UNITED STATES ARMY GARRISON HAWAII

STORM WATER MANAGEMENT PLAN

SEPTEMBER 2015

PREPARED BY:

DIRECTORATE OF PUBLIC WORKS

ENVIRONMENTAL DIVISION

PERMIT NO. HI S000090

STORM WATER MANAGEMENT PLAN

United States Army Garrison Hawaii

PERMIT NO. HI S000090

DRAFT

Prepared by

Directorate of Public Works

Environmental Division Clean Water Branch

September 2015

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Certification Statement - HI S000090

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

Sincerely,

Richard A. Fromm
Colonel, U.S. Army
Commanding

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SECTION 1
Introduction

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SECTION 1
Introduction

I. United States Army Garrison Hawaii (USAG-HI)

The mission of USAG-HI is supporting each Warrior, Family and Community with sustainable services, ensuring power projection readiness from Hawaii with a vision of having the most innovative, customer-focused garrison in the Army where we ensure our supported units' mission accomplishment.

There are approximately 90,000 military personnel, military family/dependents, civilians and contractors living and working on these installations. The total acreage within the six installation boundaries is approximately 13,635 acres however only a portion is actually developed urban area and is predominately active range training areas. Maps of the installation boundaries and with discharge areas can be found in **INTRO Appendix A**.

Aliamanu Military Reservation (AMR) Honolulu, Oahu, Hawaii- is located approximately 3 miles NW of Fort Shafter, inside Aliamanu crater, on the island of Oahu and is predominately military family housing. AMR consists of approximately 520 acres. The majority of family housing within the crater drains into a Y-shaped storm drain channel, which connects to a tunnel through the south of the military reservation. Storm water flows through the tunnel down the slopes of Aliamanu Crater and into Salt Lake. The northeast portion of AMR is outside the crater and the area drains north towards Halawa Stream.

Fort Shafter (FS) Honolulu, Oahu, Hawaii is located approximately 1 mile north of Keehi Lagoon on the island of Oahu and serves as the headquarters for US Army Pacific Command consists of 577 acres. All of FS and FS Flats drain into Kahauiki Stream and tributaries of Moanalua Stream, which pass through the installation and eventually to Keehi Lagoon.

Helemano Military Reservation (HMR) Wahiawa, Oahu, Hawaii - is located in the center of the island of Oahu between the Koolau and Waianae mountain ranges and predominately family housing. HMR consists of approximately 282 acres. The northern portion of HMR drains into tributaries of Paukauila Stream. However, the majority of the HMR area drains into a vegetated retention basin on the southwest corner of the installation where storm water infiltrates and evaporates.

Schofield Barracks (SB) Wahiawa, Oahu, Hawaii –is located in the center of the island of Oahu between the Koolau and Waianae mountain ranges and is home to the 25th Infantry Division. SB consists of 11,534 acres with ranges but the cantonment area for SB is only 1,849 acres. The majority of SB drains into Kaukonahua Stream. Kaukonahua Stream flows northward through the towns of Waialua and Haleiwa and eventually merges with Poamoho Stream. The streams turn into Kiikii Stream and drain into Waialua Bay. The southwest corner of SB and its southern property line drains into tributaries of

Waikele Stream. Waikele Stream flows southward through the towns of Mililani and Waipahu and eventually drains into the West Loch of Pearl Harbor.

Tripler Army Medical Center (TAMC) Oahu, Hawaii – is located approximately .25 miles from Salt Lake on the island of Oahu. TAMC consists of approximately 359 acres. The TAMC storm drains are located to the north, south and west of the installation boundaries. The western portion of TAMC eventually connects to the City and County of Honolulu storm drain system. The northern and southern portions of TAMC drain to tributaries of Moanalua Stream.

Wheeler Army Airfield (WAAF) Wahiawa, Oahu, Hawaii - is located in the center of the island of Oahu between the Koolau and Waianae mountain ranges and is home to the 25th Aviation Brigade. WAAF consists of 1,764 acres. The majority of this installation drains into Waikele stream. Waikele stream flows southward through the towns of Mililani and Waipahu and eventually drains into the West Loch of Pearl Harbor.

II. Municipal Separate Storm Sewer System (MS4)

The United States Army Garrison Hawaii (USAG-HI) owns a small Municipal Separate Storm Sewer System (MS4) on the island of Oahu for all its facilities. The MS4 is a conveyance system that is designed or used for collecting or conveying storm water discharges into water of the U.S or State. The collection\conveyance system includes roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, storm drains, etc. The MS4 transports storm water runoff that typically contains debris, chemicals, sediments or other pollutants to local water bodies that could adversely affect water quality.

III. NPDES Permit

The U.S. Environmental Protection Agency's (EPA) Storm Water Program Phase II Rule, under the Clean Water Act (CWA) requires that all small MS4 owners obtain National Pollutant Discharge Elimination System (NPDES) permit coverage to address water quality concerns. On April 7th 2014 the State of Hawaii Department of Health (HDOH) issued an authorization to discharge **NPDES Permit Number HI S000090** (**INTRO Appendix B**) to USAG-HI which expires on **March 6, 2019**. All discharges must be in compliance with the Clean Water Act, as amended (33 U.S.C. §1251 et.seq.), Title 40 of the Code of Federal Regulations (CFR), Hawaii Revised Statutes (HRS) Chapter 342D, Hawaii Administrative Rules (HAR) Chapters 11-54 and 11-55 and the conditions of the NPDES permit.

IV. Storm Water Management Plan (SWMP)

The intent of the NPDES permit is for USAG-HI to develop, achieve and implement a timely, comprehensive, cost-effective Storm Water Management Plan (SWMP) to reduce the discharge of pollutants to the Maximum Extent Practicable (MEP), consistent with Section 402(p)(3)(B) of the CWA, from the USAG-HI's MS4 to State waters in and around the Island of Oahu, Hawaii *(Part B.3).*

USAG-HI's SWMP is a manual that describes the potential sources of storm water pollution, the storm water control measures and Best Management Practices (BMPs) that will be used to reduce or eliminate pollutants in storm water discharges and identifies the procedures required to comply with the NPDES permit. All personnel on USAG-HI property in the MS4 coverage area or affected area must comply with the terms and conditions of the NPDES permit and SWMP. The Directorate of Public Works (DPW), which is under the Command of the USAG-HI, is responsible for the development and management of the SWMP.

The primary way of controlling and treating contaminated storm water runoff is by the implementation BMPs. The DPW is responsible to develop, improve, implement BMPs and enforce the SWMP. The SWMP is designed to address the requirements of NPDES permit # HI S000090 and reduce to the MEP the discharge of pollutants to and from the USAG-H's MS4 to protect water quality and to satisfy the appropriate the water quality requirements of the Clean Water Act using each of the following SWMP components *(Part D.1.a - Part D.1.g)*:

- Public Education and Outreach *(Part D.1.a)*
- Public Participation and Involvement *(Part D.1.b)*
- Illicit Discharge Detection and Elimination *(Part D.1.c)*
- Construction Site Runoff Control *(Part D.1.d)*
- Post-Construction Runoff Control *(Part D.1.e)*
- Pollution Prevention and Good Housekeeping *(Part D.1.f)*
- Industrial and Commercial Activities Discharge Management Program *(Part D.1.g)*

Each SWMP component as dictated by the NPDES permit Part D.1.a - Part D.1.g, includes:

- The BMP with a underlying rationale that will be implemented for each component
- The measurable goals for each BMP including the underlying rationale
- A timeline for implementation of each measurable goal for each BMP including the interim milestones and frequency to aid in determining the level of effort and effectiveness of each program component,
- The name or position title of the person(s) responsible for implementation or coordination of each program component,
- The legal authority that provides the means to enforce the SWMP and
- A monitoring program to determine the effectiveness of each BMP and the overall effectiveness of the storm water program

The SWMP is organized into sections based on program components and other Parts of the NPDES permit requirements. Each section has its own appendix with relevant plans, forms, checklists and reference material. The sections are:

- Section 1. Introduction
- Section 2. Public Education / Outreach / Involvement
- Section 3. Illicit Discharge Detection and Elimination Program
- Section 4. Construction Site Runoff Control
- Section 5. Post-Construction Storm Water Management Program
- Section 6. Pollution Prevention / Good Housekeeping
    - Debris Control BMP Program
    - Chemical Applications BMP Program
    - Erosion Control BMP Program
    - Maintenance Activities BMP Program
- Section 7. Industrial and Commercial Activities Discharge Management Program

Electronic copies of the SWMP and associated plans can be found on the USAG-HI Sustainability and Environmental website at http://www.garrison.hawaii.army.mil/sustainability/CleanWater.aspx. Hardcopies of the permit and all other related materials and the SWMP with all subsequent revisions, will be held and maintained by the Department of Public Works, Environmental Division, Wheeler Army Airfield, building 105, 3rd Floor. Annual Reports discussing the compliance status and program effectiveness of the SWMP will be submitted to the HDOH and the EPA by Dec 31st of each year. For more information on the USAG-HI storm water program contact the DPW ENV Clean Water Program Manager at (808) 656-3105.

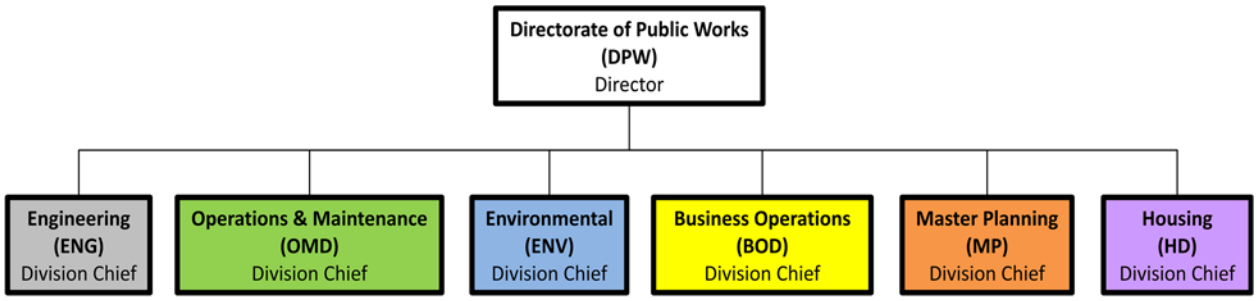
V. Modifications to the Storm Water Management Plan

The USAG-HI DPW ENV staff will modify the SWMP when any discharge limitation or water quality standard established in HAR, Section 11-54-4 has been exceeded and will include BMPs and/or other measures to reduce the amount of pollutants from entering State waters. The SWMP will also be revised when conditions on the installations change, when more effective pollution controls are implemented and when storm sewer system modifications occur. System modifications include planned physical alterations or additions to the permitted MS4 and any existing outfalls newly identified over the permit term.

The USAG-HI DPW ENV staff will submit and justify all modifications (other than major modifications) made to the SWMP in the Annual Report in the year in which the change was made. Annual reports are submitted to the HDOH and EPA by Dec 31st of each year. The USAG-HI DPW will properly address all modifications, concerns, requests, and/or comments the HDOH or EPA may have within 30 days of receiving the comments. Major modifications that imply a significant reduction in scope and /or level of effort of the SWMP must be made for cause and in compliance with 40 CFR 122.62 and Part 124. A written report will be submitted to the HDOH for acceptance at least 30 calendar days prior to the initiation date of the proposed major modification.

VI. Roles and Responsibilities

The USAG-HI is the overseeing command for the Directorate of Public Works (DPW) as well as multiple other directorates. DPW is responsible for managing and implementing the NPDES MS4 permit. DPW is composed of several divisions: Business Operations Division (BOD), Engineering (ENG) which comprise of Construction and Utilities branches, Environmental (ENV) which comprise of Compliance and Conservation branches, Master Planning (MP), Operations and Maintenance Division (OMD), and Housing (HD). The chart below is a simplified organizational chart of DPW where the color and departmental codes are used to identify the responsible divisions for executing specific responsibilities detailed in each section's *Procedures and Best Management Practices*. A complete detailed organizational chart can be found in the **INTRO Appendix C.**



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SECTION 2
Public Education / Outreach / Involvement Program

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SECTION 2
Public Education / Outreach / Involvement Program
(Permit Part D.1.a. and D.1.b.)

I. Introduction

An essential component of the Storm Water Management Plan (SWMP) is the Public Education / Outreach / Involvement Program. The Program is USAG-HI's comprehensive education and involvement program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water as well as enabling the public to identify and report a pollution-causing activity (i.e., spotting an illicit discharge) and the steps that the public can take to reduce pollutants in storm water runoff. The Program's goal is to create positive changes in attitude, knowledge, and awareness among targeted audience groups about BMP implementation, pollutant load reduction, and an improvement in discharge and receiving water quality.

USAG-HI's Public Education / Outreach / Involvement Program objectives are as follows:

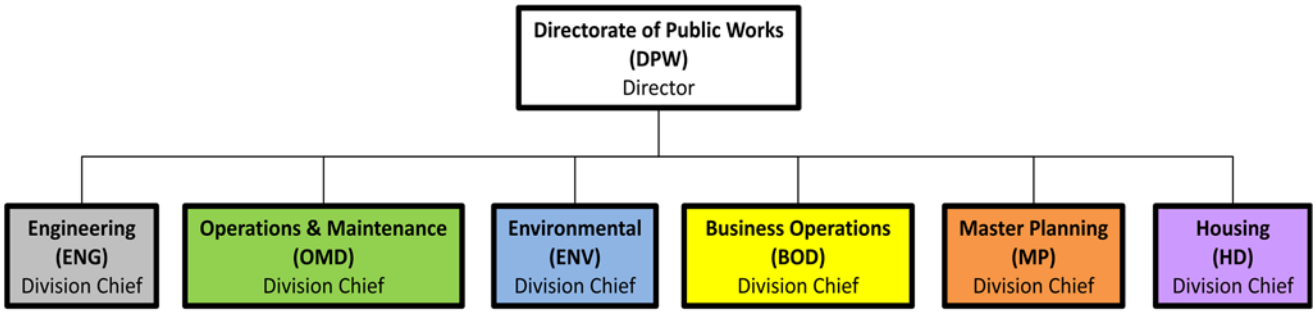
- Increase base wide knowledge and awareness on storm water pollution prevention issues
- Educate targeted audience groups on pollutant load reduction
- Decrease the amount of illegal dumping and illicit discharges to improve receiving water quality.
- Foster public awareness and knowledge to reduce pollutant loads in nearby streams
- Collaborate with other MS4 storm water public education programs
- Successfully satisfy the requirements of the MS4 Permit
- Educate target groups about USAG-HI's Clean Water Program and solicit the spill reporting hotline

II. Legal Authority

All personnel, tenants, contractors and residents on the USAG-HI property are prohibited from illegally discharging pollutants to its MS4 through USAG-HI Enforcement Policies, permits, lease agreements, contract language and Military Law Enforcement. These mechanisms allow the USAG-HI to pursue enforcement actions against entities in non-compliance with the requirements of the USAG-HI MS4 permit. Each mechanism is discussed in Section III, Procedures and Best Management Practices of this document.

III. Roles and Responsibilities

The USAG-HI is the overseeing command for the Directorate of Public Works (DPW) as well as multiple other directorates. DPW is responsible for managing and implementing the NPDES MS4 permit. DPW is composed of several divisions: Business Operations Division (BOD), Engineering (ENG), Environmental (ENV), Master Planning (MP), Operations and Maintenance Division (OMD), and Housing (HD). The chart below is a simplified organizational chart of DPW where the color and departmental codes are used to identify the responsible divisions for executing specific responsibilities detailed in *V: Procedures and Best Management Practices*. A complete detailed organizational chart can be found in the **INTRO Appendix C**.



IV. Targeted Audiences

Per the NPDES MS4 permit, the table below shows the targeted groups that USAG-HI will address during the permit term and the desired education goal.

Targeted Group	Educational Goal
Housing Residents	• Understand the basic concepts of storm water runoff pollution • Educate residents about the amount of rubbish in the USAG-HI's MS4 • Recognize and report an illicit discharge

Targeted Group	Educational Goal
School Children	• Understand basic sustainability, conservation and storm water run-off concepts • Help reduce the amount of trash in USAG-HI's MS4
Enlisted Army Personnel and Dependents	• Understand storm water runoff concepts • Adopt proper storm water prevention pollution strategies • Be able to identify and report an illicit discharge
Civilian Army Personnel and Army Consultants/ Contractors	• Comply with MS4 and understand the requirements and purpose of the MS4 NPDES Permit • Understand division roles and staff responsibilities in order to comply with the permit • Be able to identify and report an illicit discharge • Understand and apply pollutant load reduction techniques
Construction Industry Personnel	• Minimize the discharge of sediment and other pollutants to USAG-HI's MS4 • Comply with and understand USAG-HI's MS4 permit including supporting documents • Implement BMPs in accordance with site approved Storm Water Pollution Prevention Plan (SWPPP) • 100% compliance with regulatory requirements of the NPDES Permit Appendixes

Targeted Group	Educational Goal
Industrial Facilities	• Understand and comply with Storm Water Pollution Control Plans (SWPCP) • Minimize the discharge of pollutants to USAG-HI's MS4 • Implement BMPs and good housekeeping practices in accordance with storm water plans • Comply with and understand the regulatory requirements of NPDES Permits
General Public	• Understand basic storm water concepts • Detect and report an illicit discharge • Reduce the amount of trash in USAG-HI's MS4.
Commercial Businesses	• Understand general storm water concepts • Use best management practices to prevent material from entering the drainage structure specific to each service • Understand and comply to SWPCP

Community Outreach

Community outreach and public education plays a fundamental role in the success of USAG-HI's Storm Water Program. USAG-HI is committed to providing volunteer opportunities, educational material, informational press releases, event booths, and maintain website information in order to create storm water awareness.

Collaboration with other MS4 holders

USAG-HI is committed to collaborating with other MS4 Permit holders (Dept. of Education, Dept. of Transportation and Army National Guard) that share geography (jurisdictional boundaries), storm drain systems, audiences and pollution problems with the Army. The benefits of collaborating with other entities and sharing outreach materials and strategies include: portraying a widespread consistent message, DPW ENV will be responsible for either coordinating annual (biannual?) meetings with MS4 holders sharing USAG-HI's storm drain systems or contributing to an existing education and outreach collaborative effort. The purpose of the meetings will be to define a uniform and consistent message, deciding how best to communicate the message to the targeted audiences and to successfully facilitate

behavioral changes. Once efforts are determined USAG-HIs SWMP will be updated to reflect collaboration efforts.

In addition, USAG-HI will coordinate with other non-government entities including but not limited to: Island Palm Communities (IPC), Aqua Engineers, Medical Command (MedCom), and Hawaiian Electric Company (HECO) in order to provide training and education to tenants and lease owners about storm water pollution prevention while working on USAG-HI projects. DPW ENV will be responsible for providing annual training and education material to the mentioned tenants including but not limited: fact sheets, brochures and PowerPoint presentation slides.

Public Review and Comment

USAG-HI will provide the public with the opportunity to review and comment on the SWMP and various plans as required by MS4 NPDES Permit No. HI S000090. Plans will be made available on the Clean Water Program webpage http://www.garrison.hawaii.army.mil/sustainability/CleanWater.aspx for a minimum of 30 calendar days. Public Relations Division will use various social media outlets to announce the draft SWMP plan and to solicit for comments. DPW ENV will notify Hawaii State Department of Health (DOH) by email of the availability of the plan five (5) calendar days of the plan being available. DPW ENV will respond to all comments received within the review period within 30 calendar days and provide both comments and responses to the DOH within its submittal of the final Plan.

After the SWMP is finalized, Public Relations will make the document available on the Clean Water Program website. Updates to the plan will occur as needed and the most current version of the SWMP will be offered on the website. Public review and comment will be measured by the requirements of the MS4 Permit, 100% of required plans needing public review will be available on the program webpage.

V. Procedures and Best Management Practices

DPW has identified and selected the following BMPs to achieve the goals of the program to prevent or minimize the discharge of pollutants of concern into the USAG-HI's MS4.

BMP# PUB – 1:
Storm Water Message, Slogan, and Logo
Permit Part D.1.c.(1)

DPW Divisions responsible:

ENV PA

USAG-HI DPW ENV will develop and convey a specific storm water message, clear slogan and attractive program logo. DPW ENV will hold a storm water design logo contest for all base personnel to help make the storm water outreach campaign more visually memorable. As part of the contest, DPW ENV aims to make base personnel aware of the Clean Water Program's objectives and purpose. In order to expand storm water education and outreach into social media outlets, a Clean Water Program logo is needed to accompany distributed material. The Public Affairs Division will use base newspapers and social media outlets to solicit entries and to share contest information.

Once a winning logo is selected and a slogan is developed, it will be conveyed on all Clean Water Program education and outreach materials, including the program website for the duration of the permit term. The USAG-HI Public Affairs division will assist in implementing the logo and slogan on all Program materials to help create a consistent and powerful message base wide.

Storm water messages will be tailored to engage a targeted audience and will focus on local pollutants of concern, target audiences, behavior of concern and base water quality issues. Additionally, DPW ENV will develop a storm water slogan to convey on all Clean Water Program education and outreach materials, including the program website and social media outlets administered by the Public Affairs Division.

Program effectiveness will be determined by conducting annual surveys. Surveys will be distributed annual the year after outreach material have been distributed to understand if the logo and slogan are recognizable and targeting the correct audience. The Clean Water Program logos and slogans are subject to change as needed.

BMP# PUB – 2:
Base Housing Newsletter Distribution
Permit Part D.1.c.(1)

DPW Divisions responsible:

ENV HD PA

DPW ENV will collaborate with DPW HD and Island Palm Communities (IPC) Family Housing to distribute storm water awareness fact sheets and tips in installation housing monthly newsletters. Storm water information will be developed by DPW ENV and focus on the following topics:

- Recycling and waste reduction
- Car washing,

- Lawn maintenance and
- Pet waste management

DPW ENV will provide 100% of all family residents with a biannual newsletter who reside on AMR, HMR, SB, WAAF and FS. Additionally, DPW ENV will supply IPC with storm water fact sheets to be included in 100% of all new resident packets distributed by IPC. Fact sheets will be brief and provide a broad overview of storm water pollution and residential sources of storm water pollution. See **Pub Appendix A** for the Clean Water Program's informational brochure.

BMP# PUB – 3:
Annual Stream Clean Up Day
Permit Part D.1.c.(1)

DPW Divisions responsible:

ENV HD PA

DPW ENV will organize an annual stream cleanup day throughout the permit term. Participation is targeted towards housing residents, civilian Army personnel, and enlisted Army personnel and their dependents. DPW Public Affairs will contribute by publicizing the event and soliciting for volunteers on USAG-HI social media outlets, base newsletters and weekly newspapers. Priority streams chosen for cleanup will include Schofield Barracks Koukonahua (south fork), Fort Shafter Flats Moanalua Stream, WAAF Waikele Tributary, and Helemano Stream. Stream locations will be determined based on heavily polluted areas that receive rubbish from family housing areas or known dumping sites. The goal of cleanup days is to educate participants on stream pollutants and to create positive changes in attitude towards storm water pollution issues. Participants will be briefed on DPW ENV's Clean Water Program and be given storm water education brochures. Outside groups including Boy Scouts, Girl Scouts and other development organizations may be invited to attend.

The amount of trash collected during the event and participation outcome will be tabulated by DPW ENV and released to the public and Public Affairs immediately after the event.

BMP# PUB – 4:
Storm Drain Placards
Permit Part D.1.d.(4)

DPW Divisions responsible:

ENV

The ocean has meaningful significance to the majority of people living in Hawaii. A large portion of the public directly depends on a healthy ocean for their livelihoods, immediate subsistence, and/or recreational needs. Many people also appreciate the ocean for its aesthetic beauty, economic value, and cultural significance to the community. For these reasons, establishing a mental connection between storm drains and the ocean, much like the physical connection itself, has the potential to have far reaching effects on public behavior. The intent of the storm drain placards is to raise public awareness about this direct connection and ultimately affect public behavior by reducing the amount of pollutants that are intentionally or negligibly dumped into storm drains.

DPW ENV will organize and coordinate storm drain placard placement events to occur every year over the five years of the permit term. Participants will be also educated to detect and report an illicit discharge. Selected drains within the USAG-HI's MS4 will be labeled with a large oval placard that reads "Dump no waste, flows to ocean" and include the DPW ENV spill reporting hotline number (See **Pub Appendix B** for storm drain placard). These visible reminders help to alert the public about the impacts of illicit discharges and storm water pollution. DPW ENV will be responsible for organizing, coordinating and conducting storm drain placard events targeted towards groups such as schools and base scouting clubs.

Refer to *Section 6: Pollution Prevention / Good Housekeeping (page DCBP – 5)* for a complete overview of USAG-HI's Storm Drain Placard Program.

BMP# PUB – 5:
Adopt-A-Stream Program
Permit Part D.1.d.(4)

DPW Divisions responsible:

ENV PA

DPW ENV shall implement an annual Adopt-A-Stream public outreach program to involve base organizations, school groups, and development groups within the USAG-HI installations. The objective of the program is to "adopt" base stream segments or creek to clean up, monitor, protect, and restore. Specifically, the Adopt-A-Stream program objectives are to:

- Collect and dispose of waste
- Conduct quarterly visual observations of the stream and report findings
- Promote education about the watershed through stream walks, workshops and other activities
- Monitor stream bank erosion and gauge water quality to improve water quality
- Identify habitat stream improvement projects to attract wildlife

The Public Affairs division will use base newspapers, email blasts, public service announcements, and social media outlets to communicate and gain interest in the Adopt-A-Stream program and volunteer opportunities. Management from DPW ENV will include distributing and collecting necessary supplies (bags, gloves, clip boards, pencils, waders, etc.), providing guidance, database management, organizing group point of contacts, providing detailed maps and recording data.

When an activity is completed, DPW ENV will submit a news release to the Public Affairs Division to be posted in the newspaper and social media outlets explaining the accomplishments by the volunteers.

BMP# PUB – 6:
Quarterly Division Meetings
Permit Part D.1.a

DPW Divisions responsible:

ENG OMD ENV BOD MP HD

The DPW ENV, Clean Water Program Manager will organize and lead quarterly SWMP implementation meetings. Meeting attendees will consist of the DPW Deputy Director, along with Chiefs from the following divisions:

- Business Operations Division (BOD)
- Engineering (ENG)
- Environmental (ENV)
- Master Planning (MP)

- Housing (HD)
- Operations and Maintenance (OMD)

Meeting objectives are to discuss, educate and organize SWMP detail, budgeting, policies, timeframes and facilitate ongoing participation from all divisions. The goal of quarterly meetings is to facilitate the implementation of the SWMP and to coordinate progress among all involved divisions. Coordination between departments is necessary to develop a comprehensive and consistent program.

Four divisions (Operations and Maintenance, Master Planning, Engineering and Housing) regularly conduct base operations that have the potential to impact storm water quality. Therefore, DPW ENV will work to keep divisions involved in the SWMP implementation and policy and procedure development to ensure the success of the program overall. Quarterly meeting minutes will be thoroughly recorded and disseminated to meeting attendees for distribution to all division employees. DPW ENV will continue to involve other departments and divisions not listed as needed in the SWMP implementation.

BMP# PUB – 7:
Environmental Compliance Officer (ECO) Program Training
Permit Part D.1.d.(4)

DPW Divisions responsible:

ENV

DPW ENV conducts monthly 16 hour Environmental Compliance Officer (ECO) training for military, civilian, and contract personnel that work on USAG-HI facilities for the duration of the permit term. The ECO course trains industrial facility personnel for ECO duties that include management requirements to ensure environmental protection and includes the following topics: storm water BMPs, illicit discharge prevention and proper storage and disposal of hazardous materials. The program objective is to engage facility personnel in environmental topics and eliminate illicit discharge at all industrial facilities on USAG-HI installations. The existing program conceptually is to “train the trainer,” and ECO responsibilities include providing quarterly training to their co-workers on environmental compliance topics. ECO training is required when there is a change in personnel and is provided from battalion level to company level personnel. The ECO is required to complete a 24-hour certification course and subsequent 8-hour refresher certification course once annually.

DPW ENV is committed to train 100% of USAG-HI industrial facility ECO’s annually for the entire duration of the permit term. Program effectiveness will be determined by reducing the number of illicit

discharges detected at base industrial facilities. Furthermore, quarterly inspections will be conducted by DPW ECO inspectors to ensure training topics are being followed onsite.

BMP# PUB – 8:
Earth Month
Permit Part D.1.d.(4)

DPW Divisions responsible:

ENV

DPW ENV will attend three annual Earth Day events in April to distribute storm water informational material and provide a hands-on activity targeted towards school children. The three Earth Day Fair events include DPW's on Schofield Barracks, Island Palm Communities (IPC) family event on Schofield Barracks, and the Army Reserve event at Fort Shafter. Approximately 30-85 Clean Water Program brochures will be distributed at each event by DPW ENV personnel. See **Pub Appendix A** for the Clean Water Program's informational brochure. The number of brochures distributed will be determined by the number of event participants. Furthermore, DPW ENV staff will be available on site to answer questions and explain the distributed material.

BMP# PUB – 9:
Elementary School Education
Permit Part D.1.c.(1)

DPW Divisions responsible:

ENV PA

DPW ENV will work with the Department of Education to actively engage elementary school students in storm water education through classroom presentations and provide an activity and classroom resources. The school presentations will include a PowerPoint presentation and a rain water harvesting worksheet. DPW ENV will aim to deliver three presentations per school year to Hale Kula Elementary, Solomon Elementary School, Shafter Elementary School and Wheeler Elementary. Scheduled presentations will be posted on http://www.garrison.hawaii.army.mil/sustainability/CleanWater.aspx. School grades targeted will be determined based on available classrooms and material. EPA's

educational resources "outreach toolbox" will be used as guidance to help develop an effective and targeted classroom campaign.

BMP# PUB – 10:
Online Communications and Media Relations
Permit Part D.1.c.(1)

DPW Divisions responsible:

ENV PA

USAG-HI online communications with base personnel consists of the Clean Water Program website (http://www.garrison.hawaii.army.mil/sustainability/CleanWater.aspx), Facebook, Twitter, YouTube and various blogs. DPW ENV will provide Public Affairs with storm water tips to be posted on USAG-HI social media outlets biannually. Additionally, the USAG-HI Clean Water Program website will provide available trainings, volunteer opportunities, SWMP document and updates, permits, guidance and publications. A contact link will provide the opportunity for the public to submit an inquiry, report an illegal discharge or other illegal activities at construction sites or submit a concern. Additionally, staff Clean Water Program contact phone numbers including the 24 hour spill hotline number will be displayed on the front webpage. Online communication to solicit ongoing input from the public about changes to the SWMP and SWMP related projects will be done by using social media "blasts" and webpage correspondence. DPW ENV will continue to work with public relations and public affairs departments to provide the most accurate and up to date information.

Online communications and media relations will be assessed by determining the number of page views and analyzing behavior trends using surveys over the permit term. All social media pages and program web page links will be published on outreach materials.

BMP# PUB – 11:
Surveys
Permit Part D.1.c.(1)

DPW Divisions responsible:

ENV PA

As a program evaluation method, an annual survey will be distributed to evaluate the progress and effectiveness of the public education program. Attitude, behavior, and general storm water knowledge will be measured and compared to previous permit year results in order to assess the effectiveness of program activities. Results will serve as baseline data. DPW ENV aims to distribute 150 surveys at Earth Day and other public events thought out the year. The Public Affairs Division will use social media outlets and other means to engage survey participants. Finalized survey will also be posted on the program website and available to the base public throughout the year. Surveys and evaluations will be used to determine the following:

- Are targeted audiences being provided with appropriate messages?
- Are outreach efforts and strategies effective?
- What groups are the most and less informed?
- What outreach messages need perpetual reinforcement?

Survey results will be posted in the annual report and available to the public upon request.

VI. Measurable Goals

The measureable goals listed in the table below will be used to monitor the BMP's progress and evaluate the Public Education and Outreach program success:

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
PUB – 1	Storm water logo, slogan and message	Hold a storm water logo contest	ENV PA	Hold logo contest by permit year 2
PUB – 2	Storm water information in base housing newsletter	Distribute 100% of base housing residents with biannual newsletters	ENV HD PA	Permit years 2 and 4
PUB – 3	Stream Clean Up Events	Organize an annual stream clean up	ENV HD	5-year permit period

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
			PA	
PUB – 4	Storm Drain Placard Events	Organize an annual storm drain placard placement event	ENV	5-year permit period
PUB – 5	Adopt-A-Stream Program	Establish Enforcement Procedures with installation policy	ENV PA	Permit years 2 – 5
PUB – 6	Hold Division Meetings	Quarterly meetings per year with the appropriate personnel and divisions	ENV ENG OMD BOD MP HD	5-year permit period
PUB – 7	ECO Program Training	ECO Officers- 100% Inspection of Industrial facilities quarterly	ENV	5-year permit period
PUB – 8	Earth Month Activity	1) Attend three annual Earth Day events 2) Distribute educational material 3) Provide hands-on storm water activity	ENV	5-year permit period
PUB – 9	School Education	Give classroom presentation and activity three times a year.	ENV PA	Permit years 2 – 5

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
PUB – 10	Online Public Communications	1) Maintain Clean Water Program website 2) Provide storm water tips on social media outlets	ENV PA	Permit years 2 – 5
PUB – 11	Surveys	Distribute 150 surveys annually	ENV PA	Permit years 2 – 5

VII. Reporting

A summary of activities, surveys and projects will be presented in the annual SWMP report that will be submitted to the HDOH CWB and EPA CWB. The information will be compiled in a table that illustrates the effectiveness of the BMP's as related to each measurable goal.

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SECTION 3
Illicit Discharge Detection and Elimination Program

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SECTION 3
Illicit Discharge Detection and Elimination Program
(Permit Part D.1.c.)

I. Introduction

The purpose of the US Army Garrison, Hawaii (USAG-HI) Illicit Discharge program is to effectively prevent the discharge of pollutants and non-storm water sources from its storm sewer system into State Waters to the Maximum Extent Practicable (MEP). The USAG-HI's Illicit Discharge Detection and Elimination (IDDE) program is designed to identify investigate and eliminate illicit and unauthorized non-storm water discharges it's MS4.

An **illicit discharge** is any discharge of pollutants to the storm drain system that is not specifically listed as an allowable non-storm water discharge. Common examples of illicit discharges that enter the storm drain system are wastewater spills from sewage systems, Petroleum Oil and Lubricants (POL) fluids from automobiles/equipment, wash or rinse water from painting and other construction activities.

ALLOWABLE NON-STORMWATER DISCHARGES IDENTIFIED BY PERMIT

The below listed non-storm water discharges are allowed by Part B.2 Discharge Limitations of the NPDES MS4 permit:

- Water line Flushing
- Landscape irrigation
- Diverted Stream Flows
- Rising ground water
- Uncontaminated groundwater infiltration
- Uncontaminated pumped groundwater
- Discharges from potable water sources and foundation drains
- Air Conditioning Condensate
- Irrigation water
- Springs
- Water from crawl space pumps and footing drains
- Lawn watering runoff
- Water from individual residential car washes
- Water from charity car washing
- Flows from riparian habitats and wetlands

- De-chlorinated swimming pool discharges
- Exterior building wash water (water only)
- Residual street wash water (water only) including sidewalks, plazas and driveways but not parking lots
- Discharges or flows from firefighting activities.

ADDITIONAL NON-STORMWATER DISCHARGES FROM MILITARY TRAINING OPERATIONS *(Part B.2 Discharge Limitations of Permit)*

The Army conducts training activities that generate non-storm water discharges that are not considered to be illicit. All units are required to submit discharge requests forms found in the IDDE Appendix A.

- Laundry Advanced System (LADS) - Portable Laundry facility that soldiers use for field training exercises discharge soapy water to vegetated areas.

- Portable Field Kitchens-kitchens that wash pots and pans use solids interceptors and discharge soapy water to vegetated areas.

- Portable Field Showers-showers that discharge soapy water to vegetated areas

- Water Purification- Soldiers use a filtration system to generate potable drinking water. The purified water is consumed by the soldiers or discharged to a vegetated area.

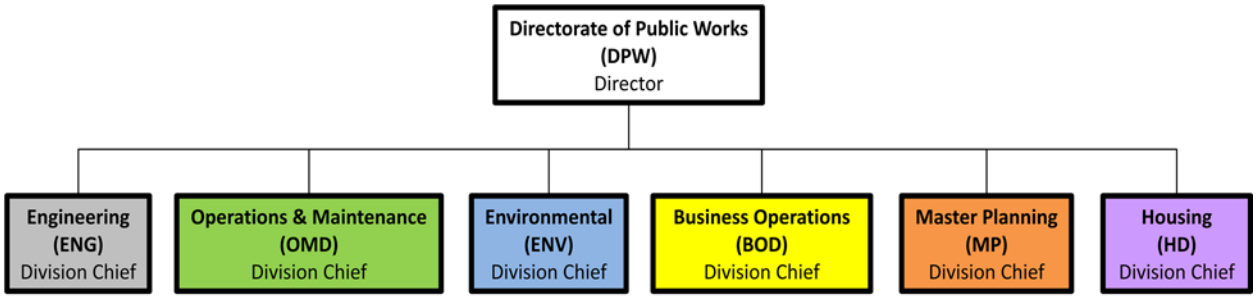
- Chemical Decontamination Training- Soldiers simulate chemical attacks and wash equipment and soldier clothing in containment areas. The wash water can be discharged to vegetated area.

II. Legal Authority

All personnel, tenants, contractors and residents on the USAG-HI property are prohibited from illegally discharging pollutants to its MS4 through USAG-HI Enforcement Policies, permits, lease agreements, contract language and Military Law Enforcement. These mechanisms allow the USAG-HI to pursue enforcement actions against entities in non-compliance with the requirements of the USAG-HI MS4 permit. Each mechanism is discussed in Section III, Procedures and Best Management Practices of this document.

III. Roles and Responsibilities

The USAG-HI is the overseeing command for the Directorate of Public Works (DPW) as well as multiple other directorates. DPW is responsible for managing and implementing the NPDES MS4 permit. DPW is composed of several divisions: Business Operations Division (BOD), Engineering (ENG) which comprise of Construction and Utilities branches, Environmental (ENV) which comprise of Compliance and Conservation branches, Master Planning (MP), Operations and Maintenance Division (OMD), and Housing (HD). The chart below is a simplified organizational chart of DPW where the color and departmental codes are used to identify the responsible divisions for executing specific responsibilities detailed in *IV. Procedures and Best Management Practices*. A complete detailed organizational chart can be found in the **INTRO Appendix C**.



IV. Procedures and Best Management Practices

The USAG-HI DPW has established goals to assist in eliminating the discharge of pollutants from its storm drain system to the MEP. The goals of the IDDE program are to:

- **Detect and Eliminate Illicit Connections**-piped connections that allow non-storm water discharges to flow into the storm water collection system.
- **Detect and Eliminate Illegal Dumping**-dumping trash or liquid wastes down storm drains
- **Respond and Reduce Spills-** Unintentional wastewater spills, spills caused from equipment failure or ruptured containers, etc.

DPW has identified and selected the following BMP's to achieve the goals of the program and to eliminate illicit discharges to the storm collection system. The specific tasks below constitute the activities that USAG-HI conducts as its IDDE program.

BMP# IDDE – 1
Connections Permits Program
Permit Part D.1.c.(1)

ENV ENG

USAG-HI will develop and implement a permitting program to track organizations that discharge to its MS4. The Army owns and operates the majority of facilities and associated activities within the MS4 permit area, however there are multiple leases and privately run operations that discharge into USAG-HI storm drain system (Department of Education, Army National Guard, Air National Guard, AQUA Wastewater, Department of Transportation and HECO).

Existing Facilities and Connections

All existing facilities identified by DPW ENV personnel with a connection to the USAG-HI MS4 System will be provided the connection permit application in the IDDE Appendix B. The tenant or facility owner/operator will submit the completed application to DPW ENV personnel within 30 days of receiving the application. DPW ENV staff will review the application to ensure control measures comply with its requirements to minimize pollutant discharge prior to issuing a Connection Permit. Once the application is satisfactory then DPW ENV staff will issue the tenant or owner/operator a permit in the IDDE Appendix C. The permitted facilities will be entered into a database to track all permitted connections to the MS4. Any permitted facility found in violation of the terms of the permit will be held liable for all clean-up and or fines that may be issued by State or Federal compliance agencies in accordance with the Illicit Discharge Detection and Elimination Program Enforcement Policy at the IDDE Appendix D.

New Facilities and Connections

Future projects that will construct new individually owned/operated facilities or modify existing facilities are identified in the National Environmental Policy Act (NEPA) process. The proponents for all proposed projects that occur on USAG-HI properties must submit NEPA documentation for review via a Record of Environmental Consideration (REC), Environmental Assessment (EA) or an Environmental Impact Statement (EIS). DPW ENV personnel review NEPA documents to ensure environmental compliance issues are addressed prior to award or contract. DPW ENV staff will provide written documentation through the NEPA process to notify the proponent that a connection permit will be required. Once it has been determined that the proposed project will be executed then DPW will provide a connection permit application in IDDE Appendix B to the proponent. DPW ENG staff will ensure the application is completed as part of the design package. DPW ENV will ensure the project has provided proof of filing a Notice of Intent (NOI) or NPDES application, if applicable; and control measures comply with its requirements to minimize pollutant discharge prior to issuing a Connection Permit. Once the application is satisfactory then DPW ENV staff will issue the tenant or owner/operator a permit at IDDE Appendix C. Permitted facilities will be entered into a database to track all permitted connections to the MS4. Any

permit holder found in violation of the terms of the permit will be held liable for all clean-up and or fines that may be issued by State or Federal compliance agencies in accordance with the Illicit Discharge Detection and Elimination Program Enforcement Policy.

BMP# IDDE – 2:
Field Screening of Outfalls
Permit Part *D.1.c.(2)*

ENV

USAG-HI Directorate of Public Works, Environmental Division (DPW ENV) conducts inspections of outfalls and discharge points at varying intervals over the permit term. Outfalls are inspected to detect and identify any non-storm water discharges that may occur throughout the storm drain system. Outfall inspections also document whether the discharge point is a source of pollution due to the quality of storm water discharge or erosion and scour and if the outfall needs repair or reconstruction. The inspections are conducted by DPW ENV staff using the Outfall Reconnaissance Inventory (ORI) field techniques found at IDDE Appendix E.

In 2014 the DPW funded a project to field verify and update maps with all storm water features. Outfalls were designated as **major**-an external outfall, or **minor**-an internal node isolating and industrial or commercial areas. Maps with outfall locations and discharge points are provided in the IDDE Appendix F.

Major Outfall: Point where storm water discharges off installation boundary, or ultimately to stream or gulch. Major Outfalls do not include points within open conveyances connecting segments of the same MS4 or stream (e.g. culverts under roads or highways). All Major Outfalls are High Priority and will be inspected annually.

Minor Outfall: Point where MS4 discharges within installation boundary into open conveyance or drainage ditch. Minor Outfalls do not include points within open conveyances connecting segments of the same MS4. Minor Outfalls are separated into two categories: High Priority: discharging from industrial/commercial facility inspected twice per permit term and Low Priority: not discharging from industrial/commercial facility inspected once per permit term. A complete list of facilities can be found in the Industrial and Commercial Activities Discharge Management Program section of the SWMP.

Major and minor outfall inspections are conducted during dry weather periods. Dry weather is defined as a period 72 hours after the previous measurable (greater than 0.1 inch) rainfall event in order to identify a non-stormwater discharge. The survey field work involves a visual inspection of the discharge point or outfall, taking photographs, and conducting chlorine tests as needed. For each discharge point

or outfall, the following data is logged and entered into a database maintained by DPW ENV: installation, date, time, identification number, location (TMK) description, construction material, type of contributing facility, type of area to which the point or outfall discharges, water flow, condition, and recommendation. If a discharge point is inaccessible then the nearest available upstream manhole will be investigated. The inspection report form can be found in the IDDE Appendix G.

If an Illicit discharge is suspected during field screening activities then DPW ENV personnel will follow the protocol and flowchart found in the IDDE Appendix H.

BMP# IDDE – 3:
Tracking System
Permit Part D.1.c.(3)

ENV ENG

DPW ENV staff will maintain a database to track complaints, illicit discharges/connections and spills. The database also tracks each investigation of an illicit discharge or potential illicit discharge and includes: type of discharge, tenant or responsible party, investigation and response actions, follow up activities, and resolution of the issue.

BMP# IDDE – 4:
Complaint Investigation and Spill Hotline 656-1111
Permit Part D.1.c.(4)

ENV

The DPW maintains a 24-hour spill hotline that anyone can use to report spills, including wastewater spills or illegal dumping activity. DPW ENV maintains a data base that includes information about each suspected discharge, the investigation of discharge, follow-up activities and the resolutions of each discharge. The number and Illicit Discharge information is clearly posted on the Garrison website. All reports of illicit of discharges are followed up by DPW staff as required by the USAG-HI's MS4 permit.

For more detailed information on Installation POL spill response, please see the Spill Prevention Control and Countermeasures Plan at IDDE Appendix I. For more detailed information on Installation Wastewater spills see the Standard Operating Procedure (SOP) in the IDDE Appendix J.

BMP# IDDE – 5:
Enforcement (Corrective Measures with Legal Authority)
Permit Part D.1.c.(5)

ENV ENG HD

All tenants, contractors and residents on the USAG-HI property are prohibited from illegally discharging pollutants to its MS4 through USAG-HI Enforcement Policies, lease agreements, contract language and Military Law Enforcement.

USAG-HI Enforcement Policy ENV

In April 2015 USAG-HI signed and distributed a Policy memo that establishes policies for enforcement and penalties for entities found to be in non-compliance with requirements developed in accordance with Part D.1.c.(1), including for persons illegally discharging pollutants to its MS4, and pursue enforcement actions against entities in non-compliance with its requirements, with illegal drain connections, and illegally discharging pollutants to its MS4 without direct connections. The Enforcement Policy can be found in appendix D.

Island Palm Communities Residence Guide HD

Family housing residents on USAG-HI properties must follow the Island Palm Communities (IPC) Residence Guide located in the IDDE Appendix K. IPC implements corrective actions for hazardous materials not disposed of properly including citations and fees. This includes oils spills or pouring into storm drains (P.15 sec 1.10.3). The Residence guide spells out the prohibition on vehicle repairs in housing area with focus on oil spills (P.22 sec 2.7). The Residence guide also provides instructions for the proper disposal of hazardous waste with an emphasis on oils (cooking/auto P. 47 sec 8.5). The family housing environmental compliance POC is notified immediately if an illicit discharge is identified in the family housing areas.

IPC informs the resident of the violation with a personal visit. A citation is issued and a copy kept in the resident's file. Resident has 72 hours to correct the violation.

If the violation has not been corrected the resident is issued a Warning Letter Resident has 48 hours to correct the violation or be assessed a $50 fine. Copy of Violation Letter sent to Army Housing Office (AHO) and the Service Members (SM) Chain of Command.

If the violation has not been corrected the resident will receive a Final Warning Letter with an automatic $50 fine and the resident has 24 hours to correct the violation and pay the $50 fine. Copy of Violation Letter sent to Installation's Community Compliance Section, AHO and the SMs Chain of Command

If the violation has not been corrected and the $50 fine has not been paid a $150 fine will be issued. Resident has 24 hours to pay the fine and correct the violation or a Request for Termination of Housing will be initiated. Copy of Violation Letter sent to Installation's Community Compliance Section, AHO and the SMs Chain of Command.

The family housing Environmental Compliance POC is notified immediately if an illicit discharge is identified in the family housing areas. IPC/tenant is responsible for all clean up/disposal costs and reporting to the HDOH.

Contract Language ENG

Contractors are required to implement plans and procedures to protect all aspects of the State and Federal environmental laws within their project area. Specific contract language can be found in the IDDE Appendix L. All projects are assigned a DPW Engineering Project Manager and Contracting Officer Representative (COR). If any violations or deficiencies are identified then the DPW COR is notified immediately.

The DPW COR will notify the Contractor immediately in writing of any observed noncompliance with Federal, State or local laws or regulations, permits, and other elements of the Contractor's environmental requirements.

The Contractor shall, after receipt of such notice, inform the COR of proposed corrective action and take such action as may be approved.

If the Contractor fails to comply within receipt of such notice, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken.

No time extensions shall be granted or costs or damages allowed to the Contractor for any such suspension. The contractor shall be solely responsible for remedying all Federal, State and local environmental and safety violations or noncompliance and any payment of fines, penalties and fees levied as a result of the violations or noncompliance.

The government reserves the right to withhold payment in the amount of the fines, penalties and fees levied if not paid by the contractor.

Military Law Enforcement

Military Law Enforcement has the ability to enforce Hawaii state laws through the Assimilative Crimes Act (ACA). The ACA is a Federal statute (18 U.S.C.A. § 13) which provides adoption by Congress of state criminal laws for areas of exclusive or concurrent federal jurisdiction if the crime is not punishable under Federal Law. In short, when a criminal offense has been committed on land or buildings that have been reserved or acquired by the federal government, and the offense is not a federal offense, state law will apply to the offense under the Assimilative Crimes Act. The military police can enforce Hawaii Revised Statue 708-829, Criminal Littering. Any individual found to be in violation of this statute would be issued a Central Violations Bureau Ticket and requires a mandatory court appearance.

For the first offense, the person shall spend four hours of either picking up litter on public property or performing community service.

For any subsequent offense, the person shall spend eight hours of either picking up litter on public property or performing community service.

The court shall fine the person convicted of committing the offense of criminal littering at least $500, but not more than $1,000.

BMP# IDDE – 6:
Spill Prevention and Response
Permit Part D.1.c.(6)

ENV

The DPW Environmental personnel develop and implement the USAG-HI Spill Prevention Control and Countermeasure (SPCC) Plan to prevent, respond, contain and clean-up all spills that may enter the USAG-HI MS4 system. The SPCC identifies spill teams, procedures to prevent spills, measures to remediate spills, sets training schedules and operations in an effort to ensure maximum water protection. The SPCC document is updated every 5 years or as required by CFR Part 112. The entire SPCC document can be found in the IDDE Appendix I.

BMP# IDDE – 7:
Used Oil and Toxic Material Disposal
Permit Part D.1.c.(7)

ENV HD

All military units and tenants are required to attend the Environmental Compliance Officers (ECO) course and have an ECO officer assigned to each facility. The ECO course discusses illicit discharges, proper disposal of toxic materials and spill information. The ECO training contains the information on proper management and disposal or recycling of used oil, vehicle fluids, toxic material and other household hazardous wastes. All units and tenants are required to comply with the material covered in the training and is provided in IDDE Appendix M. In addition information on proper disposal can be found on the USAG-HI sustainability website:
http://www.garrison.hawaii.army.mil/sustainability/HazardousMaterialWaste.aspx

http://www.garrison.hawaii.army.mil/sustainability/Environmental/Recycling.aspx

Isle of Palms Community (IPC) is responsible for the family housing areas and they present proper disposal and management of household wastes in the IPC residence guide at IDDE Appendix K. Tenants in family housing areas are issued environmental packets when they move in a home where proper disposal of toxic materials and spill information are discussed. Additional information can be located at the IPC website: http://isleofpalmscommunity.com/

BMP# IDDE – 8:
Outreach, Education and Training
Permit Part D.1.c.(8)

ENV

The DPW Environmental Compliance Inspector (ECI) team conducts multimedia inspections of approximately 110 facilities located on USAG-HI properties on a quarterly basis. DPW ECI's are trained on management requirements to ensure environmental protection including: storm water BMPs, illicit discharge prevention and proper storage and disposal of hazardous materials. The ECI's report any evidence of discharges to the storm system to the Clean Water Program manager immediately. The Clean Water Program manager then follows the protocol and flowchart found in the IDDE Appendix H.

ECI findings of deficiencies identified in the inspections are presented to the Assistant Deputy Commander (One Star General) in a formal quarterly Environmental Quality Control Committee meeting.

In addition to ECI inspections DPW ENV has developed the Environmental Compliance Officer (ECO) Course that is designed to train selected personnel for ECO to be responsible for environmental protection. Each Unit Commander, Directorate, and Tenant Civilian activity supervisor is required to have a minimum of one primary and one alternate ECO at all levels of command down to company/battery size or equivalent (AR 200-1). The course is (24) hours in duration and a one-time

attendance for ECO personnel is required. The Environmental Compliance Officer (ECO) Course covers a wide range of management requirements to ensure total environmental compliance, and is tailored to focus on USAG-HI installation requirements

The ECO's report any evidence of spills/discharges to the storm system to the Clean Water Program manager. The Clean Water Program manager then follows the protocol and flowchart found in the IDDE Appendix H. Find more information on the ECO program in the Public Education and Outreach section of the SWMP.

DPW Environmental staff will also train staff personal across the Directorate in each division on identifying and eliminating illicit connections, illegal discharges, and spills to its MS4. Detailed information can be found in the in the Public Education and Outreach section of the SWMP.

BMP# IDDE – 9:
Update Maps of Storm Sewer Systems
Permit Part XXXX

ENG BOD

DPW ENG staff is responsible for obtaining current As-Built drawings from construction projects and providing them to DPW BOD to update the Storm water system maps on the Geographic Information System (GIS). The maps will include storm sewer attributes including inlets, pipes, outfalls (discharge points) and the names and locations of the waters of the US receiving streams that the system discharges to. The updated maps are important tools for conducting the required illicit discharge surveys and developing adequate SPCC and SWPCP plans.

V. Measurable Goals

The measureable goals listed in the table below will be used to monitor the BMP's progress and evaluate the IDDE program success:

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
IDDE-1	Connection Permits	1) Issue 100% of connection permits.	ENV ENG	1)End of Permit Term Oct 2019

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
IDDE-2	Field Screening	1) 100% of major and priority outfalls annually 2) 20% of all minor outfalls annually	ENV	1) Annually 2) 100% End of Permit Oct 2019
IDDE-3	Establish Tracking System	Develop and maintain database to track illicit discharges	ENV	Database project funded and scheduled for completion CY End 2015
IDDE-4	Complaint Investigation and Spill Hotline	Respond to 100% of Illicit Discharge/Spill complaints	ENV	As required
IDDE-5	Enforcement	Establish Enforcement Procedures with installation policy	ENV	Complete-update as necessary
IDDE-6	SPCC Plan	Update and implement requirements of the installation SPCC	ENV	Every 5 years or as required by CFR 112. Revision due CY end 2015
IDDE-7	Used Oil and toxic materials Disposal	1) ECI Officers- 100% Inspection of Industrial facilities quarterly 2)100% of Food Facilities Annually 3)100% of all other activities in a permit term	ENV	1) Quarterly 2) Annually 3) April 2019
IDDE-8	Outreach, Education and Training	1) Provide information packets to family housing. 2) Provide training to industrial and commercial facilities. 3) Provide IDDE training to DPW Divisions	ENV HD	1) As tenants move in 2) Annual 3) Annual
IDDE-9	Update Storm Sewer System Maps/GIS	Provide regular updates to the Installation maps.	ENG BOD	As required

VI. Reporting

A summary of activities, surveys and projects will be presented in the SWMP Annual Report. The SWMP Annual Report will be prepared by DPW ENV staff in accordance with the requirements of Part G of the

NPDES MS4 permit. The SWMP Annual Report will be submitted to the HDOH CWB and EPA CWB. The information will be compiled in a table that illustrates the effectiveness of the BMP's as related to each measurable goal.

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SECTION 4
Construction Site Runoff Control Program

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SECTION 4
Construction Site Runoff Control Program
(Permit Part D.1.d.)

I. Introduction

The purpose of the US Army Garrison, Hawaii (USAG-HI) Construction Site Runoff Control Program is to reduce pollutant discharges to the Army's storm drain system and to mitigate water quality impacts to receiving waters associated with construction activities to the maximum extent practical (MEP).

The Construction Site Runoff Control Program (CSRCP) requirements apply to all construction sites greater than or equal to **one (1) acre** in size and smaller projects that are part of a common plan of development that is **one (1) acre** or more in size. The program requires construction site operators to control waste and apply erosion and sediment control BMPs in compliance with *NPDES Chapter 11-55 Appendix C*.

The CSRCP includes the following components:

- Requires all NPDES covered construction projects to implement and maintain BMPs in accordance with adopted BMP manuals, permit requirements and USAG-HI policies.
- Maintain a construction database to track both private and public project information and documentation.
- Administer the review and authorization of construction plans and permits using plan review checklists.
- Conduct initial and monthly site inspections for all NPDES covered projects using inspection forms, photographs and proper reporting procedures.
- Implement the USAG-HI Enforcement Response Plan (ERP) for projects in non-compliance with USAG-HI policies, requirements and permits.
- Provide annual BMP training to staff with construction storm water responsibilities.
- Implement an education program to ensure that responsible parties understand storm water requirements.

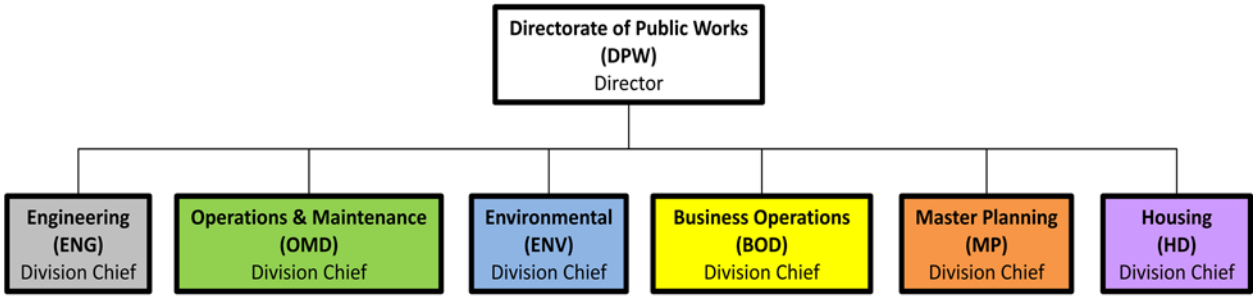
II. Legal Authority

All personnel, tenants, contractors and residents on the USAG-HI property are prohibited from illegally discharging pollutants to its MS4 through USAG-HI Enforcement Policies, permits, lease agreements, contract language and Military Law Enforcement. These mechanisms allow the USAG-HI to pursue

enforcement actions against entities in non-compliance with the requirements of the USAG-HI MS4 permit. Each mechanism is discussed in Section III, Procedures and Best Management Practices of this document.

III. Roles and Responsibilities

The USAG-HI is the overseeing command for the Directorate of Public Works (DPW) as well as multiple other directorates. DPW is responsible for managing and implementing the NPDES MS4 permit. DPW is composed of several divisions: Business Operations Division (BOD), Engineering (ENG) which comprise of Construction and Utilities branches, Environmental (ENV) which comprise of Compliance and Conservation branches, Master Planning (MP), Operations and Maintenance Division (OMD), and Housing (HD). The chart below is a simplified organizational chart of DPW where the color and departmental codes are used to identify the responsible divisions for executing specific responsibilities detailed in *IV. Procedures and Best Management Practices*. A complete detailed organizational chart can be found in the **INTRO Appendix C**.



IV. Procedures and Best Management Practices

DPW has identified and selected the following BMP's to achieve the goals of the program. The specific tasks below constitute the activities that USAG-HI conducts as its CSRCP program.

BMP# CON – 1:
Adoption of BMP Manuals
Permit Part D.1.d.(1)

ENV

BMP manuals provide comprehensive guidance for implementing storm water and erosion control measures and maintenance procedures for construction activities. During permit year 1, USAG-HI

Directorate of Public Works, Environmental Division (DPW ENV) adopted the following reference manuals for all construction projects:

- *"Storm Water Best Management Practice Manual: Construction,"* prepared by the Department of Environmental Services City and County of Honolulu, November 2011, available in **CON Appendix A**.

- "*Storm Water Permanent Best Management Practices Manual,*" prepared by the Hawaii State Department of Transportation Highways Division, April 2015, available in **CON Appendix B**.

DPW ENV will review manuals annually and update as necessary to include descriptions of new or modified Best Management Practices (BMPs) including permanent BMPs and Low Impact Development (LID) practices. All revision made during a calendar year will be discussed in corresponding Annual Reports and all documents included in the Storm Water Management Plan (SWMP). The adopted reference manuals will be available to USAG-HI staff, contractors, and consultants on the Clean Water Program website. Web links to the manuals will also be posted in the storm water BMP training PowerPoint slides given to contractors working on NPDES covered projects.

BMP# CON – 2:
Requirement to implement BMPs
Permit Part D.1.d.(2)

ENV

DPW ENV will finalize a policy memorandum during permit year 3 to be distributed to all persons conducting ground disturbing activities on USAG-HI land. The policy memorandum will also be posted on the USAG-HI Clean Water Program website and updated as needed. Policies established will require all construction projects to implement and maintain BMPs and standards described in the reference manuals described above in *BMP# CON – 1*.

All projects will be inspected per section *Permit Part D.1.d(5)* in accordance to the policy memorandum and USAG-HI adopted field guidance manuals. If BMPs are not sufficiently installed or maintained per the above reference manuals, enforcement actions will be applied per *BMP# CON – 6* standards.

BMP# CON – 3:
Inventory of Construction Sites
Permit Part D.1.d.(3)

ENV

USAG-HI funded a contract to develop an updated electronic construction inspection database to be completed during permit year 3. DPW ENV will be responsible for the implementation and maintenance of the tracking system for both private and public construction projects disturbing over one (1) acre of land or smaller projects that are part of a common plan of development that is one (1) acre or more in size. DPW's system shall be managed to simultaneously track plan review and field inspections. Furthermore, the system will track Record of Environmental Considerations (RECs) that determines if ground disturbance will occur and if a project NOI Form C is necessary. Tracking system implementation will occur during the first permit year and continue to be improved throughout the permit duration. The system will include the frequency of construction inspections and documentation of BMP deficiencies as well as the following data:

- Project information (project name/type, NPDES tracking number, owner, contact information, COE representative, location, start and end dates, receiving waters etc.)
- Project status (NOI forms, and whether the project has applied for coverage under *HAR, Chapter 11-55, Appendix C*, NPDES General Permit and correspondence)
- Status of Storm Water Pollution Prevention Plan (SWPPP) review and date of acceptance, DPW issued letter authorizing the discharge of storm water associated with construction activity
- Initial BMP inspection forms (deficiencies, site photos)
- Construction inspections (inspection checklists, observations, photographs, follow-up documentation)
- Violations (type of violations, corrective actions/photographs, applicable correspondence)
- NPDES permit Notice of Cessation (NOC)

This database will be able to quantify and evaluate annual BMP violations and generate summaries showing common reoccurring deficiencies. DPW ENV will evaluate biannual project summaries in order to accurately assess BMPs and program effectiveness and to determine where program modifications are necessary. Project summery information will also be used to educate contractors, subcontractors and COE representatives on frequent storm water and erosion control insufficiencies.

DPW ENV will be primarily responsible for conducting construction site inspections, entering BMP-specific data and details for each inspection and tracking all follow-ups and corrections until project completion (NOC filed). As needed, DPW ENV will be responsible for maintaining the construction storm water control database and for necessary database support.

BMP# CON – 4:
Plan Review and Approval
Permit Part D.1.d.(4)

ENV

USAG-HI requires a site-specific Storm Water Pollution Prevention Plan (SWPPP) for any land disturbance greater than one acre or part of a larger common plan of development. DPW ENV Clean Water Program staff will review 100% of all SWPPP and other pollution prevention measures (e.g., for Erosion and Sediment Control, Grading, Post-construction BMP and Landscaping) or similar plans/documents prior to approval of the construction plans and specifications. DPW ENV uses an approved SWPPP Review Checklist (see **CON Appendix C**) to verify all document contents meets the following requirements:

- Hawaii Administrative Rules (HAR), *Chapter 11-55, Appendix C*, and any other requirements under the NPDES permit program, as applicable
- Construction Best Management Practices Field Manual
- Maintenance Activities Best Management Practices Field Manual
- Storm Water Permanent Best Management Practices Manual
- Implementation of measures to ensure that the discharge of pollutants from the site will be reduced to the appropriate discharge limitations subject to the Best Available Technology (BAT) currently available/ Best Conventional Pollutant Control Technology (BCT) discharge requirement, consistent with the CWA and other respective federal and state requirements for such facilities and will not cause or contribute to an exceedance of water quality standards.

DPW ENV provides blank copies of the SWPPP Review Checklist to consultants and contractors to assist in SWPPP development. The Review Checklist includes *HAR, Chapter 11-55, Appendix C* permit requirement citations for reference use.

In addition to the SWPPP review requirements DPW ENV also ensures:

- The project owner has provided proof of filing an NOI Form C or NPDES application for the discharge of storm water associated with the construction activities that disturb one (1) acre or more and
- The project owner has provided proof of filing a NOI Form F and/or G or NPDES application for the discharge, if applicable

If the SWPPP plan and all supporting documents meet the above requirements, DPW-ENV will issue the permittee a “Letter of Authorization” (LOA). The LOA is the written equivalent of a permit that provides approval for drainage connections to the USAG-HI MS4 and the discharge of surface storm water runoff associated with construction. Contractors cannot complete the permit coverage application process without the LOA issued by USAG-HI. DPW ENV includes the LOA in the construction site database along with review documentation. An example of an LOA is included in **CON Appendix D**.

BMP# CON – 5:
Inspections
Permit Part D.1.d.(5)

ENV ENG

Permit Part D.1.d(5)(i)

Prior to the initiation of ground-disturbing activities at any site, except for the activities associated with the installation of BMPs, a qualified DPW ENV staff inspector familiar with the permit requirements and the project SWPPP will conduct an initial BMP inspection. Initial inspections will consist of reviewing all documents, and verifying that BMPs have been properly installed to the SWPPP specifications prior to the commencement of the ground-disturbing activity. Inspections will include a review of site Erosion and Sediment Controls, good housekeeping practices, and compliance with Permittee-accepted erosion and sediment control plans, construction BMPs plans and other similar documents and permittee approved permits.

The inspector will also identify and remedy any site conditions having the potential for erosion and sediment runoff, including other pollutant discharges which may occur as a result of the projects construction activities. A DPW ENV generated Initial BMP Checklist with supporting photographs will be used to document any deficiencies and to provide comments. The Initial BMP Checklist is included in **CON Appendix E**. If the inspector identifies any BMP measure not installed to SWPPP specifications or detects the potential for erosion and sediment runoff, including other pollutant discharges which may occur as a result of the project's construction activities, construction will not be allowed to proceed until all deficiencies have been resolved. All initial inspections and deficiencies will be tracked using the comprehensive inventory database discussed in *BMP# CON – 3*.

Permit Part D.1.d(5)(ii)

All contract, in-house and maintenance construction projects greater than one (1) acre will be inspected at least monthly by qualified DPW ENV staff construction inspector(s) who is independent of the construction project to be inspected. DPW ENV will conduct random wet weather inspections and unannounced inspections prompted by any public complaint. The primary inspector is a third party EnviroCert Certified Erosion, Sediment and Storm Water (#4104) Inspector who is independent (i.e., not involved in the day-to-day planning, design, or implementation) of the construction projects to be inspected. The secondary inspector(s) will be qualified DPW ENV staff who are familiar with construction permit requirements, adopted BMP manuals and project specific SWPPP's.

All inspection and reporting procedures will be in accordance with USAG-HI's *Corrective Procedures for Construction Storm Water Inspections* document (July 2014). Definitions of critical, major, and minor

deficiencies, along with reporting procedures, are explained in the document located in **CON Appendix F**. The reporting procedures will include, at a minimum, notifications of any critical deficiency to the Hawaii Department of Health (HDOH). Upon three (3) successive monthly site inspections that indicate, in total, no critical or major project BMP and storm water control deficiencies or less than six (6) minor deficiencies with no more than three (3) minor deficiencies in one (1) month, in the projects BMPs or other storm water management activities, then DPW ENV may decrease inspection frequency to quarterly. However, if under quarterly inspection frequency, one (1) critical or major deficiency is observed or three (3) or more minor deficiencies are detected, the inspection frequency shall immediately return to no less than monthly. The reduced inspection frequency option is contingent upon the permittee having defined each type or deficiency. The permittee shall further develop and implement written procedure for appropriate corrective actions and follow-up inspections when deficiencies have been identified at an inspected project. The corrective action procedures shall at a minimum require that:

- All critical deficiencies are addressed or corrected before the close of business on the day the deficiency was identified.
- All major deficiencies are addressed or corrected as soon as possible, but in no event later than five (5) calendar days after the deficiency is identified or before the next forecasted rain event, whichever is sooner.

Permit Part D.1.d(5)(iii)

If a construction project requires a connection permit, encroachment permit or discharge of surface runoff permit/approval shall be inspected at least annually or once during the project whichever comes first regardless of size. The site will be inspected by a qualified construction inspector(s) who is independent of the construction project to be inspected. If the project has a SWPPP or equivalent document the inspection shall verify that the BMPs were properly installed at the locations specified in the plan. The inspection and reporting procedures will be implemented as described in *Permit Part D.1.d(5).*

Permit Part D.1.d(5)(iv)

In accordance with *Permit Part D.1.d.(4)(iv)* of the MS4 Permit, DPW ENV submitted standard inspection forms and corrective and reporting procedures for inspections to HDOH, within 90 days of the effective date of the MS4 Permit. The *Construction Oversight Field Inspection Checklist* located in **CON Appendix G** includes site information, weather and discharge observations, BMP evaluation, comments on deficiencies and dates when deficiencies were addressed to the satisfaction of DPW ENV. Photographs will accompany inspection forms to document any deficiencies observed. Photographs and dates showing the observed deficiencies have been corrected will complement the inspection forms. The inspection tracking database (*BMP# CON – 3*) will be used to record all inspection forms, deficiencies and corrections.

As stated in the *Corrective Procedures for Construction Storm Water Inspections* document DPW ENV implements the following procedures to correct or address deficiencies identified during a site inspection conducted under *Permit Part D.1.d(4).(ii)* of the MS4 Permit:

1. If the inspector identifies a critical deficiency (see **CON Appendix F** for definition) during the site visit, the deficiency shall be corrected or addressed before the close of business on the day of the inspection when the deficiency is identified.
2. If the inspector identifies a major deficiency during the site visit, the deficiency shall be corrected or addressed as soon as possible, but in no event later than five calendar days after the inspection at which the deficiency is identified or before the next forecasted precipitation, whichever is sooner.

BMP# CON – 6:
Enforcement
Permit Part D.1.d.(6)

ENV ENG

In April 2015 (permit year 1), DPW ENV developed a Construction Site Runoff Control Enforcement policy that is pending approval and can be located at **CON Appendix H**. The policy memo dictates enforcement actions and penalties for those in non-compliance with *Permit Part D.1.d.(2)*.

In addition DPW ENV developed a Construction Site Runoff Control Enforcement Plan that can be found in **CON Appendix I**. The plan includes written procedures and describes the enforcement actions. All contractors working on USAG-HI property are subject to the requirements of the enforcement plan.

BMP# CON – 7:
Refer Noncompliance and Non-filers to HDOH
Permit Part D.1.d.(7)

ENV ENG

In the event that the noncompliance has not been resolved, or DPW ENV has exhausted its use of sanctions and cannot bring a construction site or construction operator into compliance with its policies, standards, or the NPDES permit, or otherwise believes the site poses an immediate and significant threat to water quality, DPW-ENV shall in accordance with MS4 *Permit Part D.1.d.(7)*:

- Provide an e-mail notification to HDOH Clean Water Branch (CWB) Enforcement Section within one week of determination.

- E-mail notifications will be followed by written notification and include supporting inspection documentation (checklists, notes) and correspondence within two weeks of determining a site noncompliant.
- In instances where an inspector identifies a site that has not applied for permit coverage under the NPDES program, DPW-ENV will provide written notification to HDOH CWB Enforcement Section within two weeks of the discovery.

BMP# CON – 8:
Training
Permit Part D.1.d.(8)

ENV ENG

During permit years 2-5, DPW ENV will provide an annual classroom construction storm water BMP presentation to 100% of personnel working on NPDES covered USAG-HI construction projects with construction storm water responsibilities. Personnel includes but is not limited to engineers, inspectors, quality control and assurance staff, contractors, and plan reviewers. Additionally, training will extend internally to DPW division staff including: BOD, ENG, ENV, MP, OMD, and HD. Construction Storm Water BMP Training will be approximately 2 hours in length and contain PowerPoint slides of the following topics:

- A review of SWPPP procedures,
- Proper BMP installation and maintenance techniques,
- Inspection of construction BMPs, and
- All other permit policies

If DPW ENV determines more training is necessary, biannual training or an additional refresher course will be held. Attendees will be given an electronic copy of reference materials that includes implemented BMP manuals, Clean Water Program staff contacts and 24 hour spill hotline. Attendee sign in sheet records will be kept by DPW ENV and tracked using the database.

In addition to classroom training, during Permit year 1, DPW ENV developed and distributed a 37-slide PowerPoint presentation titled "*Construction Best Management Practice (BMP) Storm Water Training*" found at **CON Appendix J**. Presentation topics include:

- Environmental and regulatory background
- NPDES permit requirements
- Erosion and sediment control measures
- Inspection procedures

- Storm water reference links and staff contact information

The objective of the training program is to ensure project contractors, developers, inspectors, property owners, project applicants and other responsible parties have an understanding of the storm water requirements they need to implement. Presentation slides will be sent to 100% of project staff with construction storm water responsibilities during the duration of the permit term. Presentation slides will be modified and updated as needed to convey the most accurate information. Staff will verify training was reviewed and document participants using the construction inventory database.

Training program effectiveness will be measured on an annual basis determined by change in behavior and knowledge gained. Surveys will be given to participants after the annual classroom presentation is complete to determine the understanding of the program material. Training program information will be updated or modified during the permit term if determined necessary by DPW ENV program staff. Additional training on new or changed BMPs will take place as needed. For example, DPW ENV anticipates a potential need for additional training in the future on construction or installation of LID design measures. DPW ENV staff continues to attend off-site classes and workshops on construction, post-construction, and other related topics including Low Impact Development.

In addition, DPW ENV encourages staff and contractors to attend off-site classes, conferences and workshops offered by other agencies and organizations on related storm water practices.

BMP# CON – 9:
Education
Permit Part D.1.d(9)

ENV ENG

DPW ENV will attend 100% of pre-construction meetings for NPDES covered construction projects during permit years 2-5. DPW ENV Clean Water Program staff will brief attendees on SWMP implementation, storm water requirements, USAG-HI MS4 program and answer any questions. DPW ENV will prepare and distribute PowerPoint slides during permit years 2-5 to 100% attendees including project applicants, contractors, developers, property owners, and other responsible parties. An attendee sign in sheet will be kept by DPW ENV to document all educated personnel for the duration of the permit term.

V. Measurable Goals

The measureable goals listed in the table below will be used to monitor the BMP's progress and evaluate the Construction Site Runoff Control program success:

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
CON – 1	Adoption of BMP Field Manuals	Adopt manuals	ENV	Adopted in May 2014
CON – 2	Requirement to implement BMPs	Issue Policy Memo	ENV	Permit year 3
CON – 3	Inventory of Construction Sites	1. Implement a system to track inventory of all NPDES covered projects. 2. Track 100% of construction projects and all corresponding information and inspection forms. 3. Annually summarize overall project BMP deficiencies to improve program efficiency.	ENV	1. Construction database to be complete permit year 3. 2. Complete on spreadsheet and electronic media. 3. Annual Report
CON – 4	Plan Review and Approval	1. Review 100% of project SWPPPs and supporting documents. 2. Require 100% of projects greater than one (1) acre to obtain a Letter of Authorization to discharge storm water to the Army's MS4 before applying for a permit.	ENV	1. Complete 2. Complete

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
CON – 5	Inspections	1. Respond to 100% of complaints. 2. Implement corrective actions per policies for 100% of sites where a violation is detected.	ENV ENG	1. Complete 2. Complete
CON – 6	Enforcement	Develop Construction Site Runoff Control Enforcement policy.	ENV ENG	Policy complete. Pending approval.
CON – 7	Refer Noncompliance and Non-filers to HDOH	Refer 100% noncompliance and non-filers to HDOH.	ENV	Will be initiated permit year 2
CON – 8	Training	1. Provide an annual presentation to 100% of personnel working on NPDES covered projects. 2. Distribute Training Slide to 100% of contractors.	ENV ENG	1. Permit years 2-5 2. Permit year 2-5
CON – 9	Education	1. Attend 100% of pre-construction meetings for NPDES covered projects to brief on storm water requirements 2. Distribute PowerPoint slides to 100% of attendees	ENV ENG	1. Permit years 2-5 2. Permit years 2-5

VI. Reporting

A summary of activities, surveys and projects will be presented in the annual SWMP report that will be submitted to the HDOH CWB and EPA CWB. The information will be compiled in a table that illustrates the effectiveness of the BMP's as related to each measurable goal.

SECTION 5
Post-Construction Storm Water Management Program

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SECTION 5
Post-Construction Storm Water Management Program
(Permit Part D.1.e.)

I. Introduction

The purpose of the US Army Garrison, Hawaii (USAG-HI) Post-Construction Storm Water Management Program is to ensure that permanent post-construction controls, including Low Impact Development (LID) practices, are implemented to prevent or minimize the discharge of pollutants of concern into the garrison's Municipal Separate Storm Sewer System (MS4). LID pertains to storm water management practices which aim to mimic a site's predevelopment hydrology by minimizing ground disturbance and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating storm water runoff close to its source. LID practices treat storm water as a resource rather than a waste product.

The goal of the program is to ensure that for new development and redevelopment projects that result in a land disturbance of one (1) acre or more and smaller projects that have the potential to discharge pollutants to the MS4, permanent controls are in place to prevent or minimize water quality impacts to the Maximum Extent Practicable (MEP). To achieve this goal, USAG-HI will implement the following Best Management Practices (BMPs):

- Establish standards to define the requirements for permanent post-construction BMPs and LID.
- Establish a standard operating procedure (SOP) for the review of project documents for permanent post-construction BMPs.
- Implement an Asset Management System (AMS) to track the inspection and maintenance of permanent post-construction BMPs.
- Provide educational material on permanent post-construction BMP and LID requirements to Directorate of Public Works (DPW) Engineering Division, Operations and Maintenance Division, and Master Planning Division staff.
- Provide annual training to DPW staff responsible for inspecting permanent post-construction BMPs and LID.

II. Legal Authority

Section 438 of the Energy Independence and Security Act of 2007 (EISA Section 438) provides the legal authority establishing strict storm water design requirements for Federal development and redevelopment projects. Under these requirements, "any development or redevelopment project

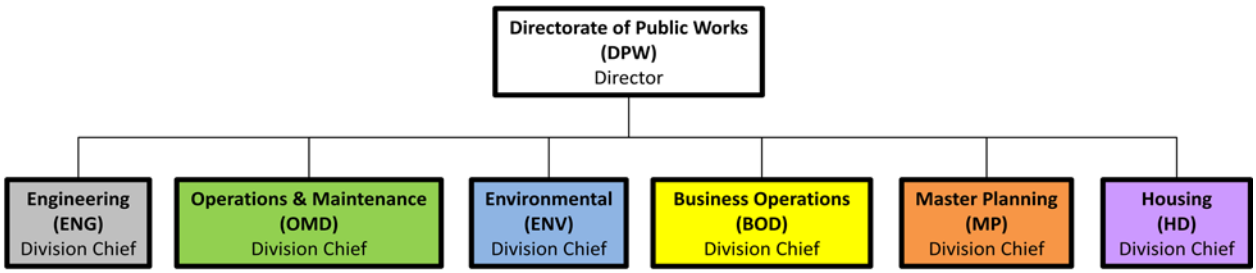
involving a Federal facility with a footprint that exceeds 5,000 square feet shall use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow."

Resulting from the legislation, a Deputy under Secretary of Defense, Installation and Environment memorandum defined Department of Defense (DoD) policy for implementation of EISA Section 438 using LID techniques and required the policy be incorporated into applicable DoD Unified Facilities Criteria (UFC). The UFC system provides planning, design, and construction criteria for DoD projects.

III. Roles and Responsibilities

Each federal agency or department is responsible for ensuring compliance with EISA Section 438. Since DPW is responsible for reviewing and approving development and redevelopment projects within the USAG-HI, DPW is also responsible to ensure compliance with DoD policy for implementation of EISA Section 438 using LID techniques. Additionally, DPW is responsible for managing and implementing the USAG-HI National Pollutant Discharge Elimination System (NPDES) MS4 permit, which includes developing and implementing the Storm Water Management Plan (SWMP) and associated Post-Construction Storm Water Management Program.

The USAG-HI is the overseeing command for the Directorate of Public Works (DPW) as well as multiple other directorates. DPW is responsible for managing and implementing the NPDES MS4 permit. DPW is composed of several divisions: Business Operations Division (BOD), Engineering (ENG) which comprise of Construction and Utilities branches, Environmental (ENV) which comprise of Compliance and Conservation branches, Master Planning (MP), Operations and Maintenance Division (OMD), and Housing (HD). The chart below is a simplified organizational chart of DPW where the color and departmental codes are used to identify the responsible divisions for executing specific responsibilities detailed in *IV. Procedures and Best Management Practices*. A complete detailed organizational chart can be found in the **INTRO Appendix C**.



As a partner federal agency, the US Army Corps of Engineers (USACE) serves as a primary design, construction, and project management consultant to DPW and is therefore responsible to ensure compliance with DoD policy for implementation of EISA Section 438 using LID methods. The role of the USACE as DPW's project-specific technical expert is described in following sections.

IV. Program Elements and Best Management Practices

DPW has identified and selected the following BMPs to achieve the goals of the program and to ensure that permanent post-construction controls, including LID practices, are in place to prevent or minimize the discharge of pollutants of concern into the garrison's MS4.

BMP# PC – 1:
Establish standards to define the requirements for permanent post-construction BMPs and LID.
Permit Part D.1.e.(1)

DPW Divisions responsible:

ENG HD MP ENV

It is important for proponents and designers of new development or redevelopment within USAG-HI to understand the requirements for permanent post-construction BMPs and LID. Standards are in place to define these requirements and are accessible to everyone in the DoD, including DPW and USACE personnel.

As required by the USAG-HI NPDES MS4 permit, in October 2014 USAG-HI submitted a *Plan for Requiring LID in the Standards* (**PC Appendix A**) to the Hawaii Department of Health (HDOH). The plan's intent was to provide an initial description of the following: criteria for requiring implementation of LID, quantitative criteria for a specific design storm to be managed by LID techniques, infeasibility criteria for circumstances in which a waiver could be granted for the LID requirements, and a list of alternatives that may be implemented when an LID waiver is granted. Additionally, the plan included a draft LID planning and design example checklist and draft LID and permanent post-construction BMP inspection example checklists.

As a follow up to the aforementioned plan and also required by the USAG-HI NPDES MS4 permit, the USAG-HI standards for addressing post-construction BMPs and LID requirements were submitted to the HDOH in April 2015. The DoD Unified Facilities Criteria (UFC), Low Impact Development, UFC 3-210-10, dated 15 November 2010 are the established USAG-HI standards (**PC Appendix B**). The criteria previously described in the *Plan for Requiring LID in the Standards* originate from UFC 3-210-10. The

DoD UFC program represents the facilities and infrastructure component of the Defense Standardization Program. UFC documents provide planning, design, construction, sustainment, restoration, and modernization criteria, and apply to the Military Departments, the Defense Agencies, and the DoD Field Activities. UFC are distributed only in electronic media and are effective upon issuance.

The primary responsibility for reviewing, updating, and administering UFC 3-210-10 belongs to the USACE, Naval Facilities Engineering Command, and the Air Force Civil Engineer Center. However, related responsibilities exist for DPW ENG, HD, MP, and ENV.

ENG DPW ENG provides engineering technical expertise and guidance, design review, construction management, and project management for DPW projects on USAG-HI installations. DPW ENG is responsible for being the primary point of contact to answer engineering or technical questions on the standards. If it is determined that installation specific supplemental criteria or technical guidance are needed, DPW ENG will be responsible to develop, implement, and administer such standards.

HD DPW HD is responsible to provide engineering technical expertise, design review, and project management for housing projects on USAG-HI installations. As needed, DPW HD is responsible to consult with DPW ENG regarding engineering or technical questions on the standards.

MP DPW MP is in charge of planning and programming and plays the main role in developing the installation wide strategy for storm water management that includes LID to the maximum extent possible. DPW MP is responsible to have an understanding of the standards and to ensure the standards are part of the programming process.

ENV DPW ENV develops and has oversight of the USAG-HI SWMP. DPW ENV is responsible for being the primary point of contact to answer questions about environmental regulations referenced in the standards.

BMP# PC – 2:
Establish a standard operating procedure (SOP) for the review of project documents for permanent post-construction BMPs.
Permit Part D.1.e.(2)

DPW Divisions responsible:

ENG **HD** **OMD** **ENV**

Design-bid-build projects shall not be advertised for construction and shall not be awarded contracts for construction until the project design has been reviewed and approved to ensure that appropriate permanent post-construction BMPs, including LID practices, have been incorporated in the design and bid packages. Design-build projects shall be reviewed and approved in the same way prior to execution. If during the review process a project is found to not include appropriate permanent post-construction BMPs the project shall not proceed unless a waiver is granted by DPW based on specific documentation demonstrating that permanent post-construction BMPs are not feasible. Projects that will include installation of permanent post-construction BMPs shall require documentation of appropriate requirements for the BMPs future continued maintenance.

To ensure the above conditions are met, DPW will establish standard operating procedures (SOPs) for the review of project documents for permanent post-construction BMPs. The SOPs will be made accessible to all DPW personnel who are part of the review process. Multiple DPW divisions are responsible for establishing SOPs based on each division's function.

ENG DPW ENG is responsible for developing and implementing the overarching SOP that requires technical review and approval to ensure that suitable permanent post-construction BMPs, including LID practices, have been included in design-bid-build and design-build project documents. DPW ENG shall conduct technical review and approval in accordance with the established USAG-HI standards, i.e. UFC 3-210-10. It is also DPW ENG's responsibility to develop and implement a waiver process for projects that do not include appropriate permanent post-construction BMPs. DPW ENG shall not allow such projects to proceed unless the engineering reviewer approves a waiver based on specific documentation showing that permanent post-construction BMPs are infeasible. DPW ENG project managers are responsible to ensure that the SOP and waiver process are being followed for their projects. Additionally, DPW ENG is responsible to provide project review information to DPW ENV upon request.

HD DPW HD has the responsibility to coordinate with DPW ENG the portion of the SOP establishing technical review of housing project documents for appropriate permanent post-construction BMPs. DPW HD project managers are responsible to ensure that their housing projects are being reviewed and approved by DPW ENG according to the SOP and waiver process. DPW HD is responsible to provide project review information to DPW ENV upon request.

OMD DPW OMD Engineering Branch is responsible for developing and implementing the portion of the SOP that requires OMD review to verify that project documents provide appropriate requirements for future continued maintenance of planned permanent post-construction BMPs. DPW OMD Engineering Branch is responsible to ensure their portion of the SOP is properly coordinated with DPW ENG such that the OMD review process is completed prior to projects being advertised for

construction or awarded contracts. DPW OMD Engineering Branch is responsible to provide project review information to DPW ENV upon request.

ENV DPW ENV has the responsibility to report on the SOP development and implementation to HDOH. DPW ENV is responsible to collect project review information and data from the other divisions to include in Annual Reports or to satisfy other SWMP reporting requirements.

BMP# PC – 3:
Implement an Asset Management System (AMS) to track the inspection and maintenance of permanent post-construction BMPs.
Permit Part D.1.e.(3)

DPW Divisions responsible:

OMD BOD ENG MP HD ENV

As required by the USAG-HI NPDES MS4 permit, an Asset Management System (AMS) will be implemented to track inspections and maintenance of permanent post-construction BMPs. It is important that plans be made for long-term operation and maintenance of permanent post-construction BMPs because if maintenance is inadequate or ceases the BMPs will fail.

DPW's AMS shall be developed, implemented, and managed to track the frequency of inspections and maintenance of permanent post-construction BMPs. All storm water treatment and LID BMPs shall be inspected at least annually for proper operation. Maintenance shall be performed as needed to ensure proper operation. The AMS shall include standard project information (e.g. project name, owner, location, start and end dates, etc.) as well as the following data:

- Type and number of LID practices
- Type and number of source control BMPs
- Type and number of treatment control BMPs
- Latitude and longitude coordinates of controls using a consistent datum (e.g. NAD83)
- Photographs of controls
- Operation and maintenance requirements
- Frequency of inspections
- Frequency of maintenance

Operating and maintaining permanent post-construction BMP assets, especially in a constrained budget environment, will require a concerted effort across the directorate. Every division in DPW has responsibilities related to implementing and AMS and supporting its success. These responsibilities are described below.

OMD DPW OMD's function is to ensure proper operation and maintenance of DPW-owned infrastructure. Because of this, DPW OMD is responsible to perform inspection and maintenance of permanent post-construction BMPs; to be the primary proponent for the development, implementation, and upkeep of an AMS to track inspection and maintenance actions; and to perform data entry into the AMS. It is DPW OMD's responsibility to determine the type of AMS to implement and whether the AMS will be managed by in-house OMD staff or through a contract. If it is determined a contract is needed, DPW OMD as proponent is responsible to obtain and provide information needed to develop the contract and write the scope of work; fund the contract; and work collaboratively with the DPW BOD Service Contracts Branch and other DPW offices as necessary to properly execute and maintain the contract.

BOD DPW BOD has the responsibility to assist DPW OMD with in-house technical systems and database support for setting up an AMS and, if a contract is needed, to assist with contract management and execution. As needed, DPW BOD is also responsible to assist DPW ENG with coordinating the receipt and distribution of as-built drawings and operation and maintenance (O&M) manuals to be provided to DPW OMD for reference and input into the AMS.

ENG DPW ENG is responsible for tracking the design and construction of permanent post-construction BMPs for DPW projects and obtaining necessary data for input into the AMS such as the type, number, and location of BMPs. DPW ENG is also responsible for performing project management to ensure that as-built drawings and O&M manuals for permanent post-construction BMPs are received from consultants/contractors in a timely manner and provided to DPW OMD for reference and input into the AMS.

MP DPW MP is responsible to ensure permanent post-construction BMPs are included on documents for Transfer and Acceptance of DoD Real Property (DD Form 1354s) and to assign identification numbers to the BMPs as needed for appropriate classification in the AMS. DPW MP is also responsible to ensure permanent post-construction BMP features are drawn and properly labeled in DPW's Geographic Information System (GIS).

HD DPW HD is responsible for tracking the design and construction of permanent post-construction BMPs for housing projects and obtaining necessary data for input into the AMS such as the type, number, and location of BMPs. Since IPC may be responsible for inspection and

maintenance of most or all of the housing project BMPs, DPW HD is responsible for obtaining inspection and maintenance data from IPC and coordinating data entry into the AMS with DPW OMD and GIS data with DPW MP. Alternately, DPW HD is responsible to ensure IPC develops, implements, and upkeeps an IPC-managed AMS to track IPC's inspection and maintenance actions. If IPC manages its own AMS, it is DPW HD's responsibility to promptly obtain and provide IPC data to requesting DPW divisions at any time the data may be requested.

ENV DPW ENV has the responsibility to report on the AMS development and implementation to HDOH. DPW ENV is responsible to collect permanent post-construction BMP inspection and maintenance data from the other divisions to include in Annual Reports or to satisfy other SWMP reporting requirements.

BMP# PC – 4:
Provide educational material on permanent post-construction BMP and LID requirements to Directorate of Public Works (DPW) project proponents.
Permit Part D.1.e.(4)

DPW Divisions responsible:

ENV **ENG** **OMD**

It is essential that the appropriate staff are aware of and informed about the requirements for permanent post-construction BMPs and LID. In order to achieve this goal, education and outreach material covering permanent post-construction BMP requirements will be provided to DPW project management personnel. According to their functions, various DPW divisions are responsible to provide expertise and collaborate on the development of the educational material. DPW project proponents will need to review the educational material, apply the information to projects they manage, and disseminate the information as needed to project consultants and contractors.

ENV DPW ENV is responsible for coordinating and distributing the educational material to the other DPW divisions. DPW ENV is also responsible to provide information in the educational material on the environmental regulatory requirements for permanent post-construction BMPs and LID.

ENG DPW ENG has the responsibility to provide information in the educational material on the selection, design, and installation of permanent post-construction BMPs and LID.

OMD DPW OMD is responsible to provide information in the educational material on the

operation and maintenance of permanent post-construction BMPs and LID.

BMP# PC – 5:
Provide annual training to Directorate of Public Works staff responsible for inspecting permanent post-construction BMPs and LID.
Permit Part D.1.e.(4)

DPW Divisions responsible:

DPW ENV ENG OMD

Well trained staff are essential to ensure proper operation and maintenance of permanent post-construction BMPs and LID. Because permanent post-construction BMPs and LID are technologies just beginning to be implemented on USAG-HI installations, DPW personnel have not been trained on how to inspect these new technologies to ensure they are adequately maintained and functioning properly. Therefore, annual training shall be provided to DPW staff responsible for inspecting permanent post-construction BMPs and LID.

Since local industry knowledge of permanent post-construction BMPs and LID is generally limited, it may not be possible to obtain creditable training from local sources. It is recommended that training is obtained from a provider who is confirmed to have established credentials in the areas of inspecting and maintaining permanent post-construction BMPs and LID.

DPW It is the responsibility of the Director of Public Works to ensure DPW staff receive annual training on inspecting permanent post-construction BMPs and LID as required by the permit.

ENV DPW ENV is responsible to establish annually recurring funding for providing training to appropriate DPW ENV personnel on inspecting permanent post-construction BMPs and LID.

ENG DPW ENG is responsible to establish annually recurring funding for providing training to appropriate DPW ENG personnel on inspecting permanent post-construction BMPs and LID.

OMD DPW OMD is responsible to establish annually recurring funding for providing training to appropriate DPW OMD personnel on inspecting permanent post-construction BMPs and LID.

IV. Measurable Goals

The measureable goals listed in the table below will be used to monitor the BMPs' progress and evaluate the Post-Construction program's success.

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
PC – 1	Establish standards to define the requirements for permanent post-construction BMPs and LID	• 1 year after submittal of the SWMP, 95% of construction projects with greater than 5,000 square feet of new impervious area will include descriptions regarding storm water control practices and site designs that comply with the criteria and guidance specified in the standards	ENG HD MP ENV	1 year after SWMP submittal
PC – 2	Establish a standard operating procedure (SOP) for the review of project documents for permanent post-construction BMPs	• 4 months after submittal of the SWMP, develop and implement SOPs • 1 year after submittal of the SWMP, 95% of construction projects will be reviewed for permanent post-construction BMPs according to the SOPs	ENG HD OMD ENV	4 months after SWMP submittal, 1 year after SWMP submittal
PC – 3	Implement an Asset Management System (AMS) to track the inspection and maintenance of permanent post-construction BMPs	• 6 months after submittal of the SWMP, conduct an inventory of BMPs • 1 year after submittal of the SWMP, develop an AMS to integrate the location of BMPs with schedules for regular inspection and maintenance. Conduct annual inspections of each BMP and conduct regular maintenance as needed to ensure proper operation.	OMD BOD ENG MP HD ENV	6 months after SWMP submittal, 1 year after SWMP submittal

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
PC – 4	Provide educational material on permanent post-construction BMP and LID requirements to Directorate of Public Works (DPW) project proponents	• Provide educational material to 100% of appropriate DPW staff annually	ENV ENG OMD	Annual
PC – 5	Provide annual training to Directorate of Public Works staff responsible for inspecting permanent post-construction BMPs and LID	• Train 100% of appropriate DPW staff annually	DPW ENV ENG OMD	Annual

V. Reporting

A summary of activities, surveys and projects will be presented in the annual SWMP report that will be submitted to the HDOH CWB and EPA CWB. The information will be compiled in a table that illustrates the effectiveness of the BMPs as related to each measurable goal.

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SECTION 6
Pollution Prevention / Good Housekeeping

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SECTION 6
Pollution Prevention / Good Housekeeping

Debris Control BMP Program
(Permit Part D.1.f.(1))

I. Introduction

Removing debris from roads and storm drainage structures minimizes the amount of pollutant material present in storm water runoff that enters receiving water bodies. The Debris Control BMPs Program (DCBP) implements a series of BMPs to reduce the discharge of pollutants to and from US Army Garrison, Hawaii (USAG-HI) Municipal Separate Storm Sewer System (MS4) to the Maximum Extent Practicable (MEP). The DCBP consists of the following BMPs and sub-programs:

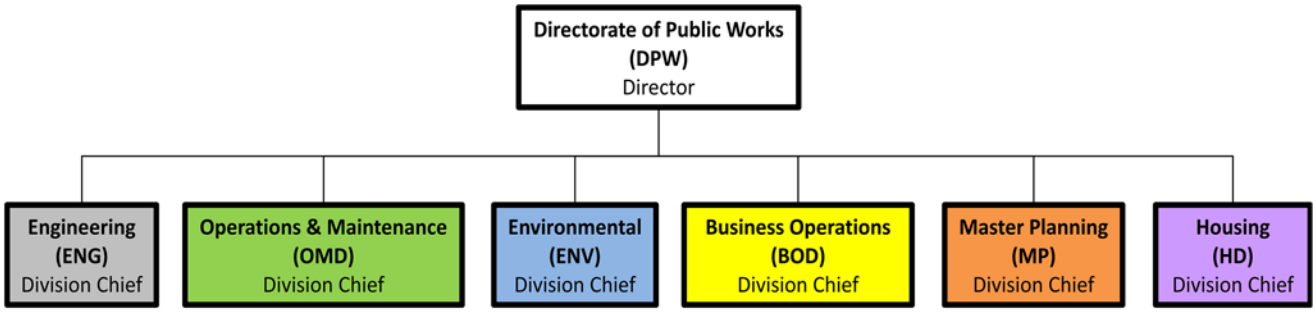
- Use a database to maintain an inventory of roads, permanent BMPs, and MS4 structures; track system maintenance and debris removal activities; create schedules; and evaluate inspection and cleaning priorities.
- Implement a Street Sweeping Program with priority-based schedules.
- Implement a Storm Drain System Inspection and Cleaning Program with priority-based schedules.
- Install and maintain storm drain placards at storm drain inlets for the purpose of educating the public.
- Create and submit to Hawaii Department of Health (HDOH) an Action Plan for Retrofitting Structural BMPs.
- Implement a Trash Reduction Program to reduce trash loads to and from the MS4.

II. Legal Authority

All personnel, tenants, contractors and residents on the USAG-HI property are prohibited from illegally discharging pollutants to its MS4 through USAG-HI Enforcement Policies, permits, lease agreements, contract language and Military Law Enforcement. These mechanisms allow the USAG-HI to pursue enforcement actions against entities in non-compliance with the requirements of the USAG-HI MS4 permit. Each mechanism is discussed in Section III, Procedures and Best Management Practices of this document.

III. Roles and Responsibilities

The USAG-HI is the overseeing command for the Directorate of Public Works (DPW) as well as multiple other directorates. DPW is responsible for managing and implementing the NPDES MS4 permit. DPW is composed of several divisions: Business Operations Division (BOD), Engineering (ENG) which comprise of Construction and Utilities branches, Environmental (ENV) which comprise of Compliance and Conservation branches, Master Planning (MP), Operations and Maintenance Division (OMD), and Housing (HD). The chart below is a simplified organizational chart of DPW where the color and departmental codes are used to identify the responsible divisions for executing specific responsibilities detailed in *IV. Procedures and Best Management Practices*. A complete detailed organizational chart can be found in the **INTRO Appendix C**.



IV. Procedures and Best Management Practices

DPW has identified and selected the following BMPs to achieve the goals of the program to prevent or minimize the discharge of pollutants of concern into the garrison's MS4.

BMP# DCBP – 1:
Asset Management System
Permit Part D.1.f.(1)(i)

DPW Divisions responsible:

OMD

In 2014, USAG-HI DPW ENV contracted a study to provide a condition assessment and inventory of all features, infrastructure, and facilities of the garrison's MS4. The study also developed an asset management database system that would support the storm water infrastructure maintenance and management program.

The study's main objectives were:

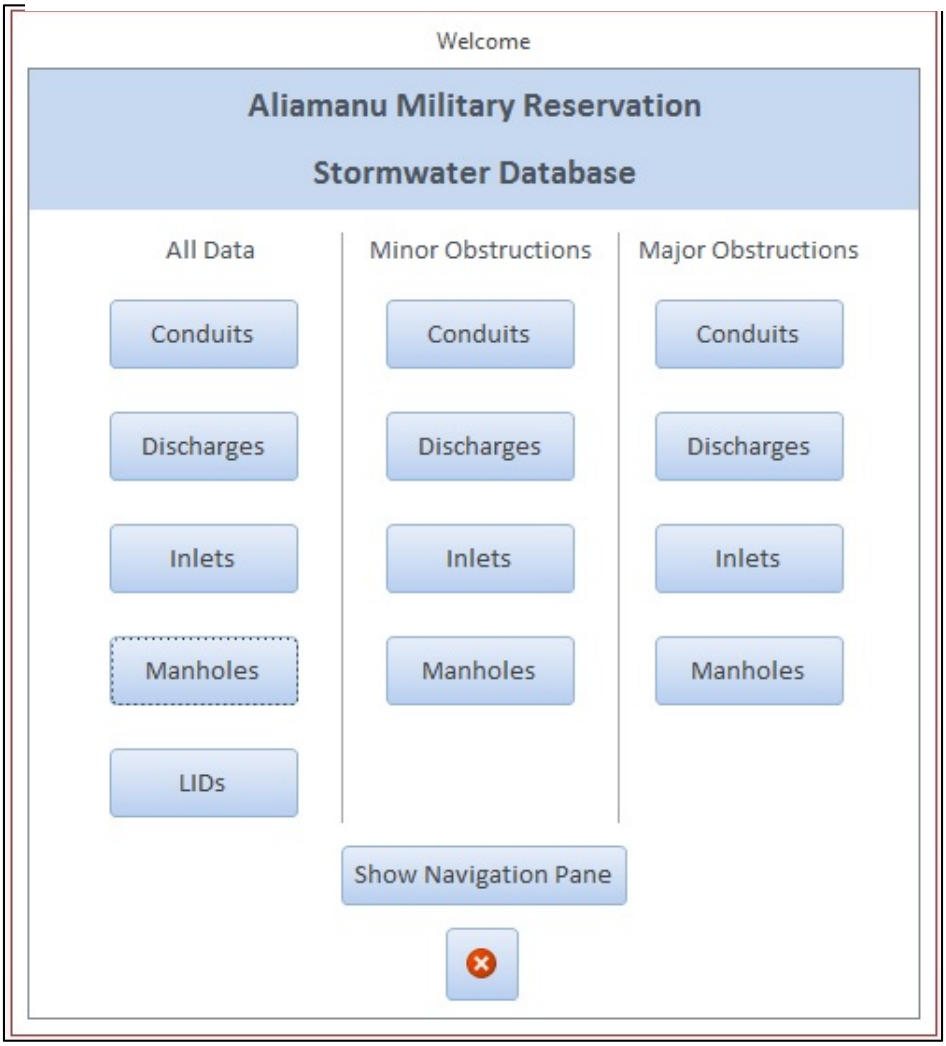
- To locate, identify, and assess existing storm water infrastructure across USAG-HI's MS4 which includes Wheeler Army Airfield (WAAF), Schofield Barracks (SB), Fort Shafter (FS), Tripler Medical Center (TAMC), Helemano Military Reservation (HMR), and Aliamanu Military Reservation (AMR).

- To develop a storm water asset management system that facilitates storm water asset reporting and maintenance.

A comprehensive Storm Water Asset Management System (SWAMS) was developed from the condition assessment data and consists of Access databases and map books for location references. Storm water assets have condition assessment information and are tied to a specific map grid for reference with the map books. Field images are embedded within the databases and can be changed/updated within the image folders.

The navigation panel of the database has three columns: All Data, Minor Obstructions, and Major Obstructions. An example of the Main page shown in Figure 1:

Figure 1: Database Navigation Panel



Major and minor obstructions to storm water assets have been queried from the database per each feature type: manholes, inlets, discharge points, and conduits.

Data have a unique identifier that is maintained in the Access database and in the GIS data. GIS users are able to join data from the database using the unique identifier to update changes to the storm water asset condition assessment. For instance, when maintenance is performed on a conduit with a major obstruction, the date and maintenance activity will be logged in the database, and the obstruction will be changed from 'Major_Obstruction' to 'No_Obstruction'. This data can then be joined to the GIS data table so storm water GIS and maintenance personnel are working with the same information.

BMP# DCBP – 2:
Street Sweeping
Permit Part D.1.f.(1)(ii)

DPW Divisions responsible:

OMD BOD

Street sweeping has proven to be an effective method of removing sediment and debris from roadways before it reaches the drainage system. USAG-HI has a street sweeping program that addresses all roads within its MS4. Street sweeping are done on day-to-day rotation schedules. See **DCBP Appendix A** for detailed maps and schedules. (Note: AMR is done on a case by case basis). For non-scheduled sweeping, tenants can call the Customer Service desk (DMO 656-6741) for immediate action.

All street sweeping debris is disposed of via contract. Disposal waste quantities are tracked within this contract. Information of this type is available upon request.

BMP# DCBP – 3:
Storm Drain System Inspection and Cleaning
Permit Part D.1.f.(1)(ii)

DPW Divisions responsible:

OMD BOD

It is necessary to remove debris from the drainage system in order to reduce the amount of pollutants discharged to receiving waters to the MEP. The Debris Control Program inspects the MS4 for the purpose of determining if cleaning or maintenance is needed. Storm drainage system infrastructure inspected and cleaned under this program includes storm water pipes, manholes, catch basins, gutters, and open channels.

USAG-HI DPW BOD is in the process of completing a one-time Service Contract to clean out the entire MS4 storm drain system infrastructure. Focus will be on the “major obstruction” type discrepancies as found in the assessment reports (see DCBP #1).

USAG-HI DPW OMD also has the use of a VacTruck for storm drain line cleaning operations. It is primarily used to help maintain the storm drain lines and respond to clogged lines as required.

Structures that may require more frequent cleaning due to high material accumulation rates or a potential threat to water quality are inspected semi-annually. All other structures are inspected at least once per permit period. The priority-based schedules are annually reviewed and adjusted as necessary. Any changes made to the schedule, along with explanations of the changes, will be submitted within the Annual Report.

Storm drainage structures are cleaned when a one-third debris accumulation threshold is reached or exceeded. If the depth of deposited sediment and debris is at least one-third the depth from the invert of the structure to the invert of the lowest pipe or opening into or out of the structure, cleaning is required. Linear features are cleaned at the discretion of DPW OMD.

The Storm Water Asset Management System (SWAMS) is used to establish priorities and to schedule and track efforts of appropriate system maintenance and debris removal activities.

BMP# DCBP – 4:
Storm Drain Placards
Permit Part D.1.f.(1)(iii)

DPW Divisions responsible:

ENV ENG OMD

The ocean has meaningful significance to the majority of people living in Hawaii. A large portion of the public directly depends on a healthy ocean for their livelihoods, immediate subsistence, and/or recreational needs. Many people also appreciate the ocean for its aesthetic beauty, economic value, and cultural significance to the community. For these reasons, establishing a mental connection between storm drains and the ocean, much like the physical connection itself, has the potential to have far reaching effects on public behavior. The intent of the storm drain placards is to raise public awareness about this direct connection and ultimately affect public behavior by reducing the amount of pollutants that are intentionally or negligibly dumped into storm drains.

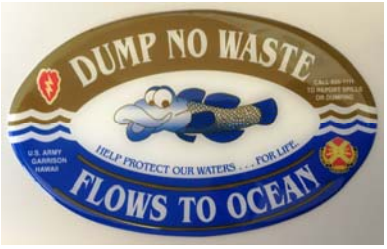


Figure 2: USAG-HI Storm Drain Placard

USAG-HI installs a minimum of 50 new storm drain placards (Figure 2) every year, primarily in areas with heavy pedestrian traffic or a high concentration of commercial and industrial facilities. Once placards are installed in all high priority areas (i.e., heavy pedestrian traffic and/or high concentration of commercial and industrial facilities) within the garrison, focus will shift toward efforts on placard inspection, repair, and maintenance, in lieu of continued installation.

For all new construction after 2010, each new drain inlet is permanently stamped "Dump No Waste, Goes To Ocean" (Figure 3) into the concrete as part of the construction plans and specifications.

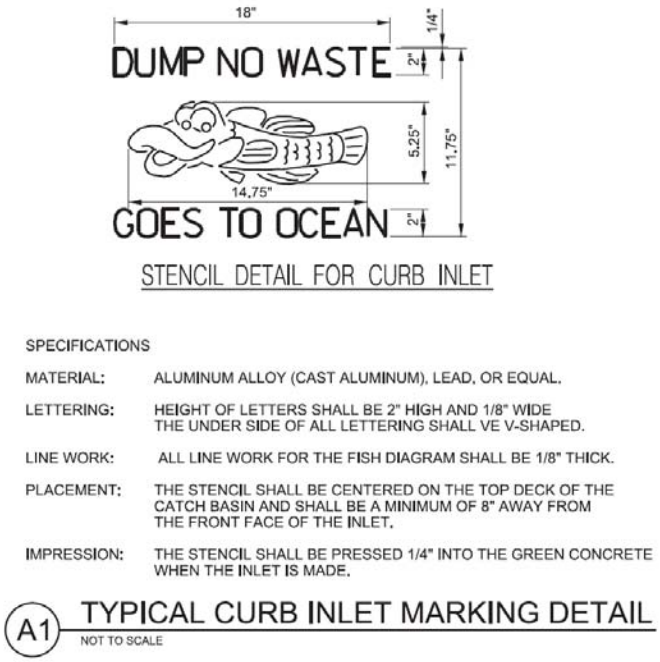


Figure 3: Permanent Stamp Design

Each drain inlet is assigned a unique number in the SWAMS system. Each inlet is tracked for storm drain placard in an Excel spreadsheet by DPW ENV. An Access database system is being developed to track placard placement and link images and locations of each inlet. Storm drain placards are assessed for maintenance or replacement during DPW OMD storm system inspections. Any storm drain placard that spotted for replacement by other tenants and personnel is instructed to call the Customer Service desk (DMO 656-6741) or DPW Environmental Division Clean Water Branch (656-3105).

BMP# DCBP – 5:
Action Plan for Retrofitting Structural BMPs
Permit Part D.1.f.(1)(iv)

DPW Divisions responsible:

ENV ENG MP BOD OMD

Part D.1.f.(1)(iv) of the MS4 Permit requires USAG-HI to provide DOH with an Action Plan for Retrofitting Structural BMPs, which includes identification of the retrofits to be implemented, an explanation on the basis of their selection, and a five-year implementation schedule. The purpose of the Action Plan for Retrofitting Structural BMPs is to reduce storm water pollution by designing and constructing/installing appropriate and cost-effective BMPs (retrofits) in strategic locations and structures within the existing MS4. Potential retrofit sites were selected through the review of previous MS4 studies and from data collected during routine MS4 monitoring and maintenance activities. A total of **12** sites were selected for retrofits throughout the MS4 during the five-year implementation period. Refer to **DCBP Appendix B** for complete Action Plan report. Table 1 shows a summary of the sites selected:

Table 1: Structural BMP Retrofit

Retrofit #	Base	Location	Proposed BMPs	Implementation Schedule
S-1	SB	The drainage and grass covered area located in Lyman Gate	Bioretention Vegetated Swale	2019
S-3A	SB	A ditch along Lyman Road	Geotextile	2016
S-3B	SB	A ditch along Lyman Road	Geotextile	2016
S-3C	SB	A ditch along Lyman Road	Geotextile	2016
S-3D	SB	Ditch on Lyman Rd	Bioretention Vegetated Swale Gravel Trench	2017
S-6	SB	The eroded channel along Humphries Road	Vegetated Swale	2015
S-7	SB	A vegetated swale along Trimble Road	Vegetated Swale	2015
S-12	SB	The eroded culvert along McMahon Road	Vegetated Swale	2017
S-13	SB	The parking lot along North side of the Menoher Road	Bioretention Gravel Trench	2018
S-14	SB	A badly eroded culvert on the intersection area between McMAHON Rd and Capron Avenue	Vegetated Swale	2017
S-21	SB	The parking lot of Bldg 580 (25 Infantry Division Headquarters)	Bioretention Gravel Trench	2018

Retrofit #	Base	Location	Proposed BMPs	Implementation Schedule
S-22	SB	Solomon Elementary School parking lot	Bioretention Gravel Trench	2019

BMP# DCBP – 6:
Trash Reduction
Permit Part D.1.f.(1)(v)

DPW Divisions responsible:

ENG OMD ENV BOD MP

USAG-HI is developing a Trash Reduction Plan that will be submitted to DOH for review and acceptance within three years of the effective date of the MS4 Permit. The Trash Reduction Plan will be designed to assess and reduce trash loads from the MS4. The Trash Reduction Plan will contain the elements required in *Part D.1.f.(1)(v)* of the MS4 Permit:

- *Quantitative estimate of the debris currently being discharged (baseline load) from the MS4, including methodology used to determine the load.*
- *Description of control measures currently being implemented as well as those needed to reduce debris discharges from the MS4 consistent with short-term and long-term reduction targets.*
- *A short-term plan and proposed compliance deadline for reducing debris discharges from the MS4 by 50% from the baseline load.*
- *A long-term plan and proposed compliance deadline for reducing debris discharges from the MS4 to zero.*
- *Geographical targets for trash reduction activities with priority on waterbodies listed as impaired for trash on the State's CWA Section 303(d) list.*
- *Trash reduction-related education activities as a component of Part D.1.a of permit.*
- *Integration of control measures, education and monitoring to measure progress toward reducing trash discharges.*
- *An implementation schedule.*
- *Monitoring plan to aid with source identification and loading patterns as well as measuring progress in reducing the debris discharges from the MS4.*
- *The Annual Report shall include a summary of its trash load reduction actions (control measures and best management practices) including the types of actions and levels of*

implementation, the total trash loads and dominant types of trash removed by its actions, and the total trash loads and dominant types of trash for each type of action.

The plan shall provide for compliance with the above short-term and long-term discharge limits in the shortest practicable timeframe.

V. Measurable Goals

The measureable goals listed in the table below will be used to monitor the BMP's progress and evaluate the ECBP success:

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
DCBP – 1	Asset Management System	Utilize SWAMS to establish priorities and schedule and track efforts of debris removal program activities.	OMD	Track and characterize debris removed from program activities and utilize information to revise priority-based schedules as feasible.
DCBP – 2	Street Sweeping	Sweep 100% of segments in accordance with the priority based schedules.	OMD BOD	Track the location and frequency of all street sweeping activities and compare against priority based schedules. Continue to monitor and track quantities of waste and debris via contract.
DCBP – 3	Storm Drain System Inspection and Cleaning	Inspect and/or clean 100% of drainage structures within MS4 permit period in accordance with the priority-based schedules. Complete and executed contract to clean out entire storm drain system	OMD BOD	Track the location, frequency, and structure type of all inspection activities and compare against priority based schedules. Complete and execute contract by FY16.
DCBP – 4	Storm Drain Placards	Install 50 storm drain	ENV	Track the location and placard number of all storm

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
		placards each year on pedestrian-accessible storm drain inlets.		drain placards installed.
DCBP – 5	Action Plan for Retrofitting Structural BMPs	Submit Action Plan for Retrofitting Structural BMPs within one year from the EDOP. Construct/install 12 retrofits within the five year implementation period.	ENV ENG MP BOD OMD	Action Plan submitted to DOH on 04 Apr 2015. Track and document retrofit BMP construction and installation locations.
DCBP – 6	Trash Reduction	Submit Trash Reduction Plan within three years from the EDOP. Comply with schedule/milestones established by Trash Reduction Plan.	ENV ENG MP BOD OMD	Completion of Trash Reduction Plan scheduled for Oct 2017. Ensure timely completion of milestones established by Trash Reduction Plan.

VI. Reporting

A summary of activities, surveys and projects will be presented in the annual SWMP report that will be submitted to the HDOH CWB and EPA CWB. The information will be compiled in a table that illustrates the effectiveness of the BMP's as related to each measurable goal.

SECTION 6
Pollution Prevention / Good Housekeeping

Chemical Applications BMP Program
(Permit Part D.1.f.(2))

I. Introduction

The Chemical Applications BMPs Program (CABP) is responsible for implementing BMPs, including a training program, to reduce the contribution of pollutants to the MS4 associated with the application, storage, and disposal of chemicals (i.e., pesticides, herbicides, and fertilizers). Chemical applications typically occur during landscape maintenance activities conducted by USAG-HI personnel and landscape maintenance service contractors. The BMPs required by the CABP pertain to all USAG-HI personnel and service contractors that use chemicals within USAG-HI municipal industrial facilities.

The Chemical Applications BMP Program includes the following control measures:

- Develop an Authorized Use List of the chemicals USAG-HI uses and implement a specific training program for all potential appliers on the proper application of these chemicals.
- Implement BMPs for the application, storage, and disposal of chemicals.

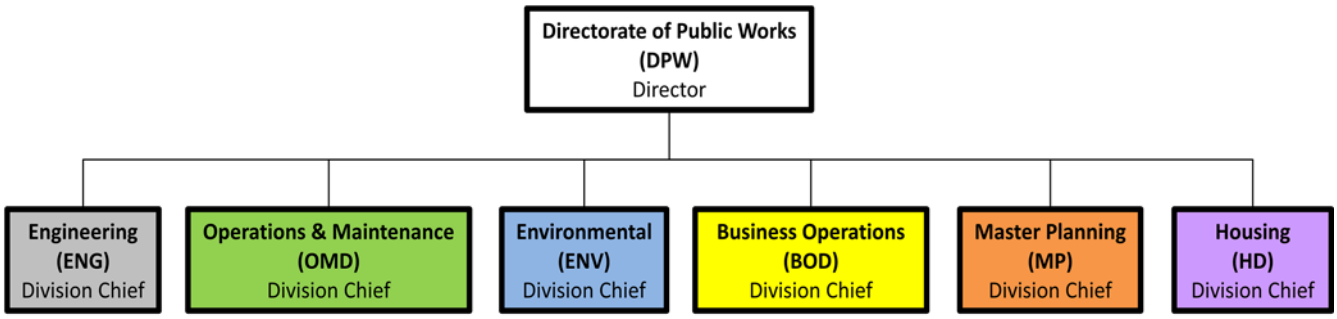
II. Legal Authority

All personnel, tenants, contractors and residents on the USAG-HI property are prohibited from illegally discharging pollutants to its MS4 through USAG-HI Enforcement Policies, permits, lease agreements, contract language and Military Law Enforcement. These mechanisms allow the USAG-HI to pursue enforcement actions against entities in non-compliance with the requirements of the USAG-HI MS4 permit. Each mechanism is discussed in Section III, Procedures and Best Management Practices of this document.

III. Roles and Responsibilities

The USAG-HI is the overseeing command for the Directorate of Public Works (DPW) as well as multiple other directorates. DPW is responsible for managing and implementing the NPDES MS4 permit. DPW is composed of several divisions: Business Operations Division (BOD), Engineering (ENG) which comprise of Construction and Utilities branches, Environmental (ENV) which comprise of Compliance and

Conservation branches, Master Planning (MP), Operations and Maintenance Division (OMD), and Housing (HD). The chart below is a simplified organizational chart of DPW where the color and departmental codes are used to identify the responsible divisions for executing specific responsibilities detailed in *IV. Procedures and Best Management Practices*. A complete detailed organizational chart can be found in the **INTRO Appendix C**.



IV. Procedures and Best Management Practices

DPW has identified and selected the following BMPs to achieve the goals of the program to prevent or minimize the discharge of pollutants of concern into the garrison's MS4.

BMP# CABP – 1:
Chemical Applications Training
Permit Part D.1.f.(2)(i)

DPW Divisions responsible:

ENV OMD

BMP# CABP – 2:
Chemical Applications BMPs
Permit Part D.1.f.(2)(ii)

DPW Divisions responsible:

ENV OMD

DPW ENV Entomologist is responsible for the Pest Management Program for USAG-HI. The Integrated Pest Management Plan (IPMP) describes the Pest Management Program for USAG-HI and is based on Integrated Pest Management (IPM) techniques. IPM is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks.

The IPMP provides guidance for operating and maintaining an effective pest management program and is to be used as a tool to reduce reliance on pesticides, to enhance environmental protection, and to maximize the use of IPM. It reflects current DoD/Army policies, procedures and standards and incorporates the requirements of the EPA and the State of Hawaii.

Integrated pest management (IPM) consists of the judicious use of both chemical and non-chemical control techniques to achieve effective pest management with minimal environmental contamination.

Adherence to the IPMP will ensure effective, economical and environmentally acceptable pest management and will maintain compliance with pertinent laws and regulations and will enable the Garrison to continue to meet the pest management objectives of DoD and the Army.

Refer to USAG-HI's IPMP in **CABP Appendix A** for the following:

- Authorized Use List of chemicals used
- Specific training program for all potential appliers (bulk and hand-held) of the chemicals on the proper application of the chemicals
- Educational activities, permits, certifications and other measures for applicators
- Integrated pest management measures that rely on non-chemical solutions
- The use of native vegetation
- Chemical application, as needed
- The collection and proper disposal of unused pesticides, herbicides, and fertilizers

V. Measurable Goals

The measureable goals listed in the table below will be used to monitor the BMP's progress and evaluate the CABP success:

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
CABP – 1	Chemical Applications Training	Develop an Authorized Use List of chemicals used by USAG-HI Ensure that USAG-HI staff	ENV OMD	AUL list completed on 01 Oct 2015. Maintain training records for USAG-HI staff.

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
		and landscape service contractors have received Chemical Applications Training prior to applying chemicals		Maintain training sign-in sheets for service contractors.
CABP – 2	Chemical Applications BMPs	Implement the BMPs outlined in the Chemical Applications Training Plan and presented in the Chemical Applications Training	ENV OMD	During SWPCP inspections of USAG-HI municipal industrial facilities, verify that USAG-HI OMD field staff have the Chemical Applications Training Plan. Periodically inspect service contractors during chemical applications to ensure proper BMP implementation.

VI. Reporting

A summary of activities, surveys and projects will be presented in the annual SWMP report that will be submitted to the HDOH CWB and EPA CWB. The information will be compiled in a table that illustrates the effectiveness of the BMP's as related to each measurable goal.

SECTION 6
Pollution Prevention / Good Housekeeping

Erosion Control BMP Program
(Permit Part D.1.f.(3))

I. Introduction

The purpose of the Erosion Control BMPs Program (ECBP) is to prioritize permanent erosion control improvements at erosion prone areas with the potential for significant water quality impacts, in addition to erosion prone areas that pose public safety concerns.

The ECBP is responsible for executing the following:

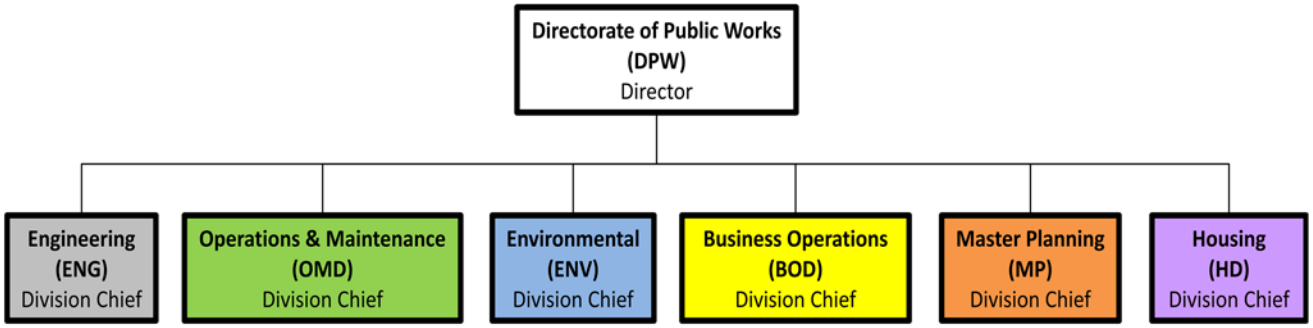
- Identifying erosion prone areas with the potential for significant water quality impact for the purpose of implementing erosion control improvements.
- Submitting to DOH a list of projects with an implementation schedule for constructing permanent erosion control improvements.
- Implementing temporary erosion control measures on erosion prone areas with the potential for significant water quality impact, if a permanent solution is not immediately possible.
- Providing DOH with an action plan to address erosion at USAG-HI's storm drain system outlets with significant potential for water quality impacts.
- Developing a maintenance plan for vegetated portions of the drainage system used for erosion and sediment control.

II. Legal Authority

All personnel, tenants, contractors and residents on the USAG-HI property are prohibited from illegally discharging pollutants to its MS4 through USAG-HI Enforcement Policies, permits, lease agreements, contract language and Military Law Enforcement. These mechanisms allow the USAG-HI to pursue enforcement actions against entities in non-compliance with the requirements of the USAG-HI MS4 permit. Each mechanism is discussed in Section III, Procedures and Best Management Practices of this document.

III. Roles and Responsibilities

The USAG-HI is the overseeing command for the Directorate of Public Works (DPW) as well as multiple other directorates. DPW is responsible for managing and implementing the NPDES MS4 permit. DPW is composed of several divisions: Business Operations Division (BOD), Engineering (ENG) which comprise of Construction and Utilities branches, Environmental (ENV) which comprise of Compliance and Conservation branches, Master Planning (MP), Operations and Maintenance Division (OMD), and Housing (HD). The chart below is a simplified organizational chart of DPW where the color and departmental codes are used to identify the responsible divisions for executing specific responsibilities detailed in *IV. Procedures and Best Management Practices*. A complete detailed organizational chart can be found in the **INTRO Appendix C**.



IV. Procedures and Best Management Practices

DPW has identified and selected the following BMPs to achieve the goals of the program to prevent or minimize the discharge of pollutants of concern into the garrison's MS4.

BMP# ECBP – 1:
Identify Erosional Areas
Permit Part D.1.f.(3)(i)

DPW Divisions responsible:

ENV

USAG-HI DPW ENV identified **18** sites that require erosion control improvements. These sites were selected via an evaluation of various MS4 studies and reports as well as DPW ENV field investigations.

Refer to **ECBP Appendix A** for the details on the site evaluation processes. A summary of the selected sites are listed in Table 1. The implementation year is the year in which the proposed retrofit is scheduled to be completed. However, this schedule is subject to change due to funding availability, permitting delays, or other unforeseen circumstances. Future erosion control improvement areas shall be identified as potential projects by evaluating previous studies and from the review of data collected during ongoing inspections of the MS4. New projects and/or any changes to the implementation schedule will be provided in the Annual Report.

BMP# ECBP – 2:
Permanent Erosion Control BMPs
Permit Part D.1.f.(3)(i)

DPW Divisions responsible:

ENV ENG MP BOD OMD

A list was submitted to HDOH with an implementation schedule for constructing permanent erosion control improvements. See Table 1 below:

Table 1: Permanent Erosion Control BMPs Sites Summary

Site #	Base	Location	Implementation Schedule
1	SB	Leadership Development Course Bldg# 1700	2017
2	AMR	Near Pump Station #1	2017
3	HMR	Vegetated Detention Basin-Paalaa Uka Pupukea Road	2017
4	TAMC	Access road to Bldg 137-Krukowski Rd (both sides)	2018
6	SB	Mellicamp and Trimble	2018
7	SB	Area X-Molokini and Beaver	2018
8	SB	Area X-Kauai and Maui	2018
9	SB	Area X-Beaver	2018
10	SB	Water Tank-Trimble road	2018

Site #	Base	Location	Implementation Schedule
11	SB	Hale Kula Elementary	2018
12	SB	SB Bldg 1709-Trimble Road	2018
13	SB	Grenade Range	2019
14	SB	Skeet Range	2019
15	SB	KR-1	2019
16	SB	KR-5	2019
17	SB	Engineer Training Area	2019
18	SBER	Access Road to Range-Behind Bldg 6027 Higgins Road	2019

See **ECBP Appendix A** for report.

BMP# ECBP – 3:
Temporary Erosion Control BMPs
Permit Part D.1.f.(3)(ii)

DPW Divisions responsible:

OMD ENV ENG

Part D.1.f.(3)(ii) of the MS4 Permit requires USAG-HI to implement temporary erosion control improvements within 18 months of the effective date of the MS4 Permit, on erosion prone areas with the potential for significant water quality impact for which a permanent solution is not immediately possible. Of the 18 sites identified, none have temporary BMPs in place. Temporary BMPs will be installed within 18 months of the effective date of the MS4 Permit.

BMP# ECBP – 4:
Action Plan to Address Erosional Outfalls
Permit Part D.1.f.(3)(iv)

DPW Divisions responsible:

ENV ENG MP BOD OMD

Part D.1.f.(3)(iv) of the MS4 Permit requires USAG-HI to provide DOH with an action plan to address erosion at its storm drain system outfalls that have significant potential for water quality impacts, along with a five-year implementation schedule . DPW developed an Action Plan to Address Erosional Outfalls. See **ECBP Appendix B** for *Action Plan* report. The Action Plan's purpose is to reduce erosion at USAG-HI's MS4 outfalls that have the significant potential for water quality impacts, by implementing appropriate and cost-effective outfall repairs. Outfall repair sites were selected through the review of previous MS4 studies and from data collected during routine MS4 monitoring and maintenance activities.

The following criteria were used to determine final site selections for the five-year implementation schedule:

- Developed initial list of potential erosion prone outfall repair sites with data from the Illicit Discharge Detection and Elimination Survey.
- Cross referenced initial list with data from the Storm Water Asset Assessment reports to add or remove potential outfall repair sites.
- Narrowed list down to focus only on *major* outfalls. Major outfalls are defined by USAG-HI's Storm Water Management Plan (SWMP):

  IDE#2- Field Screening of Outfalls Part D.1.c.(2):
  "Major Outfall: Point where storm water discharges off installation boundary, or ultimately to stream or gulch. Major Outfalls do not include points within open conveyances connecting segments of the same MS4 or stream (e.g. culverts under roads or highways). All Major Outfalls are High Priority and will be inspected annually."

- Implementation sites were determined by the outfall's construction and maintenance accessibility.

Below is a summary of the selected sites:

Table 2. Proposed Erosional Outfall Repair Sites and Implementation Schedule					
Erosional Outfall Site	Outfall PID	Outfall Type	Receiving Waterbody	Watershed	Implementation Year
Wheeler Army Airfield (WAAF)					
1	DP-WAAF-002	Concrete Headwall	Waikele Stream	Waikele	2019
2	DP-WAAF-098	Unknown	Waikele Stream	Waikele	2015
3	DP-WAAF-103	Unknown	Waikele Stream	Waikele	2015
4	DP-WAAF-157	Unknown	Waikele Stream	Waikele	2015
Schofield Barracks (SB)					
5	DP-SB-419	Concrete Headwall	Waikele Stream	Waikele	2016
6	DP-SB-420	Concrete Headwall	Waikele Stream	Waikele	2017
7	DP-SB-424	Concrete Headwall	Waikele Stream	Waikele	2018
8	DP-SB-402	Unknown	Waikele Stream	Waikele	2015
9	DP-SB-481	Unknown	Waikele Stream	Waikele	2015
10	DP-SB-449	Unknown	Waikele Stream	Waikele	2015
11	DP-SB-482	Unknown	Waikele Stream	Waikele	2015
12	DP-SB-483	Unknown	Waikele Stream	Waikele	2015
13	DP-SB-484	Unknown	Waikele Stream	Waikele	2015
14	DP-SB-559	Unknown	Waikele Stream	Waikele	2015
15	DP-SB-542	Unknown	Waikele Stream	Waikele	2016
16	DP-SB-546	Unknown	Waikele Stream	Waikele	2016
17	DP-SB-555	Unknown	Waikele Stream	Waikele	2016
18	DP-SB-452	Unknown	Waikele Stream	Waikele	2016
19	DP-SB-543	Unknown	Waikele Stream	Waikele	2016
20	DP-SB-545	Unknown	Waikele Stream	Waikele	2016
21	DP-SB-550	Unknown	Waikele Stream	Waikele	2016
22	DP-SB-551	Unknown	Waikele Stream	Waikele	2016

Table 2. Proposed Erosional Outfall Repair Sites and Implementation Schedule					
Erosional Outfall Site	Outfall PID	Outfall Type	Receiving Waterbody	Watershed	Implementation Year
23	DP-SB-552	Unknown	Waikele Stream	Waikele	2016
24	DP-SB-560	Unknown	Waikele Stream	Waikele	2016
25	DP-SB-104	Unknown	Waikele Stream	Waikele	2017
26	DP-SB-448	Unknown	Waikele Stream	Waikele	2017
27	DP-SB-464	Unknown	Waikele Stream	Waikele	2017
28	DP-SB-454	Unknown	Waikele Stream	Waikele	2017
29	DP-SB-465	Unknown	Waikele Stream	Waikele	2017
30	DP-SB-469	Unknown	Waikele Stream	Waikele	2017
31	DP-SB-450	Unknown	Waikele Stream	Waikele	2018
32	DP-SB-353	Unknown	Waikele Stream	Waikele	2018
33	DP-SB-428	Unknown	Waikele Stream	Waikele	2018
34	DP-SB-352	Unknown	Waikele Stream	Waikele	2018
35	DP-SB-367	Unknown	Waikele Stream	Waikele	2018
36	DP-SB-512	Unknown	Waikele Stream	Waikele	2018
37	DP-SB-565	Unknown	Waikele Stream	Waikele	2018
38	DP-SB-547	Unknown	Waikele Stream	Waikele	2019
39	DP-SB-489	Unknown	Waikele Stream	Waikele	2019
40	DP-SB-467	Unknown	Waikele Stream	Waikele	2019
41	DP-SB-635	Unknown	Waikele Stream	Waikele	2019

(*Table from Appendix X)

BMP# ECBP – 5:
Maintenance Plan for Vegetation Outfalls
Permit Part D.1.f.(3)(iii)

DPW Divisions responsible:

OMD ENV ENG

Vegetated portions of the MS4 can effectively filter out sediment collected by storm water runoff, before it is discharged into receiving water bodies.

Part D.1.f.(3)(iii) of the MS4 Permit requires USAG-HI to develop a maintenance plan for vegetated portions of the drainage systems used for the erosion and sediment control. Refer to the *Integrated Pest Management Plan* in **CABP Appendix A** for more information.

V. Measurable Goals

The measureable goals listed in the table below will be used to monitor the BMP's progress and evaluate the ECBP success

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
ECBP – 1	Identify Erosion Prone Areas	Identify and maintain a database of erosion prone areas with the potential for significant water quality impacts.	ENV	Complete. Areas identified on 04 Apr 2015.
ECBP – 2	Permanent Erosion Control BMPs	Submit a list of areas selected for permanent erosion control projects, along with an implementation schedule, to DOH within one year of the EDOP.	ENV	List submitted to DOH 04 Apr 2015.
ECBP – 3	Temporary Erosion Control	Implement temporary erosion control BMPs on areas with the potential for	ENV	Implement temporary BMPs on 18 selected sites.

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
	BMPs	significant water quality impact, within 18 months of the EDOP when a permanent control is not immediately possible.	OMD ENG	
ECBP – 4	Action Plan to Address Erosional Outfalls	Provide action plan to address erosion at storm drain system outfalls with significant potential for water quality impact within one year from the EDOP.	ENV OMD ENG MP BOD	Action Plan to Address Erosional Outfalls submitted to DOH on 04 Apr 2015.
ECBP – 5	Maintenance Plan for Vegetation	Develop a maintenance plan for vegetated portions of the drainage system used for erosion and sediment control.	ENV OMD	Storm Water Maintenance Manual will be completed on April 07, 2017.

VI. Reporting

A summary of activities, surveys and projects will be presented in the annual SWMP report that will be submitted to the HDOH CWB and EPA CWB. The information will be compiled in a table that illustrates the effectiveness of the BMP's as related to each measurable goal.

SECTION 6
Pollution Prevention / Good Housekeeping

Maintenance Activities BMP Program
(Permit Part D.1.f.(4))

I. Introduction

The Maintenance Activities BMPs Program (MABP) establishes pollution prevention strategies for maintenance activities, including routine maintenance projects, administered by USAG-HI. Ensuring the implementation of proper source control measures and spill response procedures can effectively reduce the discharge of pollutants associated with maintenance activities. Appropriate implementation of BMPs is required for all maintenance activities.

The Maintenance Activities Program includes the following control measures:

- Develop and implement a Maintenance Activities BMPs Field Manual within three years from the effective date of USAG-HI MS4 Permit (April 7, 2014).
- Train staff on proper BMP implementation and pollution prevention strategies.

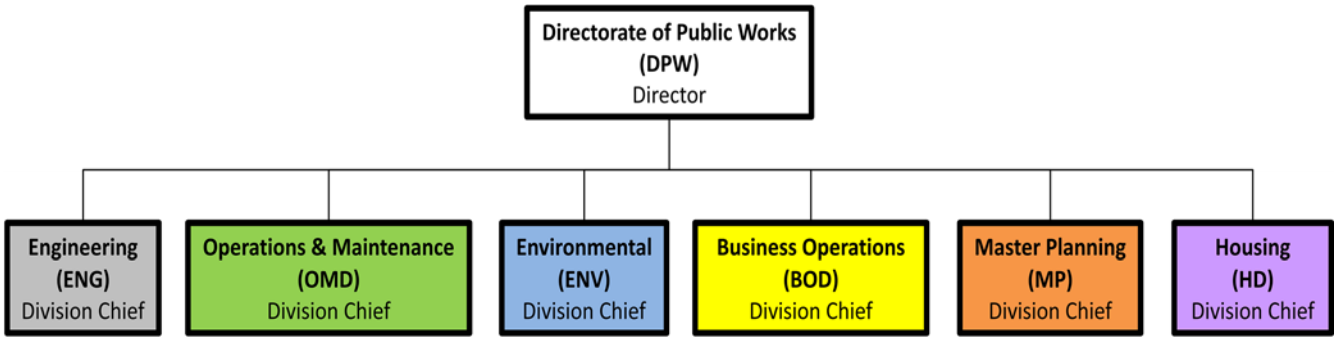
II. Legal Authority

All personnel, tenants, contractors and residents on the USAG-HI property are prohibited from illegally discharging pollutants to its MS4 through USAG-HI Enforcement Policies, permits, lease agreements, contract language and Military Law Enforcement. These mechanisms allow the USAG-HI to pursue enforcement actions against entities in non-compliance with the requirements of the USAG-HI MS4 permit. Each mechanism is discussed in Section III, Procedures and Best Management Practices of this document.

III. Roles and Responsibilities

The USAG-HI is the overseeing command for the Directorate of Public Works (DPW) as well as multiple other directorates. DPW is responsible for managing and implementing the NPDES MS4 permit. DPW is composed of several divisions: Business Operations Division (BOD), Engineering (ENG) which comprise of Construction and Utilities branches, Environmental (ENV) which comprise of Compliance and

Conservation branches, Master Planning (MP), Operations and Maintenance Division (OMD), and Housing (HD). The chart below is a simplified organizational chart of DPW where the color and departmental codes are used to identify the responsible divisions for executing specific responsibilities detailed in *IV. Procedures and Best Management Practices*. A complete detailed organizational chart can be found in the **INTRO Appendix C**.



IV. Procedures and Best Management Practices

DPW has identified and selected the following BMPs to achieve the goals of the program to prevent or minimize the discharge of pollutants of concern into the garrison's MS4.

BMP# MABP – 1:
Maintenance Activities BMPs
Permit Part D.1.f.(4)(i)

DPW Divisions responsible:

OMD

DPW OMD is developing a Maintenance Activities BMPs Field Manual that will be implemented within three years of the effective date of the MS4 Permit. The field manual will contain the elements required in *Part D.1.f.(4)(i)* of the MS4 Permit:

> *Examples of such activities include, but are not limited to: paving and road repairs, street cleaning, saw cutting, concrete work, curb and gutter replacement, buried utility repairs and installation, vegetation removal, painting and paving, debris and trash removal, spill cleanup, etc.*

DPW will work in accordance with manuals and guidelines found in **MABP Appendix A and PC Appendix B** as interim SOPs until a permanent field manual is complete.

BMP# MCBP – 2:
Training
Permit Part D.1.f.(4)(ii)

DPW Divisions responsible:

OMD

DPW OMD will provide an annual storm water maintenance training for their personnel who have responsibilities associated with maintenance activities and/or base operations. The training addresses proper BMP implementation for general maintenance activities and for activities specific to each crew's responsibilities.

The storm water maintenance training will address the following topics:

- Content and application of the Maintenance Activities BMPs Field Manual
- Identification of potential sources of pollutants
- BMP selection and implementation
- Trainees' roles in protecting water quality
- SWMP general awareness
- Environmental policy and MS4 Permit requirements
- Environmental Management System (EMS) overview
- Vehicle washing
- Fuel handling
- Vehicle maintenance
- Material storage
- Erosion and sediment control
- Debris control
- Chemical applications

DPW OMD personnel that regularly conduct operations at maintenance will be trained on the implementation of their respective facility's Storm Water Pollution Control Plan (SWPCP).

Currently, each DPW OMD maintenance shop function has an Environmental Compliance Officer (ECO) who is in charge of environmental related issues. The ECO conducts inspections and training related to BMPs and compliance.

V. Measurable Goals

The measureable goals listed in the table below will be used to monitor the BMP's progress and evaluate the ECBP success

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
MABP – 1	Maintenance Activities BMPs	Submit Maintenance BMPs Field Manual within three years from the EDOP.	OMD	Completion of Maintenance BMPs Field Manual scheduled for **07 Apr 2017**.
MABP – 2	Training	DPW OMD personnel who have responsibilities associated with maintenance activities will attend on an annual basis.	OMD	Maintain training records.

VI. Reporting

A summary of activities, surveys and projects will be presented in the annual SWMP report that will be submitted to the HDOH CWB and EPA CWB. The information will be compiled in a table that illustrates the effectiveness of the BMP's as related to each measurable goal.

SECTION 7
Industrial and Commercial Activities Discharge Management Program

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SECTION 7
Industrial and Commercial Activities Discharge Management Program
(Permit Part D.1.g.)

I. Introduction

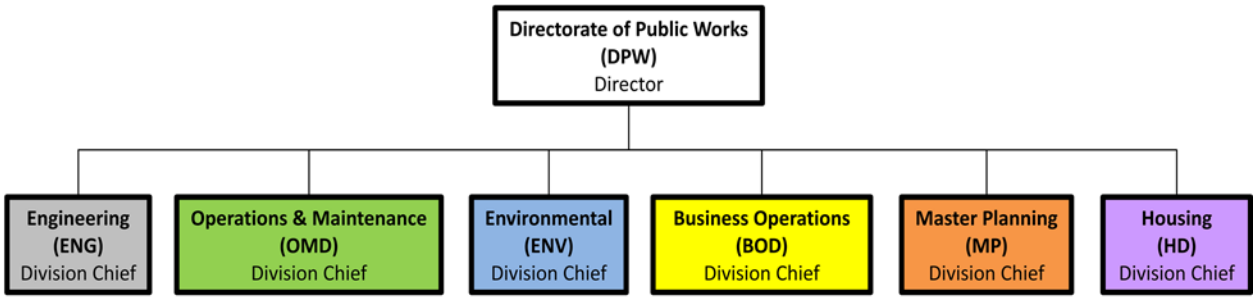
The purpose of the US Army Garrison, Hawaii (USAG-HI) Industrial and Commercial Discharge Management Program is to prevent or minimize the discharge of pollutants from all industrial and commercial activities to the Garrison's Municipal Separate Storm Sewer System (MS4) to the Maximum Extent Practicable (MEP).

II. Legal Authority

Commercial and Industrial facilities and activities on USAG-HI property are prohibited from illegally discharging pollutants to its MS4 through USAG-HI Storm Water Pollution Control Plans (SWPCP) Enforcement Policy, site specific SWPCP's and connection permits that have previously been discussed in the IDDE section. These mechanisms allow the USAG-HI to pursue enforcement actions against entities in non-compliance with the requirements of the USAG-HI MS4 permit. Each mechanism is discussed in Section IV, Procedures and Best Management Practices of this document.

III. Roles and Responsibilities

The USAG-HI is the overseeing command for the Directorate of Public Works (DPW) as well as multiple other directorates. DPW is responsible for managing and implementing the NPDES MS4 permit. DPW is composed of several divisions: Business Operations Division (BOD), Engineering (ENG) which comprise of Construction and Utilities branches, Environmental (ENV) which comprise of Compliance and Conservation branches, Master Planning (MP), Operations and Maintenance Division (OMD), and Housing (HD). The chart below is a simplified organizational chart of DPW where the color and departmental codes are used to identify the responsible divisions for executing specific responsibilities detailed in *IV. Procedures and Best Management Practices*. A complete detailed organizational chart can be found in the **INTRO Appendix C**.



IV. Program Elements and Best Management Practices

DPW has identified and selected the following BMPs to achieve the goals of the program and to ensure practices are in place to prevent or minimize the discharge of pollutants of concern into the Garrison's MS4.

BMP# ICA – 1:
Requirement to Implement Best Management Practices
Permit Part D.1.g.(1)

ENV

The USAG-HI owns and operates the majority of facilities and associated activities within the MS4 permit area. The Army owned and operated facilities are required to implement the BMP's that are prescribed by the facility specific SWPCP and corresponding SWPCP enforcement policy (**ICA Appendix A**) and MS4 permit. The SWPCP is described in *BMP# ICA – 6* of this section.

Lease holders and privately run operations that discharge into USAG-HI storm drain system (Department of Education, Army National Guard, Air National Guard, AQUA Wastewater, Department of Transportation and HECO) are required to obtain a connection permit as described in the *IDDE section BMP# IDDE – 1: Connection Permits*.

BMP# ICA – 2:
Inventory and Map of Industrial Facilities and Activities
Permit Part D.1.g.(2)

ENV **BOD**

DPW ENV staff will update the industrial facilities inventory an annual basis using construction project tracking and site investigations. Facilities are deleted, added or modified based on the information collected. The inventory includes the facility name, street address, TMK, nature of the business or activity, Standard Industrial Code (SIC), storm water contact, receiving State water and whether an NGPC under HAR Chapter 11-55 Appendix B NPDES General Permit Authorizing Discharge of Storm water Associated with an industrial activity or any other applicable NPDES permit has been obtained, including a permit file number and issuance date. A list of the Industrial facilities can be found in **ICA Appendix B**.

DPW BOD staff receive as-built drawings from contractors and update the installation GIS. DPW ENV staff use the GIS information to add and or update facility inventory and maps.

DPW ENV staff will submit a current Industrial inventory in each SWMP annual report. Updated maps associated with the inventory will be provided in the site specific Storm Water Pollution Control Plan and submitted in an electronic document through the HDOH e-permitting portal. All Industrial facilities will comply with the requirements of HAR 11-55, Appendix B.

BMP# ICA – 3:
Inventory and Map of Commercial Facilities and Activities
Permit Part D.1.g.(3)

ENV **BOD**

DPW ENV staff will update commercial facilities inventory on an annual basis using construction project tracking and site investigations. Facilities are deleted, added or modified based on the information collected. The inventory includes the facility name, street address, TMK, nature of the business or activity and principal storm water contact. DPW ENV staff will submit a current commercial inventory in each SWMP annual report. A list of the commercial facilities can be found in **ICA Appendix C**.

DPW BOD staff receive as-built drawings and update the installation GIS. DPW ENV staff use the GIS information to add and or update facility inventory and maps.

Updated maps associated with the inventory will be provided in the site specific Storm Water Pollution Control Plan.

BMP# ICA – 4:
Prioritized Areas for Industrial and Commercial Facility and Activity
Permit Part D.1.g.(4)

ENV

DPW ENV staff has identified and designated priority areas for industrial and commercial facilities and activities based on the relative risk that any discharge might be contaminated with pollutants. A prioritized list of the facilities can be found in **ICA Appendix D** that includes the number of industrial and commercial facilities discharging to the MS4, the priority and the number of inspections that have been completed during the prior permit term. The priority area and inspection frequency may be modified based on information from the inventory, finding/violations from inspections, the number of industrial and commercial facilities in the area, and water quality impairments in the area.

Industrial facilities primarily include military motor pools, maintenance yards, warehouses and flight line operations. Inspection priority for industrial facilities is high due to the amount of hazardous waste managed at the facilities and the resulting increased potential for impacts to the MS4. The majority of industrial facilities are inspected on a quarterly basis under the Environmental Compliance Officer (ECO) Program.

Commercial facilities include retail gasoline stations, retail automotive services and car wash facilities, and restaurants. Retail gas stations have a high inspection priority due to the amount of fuel managed on site and are inspected quarterly under the ECO program. Inspection priority for retail auto services and car wash facilities is average due to their activities operating under standard minimum control measures; these facilities are also inspected quarterly under the ECO program. Restaurants have an average inspection priority as their activities have a low to moderate risk of potential impacts to the MS4. Restaurants are inspected by Directorate of Public Works, Environmental Division Clean Water Program staff at least once over the permit term.

BMP# ICA – 5:
Inspection of Industrial and Commercial Facility and Activity
Permit Part D.1.g.(5)

ENV

DPW ENV staff conduct inspections of industrial and commercial facilities on a regular basis that is determined by facility type or priority and in accordance with the applicable portions of the "NPDES

Compliance Inspection manual" (EPA 305-x-04-001), dated July 2004. Industrial facilities are inspected at least once every 5 years. Inspection frequency may increase based on priority, outcomes of previous investigations and proximity to local water bodies. These facilities inspected annually or as often as necessary based on its findings to ensure corrective action was taken and the deficiency was resolved.

Commercial facilities are prioritized according to relative risk of discharge of contaminated runoff to the MS4. Commercial facilities are inspected at least once every 5 years however the frequency may increase based on outcomes of previous investigations and proximity to local water bodies. These facilities will be inspected annually or as often as necessary based on its findings to ensure corrective action was taken and the deficiency was resolved.

The inspectors use an inspection checklist at **ICA Appendix E** that includes photographs to document site and BMP conditions. If the inspection finds that BMPs are not being implemented. The tenant will be notified of the deficiency on the spot, and the tenant shall immediately correct the deficiency.

If the deficiency cannot be corrected immediately, the DPW Clean Water Program will issue a written finding including copies of the inspection checklist, photographs, and sampling results, if applicable, to the tenant point of contact within five (5) working days. The tenant shall correct the deficiency and provide a written response to the DPW Environmental Division within ten (10) calendar days from the date of notification. The response should address what actions were taken to correct the deficiency and when they were completed and include photos of the corrections made.

As needed, the DPW Clean Water Program will conduct a re-inspection to ensure that the deficiency has been corrected. Penalties for facilities that do not fall under the ECO Program. For facilities that do not fall under the ECO Program, the tenant is responsible for penalties if the identified deficiencies are not corrected within ten (10) calendar days from the date of notification. If the issues are not addressed then DPW will contact the HDOH as described below.

In the event USAG-HI has exhausted all available sanctions and cannot bring a facility or activity into compliance, or otherwise deems the facility or activity an immediate and significant threat to water quality, the Permittee shall provide email notification to cleanwaterbranch@doh.hawaii.gov, Attn: Enforcement Section Supervisor within one (1) week of such determination. Email notification shall be followed by written notification and include a copy of all inspection checklists, notes, photographs, and related correspondence within two (2) weeks of the determination. All resulting cost, fines, and penalties shall be the responsibility of the inspected tenant/activity.

Records of all inspections shall be maintained for a minimum of 5 years or otherwise indicated. Inspection report are submitted semi-annually to the DOH by October 31st and April 30th for inspections done within the previous period.

BMP# ICA – 6:
Storm Water Pollution Control Plan (SWPCP)
Permit Part D.1.g.(6)

ENV

DPW ENV staff conduct site visits to each industrial and commercial facility or activity and prepare a site specific SWPCP for each. The SWPCP's are developed and contain all required information required by HAR 11-55, Appendix B, Section 6. If the facility is not Army owned then the tenant is responsible for generating their own SWPCP and must be approved by DPW ENV staff. DPW ENV staff conducts inspections of the facilities as described in *BMP# ICA – 5* to verify site specific information. The current SWPCP for USAG-HI can be found in **ICA Appendix F**.

BMP# ICA – 7:
Enforcement Policy for Industrial and Commercial Facilities and Activities
Permit Part D.1.g.(7)

ENV

DPW ENV staff drafted an enforcement policy for industrial and commercial facilities and activities in April 2015 (within one year of the effective date of this permit). The Policy establishes and implements enforcement and penalties for industrial and commercial facilities which have failed to comply. The policy will be reviewed and amended by DPW ENV staff annually or as required by changes in applicable regulations or installation conditions. A copy of the enforcement policy for industrial and commercial facilities can be found in **ICA Appendix A**.

BMP# ICA – 8:
Training for Industrial and Commercial Facilities and Activities
Permit Part D.1.g.(8)

ENV

DPW ENV staff provide training to Environmental Compliance Officers on how to conduct industrial and commercial inspections based on the components in a SWPCP and BMP's implemented at a specific site. The ECO's attend a 40 hour environmental compliance/inspection course that is developed by DPW ENV staff. In addition ECO's are required to take an annual 8 hour refresher class. Course information specific to Storm Water can be found in the Public Education and Outreach section of the SWMP.

V. Measurable Goals

The measureable goals listed in the table below will be used to monitor the BMPs' progress and evaluate the industrial and commercial facilities activities discharge program:

BMP#	BMP Description	Measurable Goal	Area of Responsibility	Schedule
ICA – 1	Requirements Implement BMP's	Issue 100% of Connection Permits	ENV	End of Permit term
ICA – 2	Inventory and Map of Industrial Activity	Update GIS and Maps with current information	ENV BOD	Annually
ICA – 3	Inventory and Map of Commercial Activity	Update GIS and Maps with current information	ENV BOD	Annually
ICA – 4	Prioritized Area	Prioritize areas of high risk	ENV	Complete-Revise as necessary
ICA – 5	Inspection	Inspect 100% of facilities	ENV	Permit Term
ICA – 6	Storm Water Pollution Control Plan (SWPCP)	Develop and revise SWPCP's for Industrial and Commercial facilities	ENV	Once permit term
ICA – 7	Enforcement Policy	Develop Enforcement Policy to pursue corrective actions	ENV	Complete-Revise as necessary
ICA – 8	Training	Assign and train Eco for 100% of commercial and industrial facilities	ENV	End of Permit term

VI. Reporting

A summary of activities, surveys and projects will be presented in the SWMP Annual Report. The SWMP Annual Report will be prepared by DPW ENV staff in accordance with the requirements of Part G of the NPDES MS4 permit. The SWMP Annual Report will be submitted to the HDOH CWB and EPA CWB. The information will be compiled in a table that illustrates the effectiveness of the BMP's as related to each measurable goal.