# ECBP APPENDIX A
# Erosion Control BMPs Program Plan

## REQUIREMENT

In accordance with the US Army Garrison, Hawaii (USAG-HI) Municipal Separate Storm Sewer System (MS4) Permit Number HI S000090, Effective Date of Permit (EDOP) April 7, 2014, Part **D.1.f.(3)(v)**, USAG-HI is required to submit a list of projects and an implementation schedule for permanent erosion control improvements within 1 year of the EDOP.

The list of projects and an implementation schedule shall be prepared in accordance with MS4 permit# HI S000090, Erosion Control BMPs Program Plan, Part **D.1.f.(3)(i):**

The Permittee shall implement permanent erosion control improvements, ensuring that erosion-prone areas with the potential for significant water quality impact, but with limited public safety concerns, are also considered a high priority for remediation. Identification of erosion-prone areas with the potential for significant quality water quality impact shall include areas where there is evidence of rilling, gullying, and/or other evidence of significant sediment transport and areas in close proximity to receiving waters listed as impaired by either sediment, siltation and or turbidity. The Permittee shall include procedures to identify and implement erosion control projects based on water quality concerns while continuing to address high profile public safety concerns.

Correcting areas with soil erosion potential can significantly reduce impacts to water quality by eliminating nutrients, metals and other contaminates that may be attached to sediment. This document will present a prioritized list of erosion-prone areas and an estimated implementation schedule. The areas listed in this document are not related to current or scheduled construction projects. This document does not include erosion areas that are documented and addressed in the outfall or retrofit action plans.

## PROCEDURES TO IDENTIFY AND CORRECT PROBLEM AREAS

Erosion prone areas are identified by Directorate of Public Works (DPW) Environmental (ENV) personnel through field survey techniques. Areas of exposed soils with little or no vegetation, signs of gullying and rilling areas are easily identifiable through visual observation during wet or dry periods. Priority areas are determined based on whether soil is mobilizing directly to the storm drain infrastructure or stream. DPW ENV staff observes storm drain inlets during rain events to determine if sediment or other potential contaminates are mobilizing into the storm drainage system. When problem areas are identified DPW ENV personnel trace the discharge to the source. When the area of concern is identified then DPW ENV submits a work request to DPW Business Operations Division (BOD) that describes the area of concern, a general description to correct the problem and justification or consequence if the work is not conducted. BOD enters the request into a tracking database and assigns it a Facilities Engineering Work Request (FEWR) number. BOD forwards the FEWR to DPW Engineering (ENG) where they investigate the area of concern and determine if the project can be executed by DPW staff or if it requires contract support. BOD then ranks the problem against all other installation issues to determine when the project will be executed. ENG will evaluate the areas based on City and County Best Management Practices handbook to determine the preferred method for stabilization. DPW intends to use an existing Rock Quarry contract and existing mulching contract to temporarily stabilize exposed areas until they can be retrofitted will permanent BMP's. This report addresses the exposed soils by

separating them into 3 general categories, Priority Areas, Un-authorized Parking and Range Road Interfaces.

## PROJECTS AND IMPLEMENTATION SCHEDULE

Priority Erosion Prone Areas are determined based on whether soil is mobilizing directly to the storm drain infrastructure or stream.

Table 1. Priority Erosion Prone Areas

| Site # | Base | Location | Length (ft) | Width (ft) | Implementation Schedule |
|---|---|---|---|---|---|
| 1 | SB | Leadership Development Course Bldg# 1700 | 250 | 50 | Summer 2017 |
| 2 | AMR | Near Pump Station #1 | 150 | 150 | Summer 2017 |
| 3 | HMR | Vegetated Detention Basin-Paalaa Uka Pupukea Road | 1000 | 35 | Summer 2017 |
| 4 | TAMC | Access road to Bldg 137-Krukowski Rd (both sides) | 300 | 15 | Summer 2018 |

Site 1-Schofield Barracks- The leadership development course adjacent to bldg 1700 has a large area of exposed soils that drains to a storm drain in Bldg 1700 motor pool. The motor pool discharges to a tributary of the Waikele stream. The leadership development course is the only site currently identified that flows directly into the USAG-HI MS4 infrastructure.

Site 2- Aliamanu Military Reservation- An exposed area of soil near the Sewer pump station mobilizes to a large vegetated drainage canal that leads to salt lake. The area seems is used for maintenance vehicle access to the drainage canal.

Site 3-Helemano Military Reservation-A large vegetated retention basin that captures about 80% of the stormwater runoff from HMR area is showing significant rilling and gullying. The basin rarely discharges off site however the slopes should be stabilized to prevent sediment from mobilizing during large storm events.

Site 4-Tripler Army Hospital-The asphalt access road to the Central Plant bldg 137 is lined with un-stabilized area on both sides of the road. Sediment laden stormwater runoff enters an unnamed stream immediately downstream and toward Moanalua. This area will be temporarily stabilized as part of a small construction project. After the construction site is complete the area will be permanently stabilized.

Unauthorized parking has become an issue on USAG-HI properties due to limited asphalt/concrete parking areas. The areas identified in table 2 require stabilization with vegetation and roped off or converted to adequate parking areas.

Table 2. Unauthorized Parking Areas

| Site # | Base | Location | Length (ft) | Width (ft) | Implementation Schedule |
|---|---|---|---|---|---|
| 1 | SB | Mellicamp and Trimble | 100 | 50 | Summer 2018 |
| 2 | SB | Area X-Molokini and Beaver | 50 | 30 | Summer 2018 |
| 3 | SB | Area X-Kauai and Maui | 20 | 50 | Summer 2018 |
| 4 | SB | Area X-Beaver | 40 | 50 | Summer 2018 |
| 5 | SB | Water Tank-Trimble road | 100 | 50 | Summer 2018 |
| 6 | SB | Hale Kula Elementary | 250 | 15 | Summer 2018 |
| 7 | SB | SB Bldg 1709-Trimble Road | 250 | 15 | Summer 2018 |

Range road interfaces in the training areas of Schofield Barracks are dirt roads with exposed soils. Although these interfaces are generally outside of the MS4 permit area, sediment laden stormwater does mobilize and enter open vegetated ditches. These ditches eventually tie into the storm drain infrastructure. Essentially every range road interface is a permanent 'construction' entrance and should be stabilized as such.

Table 3. Range Road Interfaces

| Site # | Base | Location | Length (ft) | Width (ft) | Implementation Schedule |
|---|---|---|---|---|---|
| 1 | SB | Grenade Range | 100 | 50 | Summer 2019 |
| 2 | SB | Skeet Range | 50 | 40 | Summer 2019 |
| 3 | SB | KR-1 | 50 | 20 | Summer 2019 |
| 4 | SB | KR-5 | 50 | 40 | Summer 2019 |
| 5 | SB | Engineer Training Area | 50 | 40 | Summer 2019 |
| 6 | SBER | Access Road to Range-Behind Bldg 6027 Higgins Road | 250 | 30 | Summer 2019 |