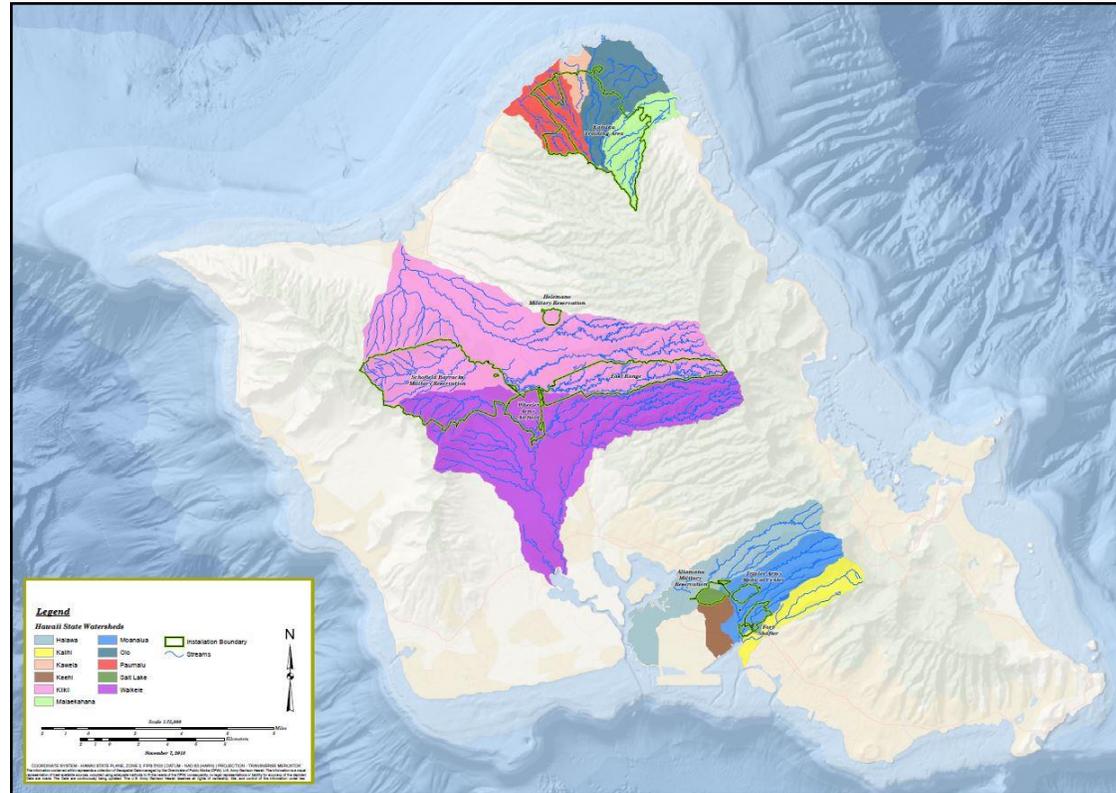




# UNITED STATES ARMY GARRISON OF HAWAII (USAG-HI) DIRECTORATE OF PUBLIC WORKS (DPW)



## STORM WATER POLLUTION PREVENTION AND MANAGEMENT



# Regulatory Authority

## Federal

- The Clean Water Act is the responsibility of the EPA
  - National Pollutant Discharge Elimination System (NPDES) Permit

## State

- The HI state Department of Health has the authority to act on behalf of the EPA in Hawaii

## USAG-HI

- Army 200-1 Environmental Policy
- **Has its own NPDES permit to operate its storm water system**

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## DPW-Environmental is not an enforcement agency

- We protect the Garrison from possible violations of its permit



# Is the Project Area greater than 1 acre?

Includes the COSA (laydown yard, etc.)

## YES

- Apply for a **NPDES** permit
- Write a **SWPPP**
- Follow the C&C Honolulu **BMP manual**
- Have a **Spill Kit** on hand with the DPW Spill Response Hotline **656-6111**



OR part of a greater plan

## NO

- Follow the C&C Honolulu **BMP manual**
- Have a **Spill Kit** on hand with DPW Spill Response Hotline **656-6111**
- *Do Not break up a project to circumvent the rule!*



# TOOLS FOR SUCCESSFUL TROOP PROJECTS:

## Background on Stormwater Regulation

- What regulations apply to troop construction projects?

## Best Management Practices (BMPs)

- Tools to minimize pollution on the project site
- BMP site map required
  - All ground-disturbing activities
  - Erosion and sediment control measures
  - COSA (laydown yard) location and BMPs associated with materials, HAZMAT/chemicals, and stockpile storage, stabilized ingress/egress, etc. (separate sheet for scale if necessary)
  - Haul route
  - Topography to indicate direction of flow; show discharge locations if applicable



1. Documents in order

2. BMPs in place

3. Spill kit

4. Good housekeeping

## What Success Looks Like

- Best Management Practices are necessary to be in compliance with the Army's permit
- Anything other than rain water is an illicit discharge (with few exceptions)
  - Sediment from construction is the number one illicit discharge

## SITE OVERVIEW

Protecting our water resources improves our quality of life and preserves the local environment for our children and future generations.

Untreated storm water and/or unintentional spills at work sites can flow into storm drains and pollute creeks, rivers, lakes, lagoons or the ocean. These discharges are prohibited by law.

The following drawing illustrates Best Management Practices (BMPs) that are recommended for construction sites in North County cities to protect storm drains and minimize pollution. Please check for local requirements.

## MATERIALS STORAGE

All building materials and fuel stored on the site must be contained and covered. It is illegal for contractors to wash out paint brushes in the street or dump any residues in the storm drain. Paint brushes and spray guns must be contained and disposed of properly.

## PERIMETER CONTROLS

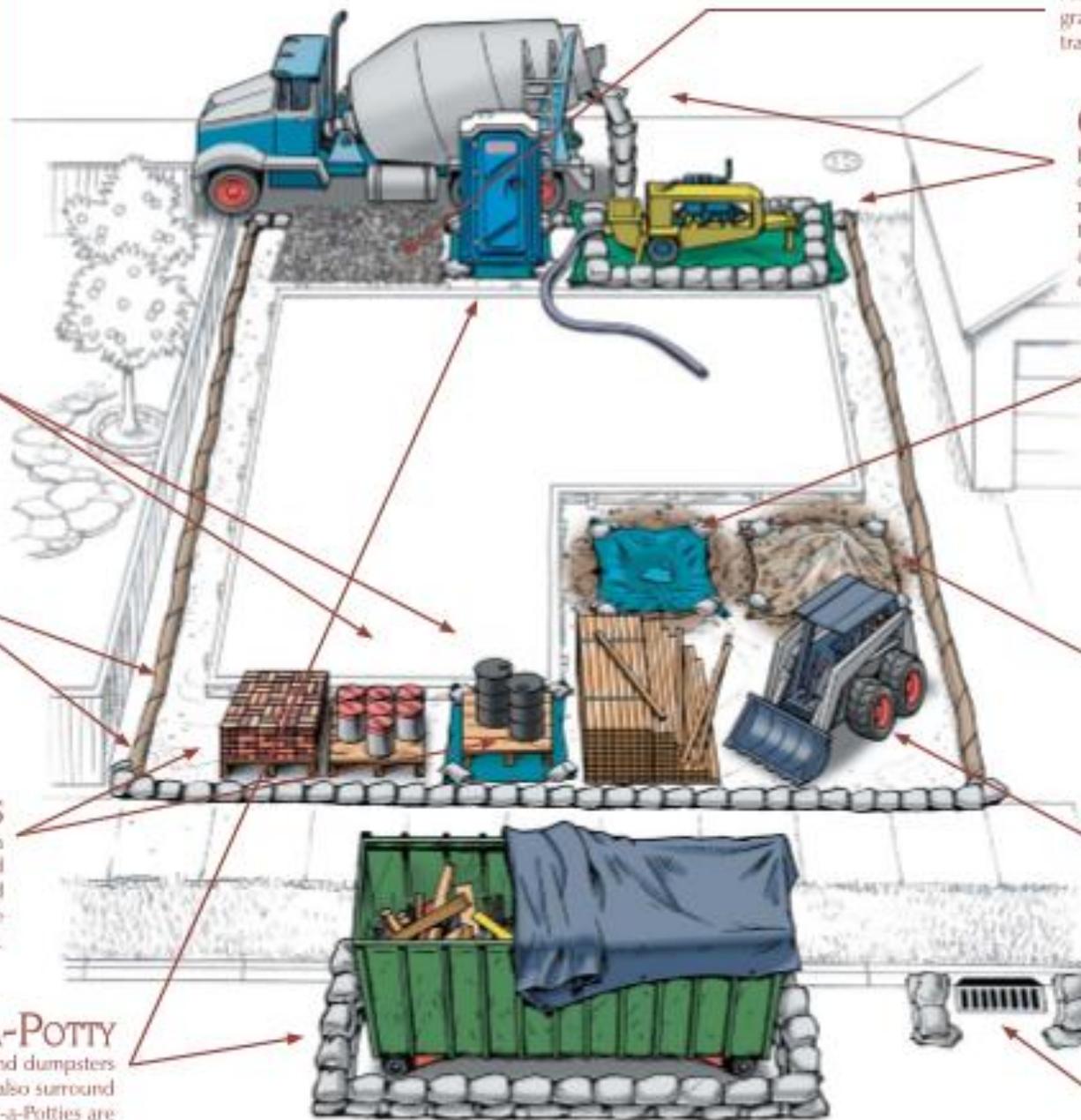
Gravel bags, silt fences, and straw wattles are acceptable perimeter controls, and must be used to surround the entire site to control run-on and run-off. Avoid running over perimeter controls with vehicles or heavy equipment, as they can damage the materials. Keep extra absorbent materials and/or a wet/dry vacuum on site to quickly pick up unintended spills. Sites must also be checked and maintained daily.

## BUILDING MATERIALS/STAGING AREAS

Construction materials must be stored on site at all times unless a right-of-way permit has been obtained. Building materials should always be covered when not in use to prevent run-off caused by wind or rain. To apply for a right-of-way permit, contact the appropriate department of your local jurisdiction.

## DUMPSTERS/PORT-A-POTTY

Always cover dumpsters with a rollback tarp. Areas around dumpsters should be swept daily. Perimeter controls should also surround dumpsters and all Port-a-Potties. If dumpsters or Port-a-Potties are kept on the street, right-of-way permits are needed.



## TRACKING CONTROLS

All entrances and exits on the site must have coarse gravel or steel shaker plates to limit offsite sediment tracking.

## CONCRETE TRUCKS/PUMPERS

Pumpers must be surrounded by perimeter controls, such as gravel bags. Plastic sheets also must be placed beneath concrete pumpers at all times, and residual materials must be cleaned up as well. Washout areas must be used whenever cleaning trucks.

## WASHOUT AREA

The disposal of "wet" construction materials should be handled in the washout area. This includes paint, stucco and concrete. Use a berm and/or plastic sheet to collect and contain liquids and prevent run-off in nearby areas. The washout area must be checked and maintained daily to ensure compliance. Washout liquids must be disposed of properly.

## DIRT AND GRADING

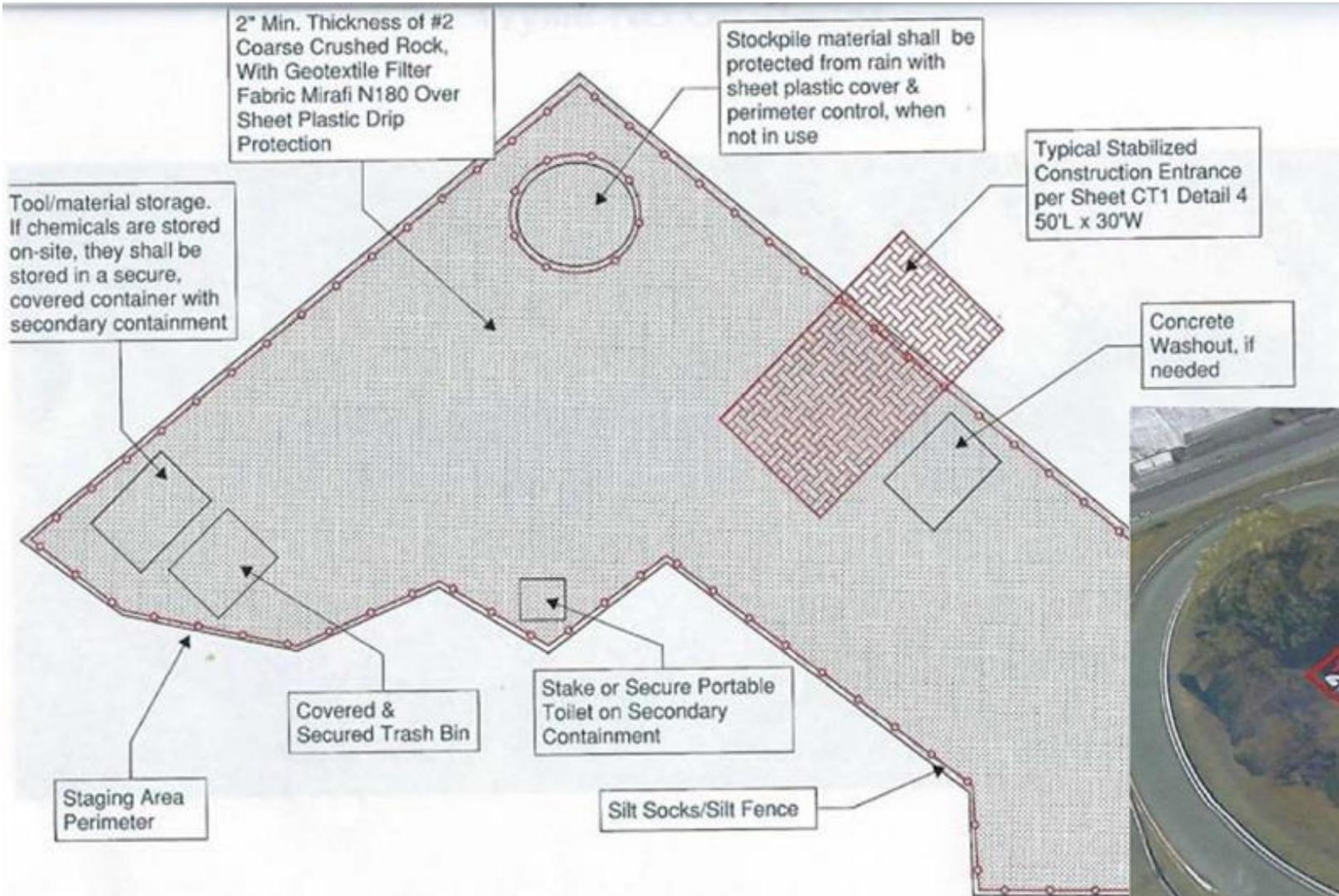
Mounds of dirt or gravel should be stored on site. These materials should also be covered each day with a tarp, coconut mat, or other form of protection. Visqueen and/or tarps must be available and on site to cover 125% of exposed areas during the rainy season (October - April).

## EARTHMOVING EQUIPMENT

All earthmoving equipment should be stored on site. Maintenance should also be conducted on the site, and tracks and trails left by equipment leading to and from the site should be cleaned up immediately.

## STORM DRAINS

Storm drains must be protected at all times with perimeter controls, such as gravel bags or straw wattles. Sediment accumulation



# COSA Map



Attachment A-8

Not to Scale



# Inspections and Modifications

- 1) Initial BMP inspection - before any ground-disturbing activities, but after BMP installation
  - Remember: install BMPs **before** the start of ground disturbing activities
  - BMPs should be modified as needed to adapt to changing site conditions!
- 2) Regular, announced monthly inspections by DPW Environmental
- 3) Final inspection and stabilization assessment
- 4) Can the BMP map be changed? YES
  - BMPs should be adapted/updated per project stage of work or changing limitations. Make sure all changes are documented on the BMP map.



## “IT’S JUST DIRT”

### Why is **sediment** an illicit discharge?

- **ALGAE BLOOMS** Nutrients transported by sediment can activate blue-green algae that release toxins into the water.
- **FLOODING** Sediment fills up storm drains and catch basins, clogging their conveyance and increasing potential for flooding
- **RECREATION** Sediment deposits in rivers can alter the flow of water and reduce water depth, which makes navigation and recreation more difficult.
- **STARVATION** Sediment causes turbidity/murky water. Turbidity blocks vital sunlight for aquatic plants. Turbidity impedes animal vision and prevents them from hunting.
- **DEATH** Sediment absorbs heat from sunlight causing warmer water and lowers dissolved oxygen (DO) levels. Low DO causes suffocation and death for aquatic life.



# Perimeter Controls



## Filter socks

- May require staking if risk of rolling on slopes



# Perimeter Controls

**Note:** Always leave BMPs in place until disturbance is stabilized, i.e., grass establishment reaches 70% coverage.



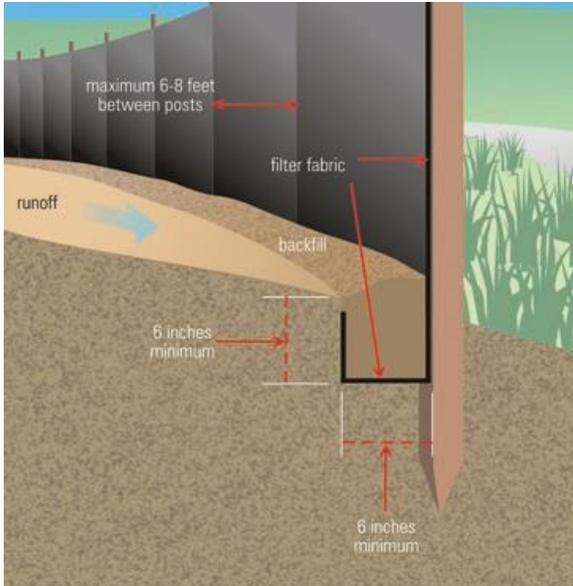


# Perimeter Controls

## Silt Fence

**CORRECT**

**INCORRECT**





# Stockpiles





# Storm Drain Inlet Protection



Effective drain inlet protection



# Sediment Trackout





# Sediment Trackout BMPs



Stabilized Construction Exits



April 24, 2020 9:02 AM



# Concrete Washout Facilities



**Concrete washout material on ground**



**Washout buckets full, risk of spilling contaminated water**



# Concrete Washout Facilities

Concrete washout facilities are well contained and have secondary containment (i.e., plastic lining either in container or under bin)

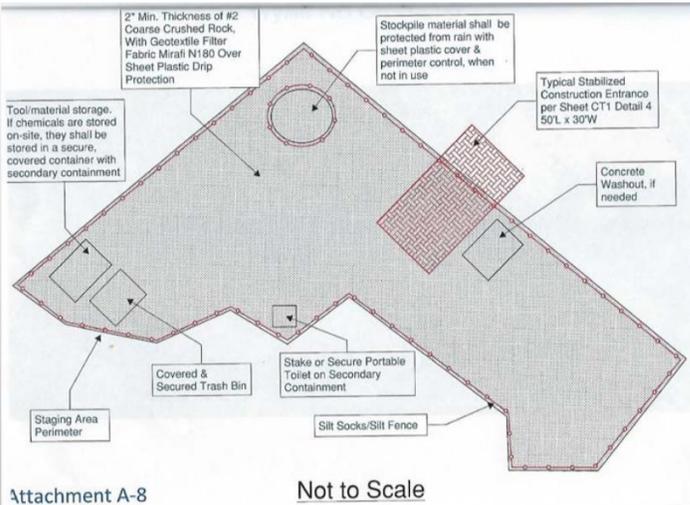




# Post Construction Stabilization

Irrigation installed, or manual watering for grass establishment; must reach  $\geq 70\%$  coverage for final stabilization.





1. Documents in order

2. BMPs in place

3. Spill kit

4. Good housekeeping

## What Success Looks Like

Two things always required regardless of project size:

- Follow the City & County of Honolulu BMP manual
- If **ANY** chemicals, fuels, POIs on site, have a spill kit and post the spill response number



## CONSEQUENCES OF NON-COMPLIANCE

- DPW does not issue citations, but will notify Garrison leadership of issues if necessary.
- DOH may issue a warning letter: Notice of Violation or notice of potential violation letter.
- Field Citation: DOH may penalize infractions without an Notice of Violation
- Administrative / civil penalties enforced by DOH - notice and finding of violation
  - State law specifies **monetary penalties up to \$25,000 per day per violation.**
- Criminal enforcement (for deliberate illicit discharges)
  - **Monetary penalties up to \$50,000 per day per violation and jail time possible.**
- Civil suits
  - **NGOs have sued contractors for damages for amounts in the hundreds of thousands of dollars.**



## CONSEQUENCES OF NON-COMPLIANCE: WHO GETS THE BILL?

- **The permit holder** for NPDES permitted projects
- **The general contractor** for not maintaining BMP's or for having prior violations of a similar nature
- **The individual responsible** for discharge



## DPW Clean Water Contact Information

Melissa Evans-Shontofski	Clean Water Program Mgr	824-1352
Jackie Alvarez-Martinez	Clean Water Program	656-3097
Michelle Ogman	Clean Water Program	656-3317

**\*\*ALL SPILLS OF ANY QUANTITY MUST BE REPORTED TO THE  
DPW ENVIRONMENTAL SPILL LINE 656-1111**



## RESOURCES

- DPW ENV Clean Water Program website:  
<https://home.army.mil/hawaii/index.php/garrison/dpw/clean-water-program>
- State DOH Clean Water Branch Site: <http://health.hawaii.gov/cwb/>
- Department of Environmental Services, City and County of Honolulu “Storm Water Best Management Practice Manual: Construction.” November 2011.  
Available online at:  
[http://www.cleanwaterhonolulu.com/storm/learning\\_center/BMP\\_manual\\_2011-11.pdf](http://www.cleanwaterhonolulu.com/storm/learning_center/BMP_manual_2011-11.pdf)
- NPDES General Permit, Chapter 11-55 Appendix C. Effective: December 2019
- SWPPP Template available on DPW ENV Clean Water Program website under “Additional Resources”

## **U.S. Army Hawaii Policy Letter #11 Environmental Compliance Program**

*“Protecting the environment is one of the most important aspects of accomplishing the mission. I am personally committed to ensuring that all Soldiers and Civilian employees comply with all environmental laws and regulations. I expect every commander and director to support and comply with environmental regulations through involved leadership, effective planning, disciplined training, and professional execution of the program.”*

-- Commander, US Army Hawaii



# CERTIFICATE



This is to certify that

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Full name (print)

has completed the DPW Environmental Construction  
BMP Storm Water Training

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Signature

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Date