedances are shown in Figure 5. The laboratory report is included in Appendix F.

Discrete Subsurface Soil Sampling and Analysis

One discrete soil sample was collected from the capillary fringe of the water table beneath each DU. A total of three discrete soil samples were collected (B1-6.5, B2-6.5, and B3-6.5). To collect the discrete subsurface soil samples, a Bobcat MT55 mobile drill rig was used to drive a 2.25-inch diameter Macro-Core® sampler with a clear PVC liner to approximately 4 feet below the anticipated depth of the capillary fringe. The samplers were driven to approximately 10 feet bgs and the capillary fringe was encountered at approximately 6.5 feet bgs. The cores were then removed from the ground, the clear PVC liners cut open. To collect the portion of the sample for TPH-g and BTEX analysis, a 25g En Core® sampler inserted into the soil core at the capillary fringe of the water table. The En Core® sampler was then removed, capped, and placed in a Ziploc bag. The Ziploc bag was sealed and placed into a second Ziploc bag. The second bag was then sealed, labelled, and placed in a cooler with ice. The samples were then transported to AAL for analysis. A COC form was completed and used to track the samples from collection to final disposition at the laboratory. A copy of the COC is included in Appendix F.

The samples were analyzed for TPH-g, TPH-d, TPH-o, BTEX, PAHs, PCBs, OCPs, and RCRA 8 metals. None of the COPCs analyzed were detected at concentrations above the DOH HEER Office Tier 1 EALs. A summary of the analytical results is provided in Appendix C. The laboratory report is included in Appendix F.

Summary, Conclusions, and Recommendations

Lead and Asbestos Survey

ESI collected 12 samples of suspect ACM. Asbestos was not detected in any of the samples. Should suspect ACM other than those listed in Table 1 and Appendix A be encountered, ESI recommends that representative samples of the suspect ACM be collected by a person certified in the State of Hawaii as an asbestos building inspector and that the samples be analyzed by an NVLAP accredited laboratory.

ESI collected 12 paint chip samples and analyzed them for lead. Lead was detected in six samples. Detected lead concentrations ranged from 250 to 33,000 mg/kg. Work involving lead paint should be conducted in accordance with the OSHA Lead in Construction Standard (29 CFR 1926.62).

Soil Assessment

Three MI surface soil samples were collected and analyzed for TPH-d, TPH-o, PAHs, PCBs, OCPs, and RCRA 8 metals. Lead and mercury were detected at concentrations above the DOH HEER Office Tier 1 EALs. None of the other COPCs were detected at concentrations above the DOH HEER Office Tier 1 EALs. It is likely that the elevated lead and mercury concentrations detected in the surface soil are a result of dust and road debris from the adjacent Nimitz Highway.

Three discrete subsurface soil samples were collected at the capillary fringe or the water table (approximately 6.5 feet bgs). The samples were analyzed for TPH-g, TPH-d, TPH-o, BTEX, PAHs, PCBs, OCPs, and RCRA 8 metals. None of the COPCs were detected in the subsurface soil samples at concentrations above the DOH HEER Office Tier 1 EALs

Based on the results of the soil assessment, we recommend that a lead compliance plan be prepared as part of the construction phase of the project in accordance with OSHA Lead in Construction Standard (29 CFR 1926.62).

Thank you for the opportunity to assist with this project. If you have any questions or need further assistance, please contact us at (808) 261-0740.

Sincerely,

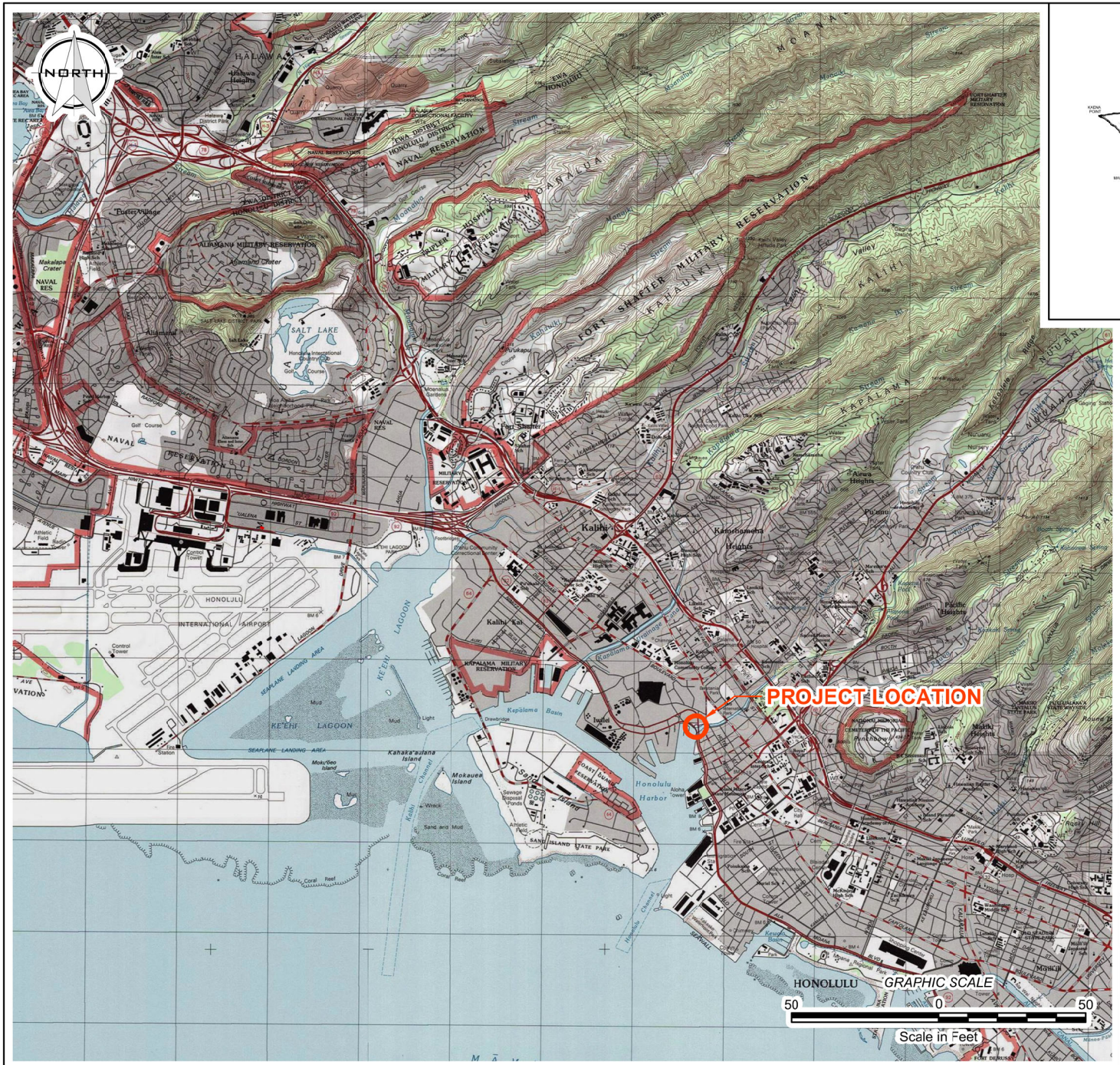
Nicholas Parker

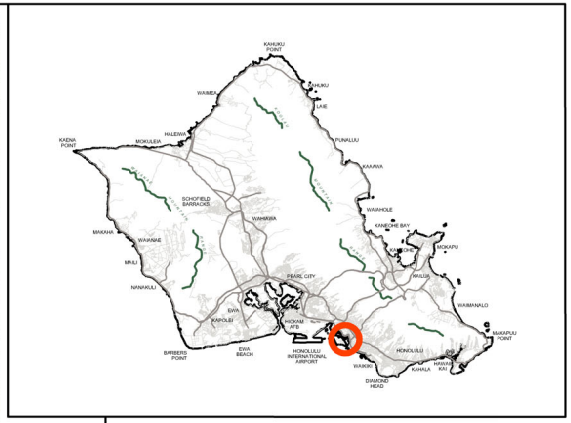
Nicholas Parker
Environmental Technician
Environmental Science International, Inc.
State of Hawaii Asbestos Certification No. HIASB-5420
State of Hawaii Lead Risk Assessor Certification

Kaila Lockwood
Environmental Scientist
Environmental Science International, Inc.

Attachments: Figure 1 – Site Location Map
Figure 2 – ACM Ground Floor Sample Location Map
Figure 3 – Paint-chip Ground Floor Sample Location Map
Figure 4 – Paint-chip Bottom Floor Sample Location Map
Figure 5 – Soil Sample Location Map
Appendix A – ACM Sampling Log
Appendix B – Paint Chip Sampling Log
Appendix C – Summary of Soil Sample Results
Appendix D – Asbestos Bulk Samples – Laboratory Reports
Appendix E – Lead Paint Sample – Laboratory Reports
Appendix F – Soil Samples – Laboratory Reports
Appendix G – Lead and Asbestos Certifications

Figures





NOTES

1. The accuracy of this document is limited to the quality and scale of the source information. This document is not a legal representation of an engineered survey.

SOURCES

Google Earth. January 15, 2013.

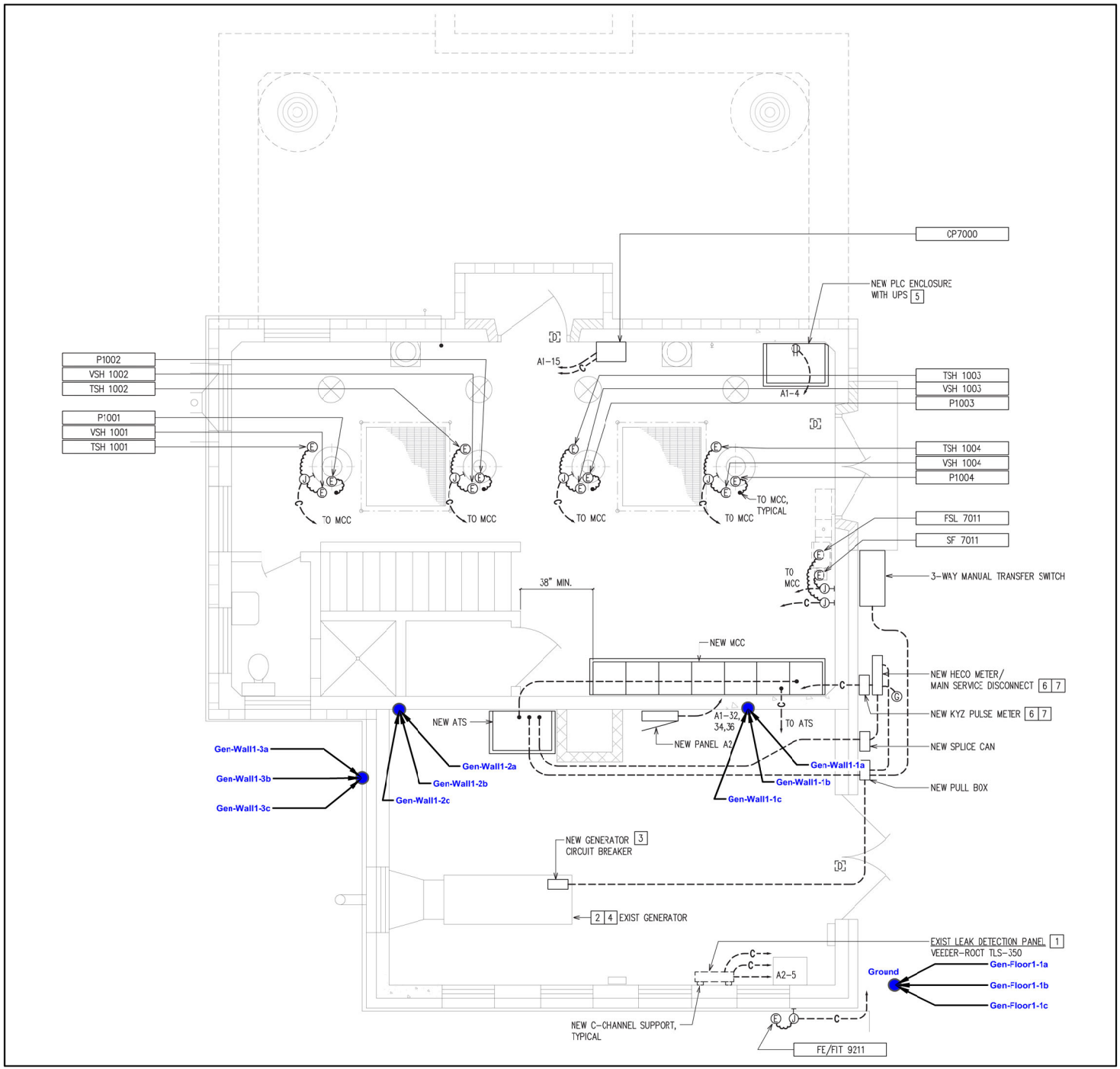
http://planning.hawaii.gov/gis, 2020.

FIGURE 1

REGIONAL LOCATION & TOPOGRAPHIC MAP

AWA STREET WWPS
190 N Nimitz Hwy
Honolulu, Oahu, Hawaii
TMK No. (1) 1-5-040:003

ENVIRONMENTAL SCIENCE INTERNATIONAL, INC.



LEGEND

● NON ASBESTOS-CONTAINING SAMPLE LOCATION

NOTES

The accuracy of this document is limited to the quality and scale of the source information. This document is not a legal representation of an engineered survey.

SOURCES

Drawing E104 - Ground Floor New Electrical Plan, Electrical and Scada Improvements for Various Wastewater Pump Stations Awa Street WWPS, Contract No. CT-ENV-1900308, Record Drawing Date May 29, 2023

NORTH

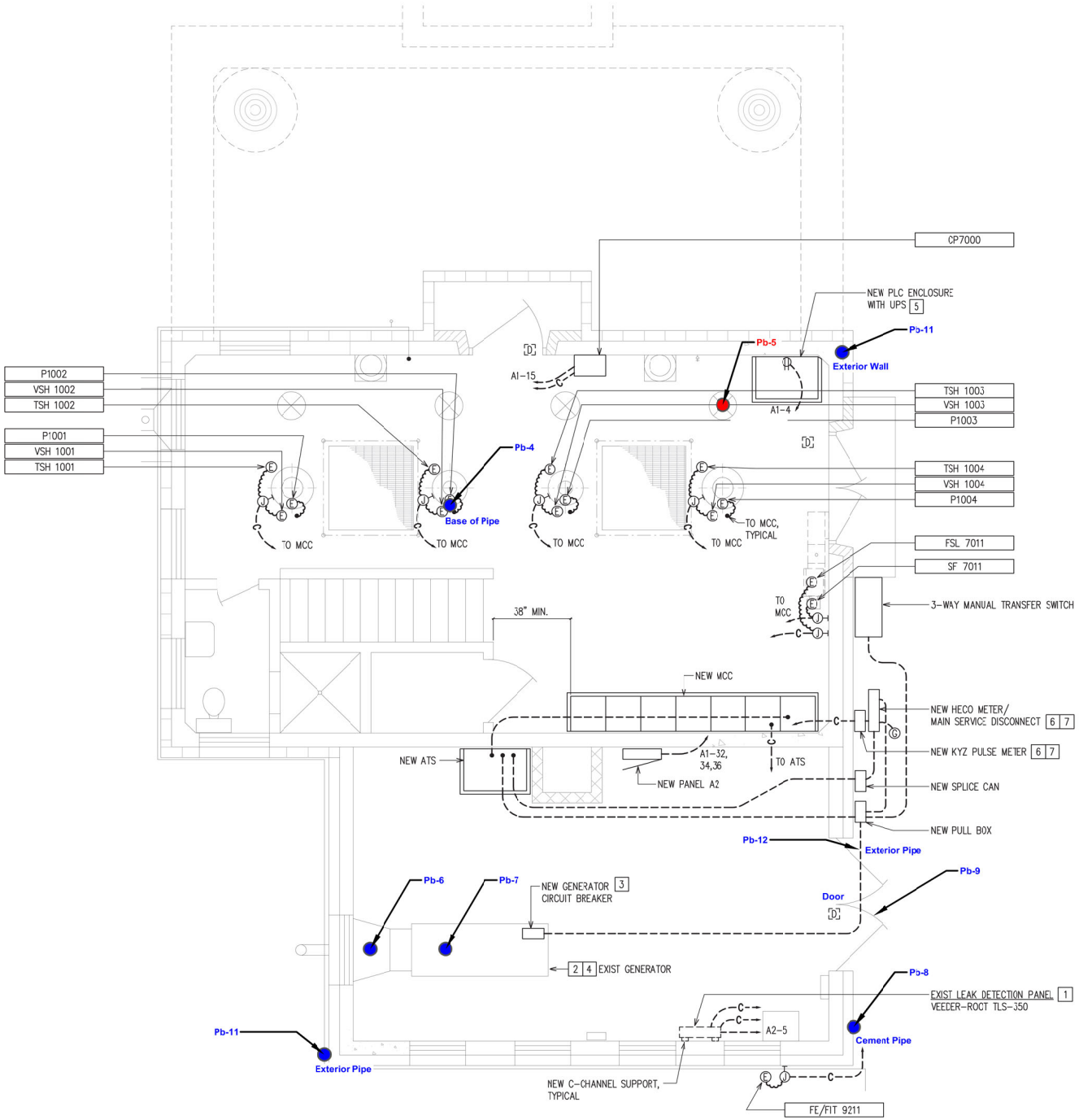
Not To Scale

FIGURE 2

ACM GROUND FLOOR SAMPLE LOCATION MAP

AWA STREET WWPS
190 N Nimitz Hwy
Honolulu, Oahu, Hawaii
TMK No. (1) 1-5-040:003

ENVIRONMENTAL SCIENCE INTERNATIONAL, INC.



LEGEND

- LEAD-BASED PAINT-CHIP SAMPLE LOCATION
- PAINT-CHIP SAMPLE LOCATION

NOTES

The accuracy of this document is limited to the quality and scale of the source information. This document is not a legal representation of an engineered survey.

SOURCES

Drawing E104 - Ground Floor New Electrical Plan, Electrical and Scada Improvements for Various Wastewater Pump Stations Awa Street WWPS, Contract No. CT-ENV-1900308, Record Drawing Date May 29, 2023.

NORTH

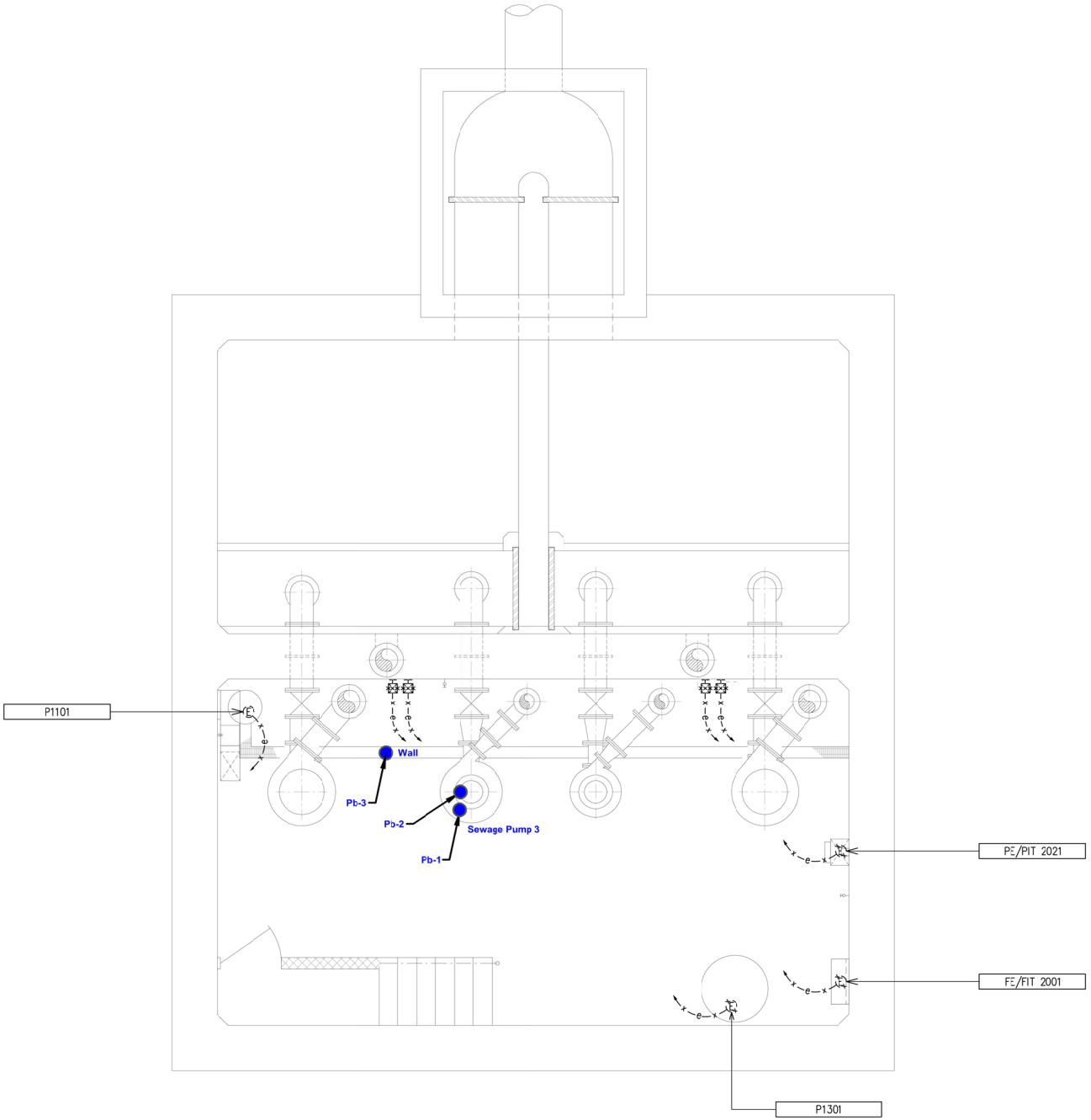
Not To Scale

FIGURE 3

PAINT-CHIP GROUND FLOOR SAMPLE LOCATION MAP

AWA STREET WWPS
190 N Nimitz Hwy
Honolulu, Oahu, Hawaii
TMK No. (1) 1-5-040:003

ENVIRONMENTAL SCIENCE INTERNATIONAL, INC.



LEGEND

PAINT-CHIP SAMPLE LOCATION

NOTES

The accuracy of this document is limited to the quality and scale of the source information. This document is not a legal representation of an engineered survey.

SOURCES

Drawing E103 - Pump Room Demolition Electrical Plan, Electrical and Scada Improvements for Various Wastewater Pump Stations Awa Street WWPS, Contract No. CT-ENV-1900308, Record Drawing Date May 29, 2023.

NORTH

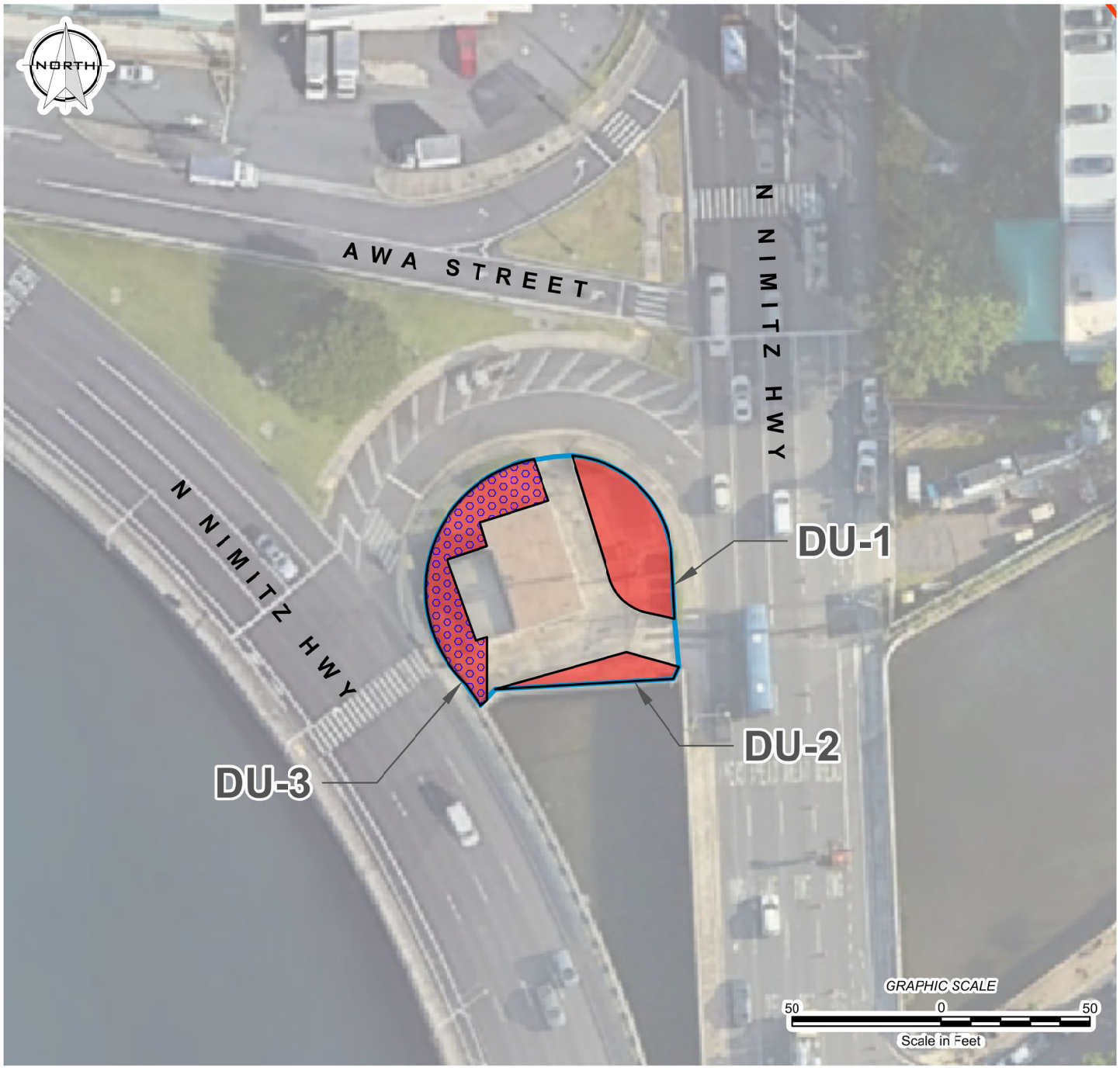
Not To Scale

FIGURE 4

PAINT-CHIP BOTTOM FLOOR SAMPLE LOCATION MAP

AWA STREET WWPS
190 N Nimitz Hwy
Honolulu, Oahu, Hawaii
TMK No. (1) 1-5-040:003

ENVIRONMENTAL SCIENCE INTERNATIONAL, INC.



LEGEND

- PROJECT BOUNDARY
- DECISION UNIT
- LEAD EAL EXCEEDANCE
- MERCURY EAL EXCEEDANCE

NOTES

1. The accuracy of this document is limited to the quality and scale of the source information. This document is not a legal representation of an engineered survey.

2. Acronyms & Abbreviations:
   DU decision unit
   EAL Environmental Action Level

SOURCES

Google Earth. January 15, 2013.

http://planning.hawaii.gov/gis, 2020.

FIGURE 5

SOIL SAMPLE LOCATION MAP

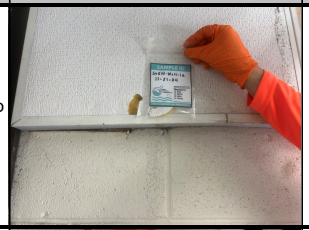
AWA STREET WWPS
190 N Nimitz Hwy
Honolulu, Oahu, Hawaii
TMK No. (1) 1-5-040:003

ENVIRONMENTAL SCIENCE INTERNATIONAL, INC.

Appendix A

ACM Sampling Log

Appendix B
ACM Sampling Log
Awa Street WWPS

Building and Floor	Functional Space	Material Description	Sample Photos	Laboratory Description	Sample Name	Sample Results	Date Sampled	Friability (NF, F)	Condition (SD, D, G)
Generator Room	Generator Room	Plaster on top of insulation		White wrap and yellow insulation	Gen-Wall-1a	None Detected	11/21/24	F	SD
Generator Room	Generator Room	Plaster on top of insulation		Silver/white wrap and yellow insulation	Gen-Wall-1b	None Detected	11/21/24	F	SD
Generator Room	Generator Room	Plaster on top of insulation		White wrap and yellow insulation	Gen-Wall-1c	None Detected	11/21/24	F	SD
Generator Room	Generator Room	Textured Stucco on walls		Gray cementitious material/beige paint	Gen-Wall-2a	None Detected	11/21/24	NF	SD
Generator Room	Generator Room	Textured Stucco on walls		Gray cementitious material	Gen-Wall-2b	None Detected	11/21/24	NF	SD

Appendix B
ACM Sampling Log
Awa Street WWPS

Building and Floor	Functional Space	Material Description	Sample Photos	Laboratory Description	Sample Name	Sample Results	Date Sampled	Friability (NF, F)	Condition (SD, D, G)
Generator Room	Generator Room	Textured Stucco on walls		Gray cementitious material	Gen-Wall-2c	None Detected	11/21/24	NF	SD
Building Exterior	Exterior Wall	Plaster on concrete wall		Gray caulking and gray cementitious materal	Gen-Wall-3a	None Detected	11/21/24	NF	G
Building Exterior	Exterior Wall	Plaster on concrete wall		Gray caulking and gray cementitious materal	Gen-Wall-3c	None Detected	11/21/24	NF	G
Building Exterior	Exterior Wall	Plaster on concrete wall		Gray caulking and yellow foam	Gen-Wall-3c	None Detected	11/21/24	NF	G
Building Exterior	Exterior Floor	Silver paint on TSI		Silver paint and yellow foam	Gen-Floor1-1a	None Detected	11/21/24	F	D

Appendix B
ACM Sampling Log
Awa Street WWPS

Building and Floor	Functional Space	Material Description	Sample Photos	Laboratory Description	Sample Name	Sample Results	Date Sampled	Friability (NF, F)	Condition (SD, D, G)
Building Exterior	Exterior Floor	Silver paint on TSI		Silver paint and yellow foam	Gen-Floor1-1b	None Detected	11/21/24	F	D
Building Exterior	Exterior Floor	Silver paint on TSI		Silver paint and yellow foam	Gen-Floor1-1c	None Detected	11/21/24	F	D

Notes:

NF	Non-friable
F	Friable
SD	Slightly Damaged
D	Damaged
G	Good

Appendix B

Paint Chip Sampling Log

Appendix B
Paint Chip Sampling Log
Awa Street WWPS

Pump Station Bottom Floor		Concrete Base under Pump	Red	Concrete	Fair	Pb-1	1100	11/21/2024
Pump Station Bottom Floor		Sewage Pump	Gray	Metal	Poor	Pb-2	<40	11/21/2024
Pump Station Bottom Floor		East Interior Wall	Off-white	Concrete	Poor	Pb-3	310	11/12/2024

Appendix B
Paint Chip Sampling Log
Awa Street WWPS

Pump Station Ground Floor		Base of Pipe	Orange	Metal	Good	Pb-4	<45	11/21/2024
Pump Station Ground Floor		Metal Wheel	Red	Metal	Good	Pb-5	**33000**	11/21/2024
Generator Room		Vent on Wall	beige	Metal	Good	Pb-6	<46	11/21/2024

Appendix B
Paint Chip Sampling Log
Awa Street WWPS

Building Ground Floor		Emergency Generator	Green	Metal	Good	Pb-7	<200	11/21/2024
Building Exterior		Bollard	Yellow	Concrete	Fair	Pb-8	620	11/21/2024
Building Exterior		Generator Room Door	Green	Metal	Good	Pb-9	<40	11/21/2024

Appendix B
Paint Chip Sampling Log
Awa Street WWPS

Building Exterior		Pipe on Exterior Wall	Blue	Metal	Good	Pb-10	400	11/21/2024
Building Exterior		Exterior Wall	Beige/Light Brown	Concrete	Good	Pb-11	250	11/21/2024
Building Exterior		Pipe on Exterior Wall	Black	Metal	Good	Pb-12	<200	11/21/2024

Notes
mg/kg milligram per kilogram

Appendix C

Summary of Soil Sample Results

Appendix C
Summary of Soil Sample Results
Awa Street WWPS

CAS Number	COPC	Unrestricted Tier 1 Soil Action Level Table B-2, GW is NOT a DW source, less than 150 m to surface water (mg/kg) (DOH, 2024)	DU-1	DU-2	DU-3	DU-A	DU-B	B1-6.5	B2-6.5	B3-6.5
			11/21/2024	11/21/2024	11/21/2024	11/21/2024	11/21/2024	11/21/2024	11/21/2024	11/21/2024
Metals 6020B										
		24	2.6	2.9	ND	2.6	2.4	6	5.2	13
		1000	240	180	130	190	190	200	150	220
		17	ND	ND	ND	ND	ND	ND	ND	ND
		1145	79	150	60	120	95	100	76	81
		200	470	240	400	260.0	290	160	110	160
7782-49-2	Selenium	78.21	ND	ND	ND	ND	ND	ND	ND	ND
7440-22-4	Silver	78.21	ND	ND	ND	ND	ND	ND	ND	ND
7439-97-6	Mercury	4.69	ND	4.7	ND	4.3	2.4	0.55	ND	ND
TPH 8015M/TPH GRO 8260B/5030B										
Diesel	TPH (middle distillates)	183.39	ND	ND	ND	ND	ND	ND	ND	ND
Gas	TPH (gasolines)	100	NA	NA	NA	ND	ND	ND	ND	ND
Oil	TPH (heavy distillates)	500	ND	ND	ND	170	170	ND	ND	ND
PAHs 8270E SIM/3550C										
91-20-3	Naphthalene	3.11	ND	ND	ND	ND	ND	ND	ND	ND
91-57-6	2-Methylnaphthalene	1.95	ND	ND	ND	ND	ND	ND	ND	ND
90-12-0	1-Methylnaphthalene	0.89	ND	ND	ND	ND	ND	ND	ND	ND
208-96-8	Acenaphthylene	5.50	ND	ND	ND	ND	ND	ND	ND	ND
83-32-9	Acenaphthene	118.0	ND	ND	ND	ND	ND	ND	ND	ND
86-73-7	Fluorene	93.0	ND	ND	ND	ND	ND	ND	ND	ND
85-01-8	Phenanthrene	69.0	0.21	0.15	0.062	0.059	0.084	0.1	0.076	0.11
120-12-7	Anthracene	4.20	ND	ND	ND	ND	ND	ND	ND	ND
206-44-0	Fluoranthene	87.0	0.58	0.48	0.22	0.18	0.25	0.2	0.2	0.35
129-00-0	Pyrene	44.0	0.59	0.54	0.25	0.19	0.26	0.31	0.32	0.41
56-55-3	Benzo[a]anthracene	10.0	0.28	0.24	0.13	0.095	0.12	0.14	0.14	0.13
218-01-9	Chrysene	29.96	0.28	0.24	0.13	0.094	0.13	0.13	0.12	0.11
205-99-2	Benzo[b]fluoranthene	11.29	0.37	0.3	0.22	0.13	0.19	0.13	0.13	ND
207-08-9	Benzo[k]fluoranthene	39.00	0.26	0.19	0.13	ND	0.12	0.13	0.11	0.16
50-32-8	Benzo[a]pyrene	3.56	0.31	0.23	0.16	ND	0.15	0.18	0.16	0.19
193-39-5	Indeno[1,2,3-cd]pyrene	11.29	0.22	0.13	0.1	ND	ND	ND	0.096	0.11
53-70-3	Dibenz[a,h]anthracene	1.13	ND	ND	ND	ND	ND	ND	ND	ND
191-24-2	Benzo[g,h,i]perylene	3.6	0.27	0.21	0.12	0.1	0.12	0.11	0.14	0.16
BTEX 8260C/5030B										
	Benzene	0.77	NA	NA	NA	NA	NA	ND	ND	ND
	Ethylbenzene	0.90	NA	NA	NA	NA	NA	ND	ND	ND
	Naphthalene	3.11	NA	NA	NA	NA	NA	ND	ND	ND
1330-20-7	Xylenes	1.36	NA	NA	NA	NA	NA	ND	ND	ND
108-88-3	Toluene	0.78	NA	NA	NA	NA	NA	ND	ND	ND
PCBs 8082A/3550c										
		NS	ND	ND	ND	ND	ND	ND	ND	ND
		NS	ND	ND	ND	ND	ND	ND	ND	ND
		NS	ND	ND	ND	ND	ND	ND	ND	ND
		NS	ND	ND	ND	ND	ND	ND	ND	ND
		NS	ND	ND	ND	ND	ND	ND	ND	ND

Appendix C
Summary of Soil Sample Results
Awa Street WWPS

CAS Number	COPC	Unrestricted Tier 1 Soil Action Level Table B-2, GW is NOT a DW source, less than 150 m to surface water (mg/kg) (DOH, 2024)	DU-1	DU-2	DU-3	DU-A	DU-B	B1-6.5	B2-6.5	B3-6.5
			11/21/2024	11/21/2024	11/21/2024	11/21/2024	11/21/2024	11/21/2024	11/21/2024	11/21/2024
11097-69-1	Aroclor 1254	NS	ND	ND	ND	ND	ND	ND	ND	ND
11096-82-5	Aroclor 1260	NS	0.3	1	0.18	0.36	0.32	ND	ND	ND
	Total PCBs	1.20	0.3	1	0.18	0.36	0.32	ND	ND	ND
Organochlorine Pesticides 8081B										
72-54-8	4,4-DDD	2.18	ND	ND	ND	ND	ND	ND	ND	ND
72-55-9	4,4-DDE	1.92	ND	ND	ND	ND	ND	ND	ND	ND
50-29-3	4,4-DDT	1.82	ND	ND	ND	ND	ND	ND	ND	ND
309-00-2	Aldrin	3.91	ND	ND	ND	ND	ND	ND	ND	ND
319-84-6	alpha-BHC	NS	ND	ND	ND	ND	ND	ND	ND	ND
319-85-7	beta-BHC	NS	ND	ND	ND	ND	ND	ND	ND	ND
12789-03-6	Technical Chlordane	16.6	ND	ND	ND	ND	ND	ND	ND	ND
5103-74-2	gamma-Chlordane	NS	ND	ND	ND	ND	ND	ND	ND	ND
5103-71-9	alpha-Chlordane	NS	ND	ND	ND	ND	ND	ND	ND	ND
319-86-8	delta-BHC	NS	ND	ND	ND	ND	ND	ND	ND	ND
60-57-1	Dieldrin	2.53	ND	ND	ND	ND	ND	ND	ND	ND
959-98-8	Endosulfan I	NS	ND	ND	ND	ND	ND	ND	ND	ND
33213-65-9	Endosulfan II	NS	ND	ND	ND	ND	ND	ND	ND	ND
1031-07-8	Endosulfan Sulfate	NS	ND	ND	ND	ND	ND	ND	ND	ND
72-20-8	Endrin	3.79	ND	ND	ND	ND	ND	ND	ND	ND
7421-93-4	Endrin Aldehyde	NS	ND	ND	ND	ND	ND	ND	ND	ND
53494-70-5	Endrin Ketone	NS	ND	ND	ND	ND	ND	ND	ND	ND
58-89-9	gamma-BHC	NS	ND	ND	ND	ND	ND	ND	ND	ND
76-44-8	Heptachlor	1.30	ND	ND	ND	ND	ND	ND	ND	ND
1024-57-3	Heptachlor Epoxide	0.20	ND	ND	ND	ND	ND	ND	ND	ND
72-43-5	Methoxychlor	16.0	ND	ND	ND	ND	ND	ND	ND	ND
8001-35-2	Toxaphene	0.48	ND	ND	ND	ND	ND	ND	ND	ND

All results reported in mg/kg
EAL exceedance
NA = Not Analyzed
ND = Non detect
NS = No Standard
Total PCB = total of detected aroclors

Appendix D

ACM Bulk Samples – Laboratory Report

HAWAII ANALYTICAL LABORATORY, LLC

3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
www.analyzehawaii.com

☐ New client?

Report To*	
Company	Environmental Science International
Address*	354 Uluniu Street, Suite 304 Kailua, HI 96734
Phone / Cell No.*	808-261-0740
Report results to	Kaila Lockwood
Email / Fax	klockwood@esciencei.com kchong@esciencei.com

Invoice To*	Same as Listed
Company	
Address*	
Phone / Cell No.*	
Purchase Order No.	
Email Invoice To	~~aduarte@esciencei.com~~, eshupe@esciencei.com eslaccounting@esciencei.com

Need Results By*:
- ☒ 5 Working Days (WD)
- ☐ 4 WD
- ☐ 3 WD
- ☐ 2 WD
- ☐ 24 hours
- ☐ 6 hours or less
- ☐ 4 hours or less
- ☐ 1-2 hours

Site/Project Name: Ahua St. ~~WWPS~~ WW PS

Client Project No.: 124036

Verbal results? ☐

Sampled By: NP, TB

Special Instructions:

PLM POSITIVE STOP Instructions:
- ☐ + stop / SAMPLE
- ☐ + stop / LAYER

Lab Report No.: 202411456

	Sample Identification / Description* (Maxmium of 30 Characters)	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
1	Gen-Wall-1a	11/21/24	Bulk	-	PLM	EPA 600	202479770
2	Gen-Wall-2a						202479771
3	Gen-Wall-2b						202479772
4	Gen-Wall-2c						202479773
5	Gen-Floor-1a						202479774
6	Gen-Floor-1b						202479775
7	Gen-Floor-1c						202479776
8	Gen-Wall-3a						202479777
9	Gen-Wall-3b						202479778
10	Gen-Wall-3c						202479779
11	Gen-Wall-1b						202479780
12	Gen-Wall-1c						202479781

Relinquished By (Print and Sign)	Date/Time	Received By (Print and Sign)	Date/Time
Kaila Lockwood	11/21/24	Haley Leavitt	11-21-24 P01:41 RCVD

*Sample description can be paint chips, concrete, specific sample collection location, etc...
If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.
All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.
*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC ☐ via USPS ☐ via drop box ☐ via FedEx

Hawaii Analytical Laboratory
ANALYTICAL REPORT

Monday, December 2, 2024

Environmental Science International, Inc
354 Uluniu Street, Suite 304
Kailua HI 96734

Phone Number: (808)261-0740
Facsimile:
Email: -

Lab Job No: 202411456
Date Submitted: 11/21/2024
Your Project: 124036, Awa St. WWPS, 11/21/24

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202479770	**Gen-wall-1a**		NONE DETECTED		None detected		Other	11/22/2024
Layer	White wrap							
Comments								
202479770	**Gen-wall-1a**		NONE DETECTED		Fibrous glass (amorphous)	> **99**	None detected	11/22/2024
Layer	Yellow insulation							
Comments								
202479771	**Gen-wall-2a**		NONE DETECTED		None detected		Calcite + other	11/26/2024
Layer	Gray cementitious material / beige paint							
Comments								
202479772	**Gen-wall-2b**		NONE DETECTED		None detected		Calcite + other	11/26/2024
Layer	Gray cementitious material (1)							
Comments								
202479772	**Gen-wall-2b**		NONE DETECTED		None detected		Quartz + calcite + other	11/26/2024
Layer	Gray cementitious material (2)							
Comments								
202479773	**Gen-wall-2c**		NONE DETECTED		None detected		Calcite + other	11/26/2024
Layer	Gray cementitious material (1)							
Comments								

Environmental Science International, Inc
354 Uluniu Street, Suite 304
Kailua HI 96734

Phone Number: (808)261-0740
Facsimile:
Email: -

Lab Job No: 202411456
Date Submitted: 11/21/2024
Your Project: 124036, Awa St. WWPS, 11/21/24

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202479773	**Gen-wall-2c**		NONE DETECTED		None detected		Quartz + calcite + other	11/26/2024
Layer	Gray cementitious material (2)							
Comments								
202479774	**Gen-floor-1a**		NONE DETECTED		None detected		Paint + other	11/26/2024
Layer	Silver paint							
Comments								
202479774	**Gen-floor-1a**		NONE DETECTED		None detected		Foam	11/26/2024
Layer	Yellow foam							
Comments								
202479775	**Gen-floor-1b**		NONE DETECTED		None detected		Paint + other	11/26/2024
Layer	Silver paint							
Comments								
202479775	**Gen-floor-1b**		NONE DETECTED		None detected		Foam	11/26/2024
Layer	Yellow foam							
Comments								
202479776	**Gen-floor-1c**		NONE DETECTED		None detected		Paint + other	11/26/2024
Layer	Silver paint							
Comments								
202479776	**Gen-floor-1c**		NONE DETECTED		None detected		Foam	11/26/2024
Layer	Yellow foam							
Comments								
202479777	**Gen-wall-3a**		NONE DETECTED		None detected		Binder	11/26/2024
Layer	Gray caulking							
Comments								

Environmental Science International, Inc
354 Uluniu Street, Suite 304
Kailua HI 96734

Phone Number: (808)261-0740
Facsimile:
Email: -

Lab Job No: 202411456
Date Submitted: 11/21/2024
Your Project: 124036, Awa St. WWPS, 11/21/24

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202479777	**Gen-wall-3a**		NONE DETECTED		None detected		Quartz + calcite	11/26/2024
Layer	Gray cementitious material							
Comments								
202479778	**Gen-wall-3b**		NONE DETECTED		None detected		Binder	11/26/2024
Layer	Gray caulking							
Comments								
202479778	**Gen-wall-3b**		NONE DETECTED		None detected		Quartz + calcite	11/26/2024
Layer	Gray cementitious material							
Comments								
202479779	**Gen-wall-3c**		NONE DETECTED		None detected		Binder	11/26/2024
Layer	Gray caulking							
Comments								
202479779	**Gen-wall-3c**		NONE DETECTED		None detected		Foam	11/26/2024
Layer	Yellow foam							
Comments								
202479780	**Gen-wall-1b**		NONE DETECTED		Cellulose (undulose) + fibrous glass (amorphous)	**40**	Foil + binder + other	11/26/2024
Layer	Silver / white wrap							
Comments								
202479780	**Gen-wall-1b**		NONE DETECTED		Fibrous glass (amorphous)	> **99**	None detected	11/26/2024
Layer	Yellow insulation							
Comments								
202479781	**Gen-wall-1c**		NONE DETECTED		None detected		Other	11/26/2024
Layer	White wrap							
Comments								

Environmental Science International, Inc
354 Uluniu Street, Suite 304
Kailua HI 96734

Phone Number: (808)261-0740
Facsimile:
Email: -

Lab Job No: 202411456
Date Submitted: 11/21/2024
Your Project: 124036, Awa St. WWPS, 11/21/24

Bulk Asbestos Determination

Sample No.	Your Sample ID / Description	Asbestos Present?	Type	%v/v	Other Fibrous	%v/v	Matrix	Date Analyzed
202479781	**Gen-wall-1c**		NONE DETECTED		Fibrous glass (amorphous)	> **99**	None detected	11/26/2024
Layer	Yellow insulation							
Comments								

General Comments
The bulk sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures outlined in the United States Environmental Protection Agency's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020, Dec. 1982) and / or "Method for Determination of Asbestos in bulk Building Materials" (EPA-600/R-93-116, July 1993). The analysis of each bulk sample relates only to the material examined, and may or may not represent the overall composition of its original source. Floor tile and other resinously bound materials, when analyzed by the EPA methods referenced above may yield false negative results because of limitations in separating closely bound fibers and in detecting fibers of small length and diameter. Gravimetric treatment, which HAL does not offer, may also be appropriate for certain NOB (non-friable organically bound) materials. Unless specifically requested by clients, NOB samples can be subcontracted to a NVLAP accredited lab, or else, they will be analyzed by HAL using regular PLM technique. In addition, alternative methods of identification, including Transmission Electron Microscopy (TEM) may or may not be applicable. We utilize calibrated visual area estimation on a routine basis and do not conduct point counting unless specifically requested to do so. Estimated error for the visual determinations presented are 75% relative (<1 to 10%), 65% relative (11 to 19%), 50% relative (20 to 34%); 40% relative (35 to 50%), 35% relative (51 to 60%), and 25% relative (>60% v/v). We will not separate layers which in our opinion are not readily discernable. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report must not be used by the client to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government. Unless otherwise indicated, the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions
> This testing result is greater than the numerical value listed.
< This testing result is less than the numerical value listed.
None Detected = asbestos was not observed in the sample. If trace amount of asbestos was detected below our quantifiable limits of 1.0%, <1% (trace) would be indicated and the asbestos type listed. Point counting, where applicable, are recommended to improve accuracy.

Jennifer Hsu Liao
Laboratory Manager

Appendix E

Paint Chips Samples – Laboratory Report

HAWAII ANALYTICAL LABORATORY, LLC

3615 Harding Avenue, Suite 308
Honolulu, HI 96816
Ph: 808-735-0422 - Fax: 808-735-0047
www.analyzehawaii.com

☐ New client?

Report To*	
Company	Environmental Science International
Address*	354 Uluniu Street, Suite 304 Kailua, HI 96734
Phone / Cell No.*	808-261-0740
Report results to	Kaila Lockwood
Email / Fax	Klockwood@esciencei.com Rchong@esciencei.com

Invoice To*	Same as Listed
Company	
Address*	
Phone / Cell No.*	
Purchase Order No.	
Email Invoice To	esiaccounting@esciencei.com

Need Results By*:

- ☒ 5 Working Days (WD)
- ☐ 4 WD
- ☐ 3 WD
- ☐ 2 WD
- ☐ 24 hours
- ☐ 6 hours or less
- ☐ 4 hours or less
- ☐ 1-2 hours

Site/Project Name:	Client Project No.:	Verbal results?	Sampled By:
Ana St. WWPS	124036	☐	

Special Instructions:

PLM POSITIVE STOP Instructions:
☐ + stop / SAMPLE
☐ + stop / LAYER

Lab Report No.: 202411456

	Sample Identification / Description* (Maxmium of 30 Characters)	Date Sampled* (mm/dd/yy)	Collection Medium	Sample Area / Air Volume	Analysis Requested*	Method Reference	Lab Sample(s) No.:
1	Pb-1	11/21/24	Paint Chip	-	Lead	NIOSH 7082	202479782
2	Pb-2			-			202479783
3	Pb-3			-			202479784
4	Pb-4			-			202479785
5	Pb-5			-			202479786
6	Pb-6			-			202479787
7	Pb-7			-			202479788
8	Pb-8			-			202479789
9	Pb-9			-			202479790
10	Pb-10			-			202479791
11	Pb-11			-			202479792
12	Pb-12			-			202479793

Relinquished By (Print and Sign)	Date/Time	Received By (Print and Sign)	Date/Time
	11/21/24	Haley Leavitt	11-21-24P01:41 RCVD

*Sample description can be paint chips, concrete, specific sample collection location, etc...
If matrix is 'soil', please specify if it is a FOREIGN SOIL SAMPLE (outside Hawaii) in the comment section.
All samples submitted are subject to Hawaii Analytical Laboratory terms and conditions.
*Required fields, failure to complete these fields may result in a delay in your samples being processed.

☐ via HAC ☐ via USPS ☒ via drop box ☐ via FedEx

Hawaii Analytical Laboratory
ANALYTICAL REPORT

Wednesday, November 27, 2024

Environmental Science International, Inc
354 Uluniu Street, Suite 304
Kailua HI 96734

Phone Number: (808)261-0740
Facsimile:
Email: -

Lab Job No: 202411456
Date Submitted: 11/21/2024
Project Name: 124036, Awa St. WWPS, 11/21/24

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202479782	**Pb-1**	1100	mg/kg	11/25/2024
Comments				
202479783	**Pb-2**	< 40	mg/kg	11/25/2024
Comments				
202479784	**Pb-3**	310	mg/kg	11/25/2024
Comments				
202479785	**Pb-4**	< 45	mg/kg	11/25/2024
Comments				
202479786	**Pb-5**	33000	mg/kg	11/25/2024
Comments				
202479787	**Pb-6**	< 46	mg/kg	11/25/2024
Comments				
202479788	**Pb-7**	< 200	mg/kg	11/25/2024
Comments				
202479789	**Pb-8**	620	mg/kg	11/25/2024
Comments				
202479790	**Pb-9**	< 40	mg/kg	11/25/2024
Comments				

Environmental Science International, Inc
354 Uluniu Street, Suite 304
Kailua HI 96734

Phone Number: (808)261-0740
Facsimile:
Email: -

Lab Job No: 202411456
Date Submitted: 11/21/2024
Project Name: 124036, Awa St. WWPS, 11/21/24

Total Lead (paint chips)

NIOSH Method: 7082m LEAD by FAAS

Sample No.	Your Sample ID / Description	Results	Units	Date Analyzed
202479791	**Pb-10**	400	mg/kg	11/25/2024
Comments				
202479792	**Pb-11**	250	mg/kg	11/25/2024
Comments				
202479793	**Pb-12**	< 200	mg/kg	11/25/2024
Comments				

All Quality Control data are acceptable unless otherwise noted.
MRL for lead air is 5ug.
MRL for lead wipe is 10ug.
MRL for lead paint or soil is 40 mg/kg for a 0.25g sample.

General Comments
The sample[s] analysis subject of this analytical report were conducted in general accordance with the procedures associated with the "analytical method" referenced above. Modifications to this methodology may have been made based upon the analyst's professional judgment and / or sample matrix effects encountered. The analysis of sample relates only to the sample analyzed, and may or may not be representative of the original source of the material submitted for our analysis. All analysts participate in interlaboratory quality control testing to continuously document profiency. This report is not to be duplicated except in full without the expressed written permission of Hawaii Analytical Laboratory. This report should not be construed as an endorsement for a product or a service by the AIHA LAP, LLC or any affiliated organizations. Sample and associated sampling / collection data is reported as provided by client. TWA values have been calculated based on information supplied by the client that the laboratory has not independently verified. Results have not been corrected for blank determinations unless noted in remarks. Unless otherwise indicated the sample condition at the time of receipt was acceptable.

Results and Symbols Definitions
> This testing result is greater than the numerical value listed.
< This testing result is less than the numerical value listed.
# = Analytical methods marked with an "#" are not within our AIHA LAP, LLC Scope of Accreditation.
MRL = Method Reporting Limit.

Anne Antin

Anne Antin
Quality Control Manager

Appendix F

Soil Samples – Laboratory Report

ADVANCED ANALYTICAL LABORATORY CHAIN OF CUSTODY RECORD

Phone: (808) 836 2252 Fax:(808) 836 2250 Address 544 Ohohia St., unit 10 Honolulu, HI 96819

TURNAROUND TIME: ~~10 day~~ 5day **AAL PROJECT#:** 2943

CLIENT: Environmental Science International	PROJECT NAME: Ana St. WWPS
ADDRESS: 354 Uluniu St, Ste. 304 Kailua HI 96734	COLLECTOR: KL, RC
PHONE: 808 261 0740 EMAIL: klockwood@esciencei.com	DATE OF COLLECTION: 11/21/24
CLIENT PROJECT#: 124036 RCHONG@esciencei.com	PROJECT MANAGER: Robert Chong

ANALYSES

Sample Number	Time	Sample type	Container Type	Multi-Incremental Volatile	Multi-Incremental Non Volatile	8015M TPH Fuel Scan	8015M TPH Gasoline	8015M TPH Diesel	8015M TPH Oil	8260B Volatiles	8260B BTEX + Naphthalene	8270 PAH DOH 4	8270 PAH 17 analytes	8270 Semi Volatiles	8082 PCB	TCLP 8081 Organochlorine Pes	8081 Organochlorine Pesticides	Total Lead	Total Cadmium	TCLP RCRA 8 Metals	Total RCRA 8 Metals	Field Notes	Number of containers	Number containers received
DU-1	0835	80.1		X			X	X				X			X	X				X			1	1
DU-2	1120			X			X	X				X			X	X				X		M/S	1	1
DU-3	1115			X			X	X				X			X	X				X			1	1
DU1-CF	0945					X	X	X		X		X			X	X				X			3	3
DU2-CF	1020					X	X	X		X		X			X	X				X		discrete	3	3
DU3-CF	0920					X	X	X		X		X			X	X				X			3	3
DU-A	0800			X			X	X				X			X	X				X		MS	1	1
DU-B	0900			X			X	X				X			X	X				X			1	1

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
	1320 11/21/24		11/21/24 13:20
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	14
CHAIN OF CUSTODY SEALS INTACT	
RECEIVED IN GOOD CONDITION	4
TEMPERATURE	2.3°C
PAGE 1 OF 1	

LABORATORY NOTES:

ADVANCED ANALYTICAL LABORATORY INC

AAL Project #Z943

Environmental Science International

Client Project #: 124036 Method:8015M

Client Project Name: Awa St. WWPS Matrix: Soil

CLIENT SAMPLE ID	TPH-DIESEL [mg/kg]	TPH-OIL [mg/kg]	SURROGATE RECOVERY	FLAGS	DATE ANALYZED
Blank	nd	nd	106%		11/22/2024
DU-1	nd	nd	117%		11/22/2024
DU-2	nd	nd	118%		11/22/2024
DU-3	nd	nd	108%		11/22/2024
DU-A	nd	170	118%		11/22/2024
DU-B	nd	170	130%		11/22/2024
PQL	50	100	Acceptable Range		
MDL	20	35	70%-130%		

QA/QC DATA

QC BATCH # 112224	TPH-DIESEL [mg/kg]	TPH-OIL [mg/kg]	Acceptable Range
Lab Control Spike (LCS)	529	502	350-650
Matrix Spike (MS)	533	481	350-650
Matrix Spike Dup (MSD)	545	471	350-650
Recovery LCS	106%	100%	70%-130%
Recovery MS	107%	96%	70%-130%
Recovery MSD	109%	94%	70%-130%
RPD of MS/MSD	2.2%	2.1%	20%

Analyst: U. Baumgartner, Ph.D.

Data review: E. Young

544 OHOHIA STREET #10 HONOLULU HAWAII 96819
TEL (808) 836-2252

ADVANCED ANALYTICAL LABORATORY INC

AAL Project #Z943

Environmental Science International

Client Project #: 124036 Method:8015M

Client Project Name: Awa St. WWPS Matrix: Soil

CLIENT SAMPLE ID	TPH-DIESEL [mg/kg]	TPH-OIL [mg/kg]	SURROGATE RECOVERY	FLAGS	DATE ANALYZED
Blank	nd	nd	106%		11/25/2024
B1-6.5	nd	nd	111%		11/25/2024
B2-6.5	nd	nd	109%		11/25/2024
B3-6.5	nd	nd	101%		11/25/2024
PQL	50	100	Acceptable Range		
MDL	20	35	70%-130%		

QA/QC DATA

QC BATCH # 112524	TPH-DIESEL [mg/kg]	TPH-OIL [mg/kg]	Acceptable Range
Lab Control Spike (LCS)	520	486	350-650
Matrix Spike (MS)	482	473	350-650
Matrix Spike Dup (MSD)	502	497	350-650
Recovery LCS	104%	97%	70%-130%
Recovery MS	96%	95%	70%-130%
Recovery MSD	100%	99%	70%-130%
RPD of MS/MSD	4.1%	4.9%	20%

Analyst: U. Baumgartner, Ph.D.

Data review: E. Young

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ACCU LABORATORY

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(425) 214-5868
Email: lisa@accu-lab.com
website: www.accu-lab.com

Analytical Report

Client	**Advanced Analytical Laboratory**	**Acculab WO#**	**24-AL1123-5**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	11/21/2024
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	11/23/2024
Project Name	**Awa St. WWPS**	Date Reported	12/3/2024
Client Project#	**124036**		
Project#	**Z943**		

TPH GRO in Soil by EPA 8260D/5030B

Accu Lab Batch# AL112424-1

Client sample ID					**B1-6.5**	**B2-6.5**	**B3-6.5**
Lab ID	**MRL**	**Unit**	**MTH BLK**	**LCS**	24-AL1123-5-1	24-AL1123-5-2	24-AL1123-5-3
Matrix			Solid	Solid	Soil	Soil	Soil
Date Extracted			11/24/2024	11/24/2024	11/23/2024	11/23/2024	11/23/2024
Date Analyzed			11/24/2024	11/24/2024	11/24/2024	11/24/2024	11/24/2024
Moisture (%)					23%	25%	26%
Gasoline Range Organics (GRO)	12.5	mg/kg	nd	89%	nd	nd	nd
Surrogate Recoveries							
Dibromofluoromethane			98%	99%	96%	99%	97%
4-Bromofluorobenzene			124%	105%	130%	126%	127%

Acceptable Recovery Limits:

Surrogates/LCS	*70-130%*
MS/MSD	*65-135%*
Acceptable RPD limit:	*30%*

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Analytical Report

Client	**Advanced Analytical Laboratory**	**Acculab WO#**	**24-AL1123-5**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	11/21/2024
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	11/23/2024
Project Name	**Awa St. WWPS**	Date Reported	12/3/2024
Client Project#	**124036**		
Project#	**Z943**		

TPH GRO in Soil by EPA 8260D/5030B

Accu Lab Batch# AL112424-1

Client sample ID			**MS**	**MSD**	**RPD**
Lab ID	**MRL**	**Unit**	24-AL1123-6-1	24-AL1123-6-1	24-AL1123-6-1
Matrix			Soil	Soil	Soil
Date Extracted			11/21/2024	11/21/2024	11/21/2024
Date Analyzed			11/24/2024	11/24/2024	11/24/2024
Moisture (%)			20%	20%	20%
Gasoline Range Organics (GRO)	12.5	mg/kg	80%	89%	10%
Surrogate Recoveries					
Dibromofluoromethane			101%	110%	
4-Bromofluorobenzene			113%	115%	

Acceptable Recovery Limits:

Surrogates/LCS	*70-130%*
MS/MSD	*65-135%*
Acceptable RPD limit:	*30%*

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Analytical Report

Client	**Advanced Analytical Laboratory**	**Acculab WO#**	**24-AL1123-5**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	11/21/2024
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	11/23/2024
Project Name	**Awa St. WWPS**	Date Reported	12/3/2024
Client Project#	**124036**		
Project#	**Z943**		

Volatiles in Soil by EPA 8260D/5030B

Accu Lab Batch# AL112424-1

Client sample ID					**B1-6.5**	**B2-6.5**	**B3-6.5**
Lab ID	**MRL**	**Unit**	**MTH BLK**	**LCS**	24-AL1123-5-1	24-AL1123-5-2	24-AL1123-5-3
Matrix			Solid	Solid	Soil	Soil	Soil
Date Extracted			11/24/2024	11/24/2024	11/23/2024	11/23/2024	11/23/2024
Date Analyzed			11/24/2024	11/24/2024	11/24/2024	11/24/2024	11/24/2024
Moisture (%)					23%	25%	26%
Benzene	20	ug/kg	nd	128%	nd	nd	nd
Toluene	50	ug/kg	nd	118%	nd	nd	nd
Ethyl benzene	50	ug/kg	nd	118%	nd	nd	nd
m,p-Xylenes	100	ug/kg	nd	120%	nd	nd	nd
o-Xylene	50	ug/kg	nd	115%	nd	nd	nd
Naphthalene	100	ug/kg	nd	112%	nd	nd	nd
Surrogate Recoveries							
Dibromofluoromethane			98%	99%	96%	99%	97%
1,2-Dichloroethane-d4			110%	114%	123%	99%	94%
Toluene-d8			105%	101%	97%	97%	98%
4-Bromofluorobenzene			124%	105%	130%	126%	127%

Acceptable Recovery Limits:

Surrogates/LCS	*70-130%*
MS/MSD	*65-135%*
Acceptable RPD limit:	*30%*

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	Honolulu, HI, 96819	Date Sampled	11/21/2024
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	11/23/2024
Project Name	**Awa St. WWPS**	Date Reported	12/3/2024
Client Project#	**124036**		
Project#	**Z943**		

Volatiles in Soil by EPA 8260D/5030B

Accu Lab Batch# AL112424-1

Client sample ID			**MS**	**MSD**	**RPD**
Lab ID	**MRL**	**Unit**	24-AL1123-6-1	24-AL1123-6-1	24-AL1123-6-1
Matrix			Soil	Soil	Soil
Date Extracted			11/21/2024	11/21/2024	11/21/2024
Date Analyzed			11/24/2024	11/24/2024	11/24/2024
Moisture (%)			20%	20%	20%
Benzene	20	ug/kg	117%	112%	22%
Toluene	50	ug/kg	118%	116%	2%
Ethyl benzene	50	ug/kg	126%	116%	8%
m,p-Xylenes	100	ug/kg	116%	114%	2%
o-Xylene	50	ug/kg	112%	118%	5%
Naphthalene	100	ug/kg	104%	108%	4%
Surrogate Recoveries					
Dibromofluoromethane			101%	110%	
1,2-Dichloroethane-d4			89%	85%	
Toluene-d8			103%	103%	
4-Bromofluorobenzene			113%	115%	

Acceptable Recovery Limits:

Surrogates/LCS	*70-130%*
MS/MSD	*65-135%*
Acceptable RPD limit:	*30%*

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Analytical Report

Client	**Advanced Analytical Laboratory**	**Acculab WO#**	**24-AL1123-5**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	11/21/2024
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	11/23/2024
Project Name	**Awa St. WWPS**	Date Reported	12/3/2024
Client Project#	**124036**		
Project#	**Z943**		

PAHs in Soil by EPA 8270E SIM/3550C

Accu Lab Batch# AL112324-2

Client sample ID					**DU-1**	**DU-2**	**DU-3**	**DU-A**
Lab ID	**MRL**	**Unit**	**MTH BLK**	**LCS**	24-AL1123-4-1	24-AL1123-4-1	24-AL1123-4-1	24-AL1123-4-1
Matrix			Solid	Solid	Soil	Soil	Soil	Soil
Date Extracted			11/23/2024	11/23/2024	11/23/2024	11/23/2024	11/23/2024	11/23/2024
Date Analyzed			11/24/2024	11/23/2024	11/24/2024	11/24/2024	11/24/2024	11/24/2024
Moisture (%)					6%	5%	8%	6%
Naphthalene	0.05	mg/kg	nd	96%	nd	nd	nd	nd
2-Methylnaphthalene	0.05	mg/kg	nd		nd	nd	nd	nd
1-Methylnaphthalene	0.05	mg/kg	nd		nd	nd	nd	nd
Acenaphthylene	0.05	mg/kg	nd		nd	nd	nd	nd
Acenaphthene	0.05	mg/kg	nd	87%	nd	nd	nd	nd
Fluorene	0.05	mg/kg	nd		nd	nd	nd	nd
Phenanthrene	0.05	mg/kg	nd		0.21	0.15	0.062	0.059
Anthracene	0.05	mg/kg	nd		nd	nd	nd	nd
Fluoranthene	0.05	mg/kg	nd	85%	0.58	0.48	0.22	0.18
Pyrene	0.05	mg/kg	nd	97%	0.59	0.54	0.25	0.19
Benzo(a)anthracene	0.05	mg/kg	nd		0.28	0.24	0.13	0.095
Chrysene	0.05	mg/kg	nd		0.28	0.24	0.13	0.094
Benzo(b)fluoranthene	0.10	mg/kg	nd		0.37	0.30	0.22	0.13
Benzo(k)fluoranthene	0.10	mg/kg	nd		0.26	0.19	0.13	nd
Benzo(a)pyrene	0.10	mg/kg	nd	113%	0.31	0.23	0.16	nd
Indeno(1,2,3-cd)pyrene	0.095	mg/Kg	nd		0.22	0.13	0.10	nd
Dibenzo(a,h)anthracene	0.10	mg/Kg	nd		nd	nd	nd	nd
Benzo(ghi)perylene	0.10	mg/Kg	nd		0.27	0.21	0.12	0.10
Surrogate Recoveries								
2-Fluorobiphenyl			87%	95%	126%	81%	93%	83%
Terphenyl-d14			88%	91%	112%	79%	87%	94%

Acceptable Recovery Limits:

Surrogates/LCS	*50-150%*
MS/MSD	*45-150%*
Acceptable RPD Limit:	*30%*

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Analytical Report

Client	**Advanced Analytical Laboratory**	**Acculab WO#**	**24-AL1123-5**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	11/21/2024
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	11/23/2024
Project Name	**Awa St. WWPS**	Date Reported	12/3/2024
Client Project#	**124036**		
Project#	**Z943**		

PAHs in Soil by EPA 8270E SIM/3550C

Accu Lab Batch# AL112324-2

Client sample ID			**DU-B**	**B1-6.5**	**B2-6.5**	**B3-6.5**
Lab ID	**MRL**	**Unit**	24-AL1123-4-1	24-AL1123-5-1	24-AL1123-5-2	24-AL1123-5-3
Matrix			Soil	Soil	Soil	Soil
Date Extracted			11/23/2024	11/23/2024	11/23/2024	11/23/2024
Date Analyzed			11/24/2024	11/24/2024	11/24/2024	12/2/2024
Moisture (%)			5%	23%	25%	26%
Naphthalene	0.05	mg/kg	nd	nd	nd	nd
2-Methylnaphthalene	0.05	mg/kg	nd	nd	nd	nd
1-Methylnaphthalene	0.05	mg/kg	nd	nd	nd	nd
Acenaphthylene	0.05	mg/kg	nd	nd	nd	nd
Acenaphthene	0.05	mg/kg	nd	nd	nd	nd
Fluorene	0.05	mg/kg	nd	nd	nd	nd
Phenanthrene	0.05	mg/kg	0.084	0.10	0.076	0.11
Anthracene	0.05	mg/kg	nd	nd	nd	nd
Fluoranthene	0.05	mg/kg	0.25	0.20	0.20	0.35
Pyrene	0.05	mg/kg	0.26	0.31	0.32	0.41
Benzo(a)anthracene	0.05	mg/kg	0.12	0.14	0.14	0.13
Chrysene	0.05	mg/kg	0.13	0.13	0.12	0.11
Benzo(b)fluoranthene	0.10	mg/kg	0.19	0.13	0.13	nd
Benzo(k)fluoranthene	0.10	mg/kg	0.12	0.13	0.11	0.16
Benzo(a)pyrene	0.10	mg/kg	0.15	0.18	0.16	0.19
Indeno(1,2,3-cd)pyrene	0.095	mg/Kg	nd	nd	0.096	0.11
Dibenzo(a,h)anthracene	0.10	mg/Kg	nd	nd	nd	nd
Benzo(ghi)perylene	0.10	mg/Kg	0.12	0.11	0.14	0.16
Surrogate Recoveries						
2-Fluorobiphenyl			94%	90%	99%	105%
Terphenyl-d14			82%	98%	100%	72%

Acceptable Recovery Limits:

Surrogates/LCS	*50-150%*
MS/MSD	*45-150%*
Acceptable RPD Limit:	*30%*

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Analytical Report

Client	**Advanced Analytical Laboratory**	**Acculab WO#**	**24-AL1123-5**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	11/21/2024
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	11/23/2024
Project Name	**Awa St. WWPS**	Date Reported	12/3/2024
Client Project#	**124036**		
Project#	**Z943**		

PAHs in Soil by EPA 8270E SIM/3550C

Accu Lab Batch# AL112324-2

Client sample ID			**MS**	**MSD**	**RPD**
Lab ID	**MRL**	**Unit**	24-AL1123-2-1	24-AL1123-2-1	24-AL1123-2-1
Matrix			Soil	Soil	Soil
Date Extracted			11/23/2024	11/23/2024	11/23/2024
Date Analyzed			11/23/2024	11/23/2024	11/23/2024
Moisture (%)			16%	16%	16%
Naphthalene	0.05	mg/kg	85%	75%	12%
2-Methylnaphthalene	0.05	mg/kg			
1-Methylnaphthalene	0.05	mg/kg			
Acenaphthylene	0.05	mg/kg			
Acenaphthene	0.05	mg/kg	80%	77%	4%
Fluorene	0.05	mg/kg			
Phenanthrene	0.05	mg/kg			
Anthracene	0.05	mg/kg			
Fluoranthene	0.05	mg/kg	96%	90%	6%
Pyrene	0.05	mg/kg	111%	101%	9%
Benzo(a)anthracene	0.05	mg/kg			
Chrysene	0.05	mg/kg			
Benzo(b)fluoranthene	0.10	mg/kg			
Benzo(k)fluoranthene	0.10	mg/kg			
Benzo(a)pyrene	0.10	mg/kg	106%	101%	5%
Indeno(1,2,3-cd)pyrene	0.095	mg/Kg			
Dibenzo(a,h)anthracene	0.10	mg/Kg			
Benzo(ghi)perylene	0.10	mg/Kg			
Surrogate Recoveries					
2-Fluorobiphenyl			114%	118%	
Terphenyl-d14			100%	101%	

Acceptable Recovery Limits:

Surrogates/LCS	*50-150%*
MS/MSD	*45-150%*
Acceptable RPD Limit:	*30%*

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Analytical Report

Client	**Advanced Analytical Laboratory**	**Acculab WO#**	**24-AL1123-5**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	11/21/2024
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	11/23/2024
Project Name	**Awa St. WWPS**	Date Reported	12/3/2024
Client Project#	**124036**		
Project#	**Z943**		

Polychlorinated Biphenyls in Soil by EPA 8082A/3550C

Accu Lab Batch# AL102424-7

Client sample ID					**DU-1**	**DU-2**	**DU-3**	**DU-A**	**DU-B**
Lab ID	**MRL**	**Unit**	**MTH BLK**	**LCS**	24-AL1123-4-1	24-AL1123-4-1	24-AL1123-4-1	24-AL1123-4-1	24-AL1123-4-1
Matrix			Solid	Solid	Soil	Soil	Soil	Soil	Soil
Date Extracted			10/24/2024	10/24/2024	10/24/2024	10/24/2024	10/24/2024	10/24/2024	10/24/2024
Date Analyzed			10/24/2024	10/24/2024	10/24/2024	10/24/2024	10/25/2024	10/25/2024	10/24/2024
Moisture (%)									
A1016	0.10	mg/kg	nd		nd	nd	nd	nd	nd
A1221	0.10	mg/kg	nd		nd	nd	nd	nd	nd
A1232	0.10	mg/kg	nd		nd	nd	nd	nd	nd
A1242	0.10	mg/kg	nd		nd	nd	nd	nd	nd
A1248	0.10	mg/kg	nd		nd	nd	nd	nd	nd
A1254	0.10	mg/kg	nd		nd	nd	nd	nd	nd
A1260	0.10	mg/kg	nd	131%	0.30	1.0	0.18	0.36	0.32
Surrogate Recoveries									
Decachlorobiphenyl			88%	88%	96%	93%	94%	90%	91%
Tetrachloro-m-xylene			99%	98%	79%	77%	73%	76%	72%

Acceptable Recovery Limits:

Surrogates/LCS	*60-150%*
MS/MSD	*50-150%*
Acceptable RPD limit:	*30%*

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Analytical Report

Client	**Advanced Analytical Laboratory**	**Acculab WO#**	**24-AL1123-5**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	11/21/2024
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	11/23/2024
Project Name	**Awa St. WWPS**	Date Reported	12/3/2024
Client Project#	**124036**		
Project#	**Z943**		

Polychlorinated Biphenyls in Soil by EPA 8082A/3550C

Accu Lab Batch# AL102424-7

Client sample ID			**B1-6.5**	**B2-6.5**	**B3-6.5**	**MS**	**MSD**	**RPD**
Lab ID	**MRL**	**Unit**	24-AL1123-5-1	24-AL1123-5-2	24-AL1123-5-3	24-AL1024-1-2	24-AL1024-1-2	24-AL1024-1-2
Matrix			Soil	Soil	Soil	Soil	Soil	Soil
Date Extracted			10/24/2024	10/24/2024	10/24/2024	10/24/2024	10/24/2024	10/24/2024
Date Analyzed			10/24/2024	10/25/2024	10/25/2024	10/24/2024	10/24/2024	10/24/2024
Moisture (%)			23%	25%	26%			
A1016	0.10	mg/kg	nd	nd	nd			
A1221	0.10	mg/kg	nd	nd	nd			
A1232	0.10	mg/kg	nd	nd	nd			
A1242	0.10	mg/kg	nd	nd	nd			
A1248	0.10	mg/kg	nd	nd	nd			
A1254	0.10	mg/kg	nd	nd	nd			
A1260	0.10	mg/kg	nd	nd	nd	125%	107%	15%
Surrogate Recoveries								
Decachlorobiphenyl			106%	107%	105%	97%	95%	
Tetrachloro-m-xylene			79%	82%	82%	91%	93%	

Acceptable Recovery Limits:

Surrogates/LCS	*60-150%*
MS/MSD	*50-150%*
Acceptable RPD limit:	*30%*

ACCU LABORATORY

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Kirkland WA 98034

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website: www.accu-lab.com

Analytical Report

Client	**Advanced Analytical Laboratory**	**Acculab WO#**	**24-AL1123-5**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	11/21/2024
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	11/23/2024
Project Name	**Awa St. WWPS**	Date Reported	12/3/2024
Client Project#	**124036**		
Project#	**Z943**		

Organochlorine Pesticides in Soil by EPA 8081B/3550C

Accu Lab Batch# AL112324-3

Client sample ID					**DU-1**	**DU-2**	**DU-3**	**DU-A**	**DU-B**
Lab ID	**MRL**	**Unit**	**MTH BLK**	**LCS**	24-AL1123-4-1	24-AL1123-4-1	24-AL1123-4-1	24-AL1123-4-1	24-AL1123-4-1
Matrix			Solid	Solid	Soil	Soil	Soil	Soil	Soil
Date Extracted			11/23/2024	11/23/2024	11/23/2024	11/23/2024	11/23/2024	11/23/2024	11/23/2024
Date Analyzed			11/23/2024	11/23/2024	11/24/2024	11/24/2024	11/24/2024	11/24/2024	11/24/2024
Moisture (%)									
α-BHC	1.0	ug/kg	nd		nd	nd	nd	nd	nd
γ-BHC (Lindane)	1.0	ug/kg	nd	95%	nd	nd	nd	nd	nd
β-BHC	1.0	ug/kg	nd		nd	nd	nd	nd	nd
Heptachlor	1.0	ug/kg	nd	115%	nd	nd	nd	nd	nd
δ-BHC	1.0	ug/kg	nd		nd	nd	nd	nd	nd
Aldrin	1.0	ug/kg	nd	97%	nd	nd	nd	nd	nd
Heptachlor Epoxide	1.0	ug/kg	nd		nd	nd	nd	nd	nd
γ-Chlordane	5.0	ug/kg	nd		nd	nd	nd	nd	nd
α-Chlordane	5.0	ug/kg	nd		nd	nd	nd	nd	nd
Endosulfan I	1.0	ug/kg	nd		nd	nd	nd	nd	nd
4,4'-DDE	5.0	ug/kg	nd		nd	nd	nd	nd	nd
Dieldrin	1.0	ug/kg	nd	95%	nd	nd	nd	nd	nd
Endrin	1.0	ug/kg	nd	108%	nd	nd	nd	nd	nd
4,4'-DDD	5.0	ug/kg	nd		nd	nd	nd	nd	nd
Endosulfan II	5.0	ug/kg	nd		nd	nd	nd	nd	nd
4,4'-DDT	5.0	ug/kg	nd	99%	nd	nd	nd	nd	nd
Endrin Aldehyde	5.0	ug/kg	nd		nd	nd	nd	nd	nd
Methoxychlor	5.0	ug/kg	nd		nd	nd	nd	nd	nd
Endrin Ketone	5.0	ug/kg	nd		nd	nd	nd	nd	nd
Endosulfan Sulfate	10	ug/kg	nd		nd	nd	nd	nd	nd
Technical Chlordane	0.10	**mg/kg**	nd		nd	nd	nd	nd	nd
Toxaphene	0.20	**mg/kg**	nd		nd	nd	nd	nd	nd
Surrogate Recoveries									
Decachlorobiphenyl			95%	112%	115%	104%	110%	107%	101%
Tetrachloro-m-xylene			99%	116%	123%	110%	107%	97%	96%

Acceptable Recovery Limits:

Surrogates	*50-150%*
LCS/MS/MSD	*50-150%*
Acceptable RPD limit:	*30%*

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Analytical Report

Client	**Advanced Analytical Laboratory**	**Acculab WO#**	**24-AL1123-5**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	11/21/2024
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	11/23/2024
Project Name	**Awa St. WWPS**	Date Reported	12/3/2024
Client Project#	**124036**		
Project#	**Z943**		

Organochlorine Pesticides in Soil by EPA 8081B/3550C

Accu Lab Batch# AL112324-3

Client sample ID			**B1-6.5**	**B2-6.5**	**B3-6.5**	**MS**	**MSD**	**RPD**
Lab ID	**MRL**	**Unit**	24-AL1123-5-1	24-AL1123-5-2	24-AL1123-5-3	24-AL1123-1-1	24-AL1123-1-1	24-AL1123-1-1
Matrix			Soil	Soil	Soil	Soil	Soil	Soil
Date Extracted			11/23/2024	11/23/2024	11/23/2024	11/23/2024	11/23/2024	11/23/2024
Date Analyzed			11/24/2024	11/24/2024	11/24/2024	11/24/2024	11/24/2024	11/24/2024
Moisture (%)			23%	25%	26%			
α-BHC	1.0	ug/kg	nd	nd	nd			
γ-BHC (Lindane)	1.0	ug/kg	nd	nd	nd	86%	80%	7%
β-BHC	1.0	ug/kg	nd	nd	nd			
Heptachlor	1.0	ug/kg	nd	nd	nd	104%	98%	6%
δ-BHC	1.0	ug/kg	nd	nd	nd			
Aldrin	1.0	ug/kg	nd	nd	nd	86%	82%	5%
Heptachlor Epoxide	1.0	ug/kg	nd	nd	nd			
γ-Chlordane	5.0	ug/kg	nd	nd	nd			
α-Chlordane	5.0	ug/kg	nd	nd	nd			
Endosulfan I	1.0	ug/kg	nd	nd	nd			
4,4'-DDE	5.0	ug/kg	nd	nd	nd			
Dieldrin	1.0	ug/kg	nd	nd	nd	89%	83%	7%
Endrin	1.0	ug/kg	nd	nd	nd	112%	102%	9%
4,4'-DDD	5.0	ug/kg	nd	nd	nd			
Endosulfan II	5.0	ug/kg	nd	nd	nd			
4,4'-DDT	5.0	ug/kg	nd	nd	nd	95%	87%	9%
Endrin Aldehyde	5.0	ug/kg	nd	nd	nd			
Methoxychlor	5.0	ug/kg	nd	nd	nd			
Endrin Ketone	5.0	ug/kg	nd	nd	nd			
Endosulfan Sulfate	10	ug/kg	nd	nd	nd			
Technical Chlordane	0.10	**mg/kg**	nd	nd	nd			
Toxaphene	0.20	**mg/kg**	nd	nd	nd			
Surrogate Recoveries								
Decachlorobiphenyl			113%	111%	113%	116%	115%	
Tetrachloro-m-xylene			109%	94%	107%	119%	117%	

Acceptable Recovery Limits:

Surrogates	*50-150%*
LCS/MS/MSD	*50-150%*
Acceptable RPD limit:	*30%*

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Analytical Report

Client	**Advanced Analytical Laboratory**	**Acculab WO#**	**24-AL1123-5**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	11/21/2024
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	11/23/2024
Project Name	**Awa St. WWPS**	Date Reported	12/3/2024
Client Project#	**124036**		
Project#	**Z943**		

Metals in Soil by EPA 6020B/EPA3050B

Accu Lab Batch# AL112524-12

Client sample ID					**DU-1**	**DU-2**	**DU-3**	**DU-A**	**DU-B**
Lab ID	**MRL**	**Unit**	**MTH BLK**	**LCS**	24-AL1123-4-1	24-AL1123-4-1	24-AL1123-4-1	24-AL1123-4-1	24-AL1123-4-1
Matrix			Solid	Solid	Soil	Soil	Soil	Soil	Soil
Date Digested			11/25/2024	11/25/2024	10/25/2024	10/25/2024	10/25/2024	10/25/2024	10/25/2024
Date Analyzed			11/25/2024	11/25/2024	10/25/2024	10/25/2024	10/25/2024	10/25/2024	10/25/2024
Moisture (%)									
Arsenic (As)	2.0	mg/kg	nd	97%	2.6	2.9	nd	2.6	2.4
Barium (Ba)	5.0	mg/kg	nd	101%	240	180	130	190	190
Cadmium (Cd)	1.0	mg/kg	nd	98%	nd	nd	nd	nd	nd
Chromium (Cr)	2.0	mg/kg	nd	103%	79	150	60	120	95
Lead (Pb)	1.0	mg/kg	nd	100%	470	240	400	260	290
Selenium (Se)	2.0	mg/kg	nd	112%	nd	nd	nd	nd	nd
Silver (Ag)	1.0	mg/kg	nd	111%	nd	nd	nd	nd	nd
Mercury (Hg)	0.50	mg/kg	nd	96%	nd	4.7	nd	4.3	2.4

Acceptable Recovery Limits:

LCS	*80-120%*
MS/MSD	*75-125%*
Acceptable RPD limit:	*20%*

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Analytical Report

Client	**Advanced Analytical Laboratory**	**Acculab WO#**	**24-AL1123-5**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	11/21/2024
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	11/23/2024
Project Name	**Awa St. WWPS**	Date Reported	12/3/2024
Client Project#	**124036**		
Project#	**Z943**		

Metals in Soil by EPA 6020B/EPA3050B

Accu Lab Batch# AL112524-12

Client sample ID			**B1-6.5**	**B2-6.5**	**B3-6.5**	**MS**	**MSD**	**RPD**
Lab ID	**MRL**	**Unit**	24-AL1123-5-1	24-AL1123-5-2	24-AL1123-5-3	24-AL1123-5-1	24-AL1123-5-1	24-AL1123-5-1
Matrix			Soil	Soil	Soil	Solid	Solid	Solid
Date Digested			10/25/2024	10/25/2024	10/25/2024	11/25/2024	11/25/2024	11/25/2024
Date Analyzed			10/25/2024	10/25/2024	10/25/2024	11/25/2024	11/25/2024	11/25/2024
Moisture (%)			23%	25%	26%			
Arsenic (As)	2.0	mg/kg	6.0	5.2	13	84%	85%	1%
Barium (Ba)	5.0	mg/kg	200	150	220	M	M	
Cadmium (Cd)	1.0	mg/kg	nd	nd	nd	84%	80%	5%
Chromium (Cr)	2.0	mg/kg	100	76	81	83%	93%	11%
Lead (Pb)	1.0	mg/kg	160	110	160	M	M	
Selenium (Se)	2.0	mg/kg	nd	nd	nd	82%	84%	3%
Silver (Ag)	1.0	mg/kg	nd	nd	nd	91%	97%	6%
Mercury (Hg)	0.50	mg/kg	0.55	nd	nd	110%	108%	2%

Acceptable Recovery Limits:

LCS	*80-120%*
MS/MSD	*75-125%*
Acceptable RPD limit:	*20%*

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Analytical Report

Client	Advanced Analytical Laboratory	**Acculab WO#**	**24-AL1123-5**
	544 Ohohia Street #10		
	Honolulu, HI, 96819	Date Sampled	11/21/2024
Project Manager	Uwe Baumgartner/ Elisa Young	Date Received	11/23/2024
Project Name	**Awa St. WWPS**	Date Reported	12/3/2024
Client Project#	**124036**		
Project#	**Z943**		

Data Qualifiers and Comments:

Results reported on dry-weight basis for soil samples.

MRL- Method Reporting Limit
nd- Indicates the analyte is not detected at the listing reporting limit.
C- Coelution with other compounds.
M- % Recovery of surrogate, MS/MSD is out of the acceptable limit due to matrix effect.
B- Indicates the analyte is detected in the method blank associated with the sample.
J- The analyte is detected at below the reporting limit.
E- The result reported exceeds the calibration range, and is an estimate.
D- Sample required dilution due to matrix. Method Reporting Limits were elevated due to dilutions.
H- Sample was received or analyzed past holding time
Q- Sample was received with head space, improper preserved or above recommended temperature.
I- Due to insufficient sample, LCS/LCS DUP were analyzed in place of MS/MSD.
R- The recovery of this analyte in QC sample failed high, but the analyte was not detected in all related samples. No action was taken.
R-1- The RPD value for the MS/MSD was outside of QC acceptance limits however both recoveries were acceptable. All related samples were "nd". No action was taken.
R-2- The recovery of the surrogate in sample failed high, but all related analytes were not detected in the sample. No action was taken.

Appendix G

Lead and Asbestos Certifications

Lead Based Paint Activities Certificatic

Expiration Dates:

Inspector- 09/11/2027
Supervisor- N/A
Risk Assessor- N/A
Project Designer- N/A
Worker- N/A

Budke
Victoria
Certification # PB-1494

State of Hawai'i
Asbestos Certification

Training Course Exp. Dates

W	N/A	MP	N/A
CS	N/A	PD	N/A
INS	08/16/25	PM	N/A

W= Worker
CS= Cont./Sup.
INS= Inspector
PD= Project Designer
MP= Mgmt. Planner
PM= Project Monitor

Budke
Victoria C.
Environmental Science International
HIASB-5654
State Exp. Date 09/11/2025

State of Hawai'i
Asbestos Certification

Training Course Exp. Dates

W	n/a	MP	n/a
CS	n/a	PD	n/a
INS	09/27/24	PM	n/a

W= Worker
CS= Cont./Sup.
INS= Inspector
PD= Project Designer
MP= Mgmt. Planner
PM= Project Monitor

Parker
Nicholas W.
Environmental Science International, Inc.
HIASB-5420
State Exp. Date 10/16/2024

State of Hawai'i
Lead Based Paint Activities Certificatior

Expiration Dates:

Inspector- 10/19/2026
Supervisor- n/a
Risk Assessor- 10/10/2026
Project Designer- n/a
Worker- n/a

Parker
Nicholas W.
Certification # PB-1405

Appendix C

Acoustical Report

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Y. Ebisu & Associates

Acoustical and Electronic Engineers

1126 12th Ave., Room 305
Honolulu, Hawaii 96816
Ph. (808) 735-1634
email: ebisuyassoc@aol.com

YEA Job #62.017
August 22, 2025

Okahara & Associates, Inc.
201 Merchant Street, Suite #1650
Honolulu, Hawaii 96813

Attention: Mr. Tyson T. Toyama, P.E.

Subject: Post Schematic Acoustical Recommendations; Awa Street WWPS New Generator Building, Emergency Generator, and Station Ventilation Fans

Dear Mr. Toyama:

The following letter report provides our acoustical design goals, assumptions, and acoustical treatment recommendations for the replacement of the existing 125 kw generator within the Generator Room.

A. ACOUSTICAL BASIS OF DESIGN:

The closest noise sensitive receptors are located approximately 310+ feet from the Generator Room and on the mauka side of Nimitz Highway. Honolulu Harbor is on the makai side of Nimitz Highway in the vicinity of the Awa Street WWPS. The primary design objective adopted for this project was to not exceed the State Department of Health (DOH) daytime noise limit of 70 dBA at any building across Awa Street or Nimitz Highway, and to not exceed 60 dBA at the closest noise sensitive condominium receptors at Harbor Village Apartment to the east and at 215 North King Street to the west. Because the Awa Street WWPS is zoned Industrial, the State Department of Health (DOH) 70 dBA limit applies to both daytime and nighttime generator testing operations. While the emergency generator operation may be required during the nighttime, the DOH has not invoked its nighttime noise limit during emergencies. The 70 dBA nighttime limit applies at the two distant noise sensitive condominium units, but a lower 60 dBA design goal was selected to be more appropriate at those locations, and to be consistent with the DOH 60 dBA daytime noise limit for multifamily dwelling units. An underlying assumption was that generator testing at the Awa Street WWPS could be limited to daytime periods when 60 dBA should be an acceptable background noise level at the condominium buildings.

B. ACOUSTICAL ASSUMPTIONS:

1. 125 MW, Tier 3, Generator with In-frame Radiator: Free-field noise level of approximately 90 dBA at 23 FT distance.

2. Remote Radiator Noise Level: N/A.

3. Exhaust Pipe Noise Level with Residential Grade Silencer: 75 dBA at 23 FT distance.

C. INITIAL ACOUSTICAL RECOMMENDATIONS:

1. Walls and Roofs: Exterior walls of the Generator Room are formed from approximately 8" thick, CMU, with 6" thick concrete roof. Except for treated ventilation openings, all cracks and voids in the walls and roof should be sealed.

2. Interior Finish Treatment of Generator Room: The underside of the concrete ceiling should be finished with 4" total thickness of semirigid fiberglass treatment. The recommended composition of the fiberglass treatment is a 3-1/2" thick inner layer of unfaced, semirigid panels of Owens Corning Type 703 insulation (see Enclosure 1) plus a 5/8" thick outer layer of white Armstrong #2906, film-faced, fiberglass ceiling panel (see Enclosure 2) for the Generator Room. The bare interior wall surfaces (from the ceiling down to the 6 FT height line) of the Generator Room should be treated with the 4" total thickness of insulation.

The wall and ceiling insulation may be held in place with fasteners and/or a metal lath attached to Z-furring channels spaced 24" O.C. (see Enclosure 3). Protective metal lath or perforated metal panels should not be required for the ceiling or wall panels to minimize risk of physical damage to the insulation.

3. In-Frame Radiator Discharge Air Opening: The in-frame radiator should discharge to an internally lined, vertical duct with 2 elbows, which locates the west wall penetration as high as possible for sea rise conditions. The internal duct liner should be formed from 4" thick, 3 pcf, duct liner. Owens Corning Type 703 (Enclosure 1) can be used for the unfaced 3" base layer of the 4" thick duct liner. A louvered opening should be used at the exterior wall.

4. Intake Air Opening: A single set duct silencers should be used above the double door using IAC 3Ms silencer modules (see Enclosure 4) to form the intake air opening in the east exterior wall. Fresh air should enter the Generator Room via the duct silencer bank; 16.25' w x 12' h and above the double door, to also prepare for sea level rise.. The intake air silencer bank should all be tilted (1 inch per foot) to drain outward with the internal baffles oriented vertically, and should be constructed from 316 stainless steel. All cracks between the silencer bank and the wall opening should be blocked and sealed with acoustical sealant. A bird screen or grill should be used on the exterior wall opening at the duct silencer bank.

foot) to drain outward with the internal baffles oriented vertically, and should be constructed from 316 stainless steel. All cracks between the silencer banks and the wall openings should be blocked and sealed with acoustical sealant. A bird screen or grill should be used on the exterior wall at the duct silencer banks.

5. Generator Room Double Door: The exterior door of the Generator Room should be a solid, extruded aluminum door similar to Cross FL-400 (see Enclosure 5). It should include an insulated steel frame, and adjustable, neoprene, compression-type seals along the head, jamb, astragal, and door bottom.

6. Engine Exhaust Muffler: A side-entry, Residential Grade muffler is recommended for location inside the Generator Room. If the final selected generator is significantly noisier than assumed, a Critical Grade muffler will probably be selected. The catalog cut for the Residential Grade muffler is shown in Enclosure 6 (GTE A201-4104, Style 2).

8. Engine Generator Mounts: Spring-plus-neoprene-in-series vibration isolators with minimum 1.0" static deflection should be used to support the generator. Neoprene grommets and washers should be used as required at all isolator hold-down points (see Enclosure 7). The vibration isolators can be located on outriggers (or height saving brackets), and should include seismic restraints.

Let me know if you have any questions regarding these acoustical treatment recommendations.

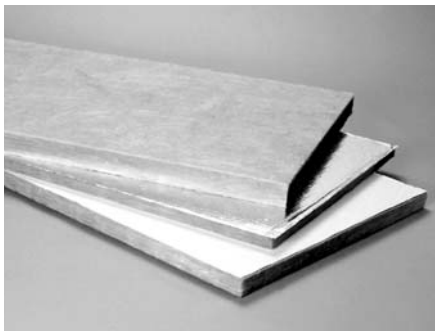
Sincerely,

Yoichi Ebisu, P.E.

encl.

700 Series FIBERGLAS™ Insulation

Product Data Sheet



- ☐ Type 701
- ☐ Type 703
- ☐ Type 705
- ☐ Type 706
- ☐ Type 707

Physical Property Data

Property	Test Method		
Equipment Operating Temperature Limitation[1]	ASTM C411	0 to 450°F (-18°C to 232°C)	
Insulation Jacket Temperature Limitation	ASTM C1136	-20°F to 150°F (-29°C to 66°C)	
Jacket Permeance	ASTM E96, Proc. A	0.02 perm	
Jacket Burst Strength	ASTM D774	FRK: 35 psi; ASJ Max: 100 psi	
Compressive Strength (minimum) at 10% deformation at 25% deformation	ASTM C165	**Type 703** 25 lb/ft² (1197 Pa) 90 lb/ft² (4309 Pa)	**Type 705** 200 lb/ft² (9576 Pa) —
Water Vapor Sorption	ASTM C1104	<2% by weight at 120°F (49°C), 95% R.H.	
Nominal Density	ASTM C167	Type 701: 1.5 pcf (24 kg/m³)	
	ASTM C303	Type 703: 3.0 pcf (48 kg/m³)	
		Type 705, 706: 6.0 pcf (96 kg/m³)	
		Type 707: 7.0 pcf (112 kg/m³)	
Surface Burning Characteristics[2] Flame Spread Smoke Developed	UL 723, ASTM E84 or CAN/ULC-S102	 25 50	

1. Maximum thickness at 450°F (232°C): Type 701: 6" (152mm); Type 703, 705, 706: 4" (102mm).
2. The surface burning characteristics of these products have been determined in accordance with UL 723, ASTM E84 or CAN/ULC-S102. This standard should be used to measure and describe the properties of materials, products or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazard or fire risk of materials, products or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard of a particular end use. Values are reported to the nearest 5 rating.

Description

700 Series Insulations are made of inorganic glass fibers with a thermosetting resin binder and formed into flexible, semi-rigid or rigid rectangular boards of varying densities. Types 703 and 705 are available with factory-applied FRK or poly encapsulated ASJ Max facings. Both facings are vapor retarders and provide a neat, finished appearance in mechanical applications.

Key Features

- 700 Series FIBERGLAS™ Insulations save energy and reduce heat transfer, lowering operating costs.
- Available in five types, providing a selection of products to meet specific performance, appearance and economic requirements.
- The ASJ Max facing is tougher[3] than standard ASJ. It has a polymer coating that helps resist water staining and yellowing, and does not support mold or mildew growth[4].
- The ASJ Max facing can resist short durations of liquid water exposure that can occur during construction.
- Resists damage and maintains structural integrity and efficiency.
- Efficiently reduces sound transmission.
- Lightweight and resilient, 700 Series products are easy to handle, fabricate on the job site and install.
- 700 Series FIBERGLAS™ Insulations are available in:
  - 24"x48" (610mm x 1,219mm) in thicknesses from 1" (25mm) to 4" (102mm) in ½" (13mm) increments
  - Maximum thickness, Type 705, is 3" (76mm)
  - Maximum thickness, Type 706, 707, is 2" (51mm)

Product Applications

701—Lightweight and flexible, it is used as acoustic insulation batts and to insulate items with irregular surfaces where an exterior finish will be supported mechanically.

703—Semi-rigid boards for use on mechanical equipment and air conditioning ductwork.

3. Based on burst strength testing.
4. ASJ Max jacket does not support mold growth when tested in accordance with ASTM C1338.

ENCLOSURE 1

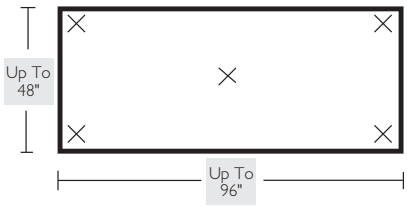
700 Series FIBERGLAS™ Insulation

Product Data Sheet

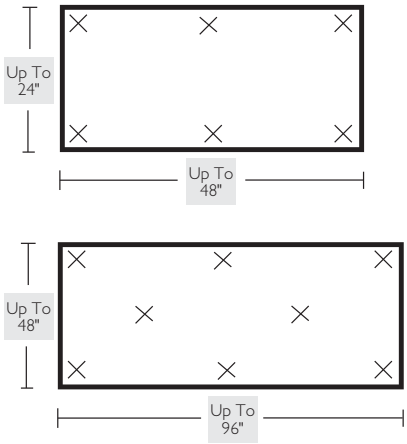
703 and 705 Series Recommended Impaling Pin Patterns

Pins should be located 3-8" from the edges of the board

Walls: 703 and 705 Series Insulation



Ceilings: 703 and 705 Series Insulation



705—A high strength rigid board for use on chillers, other mechanical epuipment, and heating and air conditioning ductwork, where high abuse resistance and good finished appearance is important.

706 and 707—Smooth surface, high density rigid boards used for acoustical wall panels and specialized ceiling applications.

Technical Information

Type 701 is a lightweight, unfaced, flexible insulation in batt form for use on objects having irregular surfaces, where the compressive strength is not a performance criterion.

Thermal Performance

ASTM C680 (Type 703)

Thickness		Operating Temperature, °F (°C)									
		250 (121)		300 (149)		350 (177)		400 (204)		450 (232)	
in.	(mm)	HL	ST	HL	ST	HL	ST	HL	ST	HL	ST
1.0	(25)	27	98	42	106	57	114	75	123	95	133
1.5	(38)	19	93	29	99	40	105	52	112	66	119
2.0	(51)	15	90	22	95	31	100	40	105	50	111
2.5	(64)	12	88	18	92	25	96	32	101	41	106
3.0	(76)	10	87	15	91	21	94	27	98	34	102
3.5	(89)	9	86	13	89	18	92	23	96	30	99
4.0	(102)	8	86	11	88	16	91	21	94	26	97

The above table provides approximate heat loss values (HL), Btu/hr•ft^2, and Surface Temperatures (ST), °F, for flat surfaces. Values are based on horizontal heat flow, vertical flat surface, 80°F ambient temperature, still air, ASJ Max facing. To convert heat loss values to W/m^2, multiply values by 3.15. To convert surface temperatures, use the formula: °C = (°F-32)/1.8. For similar information using other assumptions, contact your Owens Corning Representative.

Sound Absorption Coefficients

ASTM C423; Mounting: Type A—Material placed against a solid backing.

	Thickness		Octave Band Center Frequencies, Hz						
Product Type	in.	(mm)	125	250	500	1000	2000	4000	NRC
701, unfaced	1	(25)	0.17	0.33	0.64	0.83	0.90	0.92	0.70
	2	(51)	0.22	0.67	0.98	1.02	0.98	1.00	0.90
703, unfaced	1	(25)	0.11	0.28	0.68	0.90	0.93	0.96	0.70
	2	(51)	0.17	0.86	1.14	1.07	1.02	0.98	1.00
705, unfaced and 706 smooth surface	1	(25)	0.02	0.27	0.63	0.85	0.93	0.95	0.65
	2	(51)	0.16	0.71	1.02	1.01	0.99	0.99	0.95
703, FRK	1	(25)	0.18	0.75	0.58	0.72	0.62	0.35	0.65
	2	(51)	0.63	0.56	0.95	0.79	0.60	0.35	0.75
705, FRK	1	(25)	0.27	0.66	0.33	0.66	0.51	0.41	0.55
	2	(51)	0.60	0.50	0.63	0.82	0.45	0.34	0.60
703, ASJ Max	1	(25)	0.17	0.71	0.59	0.68	0.54	0.30	0.65
	2	(51)	0.47	0.62	1.01	0.81	0.51	0.32	0.75
705, ASJ Max	1	(25)	0.20	0.64	0.33	0.56	0.54	0.33	0.50
	2	(51)	0.58	0.49	0.73	0.76	0.55	0.35	0.65

Values given are for design approximations only; production and test variabilities will alter results. Specific designs should be evaluated in end-use configurations.

Types 703 and 705 are board insulations usually impaled over welded pins on flat surfaces. They are cut in segments and banded in place on irregular surfaces. Unfaced boards are normally finished with reinforced insulating cement or weatherproof mastic.

Installation

700 Series Insulation can be easily cut with a knife and fit neatly into irregularly shaped areas.

Boards with ASJ Max or FRK facings shall be applied using mechanical fasteners such as weld pins or speed clips. Fasteners shall be located not less than 3" (75mm) from each edge or corner of the board.

Pin spacing along the equipment should be no greater than 12" (300mm) on centers. Additional pins or clips may be required to hold the insulation tightly against

Thermal Conductivity

k, Btu•in/hr•ft²•°F				λ, W/m•C			
Mean Temp.°F	701	703	705, 706	Mean Temp.°C	701	703	
50	0.22	0.21	0.22	10	0.032	0.030	0.032
75	0.24	0.23	0.23	25	0.035	0.033	0.034
100	0.26	0.24	0.25	50	0.040	0.036	0.037
150	0.30	0.27	0.27	75	0.045	0.040	0.041
200	0.35	0.30	0.30	100	0.052	0.045	0.045
250	0.40	0.34	0.33	125	0.059	0.050	0.049
300	0.46	0.38	0.37	150	0.067	0.055	0.053

the surface where cross breaking is used for stiffening. Weld pin lengths must be selected for tight fit but avoid "oil-canning."

In multiple layer applications, use faced material on outer layer only.

Where a vapor retarder is required, cover pins and clips with vapor sealing, pressure-sensitive patches matching insulation facing. Rub hard with a plastic sealing tool for a tight bond and a vapor seal.

All insulation joints should be sealed with pressure-sensitive joint sealing tape to match the insulation facing. Rub hard with a plastic sealing tool to effect a tight bond. Recommended practice suggests 3" (76mm) wide tape on flat surfaces or where edges are shiplapped and stapled. Use 5" (102mm) wide tape in lieu of shiplapping. If insulation is being applied to sheet metal duct work, all sheet metal joints must be sealed prior to insulating. Glass fabric and mastic may be used in lieu of pressure-sensitive tape.

For Vertical Applications

700 Series Insulation can be installed between furring strips, hat channels and Z-shaped furring where a finish will be applied. For exposed applications, the product can be impaled on impaling pins or adhered with adhesive.

For Horizontal Applications

700 Series Insulation can be installed on horizontal surfaces by using impaling pins.

On Curtainwalls

700 Series Insulation is easily installed by mounting on impaling pins or holding in place with supporting clips designed for the application. Follow curtainwall manufacturer's instructions for clearance.

On Masonry Construction

700 Series Insulation can be installed between wythes, on the interior face with stick pins, or by using appropriate adhesives.

On Precast Concrete

700 Series Insulation can be installed using impaling pins or appropriate adhesives.

When using adhesive, follow adhesive manufacturer's recommendations for surface preparation and adhesive pattern.

When using impaling pins, follow pin manufacturer's recommendations for surface preparation. Lengths should be selected for tight fit. Protect pin tips where subject to contact. Pins should be located 3"-8" from the edge(s) of the board.

Maintaining the integrity of the vapor retarder is important for effective moisture/humidity control. Repair any punctures or tears in the facing by taping with a matching pressure sensitive tape.

Product should be kept dry during shipping, storage and installation.

Standards, Codes Compliance

- ASTM C553, Mineral Fiber Blanket Thermal Insulation, Type III – Type 701
- ASTM C612, Mineral Fiber Block & Board Thermal Insulation, Types IA, IB – Types 703, 705, 706, 707
- ASTM C795, Thermal Insulation For Use Over Austenitic Stainless Steel[1] (except 701)
- ASTM C1136, Flexible Low Permeance Vapor Retarders for Thermal Insulation, Type I: ASJ Max; Type II: FRK
- Nuclear Regulatory Commission Guide 1.36, Non-Metallic Thermal Insulation[1] (except 701)
- Doesn't contain the fire retardant decabrominated diphenyl ether (decaBDE)
- CAN/CGSB-51.10 – Type I, Class I – Types 703
- NFPA 90A and 90B
- California Insulation Quality Standards CA-T052

1. Preproduction qualification testing complete and on file. Chemical analysis of each production lot required for total conformance. Certification needs to be specified at time of order.

700 Series FIBERGLAS™ Insulation

Product Data Sheet

Certifications and Sustainable Features of 700 Series FIBERGLAS™ Insulation

- Certified by SCS Global Services to contain a minimum of 53% recycled glass content, 31% pre-consumer and 22% post-consumer.

Environmental and Sustainability

Owens Corning is a worldwide leader in building material systems, insulation and composite solutions, delivering a broad range of high-quality products and services. Owens Corning is committed to driving sustainability by delivering solutions, transforming markets and enhancing lives. More information can be found at http://sustainability.owenscorning.com.

AVERAGE 53% RECYCLED CONTENT
31% PRE-CONSUMER
22% POST-CONSUMER

OWENS CORNING INSULATING SYSTEMS, LLC
ONE OWENS CORNING PARKWAY
TOLEDO, OHIO 43659
1-800-GET-PINK®
www.owenscorning.com

Pub. No. 14775-V. Printed in U.S.A. June 2015.

SHASTA®

Square Lay-in
medium texture

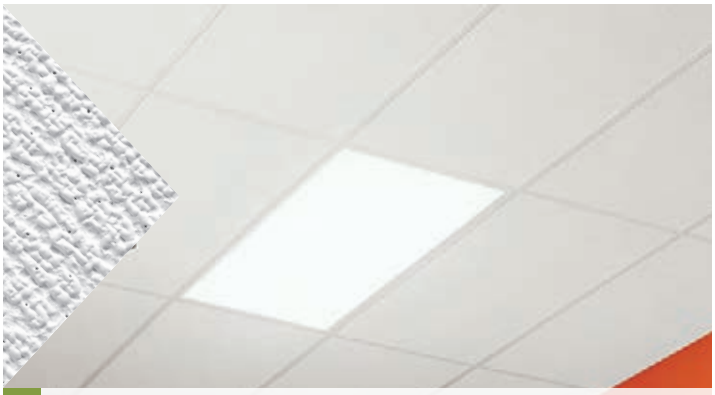
UP TO 71% RECYCLED CONTENT

Calculate LEED contribution at armstrong.com/greengenie

LEED®: energy management ✓ | construction waste mgmt ✓ | regional materials ✓ | design for flexibility ✓ | EPD | recyclable/ extended producer resp. ✓ | biobased materials | recycled content ✓ | sourcing of raw materials ✓ | material ingredient reporting | low emitting/ materials ✓ | lighting quality ✓ | acoustics ✓

▲ LOCATION DEPENDENT

$$$$



Shasta® panel with Prelude® 15/16" suspension system (Pgs. 279-280)

This economical panel provides sound absorption with a medium-textured, easy-clean, durable vinyl surface.

KEY SELECTION ATTRIBUTES

- Excellent sound absorption (perforated options)
- Easy-clean, durable surface
- Economical
- 30-Year Limited System Warranty against visible sag, mold and mildew

TYPICAL APPLICATIONS

- Discount/grocery stores
- Locker rooms
- Utility rooms
- Lavatories/restrooms

COLOR

White (WH) Tech Black (BL)

VISUAL SELECTION

PERFORMANCE Dots represent high level of performance.

Edge Profile	Susp. Dwg. Pgs. 295-299 armstrong.com/catdwgs	Item No.	Dimensions (Inches)	UL Classified Acoustics NRC	+	CAC	=	Total Acoustics[1]	Fire Rating	Light Reflect	Anti-Mold & Mildew (Inherent)	Sag Resist (Humi-Guard+)	Certified Low VOC Emissions	Water Repel (Durability)	Wash (Durability)	Scrub (Durability)	Impact (Durability)	Soil (Durability)	Recycled Content	Recycle Program	30-Yr Warranty
SHASTA® (Perforated)																					
15/16" Square Lay-in	1	**2904**	24 x 24 x 5/8" ☐	0.70 •	+	N/A	=	–	Class A	0.72	•	•	–	–	•	•	•	•	•	–	•
	1	**2906 _ _** ◆◆	24 x 48 x 5/8" ▭	0.70 •	+	N/A	=	–	Class A	0.72	•	•	–	–	•	•	•	•	•	–	•
	1	**Other Size Panels**	W: 12" – 30" / L: 12" – 60" 5/8" Thick	N/A	+	N/A	=	–	Class A	0.72	•	•	–	–	•	•	•	•	•	–	•
SHASTA (Unperforated)																					
15/16" Square Lay-in	1	**2905 _ _** ◆◆	24 x 24 x 5/8" ☐	0.50	+	N/A	=	–	Class A	0.72	•	•	–	•	•	•	•	•	•	–	•
	1	**2907**	24 x 48 x 5/8"	0.50	+	N/A	=	–	Class A	0.72	•	•	–	•	•	•	•	•	•	–	•
	1	**Other Size Panels**	W: 12" – 30" / L: 12" – 60" 5/8" Thick	N/A	+	N/A	=	–	Class A	0.72	•	•	–	•	•	•	•	•	•	–	•

[1] Total Acoustics™ ceiling panels have an ideal combination of noise reduction and sound-blocking performance in one product.

◆◆ _ _

SUSPENSION SYSTEMS

15/16"

Prelude®

PHYSICAL DATA

Material
Fiberglass with vinyl facing

Surface Finish
Scrubbable vinyl film facing (UV protected)

Fire Performance
ASTM E84 and CAN/ULC S102 surface burning characteristics. Flame Spread Index 25 or less. Smoke Developed Index 50 or less (UL labeled.)

ASTM E1264 Classification
2904, 2906 – Type XII, Form 1, Pattern E C
2905, 2907 – Type XII, Form 1, Pattern E
Fire Class A

Humidity/Sag Resistance
HumiGuard® Plus ceiling panels maintain superior sag resistance. Recommended for areas subject to high humidity, up to, but not including, standing water and outdoor applications.

Anti-Mold/Mildew
Fiberglass panels inherently inhibit the growth of mold and mildew.

High Recycled Content
Contains greater than 50% total recycled content. Total recycled content based on product composition of post-consumer and pre-consumer (post-industrial) recycled content per FTC guidelines.

Acoustical Details
A CAC value of 37 can be achieved by backloading fiberglass products with item 769 or 770.

Insulation Value
R Factor - 2.6 (BTU units)
R Factor - 0.46 (Watts units)

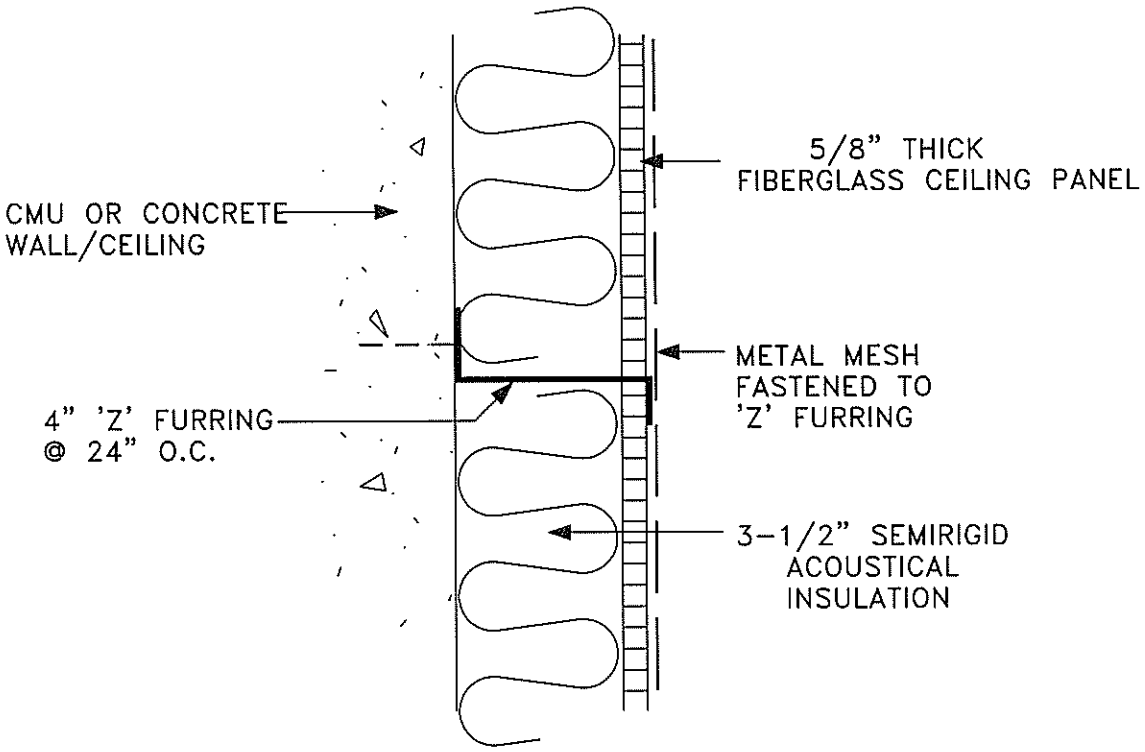
30-Year Performance Guarantee & Warranty
When installed with Armstrong® Suspension System. Details at armstrong.com/warranty

Weight; Square Feet/Carton
0.17 lbs/SF; 128 SF/ctn

Minimum Order Quantity
1 carton, excludes other size panels

Metric Items Available
Items 2904M, 2906M, 2905M, 2907M – Metric items are subject to extended lead times and minimum quantities. Contact your representative for more details.

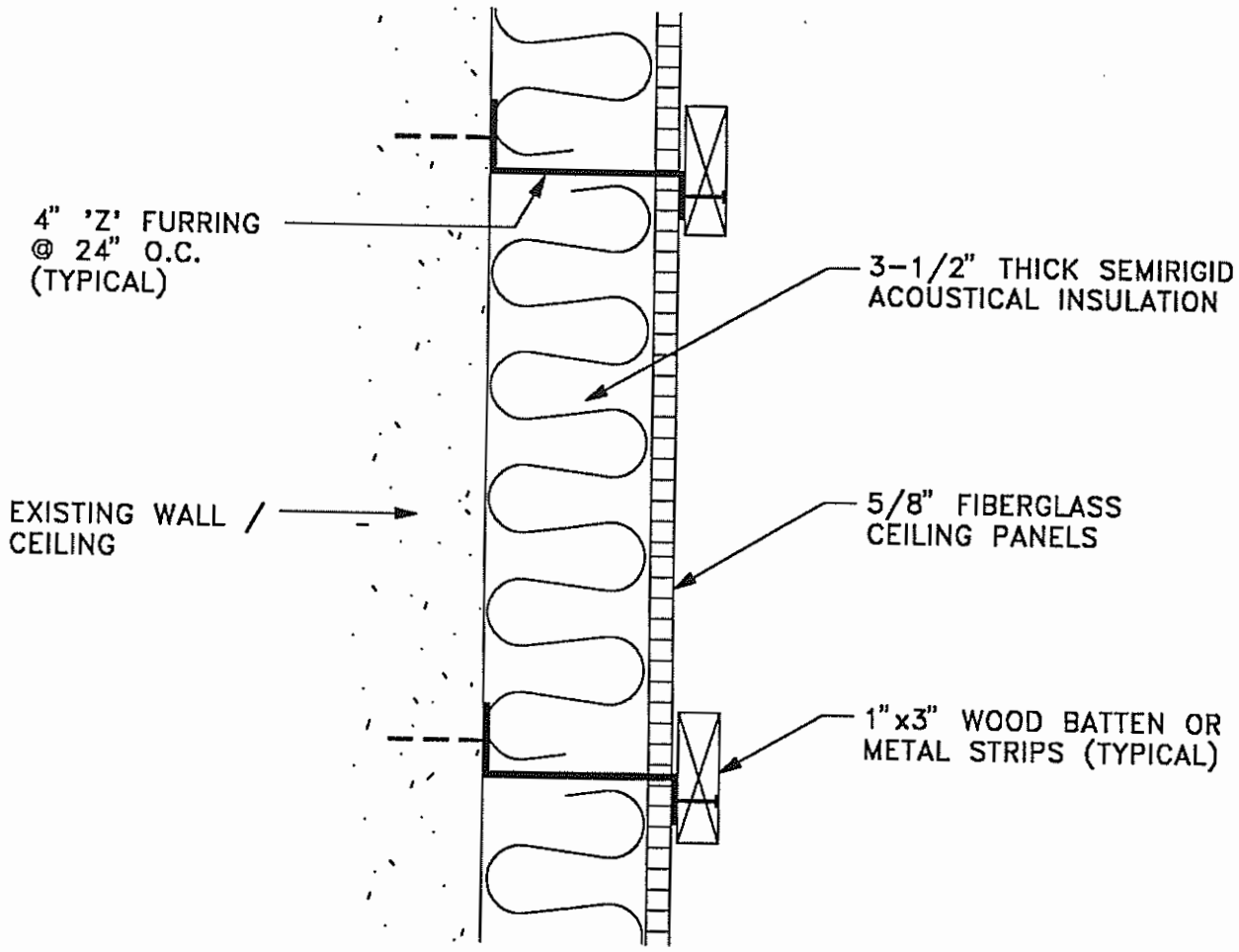
ENCLOSURE 2



DETAIL A

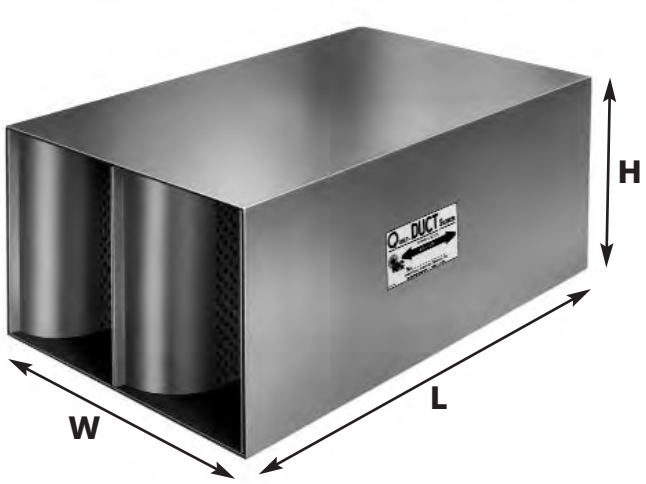
ACOUSTICAL INSULATION

ENCLOSURE 3


4" 'Z' FURRING
@ 24" O.C.
(TYPICAL)
EXISTING WALL /
CEILING
3-1/2" THICK SEMIRIGID
ACOUSTICAL INSULATION
5/8" FIBERGLASS
CEILING PANELS
1"x3" WOOD BATTEN OR
METAL STRIPS (TYPICAL)

QUIET-DUCT SILENCERS TYPE: MS

with FORWARD and REVERSE FLOW Ratings



IAC has produced Quiet-Duct HVAC silencers for more than 50 years, and has developed many of the terms and test standards for rating silencer performance that are used today. These standards are dynamic documents that continue to change based on new developments and discoveries in the field of acoustic engineering. Today we continue our involvement in several of the industry's governing agencies, and we remain committed to ensuring that we are always providing product that is in accordance with all of the latest standards. All published acoustic and aerodynamic performance results are based on tests conducted in strict accordance with ASTM E477-99 in IAC America's NVLAP-Accredited laboratory.

DESIGNATING A SILENCER

Model: 5 MS 30 x 18

Length: 5' Type: MS Width: 30" Height: 18"

Table I. Dynamic Insertion Loss (DIL) Ratings: Forward (+) / Reverse (-) Flow

IAC MODEL	Octave Band Hz	1 63	2 125	3 250	4 500	5 1K	6 2K	7 4K	8 8K
	Face Velocity, fpm								
3MS	-4000	5	7	14	24	27	20	12	9
	-2000	6	7	13	24	26	19	13	9
	0	5	7	13	23	25	20	15	10
	2000	4	6	12	21	24	21	16	11
	4000	3	5	11	18	23	22	17	11
5MS	-4000	7	12	21	38	43	32	19	10
	-2000	5	10	19	36	43	31	19	10
	0	5	10	18	35	43	32	21	12
	2000	4	9	17	34	42	33	22	14
	4000	3	8	16	32	40	34	22	15
7MS	-4000	8	17	28	41	46	41	24	13
	-2000	7	14	25	42	50	40	24	13
	0	7	14	24	42	50	42	26	15
	2000	7	13	23	41	49	44	28	17
	4000	6	11	21	40	49	45	30	19
10MS	-4000	12	21	35	43	52	47	31	18
	-2000	11	19	34	45	52	50	33	17
	0	11	18	33	45	52	51	36	19
	2000	10	17	32	45	51	52	38	21
	4000	9	14	29	44	48	50	40	23

(+) Forward Flow / (-) Reverse Flow. Aero-acoustic performance data based on NVLAP accredited laboratory tests conducted in strict accordance with ASTM E477-99. Contact IAC if attenuation in excess of 50 dB is required.

ENCLOSURE 4

Table II: Weights and Measures

Nominal Length	W/ In H/ In	7.5 18	7.5 24	7.5 30	7.5 36	7.5 42	7.5 48	15 18	15 24	15 30	15 36	15 42	15 48	30 18	30 24	30 30
3 feet	Wt/ lb.	26	40	45	51	66	80	47	57	67	80	89	100	80	95	110
5 feet		46	67	80	91	112	134	80	96	114	134	150	167	135	161	187
7 feet		65	95	100	129	158	190	112	135	159	193	216	240	188	224	261
10 feet		90	135	157	180	223	270	159	192	226	273	-	-	220	319	371

Nominal Length	W/ In H/ In	30 36	30 42	30 48	45 18	45 24	45 30	45 36	45 42	45 48	60 18	60 24	60 30	60 36	60 42	60 48
3 feet	Wt/ lb.	130	145	160	127	152	156	177	197	218	160	190	220	260	290	320
5 feet		22	248	274	215	257	275	310	345	381	270	322	374	44	496	548
7 feet		310	347	384	300	359	-	-	-	-	376	448	522	620	694	768
10 feet		440	-	-	-	-	-	-	-	-	440	638	742	880	-	-

Table III: Aerodynamic Performance

Model	L/ Ft	Static Pressure Drop, i.w.g.															
MS	3	0.06	0.08	0.10	0.12	0.14	0.17	0.20	0.23	0.26	0.29	0.33	0.36	0.40	0.44	0.49	0.53
	5	0.08	0.10	0.12	0.15	0.17	0.20	0.24	0.27	0.31	0.35	0.39	0.44	0.48	0.53	0.58	0.64
	7	0.10	0.12	0.15	0.18	0.22	0.26	0.30	0.34	0.39	0.44	0.49	0.54	0.60	0.67	0.73	0.80
	10	0.12	0.15	0.19	0.23	0.27	0.31	0.36	0.42	0.48	0.54	0.60	0.67	0.74	0.82	0.90	0.98
Silencer Face Velocity, fpm		800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300

Table IV: Self-Noise Power Levels, dB re: 10-12 Watts

IAC Model	Octave Band	1	2	3	4	5	6	7	8
	Hz	63	125	250	500	1K	2K	4K	8K
	Silencer Face Velocity, fpm								
MS All Sizes	-3,000	67	63	61	66	61	64	67	67
	-2,000	60	56	56	56	57	59	58	49
	-1,000	46	45	45	41	50	51	43	23
	1,000	44	32	36	34	31	32	29	21
	2,000	63	54	52	50	47	48	47	44
	3,000	74	64	60	58	56	58	59	57

(+) Forward Flow / (-) Reverse Flow. Aero-acoustic performance data based on NVLAP accredited laboratory tests conducted in strict accordance with ASTM E477-99.

TAKE NOTE!

- Silencer Face Area is the cross-sectional area at the silencer entrance.
- Face Velocity is the CFM of airflow divided by the Face Area (in sq. ft.)
- Pressure Drop for any velocity can be calculated from this equation:
  PD = (Actual FV/Catalog FV)^2 x (Catalog PD)
- Self Noise values shown are for a two-and-a-half square-foot face area silencer.
- For each doubling of the face area add 3 dB to the self-noise values listed.
- For each halving of the face area subtract 3 dB from the self-noise values listed.
- Weights and measures are listed for limited number of available sizes.

IAC America 1160 Commerce Avenue Bronx, New York 10462-5599
Tel: (718) 931-8000 Fax: (718) 863-1138
E-mail: HVACinfo@industrialacoustics.com Web: www.IACsilencers.com

Specially designed silencers and full-scale or model testing is available on request.

FL-400 ENTRANCES

Flush Plank Doors

The FL-400 series entrances are the most versatile doors we have to offer. This heavy duty entrance is typically used in high traffic and abused areas, such as; schools, universities, waste water treatment plants, highway rest and welcome centers, secure government training facilities, etc. The flexibility inherent with these entrances allows many options for vision lites without compromising quality or strength.

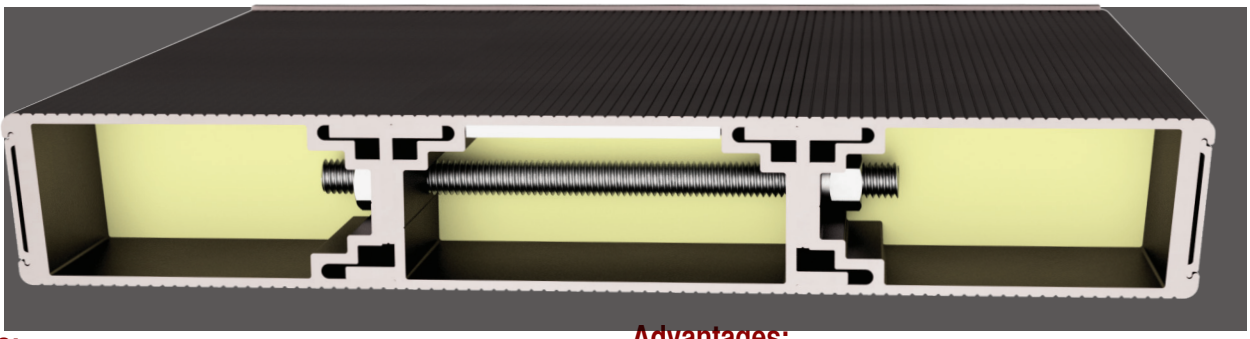
This door type has been our most popular entrance system to date. It is unique in construction from nearly every flush door manufacturer. The door is comprised of 4" aluminum planks interlocked with one another. This eliminates de-lamination of face sheets and increases a building's security. The FL-400 door exceeds the specifications and structural integrity of any flush sheet door on the market. These entrances are constructed to take heavy abuse and last many years.

FL-400 Features

- **MaintenanceFree-** All entrances come with our standard 10 year warranty.
- **RetroFit-** Entrances can replace any existing opening and improve efficiency.
- **SecureWall-** Face thickness is 1/8" with 1/4" internal reinforcement every 4 inches.
- **WaterLock-** Doors are interlocked together and completely sealed from the elements.
- **CustomIntegration-** Configurations to match architectural decor of building.
- **SecureGlaze-** Extruded non-removable exterior glazing stops.
- **MissileImpact-** Missile Impact tested in accordance with ASTM E 1886.
- **EcoFriendly-** Secondary billet, acid-etch anodizing, and zero VOC emissions painting.

ENCLOSURE 5

FL-400 Series
Flush Plank Doors



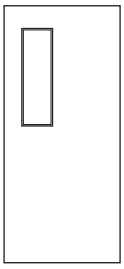
Features:
- Hinge and lock stile edges have 3/16" (.1875") thick.
- 3/8" (.375) steel tie rod 3 per door (2 for FG door type)
- 3/8" (.375") thick wall every 4 inches. Minimum 3/8" (0.375") interlock every 4 inches.
- Fluted pattern standard. Smooth pattern also available.
- 1/8" (.125") Closer reinforcement (Eliminates through-bolting).
- Custom finishes available.
- 1-1/2" (1.5") Polyisocyanurate rigid board stock.

"R" Value 11.23; U Value .089

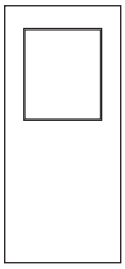
Advantages:
- No back up plates necessary for butt hinges. This eliminates mortising into stile and weakening it.
- No additional charge for larger vision lites in doors.
- Constructed with interlocking extrusions. No delamination of face sheets.
- No need for hardware backups necessary.
- A true 1/8" wall thickness. Almost double the thickness of face sheet manufactured doors.
- Cross Aluminum will provide factory installation of any commercial door hardware as manufactured by other suppliers.

FL-400 Options

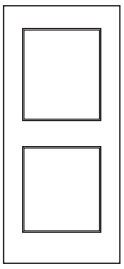
The FL-400 entrances are constructed in a way that allows many visually-appealing options. Custom sizes and configurations of vision lites are available upon request. A few examples are shown below.



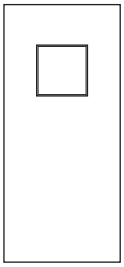
FL-400 NG
Narrow Glass



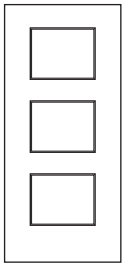
FL-400 HG
Half Glass



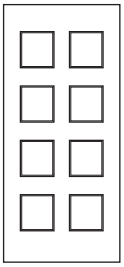
FL-400 DG
Double Glass



FL-400 SG
Square Glass



FL-400 SG-3
Square Glass x 3



FL-400 SG-8
Square Glass x 8

General Composition
- Flush plank doors are 1-3/4" thick.
- Stiles are 4" wide, with a fluted surface and optional smooth surface.
- Door Face Thickness is 1/8" thick with 1/4" thick reinforcing wall every 4".
- Flush planks doors are individual extrusions interlocked together. Minimum 3 tie rods per door.*

*Note: Full Glass Doors will typically have 2 rods.

Glazing and Glass
- Glass stops will always match finish on door unless specified otherwise.
- Exterior glazing is a part of the plank extrusion increasing security. Exterior glazing is non-removable.
- All interior glass stops are screw applied and only removable from the interior. Interior glass stops have 1/8" thick walls.
- Glass infill 1/4" through 1-5/16".

Versatility
- The FL-400 doors have been fabricated to 6' wide and up to 18' tall.
- FL-400 entrances can be manufactured to have narrow lites, half lites, double lites, full lites, etc.

Finishes
- Available in Class I and Class II anodized finishes.
- Kynar painted fluoropolymer finishes with 10 year warranties. AAMA 2605
- Color charts and warranties on finishes are available on request.

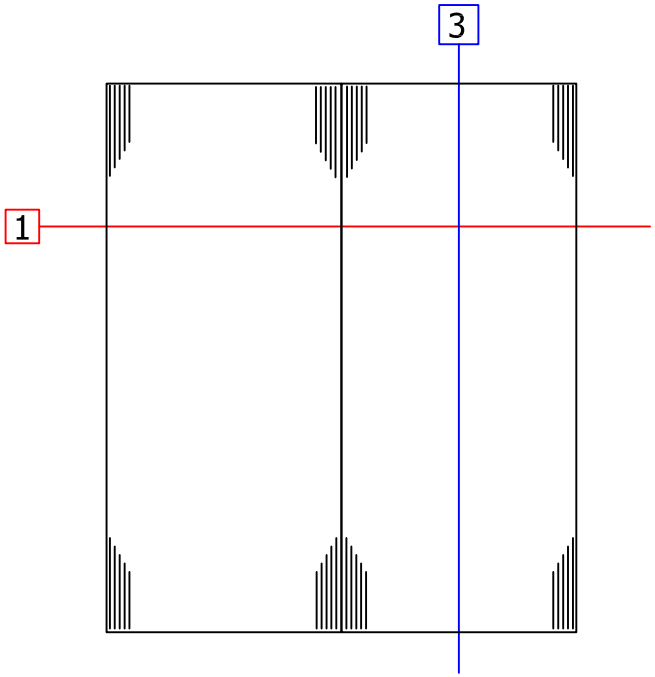
CROSS ALUMINUM
THE ONLY WAY TO ENTER
1770 Mayflower Road
Niles, MI. 49120
P: 800-806-DOOR
F: 269-697-8340
email: info@crossaluminum.com

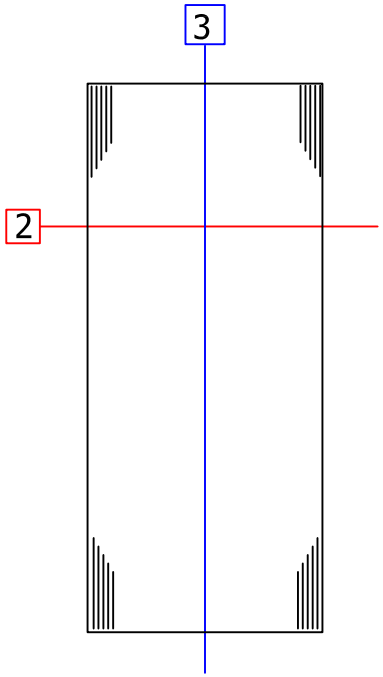
Tests:
ASTM E 283 Air Infiltration
ASTM E 330 Uniform Load Structural
ASTM E 331 Water Penetration
ASTM E 1886 Missile Impact Cyclic Pressure
ASTM E 1996 Missile Impact

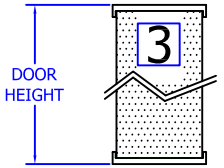
FL-400-S1

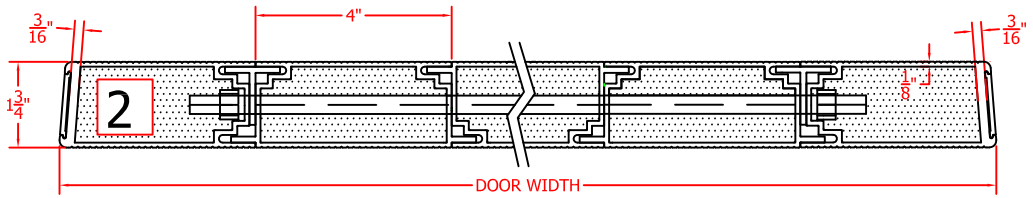
D1

CROSS Aluminum

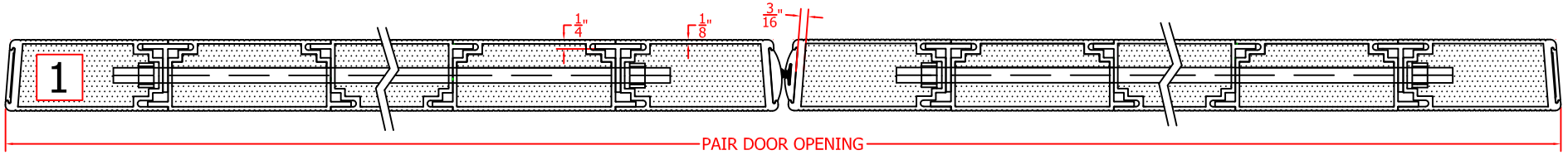








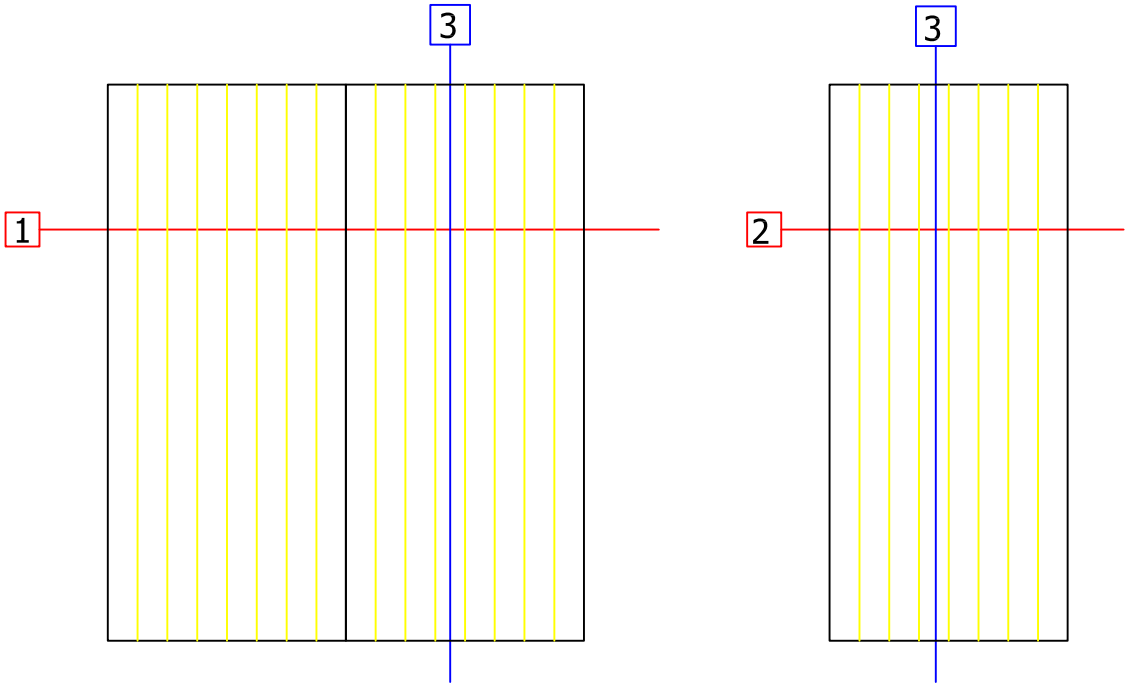
SOLID FLUSH DOOR IS INSULATED WITH
POLYISOCYANURATE RIGID FOAM (TYP.)

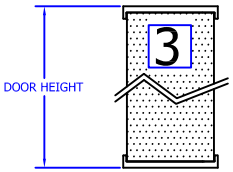


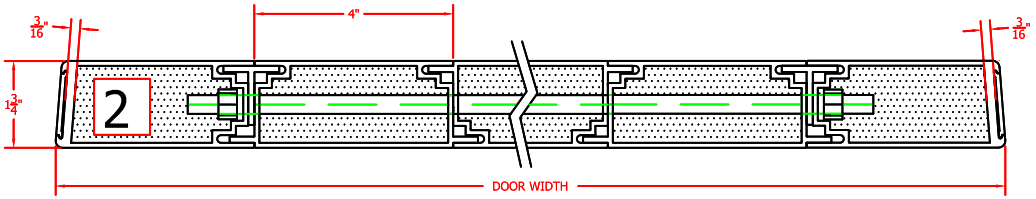
D1

FL-400-S1

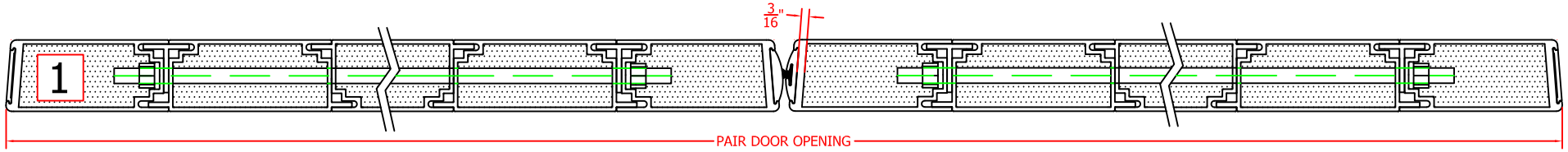
CROSS Aluminum







SOLID FLUSH DOOR IS INSULATED WITH POLYISOCYANURATE RIGID FOAM (TYP.)



RESIDENTIAL GRADE SILENCER

19 to 25 dBA Noise Reduction • EGSA Class 3

A201-4100

APPLICATION

For areas where ambient noise levels are moderate. Excellent for use on stationary, marine and mobile power units. Well suited for applications requiring moderate silencing.

CONSTRUCTION

Sizes 3.5" and below come standard with ID Cuff/OD Tube connections. Sizes 4" and above come standard with ANSI pattern flanged connections. Additional connections available, consult factory for details.

FINISH AND OPTIONAL MATERIALS

High heat powder coat on body sizes 28" in diameter or less, and high heat black paint on sizes 30" and larger. Silencers available in stainless steel, or with aluminized heads and shell—consult factory for details and optional coatings.

OPTIONS

- Aluminized steel, 304L or 316L stainless steel
- Dual inlet or custom inlet/outlet configurations
- Thermal insulation blankets to suit all configurations
- Mounting brackets, gussets and lifting lugs

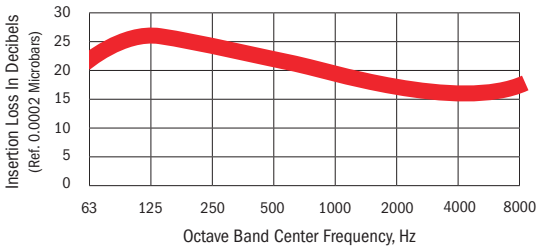
DIMENSIONS

SIZES 6" AND BELOW COME STANDARD WITH ID CUFF/OD TUBE CONNECTIONS											
A201-41015	1.5	6	30	27	24	3	11	5	3	7	10
A201-4102	2	6	36	33	30	3	14	6	3	9	13
A201-41025	2.5	8	42	39	36	4	18	7	4	10	21
A201-4103	3	8	42	39	36	4	17	7	4	10	21
A201-41035	3.5	10	46	43	40	5	19	8	5	11	29
A201-4104	4	10	46	43	40	5	19	8	5	11	29
A201-4105	5	10	54	51	48	6	23	9	6	14	34
A201-4106	6	12	54	51	48	6	23	9	6	12	43
SIZES 8" AND ABOVE COME STANDARD WITH ANSI PATTERN FLANGED CONNECTIONS											
A201-4108	8	18	61	57	54	8	25	13	8	13	124
A201-4110	10	22	74	71	67	12	32	15	12	17	182
A201-4112	12	26	75	72	69	13	31	17	13	17	299
A201-4114	14	30	100	97	94	15	45	19	15	26	413
A201-4116	16	36	114	111	109	17	53	22	17	30	585
A201-4118	18	36	126	123	119	18	64	22	18	38	733
A201-4120	20	42	139	136	133	20	66	25	20	36	1013
A201-4122	22	48	141	138	136	22	74	29	22	37	1192
A201-4124	24	54	142	139	137	24	66	31	24	35	1404

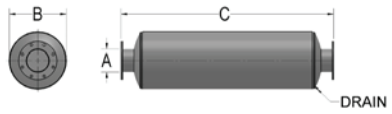
Additional connections available. **See silencer price book for breakdown of A200 part number.**
F MAX is for inlet only. H MAX is for outlet only. All weights are in pounds. All weights are approximate.
Use diameter to find bracket sizes. Example: A201-4108 (18" dia) would require 28-1800 brackets (or similar 29 brackets).

ENCLOSURE 6

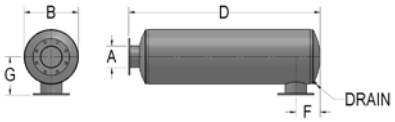
TYPICAL ATTENUATION CURVE



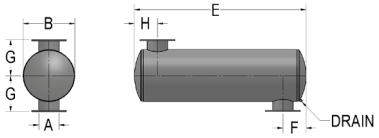
TYPICAL ORIENTATIONS



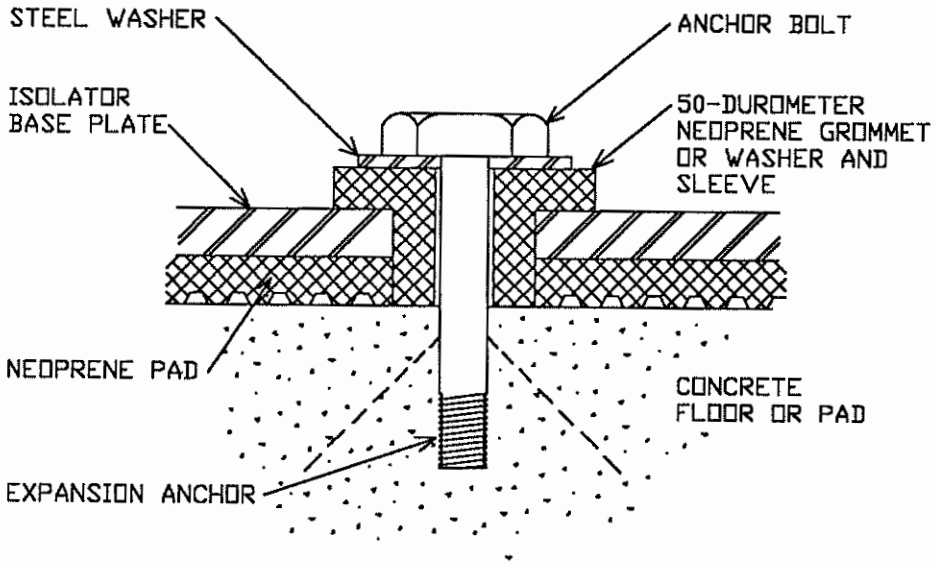
STYLE 1



STYLE 2



STYLE 3



RESILIENT HOLD-DOWN BOLT INSERT
FOR VIBRATION ISOLATOR

Not to Scale

ENCLOSURE 7