The State of Hawaii Department of Transportation, Highways Division and the State of Hawaii Department of Health, Clean Water Branch have partnered together to provide you with this training.
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**Acronym List**

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<tr>
<td>ACOE</td>
<td>Army Corps of Engineers</td>
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<tr>
<td>BMP</td>
<td>Best Management Practice</td>
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<td>CWA</td>
<td>Clean Water Act</td>
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<td>CZM</td>
<td>Coastal Zone Management</td>
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<td>DOH</td>
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<td>EPA</td>
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<td>HDOT</td>
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<td>MS4</td>
<td>Municipal Separate Storm Sewer System</td>
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<td>NAV</td>
<td>Notice of Apparent Violation</td>
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<td>NFVO</td>
<td>Notice and Finding of Violation and Order</td>
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<td>NGPC</td>
<td>Notice of General Permit Coverage</td>
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<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
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<td>SCAP</td>
<td>Stream Channel Alteration Permit</td>
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<td>SSWMP</td>
<td>Statewide Storm Water Management Program</td>
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<td>SWMP</td>
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<td>WLA</td>
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<td>WQC</td>
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<td>Notice of Potential Violation</td>
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<td>SWPCP</td>
<td>Storm Water Pollution Control Plans</td>
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<td>TMDL</td>
<td>Total Maximum Daily Load</td>
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<td>401</td>
<td>Section 401 of the Clean Water Act</td>
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<tr>
<td>404</td>
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References

State of Hawaii Department of Health, Clean Water Branch
Phone: (808) 586-4309
Fax: (808) 586-4352
http://hawaii.gov/health/environmental/water/cleanwater/index.html

State of Hawaii Department of Health, Solid Waste Program
Phone: (808) 586-4226
http://hawaii.gov/health/about/admin/health/environmental/waste/sw/index.html

State of Hawaii Department of Transportation, Highways Division
Storm Water Management Program
Storm Water Hotline: 808-831-6714
http://stormwaterhawaii.com/
PowerPoint Presentation
Construction BMP Training
Hawaii State Department of Transportation
Highways Division, Oahu
November 2012

General Announcements
- Sign-In
- Training Handout
  - PowerPoint
  - Additional Information
  - References
- Vendors in lobby
  - Dash Pacific – Daly Stevens
  - Geotech Solutions – Troy Ogasawara
  - Safety Systems – Clifford Higa
General Announcements

- Restrooms
  - Women: Out the door to the right
  - Men: Out the door to the left
- Refreshments
- Break

Agenda

- Introduction
- Background
- Case Studies
- Break
- Case Studies
- EPA Audit
- Where We’re Going

Speakers

- Kelly Lee Sato, HDOT
- Robert Shin, HDOT
- Alex Oshiro, HDOT
- Matt Kurano, DOH
Background

What Happened

It Started With EPA

- Clean Water Act
  - Created National Pollutant Discharge Elimination System (NPDES) Program
  - Regulates discharges into oceans and streams of the U.S.
  - Regulates water quality standards for surface waters
DOH Clean Water Branch

- EPA has delegated NPDES Program administration to the Hawaii Department of Health Clean Water Branch
- DOH issues permits and enforces the permit conditions

HDOT

- HDOT didn’t completely understand the provisions of the Clean Water Act and how it impacted our oceans and streams
- Highways were traditionally designed to promote runoff in a quick and efficient manner

HDOT’s MS4

- In 2000, DOH issued a Municipal Separate Storm Sewer System (MS4) NPDES Permit to HDOT
- Required HDOT to develop a Storm Water Management Program (SWMP)
In April 2003, HDOT completed their Storm Water Management Program Plan.

In September 2004, EPA conducted a program audit of HDOT’s MS4 Program.

In January 2006, HDOT was issued a Consent Decree for:

- Violations of the Clean Water Act
- Non-compliance with construction projects NPDES permits
- Discharges of storm water from HDOT’s drainage system without a permit

The Consent Decree issued:

- Injunctive Relief Items
- Stipulated Penalties for future violations
- Imposed $51 million of fines

HDOT Fined:

- $51 million total
- $1 million monetary penalty
- $50 million in program improvements

Source: Honolulu Advertiser, Friday, October 7, 2005
In March 2006, DOH issued a new MS4 NPDES Permit which is still in effect today along with the Consent Decree.

What We Did

Statewide Storm Water Management Program

In 2006 HDOT developed the Statewide Storm Water Management Program.
Public Involvement Program

Oahu Storm Water Management Program Plan (2007)

- Water Quality Monitoring and Waste Load Allocation Program
- Construction Program
- Public Education Program
- Public Involvement Program
- Illicit Discharge Program
- Post-Construction Program
- Debris Control Program
- Industrial & Commercial Program
- Maintenance Facilities Program
- Flood Control Program
- Erosion Control Program
- Chemical Applications Program

Public Education Program

- Objective: To train and educate Highways personnel, contractors, consultants and the general public about how their daily activities affect the quality of Hawaii’s oceans and streams.
- Training
  - Training of HDOT Highways personnel, contractors, and consultants involved with the storm water program components
- Public Outreach
  - Educating the Public

Public Education Program

- In 2011-2012
  - Participated in 18 public events
  - Conducted 525 surveys
  - Enlisted help of 109 Adopt-A-Highway groups resulting in 229 trash pickups
  - Installed 250 storm drain placards
  - Distributed 315,000 placemats at Zippys and Ruby Tuesdays
  - Distributed 125,000 sticker books to elementary school children

www.stormwaterhawaii.com
**Public Involvement Program**
- Objective: To provide the general public an opportunity to review and comment on the Oahu SWMP Plan, both during program development and the long-term implementation
  - Storm Water Website
  - HDOT Highways Hotline
  - Storm Water Survey

**Illicit Discharge Program**
- Objective: To detect and prevent illicit discharges and to remove illegal connections to the Oahu MS4
  - Program elements include:
    - Investigations/Field Screening
    - Addressing Public Complaints
    - Issuing Private Drain Connections to the Oahu MS4

In 2010–2011:
- 198 active connection permits
- 55 connection permits were inspected resulting in 16 NOPV letters
- 2,733 outfalls were inspected (one illicit connection and two potential illegal discharges)
Post-Construction Program

- Objective:
  To institute procedures to incorporate the installation of appropriate permanent BMPs to address long-term storm water quality or quantity control

Since the Post-Construction BMP Criteria became effective in February 2006, HDOT has designed and constructed 12 Permanent BMPs

Debris Control Program

- Objective:
  To provide the framework for which potential pollutants (e.g. debris, soil, and organic materials) within HDOT Highways rights-of-way and in the Oahu MS4 will be managed by programs such as:
  - Pipe Inspection and Cleaning
  - Drainage Structures Inspection and Cleaning
  - Street Sweeping
Debris Control Program

- Pipe Inspection and Cleaning

- Drainage Structures Inspection and Cleaning

Before Cleaning

After Cleaning

Debris Control Program

- Street Sweeping

HDOT Highways sweeps at a minimum 5 or 15-week schedule depending on the route.
Chemical Applications Program
- Objective:
  To minimize pollutant loading in storm water from the application of fertilizers, herbicides and pesticides within HDOT Highways rights-of-way

Chemical Applications Program
- Training HDOT personnel and contractors on proper use of fertilizers, herbicides, and pesticides

Erosion Control Program
- Objective:
  To reduce soil erosion from roadside areas within HDOT Highways rights-of-way on Oahu

Since program implementation in 2006, HDOT has:
- Permanently repaired 25 sites ($9 million)
- $3 million of projects to be awarded
- 31 temporary BMPs
**Erosion Control Program**
- Highly eroded slopes are identified and stabilized

![Before and After Erosion Control](image)

**Maintenance Facilities Program**
- Objective: To operate HDOT Highways maintenance facilities and baseyards in a manner that would prevent impacts to the quality of receiving water bodies to the maximum extent practicable
- Storm Water Pollution Control Plans (SWPCP) were developed for each of HDOT’s 8 baseyard facilities

![Maintenance Facilities](image)

**Flood Control Program**
- Objective: To conduct monthly inspections and maintenance of HDOT’s Punahou Pump Station
- The Punahou Pump station services a low point in the freeway where gravity drainage is not possible

![Flood Control](image)
Industrial & Commercial

- Objective: To reduce, to the maximum extent practicable, the discharge of pollutants from industrial and commercial facilities and activities that discharge into the Oahu MS4

  - HDOT inspects industrial and commercial properties for connections to HDOT’s drainage system.

Industrial & Commercial

- Evidence of illegal connection to DOT’s drain

  - Physical connections are permitted and inspected every 3 years. When non-permitted, illegal connections are discovered, the owner is notified and required to obtain a permit.

Water Quality Monitoring Program

- Objective: To conduct water quality monitoring to assess the characteristics of highway runoff and evaluate the potential impacts of the runoff to stream water quality.
Waste Load Allocation Program

- Objective: To reduce pollutants in the TMDL Watersheds by developing and implementing waste load allocation implementation and monitoring plans
  - Ala Wai Canal
  - Kawa Stream
  - Waimanalo Stream
  - Kapaa Stream
  - Kaneohe Stream

Construction Program

- Objective: To ensure that no construction project with ground disturbing activities will be allowed to commence until NPDES permit coverage is obtained (as applicable) and the review and inspection of the Site-Specific BMPs are completed by HDOT personnel

- Program Components
  - Site-Specific BMP Plans
  - Construction BMP Field Manual
  - Third-Party Inspections
  - Annual Construction BMP Training for HDOT Construction Personnel and Contractors

Where We Are Today
Year 2012

- We’ve Taken Ownership of our Statewide Storm Water Management Program
  - We want to be responsible stewards of the environment
  - We want to perform our work in a sustainable manner
  - We want to protect our limited natural resources

Year 2012

- HDOT Met all of the Consent Decree and MS4 NPDES Permit requirements
- January and February 2012 Program received positive reviews by EPA Auditors calling it a “Mature” Program

On-Going Partnerships

- City and County of Honolulu Department of Environmental Services
- State Department of Health
- General Contractors Association
- State Department of Education
- Waikiki Aquarium
- Zippys, Ruby Tuesdays & Gyu–Kaku Restaurants
Contractor Handouts

- Collaborated with DOH
- GCA input
- Proactively educating contractors

Rack Cards

- Storm Water Rack Cards were developed for:
  - Agricultural/Landscaping
  - Commercial Business
  - Residents
  - Household Hazardous Waste
  - Restaurant and Food Industry
  - Gas Stations and Auto Maintenance Facilities
Why We Are Here Today

Oahu SWMP Plan (2007)

Annual Construction BMP Training for Highways personnel and contractors on Highways Projects (Consent Decree Requirement)

Case Studies
HDOT Case Studies

› Actual Case Studies of Oahu District Projects and Lessons Learned
› Lessons Learned resulted in positive changes in our construction program

Case Study #1: Notice of Apparent Violation (NAV) & Notice and Finding of Violation and Order (NFVO)
H-1 Miscellaneous Drainage Improvements
Vicinities of Pearl City and Aiea
Scope of Work

- Prime Contractor had completed his portion of work at another location months earlier.
- Remaining work included constructing a grouted rubble paving (GRP) structure under Kalua Stream Bridge by a Subcontractor who was also responsible for implementing BMP measures at this site.

What Happened?

In December 2008, Subcontractor completed the GRP work and HDOT submitted notification to DOH that construction was complete.

401 WQC required that the Water Quality Monitoring Plan, stream diversion, and BMP Plan be followed, but the subcontractor did not follow the plan.

More than 4 months later in April 2009, DOH issued an NAV because the 401 WQC was not followed.

What Happened?

Moreover, field changes to these plans were not submitted to DOH and there was poor photo documentation.

HDOT responded to the NAV and additional inquiries but ultimately could not adequately address all of DOH’s concerns.

DOH issued a Notice and Finding of Violation and Order (NFVO) to HDOT and an additional NAV to Prime Contractor (Aug 2009).
What Did DOH and HDOT Do?

- DOH issued $5000 fine to HDOT
- HDOT passed fine to Prime Contractor
- Prime Contractor passed fine to Subcontractor

HDOT Enforcement

- Per Standard Specification Section 209.05
  “Engineer will assess liquidated damages up to $27,500 per day for non-compliance of each BMP requirement and all other requirements in this section”

Lessons Learned

- Prime Contractor must provide proper oversight on every aspect of a project, including BMPs
- Other permits besides NPDES may apply to a project, especially a project located near a waterbody such as a bridge repair project
Lessons Learned

- Take good photos documenting BMPs properly installed, not just photos of the site
- Once construction is complete, it is too late to document BMPs
- Install BMPs per plan – if plan is not sufficient it needs to be amended
- Do not start changes until HDOT approves the BMP plan modification

Lessons Learned

- Contractors are responsible for timely evaluation of water quality monitoring results and submittal to HDOT
- HDOT is responsible for evaluation of water quality monitoring results and submittal to DOH within the required timeframe
- HDOT and Contractors are responsible for taking corrective actions immediately
- Don’t wait for DOH to raise concerns – by then it’s too late!

DOH Perspective

- HDOT has been put on notice:
  - This should not happen again
  - Recent construction fines have been $20,000 for first offenders
  - Fines for repeat offenders will be escalated
Case Study #2: Notice of Apparent Violation (NAV) and Public Complaint
Replacement of North Kahana Stream Bridge on Kamehameha Highway

Replacement of North Kahana Stream Bridge on Kamehameha Highway

Scope of Work
- Replace aged and deteriorated North Kahana bridge with new bridge to meet current standards
Scope of Work

- Permits included NPDES Individual Permit for storm water and dewatering, 401 Water Quality Certification, 404 Army Corps Permit, Stream Channel Alteration Permit and Coastal Zone Management Permit

Three Situations Occurred

1. Late submittal of water quality monitoring results (NAV #1)
2. Non-compliance with 401 WQC submittals (NAV #2)
3. Public complaint regarding turbid water and no BMPs

Situation #1 – NAV #1 Jan 2010
What Happened?

HDOT submitted water quality monitoring results to DOH
DOH issued NAV for late and incomplete submittal
HDOT responded to NAV and DOH took no further action

Lessons Learned

◦ READ and COMPLY with project’s permits
◦ Contractor and HDOT need to work together to meet deadlines

DOH Perspective

◦ Water Quality Monitoring is:
  ◦ Important to prove BMPs are working
  ◦ Required to be submitted to DOH so HDOT/Contractor acknowledge the readings for appropriate remedial action
Situation #2 – NAV #2 Nov 2010

What Happened?

- DOH issued NAV because the photos submitted were not complete
- HDOT submitted available photos and all records of the contractor’s inspection reports
- No further enforcement action taken by DOH

Lessons Learned

- Read all permit conditions and related documents – do not make any assumptions
- Follow the water quality monitoring plan
- Submit all required information per 401 WQC and Water Quality Monitoring Plan in the timeframe required
- DOH will issue enforcement action for incomplete and late submittals
DOH Perspective

- Water Quality Monitoring documentation is important:
  - It demonstrates that the accepted Water Quality Monitoring Plan and Site BMPs are working as intended
  - It emphasizes that HDOT and Contractor are responsible for project site

Situation #3 – Public Complaint June 2011

What Happened?

- Public complaint prompted a DOH investigation
- HDOT responded to DOH
- No further enforcement action taken by DOH
Public Complaint

Photo dated 6/12/11

Photo dated 6/23/11

Public submitted photo and questioned: Brown water and erosion at project site?

BMPs re-installed after high flows subsided

Public Complaint

Photo dated 6/12/11

Photo dated 6/23/11

Photo submitted by public questioning erosion at the site

BMPs re-installed after high flows subsided

Lessons Learned

- DOH and EPA are not the only ones looking at project sites
- Contractor is responsible for the BMPs on-site at all times
- Contractors and HDOT need to be ready to implement a Contingency Plan should an unforeseen event occur
DOH Perspective

- Construction sites should be maintained at all times
- If you are implementing and maintaining BMPs in good faith, DOH will take that into consideration should a failure or discharge occur

Case Study #3: Solid Waste
H-1 Concrete Pavement Preservation, Dowel Retrofit

H-1 Concrete Pavement Preservation, Dowel Retrofit
Scope of Work
- Work included sawcutting, installing dowel reinforcement, pouring concrete and grinding pavement
- Project generated 2,500 gallons of wet waste per shift from sawcutting and grinding operations

What Happened?
Wet slurry was taken to an off-site facility and mixed with soil to facilitate drying
Contractor was in the process of obtaining approvals for redistributing the dried slurry/soil mixture as a soil amendment for use on agricultural lands
HDOT consulted with DOH Solid Waste regarding the planned end use of the dry material

What Happened?
Contractor was notified that slurry is a solid waste and is required to be taken to a DOH-permitted facility for handling and/or disposal
The property that the drying pit was located on did not have a DOH permit to accept solid waste
Contractor, landowner, and HDOT were at risk of enforcement action by DOH due to improper handling of solid waste
What Happened?

- HDOT directed Contractor not to use the slurry drying pit since it was not permitted
- Contractor opted to stop work while exploring options for disposal of slurry
- HDOT and Contractor met with DOH Solid and Hazardous Waste Branch to discuss options

Contractor had Two Options

1. Apply for a solid waste permit for the Slurry Drying Pit
2. Haul the wet slurry from the HDOT project site directly to a permitted facility at additional cost

Outcome

- Contractor elected to obtain the permit from DOH, but it was denied because the City and County would not issue zoning clearance for this operation
- Therefore, the Contractor had to dispose of the wet slurry at a permitted facility
Environmental Watchdog Inquiry

- Weeks later, HDOT received an inquiry from an environmental watchdog about where the wet waste was being hauled.
- By this time, the Contractor was properly handling the wet waste by hauling it to a DOH-permitted facility.

Lessons Learned

- Material that is no longer usable on the project site is considered “solid waste” (e.g., slurry).
- Any site used by the Contractor for consolidating, handling, or disposal of solid waste must be contiguous to the project site or DOH-permitted if it is not contiguous.

Lessons Learned

- Contractor is responsible for identifying and acquiring all permits and licenses necessary to perform the work per HDOT’s Standard Specifications 107.02.
HDOT and DOH Reference

What HDOT Contractors Should Know About Solid Waste

DOH Perspective

- When in doubt, consult with DOH
- Consultations are free and always available

Break
Case Study #4: Additional Disturbed Area, Discharge into Ocean, & Non-Permitted Work
Replacement of South Punaluu Stream Bridge on Kamehameha Highway

Placement of South Punaluu Stream Bridge on Kamehameha Highway

Scope of Work
- Replace aged and deteriorated South Punaluu Stream Bridge with a new bridge to meet current standards
Permits included NPDES Notice of General Permit Coverage (NGPC) for storm water, dewatering and hydrotesting, 401 WQC, 404 Permit, SCAP and CZM

Scope of Work

- Work performed in and over the water
- Various environmental permits

Challenges

- Contractor’s staging area was over 1 acre and outside the project limits
- There was an unauthorized discharge into the ocean
- Contractor modified work practices without notifying HDOT

Three Situations Occurred
Situation #1 – Staging Area

- Contractor selected a staging area located on private land, ¾ mile from project site

What Happened?

- Contractor
  - Secured a staging area with discharge points and disturbed area not covered by NGPC

- HDO
  - Modified permit to cover additional discharge points and disturbed area (incurred a $500 filing fee)

- DON
  - Reissued NGPC to cover staging area and new discharge points

Additional Discharge Point

- The staging area selected by the Contractor had a discharge point that was not included in the NGPC
Lessons Learned

- Staging areas are disturbed area
- Roving or multiple staging areas must be considered as if they were all open at the same time since it is the cumulative disturbed area that needs to be accounted for
- Staging areas ≥ 1 acre will change permit conditions
- Staging areas < 1 acre could trigger permits for non-permitted projects
- Staging area discharge points need to be permitted

HDOT and DOH Reference

- What HDOT Contractors Need to Know About Staging Areas

DOH Perspective

- Staging areas may discharge into additional receiving waters
- Adding more than 1 acre of disturbed area to a project could change permit conditions and ultimately result in a stop work order
Situation #2 – Illicit Discharge

During drilling operations there was a discharge into the ocean.
Discharge consisted of potable water mixed with drilling spoils (approximately 25-50 gallons).

What Happened?

Contractor
Noticed discharge, stopped drilling operation, contained discharge, and informed HDOT.

HDOT
Immediately provided an incident report to DOH.

DOH
Investigated and took no further action.

Four Layers of BMPs Were Breached

- Drill Shaft Casing
- Mirafi Fabric
- Steel plates
- Turbidity Barrier
Lessons Learned

- Self-reporting is the law
- There is a duty to mitigate in a timely manner
- DOH takes mitigative measures into consideration when they investigate

DOH Perspective

- Everything that DOH would have asked for, HDOT had already provided
- All DOH needed to do is complete their report
- This showed that HDOT understood the intent of the law

Situation #3–Non-Permitted Work

- There was work performed that was not included in the Section 401 WQC Site-Specific BMP Plan
What Happened?

Contractor
- Contractor changed in-water work without approval from HDOT and DOH

HDOT
- Requested Contractor to amend Site-Specific BMP Plan and provided an incident report to DOH

DOH
- Investigated and took no further action

Lessons Learned

- 401 WQC and 404 Permit require that any changes to in-water work be approved by DOH and ACQ prior to implementation
- Contractor must notify HDOT immediately of any changes to the BMP Plan prior to implementation

DOH Perspective

- HDOT and Contractor are responsible for all work performed
- There is no differentiation between HDOT and the Contractor
Case Study #5: Challenging Site for BMPs
Retaining Wall at Makapuu, Kalanianaole Highway

Retaining Wall at Makapuu, Kalanianaole Highway

Scope of Work
- Construction of new Retaining Wall and Slope Stabilization at Makapuu
Challenges

- Work was performed at night on the edge of the cliff

Before and After

Old, Unstable Retaining Wall and Not Up To Code

New Retaining Wall

Before and After

Slope before talus removal

Removed talus and stabilized slope
Challenges
- Site was near the ocean and very steep, hindering accessibility

Lessons Learned
- Consider BMP measures appropriate to site challenges
- Silt fence is not always the answer; cannot install silt fence due to steep, rocky slope
- Visit the site before developing BMP Plan

DOH Perspective
- Looks good
DOH Overall Perspective

- When a Permittee demonstrates a track record of managing their program well, DOH gains confidence in the Permittee’s MS4 program and may grant discretionary allowances

EPA and DOH Audits

- In January and February of 2012, EPA and DOH audited HDOT Highways’ Construction and Maintenance program. This audit was part of EPA, DOH, and the Department of Justice’s overall assessment of HDOT’s Storm Water Program

What Happened?
How Does DOH Conduct A Construction Audit/Inspection?

- What HDOT Contractors Should Expect During A DOH Compliance Inspection

Site #1: Pearl City Dewatering Facility
Non-Linear CIP Project

Sediment Control & Containment
- Sediment control and containment BMPs
- Good, clear designated area
Contractors Knew Expectations
- Contractor knew what the expectations were when working on an HDOT site
- Contractor implemented what they knew

Site #2: Wahiawa Baseyard
Non-Linear CIP Project with Vertical Element

Vegetation left in place
Areas that were not going to be disturbed were left undisturbed
Layered Protection
Stockpiles were surrounded by fiber rolls, and the area discharged into a sediment basin.

Concrete Washout and Storage Area
Well maintained

Site #3: North–South Road
Construction of New Highway
Concerns
Large unstabilized area

Concerns
Erosion and Sediment Control were incomplete - there was no clear timeframe for stabilization

Concerns Addressed
Entire area was stabilized
Concerns Addressed
Site Stabilized

Site #4: Kalanianaole Highway, Keahole Street
Widening Project with Substantial Shoulder Improvements

Auditors Review of SSBMP Plan
Current Site-Specific BMP plan was readily available and being implemented
No Discharge – No Problem

If you need to discharge, inlet protection devices are not enough.

Questions to Ask Yourself
- Is the silt fence really necessary?
- Is the silt fence installed correctly?

Site #5: Kamehameha Highway, Replacement of South Punaluu Stream Bridge
Bridge Replacement Project
Consistent Explanation
Just Tell the Truth

Reduce risk
Material should be kept away from discharge points

Landscaped Area
BMPs are required until final stabilization is established
Overall

- Record keeping was very consistent among HDOT, contractors and subcontractors
- Roles and responsibilities were clear
- Expectations were consistent among field offices

Where We’re Going?

Future Vision

- Liquidated Damage Guidelines
  Goal 1: To uniformly assess Liquidated Damages for BMP deficiencies throughout HDOT Highways
  Goal 2: To incorporate Liquidated Damages in Project Special Provisions
Future Vision

- Construction BMP Certification Program
  Goal 1: To ensure that HDOT Highways construction personnel and Contractors have the same understanding of BMP practices
  Goal 2: To require certification as a prerequisite for bidding on projects

Future Vision

- Computer Based Training
  Goal 1: Supplement live training
  Goal 2: Customized Training Modules
  Goal 3: Flexible Training Schedules
  Goal 4: Integration with Construction BMP Certification Program

Additional Information

- Contractor Reminders
- Good and Bad BMPs
- HDOT Contractor Handouts
Contractor Reminders

(This handout is for information only, based on current practices of HDOT, and is subject to change at any time. Information provided here is not all inclusive, but does include information found in the various reference material provided to Contractors. For more and complete information, please refer to the contract and reference documents provided by HDOT for your specific project.)
Consent Decree

- Obtain a copy of the Consent Decree

Construction BMP Field Manual

- Follow HDOT’s Construction BMP Field Manual
Corrective Action

- Corrective action for all noted BMP deficiencies shall be initiated within 24 hours
- This applies to:
  - BMP Inspections by HDOT
  - BMP Inspections by Contractor
  - Third-Party Inspections

BMP Inspection Schedule

- Inspect the project site:
  - Weekly during dry periods
  - Within 24 hours of any rainfall of 0.5" or greater which occurs within a 24 hour period
  - Maintain daily rainfall documentation
  - Daily during periods of prolonged rainfall
Third-Party Inspections

- 3rd Party Inspection – Corrective action for all deficiencies (Critical, Major, and Minor) shall be initiated within 24 hours
- In addition, Critical deficiencies need to be addressed before the close of business on the day of the inspection at which the deficiency is identified.

Required Documentation

- Keep the following required documentation on-site at all times:
  - Most current Site-Specific BMP Plan and amendments with Oahu District Engineer’s signature
  - Water Quality Permits (NPDES, 401 WQC, 404 Permit, etc.)
Contractor Reminders

- Keep BMP Plans on-site and updated
- Ensure BMPs are implemented per plan and properly maintained
  - Unnecessary BMPs that are still out in the field must be maintained!
  - Amend the BMP Plan to remove unnecessary BMPs as soon as possible.
- Keep records of maintenance and any corrective actions made to prevent polluted discharges
- Make pollution prevention part of your daily routine

Polluted Discharge

- If polluted runoff does leave your construction site, immediately isolate the site and implement measures to contain the discharge
- Immediately report the discharge to HDOT
Polluted Runoff

- If you are not sure where the polluted runoff is coming from, you should report it to HDOT first and verify its source later.
- If you wait to report a discharge and the public reports it directly to DOH before you do, the consequences are likely to be significantly worse.
Good and Bad BMPs
Plan Ahead

Plan BMPs for minimal interference with operations. If the BMPs need to be moved frequently to accommodate the work, silt fence may not be the best option (e.g., in front of a construction entrance).

- In planning ahead, consider how labor intensive it is to install/remove silt fence
- Generally use silt fence in areas where it will remain in place until the area is completely stabilized.

Poor Planning = Poor Installation

In this case, tree roots made it difficult to trench for proper installation of the silt fence. The fence should have been relocated or replaced by other types perimeter control.

Poorly installed and maintained BMPs are often worse than nothing at all since they do not effectively stop sediment and are obvious signs of general BMP problems.
Adjusting BMPs for Work Phases

It is important to adjust BMPs to accommodate current conditions and work needs. The large dustscreen/silt fence combination on the left was necessary in the initial phases for both dust and sediment control during demolition of the structures and grading of the site.

After final grading, the dustscreen/silt fence combination was replaced by biosocks for the duration of the project. The dustscreen/silt fence would have obstructed equipment access to the site, so biosocks were more suitable during the grass establishment period and for the remainder of construction.

Timing is Crucial: Part 1

The BMP plan showed that this area was supposed to be grassed, but, a large storm came through the area before the grass could be applied. Fortunately, the perimeter control contained most of the sediment. This illustrates how much dirt can be moved by a single short rain and how important it is to stabilize the site as quickly as possible.
Timing is Crucial: Part 2

Once the grass was established, similar rainfall events in the same area resulted in very little sedimentation, and water flow across the driveway was reduced. In this case, downstream storm drain inlet protection may be all that is required since the area is matted and grassed. However, if the area were bare, as in the previous example, downstream curb inlet protection may be overwhelmed even with perimeter controls in place.

It is important to consider the duration of the work itself as well as the stabilization period (e.g. matting, grassing, grow-in period) in developing the construction schedule and the SSBMP Plan.

Waiting for the Grass to Grow

After hydromulching, it may typically take one to two months for grass to establish. On this particular job, after final grading, erosion control matting was installed prior to hydromulching. The matting prevented erosion during the 6 week grass grow-in period, as shown in the pictures.
Placement of Equipment

Here is a very good example of good use of silt fence. It is well installed and in an appropriate location. However, it would be better if the porta-potty were not inside the perimeter of the silt fence.

Be Careful Where You Park

Care should be taken when parking equipment, even if it will only be there for a short time. Parking over a drain inlet (as in this example) means that if there are any spills, there will be no chance to clean them up before they enter State Waters. It is best to use drip pans at all times when vehicles are parked and, if possible, not to park over a drain.
Avoid Tracking

When working in small areas, such as medians, it may not be practical to install construction entrances. The easiest way to avoid tracking is to limit vehicle access to areas, especially when it is muddy.
Consider other measures available that may reduce tracking in a smaller space including frequent sweeping.

Use Correct BMP Measures

Incorrect BMP measures can become pollutants themselves, as can be seen from this picture. These green snake bags were not rigid enough to stay in place during a recent storm event. While they may have been effective during a small storm, they are now adding to the problem by potentially falling into the catch basin along with the retained sediment.
Layering BMPs by addressing erosion in-place (behind the curb) should have been considered. BMPs at the drain inlet are the last line of defense.
**Importance of Maintenance**

Debris can quickly fill up and overrun BMP measures in a storm event. This setup with green snake bags and a sediment bag in the GDI was effective in keeping out sediment for one storm. However, if left unmaintained, another storm event could cause flooding downstream due to the blocked inlet or the bag could break or overtop (depending on type), releasing sediment and debris into State Waters.

**Maintenance Needed**

This was a good BMP that was not properly maintained. Properly installed, it prevented a large amount of silt from entering the catch basin during a storm event. However, this curb inlet protection is not functioning as intended due to lack of maintenance and could result in failure during the next storm event.
Comparison of BMPs

Note that the silt fence impounds sediment and storm water, whereas the biosock allows storm water to flow through while retaining sediment. Regardless, both BMPs were effective at preventing sediment from leaving the project site.

Also note that the silt fence is installed backwards.

BMPs Through Various Phases

Note that biosocks can be used for various stages of the project from clearing and grubbing to final plant establishment.
Layered BMPs

Contractor used multiple BMP layers to prevent sediment migration off-site. Silt fences were used as the primary barrier with drain inlet protection as a secondary barrier.

Good BMPs

This photo demonstrates good practices in storage of equipment. Note the paving equipment is parked on absorbent sheeting over plastic sheeting.
HDOT Contractor Handouts
What HDOT Contractors Should Know About Solid Waste

What is Solid Waste?
Solid Waste regulations are found in the Hawaii Revised Statutes, Section 342H. Solid waste is generally any material that leaves your project site that is no longer useable on your project site. Most waste generated from your project will be construction and demolition (C&D) waste, which is largely inert waste resulting from the demolition or razing of buildings, roads, or other structures, and can include:

- Concrete
- Rock
- Bituminous concrete
- Masonry

Solid waste also includes stockpiles of clearing and grubbing waste (soil mixed with green waste), or even wet material, such as concrete slurry or washout.

It is important to know that all solid waste is regulated by the Department of Health.

What is Illegal Dumping?
- Dumping any solid waste at sites that do not have proper permits - even if they accept your waste!
- Dumping at sites without owner’s permission.

Who Needs a State Solid Waste Permit?
Any site or facility not contiguous with your project site may need a permit to receive your solid waste, including:

- Any site or facility that receives and/or processes solid waste
- Landowners who want to accept and process solid waste
- Contractors who take solid waste to their yard to dry before hauling to a landfill

Who is Liable for Violations?
Anyone involved in a project could be held responsible for violations to solid waste regulations, including:
- Waste Generator
- Contractor
- Subcontractor
- Hauler
- Landowner

To protect yourself from being liable for solid waste regulation violations on your projects, we recommend that you take the following actions:

- Fill out a “Solid Waste Disclosure Form” for each HDOT project.
- Be sure that your subcontractors fill out the “Solid Waste Disclosure Form” when applicable.
- Consider all possible waste materials being generated on your project (excavated material, slurry, concrete washout, etc.).
- Keep disposal receipts and give a copy to HDOT to document that the waste is being disposed of at the permitted facility you indicated on the Solid Waste Disclosure Form.

What should I do?
- Post DOH’s illegal dumping poster (see back) at jobsites and offices.
- Contact the Hawaii Department of Transportation (HDOT) and inform them if you think current operations on your project may have solid waste issues.
- Contact the Department of Health Solid Waste Program if you have questions about solid waste:
  - Oahu (808) 586-4226
  - Maui (808) 984-8230
  - Kauai (808) 241-3323
  - Hawaii (808) 933-0401
The law requires you to dispose solid waste only at recycling or disposal facilities permitted by the Department of Health.

“Solid waste” includes municipal refuse, construction and demolition waste, household waste, tires, car batteries, derelict vehicles, green wastes, furniture, and appliances.

Illegal dumping of solid waste or allowing illegal disposal of solid waste on your property even if contractual or other arrangements are made could subject you to fines from $10,000 to $25,000 per occurrence and could lead to felony prosecution in accordance with Chapter 342H, HRS.

Contact the Department of Health, Solid Waste Section at 586-4226 to report illegal dumping activities or if you have further questions.
What HDOT Contractors Need to Know About STAGING AREAS

According to the Hawaii Department of Health (DOH), contractor staging areas are included as part of a project’s “disturbed area” for the purposes of the National Pollutant Discharge Elimination System (NPDES) Program and must be included in a project’s Site-Specific Best Management Practices Plan (SSBMP Plan). When selecting a staging area for work being performed for the Hawaii Department of Transportation (HDOT), please refer to this handout. It is also important that you refer to the project’s Notice of General Permit Coverage (NGPC) or Individual NPDES Permit as provided to you by HDOT.

Staging Areas

The entire staging area must be included in the SSBMP Plan.

If the project is not NPDES permitted, the contactor must check to see if the staging area increases the total disturbed area to one acre or more. If it does, the contractor must apply for NPDES coverage and pay all fees.

If the project is already permitted under the NPDES Program, but the staging area is one acre or more in size, the contractor must revise the project’s Notice of Intent or Individual NPDES Permit Application and pay all fees.

Staging Areas May Include Additional Discharge Points

If the project is already permitted under the NPDES Program, the contractor must check and determine whether or not the staging area will include a discharge point that is not in the NGPC or Individual NPDES Permit. If there are additional discharge points, the contractor must revise the project’s Notice of Intent or Individual NPDES Permit Application and pay all fees.

Off-Site Staging Areas Still Count

Typically, staging areas are located on or near a project site. Sometimes, however, due to the project site constraints, a staging area may be located at an off-site location, possibly miles away. This off-site location needs to be included in the project’s SSBMP Plan and is subject to the conditions listed here.

What if the Staging Area I Propose is Used for Multiple Projects?

Although a staging area may be used for more than one project, the entire staging area must be included in the SSBMP Plan.

Additionally, all of the discharge points for the staging area must be permitted even if only a small portion of the staging area is being used for your HDOT project.

The exception is if the facility itself has a separate permit under the NPDES Program.

A Warning About Individual NPDES Permits

According to DOH, an Individual NPDES Permit Application must be submitted at least 180 days prior to the start of construction. This may result in delay of Notice to Proceed.

Therefore, please keep in mind that there are actions that will trigger an amendment to or require you to obtain an Individual NPDES Permit.

If you need further assistance in making these determinations, please contact DOH.

Refer to the decision chart on the back of this handout for more information.
**STAGING AREAS AND ADDITIONAL DISCHARGE POINTS**

This simple decision chart takes you through a step-by-step process to determine if your proposed staging area could trigger additional NPDES requirements.

### Payment of Fees

HDOT Highways’ Standard Specification Section 107.02 Permits and Licenses states “As part of the contract price, the Contractor shall obtain all permits and licenses required by law to perform the work and pay charges, fees, and taxes incidental to obtaining such permits and licenses. The Contractor assumes exclusive responsibility for identifying and acquiring all permits and licenses necessary to perform the work, except for those permits and licenses identified in the contract documents as being the responsibility of the State.”

Airports & Harbors’ General Provisions Article 7.6 states “The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the work.”

### QUESTIONS?

For questions regarding projects with NPDES coverage, please contact the DOH representative listed on the NGPC or Individual NPDES Permit.

For questions regarding projects that are not covered under the NPDES Program, please contact the DOH Clean Water Branch at 586-4309 and ask to speak to an engineer regarding the NPDES Program.

Feel free to contact your HDOT representative with any questions or concerns that you have.
WHAT HDOT CONTRACTORS SHOULD EXPECT DURING A DOH COMPLIANCE INSPECTION

FOR HDOT PROJECTS WITH NPDES NGPC/INDIVIDUAL PERMIT

INTRODUCTION
The Department of Health (DOH) has the authority to enforce Hawaii Water Pollution rules and regulations, as well as regulations set by the Environmental Protection Agency (EPA). Therefore, DOH conducts compliance inspection visitations to Hawaii Department of Transportation (HDOT) construction sites. DOH will generally perform these compliance inspections based on their internal inspection schedule, as well as in response to complaints, so there is little to no advance warning!

DOH will inspect projects to check for the following:
- Applicability and adherence to the Site-Specific BMP Plan
- Potential for polluted runoff from your construction site
- Compliance with your project’s Permit conditions
- Evidence of discharge from your site

Additionally, DOH requires that any changes to the Site-Specific BMP Plan originally submitted to DOH be marked up on the on-site copy of the Site-Specific BMP Plan and be signed and certified by the appropriate HDOT representative.

CONTACT THE HDOT PROJECT CONSTRUCTION ENGINEER
DOH will typically ask for the following when they conduct a Compliance Visit:
- A representative
- All documentation
- Information about: the Site, the Project, the Contractor, and HDOT personnel working at the site, etc.
- Permission to inspect the project site

If DOH arrives on your construction site, immediately contact the HDOT Project Construction Engineer to inform them.

SEEING YOUR JOBSITE THROUGH DOH’S EYES
DOH expects that you:
- Keep all copies of permits and Site-Specific BMP Plans and Amendments on-site, including the NPDES NGPC/Individual Permit
- Install and maintain all BMPs shown on the Site-Specific BMP Plans and Amendments
- Keep records of maintenance and any corrective actions made to prevent polluted discharges
- Make pollution prevention part of your daily routine

When DOH performs a compliance inspection, they will inquire about construction activities that are on-going. They will request the appropriate documentation and look at the jobsite to see if the BMPs installed are effectively preventing polluted runoff from leaving the site. They will also check to verify that the BMPs are installed per plan and are properly maintained. Their focus will be on the potential for polluted runoff to leave your site, so it is important that all members of the project team are mindful in their daily routines of ways to minimize the potential for pollution.

DOH enforcement personnel will walk your construction site and usually ask questions and/or take photos of certain things they observe. Their questions should be answered honestly, and situations should be explained to the best of your ability. Also, it is crucial to LISTEN to what DOH says and the concerns they may have.

ARE ALL YOUR IMPORTANT DOCUMENTS ON-SITE?
You must have the following documents on-site at all times. Failure to produce any of these documents at the time of a compliance visit will negatively impact your review:
- Site-Specific BMP Plan and Certified Amendments to the plan
- Project’s permits and related referenced documents
- Weekly BMP Inspection and Maintenance Records
- Other applicable permit documentation (e.g., dewatering, hydrotesting, 401 WQC)

PLANS, PERMITS, REGULATIONS, WHY SHOULD I COMPLY?
Many HDOT construction projects hold National Pollutant Discharge Elimination System (NPDES) Individual Permits or Notice of General Permit Coverage (NGP). There are many state and federally mandated requirements that HDOT must adhere to. DOH enforces these requirements, and there are penalties for non-compliance.

Some of these requirements are passed down to the contractor because they are related to the actual construction. Therefore, fines and penalties incurred can be passed on to the contractor as well.

In the past, DOH has even taken action against individuals involved in water pollution violations, resulting in jail time.
END OF INSPECTION BRIEFING

At the end of the DOH compliance inspection, the DOH enforcement personnel may provide a briefing on the potential findings that are of concern. **LISTEN CAREFULLY and TAKE NOTES.** Part of avoiding a fine is to quickly address DOH’s concerns.

**PROACTIVELY ADDRESSING DOH’S CONCERNS**

HDOT will work at addressing DOH’s concerns within a few hours if possible. The contractor must cooperate with HDOT by quickly assisting in addressing DOH’s concerns on the construction site – the sooner you do it, the better. While fines may still be assessed, a proactive response could lessen the severity.

**YOU ARE RESPONSIBLE FOR POLLUTED RUNOFF COMING OFF YOUR SITE**

Although you ensure that a project’s Site-Specific BMPs are per plan, properly maintained, in good working order, and effectively preventing polluted runoff from leaving your site during normal conditions, sometimes polluted runoff leaving the site is unavoidable.

If polluted runoff does leave your construction site due to your BMPs being overrun or being rendered ineffective for any reason, you are responsible to:

- **Immediately** report any BMP failures and polluted runoff to HDOT (Preferably before a neighbor or the media contacts DOH about it). HDOT will make a report to DOH according to the site's Contingency Plan. If a discharge occurs after hours, call your designated HDOT project contact.
- Immediately implement measures to reduce polluted discharge from leaving your site and document the changes on the Site-Specific BMP Plan. Submit these changes to HDOT as soon as possible.
- Account for the previously unaccounted for upon repair – this means that in replacing or re-installing your BMPs you may need to consider additional BMP measures to avoid your BMPs from being overrun in the future.

If you are uncertain whether the polluted runoff you observe is from your project site, it is recommended that you report it to HDOT immediately.

If you later verify that the source of polluted runoff was not your project site, inform HDOT immediately. It is better to report potential polluted runoff immediately and then later inform them that it has been verified the source is not from your site, rather than wait to verify whether or not it is from your site and then report it at that time.

If you wait to report a discharge, **someone else will do it for you.** If your project site is found to be the source of the polluted discharge, you may be faced with daily fines beginning from the first report, even if it was not you who reported the discharge.

**ARE YOU READY FOR A DOH COMPLIANCE INSPECTION?**

Being prepared for a DOH Compliance Inspection of your project site is not something you can get ready for moments before DOH personnel visit your project since there will be little or no advance warning of their visit.

It’s not if, but WHEN...

Therefore, you should:

- Know your permit requirements
- Have all required documentation consolidated, available, and in use
- Be able to describe **HOW YOU COMPLY**
- Make compliance a daily activity so you don’t have to worry when DOH shows up at your jobsite
MAHALO
A special Mahalo to all of you who helped make this training a success

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