# Construction, Repair, and Maintenance Stormwater Best Management Practice Manual

## HAWAII ARMY NATIONAL GUARD

NPDES PERMIT NO. HIS000052

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HAWAII ARMY NATIONAL GUARD
ENVIRONMENTAL OFFICE
3949 DIAMOND HEAD ROAD
HONOLULU, HI 96816

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## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| BMP | Best Management Practice |
| CFR | Code of Federal Regulations |
| CIH | Certified Industrial Hygienist |
| CISEC | Certified Inspector of Sediment and Erosion |
| CWB | Clean Water Branch |
| DOH | State of Hawaii, Department of Health |
| DOH-CWB | State of Hawaii, Department of Health, Clean Water Branch |
| ECB | Erosion Control Blanket |
| ENV | Environmental Office |
| FMO | Facilities Management Office |
| HAR | Hawaii Administrative Rules |
| HIARNG | Hawaii Army National Guard |
| LID | Low Impact Development |
| MEP | Maximum Extent Practicable |
| MS4 | Municipal Separate Storm Sewer System |
| NOC | Notice of Cessation |
| NOI | Notice of Intent |
| NPDES | National Pollutant Discharge Elimination System |
| PM | Project Manager |
| PMC | Pest Management Plan |
| POL | Petroleum Oil Lubricant |
| QEP | Qualified Environmental Professional |
| RCRA | Resource Conservation Recovery Act |
| RECP | Rolled Erosion Control Product |
| SECP | Sediment and Erosion Control Plan |
| SOW | Scope of Work |
| SPCC | Spill Prevention, Control and Countermeasure Plan |
| SPUL | State Pesticide Use List |
| SWPPP | Stormwater Pollution Prevention Plan |
| TRM | Turf Reinforcement Matting |
| UFC | Unified Facilities Criteria |
| UIC | Underground Injection Control |

## RECORD OF REVISION

| Revision No. | Revision Date | Description | Sections Affected |
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| Original Document | May 2021 | Original | N/A |
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# 1.0 INTRODUCTION

This Construction, Repair, and Maintenance Storm Water Best Management Practices (BMP) Manual was prepared in accordance with Part D.1.d.(1) of the Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) Permit No. HI S000052 (Permit). The Permit requires the Hawaii Army National Guard (HIARNG) to provide guidance to all personnel, tenants, employees, and contractors involved in construction, repair, or maintenance activities at HIARNG facilities regardless of project size and scope. This Plan supersedes the following:

- Construction, Repair, and Maintenance Storm Water Best Management Practice Manual, September 2017

## 1.1 APPLICABILITY

The contents of this BMP Manual are herein considered to be minimum requirements for all construction, repair, and maintenance activities conducted on HIARNG facilities. Failure to comply with the requirements of this manual will be considered a violation of the Permit and will be enforced through the chain of command, contracting officer, and the Hawaii Department of Health (DOH). Table 1 provides a summary of the minimum requirements and Section 8 of this plan describes the HIARNG corrective action policy.

**TABLE 1 REGULATORY REQUIREMENTS**

| Qualifying Criteria | Applicable Regulation | Requirements |
|---|---|---|
| All Projects | HIARNG NPDES MS4<br>Permit HI S000052; HIARNG SWMP; HIARNG Construction, Repair, and Maintenance Storm Water BMP Manual | Minimize stormwater pollution to the Maximum Extent Practicable (MEP). |
| Project footprint 5,000 $ft^2$ or greater | Unified Facilities Criteria<br>(UFC) 3-210-10<br>Low Impact Development (LID) | Maintain or restore pre-development hydrology using Low Impact Development. |
| Projects disturbing 1 acre or more, or which are part of a larger common plan of development or sale totaling 1 acre or more. | Hawaii Administrative Rule (HAR) Chapter 11-55, Water Pollution Control, Appendix C, February 9, 2019 | Submit Notice of Intent (NOI)<br>Prepare a Storm Water Pollution Prevention Plan (SWPPP)<br>Notify DOH 7 days prior to construction<br>Submit Notice of Cessation (NOC) |

## 2.0 PROJECT PLANNING

Compliance with Federal and State stormwater regulations begin during the preliminary planning stages of each project. Communication between the Facility Management Office (FMO) and the HIARNG Environmental Office (ENV) prior to soliciting projects is **imperative** to prevent NPDES permit violations, legal liabilities, and change orders.

### 2.1 FMO PROJECT PLANNING

All HIARNG Project Managers (PMs) shall implement the following three steps to assure all applicable stormwater regulations are communicated during the planning stages of each project:

1. FMO shall include language in each Scope of Work (SOW) which contractually requires contractors to comply with HIARNG Construction, Repair, and Maintenance Stormwater BMP Manual; HAR 11-55 Water Pollution Control, Appendix C; and UFC 3-210-10 Low Impact Development.
2. For projects disturbing one acre or more, provide ENV with a draft SWPPP and Draft NOI for review and acceptance at least thirty days prior to the submittal to DOH, Clean Water Branch (CWB).
3. Provide ENV with a final SWPPP and a copy of the time-stamped NOI submittal to DOH-CWB.

### 2.2 CONTRACTOR PROJECT PLANNING

Contractors, engineers, and consultants are encouraged to visit the project site prior to preparation of their bid proposals, SWPPP, and Sediment and Erosion Control design drawings to assess site conditions, stormwater flow patterns, project discharge points, soil types, measure project footprints, plan for staging areas, and to determine the appropriate BMP's for erosion and sediment control.

### 2.3 ENV PROJECT PLANNING

The Water Quality Compliance Specialist reviews the project SOW, design drawings, NOI, and SWPPP to assess compliance with Federal and State stormwater requirements and to ensure LID and appropriate BMPs have been included. ENV uses the SWPPP Review Checklist (Appendix A) and the LID Project Review Checklist (Appendix B) to document and communicate regulatory deficiencies.

### 2.4 TRAINING

ENV will provide training annually, and as needed, to all HIARNG staff with construction, repair, or maintenance responsibilities. Training provides an overview of project planning, permit and regulatory requirements, stormwater BMP selection, required inspections, and the corrective action policy.

## 3.0 NON-PERMITTED PROJECTS

Construction, repair, and maintenance activities conducted on HIARNG facilities that do not require a NPDES permit are still required to prevent stormwater pollution to the MEP. Often, the impact small projects can have on stormwater is underestimated. All project SOWs should be provided to

ENV for review and comment prior to solicitation for bid. Site specific BMPs for each project will be recommended by ENV during the SOW review and should be incorporated into the project's contract requirements.

Examples of work activities that require BMPs include, but are not limited to the following:

- Concrete;
- Dry wall;
- Pressure washing;
- Cleaning;
- Painting and paint removal;
- Wastewater pumping;
- Landscaping;
- Earth work;
- Equipment maintenance;
- Refueling equipment;
- Vehicle washing;
- Paving;
- Dewatering;
- Stockpiling;
- Hydro-Testing; and,
- Herbicide and pesticide application.

# 4.0 NPDES PERMITTED PROJECTS

## 4.1 REQUIRED COMPLIANCE SUBMITTALS

In accordance with HAR Chapter 11-55, Appendix C, projects that require a NDPES permit must notify and submit compliance documents to the DOH-CWB at the following three milestones listed in Table 2 during a project:

**TABLE 2: PROJECT MILESTONES REQUIRED ACTIONS**

| Milestone | Required Action |
|---|---|
| 30 days before start of construction. | Submit NOI via e-Permitting Portal |
| 7 days before the start of construction. | Verbal or Written Notification to CWB |
| 7 days after the end of construction. | Submit NOC-via e-Permitting Portal |

## 4.2 NPDES PERMIT REPORTING

Contractors and the FMO PM must notify HIARNG ENV **immediately** when any of the following occurs at their construction, repair, or maintenance project sites:

- A spill of Petroleum Oil Lubricant (POL), hazardous material, or hazardous waste;
- An illicit discharge of any substance, or other than pure stormwater, from an NPDES permitted construction site (i.e., trash, debris, soil, chemicals, petroleum sheen in stormwater); and,
- Discovery of previously unknown and potentially, or suspected, contaminated groundwater or soil. Evidence of contamination can consist of discoloration, odors, visible free product and sheen, difference in soil properties, abandoned underground tanks or pipe, or buried debris.

Contractors and FMO PM shall not report illicit discharges, spills, or discoveries to DOH on behalf of HIARNG without first notifying and receiving guidance from HIARNG ENV. HIARNG ENV can be contacted at the Emergency Hotline, 808-672-1013, 24 hours a day, 7 days a week.

## 4.3 NPDES PERMIT FOR CONSTRUCTION DEWATERING OPERATION AND HYDRO-TESTING OPERATION

NPDES Permits are required for all Construction Dewatering Operations (HAR Chapter 11-55, Appendix G) and Hydro-Testing Operations (HAR Chapter 11-55, Appendix F) that will discharge water into the stormwater infrastructure or surface waters. Contractors are required to provide HIARNG ENV with a draft Dewatering Plan or Draft Hydro-Testing Plan, and a Draft NOI for review and acceptance at least 30 days prior to submittal to DOH.

Upon HIARNG ENV's acceptance, the contractor will provide HIARNG ENV with the Final Dewatering or Hydro-Testing Plan with a copy of the time-stamped NOI submittal to DOH.

## 5.0 STORMWATER POLLUTION PREVENTION PLAN

For projects that require NPDES permit coverage (see Table 1), an SWPPP shall be developed in accordance with HAR Chapter 11-55, Appendix C, Section 7. This SWPPP must be retained at the site throughout the entire duration of the project. A draft SWPPP shall be provided to FMO and HIARNG ENV for review prior to finalization and submittal of the NOI to DOH. ENV uses the SWPPP checklist (Appendix A) to evaluate each plan. Contractors are encouraged to use the SWPPP template (Appendix C) in the development of their SWPPP.

The contractor is responsible for architecture and engineering (A/E) and shall prepare the SWPPP which includes sediment and erosion control drawings for each phase of construction per Army National Guard General Facilities Information Design Guide 415-5, Chapter 6, Section 1, Division 1.

## 6.0 BEST MANAGEMENT PRACTICES

Stormwater BMPs are methods or devices that are designed to minimize impacts to stormwater. There are two main types of BMPs: structural and non-structural. Structural BMPs are devices or equipment used to minimize pollutants in stormwater. Non-structural BMPs are changes in protocol, approach, and management practices used to minimize pollutants in stormwater. Contractors must install all stormwater BMPs in accordance with good engineering practices, manufacturer's instructions, and design drawing specifications.

### 6.1 SELECTING BEST MANAGEMENT PRACTICES

Contractors must select the most appropriate and effective BMPs for their project based on site specific conditions. Items to be taken into consideration when evaluating a site for BMP selection include, but are not limited to:

- Stormwater flow patterns;
- Existing stormwater infrastructure;
- Soil types;
- Annual precipitation;
- Seasonal rainfall intensity;
- Grade and slope;
- Impervious and pervious surface types;
- Nearby surface waters and impairment classifications;
- Chemical use; and,
- Hazardous material storage.

BMPs at construction and maintenance sites can be summarized into two categories:

- Sediment and Erosion Control; and,
- Material and Waste Management.

### 6.2 SEDIMENT AND EROSION CONTROL

All projects that disturb soil, regardless of project size and NPDES permit status, are required to minimize erosion and migration of soil from their project site to the MEP. Wind and water are responsible for the majority of erosion typically found at construction and maintenance sites. Sites

disturbing one acre or more that require NPDES permit coverage must develop a sediment and erosion control plan (SECP) per HAR Chapter 11-55, Appendix C.

### 6.2.1 EROSION PREVENTION

Erosion can be prevented by minimizing disturbed areas and preserving existing vegetation on site. Soil-disturbing activities should be avoided during rainy periods and scheduled during dry months between April and October, whenever possible. When practicable, contractors should plan their project phases to minimize the total area of exposed soil at any one time, and continuously monitor the weather for forecasted rain events to allow for sufficient time to stabilize the disturbed soil to the MEP before the rain begins. Grading work should be completed as soon as possible. Contractors must mark areas of vegetation that are preserved.

### 6.2.2 PERIMETER CONTROL

Prior to soil disturbing activities, contractors must install sediment controls around the perimeter of their sites to prevent illicit discharges. Contractors must maintain perimeter controls and shall remove sediment as appropriate. Depending on the site-specific conditions, sediment can be retained to the MEP using one or more structural BMPs as described in the following sections.

#### 6.2.2.1 Silt Fence

Silt fences are designed to contain stormwater onsite and cause ponding to allow deposition of sediments. Silt fences should not be used where concentrated flows occur unless reinforced with additional support. Silt fences shall be installed in accordance with the manufacturer's recommended installation procedures. In general, the posts of the silt fence should be on the downstream side of the silt fence, relative to the direction of flow. The bottom tail of the silt fence should be trenched six inches down and six inches in the upstream direction; then, the trench should be backfilled with soil.

#### 6.2.2.2 Vegetated Buffer Strip

Vegetation surrounding a site may be used as a form of perimeter control as long as the vegetated buffer strip proves to be effective at reducing runoff velocity and removing sediment to prevent an illicit discharge. The minimum width allowed for a vegetated buffer when used as a primary perimeter control is 15 feet; but the contractor must also provide and maintain a full 50-foot, vegetated buffer between its construction activities and any waters of the U.S. The vegetated buffer strip shall not have a slope greater than 15% and shall have a stand of dense vegetation maintained at a height of 3-12 inches. The vegetated buffer must be designated and protected by flagging or other identifiers to prevent disturbances from vehicles, equipment, and use as a storage area.

#### 6.2.2.3 Compost Filter Socks

Compost filter socks create a very small sediment containment system to allow for deposition of suspended sediment particles. Compost filter socks are only applicable where the runoff flow does not exceed one cubic foot per second and should not be used where concentrated flows of runoff are anticipated such as drainage ditches, around inlets, or above/below a culverts discharge.

The compost filter sock shall be comprised of a mesh tube filled with composted material and knots tied at both ends of the sock. The compost sock shall be 10 inches, minimum, in diameter. Contact HIARNG ENV for compost sock approval.

The compost filter socks shall be installed in accordance with the manufacturer's recommended installation procedures. In general, the compost filter socks must be in continuous contact with the ground to prevent runoff from flowing beneath the sock. The socks must be sufficiently staked in the ground or properly anchored to prevent displacement of the sock caused by the runoff flow. Adjoining compost filter socks must overlap side-by-side six inches, at a minimum. Butt end joints and overlaps that are placed on top of each other are not allowed.

### 6.2.3 INLET PROTECTION

Existing stormwater infrastructure, such as storm drains, catch basins, underground injection control (UIC) wells, curb inlets, and culverts, shall be protected to prevent a discharge of sediment and/or other potential pollutants into the MS4. Inlet protection shall be utilized at those appurtenances, such as curb inlets and grate inlets, that are located within the project site and those appurtenances that are located beyond the project site but have the potential to receive stormwater runoff from the project site. Depending on the type of inlet, a site-specific device must be utilized to prevent an illicit discharge. Each device will be installed only at those inlets for which they are specifically designed and will be installed per the manufacturer's recommended installation procedures.

Contractors are required to design and install inlet protection BMPs which will work best for the specific site condition. Inlet protection BMPs must effectively prevent illicit discharges. Typically, these methods can include securely installing filter fabric beneath the grate of the inlet while controlling the flow into the inlet and using other barriers, such as silt fencing, aggregate bags, or sandbags. Straw bales are not effective for inlet protection and shall not be used.

Inlet protection devices must not create a potential hazard to traffic and pedestrians. Each inlet protection device should be inspected prior to an anticipated rainfall event, after the rainfall event, and regularly at the end of each workweek. During extended rainfall events, the devices must be inspected daily. Accumulated sediment shall be removed after each rainfall event and during extended rainfall events once the device is half-full of sediment. Sediment should also be removed from areas adjacent to the inlet and along the runoff flow path towards the inlet, such as concrete gutters and swales.

### 6.2.4 DUST CONTROL

Dust control measures shall be implemented to stabilize soil from wind erosion and reduce dust that can be generated by construction, repair, and maintenance activities.

When using water for dust mitigation, the water shall be from a potable or uncontaminated water source. Water prevents dust for only a short period and must be applied periodically during the day to be effective. Avoid over-saturation of the ground to prevent excessive runoff which may cause erosion.

Chemical treatment of the soil shall not be allowed without the approval of ENV. Some chemical dust suppressants can make the soil repellant to water which will increase runoff. In addition, some chemical dust suppressants are harmful to aquatic life. Oil **shall** not be used for dust control.

Dust screens and fences can be used in conjunction with other dust control measures. The dust screen and fence must be of proper size and height to contain airborne dust particles and shall be

of continuous length without gaps and firmly secured to posts and/or other supporting devices. The dust screen and fence must not create a potential hazard to traffic and pedestrians.

### 6.2.5 STOCKPILE MANAGEMENT

Stockpiles of soil and aggregate can be a significant source of erosion, sediment, and fugitive dust problems. Measures must be implemented to mitigate the potential for erosion of stockpiles.

Stockpiles shall be located a minimum of 50 feet, or as far as practicable, from waters of the U.S. stormwater appurtenances, concentrated runoff, and any natural buffers (see section 6.2.2.2). Avoid locating stockpiles on sloping ground and provide adequate setback from lot lines.

Stockpiles shall not exceed a maximum height of 15-feet, unless approved by ENV. Provide earth dikes or other physical diversion measures to protect the stockpile from both runoff and run-on. Silt fence, compost socks, or other sediment control measures shall be placed along the entire perimeter toe of the stockpile to mitigate runoff during rain events. The stockpile must be covered with plastic sheeting, mulch, or other stabilization measures to protect from wind and prevent erosion during rain events. All measures shall be in-place immediately upon creation of the stockpile and during all times that the stockpile is inactive. Inactive is defined as all times other than when addition to or removal of material to the stockpile is actively occurring. All measures shall be in-place by the end of each day or work shift. The stockpile must not create a potential hazard to traffic and public safety.

If the stockpile consists of contaminated or suspected contaminated soil or material, in addition to the measures described above:

- The stockpile must be placed on an impermeable liner or device in adherence to HAR 128D, Technical Guidance Manual for the Implementation of the Hawaii State Contingency Plan (TGM);
- Contain the contaminated soil and material by surrounding the stockpile with an impermeable lined berm and cover the exposed contaminated soil and material with plastic sheets;
- Provide physical diversion to protect stockpiles from concentrated runoff; and,
- Consult with a Certified Industrial Hygienist (CIH) or Qualified Environmental Professional (QEP) for the proper handling and disposal, if applicable.

Specific protection requirements and practices shall be determined by the CIH or QEP.

### 6.2.6 SOIL STABILIZATION

Exposed soil must be stabilized upon completion of earth disturbing activities for any areas of the site that are permanently or temporarily ceased. Stabilization shall be initiated immediately by the end of the next workday, following the day when the earth disturbing activities have temporarily or permanently ceased, and must be completed within 14 calendar days, unless the site discharges into impaired waters. If discharging into impaired waters, stabilization must be completed within seven calendar days. Stabilization can consist of vegetative measures or non-vegetative measures.

Earth disturbing activities have permanently ceased when clearing and excavation within any area of the site, that will not include permanent structures, have been completed.

Earth disturbing activities have temporarily ceased when clearing, grading, or excavation within any area of the site will not resume for a period of 14 or more calendar days, but such activities will resume in the future.

#### 6.2.6.1 Rolled Erosion Control Products (RECPs)

RECPs, such as Turf Reinforcement Matting (TRM) and Erosion Control Blankets (ECBs), limit soil erosion, retain soil moisture, promote seed germination, and protect seedlings during heavy rainfall or winds. RECPs can be made of natural or synthetic material, and are most appropriately used on sloped areas, however, they can also be used on level areas. RECPs are not suitable for rocky sites.

Before installing RECPs, all rills and gullies need to be smoothed, and surface rocks removed to achieve maximum contact of the RECPs to the ground. When installing RECPs on a hillside, the upper edge of the material needs to be secured by trenching and/or anchoring, and the RECP must be secured to the slope with an adequate number of anchors. The RECP shall be installed in accordance with the manufacturer's recommended installation procedures. Any seeding should be performed prior to installation of RECPs.

#### 6.2.6.2 Seeding

When seeding an area to be stabilized and to ensure success, prepare an appropriate seed bed by incorporating fertilizer into the topsoil. Irrigate until the planting is established. Do not over fertilize as it can be environmentally harmful. Excessive irrigation may also cause erosion and carry away applied fertilizers.

In accordance with the Army National Guard General Facilities Information Design Guide 415-5, projects shall only use vegetation that is native, low maintenance, and drought tolerant.

#### 6.2.6.3 Mulch

Hydro-mulching can be used as a temporary stabilization measure to reduce soil erosion and to provide temporary cover of newly planted seeds until they become established at locations other than the Army Aviation Support Facility No. 1 (AASF1). Hydro-mulch that does not contain seeds may be used at AASF1 upon approval by HIARNG ENV. Hydro-mulch shall consist of specially processed fiber and tackifier which shall form a homogeneous slurry after addition and agitation in hydro-mulch applicator equipment. The mulches shall be recycled materials, including bagasse, hay, straw, wood, cellulose bark, wood chips, or other material acceptable to HIARNG ENV. The mulches shall be clean and free of noxious weeds and deleterious materials. Mulch must be applied at a density to cover 80%-100% of the ground. Only water from a potable water source shall be used.

### 6.2.7 TRACKING CONTROL

Contractors must minimize the track out of sediment onto offsite streets, sidewalks, and other paved surfaces by restricting vehicles and equipment to a designated Stabilized Construction Entrance/Exit which is designed to remove sediment prior to exiting the site. When constructing a Stabilized Construction Entrance/Exit, it must meet the following specifications:

- Dimensions of the entrance/exit must be a minimum of 50 ft. long and 30 ft. wide, or a wash rack station (see below) may be used in smaller entrances/exits as approved by HIARNG ENV;
- A geotextile filter fabric must be used under the aggregate layer;
- Aggregate must be 3-inch to 6-inch diameter coarse aggregate. Crushed asphalt and recycled asphalt cannot be used;
- Depth of aggregate must be 12 inches thick, minimum;
- Construct the entrance/exit on level ground, where possible. The entrance/exit must be sloped to prevent runoff from leaving the site;
- Provide ample turning radius as part of the stabilized entrance/exit;
- If a wash rack is incorporated with the entrance/exit, washing must be done on a paved or aggregate pad that drains to a properly constructed on-site sediment trap/basin, and:
    - The washing waters are not allowed to leave the site;
    - The sediment trap/basin shall be properly sized to accommodate both the maximum volume of expected retaining capacity of washing waters with freeboard to accommodate the addition of rainfall in accordance with local regulations;
    - Additional BMP measures may be required for the sediment trap/basin; and,
- All stormwater appurtenances that have the potential to receive runoff from the entrance/exit and paved areas with potential tracking shall be protected with inlet protection devices.

There are also many manufactured construction entrance/exit devices that the contractor may elect to employ in lieu of constructing a stabilized construction entrance/exit. These manufactured devices must be installed and maintained in accordance with the manufacturer's recommended installation procedures and requirements and be approved for use by HIARNG ENV.

The stabilized construction entrance/exit must be properly maintained, and inspections performed on the stabilized construction entrance/exit and any wash rack ditches/swales at the end of each work week. Any accumulated sediment within the entrance/exit must be separated and removed from the aggregate, and properly disposed. At a minimum, the paved area and sidewalks at the entrance/exit must be inspected daily for tracking. The contractor shall collect, remove, and dispose of all tracking by the end of the day. Tracking shall be collected by sweeping or vacuum, and properly disposed. Washing and hosing of the paved areas and sidewalk into any stormwater infrastructure or surface water is prohibited.

## 6.3 MATERIAL AND WASTE MANAGEMENT

Contractors must manage waste and materials at their site to minimize the discharge of potential pollutants to stormwater.

### 6.3.1 HOUSEKEEPING

General good housekeeping is required at all project sites. Contractors should keep their site free of trash and debris that could be swept away by wind and stormwater. The contractors shall provide sufficient number of trash dumpsters and bins to adequately manage the amount of trash and debris that are expected to be generated on the site. Trash dumpsters and bins shall be watertight with a lid or cover to prevent contact with stormwater and displacement by wind. The amount of trash and

debris shall not exceed the capacity of the dumpster or bin. When possible, locate the dumpsters and bins under cover and/or in secondary containment.

### 6.3.2 PORTABLE TOILETS

All portable toilets must be located at least 10-feet from the roadway and away from stormwater drainage features, open ditches, and water bodies. Portable toilets must be properly positioned and secured to prevent tipping over or knocking down. A sufficient number of portable toilets must be provided based upon the size of the labor work force and usage. Regular waste collection and cleaning by a licensed transporter must be arranged and scheduled. The toilet must not be allowed to overflow. When servicing the toilet, prevent spills of cleaning solutions, cleaning wastewater, and sanitary waste. Never discharge untreated sanitary wastewater onto the ground. If a spill occurs, clean up the spill immediately. For sanitary waste spills, disinfect the area of the spill after cleaning up. Do not over-apply sanitizers, such as lime, and prevent from discharging to the drainage system, open ditches, and water bodies.

### 6.3.3 CONCRETE WASTE

Concrete waste has many different forms, such as concrete washout, demolition waste, and slurry. Each of these waste products can be comprised of many different chemicals and toxic metals which are harmful to the environment. Proper management and handling of concrete wastes are required. This waste includes, but is not limited to, concrete, mortar, plaster, stucco, and grout.

#### 6.3.3.1 Concrete Washout

Concrete washout is defined as unused concrete and water used to clean and remove concrete or cement products from equipment. Whenever possible, the concrete washout should be disposed of at an appropriate offsite facility.

The onsite concrete washout station shall be at a designated location that is clearly marked with proper signage. The station shall be located a minimum of 50-feet away from all stormwater appurtenances, open ditches, and water bodies. The station can consist of either a temporary excavated pit or portable bins to contain the washout.

When using portable bins, the bins shall be watertight or lined with a minimum of 10 mil polyethylene sheeting that is free of holes, tears, and other defects that may compromise the impermeability of the material. Kiddie pools are not allowed to be used for any construction projects on HIARNG properties.

For excavated pits, the pit shall be located within a bermed area that will prevent stormwater runoff from discharging into the pit and lined with a minimum of 10 mil polyethylene sheeting that is free of holes, tears, and other defects that compromise the impermeability of the material.

A minimum freeboard of 4-inches shall be maintained at the washout station to account for rain events, and the washout contents in the facility shall not exceed 75% of its capacity. Once 4-inch freeboard or 75% of its capacity is achieved, no additional concrete washout shall be placed within the station until it is emptied.

Retain the concrete washout within the station where the concrete can set, be broken up, and then, properly disposed of as concrete solid waste. The residual water within the station can be allowed

to evaporate or properly disposed at an appropriate offsite treatment facility. Do not dispose of liquid waste into the storm drain system or ground.

#### 6.3.3.2 Concrete and Solid Wastes

Concrete solid waste consists of concrete demolition debris, hardened unused concrete, and dried concrete washout. The concrete waste should be removed from the site and disposed at an appropriate offsite facility at the earliest practicable convenience.

When storing concrete solid waste onsite, the waste must be properly managed and handled. Contain the waste in a watertight container with a lid, covered, or under cover. The waste can also be stored as a stockpile, following the requirements and practices as described in Section 6.2.5 Stockpile Management.

#### 6.3.3.3 Concrete and Asphalt Slurry

When saw cutting concrete or asphalt, collect the sawcut slurry by vacuuming and remove from the site for disposal at an appropriate offsite facility. Avoid saw cutting during wet weather. Cover or barricade stormwater appurtenances during saw cutting operations to contain the slurry. The slurry is not allowed to discharge into the stormwater infrastructure. The slurry may be disposed offsite at an appropriate treatment facility or placed in the onsite concrete washout station (Section 6.3.3.1) to promote evaporation and drying for disposal.

### 6.3.4 PAVING OPERATIONS AND WASTE

Paving equipment and materials contain toxic levels of heavy metals, oil, and grease. Prevent or reduce the discharge of pollutants from paving operations by using measures to prevent stormwater pollution, properly dispose of wastes, and provide training to employees.

Avoid paving during wet or rainy weather. Block and protect all stormwater appurtenance, such as inlets and manholes, when applying seal coat, tack coat, slurry seal, fog seal, etc.

When removing existing asphalt pavement, properly handle and dispose of the removed materials. If removal of the pavement is completed by grinding or cold-planning operations, proper dust control measures must be implemented to mitigate the generation of dust following the requirements and practices that are described in Section 6.2.4 of this manual. When stockpiling new or removed asphalt material, follow the requirements of Section 6.2.5 of this manual.

While paving, sweep excess sand and gravel from the pavement surface to prevent it from washing into the stormwater system. All excess and removed asphalt material must be properly disposed. Asphalt material is not allowed to discharge into the stormwater system.

Place drip protection measures or absorbent materials under paving equipment when not in use. The drip protection measures should include the entire area beneath the equipment, including within its dripline. Inspect and maintain paving equipment daily to minimize leaks and drips. Follow the requirements of Section 6.3.8 and Section 6.3.9 of this manual. Clean up spills promptly with absorbent materials. Inspect drip protection measures daily, and immediately clean up, remove and properly dispose of all contents and rain accumulation.

### 6.3.5 HAZARDOUS MATERIALS AND POL

All employees involved in the construction project must be properly trained in the handling and use of construction materials. Follow the manufacturer's instructions regarding use, protective equipment, ventilation, flammability, and mixing of chemicals. Keep the Manufacturer's Safety Data Sheets (SDS) at a designated location and ensure employees are knowledgeable of the location. Minimize the use and volume of hazardous materials on the site. Use materials only where and when needed to complete the work.

Designate areas within the site for material delivery and storage. These designated areas shall be located near the construction entrance/exit, if practicable, and away from stormwater appurtenances and surface waters. Surround the storage area with earth berms or other approved containment devices.

All hazardous materials and POL must be stored in leak-proof containers and properly labeled. Do not store materials directly on the ground. Place materials on a pallet or dunnage, and in secondary containment. The materials must be covered or stored under cover to prevent contact with rainwater and prevent stormwater from discharging into the secondary containment device. The secondary containment shall be adequately sized to be able to retain 100 percent of the capacity of the single largest container plus the freeboard from the precipitation of a 25-year storm event, or 10 percent of the aggregate total volume of all material stored in the secondary containment device plus freeboard from precipitation, whichever is greater. Any time hazardous materials and POL are used, stored, or transferred on HIARNG's property; contractors must have spill supplies readily available.

All metal material, such as reinforcing steel and structural steel, must be protected from contact with stormwater (i.e., stored off the ground and covered) to prevent rusting. Rust can contain heavy metals and can cause discoloration. Metal materials shall be stored on proper dunnage to prevent contact with stormwater runoff and covered or under cover to prevent contact with stormwater.

Contractors who apply pesticides (e.g., insecticides, herbicides, fertilizers with pesticides) shall have a current, and possess, commercial certification by the State of Hawaii, Department of Agriculture or Department of Defense Certificate of Competency in the appropriate EPA-approved state categories as required by the HIARNG Integrated Pest Management Plan (IPMP). Certification information shall be provided to the HIARNG Pest Management Coordinator (PMC) prior to the application of chemicals. The contractor shall use only those pesticides that are approved for use listed on the HIARNG State Pesticide Use List (SPUL). Contractors shall not deviate from the HIARNG SPUL without prior approval from the HIARNG PMC. The contractor shall apply pesticides following the pesticide label and comply with all county, state, and federal regulations for pesticides. The contractor's personnel shall receive training on the BMPS annually, and the contractor must maintain records of the annual training program.

The contractor shall prepare, submit, and maintain daily pest management activities for each pest management service provided on DD Form 1532-1, as required by the HIARNG IPMP. These records shall include all surveillance, non-chemical controls, and chemical applications. All DD Form 1532-1 records shall be submitted monthly to the HIARGN PMC.

Contractors must call the ENV Emergency Hotline at (808) 672-1013 and the FMO PM immediately to provide notification of all hazardous materials and POL spills that occur on their job site.

### 6.3.6 HAZARDOUS WASTES

Contractors **shall** keep HIARNG ENV apprised of the generation, accumulation, and disposal of hazardous waste and other regulated waste prior to and throughout the construction, repair, or maintenance activities. Contractors shall store all such waste in sealed watertight containers which are constructed of suitable materials to prevent leakage and corrosion. All containers shall be well-labeled, stored off the ground, and stored in secondary containment, in accordance with Section 6.4.3 of this manual. Manage, handle, and dispose of all hazardous waste in accordance with all applicable federal and state regulations. All spills of hazardous waste must be immediately reported to the HIARNG ENV Emergency Hotline at (808) 672-1013 and the FMO PM.

### 6.3.7 PAINTING AND PAINT REMOVAL

Paint is considered as a hazardous material and must be stored in containers in accordance with Section 6.3.4 of this manual and per its label. When applying paint by spray, avoid over-spraying and/or painting during windy conditions. Maintain proper distance between the sprayer tip and surface to minimize the dissipation of the paint due to wind. Apply paint with brush or roller, if possible.

Do not apply traffic paint or thermoplastic if rain is forecasted. Minimize excessive spreading or over-application of beads when applied manually to the surface of the thermoplastic.

When painting operations are completed, brushes and other painting instruments should be cleaned by “painting out” the brush as much as possible, or by scraping off the excess paint. Do not clean brushes or rinse paint containers into the dirt, street, gutter, storm drain, or surface water. Designate an onsite wash area a minimum of 50-feet, or as far as practicable, from stormwater appurtenances and surface waters. Whenever possible, clean the brushes and painting instruments offsite.

For water-based paints, wash brushes and other painting instruments in a bucket and dispose of the wash water into the sanitary sewer, where possible; if unable, collect all wash water into a leak-proof container or leak-proof pit, and allow to evaporate. The container or pit must be sized so that no overflow can occur due to excess usage and stormwater.

Oil-based paints and residue are hazardous waste, and should be handled, managed, and disposed of in accordance with Section 6.3.5 of this manual and per its label.

Dispose of paint containers only after all of the paint has been used. Except for oil-based paints, all other paints can be disposed of by drying, bagging, and placing with general rubbish.

When removing paint, contractors must capture all paint chips and debris, characterize the waste, and dispose of properly in accordance with all applicable Federal and State regulations.

### 6.3.8 EQUIPMENT AND VEHICLE CLEANING

Prevent or reduce the discharge of pollutants to stormwater from equipment and vehicle cleaning by using offsite facilities. If washing must occur onsite, use a designated location with a bermed and lined wash area to prevent wash water from contacting stormwater, surface waters, and discharging

into stormwater appurtenances. Minimize the use of water and use phosphate-free, biodegradable soaps only. Prior to cleaning, check for leaks on the equipment and repair immediately. Repair all known leaks before cleaning. Recycle wash water or dispose of wash water by infiltration, evaporation, or disposal at appropriate offsite facility.

### 6.3.9 EQUIPMENT FUELING AND MAINTENANCE

Offsite fueling and maintenance facilities and stations should be used as much as possible. On-site fueling is permitted only with the approval of the HIARNG ENV and within designated locations. These designated locations shall be away from stormwater appurtenances and surface waters to prevent possible stormwater contamination. If the aggregate shell capacity of POL containers, 55 gallons or more, exceeds 1,320 gallons at the project site, the contractor shall prepare a Site-Specific Spill Prevention Control and Countermeasure Plan (SPCCP) to comply with Title 40 of the Code of Federal Regulations (CFR), Part 112 Oil Pollution Prevention 40 CFR 112, and provide HIARNG ENV with a copy of the plan.

All vehicles and equipment, including those entering the site, shall be inspected at the beginning and end of each day for leaks. All leaks are to be repaired immediately.

When fueling, secondary containment, such as a drip pan must always be used to catch all spills and leaks. “Topping off” of fuel tanks should be avoided. All spills must be cleaned up immediately using dry cleanup methods. Hosing and pressure washing surfaces are not allowed without HIARNG ENV approval. All waste, including used absorbent material, contaminated soil, etc., shall be disposed of in accordance with applicable Resource Conservation and Recovery Act (RCRA) and Toxic Substances Control Act (TSCA) regulations. A stockpile of spill cleanup material shall be readily accessible in designated locations on the site.

### 6.3.10 VEHICLE STORAGE

Preventive maintenance inspections shall be performed daily on all equipment and vehicles to check for and prevent leaks. Equipment and vehicles not being actively used must be stored on an impervious surface with proper drip protection measures. Spill supplies shall be readily available at a designated location on-site to immediately clean up any leaks that may occur. Equipment and vehicles with leaks shall be immediately repaired or removed from HIARNG property.

### 6.3.11 SPILL PREVENTION AND RESPONSE

The contractor shall prevent or reduce the discharge of pollutants caused by leaks and spills into stormwater by reducing the chance of spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spilled materials, and training employees.

If a spill occurs, immediately stop work. Shut down equipment and secure work operations. Keep non-essential employees away from the spill area. If it can be completed safely, spill response measures should be immediately implemented to contain the spill and prevent, or minimize, discharge into the stormwater infrastructure. Never subject anyone to unreasonable risk of illness or injury.

Immediately report all spills to the HIARNG ENV at the Emergency Hotline, (808) 672-1013, which is available 24 hour a day, 7 days a week. Provide HIARNG ENV with the following information:

- Name and contact information;
- Date and time;
- Location of the spill;
- Product name;
- Type, quantity, and description of the spill;
- Immediate danger or threat posed by the spill;
- Type of media affected (soil, asphalt, concrete, etc.);
- Measures taken or proposed to be taken in response to the spill; and
- Potential for discharge to the stormwater system or surface waters.

For reporting a release or spill:

- For immediate threat to human welfare or fatalities, call 911;
- Immediately notify the Hawaii State Emergency Response Commission (HSERC) through the Hazard Evaluation and Emergency Response (HEER) office (https://health.hawaii.gov/heer/how-to-report-a-release-spill/), and Local Emergency Planning Committee (LEPC):
    - If there is a release into the environment of a hazardous substance that is equal or exceeds the minimum reportable quantity in any 24-hour period;
    - Immediately after a reportable release;
- HEER Office is the administrative contact for the HSERC at 808-586-4249 or 808-236-8200;
- Local Emergency Planning Committee at 808-723-8960 (Honolulu County); and,
- National Response Center at 800-424-8802.

Cleanup of the spill should be completed by dry methods. Use absorbent materials, and promptly dispose of used absorbent materials properly. Hosing down or washing is prohibited. If necessary, employ a private spill cleanup company.

The contractor shall ensure that spill cleanup materials (e.g., spill kits) are fully stocked and readily accessible on the site at designated locations with signage. Employees should be trained in spill prevention and cleanup.

Provide a written follow-up notice no later than 30 days after initial discovery of the release to the HSERC/HEER and LEPC and include the following information:

- Name and phone number;
- Name of hazardous substance spilled;
- Approximate quantity spilled;

- Location of the spill;
- Date and time of the spill;
- Description of how it happened;
- Immediate danger or threat posed by the release;
- Contact information for the responsible party;
- Measures taken or proposed to be taken to clean up the spill;
- Any known injuries resulting from the exposure; and,
- Other county, state or federal officials that were notified.

# 7.0 SITE INSPECTIONS

All project sites must be inspected regularly by the contractor and ENV to confirm compliance with stormwater regulations. The inspections shall include, but not limited to, inspection of the SWPPP and BMP Plan; inspection of the discharge points, such as outfalls or receiving surface waters, for evidence of illicit discharges; stormwater runoff and control measures; and best management practices. Evidence of possible illicit discharges can consist of turbidity, color, floating oil and grease, floating debris and scum, materials that will settle, substances that will produce taste in the water or detectable off-flavor in fish, items that may be toxic or harmful to human or other life, and other evidence of stormwater pollutants.

## 7.1 INITIAL SITE INSPECTIONS

Prior to the initiation of ground-disturbing activities at any site, except for activities associated with the installation of BMPs at the site, an engineer or qualified inspector employed or retained by HIARNG shall inspect the site to verify BMPs, as required by the BMP Plan and/or other documents, have been installed correctly and in the correct locations prior to the commencement of ground-disturbing activity. Inspections shall include a review of the site Erosion and Sediment Controls, good housekeeping practices, and compliance with HIARNG ENV accepted erosion and sediment control plans, construction BMP Plans, or other similar documents and permits. The engineer/inspector will also identify, document, and report any site conditions having the potential for erosion and sediment runoff, including other pollutant discharges which may occur as a result of the project's construction activities. Photos shall accompany an NPDES Construction Inspection Form (Appendix D) to document the deficiencies and corrective actions, prior to the commencement of construction activities.

## 7.2 NPDES PERMITTED PROJECTS WEEKLY CONTRACTOR INSPECTIONS

In accordance with HAR Chapter 11-55, Appendix C, Section 9, contractors whose project sites are covered under a NPDES permit must perform site inspections at least once every seven (7) days and within twenty-four (24) hours of a storm event of 0.25 inches or more. The contractor shall either keep a properly maintained rain gauge on the site or obtain the storm event information from a weather station that is representative of the location. The contractor's inspector shall be qualified in the knowledge of the principles and practice of erosion and sediment controls and pollution prevention. The inspector must possess the skills to assess conditions at the site that could impact stormwater quality, and the skills to assess the effectiveness of any stormwater controls that are selected and installed. Each inspection shall be documented on the NPDES Construction Inspection Form (Appendix D) which must be kept on the site and readily available for inspection by the engineer or qualified inspector employed or retained by HIARNG, or DOH. Photos shall accompany the NPDES Construction Inspection Form to document the deficiencies and corrective actions.

## 7.3 NPDES PERMITTED PROJECTS MONTHLY INSPECTIONS

All construction, repair, and maintenance projects shall be inspected at least monthly by a qualified HIARNG construction inspector who is independent of the construction project being inspected (i.e., not involved in the day-to-day planning, design, or implementation). The inspector shall use the HIARNG NPDES Construction Inspection Form located in Appendix D to assess the contractor's adherence to applicable regulations and their SWPPP. Photos shall accompany the NPDES

Construction Inspection Form to document the deficiencies. At the end of each inspection, the inspector and the site contractor representative will review the inspection results together and discuss the cause of all deficiencies, if any. The site contractor will be notified of the deadline for corrective action and a follow-up inspection will be scheduled for the respective timeframe. The site contractor representative shall sign the NPDES Construction Inspection Form acknowledging the inspection results and the corrective actions required. A follow-up inspection will be conducted to confirm all deficiencies have been corrected, and the NPDES Construction Inspection Form is signed and dated by both parties to verify that the corrections have been completed. HIARNG ENV will retain copies of all construction inspections for five (5) years after the permit is closed.

# 8.0 CORRECTIVE ACTION POLICY

HIARNG's Corrective Action Policy consist of identifying stormwater protection deficiencies. These deficiencies are divided into two categories: Critical Deficiencies and Major Deficiencies. Stormwater deficiencies can occur at any facility or construction site. If a contractor does not correct a stormwater deficiency within the prescribed timeframe, HIARNG ENV will escalate the action through the chain of command, contracting officer, and/or the Hawaii Department of Health (DOH) who may impose additional fines and penalties. The contractor shall be responsible for all citations, fines, and penalties levied by the DOH or the EPA against HIARNG due to the contractor's failure to satisfactorily address site-specific BMP deficiencies and/or any contractor's illicit discharges. For all citations and fines received by HIARNG for non-compliance, including non-compliance with NGPC/NDPES Permit conditions, the contractor shall reimburse the HIARNG within 30 calendar days for the full amount of outstanding cost that HIARNG has incurred, or the HIARNG shall deduct all incurred costs from the contractor's monthly progress payments, where applicable.

## 8.1 CRITICAL DEFICIENCY

A critical deficiency is any issue or condition that poses an immediate threat for the discharge of pollutants to the stormwater system or surface waters. Depending upon the circumstance and condition of the critical deficiency, this may also be classified as an Illicit Discharge which may warrant additional actions, notifications, and penalties. Examples of critical deficiencies are illicit discharges; absence of perimeter controls in an area with evidence of sediment transport offsite; or spills that have not been cleaned near a drain or waterway. All critical deficiencies must be corrected or addressed before the close of business on the day of the inspection during which the deficiency is identified.

## 8.2 MAJOR DEFICIENCY

A major deficiency is any issue or condition that poses a significant threat for the discharge of pollutants to the stormwater infrastructure or surface waters, or non-compliance to the requirements of the NPDES permit. Examples of major deficiencies are administrative and recordkeeping violations; lack of secondary containment; improper installation of erosion control devices; perimeter BMPs are not functional; lack of a BMP plan or updated BMP plan; or tracking from the ingress/egress. All major deficiencies must be corrected no later than five (5) calendar days after the inspection during which the deficiency is identified or before the next forecasted rain event, whichever is sooner.

# 9.0 RECORDKEEPING

## 9.1 DURING CONSTRUCTION

All construction, repair, and maintenance projects covered under a NPDES General permit for construction activities as required by HAR Chapter 11-55, Appendix C, shall keep the NPDES permit, SWPPP, SECP, and contractor weekly inspections readily available on the site at all times. The contractor must also keep a record of all changes to the SWPPP and ensure the sediment and erosion control plan is updated to reflect current site conditions. The HIARNG ENV maintains an inventory of all NPDES construction permits, SWPPPs, and records of all monthly inspections.

## 9.2 POST CONSTRUCTION

All records pertaining to NPDES permit coverage shall be retained for a minimum of three (3) years after the NOC.

## 9.3 TRAINING

The contractor shall provide annual training on Stormwater Best Management Practices to their staff with stormwater responsibilities. This training shall be specific to the contractor's activities, including the proper installation and maintenance of accepted BMPs, policies, rules, and procedures. The contractor shall maintain records of the annual training and include it in the SWPPP.

# Appendix A
# **SWPPP Review Checklist**

| HIARNG Environmental Office<br>Stormwater Pollution Prevention Plan Review Checklist | |
|---|---|
| **Project Name:** | **Project Number:** |
| **PM Name:** | **PM Contact Info:** |
| **Contractor Name:** | **Contractor POC:** |
| **SWPPP Checklist Review Date:** | **Facility:** |

| | | | Yes | No | N/A |
|---|---|---|---|---|---|
| 1. | Does the SWPPP include all stormwater team members by name or title that includes their responsibilities | | | | |
| 2. | Does the SWPPP include the total size of the property (in acres) | | | | |
| 3. | Does the SWPPP include the size of the area to be disturbed (in acres) | | | | |
| 4. | Does the SWPPP include the maximum area to be disturbed at any one time | | | | |
| 5. | Does the SWPPP include a description of the construction support activities, i.e., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, stockpiles | | | | |
| 6. | Does the SWPPP include a list of all operators who will be engaged in construction activities at the site and the areas of the site over which each operator has control | | | | |
| 7. | Does the SWPPP include a sequence of intended construction activities | | | | |
| 8. | Does the SWPPP include a schedule including a start date and duration of: | | | | |
| | a. | Installation of storm water control measures | | | |
| | b. | The time at which the storm water control measures will become operational | | | |
| | c. | Earth Disturbing activities | | | |
| | d. | Cessation, temporarily or permanently, of construction activities on all or part of the site | | | |
| | e. | Final or temporarily stabilization of areas of exposed soil | | | |
| | f. | Removal of temporary storm water conveyances/channels, or other storm water control measures | | | |
| | g. | Removal of construction equipment and vehicles | | | |
| | h. | Cessation of any other pollution-generating activities | | | |
| 9. | Does the SWPPP include a legible site map, or a series of maps showing the following: | | | | |
| | a. | Boundaries of the property | | | |
| | b. | Locations where construction activities will occur | | | |
| | c. | Locations of earth disturbing activities | | | |
| | d. | Approximate slopes before and after major grading, noting any phasing of construction activities | | | |
| | e. | Locations where sediment, soil, or other construction material will be stockpiled | | | |
| | f. | Locations of any crossing of surface waters | | | |
| | g. | Designated points on the site where vehicles will exit onto paved roads | | | |
| | h. | Locations of structures and other impervious surface upon completion of construction | | | |
| | i. | Locations of construction support areas | | | |
| | j. | Locations of all surface waters, including wetlands, that exist within or in the immediate vicinity of the site | | | |

| | | | Yes | No | N/A |
|---|---|---|---|---|---|
| | | | | | |
| | k. | Labels that indicate which water bodies are listed as impaired, or Tier 2, Tier 2.5, or Tier 3 water | | | |
| | l. | Boundary lines of any natural buffers | | | |
| | m. | Areas of critically listed habitat for endangered or threatened species | | | |
| | n. | Topography of the site (e.g., USGS 7.5-minute quadrangle map) | | | |
| | o. | Existing vegetative cover | | | |
| | p. | Drainage patterns of stormwater before and after grading activities | | | |
| | q. | Stormwater discharge locations | | | |
| | r. | Locations of storm drain inlets on the site and in the immediate vicinity | | | |
| | s. | Locations where stormwater will be discharged to surface waters or wetlands on or near the site | | | |
| | t. | Locations of all potential pollution generating activities (i.e., fuel storage and transfer, fertilizers and pesticides, paints, solvents, etc.) | | | |
| | u. | Location of stormwater control measures | | | |
| | v. | Locations where polymers, flocculants, or other treatment chemicals will be used and stored | | | |
| 10. | Does the SWPPP include a list and description of all the pollutant-generating activities to occur onsite (i.e., paving, concrete, stucco, waste disposal, dewatering) | | | | |
| 11. | Does the SWPPP include an inventory of pollutants or pollutant constituents for each pollution generating activity which could be exposed to storm water, taking into account potential spills or leaks that could occur? | | | | |
| 12. | Does the SWPPP identify all sources of allowable non-stormwater discharges? | | | | |
| 13. | If surface water is located within 50 ft of the project's earth disturbance; does the SWPPP describe the protective measures and compliance alternatives that will be used? | | | | |
| 14. | Does the SWPPP provide information on the type of stormwater control measures to be installed and maintained and provide design information? | | | | |
| 15. | Does the SWPPP specify what sediment control measures will be installed and made operational prior to earth disturbing activities? | | | | |
| 16. | Does the SWPPP include stabilization techniques at exit points and any additional controls to be used to remove sediment prior to a vehicle exiting the site? (i.e., tire washing, vehicle tracking pad) | | | | |
| 17. | For linear projects where the use of perimeter controls is determined to be impracticable in some portions, does the SWPPP describe how the permittee determined the impracticality? | | | | |
| 18. | Does the SWPPP describe post-construction BMPs to minimize the discharge of pollutants via stormwater discharges after construction has finished? | | | | |
| 19. | Does the SWPPP describe spill prevention and response techniques that will be used onsite | | | | |
| 20. | Does the SWPPP describe procedures for notification of appropriate facility personnel and emergency response agencies | | | | |
| 21. | Does the SWPPP describe how the permittee will handle disposal of all wastes generated at the site | | | | |

| | | Yes | No | N/A |
|---|---|---|---|---|
| 22. | Does the SWPPP describe the procedures the permittee will follow for maintaining the stormwater control measures and taking corrective actions | | | |
| 23. | Does the SWPPP identify the personnel responsible for conducting inspections | | | |
| 24. | Does the SWPPP describe an inspection schedule and frequency of inspections | | | |
| 25. | Does the SWPPP identify the location of the rain gauge on the site or the address of the weather station the contractor will use to collect rainfall data | | | |
| 26. | Does the SWPPP include a copy of the inspection form that will be used | | | |
| 27. | Does the SWPPP include documentation of pollution prevention training for personnel who are responsible for the design, installation, maintenance, inspection and/or repair of stormwater controls and storage/application of chemicals at the site | | | |
| 28. | Does the SWPPP provide documentation of compliance with the Safe Drinking Water Act, Underground Injection Control (UIC) requirements? | | | |
| 29. | Does the SWPPP include documentation of any correspondence with the State of Hawaii Safe Drinking Water Branch for implementing UIC requirements with the following stormwater controls: infiltration trenches, pre-cast detention vaults, dry wells, seepage pits, etc. | | | |
| 30. | Does the SWPPP include the legal name, street address, POC, phone number, and email address of the contractor? | | | |
| 31. | Does the SWPPP include documentation supporting the determination with respect to the Endangered Species Act | | | |
| 32. | Does the SWPPP include documentation for the protection of historic properties | | | |
| 33. | Does the SWPPP include a copy of the drainage system owner's approval allowing discharge into their system? | | | |
| 34. | Does the SWPPP include a copy of the county-approved grading permit? | | | |
| 35. | Does the SWPPP include a copy of the Section 401 water quality certification? | | | |
| 36. | Does the SWPPP include a list of all other permits? | | | |
| 37. | Does the SWPPP include the certification listed in Appendix A HAR 11-55? | | | |
| 38. | Is the SWPPP signed and dated? | | | |

**Additional Comments:**

| | |
|---|---|
| **Reviewers Name:** | **Reviewers Title:** |
| **Reviewers Signature:** | **Date:** |

# Appendix B
# LID Project Review Checklist

| LID Design Review | | |
|---|---|---|
| **Project No.** | **FMO Project Manager:** | **Review Date:** |
| **Design Complete Percentage:** | | |
| **Project Design:** | | |
| **Facility:** | | |
| **Description of Stormwater Component:** | | |

| | Yes | No |
|---|---|---|
| Is the project footprint 5,000 $ft^2$ or greater? | | |
| Does the project area discharge stormwater to an MS4 or receiving water body? | | |
| If checked 'Yes' – is the receiving water body impaired (303(d) impaired water bodies list) | | |
| Does the project include paving previously undeveloped area? | | |
| Does the project maintain or restore, to the maximum extent technically feasible, the pre-development hydrology of the property with regard to the temperature, rate, volume, and duration of flow? | | |
| Does the project conform with UFC 3-210-10 *Low Impact Development* | | |

| |
|---|
| Describe all LID features included in the project's scope (use additional pages if needed): |
| Describe how the LID features will need to be maintained in out years, including frequency (use additional pages if needed): |

| ENV Reviewer Name: | ENV Reviewer Signature: |
|---|---|

# Appendix C
# **SWPPP Template**

# Stormwater Pollution Prevention Plan

*Project Title*
*Project Number*

*Date:*

*Prepared By:*
*Contractor Name*
*Contractor Address*

## TABLE OF CONTENTS



## LIST OF TABLES

## APPENDICES

## ACRONYMS

## RECORD OF REVISION

| Revision No. | Revision Date | Description | Sections Affected |
|---|---|---|---|
| | | | |
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## 1.0 STORMWATER TEAM

| Title | Name | Contact Information | Storm Water Responsibilities |
|---|---|---|---|
| Project Architect Engineer | | | |
| Site Operator/Owner | | | |
| HIARNG Project Manager | | | |
| HIARNG Building Inspector | | | |
| HIARNG Environmental Office POC | Stormwater SME | HIARNG ENV Office 91-1211 Enterprise Ave., Bldg. 1903 Kapolei, HI 96707 | SWPPP Plan Review, BMP Inspections, Training |
| Construction Contractor | | | |

## 2.0 NATURE OF CONSTRUCTION ACTIVITIES

Describe specifically what will occur at eh site to accomplish the project, include all details that have the potential to impact stormwater.

| | |
|---|---|
| **Size of Project Site (Acres):** | |
| **Total Area to be Disturbed (Acres):** | |
| **Total Area of Construction Support Activities (Acres):** | |
| **Maximum Area to be Disturbed (Acres):** | |

Is this project in response to a public emergency? YES ☐ NO☐

If yes, include civil defense proclamation

## 3.0 IDENTIFICATION OF SITE CONTRACTORS

| Contractor Name and Address | Nature of Work on Site | Contact Information |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

## 4.0 SEQUENCE AND DATES OF CONSTRUCTION

| Activity Description | Estimated start date | Estimated end date | Actual start date | Actual end date |
|---|---|---|---|---|
| Installation of storm water controls | | | | |
| Excavation and Earth disturbing | | | | |
| Final grading | | | | |
| Soil stabilization | | | | |
| Cessation of construction | | | | |
| Demobilization of site equipment | | | | |
| Removal of storm water controls | | | | |

## 5.0 SITE MAPS

Site maps must include:

1. Boundaries of the property and locations where construction activities will occur
2. Locations of earth disturbing activities noting any sequencing of construction activities
3. Location of staging, refueling, heavy equipment parking
4. Location of spill prevention measures (e.g., refueling area)
5. Approximate slopes before and after major grading
6. Drainage patterns with flow arrows before and after grading
7. Location of stockpiles and storage of construction material
8. Locations of any contaminated soil stockpiles
9. Locations of crossing state waters
10. Designated construction egress
11. Location of structures and other impervious surfaces upon final completion
12. Location of construction support activities
13. Location of all state waters, including wetlands within or in the vicinity of the site
14. Boundary lines of any natural buffers provided
15. Topography of the site
16. Existing vegetation cover
17. Storm water discharge locations
18. Storm water inlets, features
19. Location of all pollution generating activities and chemical storage
20. Location of storm water control measures

## 6.0 CONSTRUCTION POLLUTANTS

| Pollutant | Activity that Generates Pollutant |
|---|---|
| *Diesel Fuel* | *Fuel storage, transfers, and unanticipated spills or leaks from vehicles and heavy equipment on site* |
| | |
| | |
| | |
| | |

## 7.0 SOURCES OF NON-STORMWATER

If non-storm water will be generated on site, the contractor must identify the source of the non-storm water and describe the BMP that will be used to prevent a discharge.

## 8.0 BUFFER DOCUMENTATION

If the site is located within 50 feet of state waters, the contractor must describe the compliance alternative selected for the site.

## 9.0 STORMWATER CONTROL MEASURES

| Control Measure | BMP | BMP Design Description |
|---|---|---|
| *Sediment and Erosion control* | *Silt fence* | *A Silt fence will be as perimeter control around the north and west sides of the subject site to prevent soil from discharging off site* |
| *Sediment and Erosion control* | *Stabilized construction egress* | |
| *Pollution Prevention* | *Drip pan* | |
| *Stabilization* | *Hydro mulch* | |
| | | |
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## 10.0 POST CONSTRUCTION MEASURES

Describe how discharge of pollutants will be minimized after construction is complete.

## 11.0 POLLUTION PREVENTION

### 11.1 SPILL PREVENTION CONTROL AND COUNTERMEASURES

Describe spill response procedures, notification procedures and identify the person responsible for detection and response.

### 11.2 WASTE MANAGEMENT

| Type of Waste | Describe how waste will be managed on site | Describe how waste will be disposed off site |
|---|---|---|
| Demolition Debris | | |
| Concrete Washout | | |
| Sediment | | |
| Domestic waste | | |
| Sanitary waste | | |
| Petroleum Waste | | |
| Hazardous Waste | | |

## 12.0 INSPECTIONS, MAINTENANCE, AND CORRECTIVE ACTION

Describe how the storm water BMPs will be maintained, inspected, and corrected. Include the person responsible for conducting inspections and include the inspection form in appendices.

## 13.0 TRAINING

Document personnel training.

## 14.0 SAFE DRINKING WATER ACT COMPLIANCE

Describe and document compliance with underground injection control (UIC) well requirements for subsurface storm water controls.

## 15.0 OTHER STATE, FEDERAL, AND COUNTY PERMITS

Include a list of all other applicable permits such as MS4 discharge approval, grading permits, section 401, SHPO, USFWS and include as appendices.

## 16.0 CERTIFICATION STATEMENT

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 gathered and evaluated 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.

Name: _____ Date: _____

Title: _____

## 17.0 POST AUTHORIZATION ADDITIONS TO THE SWPPP

Include a list of amendments and a copy of the NOI, and Permit as appendices

| Log of Changes to SWPPP | |
|---|---|
| **Site Name:** | **NPDES Permit No:** |
| **Date of Change** | **Description of Change to SWPPP** |
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| SWPPP WEEKLY CONSTRUCTION INSPECTION FORM | |
|---|---|
| **Project Name:** | **Project No.:** |
| **Location:** | **Date:** |
| **FMO PM:** | **Contractor:** |
| **Inspector:** | **NPDES Permit No.:** |
| **Weather Conditions:** | **Reason for Inspection:** |

| | Yes | No | NA |
|---|---|---|---|
| Is the NPDES permit readily available on site? | | | |
| Is the SWPPP readily available on site? | | | |
| Is a sign posted that includes the permit No., contact name/phone number visible from a public road nearest to the active part of the construction site? | | | |
| Are the discharge of pollutants being minimized from the construction site? | | | |
| Are the perimeter control devices installed according to the design specs? | | | |
| Are the perimeter control devices being properly maintained? | | | |
| Are vehicle tracking pads installed per the design specs using 3-6" rock? | | | |
| Are vehicle tracking pads being properly maintained? | | | |
| Are all slopes stabilized and erosion is being prevented? | | | |
| Are sediment or erosion control devices adequately protective? | | | |
| Are all portable toilets secured to the ground and installed at least 10 ft from a roadway? | | | |
| Do all POL and Haz Mat storage containers have proper labels, secondary containment, and covered or under cover? | | | |
| Are spill kits stocked and located in proximity of POL and Haz Mat containers? | | | |
| Are all spills cleaned up? | | | |
| Is the concrete washout area installed according to the design specs? | | | |
| Is there a visible sign labeling the concrete washout area? | | | |

| | Yes | No | NA |
|---|---|---|---|
| Is concrete washout area being maintained to not exceed 75% capacity or 4-inch minimum freeboard? | | | |
| Is site protected from wind erosion? | | | |
| Are tires being washed before leaving the site? | | | |
| Are all stock piles protected from erosion? | | | |
| Are drip pans being used under heavy equipment? | | | |
| Is the site free of debris and trash (good housekeeping)? | | | |
| Is paint brush rinse water being disposed of properly? | | | |
| Are any conditions present that could lead to a spill, leak, or discharge? | | | |

## Corrective Action Needed

**(Attached Photos of Deficiencies)**

**1**

**2**

**3**

**4**

**5**

*By signing this form, I agree that all information recorded on this inspection form accurately represents the condition of the construction site at the date and time of inspection.*

**Contractor Signature:**

**Date:**

# Appendix D
# NPDES Construction Inspection Form

| HIARNG NPDES Construction Inspection Form | | | | |
|---|---|---|---|---|
| Project Name: | | Project No.: | | |
| Facility/Location: | | Inspection Date: | | |
| FMO PM: | | Contractor: | | |
| Inspector: | | NPDES Permit No.: | | |
| Weather/Sky Conditions: | | Reason for Inspection: | | |
| | | **Yes** | **No** | **N/A** |
| 1. | Have all deficiencies been corrected within 5 days of last inspection? | | | |
| 2. | Is the NPDES permit readily available on site? | | | |
| 3. | Is the SWPPP readily available on site? | | | |
| 4. | Does the SWPPP include current stormwater team members names? | | | |
| 5. | Does the SWPPP include current construction site operator names? | | | |
| 6. | Is the SECP being updated within 5 days of all changes? | | | |
| 7. | Is the contractor inspecting site per the frequency in their SWPPP? | | | |
| 8. | Is the contractor maintaining all inspection records on site? | | | |
| 9. | Are all inspection forms signed? | | | |
| 10. | Are the discharge of pollutants being minimized from the construction site? | | | |
| 11. | Are the perimeter control devices installed according to the design specs? | | | |
| 12. | Are the perimeter control devices being properly maintained? | | | |
| 13. | Are vehicle tracking pads installed per the design specs using 3-6" rock? | | | |
| 14. | Are vehicle tracking pads being properly maintained? | | | |
| 15. | Are all slopes stabilized and erosion is being prevented? | | | |
| 16. | Are all sediment or erosion control devices adequately protective? | | | |
| 17. | Are all portable toilets secured to the ground (when practicable) and installed at least 10ft from a roadway? | | | |
| 18. | Do all POL and Haz Mat storage containers have proper labels, secondary containment, stored off the ground, and covered or under cover? | | | |
| 19. | Are spill kits stocked and located, and in serviceable condition, in proximity of POL and Haz Mat containers? | | | |
| 20. | Are all **spills cleaned up** per regulatory guidelines and within regulatory timeframe? | | | |
| 21. | Is the concrete washout area installed according to the design specs? | | | |
| 22. | Is there a visible sign labeling the concrete washout area? | | | |
| 23. | Is concrete washout area being maintained to not exceed 75% capacity or 4-inch minimum free board? | | | |
| 24. | Is site protected from wind erosion? | | | |
| 25. | Are tires being washed before leaving the site? | | | |
| 26. | **Are drip pans being used under heavy equipment?** | | | |
| 27. | Are all stockpiles protected from erosion? | | | |
| 28. | Is the site free of debris and trash (good housekeeping)? | | | |
| 29. | Is paint brush rinse water being disposed of properly? | | | |
| 30. | Are any conditions present that could lead to a spill, leak, or discharge? | | | |

| Corrective Action Needed<br>(Attach Photos of Deficiencies)<br>All critical deficiencies must be corrected the same business day, major deficiencies must be corrected within 5 days | |
|---|---|
| 1 | Date Corrected:<br>Contractor Signature:<br>Inspector Signature: |
| 2 | Date Corrected:<br>Contractor Signature:<br>Inspector Signature: |
| 3 | Date Corrected:<br>Contractor Signature:<br>Inspector Signature: |
| 4 | Date Corrected:<br>Contractor Signature:<br>Inspector Signature: |
| 5 | Date Corrected:<br>Contractor Signature:<br>Inspector Signature: |
| 6 | Date Corrected:<br>Contractor Signature:<br>Inspector Signature: |
| 7 | Date Corrected:<br>Contractor Signature:<br>Inspector Signature: |
| 8 | Date Corrected:<br>Contractor Signature:<br>Inspector Signature: |
| 9 | Date Corrected:<br>Contractor Signature:<br>Inspector Signature: |
| 10 | Date Corrected:<br>Contractor Signature:<br>Inspector Signature: |

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| **Photo 1 Description:** | **Photo 2 Description:** |
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| **Photo 3 Description:** | **Photo 4 Description:** |

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| **Photo 5 Description:** | **Photo 6 Description:** |
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| **Photo 7 Description:** | **Photo 8 Description:** |

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| **Photo 9 Description:** | **Photo 10 Description:** |
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| **Photo 11 Description:** | **Photo 12 Description:** |