

Draft

Stormwater Management Plan

Kalaeloa Harbor, Hawaii



Prepared for

**Hawaii Department of Transportation
Harbors Division**

Prepared by

**Weston Solutions, Inc.
841 Bishop Street, Suite 2301
Honolulu, HI 96813**

December 2009

"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, I certify that 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."

Signature

Date

Authorized Representative

TABLE OF CONTENTS

| <u>Section</u> | <u>Page</u> |
|---|-------------|
| Table of Contents | i |
| List of Appendices | ii |
| List of Acronyms and Abbreviations | iii |
| 1.0 INTRODUCTION..... | 1-1 |
| 1.1 OBJECTIVES | 1-2 |
| 1.2 APPLICABILITY | 1-2 |
| 1.3 STORMWATER MANAGEMENT TEAM..... | 1-2 |
| 1.4 REPORT ORGANIZATION..... | 1-2 |
| 1.5 REPORTING | 1-3 |
| 2.0 PUBLIC EDUCATION AND OUTREACH..... | 2-1 |
| 2.1 PERMIT REQUIREMENTS | 2-1 |
| 2.2 TENANT EDUCATION AND OUTREACH..... | 2-1 |
| 2.3 GENERAL PUBLIC EDUCATION AND OUTREACH..... | 2-4 |
| 2.4 VESSEL OPERATOR EDUCATIONAL PROGRAM | 2-6 |
| 2.5 INSPECTION AND PROGRESSIVE ENFORCEMENT PROGRAM | 2-7 |
| 2.5.1 Exemptions from Inspections | 2-9 |
| 3.0 PUBLIC INVOLVEMENT/PARTICIPATION..... | 3-1 |
| 3.1 PERMIT REQUIREMENTS | 3-1 |
| 3.2 RECEIVE PUBLIC FEEDBACK | 3-1 |
| 4.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION | 4-1 |
| 4.1 PERMIT REQUIREMENTS | 4-1 |
| 4.2 REGULATORY MECHANISMS..... | 4-1 |
| 4.3 ILLICIT DISCHARGE DETECTION AND ELIMINATION PLAN..... | 4-2 |
| 4.3.1 Update Storm Sewer System Map..... | 4-7 |
| 4.3.2 Outfall Reconnaissance Inventory | 4-11 |
| 4.3.3 Illicit Discharge Reporting | 4-12 |
| 4.3.4 Inspection and Enforcement | 4-15 |
| 4.3.5 Employee Training | 4-17 |
| 5.0 CONSTRUCTION SITE STORMWATER RUNOFF CONTROL..... | 5-1 |
| 5.1 PERMIT REQUIREMENTS | 5-1 |
| 5.2 CONSTRUCTION SITE RUNOFF CONTROL PROGRAM..... | 5-1 |
| 5.2.1 Required Document Review..... | 5-2 |
| 5.2.2 Construction Site Best Management Practices | 5-3 |
| 5.2.3 Site Inspection and Enforcement..... | 5-7 |
| 5.2.4 Receipt of Public Input | 5-8 |

LIST OF APPENDICES

- Appendix A Lease Agreements and Revocable Permits
- Appendix B Tenant Self-Inspection
- Appendix C Educational Materials
- Appendix D Stormwater Hotline Occurrence Tracking Form
- Appendix E Tenant Inventory
- Appendix F Inspection and Enforcement Plan
- Appendix G Outfall Reconnaissance Inspection Form and Outfall List
- Appendix H Storm Drain Connection/Discharge Permit Application
- Appendix I Permit for Connection to the State Harbors Drainage System
- Appendix J Permit to Discharge into the State Harbors Drainage System
- Appendix K Low Impact Design Standard
- Appendix L Annual Compliance Report Checklist
- Appendix M 2010 Budget Summary
- Appendix N Dredge Spoil Stockpile Management Plan

LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|--------|---|
| 40 CFR | Title 40 of the Code of Federal Regulations |
| ACR | Annual Compliance Report |
| BMP | Best Management Practice |
| C&D | Construction and Demolition |
| CSRCP | Construction Site Runoff Control Program |
| DSP | Development Standards Plan |
| EMS | Environmental Management System Manual |
| HAR | Hawaii Administrative Rules |
| HDOH | Hawaii Department of Health |
| HDOT | Hawaii Department of Transportation |
| HRS | Hawaii Revised Statutes |
| IEP | Inspection and Enforcement Plan |
| IDDE | Illicit Discharge Detection and Elimination |
| MEP | Maximum Extent Practicable |
| MS4 | Municipal Separate Storm Sewer System |
| NGPC | Notice of General Permit Coverage |
| NOI | Notice of Intent |
| NPDES | National Pollutant Discharge Elimination System |
| NSWD | Non-Stormwater Discharge |
| ORI | Outfall Reconnaissance Inventory |
| SHOT | Stormwater Hotline Occurrence Tracking |
| SWMP | Stormwater Management Plan |
| SWPPP | Stormwater Pollution Prevention Plan |
| TMK | Tax Map Key |
| TRP | Tenant Revocable Permit |
| TSI | Tenant Self-Inspection |
| USEPA | U.S. Environmental Protection Agency |

1.0 INTRODUCTION



The Hawaii Department of Transportation (HDOT), Harbors Division has developed this Stormwater Management Plan (SWMP) to accompany a Notice of Intent (NOI) for Hawaii Administrative Rules (HAR), Chapter 11-55, Appendix K – National Pollutant Discharge Elimination System (NPDES) General Permit Coverage Authorizing Discharges of Stormwater and Certain Non-Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) for the storm drainage system at Kalaeloa Harbor, Oahu.

Prior Notice of General Permit Coverage (NGPC) for the storm drain system (File Number HI 03KB482) was granted by the Hawaii Department of Health (HDOH) in a letter dated May 19, 2003. The expiration date of that NGPC was November 19, 2007. However, in a letter dated October 19, 2007 HDOH provided for an administrative extension of the NGPC until a notice of renewed coverage under the applicable general permit is issued or until HDOH notification is received.

Activities conducted at Kalaeloa Harbor have the potential to generate pollutants which can degrade stormwater runoff quality. This includes activities associated with industrial traffic on paved roadways and piers, trash intentionally or inadvertently discarded by users and visitors, construction site runoff, and spills or leaks from petroleum or other cargo operations.

This SWMP serves to describe the MS4, document potential pollutant sources, housekeeping practices, and Best Management Practices (BMPs) used to reduce and prevent pollutants in stormwater discharged from the MS4. The SWMP describes the Harbors Division's program for implementation of the six minimum control measures established by the United States Environmental Protection Agency (USEPA) and as required by the HAR 11-55 Appendix K and the NGPC:

- ✓ Public outreach and education,
- ✓ Public involvement/participation,
- ✓ Illicit discharge detection and elimination,
- ✓ Construction site runoff control,
- ✓ Post-construction stormwater management in new development and redevelopment, and
- ✓ Pollution prevention/good housekeeping.



Harbors recognizes the importance of closing the loop with respect to an effective stormwater management program. Goals by which program effectiveness and compliance with the conditions of the NGPC will be assessed are established herein for each minimum control measure. This program also encourages the implementation of control measures to reduce exposure to stormwater and to eliminate non-stormwater discharges.

1.1 OBJECTIVES

This SWMP is intended to guide compliance with the USEPA and the Hawaii NPDES program as promulgated in HAR, Title 11, Chapter 55, Water Pollution Control, Appendix K, for areas administered by HDOT Harbors Division at Kalaeloa Harbor. A copy of this SWMP shall remain at the Kalaeloa Harbor Operations Supervisor's office at all times.

1.2 APPLICABILITY

The land areas of Kalaeloa Harbor are leased by a variety of tenants, over whose daily activities the Harbors Division has only indirect control. Tenant management of stormwater BMPs are stipulated under the tenant lease agreements and/or tenant revocable permits (TRP) acquired by each tenant. The Harbors Division has developed an Inspection and Enforcement Plan (IEP) as part of the Environmental Management System (EMS) to monitor tenant activities and hold them responsible for environmental compliance. This SWMP addresses areas directly administered by Harbors Division. Where tenant stormwater management practices overlap with practices described within the SWMP or other regulatory agency, the more stringent of them shall apply.

1.3 STORMWATER MANAGEMENT TEAM

The stormwater management team consists of five integrated levels of program involvement in the functional based organization provided in Figure 1-1. The program authority is maintained solely by the HDOT Director. The stormwater program funding and staffing is managed and distributed by the HDOT Harbors Administrator. Engineering management and program oversight is provided by the Oahu District and the HDOT Harbors Engineering Branch Head.

There are multiple stakeholders responsible for stormwater management, tracking and enforcement including the Harbor maintenance management personnel, Harbors Police, the Marine Cargo Specialists, the HDOT Harbors Construction Engineering section, and the HDOT Harbors Environmental Engineering section. Implementation of stormwater control measures is the responsibility of the Harbor maintenance personnel and each of the tenant managers.

The HDOT Harbors Environmental Engineering section consists of two full time positions. Funding for those positions in addition to funding for stormwater program detailed in this SWMP has been acquired through the 2011 fiscal year. Additional may be available during execution, if necessary, and funding beyond the 2011 fiscal year will be requested during the 2011 fiscal year.

1.4 REPORT ORGANIZATION

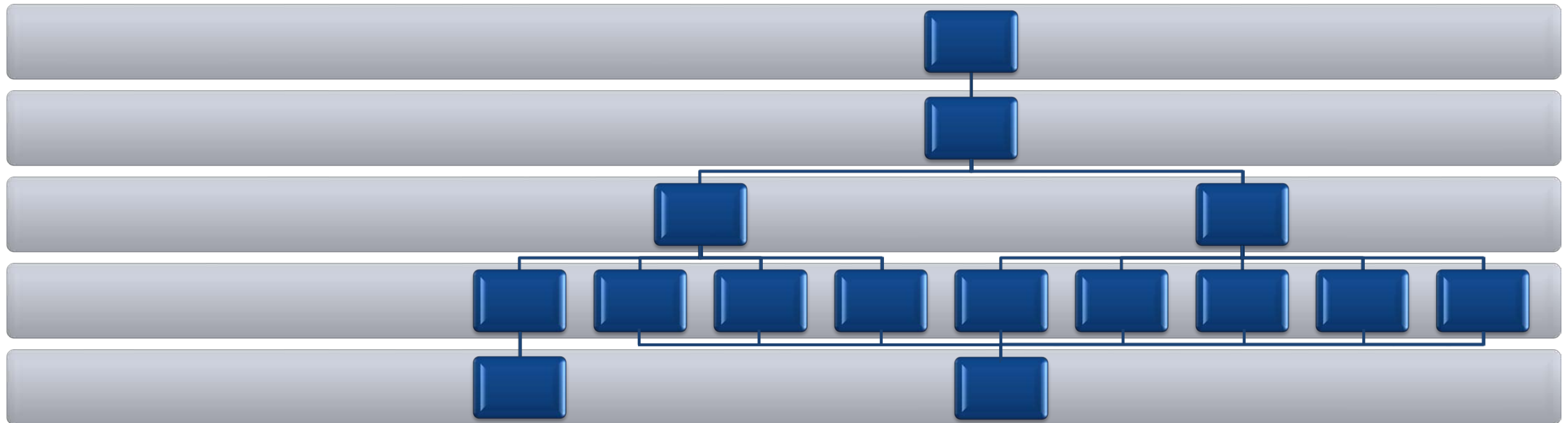
Each minimum control measure and the goals associated with it are discussed separately below. Relevant requirements of HAR, Title 19, Chapter 55, Appendix K are stated at the beginning of each section. The discussion identifies the minimum control measure, a rationale for each measure, a schedule for implementation including measurable goals, milestones, strategies, and expected expenditures for implementing relevant BMPs.

1.5 REPORTING

An annual compliance report (ACR) summarizing actions taken and progress toward the yearly goals of each minimum control measure shall be provided to the HDOH no later than January 28 of the following year for the duration of the permit term. ACRs will also include a summary of future and expended budget requirements.

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Figure 1-1 Hawaii Department of Transportation Harbors Division Management Team



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2.0 PUBLIC EDUCATION AND OUTREACH



2.1 PERMIT REQUIREMENTS

City and County of Honolulu Stormwater Stenciling, 2009

HAR, Chapter 11-55, Appendix K, Part 6(a)(1). Develop and implement a public education program to distribute educational materials to users of the small municipal separate storm sewer community or conduct equivalent outreach activities emphasizing each of the following:

- (A) Impacts of stormwater discharges on water bodies,*
- (B) Hazards associated with illicit discharges, and*
- (C) Measures the users of the permittee's small municipal separate storm sewer system can take to reduce pollutants in stormwater runoff, including, but not limited to, minimizing fertilizer application and practicing proper storage and disposal of chemicals and wastes.*

2.2 TENANT EDUCATION AND OUTREACH

Harbors Division requires tenants to reduce to the maximum extent practicable (MEP) pollution in stormwater discharges and effectively prohibit unauthorized non-stormwater discharges into the MS4 system through its tenant lease agreements and TRP. An example of the lease agreements and TRPs can be found in Appendix A. An inventory of tenants is kept on-file at the Harbors Division, Environmental Engineering section. This inventory shall identify a primary and alternate contact for each tenant. This inventory will be checked annually.

Harbors Division education and outreach activities include sending out annual mailings to MS4 users in order to educate them on stormwater quality issues. The mailings include a Tenant Self-Inspection (TSI) form provided in Appendix B. The TSI is a tool for tenants and Harbors to use to maintain an inventory of materials and processes occurring on site that may potentially affect stormwater.

The mailing also includes educational materials describing the responsibilities of harbor tenants and visitors toward maintaining water quality, and resources for obtaining additional information regarding stormwater pollution. The content of the educational materials will be updated yearly to target specific areas of concern. The 2009 mailing educational materials included:

- ✓ The “Dump No Waste, Protect Our Ocean and Waterways” Flier (provided in Appendix C). The flier distributes general information on stormwater pollution

prevention and the governing regulations. It also suggests 5 work related BMPs targeting typical tenant activities. This flier includes the USEPA Stormwater BMP website link: <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm>, contact information for the Harbors Environmental Engineering section for stormwater concern reporting and a web link to the Harbors NPDES General Permit.

- ✓ The “Keep The Storm Drains Clean” Flier (provided in Appendix C). This flier lists “The 3 Cs” of storm drain pollution prevention: Contain, Control and Capture. It also provides the Harbors Environmental Engineering section contact information for stormwater concerns.

The annual mailings seek to create awareness of stormwater runoff quality issues and encourage tenants to enforce water quality standards through self-examination of tenant’s operational practices and materials used, stored, or handled at tenant facilities. Harbors Division reviews TSI responses for completeness. The Harbors Environmental Engineering section will follow up with non-responsive tenants to ensure completion of the TSI form. The TSI form also contains a feedback section used to gauge the effectiveness of the form and to solicit additional education and outreach.

Over the next NGPC term, Harbors will continue annual form mailings and review TSI responses, which will be kept in the records. TSI responses will be used to assess the effectiveness of the annual mailing program. Additional educational materials will be added if it is determined that tenant education in specific areas is deficient. The TSI form may be revised based on responses gathered and discharge water quality issues that are identified or arise.

Harbors Division will establish a hotline for stormwater information and discharge reporting. Calls to the hotline, along with follow-up inspection dates and findings, enforcement actions taken (if any), and resolutions will be recorded on the Stormwater Hotline Occurrence Tracking (SHOT) Form provided in Appendix D. These forms will be maintained by the Harbors Environmental Engineering Section and will be included in the ACR.

BMP 2-2 Tenant Education and Outreach

| Goals: 1) Generate tenant awareness of stormwater pollution. 2) Engage tenant interest in preventing stormwater pollution. 3) Promote positive tenant behavior changes that reduce pollution or opportunities for pollution. | | | | | |
|---|--|--|---------------------|-----------------------------------|------------------|
| Activity | Evaluation Indicators (or Measurable Goals) | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| Update mailing items as outreach and education problem areas are identified and recorded | Percentage of problem areas in education/outreach addressed by updated materials | 100% of identified problem areas updated | Continuous | Harbors Environmental Engineering | |
| | Percentage of tenants' feedback about the updates that are positive | At least 50% of feedback positive | Annually | Harbors Environmental Engineering | |
| Review TSI responses from tenants | Percentage of tenants responsive to the TSI Form | Greater than 90% of tenants | Annually | Harbors Environmental Engineering | |
| Mail educational materials and reporting contacts to tenants | Number of educational materials distributed | 100% of tenants received educational materials and reporting contacts | Annually | Harbors Environmental Engineering | |
| | Responses on TSI Form show improvement in stormwater awareness | Completeness of TSI forms increasing from previous year | Annually | Harbors Environmental Engineering | |
| Establish a reporting/complaint tracking system to log response & enforcement activity | Create a hotline system for reporting violations and answering questions | Create and maintain one hotline number | Once | Harbors Environmental Engineering | |
| | Number of informational inquiries received via hotline | Number of inquiries increased from previous year | Annually | Harbors Environmental Engineering | |
| | Number of hours to respond to complaint from time call is received. | Respond to all reporting/complaints within 24 hrs to minimize water quality impacts or recurrent dumping | Annually | Harbors Environmental Engineering | |

2.3 GENERAL PUBLIC EDUCATION AND OUTREACH

Public education aims to create awareness and prompt behavioral changes. Equipped with information, the public will be less likely to contribute to water pollution as they will be able to make informed choices. Educating the public with this knowledge and contact information for appropriate authorities will increase the likelihood that a violation or accidental release will be reported.

Public education activities so far have included posting signs that advise against dumping or discarding inappropriate materials where they may be carried into Harbor waters at visible public locations, such as harbor entrances, comfort stations, meeting areas, and garbage collection stations. The responsibility for tenant public education falls under the HDOT Harbors Division Environmental Engineering Section, which consists of an Environmental Engineer and an Environmental Health Specialist.



Sign prohibiting dumping. Barbers Point, Hawaii.

Water quality issues will be conveyed to the public in part via the Harbors Division website. Currently, Harbors Division provides runoff water quality presentations on its website. This presentation will be updated annually to include new information. The website, currently under construction, will also contain information on NPDES requirements, BMPs, contacts for reporting stormwater violations at the County, State, and USEPA, information regarding public involvement (discussed in Section 3.0) and links to other useful websites such as the USEPA's stormwater website. This information will also be available at the Harbors Division Environmental Engineering Section office.

Alternative forms of conveying information regarding water quality include workshops, speaking opportunities, brochures, trade shows, expos, advertisement through various media, and volunteer opportunities. Harbors Division may participate in a multi-agency event, such as the Honolulu City and County Earth Month or Make a Difference Month. Harbors Environmental Engineering will organize a volunteer storm drain stenciling event and solicit participation from various agencies and organizations, such as the Hawaii Department of Land and Natural Resources, Hawaii Nature Center, Oahu Resource Conservation and Development, the Army Corps of Engineers, the military, youth organizations, church groups, and businesses in the Harbor area.

Harbors will also sponsor a yearly advertisement in the local newspaper or magazine on stormwater pollution control in order to help to establish general awareness amongst the public. This will help to create a situation where members of the community will be able to identify a potential stormwater problem and provide tools for proper reporting and mitigation of potential stormwater hazards.

BMP 2-3 General Public Education and Outreach

| Goals: 1) Generate the public’s awareness of stormwater pollution. 2) Engage the public’s interest in preventing stormwater pollution. 3) Prompt the public behavior changes that reduce pollution or opportunities for pollution. | | | | | |
|---|---|--|---------------------|--|------------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| Post or construct signage at visible public locations | Visible areas covered by “No Dumping” signs | Signs are hung at additional visible public locations | Once, as needed | Harbors Environmental Engineering | |
| | Storm drains with “flows to ocean” stenciling | Number of drains stenciled | Increase Annually | Harbors Environmental Engineering | |
| | Track the amount of inappropriate materials dumped and correlate this data to the timing of public sign posting to gauge any change of public behaviors over time | The amount of polluting material generated by dumping or discarding has been reduced | Annually | Harbors Environmental Engineering | |
| Create/update runoff water quality presentations on Harbors Division website | Create/update presentation and post to website | Presentation is posted | Annually | Harbors Environmental Engineering; Harbors web master | |
| Measure dissemination and effectiveness of water quality presentation | Percentage increase in presentation viewing, measured by number of hits on presentation website | Increase viewing from previous year | Annually | Harbors Environmental Engineering; Harbors web master | |
| Set up and solicit a volunteer cleanup or storm drain stenciling activity | Participation in activities. | At least one of the listed activities | Annually | Harbors Environmental Engineering; Harbors Tenants | |
| | Number of employee and public | An increase in participation from previous year | Annually | Harbors Environmental Engineering; | |

| Goals: 1) Generate the public’s awareness of stormwater pollution. 2) Engage the public’s interest in preventing stormwater pollution. 3) Prompt the public behavior changes that reduce pollution or opportunities for pollution. | | | | | |
|--|------------------------------------|--------------|---------------------|-----------------------------------|------------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| | participants | | | Harbors Tenants | |
| Post public awareness advertisement in local newspaper or magazine to educate the general public on stormwater pollution control | Number of advertisements sponsored | One per year | Annually | Harbors Environmental Engineering | |

2.4 VESSEL OPERATOR EDUCATIONAL PROGRAM

Outreach will be conducted to vessel operators docking at Harbors Division facilities to ensure their awareness that the discharge of pollutants, including vessel equipment wash water and deck wash-down water, to receiving waters within the harbors is prohibited.

Currently, the Marine Cargo Specialists monitor loading and unloading procedures for the major vessels in the Harbor. Their duties include tracking compliance with various aspects of the process including stormwater pollution control compliance. Harbors Division Oahu district will receive input from the Marine Cargo Specialists with regards to ship cargo loading and unloading to prevent ship operators from discharging pollutants to receiving waters to the MEP. This information will be communicated to the Harbors Environmental Engineering section for tracking and enforcement follow up.

A ships agent is required for each vessel entering and docking at the Harbor. An inventory of the ships agent associated with each vessel in the harbor will be created and maintained. Stormwater pollution prevention educational material specific to vessel operators will be provided to the ships agents who will have the responsibility to distribute that information to the vessel operators for whom they are representing. A used oil educational flier is currently being distributed to vessel operators and is provided in Appendix C.

BMP 2-4 Expand the Educational Program to Vessel Operators

| Goal: Minimize discharge of pollutants to receiving waters within the harbors | | | | | |
|--|---|--|-------------------------|--|------------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| Marine Cargo Specialists will Monitor ship cargo loading and unloading to prevent discharges of pollutants | Frequency of monitoring activity at loading/unloading zones | Increasing frequency | Annually | Harbors Oahu District; Marine Cargo Specialists; Harbor Agents | |
| | Number of Marine Cargo Specialist Attending Annual Stormwater Training | Increasing attendance | Annually | Harbors Oahu District; Marine Cargo Specialists; Harbor Agents | |
| | Number of actions taken as a result of loading and unloading monitoring | For informational purposes | N/A | Harbors Environmental Engineering; Marine Cargo Specialists; Harbor Agents | |
| Develop and maintain inventory of ships agents responsible for tracking vessel operators and provide educational materials | Percentage of ships agents in inventory | 100% of vessel agents identified | Once, and then maintain | Harbors Environmental Engineering; Marine Cargo Specialists; Harbor Agents | |
| | Percentage of ships agents receiving educational materials | 100% of vessel agents received materials | Annually | Harbors Environmental Engineering; Marine Cargo Specialists; Harbor Agents | |

2.5 INSPECTION AND PROGRESSIVE ENFORCEMENT PROGRAM

A tenant and user inspection and enforcement program will be implemented to identify, track, inspect and ensure compliance with the Harbor Division’s tenant lease agreements and TRPs. As part of the inspection and progressive enforcement program, an inventory of businesses and industries currently operating at the Harbor is provided in Appendix E. The inventory will be updated annually.

Harbors shall inspect and conduct outreach at commercial and industrial tenant facilities at least once per year beginning 1 January 2010. Inspection of and outreach to commercial and industrial tenants shall be designed and conducted to ensure the following:

- ✓ The facility operator has been made aware of stormwater pollution prevention requirements and the consequences of non-compliance;
- ✓ The facility operator is in compliance with its tenant lease agreement or TRPs;
- ✓ The potential for discharge of pollutants in stormwater is reduced to the MEP; sources to be inspected may include industrial processes; equipment and vehicle maintenance and storage; equipment, vehicle, and surface washing; raw material and product handling and storage; solid waste handling and storage; and hazardous waste handling and storage;
- ✓ Unauthorized non-stormwater discharges do not occur at the facility; and
- ✓ Illicit connections are not present at the facility.

Harbors Division will respond to violations observed during these inspections in accordance with Section 3.0 and the IEP (Appendix F). A checklist is provided in the IEP for the tenant and user inspection.

50 Tenants will be inspected in 2009 and all of the tenants will be inspected by 31 December 2010. All of the data collected from these inspections will be sorted and provided in the ACR.

BMP 2-5 Inspection and Progressive Enforcement Program

| Goal: Identify, track, inspect and ensure compliance with Harbor Division's tenant lease agreements & TRPs | | | | | |
|---|---|--|----------------------------|-----------------------------------|-------------------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| Update inventory of businesses and industries currently operating at the Harbor | Frequency of inventory update | Once | Annually | Harbors Environmental Engineering | |
| Create/update database to record and track tenant inspection findings, enforcement actions, and resolutions. | Database is created and functional | 100% of inspections are recorded in the database | Once | Harbors Environmental Engineering | |
| Conduct initial inspection and at all commercial and industrial tenant facilities (refer to BMP 4-2 for follow-up inspection) | Percentage of commercial and industrial tenant facilities inspected | 50 tenants in 2009. 100% in 2010. | By December 31 2010 | Harbors Environmental Engineering | |

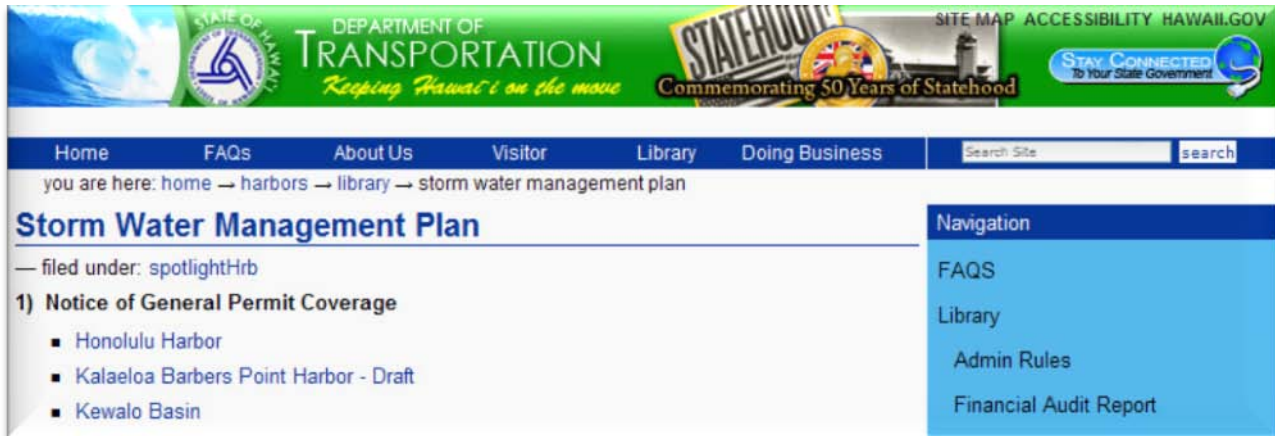
| Goal: Identify, track, inspect and ensure compliance with Harbor Division’s tenant lease agreements & TRPs | | | | | |
|---|---|-------------------|---|-----------------------------------|------------------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/Comments |
| Add inspection findings and enforcement taken to database | Number of sites for which inspection findings, enforcement actions, and resolutions are added to database | 100% of sites | When inspection takes place or information pertaining to discharge from a tenant site is received | Harbors Environmental Engineering | |

2.5.1 Exemptions from Inspections

Harbors will not perform inspections and outreach at commercial and industrial facilities that it has determined to have no pollution exposure to stormwater and no potential for unauthorized non-stormwater discharges. However, Harbors shall continue to track these facilities through the TSI form and corresponding tenant inventory where it will be noted that inspections and outreach have been discontinued. Harbors shall not halt inspections at any facilities covered under the Hawaii NPDES General Permit Authorizing Discharges of Stormwater Associated with Industrial Activity, HAR Chapter 11-55 Appendix B (the Hawaii Industrial General Permit).

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3.0 PUBLIC INVOLVEMENT/PARTICIPATION



3.1 PERMIT REQUIREMENTS

<http://hawaii.gov/dot/harbors>

HAR, Chapter 11-55, Appendix K, Part 6(a)(2). *Include users of the permittee's small municipal separate storm sewer system in developing, implementing and reviewing the stormwater management plan;*

3.2 RECEIVE PUBLIC FEEDBACK

Public participation is intended to raise public consciousness of water quality issues, to create a sense of responsibility for water quality, and to lessen the likelihood that members of the public will commit actions that may lead to water quality degradation.

Public awareness of stormwater quality issues is targeted to solicit comment by informed members, which may lead to a better and more effective plan and implementation. Harbors Division has invited public involvement and participation during the previous NGPC term by posting the SWMP to the Harbors Division website. In the next revision period, Harbors Division will solicit public comment by posting notices in the local newspaper, Oahu District Offices, and Harbors Division website. The tenant public is a crucial contributor to the SWMP comment process as the tenant public will be most affected by the plan. The tenant public will be informed of SWMP changes and solicited to participate in the review process through the annual TSI mailing and training sessions.

Comments received via email, phone, and mail will be presented in the ACR and considered for revision of the SWMP. A record of each comment and the change produced by the comment, if any, and the justification of the change / refusal of change will be kept. Received comments will be included as an appendix in the document's final version.

Over the next NGPC term, Harbors will again post the SWMP to the website and remain open and receptive to public comment. Any comments received will be considered for future revisions of the SWMP and to determine better means to invite public participation and involvement.

BMP 3-2 Receive Public Feedback on SWMP

| Goal: To raise public consciousness of water quality issues, to create a sense of responsibility for water quality, and to lessen the likelihood that members of the public will commit actions that may lead to water quality degradation. | | | | | |
|--|---|-------------------------------|---|---|------------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| Ensure notification to harbor tenants of SWMP development capability | Percentage of tenants notified | 100% of tenants notified | Two weeks prior to every SWMP revision period | Harbors Environmental Engineering | |
| Post the Draft SWMP to the Harbors website during public comment window | Number of people who viewed the SWMP online | Increasing from previous year | Every SWMP revision period | Harbors Environmental Engineering; Harbors web master | |
| | Number comments received for SWMP revision | Increasing from previous year | Every SWMP revision period | Harbors Environmental Engineering; Harbors web master | |
| Develop system for tracking comments and change produced by comments | Percentage of comments tracked | 100% of comments tracked | Every SWMP revision period | Harbors Environmental Engineering | |

4.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION



4.1 PERMIT REQUIREMENTS

Kaunakakai Harbor, Hawaii. February 2006.

HAR Chapter 11-55 Appendix K Part 6.(a)(3). Develop, implement and enforce a program to detect and eliminate illicit discharges that at a minimum includes the following:

- (A) Establishment of rules, ordinances or other regulatory mechanism, including enforcement procedures and actions, that prohibit non-stormwater discharges, except those listed in section 1 that do not cause or contribute to any violations of water quality standards, into the permittee's small municipal separate storm sewer system,*
- (B) Procedures to detect and eliminate illicit discharges (as defined in 40 CFR Section 122.26(b)(2)), and*
- (C) Compilation of a list of non-stormwater discharges or flows that are considered to be significant contributors of pollutants and the measures to be taken to prevent these discharges into the permittee's small municipal separate storm sewer system, or reduce the amount of pollutants in these discharges.*

4.2 REGULATORY MECHANISMS

Existing rules and ordinances that prohibit non-stormwater discharges are in place and include the following citation from HAR Title 19, Chapter 42, Section 127: no person shall “place, throw, deposit, or discharge, or cause to be placed, thrown, deposited, or discharged into the waters of any harbor, river or shore waters of the State any litter, or other gaseous, liquid or solid materials which render the water unsightly, noxious or otherwise unwholesome so as to be detrimental to the public health and welfare or a navigational hazard. No person shall discharge oil sludge, oil refuse, fuel oil or molasses either directly or indirectly, or pump bilges or ballast tanks containing other than clean water into the waters of any harbor, river or into any shore waters in the State.”

The rules are made enforceable by Title 19, Chapter 41 Section 12 which grants the HAR the full force and effect of law pursuant to sections 266-2, 266-3, 266- 4, and 266-25, Hawaii Revised Statutes (HRS). The enforcement of these rules shall also be pursuant to the provisions of section 26-14.6, HRS. The violation of these rules shall be subject to penalties as set forth in section 266-25, HRS, and the IEP in Appendix F.

Further, HAR Title 19 Chapter 42 Section 15 requires compliance with Federal, State, and County laws, ordinances and rules, and in particular rules of the HDOH pertaining to air and water pollution.

TRPs and tenant lease agreements incorporate language which requires compliance with all stormwater quality regulations. Copies of “Lease Agreement Addendum 1, Environmental Compliance - Lessee’s Duties” and an excerpt from the Standard Revocable Permit form, “Section 26. Special Terms and Conditions, Environmental Compliance - Permittee’s Duties” are provided in Appendix A.

4.3 ILLICIT DISCHARGE DETECTION AND ELIMINATION PLAN

A Non-Stormwater Discharge (NSWD) is defined generally as a discharge that is not composed entirely of stormwater, whereas an illicit discharge is a NSWD that poses a risk to the environment. In an effort to eliminate discharges that the established storm drainage system is not designed to accept, process, or discharge, the Harbors Division has developed this illicit discharge detection and elimination (IDDE) plan. The objective of this plan is for the Harbors Division to gain a thorough awareness of the storm drainage system. From this information, the types and sources of illicit discharges can be identified, and the appropriate legal, technical, and educational means can be identified to control, minimize, or eliminate these sources from the system.

Common sources of illicit discharges include: sewage inflows from leaking sewage collection and transmission lines; wash water from operations such as fleet car washings; commercial carwash wastewater; floor washing to shop drains and car wash; potable line flushing that runs across hardscapes; pumping of vaults; subcontractor activities; and liquid wastes containing oil, paint, and process water.

Certain NSWDs are allowed under the permit (section 2.b.i through 2.b.xvii), provided that Harbors Division ensures that these discharges do not contain pollutants in amounts that will cause or contribute to a violation of any water quality standard. Harbor Division will ensure that implementation of appropriate pollution prevention measures will be instituted for the non-stormwater components of the discharge. Some examples of potentially allowed NSWDs as listed in the permit include:

- ✓ Water line flushing;
- ✓ Landscape irrigation;
- ✓ Diverted stream flows;
- ✓ Rising ground waters;
- ✓ Uncontaminated ground water infiltration (as defined in Title 40, Code of Federal Regulations (40 CFR) 35.2005 (20));
- ✓ Uncontaminated pumped ground water;
- ✓ Discharges from potable water sources and foundation drains;
- ✓ Air conditioning condensate;
- ✓ Springs;

- ✓ Water from crawl space pumps and footing drains;
- ✓ Flows from riparian habitats and wetlands;
- ✓ Municipal street cleaning wash water; and
- ✓ Discharges or flows from fire fighting activities.

The following table provides useful information on activities that produce discharges, grouped by type of generating site and land use.

Table 4-1 Generating Sites and Activities that Produce Indirect Discharge

| Land Use | Generating Site | Activity That Produces Discharge |
|--|---|--|
| Commercial | <ul style="list-style-type: none"> • Car Washes • Gas Stations/Auto Repair Shops • Marinas • Nurseries and Garden Centers • Oil Change Shops • Restaurants | <ul style="list-style-type: none"> • Building Maintenance (power washing) • Dumping/Spills • Landscaping/Ground Care (irrigation) • Outdoor Fluid Storage • Parking Lot Maintenance (power washing) • Vehicle Fueling • Vehicle Maintenance/Repair • Vehicle Washing • Washdown of greasy equipment and grease traps |
| Industrial | <ul style="list-style-type: none"> • Auto recyclers • Beverages and brewing • Construction vehicle washouts • Distribution centers • Food processing • Garbage truck washouts • Marinas, boat building and repair • Metal plating operations • Paper and wood products • Petroleum storage and refining • Printing | <ul style="list-style-type: none"> • All commercial activities • Industrial process water or rinse water • Loading and un-loading area washdowns • Outdoor material storage (fluids) |
| Municipal | <ul style="list-style-type: none"> • Municipal Fleet Storage Areas • Ports • Maintenance Yards • Streets and Highways | <ul style="list-style-type: none"> • Building Maintenance (power washing) • Dumping/Spills • Landscaping/Grounds Care (irrigation) • Outdoor Fluid Storage • Parking Lot Maintenance (power washing) • Road Maintenance • Spill Prevention/Response • Vehicle Fueling • Vehicle Maintenance/Repair • Vehicle Washing |
| <p><i>Source: City and County of Honolulu Stormwater Management Plan, March 30, 2007</i></p> | | |

Harbors Division will create a comprehensive list of NSWs and flows that are or may be considered significant contributors of pollutants to the MS4s (including but not limited to wash waters, fuels, paints, solvents, dust suppressant waters, etc.) and measures to be taken to prevent these discharges.

Formal enforcement procedures will be followed to actively ensure compliance with the terms and conditions of the TRP and lease agreements regarding non-stormwater discharges. There are four main processes through which Harbors Division may identify NSWs:

1. Tenant/User Inspection (Discussed in Section 2-5);
2. Tenant Self Inspection (Appendix B);
3. Field Screening (discussed in this section); and
4. Public Reporting (discussed in this section)

When Harbors Division identifies a violation through one of these channels, follow-up action such as additional inspection and enforcement will be taken. Specific inspection procedures and follow-up actions are explicitly detailed in Harbor Division's Inspection and Enforcement Plan. Harbors Division will ensure that at least the following are performed per USEPA regulations:

1. Systematic, on-going review of applicable dry weather analytical monitoring data;
2. Investigation/inspection and follow up procedures;
3. Elimination of discovered illicit discharges and connections;
4. Enforcement against parties responsible for illicit discharges;
5. Response, containment, and cleanup procedures for spills (including sewage spills from private laterals);
6. Disposal of used oil and toxic materials in accordance with applicable federal, state, and local requirements; and
7. Elimination of discovered incidents of infiltration from sanitary sewer to storm sewers.

In order to ensure these actions are performed, Harbors will use all of the actions detailed in this SWMP including those provided in the IDDE process provided in Figure 4-1. Reporting on each item will be provided in the ACR.

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4.3.1 Update Storm Sewer System Map

The Kalaeloa Harbor drainage and outfall map is provided in Figure 4-2. Harbors Division will expand the outfall mapping to identify up-gradient sources within areas controlled and where the system is connected to offsite tributary storm drain systems under the control of the State Highways Division or City and County of Honolulu. Where practical, inlets will be included in the mapping, along with their size and conditions. Inlets should be labeled and cross-referenced with corresponding outfalls.

BMP 4-3-1 Update Storm Sewer System Map

| Goal: Develop a comprehensive infrastructure map of the MS4 storm drain system | | | | | |
|---|---|----------------------------|---------------------|-----------------------------------|--|
| Activity | Evaluation Indication | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| Update outfall maps to identify sources of ORI discharges and outfall conditions | Percentage of outfalls that have sufficient, up-to-date information | 100% of outfalls | Annually | Harbors Environmental Engineering | The MS4 outfall maps were developed by Harbors |
| | Sources of ORI discharges identified | 100% of sources identified | Annually | Harbors Environmental Engineering | |

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4.3.2 Outfall Reconnaissance Inventory

Illicit discharges into the drainage network are prohibited. Once an illegal connection is identified steps must be taken to eliminate the illegal connection as soon as possible. Harbors Division will implement the IDDE process shown in Figure 4-1. The IDDE program will identify those illicit discharges that are considered to be significant contributors to the deterioration of stormwater quality.

An outfall reconnaissance inventory (ORI) will be performed annually as dry weather visual inspection of outfalls. The ORI will be made at low tide and describe outfall conditions, flow characteristics, and descriptions of the surrounding area. Wet weather observations of sheet flow over the pier edge and from undeveloped areas will be conducted at least annually. Records of outfall inspections will be kept for inclusion with the ACR. Illicit runoff conditions will be reported and, where a violation is identified, a warning or citation will be issued, recorded, and included in the ACR.

The ORI will be conducted to detect illicit connections. Sources of NSWD will be tracked upstream and visually inspected to determine the flow source. Manholes, catch basins, drainage swales and other conveyance systems will be investigated. If the source is located and determined to be illicit, it will be disconnected or discontinued if applicable. Harbors Division will require tenants to rectify illicit discharges emanating from their areas as applicable. Follow up inspections and enforcement actions will be implemented per the IEP. All investigation results will be documented on the ORI form (Appendix G). If a source of NSWD cannot be determined during the initial investigation, a follow up inspection of the potential source facility will be conducted. Additional investigation techniques will be utilized should visual surveys fail at identifying the NSWD. Techniques include dye tests, smoke tests and/or pipe video inspections.

Permitted NSWDs will be inspected to verify that controls are in place as specified in the permit. If the permitted NSWD is found to be lacking the proper controls, action will be taken as specified in the IEP to mitigate the potential for pollutant discharge from the NSWD.

Harbors will also continue to conduct annual wet weather outfall inspections. During the wet weather inspection, outfall flows will be inspected for color, odor, clarity, solids, foam, oil sheen and other signs of NSWD. Harbors Division will continue to collect and analyze third party reports of apparent inappropriate discharges.

The Kalaeloa Harbor Storm Drain Outfall Listing and a copy of the ORI field form is provided as Appendix G.

BMP 4-3-2 Outfall Reconnaissance Inventory

| Goal: Establish and carry out procedures to identify and remove illicit discharges | | | | | |
|---|---|------------------------------------|---|-----------------------------------|------------------|
| Activity | Evaluation Indication | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| Dry weather visual inspection of outfalls | Percentage of outfalls inspected | 100% of outfalls inspected on-time | Annually, no later than December 31, 2010 | Harbors Environmental Engineering | |
| Wet weather inspections of outfalls | Percentage of outfalls inspected | 20% of outfalls inspected on-time | Annually | Harbors Environmental Engineering | |
| Collect and analyze reports of illicit discharges. | Number of apparent illicit discharges reported. | 100% of illicit discharges found | As needed | Harbors Environmental Engineering | |
| Input inspection findings into database. | Percentage of findings input into database | 100% of findings | No later than December 31, 2010 | Harbors Environmental Engineering | |
| Ensure proper measures and controls are implemented to mitigate pollutants in permitted NSWDs | Number of permitted NSWDs found that lack proper controls | Reduced from previous year | Continuous | Harbors Environmental Engineering | |
| Document these controls in a database with tenant information and TMK | Percentage of permitted NSWDs recorded in database | 100% of identified permitted NSWDs | Continuous | Harbors Environmental Engineering | |

4.3.3 Illicit Discharge Reporting

The Harbors Division Environmental Engineering section will collect reports of stormwater quality violations through its stormwater hotline, record on the SHOT form, and include the forms in the ACR. The Environmental Engineering section will organize the records in order to include discharge reporting that is relevant to stormwater.

Harbors maintenance and custodial personnel or Marine Cargo Specialists may complete a Pier Inspection Form to record observations of illegal discharge incidents. Pier Inspection Forms with complaints or observations of actions which require intervention are routed for action to the Harbors Environmental Engineering section office or Harbor Police. Facilities in violation will be inspected and enforcement actions described in Section 4.3.4 will be taken.

Other on-site personnel will keep watch to ensure that no illicit discharges are being made into Harbor waters. Harbors Division personnel are on duty during normal business hours Monday through Friday. Oahu District (Marine Traffic Control) and Harbor Police maintain 24 hour operation. Harbor Police are authorized to warn or cite violators. Marine Cargo Specialists or construction inspectors will also report violators.

Harbors Division will include illicit discharge reporting capability in its hotline (discussed previously in Section 2.0). The hotline will allow the user the ability to report the violation directly to Harbors Division and provide a recorded version of alternate numbers to call during after business hours. The hotline will be advertised in TSI mailings and on all stormwater signage.

The process for the Harbors Division hotline will be the following:

1. **Record complaint.** Collect information including discharge location, description of discharge, amount of discharge, persons or companies involved, and any reoccurrence. Enter information in a SHOT form (Appendix D).
2. **Perform inspection.** Determine the source of discharge and parties responsible. Determine if deployment of controls or notification to authorities is required. Record findings on the SHOT form (Appendix D).
3. **Take enforcement** actions according to Section 4.3.4 and the IEP. Follow appropriate notification and recording process provided in the IEP.
4. **Perform follow-up inspection.** Record findings as detailed in the IEP.
5. **Repeat steps 2-4 if required.**

The following numbers are those that are currently provided to tenants and can be utilized for reporting potential illicit discharges or stormwater compliance violations:

Discharges:

- ✓ Stormwater Compliance Hotline at (808) 587-1962
- ✓ Marine Traffic Control Unit at 808-587-2076
- ✓ Kalaeloa Harbor Agent at 808-682-6428
- ✓ Harbor Police at 808-587-2006

Serious Offenses may be reported to:

- ✓ Hawaii Department of Health Clean Water Branch at 808-586-4309
- ✓ U.S. Coast Guard at 1-800-424-8802
- ✓ USEPA at 808-541-2721

Harbors Division will investigate and report illicit discharges originating from off-site sources (i.e. outfalls connected to the City & County MS4 or HDOT Highways MS4). Investigation results will be reported to:

- ✓ City and County of Honolulu
- ✓ General Compliance Hotline at 808-523-4381, or

- ✓ General Compliance Website at:
- ✓ http://www.co.honolulu.hi.us/menu/online_services/cityhall_online/problemreport.htm
- ✓ Department of Environmental Services
- ✓ Stormwater Quality Office at 808-692-5207

BMP 4-3-3 Illicit Discharge Reporting

| Goal: Encourage public education and involvement in eliminating illicit discharges | | | | | |
|---|---|---|---------------------|-----------------------------------|------------------|
| Activity | Evaluation Indication | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| Collect violation reports from the Marine Traffic Control Center | Percentage of violations reported | 100% of violation reports collected | Annually | Harbors Environmental Engineering | |
| Record report of illegal discharge incidents | Keep Marine Cargo Specialist inspection reports on-file. | 100% of Pier inspection reports are kept | Always | Harbors Environmental Engineering | |
| Establish the illicit discharge/illegal dumping hotline | A hotline for citizens to report illegal dumping and suspicious discharges will be established in the first year. (See BMP 2-1) | Establish one hotline | Once | Harbors Environmental Engineering | |
| Determine effectiveness of hotline | Number of illicit discharge/illegal dumps reported by citizens | Increasing from previous year | Annually | Harbors Environmental Engineering | |
| | Number of illicit discharges prevented or stopped due to call to hotline | Increasing from previous year | Annually | Harbors Environmental Engineering | |
| Advertise hotline | The hotline will be advertised on an insert in each TSI mailing and on all stormwater pollution prevention signage | One TSI mailing insert per year and all signage | Annually | Harbors Environmental Engineering | |

4.3.4 Inspection and Enforcement

When an illicit discharge is determined to have taken place, appropriate action will be taken against the responsible parties according to the IEP. The official version of the IEP can be found in the *Environmental Management System Manual, State of Hawaii Department of Transportation Harbors Division, November 2009* and a copy is provided in Appendix F of this document. This document establishes specific inspection procedures, enforcement tools, and the progressive escalation of the tools with regard to the seriousness of the illicit discharge and the recalcitrance of the dischargers.

Harbors will rank each tenant based on the tenant's potential to contribute pollutants to the environment. The results of the tenant risk rankings will be reevaluated for accuracy each calendar year. The tenant's ranking determines the frequency of inspection. High risk tenants will be inspected twice per year, medium ranking tenants will be inspected annually, and low ranking tenants will be inspected biannually.

The enforcement tools include the following:

- ✓ Verbal warnings
- ✓ Written notices
- ✓ Citation with monetary fines
- ✓ Stop work orders
- ✓ Abatement by Harbors Division with reimbursement by the responsible party
- ✓ Lease/ TRP termination
- ✓ Referral to HDOH or other appropriate regulatory agency

The IEP will be applied in response to violations of stormwater-related requirements of tenant lease agreements and/or tariffs that may result in the discharge of unauthorized non-stormwater discharges and/or contaminated stormwater to either Harbors Division's Small MS4s or directly to the waters of the United States. Figure 4-3 shows the inspection and enforcement process.

Upon discovery or upon receiving a report of a suspected illicit connection, Harbors Division will initiate an investigation to determine the source of the connection, the nature and volume of discharge through the connection and the responsible party for the connection.

Harbors Division will take enforcement action pursuant to the IEP to eliminate illicit discharges. For such discharges that are known or suspected to contain hazardous substances, Harbors Division shall respond within one business day of discovery or report of a suspected illicit discharge, with actions to abate, contain, and clean up such illicit discharges. This response shall be in addition to any other requirement of state or federal law for such substances.

A follow-up inspection will be performed after the enforcement action. In the event that, after a follow-up inspection, Harbors Division determines that a facility operator has failed to adequately control sources of pollution discharges to the MS4, Harbors Division will take further enforcement action as established through authority in its TRPs and tenant lease agreements and as described in the IEP.

Harbors Division will initiate, within two business days, an investigation of complaints transmitted by HDOH regarding facilities within its jurisdiction. The initial investigation will include, at a

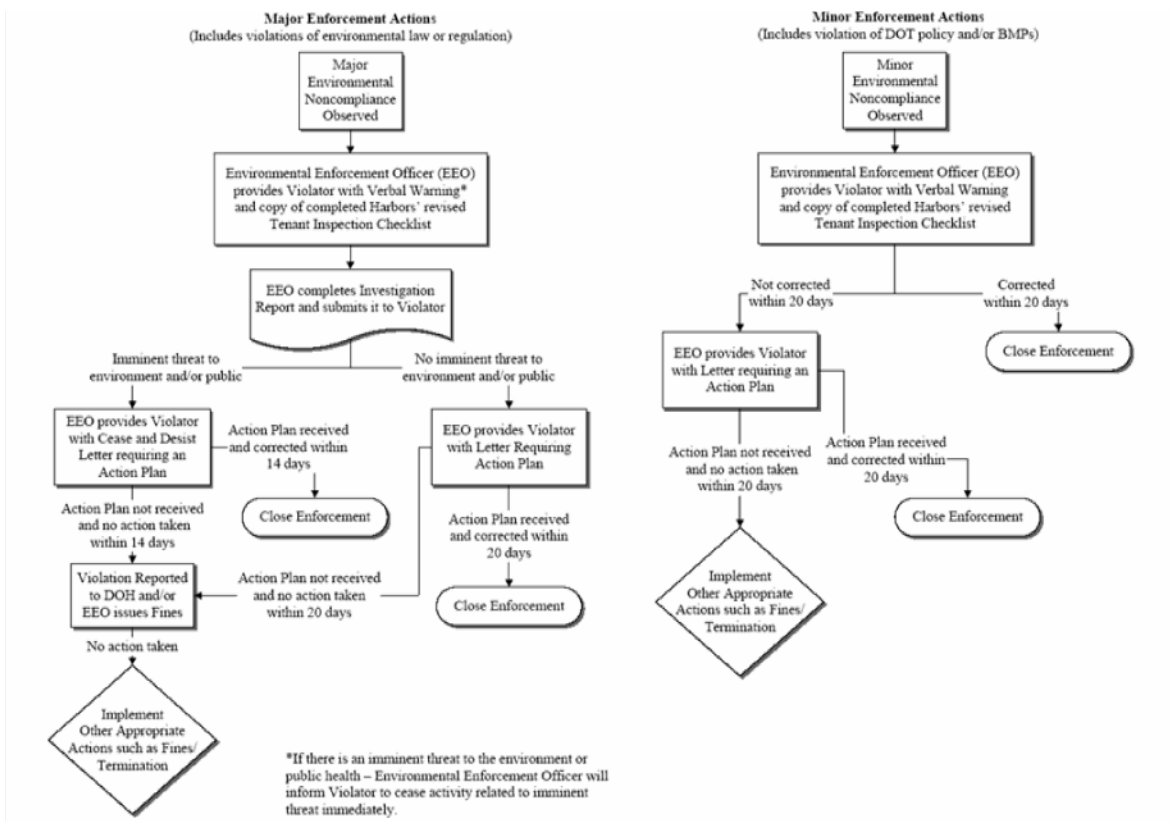
minimum, to determine if the facility is out of compliance with Harbors Division’s tenant lease agreement and this plan.

Harbors Division will maintain records, including inspection reports, warning letters, notices of violation, resolutions, and other enforcement records, demonstrating its good faith effort to bring tenant facilities into compliance with applicable requirements. These reports and correspondence will be provided in the ACR.

BMP 4-3-4 Inspection and Enforcement Plan

| Goal: Eliminate illicit discharges through inspection and enforcement. | | | | | |
|--|--|------------------------|--|-----------------------------------|-----------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/Comments |
| Establish/update ranking of tenants according to Inspection and Enforcement Manual | Percentage of tenants ranked | 100% of tenants ranked | Annually | Harbors Environmental Engineering | |
| Perform initial investigation upon discovery or notification of a suspected illicit discharge or connection. | Percentage of reports investigated | 100% investigated | As soon as possible and within two weeks | Harbors Environmental Engineering | |
| Follow up investigation of illicit discharge | Percentage of investigations followed up | 100% Follow up | Within two weeks or one day for suspected hazardous discharges | Harbors Environmental Engineering | |
| If enforcement action has taken place, perform follow up inspection within two weeks of initial inspection | Save as above | Same as above | Within two weeks, as needed | Harbors Environmental Engineering | |
| Initiate investigation of complaints transmitted by HDOH regarding facilities within its jurisdiction | Percentage of reports investigated | 100% | Within 2 business days | Harbors Environmental Engineering | |

Figure 4-3 Harbors Division Inspection and Enforcement Process



Source: HDOT Harbors EMS Inspection and Enforcement Manual

4.3.5 Employee Training

Harbors Division annually provides initial and refresher NPDES training to key personnel to instruct personnel at all levels of responsibility concerning the components and goals of the MS4 SWMP. The instruction addresses the following areas:

- ✓ Regulatory requirements,
- ✓ Materials management practices including proper storage, handling, and use of materials,
- ✓ Good housekeeping and criteria for clean working environment,
- ✓ Recognizing conditions that could lead to degraded runoff water quality,
- ✓ Identifying and notifying responsible parties,
- ✓ Taking action to correct conditions that could result in stormwater pollution,
- ✓ Warning and enforcement procedures, and
- ✓ Recording incidents.

A record of attendees at each NPDES training session is kept for inclusion in the ACR.

By no later than March 1, 2010 and annually thereafter, Harbors Division will train all employees who are responsible for identification, investigation, elimination, cleanup and reporting of illicit connections and other illicit discharges.

BMP 4-3-5 Employee Training

| Goal: Eliminate illicit discharges through training of essential personnel. | | | | | |
|---|---|---|----------------------------------|-----------------------------------|-----------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/Comments |
| Develop stormwater IDDE training materials | Training materials address all relevant IDDE aspects and are up to date | IDDE is addressed | Annually | Harbors Environmental Engineering | |
| Train all employees who are responsible for identification, investigation, elimination, clean-up, and reporting of illicit connections/discharges | Frequency of employee training Number of employees trained | Once per year Train all applicable employees | By March 31, 2010, then annually | Harbors Environmental Engineering | |

5.0 CONSTRUCTION SITE STORMWATER RUNOFF CONTROL



Drain Inlet Control, Barbers Point. January 2006.

5.1 PERMIT REQUIREMENTS

HAR Chapter 11-55 Appendix K Part 6.(a)(4). Develop, implement and enforce a program to reduce storm runoff pollutants entering the permittee's small municipal separate storm sewer system from construction activities disturbing one acre or more, including construction activities less than one acre that are part of a larger common plan of development or sale that would disturb one acre or more, that, at a minimum, includes the following:

- (A) Establishment of rules, ordinances and other regulatory mechanism, including enforcement procedures and actions, that require erosion and sediment controls,*
- (B) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices,*
- (C) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts on water quality,*
- (D) Procedures for site plan review of construction plans which incorporate consideration of potential water quality impacts,*
- (E) Procedures for receipt and consideration of information submitted by the public,*
- (F) Procedures for site inspection and enforcement of control measures.*

5.2 CONSTRUCTION SITE RUNOFF CONTROL PROGRAM

A Construction Site Runoff Control Program (CSRCP) has been written as part of this SWMP in order to establish rules, ordinances, and other regulatory mechanisms in order to:

- ✓ Require stockpiling or immediate access to materials for erosion prevention and sediment control.
- ✓ Require erosion prevention and sediment controls at all construction projects;
- ✓ Require construction site operators to implement appropriate erosion prevention and sediment control BMPs; and

- ✓ Require construction site operators to implement BMPs appropriate for the control of waste and other potential pollutant sources.

The CSRCP includes the following:

- ✓ Construction site plan reviews;
- ✓ Pollution prevention;
- ✓ Source identification;
- ✓ BMP implementation;
- ✓ Construction site inspections;
- ✓ Enforcement measures;
- ✓ Report of non-compliant sites; and
- ✓ Education outreach for construction site operators

5.2.1 Required Document Review

Harbor Division's CSRCP applies to all construction projects existing within its jurisdiction, regardless of size or ownership of the construction site or activity.

Each Section of the HDOT Engineering Branch, including Planning, Design, Construction, Maintenance, and Environmental, reviews construction plans for potential impacts in its operational area. The Harbors Division Engineering Branch will review construction plans for potential stormwater quality impacts, and drainage connection and discharge permit applications (Appendix H). This review process will be tracked and included in the ACR.

Harbors Division will ensure that construction site operators have submitted a Stormwater Pollution Prevention Plan (SWPPP) and a NOI under the Hawaii NPDES General Permit Authorizing Discharges of Stormwater Associated with Construction Activity, HAR Chapter 11-55 Appendix C (the Hawaii Construction General Permit) for projects greater than 1 acre prior to approval. Harbors Division will also ensure that plans reflect the actual site conditions and are updated accordingly. The HDOH Clean Water Branch implements NPDES requirements in Hawaii and administers review and granting of Individual and General Permit Coverage, however NOI requests and for discharge of stormwater from industrial sites and SWPPPs have been routed to Harbors Division for review and comment.

TRPs and tenant lease agreements require compliance with all environmental laws and limit possession, usage and storage of hazardous wastes without lessor knowledge and consent.

Harbors Division requires that prior to new connections or discharge to the regulated drainage system, an application for a permit (Appendix H) to connect and/or discharge must be made. Upon review and acceptance of the application, Harbors will return a permit for connection (Appendix I), a permit for discharge (Appendix J) or comments explaining a denied connection or discharge.

Harbors Division will again review construction plans and procedures during post-construction phases for stormwater considerations according to the Post-Construction Stormwater Management Program described in Section 6.0.

Best Management Practices are reviewed by HDOH Clean Water Branch during NPDES NOI review, and may be reviewed by the City and County of Honolulu if plans are routed through them. Harbors Division personnel including Marine Cargo Specialists, the Harbor agent, and Construction Inspectors may note implementation of BMPs and contractor waste management practices, and have authority to take action in the event of noncompliance.

BMP 5-2-1 Required Document Review

| Goal: Prevent sediment and erosion runoff from construction sites during the planning phase. | | | | | |
|---|---|--|--|---|-----------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/Comments |
| Review construction plans for potential impacts in respective areas | Percentage of construction plans reviewed | 100% of plans reviewed | Pre-Construction | All HDOT Engineering Branch Sections | |
| Review plans for stormwater considerations during pre- and post-construction phases | Percentage of construction plans reviewed | 100% of plans reviewed | Pre- and Post-Construction | Harbors Design, Maintenance and Environmental Engineering | |
| Review SWPPP, NOI, and discharge permit applications for construction projects | Percentage of documents reviewed | 100% of documents reviewed | Pre-construction, during construction, and Post-Construction | Harbors Design, Maintenance and Environmental Engineering | |
| Review erosion and sediment BMPs and waste management practices | Percentage of sediment BMPs and waste management practices reviewed | 100% of BMPs and waste management practices reviewed | Pre-Construction | HDOH Clean Water Branch, City and County of Honolulu, or Harbors Division | |

5.2.2 Construction Site Best Management Practices

Construction site BMPs serve the purpose of preventing sediment and other pollutants created from construction activities from reaching waters. In many cases BMPs prevent sediment and pollutants from being dislodged from their original locations. There are ample sources for construction site BMPs, some of which are listed below:

- ✓ Department of Environmental Services, City and County of Honolulu, Stormwater Management Plan, March 30, 2007

- ✓ Department of Environmental Services, City and County of Honolulu, Best Management Practices Manual for Construction Sites, in Honolulu, May 1999.
- ✓ State of California Department of Transportation (Caltrans), Stormwater Quality Handbooks, Construction Site Best Management Practices Manual, March 2003.
- ✓ California Stormwater Best Management Practice Handbook, Construction, January 2003.
- ✓ Stormwater Menu of BMPs, USEPA Website. October 1, 2009.

The following table is a compilation of BMPs and their descriptions. Harbors Division will require that construction site operators implement appropriate erosion and sediment control BMPs as well as any other BMPs that will reduce the flow of pollutant off-site to the MEP. Selected BMPs must demonstrate an understanding of the soil texture and sediment size such that the BMP chosen provides the maximum benefit to runoff control.

Table 5-1 is a compilation of construction BMPs from the above sources, including those relating to erosion and sediment control, NSWD control BMPs, and waste management and materials pollution control BMPs. Harbors Division will require construction site operators to prevent pollutants from sediment, erosion, and waste from entering the storm system by use of structural controls and BMPs.

Table 5-1 Example Construction Site BMPs

| BMP Name | Description |
|---|---|
| Scheduling | Sequence the construction project to reduce the amount and duration of soil exposed to erosion by wind, rain, runoff, and vehicular tracking. |
| Preservation of Existing Vegetation | Carefully plan preservation of existing vegetation in order to minimize the potential of removing or injuring existing trees, vines, shrubs, and grasses that serve as erosion controls, |
| Mulch | Mulching stabilizes cleared or freshly seeded areas. Mulches can include organic materials, straw, wood chips, bark, or other wood fibers, decomposed granite, and gravel. |
| Hydroseeding | Seed grasses and plant trees, shrubs, vines, and ground covers to provide longer stabilization of soil. |
| Geotextiles, Plastic Covers & Erosion Control Blankets/Mats | Mats made of natural or synthetic material can temporarily or permanently stabilize soil. |
| Earth Dikes/Drainage Swales & Lined Ditches | The temporary earth dike is a temporary berm or ridge of compacted soil, used to divert runoff or channel water to a desired location.. |
| Outlet Protection/Velocity Dissipation Devices | Rock outlet protection is a physical device composed of rock, grouted riprap, or concrete rubble which is placed at the outlet of a pipe to prevent scour of the soil caused by high pipe flow velocities, and to absorb flow energy to produce non-erosive velocities |
| Slope Terracing | Slope roughening/terracing creates microclimates for establishing vegetation, reduces runoff velocity, increases infiltration, and provides small depressions for trapping sediment. |
| Location of Potential Sources of Sediment | Locate potential sources of sediment properly to reduce the generation of erosion and sediment from construction sites |
| Dust Controls | Utilize dust control measures to stabilize soil from wind erosion, and reduce dust generated by construction activities |
| Construction Road Stabilization | Access roads, subdivision roads, parking areas, and other on-site vehicle transportation routes should be stabilized immediately after grading and frequently maintained to prevent erosion and control dust. |
| Protection of Stockpiles | Stockpiles can be a significant source of erosion and sediment, and measures should be take to mitigate the potential for nonpoint source pollution |
| Silt Fence | A silt fence is made of a filter fabric which has been entrenched, attached to supporting poles, and sometimes backed by a wire fence for support. The silt fence detains sediment laden water, promoting sedimentation behind the fence. |
| Sediment Trap | A sediment trap is a small, excavated or bermed area where runoff from small drainage areas is detained and sediment can settle. |
| Check Dam | Small temporary dams constructed across a swale or drainage ditch. Check dams reduce the velocity of concentrated stormwater flows, thereby reducing erosion of the swale or ditch, and promoting sedimentation behind the dam. If properly anchored, brush or rock filter berms may be used for check dams. |
| Rock Filter | A rock filter berm is made of rock 3/4 to 3 inches in diameter and placed along a level contour where sheet flow may be detained and ponded, promoting sedimentation. A brush barrier is composed of brush (usually obtained during the site clearing) wrapped in filter cloth and anchored to the toe of the slope. If properly anchored brush or rock filters may be used for sediment trapping and velocity reduction. |

| BMP Name | Description |
|--|--|
| Sandbag Barrier | Stacking sand bags along a level contour creates a barrier which detains sediment-laden water, ponding water upstream of the barrier and promoting sedimentation. |
| Storm Drain Inlet Protection | Devices of various designs which detain sediment-laden runoff and allow the sediment to settle prior to discharge into a storm drain inlet or catch basin. |
| Sediment Basin | A pond created by excavation or constructing an embankment, and designed to retain or detain runoff sufficiently to allow excessive sediment to settle. |
| Dewatering Operations | Prevent or reduce the discharge of pollutants to stormwater from dewatering operations by using sediment controls and by testing the groundwater for pollution. |
| Paving and Grinding Operations | Prevent or reduce the discharge of pollutants from paving operations, using measures to prevent runoff and runoff pollution, properly disposing of wastes, and training employees and subcontractors. |
| Temporary Stream Crossing | A temporary culvert, ford, or bridge placed across a waterway to provide access for construction purposes for a period of less than one year. |
| Material Delivery and Storage | Prevent or reduce the discharge of pollutants to stormwater from material delivery and storage by minimizing the storage of hazardous materials on-site, storing materials in a designated area, installing secondary containment, conducting regular inspections, and training employees and subcontractors. |
| Material Use | Prevent or reduce the discharge of pollutants to stormwater from material use by using alternative products, minimizing hazardous material use on-site, and training employees and subcontractors. |
| Spill Prevention and Control | Prevent or reduce the discharge of pollutants to stormwater from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees. |
| Solid Waste Management | Prevent or reduce discharge of pollutants to the land, groundwater, in stormwater from solid waste or construction demolition waste by providing designated waste collection areas, separate containers for recyclable waste materials, timing collection of waste and recyclable materials with each stage of the construction or demolition project, and properly training subcontractors and employees. |
| Hazardous Waste Management | Prevent or reduce the discharge of pollutants to stormwater and to the land from hazardous waste through proper material use, waste disposal, and training of employees and subcontractors. |
| Contaminated Soil Management | Prevent or reduce the discharge of pollutants to stormwater and to the land from contaminated soil and highly acidic or alkaline soils by conducting pre-construction surveys, inspecting excavations regularly, and remediating contaminated soil promptly. |
| Concrete Waste Management | Prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout off-site, performing on-site washout in a designated area, and training employees and subcontractors. |
| Sanitary/Septic Waste Management | Prevent or reduce the discharge of pollutants to stormwater from sanitary/septic waste by providing convenient, well-maintained facilities, and arranging for regular service and disposal. |
| Vehicle and Equipment Maintenance | Prevent fuel spills and leaks, and reduce their impacts to stormwater by using off-site facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors. |
| <p><i>Adapted from: Department of Environmental Services, City and County of Honolulu, Stormwater Management Plan, March 30, 2007. State of California Department of Transportation (Caltrans), Stormwater Quality Handbooks, Construction Site Best Management Practices Manual, March 2003. California Stormwater Best Management Practice Handbook, Construction, January 2003.</i></p> | |

5.2.3 Site Inspection and Enforcement

Construction sites will be inspected for compliance with the stormwater-related requirements until construction is terminated, the site has been stabilized, and the site's NPDES construction permit has been closed. Inspections will be at least once every two weeks during the months of October through April, then at least bi-monthly during the remaining months. Inspections will ensure the following:

- ✓ Sediments generated at the project site are retained using adequate source control and structural BMPs;
- ✓ Construction-related materials and wastes are retained at the project site to avoid discharge to the storm sewer and waters of the United States;
- ✓ Unauthorized non-stormwater runoff is contained at the project site; and
- ✓ Erosion from slopes and channels are controlled by implementing an effective combination of erosion and sediment control BMPs, such as limiting grading during the wet season; inspecting graded areas during rain events; planting and maintenance of vegetation on slopes; and covering slopes susceptible to erosion.

Enforcement will be executed according to the IEP located in Harbor Division's EMS Manual.

Annual reports will include a list of all construction projects, inspection dates, and resolution of any violations of stormwater-related requirements.

BMP 5-2-3 Site Inspection and Enforcement

| Goal: Ensure implementation of BMPs and controls by construction site operators through inspection and enforcement. | | | | | |
|--|---|---|----------------------------|--|------------------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/Comments |
| Perform inspections of permitted construction sites for implementation of construction site BMPs | Frequency of inspection | At least once every two weeks during the months of October thru April, then at least bi-monthly during the remaining months | Continuous | Harbors Division, Site Inspectors | |
| | Number of construction sites inspected | 100% of construction sites | Continuous | Harbors Division, Site Inspectors | |
| Incorporate inspection of stormwater components into inspection program | Construction site stormwater deficiencies are reduced | Deficiencies are reduced from previous year | Annually | Harbors Division, Site Inspectors | |
| Keep a list of all construction projects, inspection dates, and resolution of any violations for the annual reports | Completeness of inventory | 100% of construction sites, inspections, resolutions, and violations recorded | Annually | Harbors Construction and Environmental Engineering | |

5.2.4 Receipt of Public Input

Harbors Division will remain open to public comment and illicit/NSWD reporting. The public will be able to contact Harbors Division via hotline, email, website, or mail. The communication will be logged and appropriate responses shall be made. If a violation is reported, an inspection will be made following receipt of the report and appropriate enforcement actions will be taken. All hotline reporting will be recorded on a SHOT form (Appendix D).

BMP 5-2-4 Receipt of Public Input

| Goal: To remain receptive public to opinion and involvement | | | | | |
|--|--------------------------------|-----------------------------|---------------------|-----------------------------------|------------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| Accept and follow up on public reporting and record outcome | Track number of public reports | Increase from previous year | Continuous | Harbors Environmental Engineering | |

5.2.5 Training and Outreach

Harbors Division employees who are responsible for construction plan review and site inspections will be trained annually in the requirements of the MS4 SWMP and Hawaii General Permits

Internal training procedures and materials for construction plan and BMP review staff and inspectors will be developed. The training program provides for informed review and inspection so as to prevent pollution discharges and improve the overall quality of BMPs during the early stages of construction planning.

Education and outreach will be provided for stakeholders. Harbors Engineering Branch will develop educational materials to include in an educational package to be given to each construction site as applicable to be distributed during the pre-construction meeting. Educational materials will include construction stormwater BMPs and will be available electronically on the website or in hard copy upon request. The intent of these educational materials is to make certain that the site manager or onsite coordinator is aware of the proper installation and maintenance procedures for construction stormwater BMPs.

BMP 5-2-5 Training and Outreach

| Goal: Foster widespread knowledge of construction BMPs | | | | | |
|--|--|---|---------------------|--|------------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| Develop internal training materials for plan review staff and inspectors | N/A | N/A | One time | Harbors Environmental Engineering | |
| Conduct training for employees who are responsible for construction site inspections | Educate construction inspectors about BMP selection, installation, inspection, & maintenance | 100% of construction site inspectors received education | Annually | Harbors Environmental Engineering | |
| Provide educational materials for plan reviewers | Percent of plan reviewers receiving educational materials | 100% of plan reviewers received educational materials | Ongoing | Harbors Construction and Environmental Engineering | |
| Provide educational package to construction sites | Percentage of construction sites covered | 100% | One time | Harbors Engineering Branch | |
| Post educational materials on Harbors website | Increase views to website | Increased views from previous year | Ongoing | Harbors Web Master | |

5.2.6 Dredge Spoil Stockpile Management Plan

Harbors has developed a dredged spoil stockpile management plan for implementation of erosion and sediment control BMPs (Appendix N). The plan will also be applied at future dredge spoil stockpiles, if any. The purpose of the plan is to prevent both wind-and water-caused erosion of the stockpiled materials.

The dredge spoil stockpile management plan is an integrated process that begins with an investigation of the existing stockpiles and inspection and maintenance of the existing BMPs. The stockpile investigation will allow for proper design of additional BMPs. It will also provide characterization of the stockpiles to aid in beneficial reuse of the material.

Prior to any stockpile construction, a separate construction stormwater pollution prevention plan will be developed to manage erosion and sediment, good housekeeping, inspections, maintenance,

record keeping and other concerns associated directly with the construction activity of removing or adding to the dredge spoil stockpiles.

The BMPs designated in the dredge spoil stockpile plan are based upon estimates and projections of stockpile material, slope, condition of existing BMPs, and size of stockpile areas. BMP sizing, location and type may change once initial inspections are conducted and data has been reviewed.

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6.0 POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT



Vegetated Swale, Kahului, Hawaii

6.1 PERMIT REQUIREMENTS

HAR Chapter 11-55 Appendix K Part 6.(a)(4). Develop, implement and enforce a program to reduce pollutants in storm runoff entering the permittee's small municipal separate stormwater sewer system from new development and redevelopment projects which disturb greater than or equal to one acre, including construction sites less than one acre that are part of a large common plan or development or site that would disturb one acre or more, that, at a minimum, includes the following:

- (A) Establishment of rules, ordinances, and other regulatory mechanism, including enforcement procedures and actions, that address post-construction runoff from new development and redevelopment projects,*
- (B) Structural or non-structural best management practices to minimize water quality impacts and attempt to maintain pre-development runoff conditions, and*
- (C) Procedures for long-term operation and maintenance of best management practices.*

6.2 POST-CONSTRUCTION STORMWATER MANAGEMENT PROGRAM

Harbors Division has developed a Post-Construction Stormwater Management Program as part of the SWMP for polluted stormwater discharges from areas of new development and significant redevelopment. This program includes project reviews based on the post-construction erosion control NPDES permit regulations and the Development Standards requirements. The purpose of the post-construction program is to provide a mechanism by which ongoing protection of stormwater quality can be addressed and attained.

The project approval process for the post-construction control program will follow the outline provided in Figure 6-1, Construction Project Approval and Post-Construction Follow-Up. Improvements to the current inspection will include the use of a final inspection to verify and document that post construction controls were implemented as approved during the plan review process.

Post-construction stormwater management is also addressed in part by the preceding minimum control measures: public education and outreach, public involvement and participation, and illicit discharge detection and elimination.

6.2.1 Construction Permit Review Process

As part of the NPDES program, HDOH Clean Water Branch administers review of projects that are equal to or greater than one acre in size. Applicants for coverage under the Nationwide General Permit or Individual Stormwater Discharge Permits submit applications including descriptions of the project scope and schedule, contractor, past land use history, existing conditions and potential pollution sources, construction and post-construction site-specific BMPs.

Harbors Division’s review process has the goal of maintaining or improving pre-development runoff conditions. As such, Harbors requires construction applicants to perform a pre- and post-development hydrological analysis to protect natural channels from erosion, to size storm drainage infrastructure, and to address flooding.

Harbors Division will identify controls that provide treatment and reduce stormwater volume and velocity. These controls may need to be installed where site design and source controls are not adequate to minimize stormwater pollutants. Treatment controls should be designed and sized to control runoff from a specific storm size appropriate for the area. Treatment controls can include bio-filters, detention basins, infiltration basins, wet ponds or wetlands, drainage inserts, filtration, and hydrodynamic separation devices.

On-going maintenance must be ensured as BMPs are not effective unless properly maintained. The plan must address who will be responsible for on-going maintenance.

BMP 6-2-1 Review NPDES Permit Application

| Goal: To ensure that long-term controls are in place to prevent degradation of stormwater | | | | | |
|---|-------------------------------------|----------------------|---------------------|---|------------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| Review NPDES Permit and LIDS compliance applications | Percentage of applications reviewed | 100% of applications | Continuous | Harbors Division Environmental, Design and Maintenance Sections | |

6.2.2 Low Impact Development Standards Plan

Harbors Division has developed a low impact development standard (LIDS, see Appendix K) that requires measures to reduce pollution discharges to the MEP from all new development and significant redevelopment projects. The LIDS requirements apply to all new development and significant redevelopment projects. The term "significant redevelopment" is defined as the creation or addition of at least 5,000 square feet of impervious surfaces on an already developed site. Significant redevelopment includes, but is not limited to expansion of a building footprint, or

replacement of a structure; replacement of impervious surface that is not part of a routine maintenance activity; and land-disturbing activities related to structural or impervious surfaces. Where significant redevelopment will result in an increase of less than 50 percent of the impervious surfaces of a previously existing development, and the existing development was not subject to LIDS, the BMP design standards discussed in Section 6.2.3 apply only to the addition, and need not be applied to the entire development.

All new development and significant redevelopment projects will be reviewed and conditioned for compliance with the low impact development standard. Proposed tenant project plans will be reviewed by Harbors Division to determine what measures are required to ensure that all development is in compliance with the tenant lease agreements, TRPs, and other applicable requirements.

Listed below are criteria covered in the LIDS:

- ✓ LIDS includes a list of recommended source reduction and structural treatment control BMPs for all new development and significant redevelopment.
- ✓ LIDS considered activities of concern typical for Harbor areas governed by the document with a strong emphasis on managing additional non-pervious construction.

In selecting BMPs, the following were considered:

- ✓ Pollutants of concern including sediment and trace quantities of oil, grease and metals anticipated from large paved and non-vegetated areas;
- ✓ Changes in flow rates and volumes resulting from the development project and sensitivity of receiving waters to changes in flow rates and volumes.
- ✓ LIDS requires the utilization of Low Impact Design (LID) applications and approaches with the goal of maintaining or improving pre-development runoff conditions.
- ✓ The LIDS describes procedures Harbors Division will use to implement the development standard. The procedures include identification of the roles and responsibilities of various Harbors Division engineering sections in implementing the LIDS, as well as any other measures necessary to ensure its implementation.

The LIDS suggests existing technologies coupled with emerging low impact design technologies are critical in meeting the objective of maintaining or improving pre-development runoff conditions. The site's hydrology after construction should mimic the natural hydrology by following better site design principles including minimizing the projects impervious footprint, conserving natural areas, and minimizing directly connected impervious areas. These types of practices encourage and reduce the volume of stormwater discharged from the site.

Future tenant construction will require implementation of LIDS. Tenants that do not comply with the LIDS requirements will require lease and/or TRP amendments. If the amendments are not successful in promoting compliance, further action will be enacted within the authority of Harbors contractual agreements with the tenant.

BMP 6-2-2 Low Impact Development Standards Plan

| Goal: Reduce pollution discharges to the MEP from all new development and significant redevelopment projects | | | | | |
|--|--|------------|---------------------------------|---|------------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| Implement LIDS and amend tenant lease agreements and TRPs as necessary | Percentage of necessary lease agreement and TRP amendments conducted | 100% | Within three months of approval | Harbors Environmental Engineering, Design and Maintenance | |

6.2.3 Structural and Non-Structural BMPs

Post-construction stormwater quality efforts are currently addressed by Harbors Division through the following BMPs or integration of the following BMPs:

- ✓ Preserve undeveloped areas where such areas are not required by operations to be paved.
- ✓ Consider surface treatments for improved areas which retain rainfall and allow percolation rather than impervious surfacing which generates runoff, such as paver tiles in lieu of asphalt or concrete pavement,
- ✓ Preserve naturally occurring flat to low slopes in all areas, which minimize runoff concentration, quantity, velocity and erosive capability,
- ✓ Where runoff flows are concentrated, provide durable drainage systems sized to convey peak flows,
- ✓ Review construction plans to provide and maintain grading which limits the area of the drainage basin discharging into the harbor,
- ✓ Continuously monitor operations to ensure that major tenants using pier aprons adequately clean the aprons upon completion of loading/offloading activities.
- ✓ Implement structural BMPs that reduce the quantity of storm runoff at Kalaeloa Harbor including:
 - ✓ Operational areas will be paved with reinforced concrete or asphalt concrete, to prevent erosion. These surfaces will also allow spills of materials to be cleaned up.
 - ✓ Maintain minimal to low slopes throughout improved areas (access roadways, piers and aprons) where surfaced with asphalt or reinforced concrete, which reduces runoff peak flow quantities and velocity.

The USEPA Phase II Final Rule Fact Sheet breaks post-construction BMPs into the following categories identified in Table 6-1.

Table 6-1 Post-Construction BMP Types

| Category | BMP Type | Description |
|---------------------|-------------------------------------|--|
| Non-Structural BMPs | Outreach | Outreach and education efforts toward contractors can minimize runoff proactively. By educating contractors and giving them the resources/vendors through which to achieve runoff prevention, water quality can greatly be improved. |
| | Planning Procedures BMPs | Runoff problems can be addressed efficiently with sound planning procedures. Local master plans, comprehensive plans, and zoning ordinances can promote improved water quality by guiding growth away from sensitive areas. |
| | Site-Based BMPs | These BMPs can include buffer strip and riparian zone preservation, minimization of disturbance and imperviousness, and maximization of open space. |
| Structural BMPs | Stormwater Retention/Detention BMPs | Retention or detention BMPs control stormwater by gathering runoff in wet ponds, dry basins, or multi-chamber catch basins and slowly releasing it to receiving waters or drainage systems. These practices can be designed to both control stormwater volume and settle out particulates for pollutant removal. |
| | Infiltrative BMPs | Infiltrative BMPs are designed to facility the percolation of runoff through the soil to ground water, and, thereby result in reduced stormwater runoff quantity and reduced mobilization of pollutants. Examples include infiltration basins/trenches, dry wells, and porous pavement. |
| | Vegetative BMPs | Vegetative BMPs are landscaping features that, with optimal design and good soil conditions, remove pollutants, and facilitate percolation of runoff, thereby maintaining natural site hydrology, promoting healthier habitats, and increasing aesthetic appeal. Examples include grassy swales, filter strips, artificial wetlands, and rain gardens. |

Harbors Division will evaluate current BMPs to determine if they sufficiently meet the requirements of the NPDES permit and, if they are lacking, Harbors Division will require tenants and contractors to implement the appropriate BMPs.

BMP 6-2-3 Structural and Non-Structural BMPs

| Goal: Implementation of LID BMPs | | | | | |
|--|---|------------|---------------------|--|-----------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/Comments |
| Evaluate current BMPs | Percentage of BMPs evaluated | 100% | Annually | Harbors Construction and Environmental Engineering, Design and Maintenance | |
| Enforce development & implementation of new post-construction BMPs | Percentage of site potential pollutants are prevented | 100% | Annually | Harbors Construction and Environmental Engineering, Design and Maintenance | |

6.2.4 Operation, Maintenance, and Inspections

Structural or non-structural BMPs are not considered effective, nor are MEP criteria met, unless a long-term operation and maintenance procedure is put into place and carried out. Upon completion of construction, assurance is required for the long-term operation and maintenance of structural and non-structural BMPs. This assurance will be performed by Harbors Division by implementing the following processes.

Proof of maintenance should be established by a maintenance agreement that is implemented for the property. The maintenance agreement should contain the following information:

- ✓ A description of the routine maintenance that will need to be performed
- ✓ Schedules for maintenance
- ✓ Inspection requirements
- ✓ Provisions for maintenance staff to access the control or BMP
- ✓ Penalties for failure to maintain the control or BMP

Harbors Division will create a database of post-construction BMPs. The database will include BMP names, geographic location (in latitude and longitude), photographs of controls, operation and maintenance requirements, and frequency of control inspections.

The database will also include standard information about the construction site, such as project name, project description, owner, location, municipal grading or building permit number, construction start and end dates, and comments.

Inspection of post-construction BMPs and controls will be performed annually. This inspection will determine if controls and BMPs are in place, working properly, and if appropriate operation and maintenance practices have been performed according to the schedule.

BMP 6-2-4 Operations, Maintenance, and Inspections

| Goal: To maintain effectiveness of BMPs through operations and maintenance plans | | | | | |
|---|--|--|--|---|------------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| Create database to track operation and maintenance practices | Create a database | Database has been created | Once | Harbors Environmental Engineering | |
| Perform scheduled operation and maintenance practices | On-time completion of maintenance practices | 100% of O&M has been confirmed conducted | As scheduled | Oahu District | |
| Inspect project for post-construction controls | Percentage of potential pollutants mitigated | Equal to maximum standard operating capacity | Upon completion of construction, then annually | Harbors Construction Inspectors and Environmental Engineering | |

6.2.5 Stakeholder Education and Outreach, Employee Training

Tenants are notified annually through the TSI form mailing that their TRPs and tenant leases require maintenance of post-construction runoff control measures in their premises. An educational packet will be sent to all stakeholders during the TSI mailing that includes:

- ✓ Post-construction BMP Guidance Information
- ✓ Questions relating to post-construction stormwater management on the TSI

The packet will be utilized to inform all construction operators about follow-up BMP requirements for post-construction, and the importance of continuing site inspections after construction has been completed. Outreach information will be made available within the Harbors Division Stormwater Management web site pages and/or in hard copy format.

The effectiveness of this BMP will be measured by the number of plans reviewed and the number of inspections conducted.

Harbors internal training will include guidance on the inspection of post-construction BMPs. Inspection training will include proper operations and maintenance of typical post construction BMPs, indicators of BMP failure, and inspection techniques. During preparation of the annual

report, onsite Harbors personnel will be queried as to the effectiveness of structural and non-structural BMPs.

BMP 6-2-5 Stakeholder Education and Outreach

| Goal: Create awareness with stakeholders and employees to reduce post-construction run-off. | | | | | |
|---|---|----------------------------|---------------------|-----------------------------------|------------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| Develop post-construction educational package | N/A | N/A | Once | Harbors Environmental Engineering | |
| Distribute educational packet in TSI Mailing | Percentage of tenants in receipt of mailing | 100% | Annually | Harbors Environmental Engineering | |
| Post information on Harbors Division website | Track number of views | Greater than previous year | Once | Harbors Web Master | |
| Conduct training | Percentage of employees and tenants trained | Greater than previous year | Annually | Harbors Environmental Engineering | |

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7.0 POLLUTION PREVENTION/GOOD HOUSEKEEPING



Hawaii Harbor (left) and Sand Island (right), January 2006

7.1 PERMIT REQUIREMENTS

HAR Chapter 11-55 Appendix K Part 6.(a)(4). *Develop, implement and enforce an operation and maintenance program to prevent and reduce stormwater pollution from activities, including but not limited to, park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance that, at a minimum, includes the following:*

- (A) *Good housekeeping and other control measures, and*
- (B) *Employee and contractor training on good housekeeping practices, to ensure that good housekeeping measures and best management practices are properly implemented.*

7.2 POLLUTION PREVENTION/GOOD HOUSEKEEPING PROGRAM

A Pollution Prevention/Good Housekeeping Program has been written as part of this SWMP to designate procedures for scheduled inspections and preventative debris removal from Harbor Division's MS4s with the ultimate goal of preventing or reducing pollutant runoff. The program includes an internal record-keeping system to schedule and document the maintenance activities performed on the storm drainage system, which may include catch basins, storm drain inlets, open channels, and any structural controls.

7.2.1 Maintenance and Housekeeping Practices

Maintenance is ongoing at tenant and Harbors facilities. The following maintenance activities are conducted:

- ✓ Emptying dumpsters and remove and dispose of discarded objects, machinery or equipment.
- ✓ Prompt repair/replacement of malfunctioning dumpsters

- ✓ General maintenance and repair of public facilities is conducted in-house, while a contractor is selected for most large projects.
- ✓ Grounds maintenance personnel-use fertilizer or herbicides in accordance with the manufacturer's instructions and in a manner that eliminates potential for runoff into the gutters, or storm drain system.
- ✓ Pier and apron cleanliness is assessed for debris and staining, and responsible parties notified to conduct cleaning as needed. Operators with leaking vehicles are required to park vehicles and equipment indoors/under cover, provide drip pans and repair leaks.
- ✓ Vehicle and equipment washing on Harbors property is prohibited unless performed in an approved wash facility.
- ✓ Clean up stains, spills, oil spots using dry cleanup methods.

Harbors Division will expand its maintenance program to include preventative maintenance of the storm drainage system, internal record keeping and scheduling, and appropriate training of employees.

Sweeping of streets, material handling and storage areas, parking lots, and docks will be performed by Harbors Division. Sweeping prevents microscopic pollutants from entering the ocean by removing them before they flow into the storm sewer. In addition to sweeping potential pollutants, trash, leaves and other debris will be collected, which will prevent debris from blocking storm drains and causing localized flooding. Wash water from sweeping will be collected to prevent its flow into the storm sewer system. Sweeping will be scheduled frequently and regularly according to an assessment of past sweeping activities.

Where Harbors Division cannot perform regular maintenance due to tenant operations, Harbors Division will require tenants to conduct their own regular maintenance. Tenants will be required to submit a schedule of maintenance to Harbors Division to ensure that it is being performed. Harbors Division will audit maintenance records during tenant inspections.

Adequate maintenance, such as sweeping, ensures that structural controls can operate properly. Harbors Division will clean and maintain storm drainage system catch basins, storm drain inlets, open channels, and any other structural controls. These structural controls will be inspected regularly.

Harbors Division will ensure that appropriate BMPs will be implemented by tenants to prevent or minimize the direct discharge of materials associated with shipping, receiving, and storage activities at its wharves. Example BMPs are listed in Table 7-1. An inventory of all materials that could contribute to stormwater pollution will be kept up-to-date by tenants and will be checked for accuracy during inspections.

Table 7-1 is a compilation of example BMPs and their descriptions taken from the following sources. Harbors Division will require implementation of appropriate BMPs for shipping, receiving, and storage activities as well as any other BMPs that will reduce the flow of pollutants off-site to the MEP.

- ✓ Department of Environmental Services, City and County of Honolulu, Stormwater Management Plan, March 30, 2007

- ✓ State of California Department of Transportation (Caltrans), Stormwater Quality Handbooks, Construction Site Best Management Practices Manual, March 2003.
- ✓ California Stormwater Best Management Practice Handbook, Construction, January 2003.

Environmentally preferred products are products that are manufactured with sustainability and environmental protection in mind. Figure 7-1 presents ten categories of environmentally preferred products and the specifications used by the EPA to designate them as such. Harbors will use these guidelines when making purchases related to these categories to the MEP.

The best solution for rainwater that has been captured in hazardous material secondary containment is evaporation. Should the secondary containment need to be drained for any reason, the existence of residual hazardous materials should be investigated first. The guidelines in the site Spill Prevention and Control Countermeasure (SPCC) Plan will provide a process for inspecting, recording and authorizing rainwater releases from secondary containment. The site SPCC will take into consideration the nature of the stored material and the authority matrix for that individual facility. A secondary containment release without proper SPCC inspection and documentation could be considered an illicit discharge.

All materials stored outside of a building that may cause a threat to stormwater or the stormwater control and conveyance system should be covered when not in current use. Materials should also be elevated to prevent ponding or flowing water to come in contact with the material. The SPCC plan for each facility will provide further details on the typical site materials and designated material storage areas.

Washing of vehicles of any type is not allowed unless in a designated and properly operated and maintained vehicle washing facility. Unprotected vehicle washing can cause sediment, oil, grease, and heavy metals to enter the storm drain system. Alternatively, vehicles can be dry or wet wiped or swept down to remove dirt, oil and grease. All removed dirt, oil and grease should be collected and disposed of along with any rags used in the process.

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Table 7-1 Example BMPs for Shipping, Receiving, and Storage Activities

| BMP Name | Description |
|--|--|
| Material Delivery and Storage | Prevent or reduce the discharge of pollutants to stormwater from material delivery and storage by minimizing the storage of hazardous materials on-site, storing materials in a designated area, installing secondary containment, conducting regular inspections, and training employees and subcontractors. |
| Material Use | Prevent or reduce the discharge of pollutants to from material use by using alternative products, minimizing hazardous material use on-site, and training employees and subcontractors. |
| Spill Prevention and Control | Prevent or reduce the discharge of pollutants to stormwater from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees. |
| Solid Waste Management | Prevent or reduce discharge of pollutants to the land, groundwater, in stormwater from solid waste or construction demolition (C&D) waste by providing designated waste collection areas, separate containers for recyclable waste materials, timing collection of waste and recyclable materials with each stage of the construction or demolition project, and properly training subcontractors and employees. |
| Hazardous Waste Management | Prevent or reduce the discharge of pollutants to stormwater and to the land from hazardous waste through proper material use, waste disposal, and training of employees and subcontractors. |
| Contaminated Soil Management | Prevent or reduce the discharge of pollutants to stormwater and to the land from contaminated soil and highly acidic or alkaline soils by conducting pre-construction surveys, inspecting excavations regularly, and remediating contaminated soil promptly. |
| Sanitary/Septic Waste Management | Prevent or reduce the discharge of pollutants to stormwater from sanitary/septic waste by providing convenient, well-maintained facilities, and arranging for regular service and disposal. |
| <p><i>Adapted from: Department of Environmental Services, City and County of Honolulu, Stormwater Management Plan, March 30, 2007. State of California Department of Transportation (Caltrans), Stormwater Quality Handbooks, Construction Site Best Management Practices Manual, March 2003. California Stormwater Best Management Practice Handbook, Construction, January 2003.</i></p> | |

BMP 7-1 Maintenance and Housekeeping Practices

| Goal: To prevent pollutants from reaching the storm sewer system by using preventative maintenance practices and BMPs. | | | | | |
|---|---|---------------------------------|---|---|-----------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/Comments |
| Designate appropriate sweeping frequencies and perform sweeping | Percentage of facilities for which a written schedule is made and sweeping performed | 100% of facilities | Designate frequencies immediately, perform as designated | Harbors Maintenance Management and Personnel; tenants | |
| Designate appropriate drainage system maintenance and perform maintenance according to priority | Percentage of drainage systems that have been designated as urgent that have been cleaned | 100% of urgent drainage systems | Prioritize immediately, perform maintenance according to schedule | Harbors Maintenance Management and Personnel; tenants | |
| Provide general instructions for identification, storage, use, collection and treatment of drainage and housekeeping educational materials to tenants | Percentage of tenants to which educational materials have been provided | 100% of tenants | Annually | Harbors Environmental Engineering | |
| Provide training to employees | Percentage of employees to whom training has been provided | 100% of employees | Annually | Harbors Environmental Engineering | |

7.2.2 Tenant Education and Employee Training

Tenants will be provided with instructions for identification, storage, use, collection and treatment of drainage from usage areas prior to discharge to storm or sanitary sewers and disposal of potential storm runoff pollutants. Educational materials based on those developed by the USEPA, City and County of Honolulu, and others will also be provided to tenants. These materials include instructions for refuse collection and disposal, comfort station maintenance, spill record keeping, advisories prohibiting disposal of regulated wastes, and inspection results

Harbors Division employees and tenants will be trained during annual workshops on the purposes and procedures pertaining to housekeeping and maintenance practices.

BMP 7-2 Tenant Education, Employee and Contractor Education

| Goal: To prevent pollutants from reaching the storm sewer system by using preventative maintenance practices and BMPs. | | | | | |
|---|---|-------------------|---------------------|-----------------------------------|------------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| Develop educational materials and distribute to tenants | Percentage of tenants in receipt of educational materials | 100% of tenants | Annually | Harbors Environmental Engineering | |
| Hold training sessions for employees tasked with maintenance activities | 100% of employees trained | 100% of employees | Annually | Harbors Environmental Engineering | |

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8.0 ANNUAL REPORT AND EFFECTIVENESS EVALUATION

8.1 REQUIREMENTS

HAR Chapter 11-55 Appendix K Part 9.(a). Annual Report. The submittal of the annual report by the permittee shall be postmarked or received by the department by the twenty-eighth day of January of the following year. The annual report shall cover each calendar year during the term of this permit and include the following:

- (A) Status of compliance with conditions of this permit;*
- (B) Assessment of the stormwater management plan, including progress towards implementing each minimum control measure;*
- (C) Modifications made to the stormwater management plan and implementation schedule during that calendar year, including justification;*
- (D) Summary of the stormwater activities planned to be undertaken during the next calendar year; and*
- (E) Major modifications made to the permittee's small municipal separate storm sewer system, including, but not limited to, addition and removal of outfalls, drainage lines, and treatment facilities*

8.2 ANNUAL REPORT AND EFFECTIVENESS EVALUATION FORMAT

In accordance with the permit regulations, an annual report will be postmarked or received by HDOH by January 28th of the following year. The annual report will describe the above components of SWMP activities accomplished during the previous year.

The annual report will include descriptions of each SWMP program component. Program components to be included in the reporting are in the checklist provided in Appendix L.

The assessment of control measures will include quantitative evaluations in order to assess their effectiveness. Such evaluations will include measurements or estimates of pollutant load reductions or increases. This assessment will also include funds expended or staff hours used. A budget summary for allocation of resources for 2010 is provided in Appendix M.

All reports submitted will be signed by a principal executive officer, ranking elected official, or duly authorized representative of Harbors division and shall include the following statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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, I certify that 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."

BMP 8-2 Annual Report and Effectiveness Evaluation

| Goal: 1) Ensure SWMP implementation. 2) Track long-term progress of SWMPs. | | | | | |
|---|---|------------------|---------------------------------|-----------------------------------|------------------|
| Activity | Evaluation Indicators | Milestones | Time Frame/Due Date | Responsible Party | Status/ Comments |
| Write an Annual Report | Fulfill the Annual Report requirements of the permit and the Annual Performance and Effectiveness Evaluation requirements of the USEPA Administrative Order | Write one report | January 28, 2010, then annually | Harbors Environmental Engineering | |

APPENDIX A

LEASE AGREEMENTS AND REVOCABLE PERMITS

APPENDIX B

TENANT SELF-INSPECTION

APPENDIX C
EDUCATIONAL MATERIALS

APPENDIX D

STORMWATER HOTLINE OCCURRENCE TRACKING FORM

APPENDIX E
TENANT INVENTORY

APPENDIX F
INSPECTION AND ENFORCEMENT PLAN

APPENDIX G

OUTFALL RECONNAISSANCE INSPECTION FORM AND OUTFALL
LIST

APPENDIX H

STORM DRAIN CONNECTION/DISCHARGE PERMIT APPLICATION

APPENDIX I
PERMIT FOR CONNECTION TO THE STATE HARBORS DRAINAGE
SYSTEM

APPENDIX J

PERMIT TO DISCHARGE INTO THE STATE HARBORS DRAINAGE
SYSTEM

APPENDIX K

LOW IMPACT DESIGN STANDARD

APPENDIX L

ANNUAL COMPLIANCE REPORT CHECKLIST

APPENDIX M

2010 BUDGET SUMMARY

APPENDIX N

DREDGE SPOIL STOCKPILE MANAGEMENT PLAN
