State of Hawaii, Department of Health, Clean Water Branch
NPDES Form C
Application for HAR, Chapter 11-55 - NPDES Individual Permit Authorizing Discharges of Storm Water Associated With Construction Activities (as defined in 40 CFR §§122.26(b)(14)(x) and 122.26(b)(15)(i))

All sections of this form MUST be completed for National Pollutant Discharge Elimination System (NPDES) Permit compliance.

C.1 – General Information

You are required to fulfill all requirements and check the box below. If you do not check the box, your application will be considered incomplete, and the CWB may deny your request for NPDES permit coverage with prejudice.

☑ *I certify that:*

- *My Storm Water Pollution Prevention Plan (SWPPP) was prepared in accordance with HAR, Chapter 11-55, Appendix C, Section 7.*
- *I will comply with all terms, conditions, and requirements in HAR Chapter 11-55, Appendix C.*
- *I will implement, operate, and maintain my SWPPP to ensure that storm water discharges associated with construction activities will not violate HAR, Chapter 11-54; HAR, Chapter 11-55; and HAR, Chapter 11-55, Appendix C.*

C.2 - Existing Pollution Sources/ History of Land Use

Describe the history of land use at the existing Facility/Project site: The project is located along Kamehameha Highway (State Route 83) near Milepost 21 in the Hauʻula, Island of Oʻahu, Hawaiʻi, and includes replacing the existing 1932 Kaipapaʻu Stream Bridge with a new bridge and maintenance dredging and bank stabilization of the Kaipapaʻu Stream. The bridge serves northbound traffic (toward Kahuku) and southbound traffic (toward Kaneʻohe) on Kamehameha Highway. The bridge structure has two 40-foot spans and is constructed from reinforced concrete with a wooden pedestrian walkway attached to the mauka (west) side of the bridge. The bridge crosses Kaipapaʻu Stream approximately 300 feet upstream from coastal marine waters. Beneath and makai of the Kaipapaʻu Stream Bridge the stream is tidally influenced. Lands surrounding the bridge are single family residential and commercial in character and are privately owned. Parcels immediately surrounding Kaipapaʻu Stream Bridge are single family residential.

Determine if the existing Facility/Project site may contain any existing pollution source(s) by using the following references. Place a check next to all references you utilized to determine existing pollution source(s). You are required to check at least one reference.

- ☑ *a. DOH, Solid and Hazardous Waste Branch-Hawaii Underground Storage Tank- Leaking Underground Storage Tank database*
- ☑ *b. DOH, Hazard Evaluation and Emergency Response Office records*
- ☐ *c. Phase I and/or Phase II Environmental Site Assessments, as applicable*
- ☐ *d. Recent site inspections*
- ☑ *e. Past land use history*
- ☐ *f. Soil sampling data, if available*
- ☐ *g. Other (specify):* _____

Describe any existing pollution source(s) identified in the references you checked above:

There are no pre-existing conditions other than soils that would result in potential for adverse impacts due to construction storm water runoff. The following practices will be employed to prevent discharges due to erosion: (1) adherence to the Hawaii Department of Transportation (HDOT) Construction Best Management Plan; and (2) structural measures including the use of temporary BMPs shall be placed to divert storm flows around materials storage locations. PVC sheet plastic or similar material shall also be placed to prevent inadvertent mixing of stored materials with storm water. Where mixing of storm water with soils cannot be avoided use of silt fencing and/or vegetative controls including grassing and hydromulching will be employed.

Describe any corrective measures that have been undertaken for any existing pollution source(s): N/A

Note: You are required to contact the Department of Health, Office of Hazard Evaluation and Emergency Response at (808) 586-4249 if contaminated soil or groundwater is known to be present at your project site.

C.3 - Construction Site Estimates

Please provide the following estimates for the construction site.

Total project area including areas to be left undisturbed: 1.6 *acres*

Construction site area to be disturbed including storage and staging areas: 1.6 *acres*

Impervious area before construction: 0.78 *acres*

Impervious area after construction: 0.84 *acres*

C.4 - Quantity of Storm Water Runoff

Estimate the quantity of storm water runoff during construction when the greatest and/or maximum area of disturbance occurs. Provide the supporting calculations in an attachment or insert in this section. See **Attachment A-3, Quantity of Storm Water Discharge Calculations**

7.92 *Cubic Feet per Second (CFS)*

C.5 - Soil Characterization

Describe the nature of the soil on the project site (including the potential to encounter contaminated soil) and the nature of the fill material to be used:

The area surrounding Kaipapaʻu Stream as it empties into the Pacific Ocean belongs to four soil series: Jaucas, Kawaihapai, Lolekaa, and Waikane. See **Attachment A-1, Figure 3, Soil Classifications**.

The Jaucas series consists of excessively drained, calcareous soils that occur as narrow strips on coastal plains, adjacent to the ocean.

JaC - Jaucas Sand, 0 to 15 percent slopes - Jaucas sand consists of excessively drained, calcareous soils. In most places the slope does not exceed 7%. Permeability is rapid. Runoff is slow to very slow. The hazard of water erosion is slight, however wind erosion is a severe hazard where vegetation has been removed. Jaucas sand deposits are associated with traditional Hawaiian burial practices and are commonly found to contain archaeological deposits.

The Kawaihapai series consists of well-drained soils in drainageways and on alluvial fans on the coastal plains of Oʻahu. These soils formed the alluvium derived from basic igneous rock in humid uplands.

KIA - Kawaihapai clay loam, 0 to 2 percent slopes - Kawaihapai soils consist of well drained soils in drainageways and on alluvial fans on the coastal plains. Permeability in this soil type is moderate, runoff is slow, and the erosion hazard is no more than slight.

KiaB - Kawaihapai stony clay loam, 0 to 2 percent slopes - runoff is slow and erosion hazard is slight. This soil type is prevalent on the banks of the Kaipapaʻu Stream.

KIB - Kawaihapai clay loam, 2 to 6 percent slopes - Kawaihapai soils consists of soils where runoff is slow and the erosion hazard is slight. This soil type is found to the north of the Kaipapaʻu Bridge, between Kamehameha Highway and the Pacific Ocean.

The Lolekaa series consists of well-drained soils on fans and terraces on the windward side of the island of Oʻahu. These soils developed in old, gravelly colluvium and alluvium.

LoB - Lolekaa silty clay, 3 to 8 percent slopes - This soil is found in terraces and fans. Runoff is slow, and erosion hazard is slight.

LoD - Lolekaa silty clay, 15 to 25 percent slopes - This soil is on side slopes of terraces and along drainageways. Runoff is medium, and the erosion hazard is moderate. This soil type is found in one area along the shoulder of Kaipapaʻu Stream.

The Waikane series consists of well-drained soils on the island of O‘ahu. These soils developed in alluvium and colluvium derived from igneous rock.

WpB - Waikane silty clay, 3 to 8 percent slopes - Runoff is slow and erosion hazard is slight.

WpC - Waikane silty clay, 8 to 15 percent slopes - On this soil, runoff is slow to medium and the erosion hazard is slight to moderate.

No areas of contaminated soil are expected to be encountered in the area.

C.6 - Nature and Sequence of Construction Activity

What is the function of the construction activity (Please check all applicable activity(ies))?

❑ *Residential* ❑ *Commercial* ❑ *Industrial* ☑ *Road Construction* ❑ *Linear Utility*
❑ *Other (please specify):*_____

What is being constructed? The existing Kaipapa‘u Stream Bridge is deficient due to age and dilapidation, and requires demolition and replacement. The project area required for construction would be approximately 1.6 acres. The project’s scope of work includes installation of erosion controls, clearing, grubbing, grading, temporary placement of sand bags to redirect the stream during construction relocation and installation of waterlines and electrical lines, construction and use of a temporary detour roadway and Acrow bridge, demolition of the existing bridge and construction of a new bridge, partial demolition and reconstruction of the abutments, removal of the existing center pier wall, excavation & construction of eight new drilled shafts outside the stream channel, maintenance dredging, and bank stabilization with shotcrete and dumped rip-rap. All excavated material (soils & dewatering effluent) will be placed in a temporary retention area for treatment and disposal. No excavated material will discharge to the stream.

The replacement of the Kaipapa‘u Stream Bridge and maintenance work will be completed through phased construction and demolition. Silt fences will be installed on down slope portions of the project site. A staging area, temporary dewatering basin, temporary concrete wash-out basin, and stabilized construction entrances will be prepared.

Sandbags will be used to divert normal-stream flow around the work area. The temporary placement of sandbags to redirect the stream during construction of the temporary detour road (sandbag diversion approximately 610 feet long) and new bridge (sandbag diversion approximately 600 feet long) and will be designed based on the Contractor’s means and methods. It is assumed that 7 sandbags (1-foot-wide each) will be placed at the base (4 sandbags on the side of the channel closer to the work area, and 3 sandbags on the other side of the temporary channel). Placement of the temporary sandbag diversion will require approximately 25 cubic yards (CY) of temporary fill placed within the Mean Higher High Water (MHHW) and 5 CY of temporary fill placed within the Ordinary High Water Mark (OHWM).

A temporary construction entrance ramp will be constructed on the mauka and makai portions of the stream comprised of dumped rip-rap. There will be no interruption of stream flow. In-stream work will be completed during the low rainfall season (August to October), and during fair weather conditions.

Approximately 270 CY of maintenance dredging will be performed to remove accumulated sediment and debris from under and around the bridge partially within the MHHW. Approximately 5 CY is located within the MHHW of Kaipapaʻu Stream. The excavated spoils and demolition debris will not be discharged into the stream. Spoils will be dewatered in a detention basin and dried debris will be disposed of off-site at a County-approved landfill. Removed material will be contained in a temporary stockpile site with implemented BMPs to contain and prevent material from comingling with storm water runoff and entering into State waters. A solid waste disclosure form will be submitted to the Department of Health (DOH) Solid Waste Branch.

The temporary Acrow bridge will be 90 feet long by 42 feet wide, or approximately 3,780 square feet, and constructed with pre-cast concrete pier columns supporting the steel deck. The bridge will be comprised of two lanes and a pedestrian walkway on the makai side of the Kaipapaʻu Stream Bridge to mitigate traffic impacts during construction. The Acrow bridge will be constructed and installed in two 45-foot spans and supported by five pre-cast concrete piers, one of which is located within the MHHW. Placement of the one pier in the MHHW will require 1 CY of temporary fill below the MHHW. Temporary dumped rip-rap will be placed around the Acrow bridge pier within the MHHW and be sized approximately 54 feet long by 15 feet wide by 2 feet deep, or 810 square feet, with a volume of 50 CY. A 6-foot temporary layer of filter rock will be placed under the rip-rap with a volume of approximately 13 CY. Upon completion of the bridge replacement, the Acrow bridge and piers will be removed and disturbed areas restored to their pre-construction condition.

Demolition of the existing Kaipapaʻu Stream Bridge will include the removal of the existing concrete center pier wall, of which approximately 5 CY is located within the MHHW(26 feet long by 4 feet wide or approximately 104 square feet).

The new replacement bridge will be 110 feet long by 57 feet wide, or approximately 6,270 square feet, and include two 12-foot travel lanes plus two 8.5-foot shoulders, two 5-foot pedestrian walkways/bicycle lanes, reinforced guardrails, and drainage features. The new bridge will be constructed using prestressed concrete planks and cast-in-place bridge decks. The new right-of-way (ROW) will be 66 feet wide. The project will involve partial demolition and reconstruction of the abutments requiring excavation and construction of eight new 4-foot drilled

shafts outside of the OHWM and MHHW. All work proposed for the reconstruction of the Kaipapaʻu Stream Bridge would be completed above and along the outer banks of the streams and no work is proposed within the stream. The new bridge would accommodate utilities currently attached to the existing bridge. No debris would be allowed to fall into or enter the stream.

The north bank makai of the bridge will be stabilized with dumped rip-rap outside of the MHHW. In addition to stabilization, the dumped rip-rap will provide construction access to the stream for mechanical equipment.

A section of the existing wall running along the northern bank mauka of the bridge collapsed during a major storm in 2008. Emergency repairs were conducted to create a wall of sandbags. The existing sandbag wall, located outside the OHWM, will be stabilized with the placement of basalt boulders at the toe of the sandbags. The existing sandbags will then be covered with shotcrete. Work for the stabilization of the wall will be performed above the OHWM. No debris would be allowed to fall into or enter the stream.

Portions of an existing 12-inch diameter waterline beneath Kaipapaʻu Stream will be repaired. The portions of the 12-inch waterline to be replaced are located outside the stream (see Attachment B, Construction Drawings, C-20, C-28) and will be repaired via open trench (approximately 85 linear feet). The existing 12-inch waterline under the stream will be temporarily removed from service during the repairs and then reconnected and placed back into service following completion of the 12-inch waterline work. During repairs a temporary 12-inch 125-foot-long or 125 square foot waterline will be placed on the existing pedestrian bridge.

The replacement of an existing 16-inch diameter will require the removal of the existing waterline, placement of a temporary waterline, and installation of the new 16-inch diameter waterline over the stream. The temporary 16-inch diameter 250-foot-long or 333 square foot waterline will be placed on the temporary detour bridge during construction. The new permanent 16-inch diameter 155 feet long or 207 square feet waterline will be installed over the stream within the new bridge 3.2-foot-wide concrete bridge encasement. Following the installation of the 16-inch permanent waterline the temporary waterline will be removed.

Above the MHHW and OHWM, the project will also include the reconstruction of the 6-foot-high concrete wall with wood fence panels on the northern side of the bridge, replacement of fencing, acquisition of two properties (Tax Map Keys (TMKs) 5-4-18: 3 and 5-4-11: 20), removal of an existing septic system and leaching field on TMK: 5-4-11: 20, and demolition of two buildings on TMK 5-4-18: 3 and one building on TMK 5-4-11: 20. Acquisition of property

and demolition of structures is required for construction access and for the installation of waterlines to be supported on the outside edges of the new bridge.

In-water work would only be required for the minor maintenance dredging, removal of the existing bridge center pier wall, temporary placement of sandbags to divert the steam around the open work area, and temporary placement of one Acrow bridge pier within Kaipapaʻu Stream.

Describe the scope of work and major construction activities you wish to be covered in this NPDES application, including baseyards and staging areas. You may only include project areas where the locations of impervious structures are known; project areas where the final grades are known; and work areas that will be performed by one (1) general contractor. A separate NPDES application will be required for all other project areas.

The existing 74-year-old Kaipapaʻu Stream bridge has been evaluated by HDOT as being structurally deficient and presently does not meet design standards. This proposed bridge project is needed to mitigate bridge maintenance concerns, increase traffic safety (for motorists and pedestrians) and meet the projected vehicle usage of the Kamehameha Highway. This project is one in a series of bridge replacements being implemented by the State Department of Transportation and Federal Highway Administration on Oʻahu.

The project's scope of work includes installation of erosion controls, clearing, grubbing, grading, temporary placement of sand bags to redirect the stream during construction relocation and installation of waterlines and electrical lines, construction and use of a temporary detour roadway and Acrow bridge, demolition of the existing bridge and construction of a new bridge, partial demolition and reconstruction of the abutments, removal of the existing center pier wall, excavation & construction of eight new drilled shafts outside the stream channel, maintenance dredging, and bank stabilization with shotcrete and dumped rip-rap. All excavated material (soils & dewatering effluent) will be placed in a temporary retention area for treatment and disposal. No excavated material will discharge to the stream.

The replacement bridge will measure approximately 110 feet long by 57 feet wide and will meet State and Federal roadway, bridge, and seismic standards. The design includes two 12-foot travel lanes plus two 8.5-foot shoulders, two 5-foot pedestrian walkways/bike lanes, reinforced guardrails, and drainage features. The approach and trailing guardrails will comply with the current standards of the HDOT. Shotcrete and dumped rip-rap will be installed on the banks of the stream to stabilize the embankment. The proposed bridge, temporary Acrow bridge, and approach roads shall conform to AASHTO and HDOT design criteria for roadway widths and safety features.

The sequencing of construction activity is as follows:

- Install best management practices (BMPs)/erosion control measures (see **Sheet C-18**).
- Install temporary 12" water line and relocate existing 12" water line (see **Sheets C-20, C-28,** and **C-29**).
- Relocate electrical utilities.
- Construct trial and load test drilled shafts and perform load test.
- Construct detour roadway and temporary Acrow bridge.
- Demolish existing Kaipapa'u Stream Bridge. Expose existing 16" water line jacket and concrete support system.
- Construct Phase 1 of new Kaipapa'u Stream Bridge (see **Sheets S0.7, S0.7A, S0.7B**).
- Partially remove detour roadway and temporary bridge. Construct temporary pavement transitions, signing and pavement markings.
- Construct Phase 2 of new Kaipapa'u Stream Bridge (see **Sheets S0.8, S0.8A, S0.8B**).
- Remove remainder of detour roadway and temporary bridge.
- Construct sand bags and shotcrete lining along north bank, upstream of Kaipapa'u Stream Bridge (see **Sheet C-18**).
- Construct dumped riprap along north and south bank, downstream of Kaipapa'u Stream Bridge (see **Sheets C-16** and **C-18**).
- Construct AC pavement (see **Sheet C-16**).
- Construct final signing and pavement markings.
- Remove temporary BMPs.

On-site staging areas will be used as designated areas where vehicles, supplies and construction equipment are positioned for access and use during the construction process. The locations of the staging and storage areas may be changed by the Contractor depending on his construction means and methods. Equipment may include, but is not limited to: bulldozers, excavators, drilling rig, loaders, grader, compaction rollers, backhoe, cranes, trucks delivering supplies, pneumatic hand-operated tools, dewatering pumps, asphaltic rock products and fill material, and related construction materials which will include the following: Concrete and shotcrete, asphaltic Concrete, precast structures, pipes, paints (enamel and latex), cleaning solvents, rebar, wood, tar, masonry block, steel sheet piles, rocks/boulders, sandbags, soil fill material, and acrow steel bridge deck.

C.7 - Existing or Pending Permits, Licenses, or Approvals

Place a check next to all applicable Federal, State, or County permits, Licenses, or approvals for the project and specify the permit number.

☑ *Other NPDES Permit or NGPC File No.:* NPDES Forms F (Hydrotesting Activities) and G (Dewatering Activities)

☑ *Department of the Army Permit (Section 404):* POH-2005-00342 (April 4, 2019)

If your project requires work in, above, under or adjacent to State waters, please contact the Army Corps of Engineers (COE) Regulatory Branch at (808) 438-9258 regarding their permitting requirements. Provide a copy of the COE permitting jurisdictional determination (JD) or the JD with COE Person's Name, Phone Number, and Date Contacted.

❑ *Facility on SARA 313 List (identify SARA 313 chemicals on project site:* _____

❑ *RCRA Permit (Hazardous Wastes):* _____

❑ *Section 401 Water Quality Certification:* The project is exempted from obtaining a Section 401 Water Quality Certification (WQC), as provided by Senate Bill 1016 SD1 HD1 (expires June 30, 2022).

☑ *Other (Specify):* Special Management Permit (Resolution 278-CD1); U. S. Coast Guard Clearance (obtained); Section 106, National Historic Preservation Act, Consultation (completed); Section 7, Endangered Species Act, Consultation (completed); Section 4(f) Department of Transportation Act, Consultation (completed); Stream Channel Alteration Permit (exempt per Senate Bill 1016 SD1 HD1); HDOT Plan Review (pending); Grading Permit (pending); Coastal Zone Management Federal Consistency Review (pending)

County-approved Erosion and Sediment Control Plan and/or Grading Permit

a. *Is a County-approved Erosion and Sediment Control Plan and/or Grading Permit, where applicable for the activity and schedule for implementing each control, required?*
   - ☑ *Yes. Please complete Section C.7.b below and skip Section C.7.c.*
   - ❑ *No. Please complete Section C.7.c below and skip Section C.7.b.*

b. *Is a copy County-approved Erosion and Sediment Control Plan and/or Grading Permit, as appropriate for the activity and schedule for implementing each control, attached?*
   - ❑ *Yes, see Attachment* _____
   - ☑ *No, the County-approved Erosion and Sediment Control Plan and/or Grading Permit, as appropriate for the activity and schedule for implementing each control, will be submitted at least 30 calendar days before the start of construction activities.*

c. *Please select and complete at least one (1) of the following items to demonstrate that a County-approved Erosion and Sediment Control Plan and/or Grading Permit, as appropriate for the activity and schedule for implementing each control, is not required.*
   - ❑ *See Attachment* _____ *for the County written determination.*
   - ❑ *Provide the County contact person information (Name, Department, Phone Number, and Date Contacted):* _____
   - ❑ *The project is a Federal Project and does not require County approval.*
   - ❑ *Other (specify):* _____

C.8 - Project Site Maps and Construction Plans/Drawings

Attach, title, and identify all maps (pdf - minimum 300 dpi) listed below, in Attachment A. Please reference which maps account for the features listed below.

a. *Island on which the project is located.* Oʻahu. See **Attachment A-1, Figure 1, Project Location**

b. *Vicinity of the project on the island.* See **Attachment A-1, Figure 1, Project Location**

c. *Legal boundaries of the project.* See **Attachment A-1, Figure 2, Boundary Map**

d. *Receiving State water(s) from Section 6 of e-Permitting form and receiving separate drainage system(s) from Section 7 of e-Permitting form, identified and labeled.* See **Attachment A-1, Figure 4, Discharge Points**

e. *Location of ALL discharge points from Section 6 of e-Permitting form with identification numbers.* See **Attachment A-1, Figure 4, Discharge Points**

f. *Boundaries of 100-Year flood plans.* See **Attachment A-1, Figure 5, Flood Zones**

g. *Areas of soil disturbance.* See **Attachment A-2, Construction Plans/Drawings**

h. *Location(s) of impervious structures (including buildings, roads, parking lots, etc.) after construction is completed.* See **Attachment A-2, Construction Plans/Drawings**

i. *Pre-Construction Topography including approximate slopes and drainage patterns for the entire Facility/Project site to the receiving storm water drainage system (if applicable) or to the receiving State water(s) (with flow arrows).* See **Attachment A-2, Construction Plans/Drawings**

j. *During-Construction Topography (after major grading activities) including approximate slopes and drainage patterns for the entire Facility/Project site to the receiving storm water drainage system (if applicable) or to the receiving State water(s) (with flow arrows).* See **Attachment A-2, Construction Plans/Drawings**

k. *Post-Construction Topography including approximate slopes and drainage patterns for the entire Facility/Project site to the receiving storm water drainage system (if applicable) or to the receiving State water(s) (with flow arrows).* See **Attachment A-2, Construction Plans/Drawings**

C.9 - Flow Chart or Line Drawing

Attach or insert in Attachment A, a flow chart showing the following (Check each item, as applicable):

See **Attachment A-4, Storm Water Flow Chart**

❑ a. *Storm water entering the project from off-site areas*

☑ b. *General route taken by storm water through the project (show the routes through different drainage areas)*

☑ c. *Treatment system(s) utilized for the reduction of sediment (e.g., silt fence, earth berm, detention basin, vegetated swale, etc.)*

☑ *d. Best Management Practices (BMPs) utilized to prevent erosion (e.g., erosion control mats, reduced open area, revegetation, etc.)*

☑ *e. Quantity of flow through each applicable route from upslope to the receiving State water*

☑ *f. Drainage system(s) receiving storm water from the project, as applicable (e.g., City and County of Honolulu Municipal Separate Storm Sewer System (MS4), etc.)*

☑ *g. State water name(s) receiving storm water from the project*

Indicate which item(s) are not identified and explain why the item(s) are not identified
No storm water is expected to enter the project from off-site or adjacent areas.

C.10 - Construction Schedule

Provide the following estimated dates:

The date when construction activity will begin The estimated scheduled start time for construction is January 2021. The overall duration of the project is expected to be approximately three years. A detailed schedule of construction activity will be completed when a contractor is selected for the project and provided to DOH-CWB 30 days prior to the start of construction.

The date when each major construction activity begins Same as above.

The date when the Notice of Cessation form will be submitted Same as above.

C.11 – Storm Water Pollution Prevention Plan (SWPPP)

Include your SWPPP that complies with HAR, Chapter 11-55, Appendix C in Attachment A.

You are responsible for the design, implementation, operation, and maintenance of the SWPPP to ensure that storm water discharges associated with construction activities will not cause or contribute to a violation of HAR, Chapter 11-54, Chapter 11-55, and Chapter 11-55 Appendix C.

The contractor may augment or improve BMPs for discharges of storm water associated with construction activity after the NPDES permit is issued in accordance to HAR, Chapter 11-55, Appendix C. These amendments do not have to be submitted to the DOH-CWB, but shall be kept on-site and available upon request.

See **Attachment A-5, Storm Water Pollution Prevention Plan (SWPPP) and In-Water Pollution Prevention Plan (IWPPP).**