

Lahaina Small Boat Harbor Inner Marginal Pier Repairs
Preliminary Site Specific Best Management Practices Plan
May 1, 2020

1.0 Introduction

This preliminary site specific Best Management Practices (BMP) Plan and Site BMP Plan drawing GI01 are provided for the proposed Lahaina Small Boat Harbor Inner Marginal Pier Repairs, Lahaina, Maui, Hawaii project. See Appendix B for the Site BMP Plan drawing. This Plan summarizes the minimum BMPs that shall be implemented over the course of the project to avoid and minimize impacts to the marine environment, including impacts to threatened or endangered species. These BMPs are based on recommended practices by the U.S. Fish and Wildlife Service (USFWS), and the National Oceanic and Atmospheric Administration (NOAA).

The contractor shall comply with this preliminary site specific BMP Plan for the Lahaina Small Boat Harbor Inner Marginal Pier Repairs, Lahaina, Maui, Hawaii project and the specific requirements of all federal, state, county, and any other necessary permits put in place for the work. All workers associated with this project, irrespective of their employment arrangement or affiliation (e.g., employee, sub-contractor, etc.) shall be fully briefed on the BMPs and the requirement to adhere to the BMPs for the duration of their involvement in this project.

The contractor shall prepare and submit a site specific BMP Plan to the Engineer for approval prior to the start of onsite construction. The BMP Plan should include a Construction Contingency Plan to prevent and respond to any discharge resulting from a severe storm event that exceeds a 2-year, 24-hour event. The *Construction Contingency Plan* defines actions that are required in preparation for a storm event, following a storm event, and when a discharge of pollutants has occurred or is occurring.

1.1 General Site Best Management Practices

- 1.1.1 Dust generation shall be minimized by using water to dampen the surfaces to be demolished when feasible. Requirements of Hawaii Administrative Rules, Title 11, Chapter 60.1 (HAR 11-60.1) shall be followed for preventing the release of dust during construction activities. Measures shall be taken to reduce and eliminate sediment from leaving the jobsite whether it is airborne or in the form of silty water. No runoff from water used to control dust will be allowed to enter the harbor. These additional measures shall include (but not be limited to) spraying water to eliminate dust, reducing traffic on the site, silt curtains, sand bags, drain inlet/scupper protection, silt fence, gutter buddies, bio-socks, green snake bags (if appropriate) or any alternative or equivalent means to prevent silts/sediments or pollutants from leaving the jobsite.
- 1.1.2 A temporary concrete washout facility shall be used to contain concrete wash-out or waste and shall be constructed with sufficient size / volume to contain all liquid and concrete waste generated by concrete washout operations. The facility shall be lined with plastic lining material of a minimum of 10 mil polyethylene sheeting. The sheeting shall be free of holes, tears or other defects that may compromise the impermeability of the material. The facility may be constructed above-grade and shall be maintained daily to prevent migration of concrete contaminated wash water from entering the harbor waters. The breaking up and

removal of hardened solids may damage the plastic lining. If damage occurs, the concrete washout facility will be relined with new plastic.

- 1.1.3 The stabilized construction entrance/exit shall consist of Trackout Control Mats or approved equal sufficient to trap mud and debris knocked loose as the vehicle passes over it, and to prevent tracking of materials from the project site. Hauling trucks exiting the site shall be inspected to ensure they are clean and do not track materials when entering or exiting the project site. Trucks shall be cleaned to prevent the tracking of mud or debris over roads or parking lots. The jobsite shall be kept free of rubbish and construction debris. The project site shall be cleaned regularly and the materials shall be collected in roll-off containers. These materials shall be disposed of on a routine basis in accordance with all applicable regulations.
- 1.1.4 Specific and contained areas shall be designated for vehicle and equipment cleaning and fueling to prevent discharges of polluted wash water, fuel spills or leaks.
- 1.1.5 Stockpiles shall be located away from the marine environment and any storm water facility. Stockpiles shall be equipped with erosion prevention BMPs such as plastic coverings to protect against wind or rainfall and containment BMPs such as berms, silt fences, or compost biofilter socks to protect stockpiled material from run-on or runoff discharges.
- 1.1.6 Materials shall be properly stored in a container, on dunnage, or as required by the manufacturer to avoid contact with storm water in order to control spills.

1.2 In-Water and Above-Water Work

- 1.2.1 A weighted turbidity curtain shall be used to enclose the in-water work area to control turbidity during the performance of all in-water and over-water work, including removal of moorings, debris and obstructions and installation of new moorings. Harbor waters within and outside of the turbidity curtain shall be monitored. If construction activities result in turbidity outside the turbidity curtain, immediate corrective action shall be taken to repair or adjust the curtain. Work shall be suspended if the problem can't be fixed.
- 1.2.2 The contractor shall inspect the turbidity curtains at the start of the day's construction to assess their condition and shall monitor the effectiveness of the turbidity curtains throughout the construction period. If a failure of the turbidity curtain to contain turbidity within the enclosed area is identified, in-water work that may result in turbidity will not continue until the problem has been resolved. The contractor shall maintain at least 200 feet of additional turbidity curtain on-site in case emergency containment of turbidity outside of an installed turbidity curtain or eventual replacement of an installed turbidity curtain (once the turbidity has subsided) is needed. If turbidity curtain replacement is required, in-water construction that may result in turbidity will not continue until successful installation, repair, or replacement of the turbidity curtain is achieved.
- 1.2.3 Maintenance of turbidity curtains shall be in accordance with the curtain manufacturer's recommendations. Floating debris from the demolition of the wooden pier that are trapped between the turbidity curtain and shoreline shall be removed before the end of each working

day. Debris that inadvertently fall and sink to the harbor bottom shall be removed immediately.

- 1.2.4 Moorings and debris removed shall be properly disposed of in accordance with all applicable regulations. Soil or debris that fall off the mooring assemblies shall be collected and disposed of properly. Floating platforms will be installed under the existing pile caps to catch debris from the demolition of the wooden pier and pile cap repairs.
- 1.2.5 Watertight formwork shall be constructed to prevent concrete from entering the water during the pile cap repairs/reconstruction or landside concrete work is being performed. Forms constructed at or close to the water level shall be constructed to achieve a watertight seal. The contractor is required to stop pouring concrete if a leak is detected in the forms. No fresh concrete will be allowed to enter the harbor. Use of treated lumber for formwork over water or platforms to be used in the water is not allowed.
- 1.2.6 All equipment, tools and materials that may contact the water shall be thoroughly cleaned to remove oil, grease and debris before they are brought to the project site.

1.3 Site Work (Landside Activities)

- 1.3.1 During earthwork activities, sediment control BMPs such as silt fences, fiber rolls/wattles, and sandbags shall be used to prevent discharge of sediment-laden water. For fill-containing bags used for erosion control, the material used to fill the bags shall be similar to material that is found in the area in which the fill-containing bags will be used.
- 1.3.2 Drainage inlets for the site civil works shall be covered with a non-woven geotextile to prevent the migration of fines into the drain lines as appropriate. Gravel, debris, fines, etc. shall be removed from geotextile filters regularly.
- 1.3.3 Off-site hauling shall be undertaken in canvas-covered trucks for disposal. If the material is not contaminated and satisfies all federal, state, and city and county requirements, it may be re-used for general fill at other project sites.

1.4 Material Storage

- 1.4.1 Construction, building and waste materials and containers shall be stored in the designated staging area or in covered areas, where practical, that are protected from rainfall and contact with storm water runoff. When it is necessary to store materials and containers outdoors, the containers and materials shall be covered with a tarp, wherever practical.
- 1.4.2 Construction waste shall be disposed of in designated areas and storm water shall be kept from flowing onto or off these areas.
- 1.4.3 Perimeter controls, containment structures, covers, and liners shall be installed and repaired or replaced as needed to maintain proper function.

- 1.4.4 The storage areas shall be checked weekly and after rain events. The materials shall be stored away from drainage pathways to prevent contact with stormwater. The area shall be kept neat, clean, and equipped with spill containment supplies for each material being stored.
- 1.4.5 Spills shall be prevented to the extent possible and immediately cleaned up, if they occur.
- 1.4.6 All containers shall be closed, securely fastened, stored neatly, and properly labeled or retained in their original containers. Very large items may be stored in the open in the materials storage area, however, such materials shall be elevated on wood blocks or placed on higher ground to minimize contact with stormwater.
- 1.4.7 Appropriate measures shall be taken to ensure that incompatible chemicals are not stored next to each other.
- 1.4.8 The contractor shall submit a map showing the storage location of these materials at least 30 calendar days prior to the start of construction activities. Material Safety Data Sheet (MSDS), an inventory of the material, and emergency numbers shall also be kept near the storage area.
- 1.4.9 All products shall be used in accordance with the manufacturer's specifications and directions for handling, storage, and disposal.

1.5 Spill Prevention

Precautions shall be taken to prevent spills of oil and other hazardous substances from entering the water. All waste and hazardous materials shall be properly managed, stored and handled, and secondary containment shall be provided as applicable. Fueling, lubricating, and maintenance of equipment, motor vehicles, and vessels shall be conducted in such a manner to prevent spills, and these shall not be conducted over water unless secondary containment is provided. Bulk fuel storage containers shall be provided with a secondary containment system. A spill kit will be kept on site.

Oil Spill Contingency Plan: In the event of a spill, the following actions shall be taken:

1. STOP FUELING/OILING IMMEDIATELY!
2. Reduce the amount of the spill by shutting down the equipment, shutting off the valve, shutting off the pump or up righting the container, etc. Place a pan or bucket under the leak to catch as much of the spill as possible.
3. Confine fuel to containment areas as much as possible. If on a crane barge, then confine the fuel to the deck and out of the water.
4. Should an overboard spill occur on the crane barge, use sorbent pads and deploy 200-foot long (minimum) oil containment boom to minimize the limits of the spill.

5. Immediately notify the contractor's company Spill Response Safety Officer by radio or telephone. He / She shall take over coordination of operations and further notifications. Whether assistance is required or not, all supervisors and personnel shall follow these notifications steps.
6. If the spill is too large to handle with on-site resources, then the Emergency Spill Clean-up Contractor, a subcontractor of the prime contractor, shall be notified and mobilized.
7. Notify the Engineer and Kauai District Manager immediately.
8. The Emergency Spill Clean-up Contractor shall take over containment, clean-up and disposal of the spill and any contaminated material in accordance with their established procedures. The contractor shall provide whatever aid the Emergency Spill Clean-up Contractor requires.

1.6 ESA-Listed Marine Species

Project personnel shall be briefed on the recognition of protected species such as: green sea turtles, hawksbill sea turtles, humpback whales, and Hawaiian monk seals.

Active areas of operation shall incorporate the following site-specific avoidance and minimization measures:

1. Surveys for marine life shall be made prior to the start of work each day, and periodically during the day, including prior to resumption of work following any break of more than one half hour.
2. All in-water work shall be postponed or halted when ESA-listed marine species are within designated standoff distances of the proposed work, and may only begin/resume after the animals have voluntarily departed the area. If ESA-listed marine species are noticed after work has already begun, that work must stop and may only begin / resume after the animals have voluntarily departed the area beyond the designated standoff distances. The designated standoff distances shall be established through coordination with appropriate federal agencies.
3. When piloting vessels, vessel operators shall alter course to remain at least 100 yards from whales, and at least 50 yards from other marine mammals and sea turtles.
4. Reduce vessel speed to 10 knots or less when piloting vessels in the proximity of marine mammals and turtles. If practicable, reduce vessel speed to 5 knots or less when piloting vessels in areas of known or suspected turtle activity.
5. If approached by a marine mammal or turtle, put the engine in neutral and allow the animal to pass.
6. Marine mammals and sea turtles should not be encircled or trapped between multiple vessels or between vessels and the shore.
7. Do not attempt to feed, touch, ride, or otherwise intentionally interact with any ESA-listed marine species.
8. All on-site project personnel must be apprised of the status of any listed species potentially present in the project area and the protections afforded to those species under Federal laws. Information explaining laws and regulations for listed species in Hawaii may be downloaded at

<http://www.nmfs.noaa.gov/pr/education/hawaii>. The contractor's designated point-of-contact (POC) shall ensure that protocols and observers to avoid the potential for contact or harassment with ESA-listed species of record are followed during all periods of in-water work.

9. Records of observations of ESA-listed species observed in the project area for the duration of in-water activities shall be documented in the Inspection and Maintenance Report Form (See Appendix A).
10. Any incidental take of marine mammals must be reported immediately to NOAA Fisheries' 24-hour hotline at 1-888-256-9840. Any injuries to sea turtles must be reported immediately to NOAA Fisheries at 1-808-725-5730, Monday – Friday, 7 a.m. – 4 p.m., and 286-4377 on weekends, holidays and after-hours. Information reported must include the name and phone number of a point of contact, location of the incident, and nature of the take and / or injury.

1.7 Protection of the Marine Environment

Specific measures shall be employed to prevent contamination of the marine environment from project-related activities.

1. The contractor is prohibited from storing hazardous materials on-site.
2. Appropriate materials to contain and clean potential oil/fuel spills shall be stored at the work site and be readily available.
3. The contractor's superintendent and heavy equipment operators shall perform daily pre-work equipment inspections for cleanliness and leaks. All heavy equipment operations shall be postponed or halted should a leak be detected and shall not proceed until the leak is repaired and equipment cleaned.
4. Fueling of land-based vehicles and equipment shall take place at least 50 feet away from harbor waters over an impervious surface with drip pans.
5. No project-related materials (fill, sediment stockpile, rock, etc.) shall be stockpiled within 50 feet of harbor waters. Material staging and storage area(s) shall be designated within project's facility footprint and equipped with sediment control BMPs to prevent loss of material due to erosion or leaks.
6. Any materials or equipment to be used to carry out the authorized work must be cleaned of pollutants before use on-site. The contractor is required to use stone that is free of organic matter, clay, silt, dirt, or any deleterious material as stated in the contract specifications.
7. No land-based heavy equipment shall be operated directly in State waters. Work adjacent to State waters must occur above the mean higher high water level.
8. Revetment construction activities (excavation and rock placement) landward of the existing shoreline shall occur during relatively calm wave conditions.

9. Turbidity and siltation from project-related work shall be minimized and contained through the appropriate use of erosion control practices and the curtailment of work during adverse weather and tidal/flow conditions. Erosion control practices shall include a silt fence around all disturbed areas landward of the existing shoreline. A sediment control silt fence shall be maintained along the waterfront edge of the project site.
10. All debris removed from the marine/aquatic environment shall be disposed of at an approved upland waste management site.
11. The contractor shall conduct daily visual observations to ensure that all BMPs and erosion control measures shown on the BMP plans are in place and functioning properly. If an activity-related turbidity plume is observed outside of the turbidity curtain during periods of in-water construction, the contractor shall stop that activity and take immediate corrective action by repairing the turbidity curtain. Activity shall resume only after the problem is corrected. The condition of the BMPs shall be documented in the Inspection and Maintenance Report Form (See Appendix A).

1.8 Protection of Upland Resources

Additional measures shall be employed to prevent contamination of upland areas using appropriate "good housekeeping" BMPs for site management and storm water management BMPs for erosion and sediment control.

1. The construction entrance and roadways shall be stabilized to prevent tracking of materials to/from the project site.
2. Specific and contained areas shall be designated for vehicle and equipment cleaning and fueling to prevent discharges of polluted wash water, fuel spills or leaks.
3. The discharge of pollutants from material delivery and storage areas to the storm water system or marine environment shall be prevented by minimizing the storage of hazardous materials on-site, storing materials in watertight containers and/or a completely enclosing designated areas, installing secondary containment, conducting regular inspections, and training employees and subcontractors.
4. Stockpiles shall be located away from the marine environment and any storm water facility. Stockpiles shall be equipped with erosion prevention BMPs such as plastic coverings to protect against wind or rainfall and containment BMPs such as berms, silt fences, or dikes to protect stockpiled material from run-on or runoff discharges.
5. Existing vegetation shall be preserved to the extent possible to avoid any unnecessary disturbance to native materials.
6. During earthwork activities, sediment control BMPs such as silt fences, fiber rolls/wattles, and sandbags shall be used to prevent discharge of sediment-laden water.
7. At the completion of work, hydraulic mulch or hydroseed shall be applied to unpaved areas to encourage re-establishment of vegetation.

1.9 Protected Species BMPs

(Taken from National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Pacific Island Regional Office, Protected Resources Division)

The National Marine Fisheries Service, Pacific Islands Regional Office recommends that the following measures, as appropriate and germane to specific projects, be incorporated into projects to minimize impacts on protected resources. These supplement, but do not supersede the BMPs above.

1. Turbidity and siltation from project-related work should be minimized and contained to within the vicinity of the site through the appropriate use of effective silt containment devices and curtailment of work during adverse tidal and weather conditions.
2. Any construction-related debris that may pose an entanglement hazard to marine protected species must be removed from the project site if not actively being used and / or at the conclusion of the construction work.
3. All project-related materials and equipment placed in the water should be free of pollutants.
4. No project-related materials (fill, revetment rock, pipe, etc.) should be stockpiled in the water (intertidal zones, reef flats, stream channels, etc.).
5. No contamination (trash or debris disposal, alien species introductions, etc.) of marine environments (reef flats, lagoons, open ocean, etc.) adjacent to the project site should result from project-related activities.
6. Fueling of project-related vehicles and equipment should take place away from the water. A contingency plan to control the accidental spills of petroleum products at the construction site should be developed. Absorbent pads, containment booms, and skimmers will be stored on-site to facilitate the cleanup of petroleum spills.
7. Return flow or run-off from material stored at inland dewatering or storage sites must be prevented.

Best Management Practice Plan (BMPP) Inspection and Maintenance Report Form

Report No. _____ Weather: _____ Tide: _____ Date: _____

Type of Report: Daily Within 24 hours of a rainfall event of 0.5 inches or more

IN-WATER TURBIDITY CONTROL MEASURES (Provide Date Stamped Photograph):

YES NO N/A

Are turbidity curtains functioning properly?

Are the bin(s) on the support platform, landing craft or barge water tight?

Are the control measures on the platform, landing craft or barge adequate to prevent
Water/sediment from being discharged into the ocean?

CORRECTIVE MEASURES REQUIRED:

PERFORMED BY: _____

PROTECTION AROUND CRITICAL AREAS (Provide Date Stamped Photograph):

YES NO N/A

Are berm or dike properly installed/maintained?

Are run-on/run-off controls installed to prevent discharge to surrounding areas and harbor?

CORRECTIVE MEASURES REQUIRED:

PERFORMED BY: _____

HOUSEKEEPING:

YES NO N/A

Are areas kept clean of rubbish, construction debris, spills, etc.?

CORRECTIVE MEASURES REQUIRED:

PERFORMED BY: _____

MATERIAL/WASTE MANAGEMENT:

YES NO N/A

Are material stored under shelter or covered and above ground?

Are flammable/reactive materials stored properly?

Are material containers in good condition (not rusted, damaged or leaking)?

Are all construction debris collected and placed daily in covered dumpster?

CORRECTIVE MEASURES REQUIRED:

PERFORMED BY: _____

Lahaina Small Boat Harbor Inner Marginal Pier Repairs
Best Management Practices Plan (BMPP)

VEHICLE AND EQUIPMENT MANAGEMENT:

YES NO N/A

- Are vehicles and equipment cleaned before brought on-site?
- Are equipment fueled away from any drain or edge of harbor?
- Are spill cleanup material readily accessible?
- Are all equipment leak free or if leaking, a spill pan placed to catch the leaks?

CORRECTIVE MEASURES REQUIRED:

PERFORMED BY: _____

PROTECTED OR ENDANGERED SPECIES MANAGEMENT:

YES NO N/A

- Did the on-site observer observe any protected and/or endangered species (i.e. green sea turtle, hawksbill sea turtle, hawaiian monk seal, etc.) prior to start of work? Time? : _____
- If protected and endangered species present, were photographs taken to assist with identification of the protected and endangered species?

CORRECTIVE MEASURES REQUIRED:

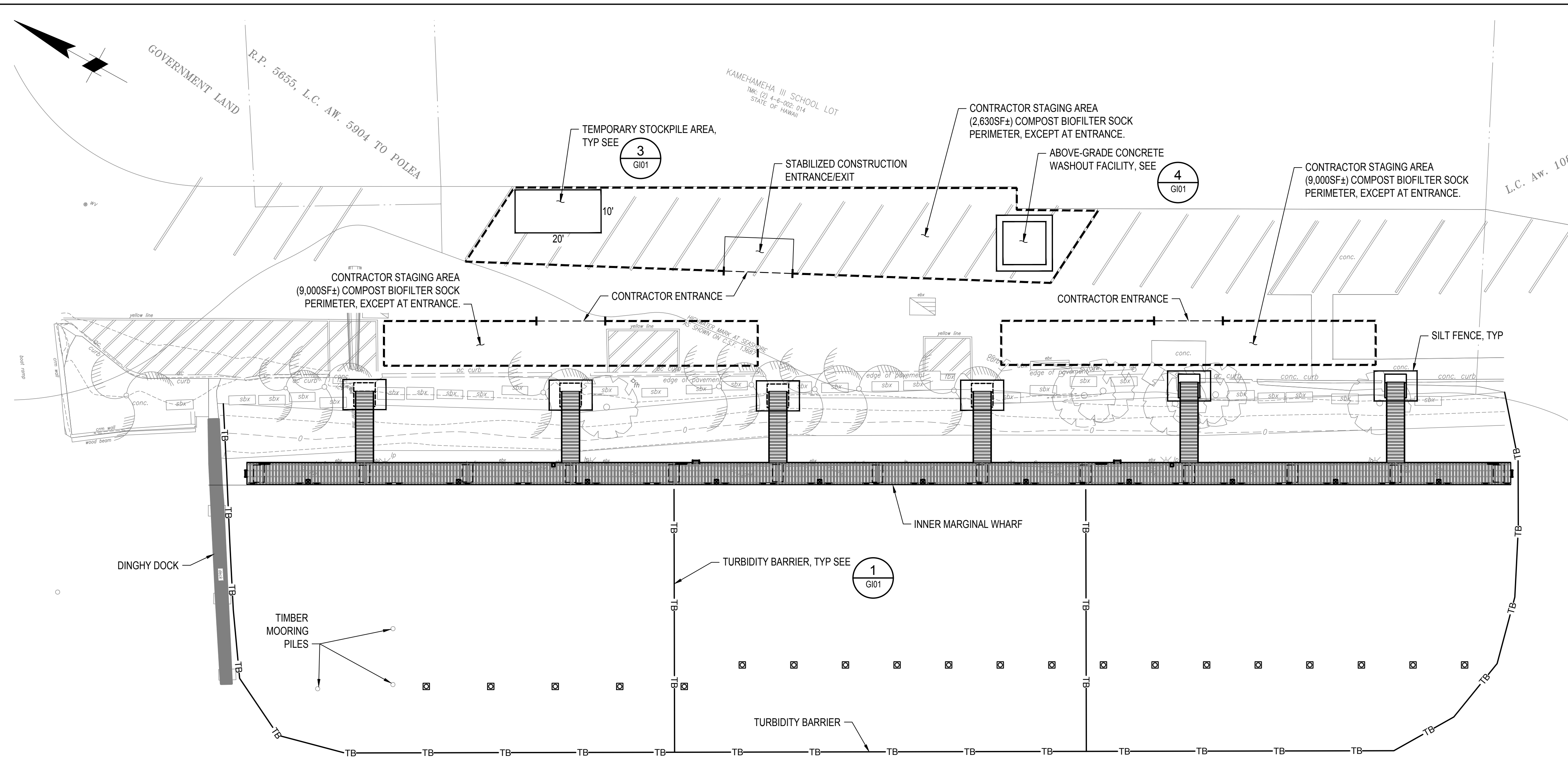
PERFORMED BY: _____ Date: _____

Photographs shall be date stamped and attached to the applicable Report Form.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

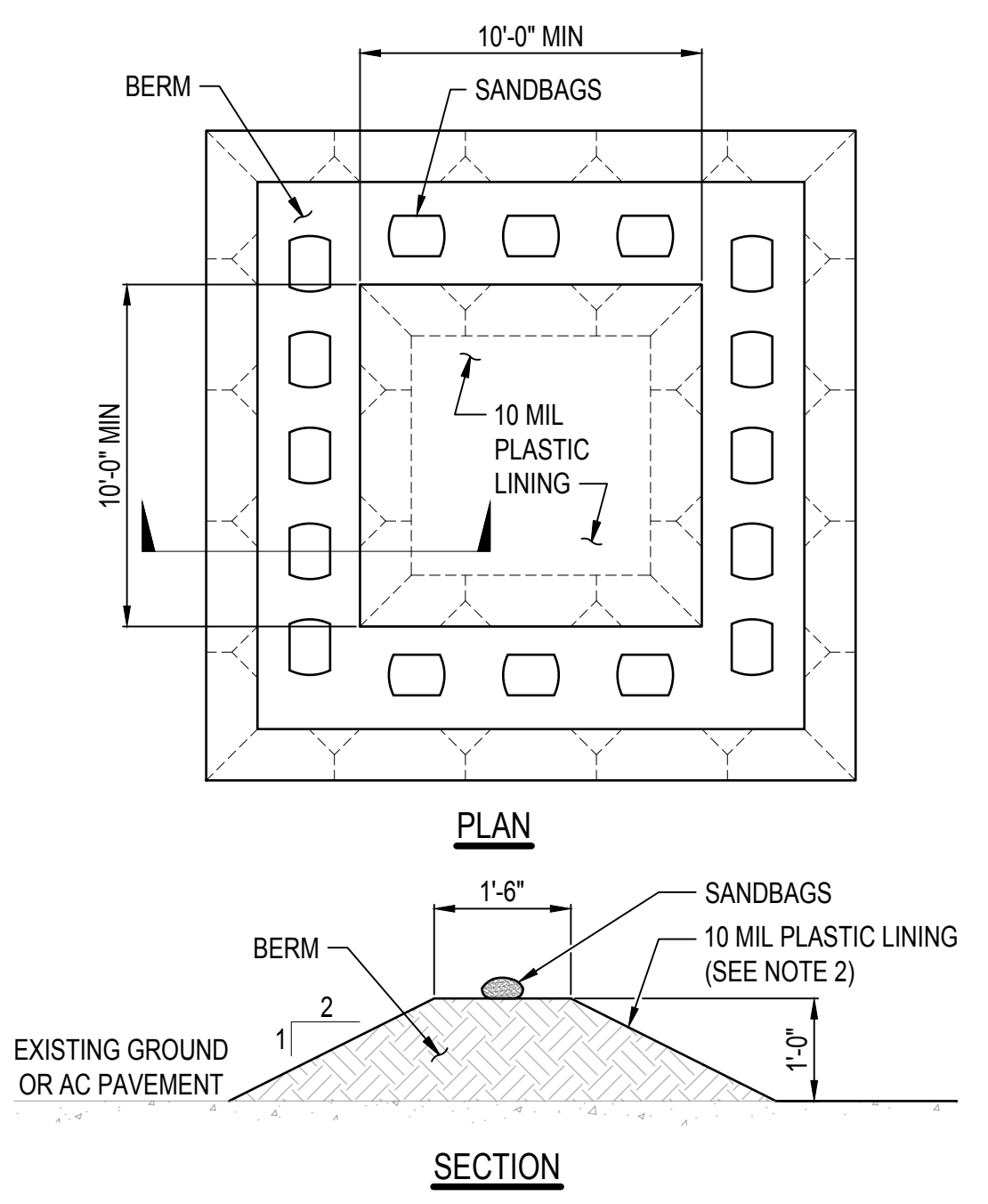
APPROVED BY: _____ TITLE: _____

SIGNATURE: _____ DATE: _____



OVERALL SITE BMP PLAN
SCALE: 1" = 15' - 0"

- NOTES:**
- SEE SITE SPECIFIC BMP PLAN.
 - CONTRACTOR SHALL RETURN PROJECT SITE TO SIMILAR OR BETTER CONDITIONS AT PROJECT COMPLETION.
 - CONTRACTOR SHALL KEEP ALL CONSTRUCTION ACTIVITIES AND STORAGE OF ALL EQUIPMENT WITHIN THE PROJECT LIMITS AND SPECIFIED STAGING AREA.
 - CONTRACTOR SHALL PROVIDE A TURBIDITY CURTAIN AROUND THE PERIMETER OF IN-WATER ACTIVE DEMOLITION AND CONSTRUCTION OPERATIONS.

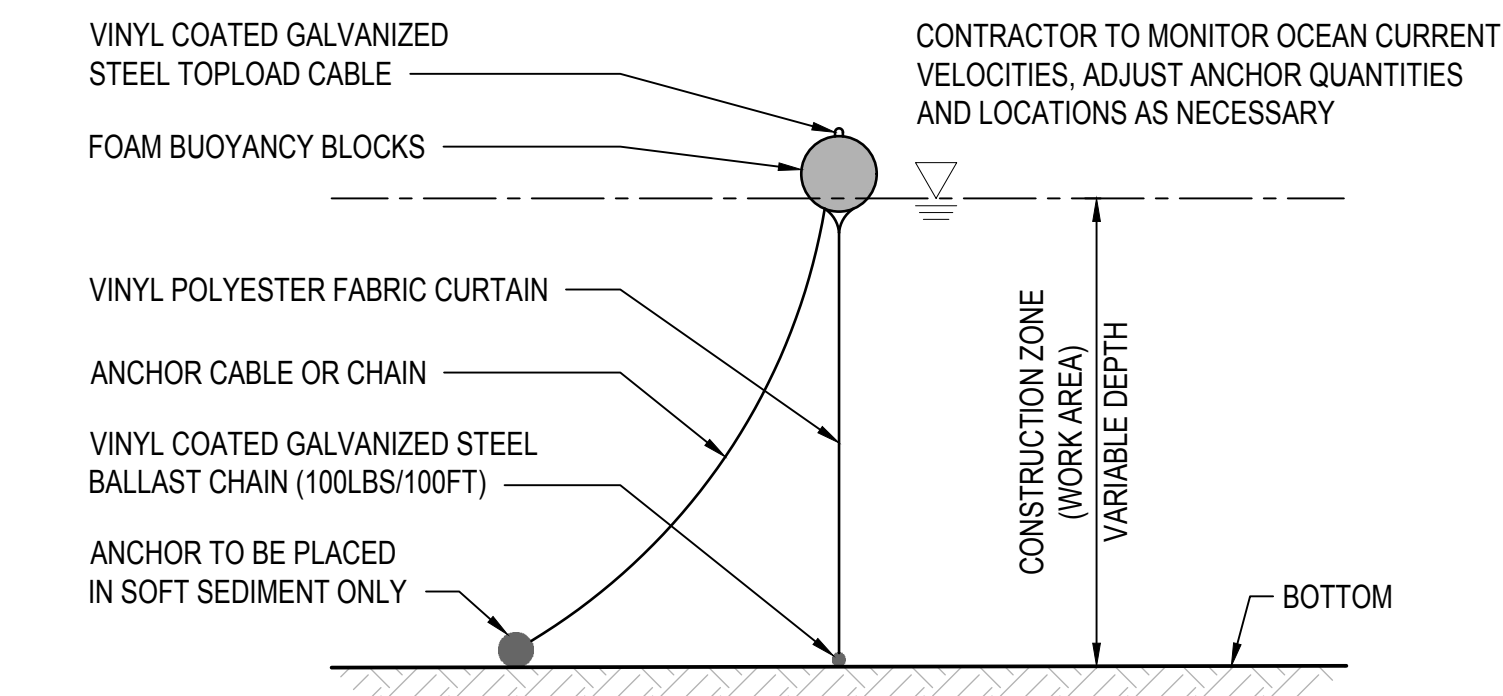


- NOTES:**
- TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE CONSTRUCTED WITH A MINIMUM LENGTH AND WIDTH OF 10 FT, BUT WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.
 - PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
 - PROVIDE 18" X 24" CONCRETE WASHOUT AREA SIGN.

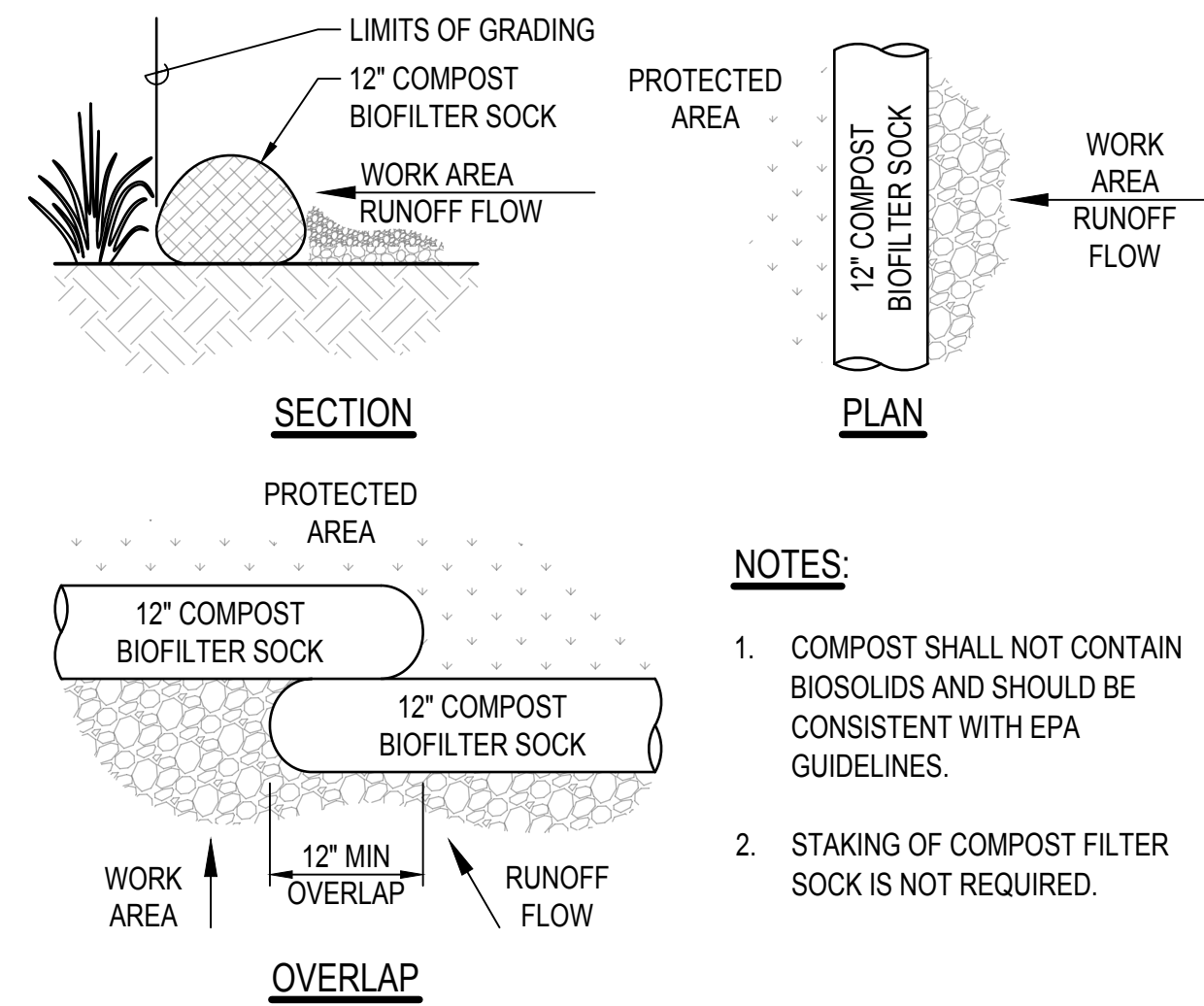
4 ABOVE-GRADE CONCRETE WASHOUT FACILITY
SCALE: NTS

ISSUED FOR BID
NOT FOR CONSTRUCTION

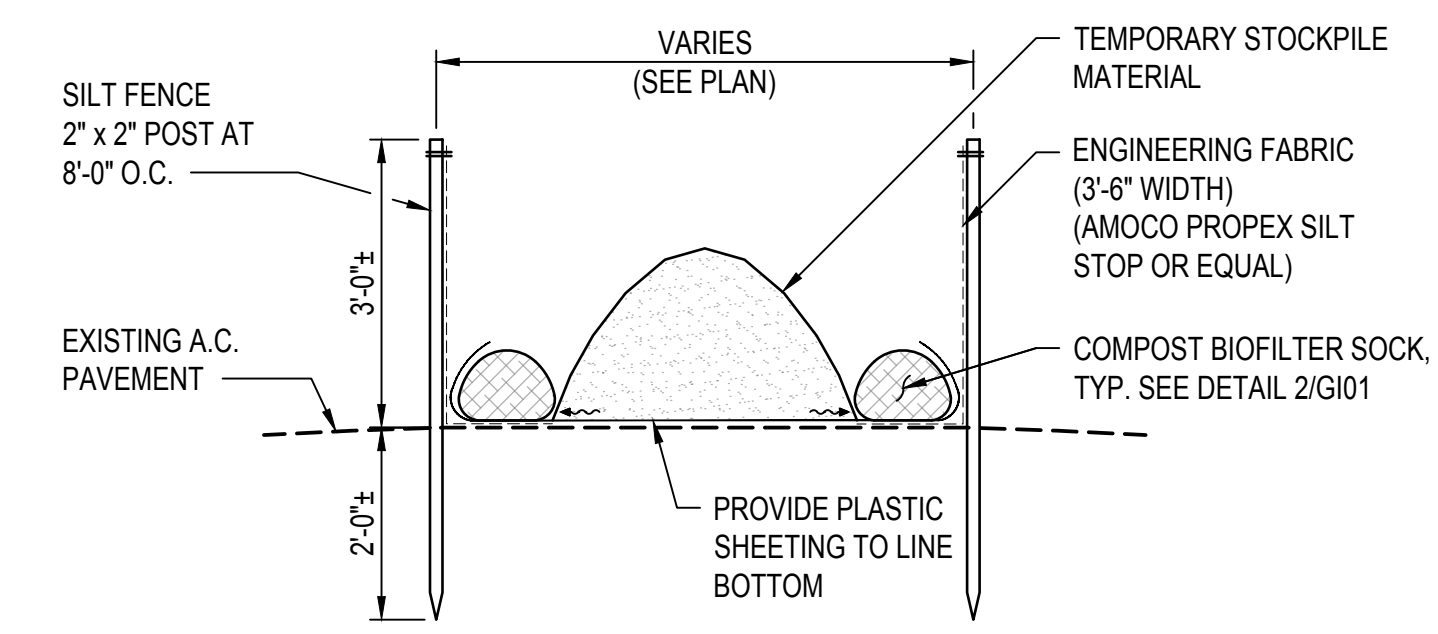
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES DIVISION OF BOATING AND OCEAN RECREATION					
LAHAINA SMALL BOAT HARBOR INNER MARGINAL WHARF REPAIR					
SITE BMP PLAN					
DESIGNED:	E. YUASA	SUBMITTED:	APR 10, 2020		
DRAWN:	T. NUMKE'NA	DATE:	APR 08, 2020		
CHECKED:	B. DULLANTY	SCALE:	AS NOTED		
APPROVED:		DRAWING NO.	GI01		
CHIEF ENGINEER		DATE			



1 TURBIDITY BARRIER DETAIL
SCALE: NTS



2 COMPOST BIOFILTER SOCK DETAIL
SCALE: NTS



3 TEMPORARY STOCKPILE AREA DETAIL
SCALE: NTS

- NOTES:**
- COMPOST SHALL NOT CONTAIN BIOSOLIDS AND SHOULD BE CONSISTENT WITH EPA GUIDELINES.
 - STAKING OF COMPOST FILTER SOCK IS NOT REQUIRED.