Stormwater Management Program Plan

Daniel K. Inouye International Airport

Section E: Pollution Prevention / Good Housekeeping

STATE OF HAWAII, DEPARTMENT OF TRANSPORTATION, AIRPORTS DIVISION
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819-1880

NPDES Permit No. HIS000005

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1.0 INTRODUCTION

The Pollution Prevention and Good Housekeeping Program (P2 Program) consists of four individual components that work together to reduce potential pollutants from all Department of Transportation, Airports Divisions (DOTA) facilities, including the Maintenance Baseyard, roads, parking lots, wash racks, and the Municipal Separate Storm Sewer System (MS4).

Debris Control BMPs Program

Goal: To remove trash and other debris from the MS4 structures and streets.

Chemical Applications BMP Program

Goal: To properly manage pesticides used at the airport in a manner that is protective of the MS4 and water quality.

Maintenance Activities BMP Program

Goal: To ensure that maintenance activities are accomplished in a manner most protective of the MS4 and water quality.

Erosion Control BMPs Program

Goal: To remove sediment from the MS4 structures by stabilizing areas of erosion.

1.1 Roles and Responsibilities

Those parties with specific roles in regards to the P2 Program are included in Table 1.

TABLE 1: P2 PROGRAM ROLES AND RESPONSIBILITIES

Section	Title	Responsibilities
AIR-EE	Supervisor	• Provides Program Oversight • Tracks and Analyzes Program Data • Facilitates Training and Education
AIR-EE	Environmental Engineer*	• Coordinates Erosion Control and Trash Reduction Projects • Oversees service contracts for MS4 inspection and maintenance including Permanent BMPs
AIR-EE	Environmental Health Specialists*	• Manages Erosion Control and Trash Reduction reports, compliance, and implementation • Enters Maintenance Data in Database
AIR-E	Engineering Program Manager	• Approves Erosion Control and Trash Reduction Projects

Section	Title	Responsibilities
AIR-OM	Maintenance Superintendent	• Requires Compliance with P2 Program • Facilitates Training and Education
AIR-OME	Maintenance Engineer	• Oversees service contracts for MS4 inspection and maintenance including Permanent BMPs
AIR-OMF	Baseyard Supervisor	• Ensures Maintenance BMPs Implemented • Ensures Chemical Application BMPs Implemented • Oversees Street Sweeping Operations • Facilitates Reporting of Data to AIR-EE
AIR-OMF	Street Sweeper Operators	• Participates in Training • Logs Street Sweeping Data and Submit to Supervisor
AIR-OMF	Automotive Shop Personnel	• Participates in Training • Implements Maintenance BMPs
AIR-OMF	Landscape Personnel	• Participates in Training • Logs Pesticide, Herbicide, and Fertilizer Use and Submits to Supervisor • Conducts Vegetation Maintenance, Including Erosion Control and LID Maintenance
NA	Contractor	• Performs MS4 Maintenance • Reports Data to AIR-EE and AIR-OME

*Note: Consultants may be used to fill roles where necessary.

1.2 Database

In 2007, DOTA began using a comprehensive environmental Asset Management System (AMS) called Enviance in order to track the information from the pollution prevention and other Stormwater Management Program Plan (SWMPP) programs. This system or a similar database will be used by AIR-EE to track environmental data for all state airports, including Daniel K. Inouye International Airport (HNL). At a minimum, the information tracked in the database as it relates to the P2 Program will include the following:

- Identify MS4 structures by asset number and GPS coordinates, including:
  - Permanent structural and vegetative BMPs.
  - Storm drain inlets and outfalls.
- Track data from maintenance and debris removal programs, including:
  - Street sweeping program.
  - Catch basin cleaning program.
  - Green waste and accumulated sedimentation removal.
  - Permanent BMP inspection and maintenance.

The Enviance system or similar may be expanded as the programs develop in order to prioritize the maintenance and debris removal efforts. Currently, the MS4 assets are mapped in an airport operated geographic information system (GIS) database, WINGS. DOTA is working on implementation of a new AMS, Veoci, which includes GIS mapping and data tracking, all in one place.

2.0 DEBRIS CONTROL BMP PROGRAM

The Debris Control BMP Program is designed to remove and properly dispose of trash, sediment, and green waste that may accumulate on the roads, taxiways, runways, or within MS4 structures. Removing these items prevents them from discharging to and impacting the receiving waters.

2.1 MS4 Map

In 2007, DOTA conducted a survey of storm drainage structures associated with the HNL Small MS4. These structures were identified by number, location description, and GPS coordinates in an inventory within the Enviance system. Additionally, an AutoCAD map was generated that visually represents the location of each of the storm drainage nodes and connecting drainage lines and canals (Attachment B.1). The map and the database are updated as necessary and the most current version is maintained by the AIR-EE Supervisor. Additionally, in conformance with the NPDES MS4 permit, DOTA has created a GIS layer that includes each drain inlet, outfall, and permanent BMP.

2.2 Storm Drain Markings

DOTA has found that marking storm drains helps to increase awareness among airport users and also to assist responsible staff with conducting required SWMPP activities such as drain inspections, IDDE, or construction and tenant inspections. DOTA uses two different types of markings for MS4 structures depending on their location.

2.2.1 EID Labels

Where possible, DOTA labels all storm drain inlets and manholes with the asset's individual EID number to aid contractors with MS4 inspection and maintenance data tracking. There may be MS4 structures where marking is infeasible, such as the movement area of the AOA, where a structure is surrounded by vegetation and the installation of a labeling device such as post or medallion may become a hazard to aircraft.

2.2.2 Public Placards

Areas of the airport that are more visible to the public, such as Lagoon Drive, will be stenciled with the HDOT trigger fish and the message "Do Not Dump, Goes to Ocean" or similar educational design. The purpose of the placards is to raise public awareness about the direct connection that storm drains have to the receiving water and to ultimately change behavior to be more protective of the MS4 by preventing the discharge of potential pollutants.

2.2.3 Storm Drain Marking Maintenance

As a part of the inspection and maintenance activities, the contractor will note whether EID labels or public placards are no longer visible. When feasible, the contractor will reapply the EID labels by spray painting stenciled numbers for drains. Information about MS4 structure markings is included in Enviance, Veoci, or a similar database.

2.3 MS4 Inspection and Maintenance

DOTA ensures that storm drainage structures (i.e. catch basins, inlets, curb gutters, open ditches, and trenches) are inspected every six (6) months to identify any maintenance or cleaning requirements. Maintenance will be conducted if any debris is noted during the inspections. Variations to this schedule may be necessary for drain inlets within the AOA movement area. Drainage structures in the movement area are classified as a low priority and have historically not required maintenance cleaning due to the fact that the only activities conducted in this area are aircraft taxiing, take-off, and landing, which generally do not create debris. Further, inspections within the AOA movement area are limited based on the availability of runway and taxiway closures; however, DOTA will make efforts to conduct inspections every six (6) months and, at a minimum, annually. Storm drains determined through inspections that need maintenance are prioritized using a high, medium, and low ranking based on the debris accumulation within the drains. Storm drain structures that visually appear to have accumulated more debris will be inspected more frequently to keep the structure clean and functioning properly.

2.3.1 MS4 Inspection and Maintenance Logs

The following information will be logged during the inspection of a storm drain structure:

- Name of Inspector.
- Date.
- Environmental Identification Number (EID).
- Inspection Results (i.e. Clean or Needs Maintenance).
- Quantity and Type of Debris Removed (if maintenance is conducted).
- Labeled (i.e. Public Placard, EID Label, or Infeasible).

These logs will be provided by the contractor to AIR-EE and the data will be logged in Enviance, Veoci, or a similar database.

2.4 Street Sweeping

Street and runway/taxiway sweeping is performed to remove litter, debris, and other pollutants from surface vehicle and aircraft travel ways before they are discharged to the MS4. Additionally, foreign object debris (FOD) can be hazardous to aircraft and it is every person's responsibility within the AOA to pick up FOD. DOTA Maintenance Section (AIR-OMF) conducts sweeping operations at runways, taxiways, streets, and parking lots in industrial and commercial areas based on the following frequency:

- At least twice per month.
- More frequently if:
    - A public complaint is received;
    - FAA requests the cleaning of an area due to FOD concerns;
    - An area is identified as a hot spot for trash;
    - AIR-EE inspectors request that an area be swept where there is a potential threat of discharge to State waters; and/or

- Operators fill two sweeper trucks and there is additional debris remaining on the ground.

2.4.1 Street Sweeping Logs

A Street Sweeping and Inspection Log or similar form shall be filled out by the sweeper operator for each swept area. Data recorded in the log shall include:

- Date.
- Description of area swept.
- Type of debris (e.g. trash categories).
- Estimated volume of debris.
- Disposal location.
- Washout location.

The sweeping debris is stored in designated bins, the dump truck bed, or in another contained area at the Maintenance Baseyard (2919 Aolele Street). When capacity is reached, the sweeping debris is taken to the landfill for proper disposal. Sweeper washout occurs in a confined area such as the wash rack or a designated bermed area where water can evaporate and solids are regularly removed for disposal. Sweeper logs are provided to AIR-EE for data entry in Enviance, Veoci, or a similar database.

2.5 Action Plan for Retrofitting Structural BMPs

The retrofit action plan is provided in the SWMPP Section D, Attachment D.3.

2.6 Trash Reduction Plan

On April 14, 2017, DOTA developed a Trash Reduction Plan (Attachment E.5) to assess HNL's trash load, identify and implement control measures, and monitor these activities to reduce trash loads to the MS4. The plan includes the following information:

- Quantitative estimate of the baseline load of debris.
- Short-term and long-term control measures to reduce debris.
- Short-term plan with compliance deadlines to reduce the baseline load by 50 percent.
- Long-term plan with compliance deadlines to reduce the baseline load to zero (0).
- Location targets for trash reduction.
- Education activities.
- Integration of control measures, education, and monitoring to measure progress.
- Implementation schedule.
- Monitoring plan to measure process.
- Reporting of results in the Annual Report.

DEFINITION:

Trash – Improperly discarded waste material that is illegally disposed of in the storm drain system. This does NOT include natural vegetation deposition other than that generated from landscaping activities. Examples:

- Convenience food packaging.
- Beverage containers.
- Other Packaging (aluminum, steel, glass, paper, plastic, synthetic materials).

3.0 CHEMICAL APPLICATION BMP PROGRAM

Construction and maintenance of landscaped areas within HNL require physical care, such as mowing and pruning, irrigation, along with application of chemicals to provide nutrients and to control weeds. Landscaping practices are essential in the reduction of soil erosion from the flow of stormwater runoff. The Chemical Application BMP Program (Chemical Program) is designed to reduce the contribution of pollutants from the use of pesticides (including insecticides, herbicides, fungicides, rodenticides, and other substances to control pests) and fertilizers from entering the HNL Small MS4. The Chemical Program includes the BMPs and training used in the application, storage, and disposal of these chemicals. Currently, DOTA does not purchase or apply Restricted Use Pesticide (RUP) and therefore, applicator certification is not required.

DEFINITIONS:

Pesticides - Chemicals used to kill pest animals or plants, including herbicides, fungicides, rodenticides, or insecticides.

Herbicide – Chemicals used to control unwanted vegetation.

Insecticides / Poisons - Chemicals used to control insects or pests, usually to control disease vectors such as mosquitoes or rats.

Fertilizer - Chemical or natural substance added to the soil to promote vegetation growth.

3.1 Chemical Application Training

DOTA personnel responsible for chemical application operations must be aware of the implications that the activity may have on the MS4 and subsequent receiving waters before they conduct the operation. DOTA's Public Education Program is fully described in SWMPP Section A, which includes annual Maintenance Baseyard personnel training on a variety of topics, including chemical applications. DOTA facilitates additional training for Maintenance Baseyard personnel on herbicide applications by the State Department of Agriculture, Pesticide Program, Education Unit.

3.2 Chemical Application BMPs

The Chemical Application Program includes BMPs (Attachment E.2) designed to reduce the contribution of pollutants associated with the application, storage, and disposal of herbicides and fertilizers to the MS4. In general, the BMPs include the following topics:

- General vegetation management – non-chemical solutions for management, use of native vegetation, and educational activities.
- Herbicide applications – NPDES permit requirements, proper handling and application of herbicides, and collection and disposal of unused chemicals.
- Fertilizer management – proper fertilizer application and irrigation to enhance growth of target vegetation while minimizing release of nutrients to stormwater runoff.

Maintenance landscape personnel (AIR-OMF) will implement these BMPs during chemical applications and record application amounts on the attached forms or a similar version (Attachment E.2). Completed forms will be collected by Maintenance Baseyard administrative staff and delivered to AIR-EE after June 30 each year for evaluation in the annual report.

4.0 MAINTENANCE ACTIVITIES BMP PROGRAM

DOTA operates the Maintenance Baseyard at HNL and a Storm Water Pollution Control Plan (SWPCP) (Attachment E.1) for that facility has been developed in accordance with HAR 11-55, Appendix B.

4.1 Maintenance BMPs

Maintenance activities conducted by DOTA throughout the airport have the potential to contribute pollutants to the MS4; therefore, specific maintenance BMPs have been developed as a part of this program and are also reflected in the Maintenance Baseyard SWPCP. In general, the BMPs include the following topics:

- Street sweeping
- Storm drain and oil water separator (OWS) inspection and maintenance
- Road and paving repairs
- Construction maintenance such as saw cutting, concrete work, curb and gutter replacement, and buried utility repair
- Painting
- Debris and trash removal
- Spill prevention and response

4.2 Maintenance Activities Training

DOTA's Public Education Program in SWMPP Section A, includes annual Maintenance Baseyard personnel training on a variety of topics, such as potential pollutants, BMPs, and permit requirements.

4.3 Maintenance Baseyard Inspection and Enforcement

Inspection and enforcement of the Maintenance Baseyard will be conducted as stipulated in the HNL Maintenance Baseyard SWPCP. Note that the HNL Maintenance Baseyard used to be inspected per the *NPDES Inspection and Enforcement Manual*, until it was updated from Version 6.0 to Version 7.0 to cover tenants only, not DOTA Maintenance Baseyards.

The frequency of Maintenance Baseyard inspections is semi-annual (twice a year) for Maintenance Baseyards with NPDES permits, and in accordance with their risk ranking for Maintenance Baseyards without NPDES permits (the risk ranking is determined following the procedures in the *Airport Tenant NPDES Inspection and Enforcement Manual)*. The HNL Maintenance Baseyard will be inspected semi-annually (twice per year).

DOTA inspectors shall observe the Maintenance Baseyard operations, equipment, and material as well as waste storage areas to verify if the BMPs are in conformance with the facility NPDES permit, SWMPP Section E, and the Maintenance Baseyard SWPCP. An inspection report is provided to the facility representative and if deficiencies are observed, the Maintenance

Baseyard has 30 days to complete corrective actions. DOTA may choose to conduct a follow-up inspection to verify the completion of corrective actions.

If deficiencies are not completed within the 30-day deadline, the following procedures are to be followed. It should be noted that time extensions to implement corrective actions may be granted by AIR-EE.

a. The inspection report documenting the deficiencies and corrective actions needed is issued to the facility representative as an internal DOTA memo (e.g., written warning).
    i. If the deficiency is resolved within 30 days, AIR-EE shall close the inspection.
    ii. If the deficiency continues or there is no response from the facility representative, enforcement escalates.

b. Enforcement will be escalated internally through DOTA management using the inspection report, memos, and meetings.

5.0 EROSION CONTROL BMP PROGRAM

Sedimentation can have a significant affect on water quality and down stream ecosystems. This Erosion Control BMP Program is designed to identify areas that are susceptible to erosion and implement controls to prevent the sediment from impacting the MS4 and receiving waters.

DEFINITIONS:

Erosion - Movement of soil particles from their original location by wind or water. May be visible as rilling or gullying.

Sedimentation – Deposition of soil particles by wind or water in a different location.

5.1 HNL Erosional Areas

DOTA has conducted field investigations of HNL in order to identify areas of the airport that have significant potential for water quality impacts due to erosion. Areas were selected where evidence of erosional rilling or gullying was observed or if downstream areas had evidence of sediment transport and/or accumulation (Table 2). In addition to Table 2, DOTA conducted a survey of the MS4 outfalls and identified two erosional outfalls (Attachment E.3). DOTA will implement permanent BMPs, such as planting vegetation, paving, or installing geotextile mats, to stabilize the erosional areas. Temporary BMPs such as silt fences, sand bags, or drain inlet protection may be used where necessary to control erosion and sedimentation until a permanent BMP may be installed.

5.1.1 Temporary BMPs

Although none of the identified areas appeared to be contributing significant amounts of sediment to the MS4 or receiving waters, DOTA will install and maintain temporary BMPs for erosional sites until a permanent solution may be implemented. Temporary BMPs and maintenance requirements are included in Attachment C.7.

5.1.2 Permanent BMPs

Permanent solutions to the erosional areas may include seeding and planting, diverting runoff, or paving. These projects will be evaluated to determine the most feasible solution and the proper permits including NPDES and/or 401 Water Quality Certifications will be obtained where necessary. Refer to SWMPP Section D for more information on HNL's Permanent BMP Program.

5.1.3 Long-Term Maintenance

Dependent upon the type of permanent solution implemented for the erosional areas, various long-term maintenance activities may be required. These maintenance requirements will be identified as a part of the project design process. Specifically, for vegetated areas, DOTA has developed a maintenance plan that will ensure that vegetation installed to address erosion will be properly maintained (Attachment E.4).

TABLE 2: HNL EROSIONAL AREAS

Erosional Area ID	Location Description	Longitude / Latitude	Approx. Size (acres)	Receiving Water	Permanent BMP Year
A1-1	Temporary vehicle storage lots south of Kalewa Street.	21°19'34.88" N 157°54'04.12" W	6. 5	Keehi Lagoon	2016
E-1	Area along north side of Aolele Street canal between Paiea Street and the highway on-ramp.	21°20'01.0" N 157°54'49.6" W	<0.5	Aolele Canal	2017
D10-1	Walls of Access A Canal from Aolewa Place to the diamond head hardstands.	21°19'49.03" N 157°54'49.17" W	<0.5	Access A Canal	2018
D10-2	Slight slope between Access A Canal and the diamond head hardstands.	21°19'48.74" N 157°54'45.39" W	<0.5	Access A Canal	2018
D14-2	Slight slope south of Kaloaloa Canal and immediately west of AOA perimeter road.	21°19'50.80" N 157°54'11.24" W	<0.5	Kaloaloa Canal	2019
D14-1	Unstabilized slope south of Kaloaloa Canal, between the AOA perimeter road and Lagoon Drive.	21°19'49.70" N 157°54'09.77" W	<0.5	Kaloaloa Canal	2020
E-3	Outfalls 4555 and 4556 from Ualena Street to Aolele Street canal.	21°19'58.8" N 157°54'35.5" W	<0.5	Aolele Canal	2020
D10-3	Walls of Kaloaloa Canal south of DOTA Maintenance Baseyard.	21°19'51.02" N 157°54'24.70" W	<0.5	Kaloaloa Canal	2021
E-2	Walls of Aolele Street canal from the highway on-ramp to the Aolele Street bridge.	21°19'58.3" N 157°54'33.8" W	<0.5	Aolele Canal	2021

6.0 EVALUATION METHODS

The P2 Program will be evaluated based on specific metrics included below to determine its effectiveness. Specifically, measurable standards, milestones, and monitoring parameters are included in Table 3 from the MS4 NPDES permit. All final tallies of progress on P2 Program metrics will be included in the annual report to the DOH and EPA.

TABLE 3: P2 PROGRAM MEASURABLE STANDARDS, MILESTONES, AND MONITORING

SWMPP Reference	BMP / Task	Measurable Standard / Milestones	Monitoring Effectiveness	Timeframe
Section E, 1.2	Database	Track assets and maintenance in Enviance, Veoci,or a similar database, including: • MS4 structures and permanent BMPs by EID number and latitude / longitude. • Catch basin cleaning data. • Street sweeping data. • Green waste and accumulated soil removal.	Confirmation: • All MS4 assets and maintenance data tracked.	Annual
			Tabulation: • # of MS4 assets by type (inlet, manhole, trench drain, outfall, OWS, permanent BMP).	Annual
Section E, 2.1 & Section B, Attach B.1	MS4 Maps	Map drain inlets, outfalls, and permanent BMPs on GIS.	Confirmation: • GIS layer created.	Initially and Update As Needed
Section E, 2.2	Drain Placards	Implement storm drain marking program. • Establish the purpose of drain marking and procedures for tracking placement. • Establish procedures for inspection and maintenance of markings. • Install public placards at 100% of designated drains.	Confirmation: Drain marking purpose and procedure established.	Initial
			Tabulation: % of designated drains with public placards.	4/14/19

SWMPP Reference	BMP / Task	Measurable Standard / Milestones	Monitoring Effectiveness	Timeframe
Section E, 2.3	MS4 Inspection and Maintenance	Conduct MS4 inspections and maintenance, where necessary. • Inspect 100% of the accessible MS4 catch basins, inlets, curb gutters, open ditches, and trenches, twice per year. • Conduct maintenance on all MS4 structures with accumulated debris. • Prioritize MS4 structures.	Confirmation: • MS4 inspections and maintenance conducted.	Annual
			Tabulation: • # of MS4 inspections conducted.	Annual
			Tabulation: • # of MS4 structures per priority ranking (i.e. low, medium, high).	Annual
Section E, 2.4	Street Sweeping	Conduct street sweeping operations. • Establish thresholds for requiring sweeping activities. • Sweep all designated runways, taxiways, streets, and parking lots in industrial and commercial areas twice per month. • Review sweeping schedule annually.	Confirmation: • Sweeping thresholds established.	Initial
			Tabulation: • Total cubic feet of debris removed by sweeping.	Annual
			Confirmation: • Sweeping schedule reviewed.	Annual
Section E, 2.5 and Section D, Attach D.3	Retrofit Action Plan	Develop a plan to implement retrofits. • Submit Retrofit Action Plan within one year of the effective date of the permit. • Complete at least ten (10) retrofit projects at a rate of 2 per year for 5 years.	Confirmation: • Retrofit Action Plan submitted to DOH.	4/14/15
			Tabulation: • # of retrofit projects completed.	Annual

SWMPP Reference	BMP / Task	Measurable Standard / Milestones	Monitoring Effectiveness	Timeframe
Section E, 2.6	Trash Reduction Plan	Develop a plan for reducing trash within the MS4. • Submit Trash Reduction Plan. • Establish baseline trash load discharging from the MS4. • Measure % of trash removed from MS4 discharge as compared to baseline. • Reduce trash by 50% compared to baseline in the short-term. • Reduce trash by 100% compared to baseline in the long-term.	Confirmation: • Trash Reduction Plan submitted to DOH.	4/14/17
			Tabulation: • Baseline Establishment: lbs of trash discharging from MS4 by type.	2021
			Tabulation: • % of trash removed from MS4 discharge as compared to baseline.	Annual After 2021
			Confirmation: • Re-evaluate the Trash Reduction Plan goals for reducing the trash within MS4.	After 2023
Section E, 3.1 & Section A, 2.1.4	Chemical BMP Training	Provide annual training to personnel applying fertilizers, pesticides, and herbicides.	Tabulation: • # of parties trained on chemical applications.	Annual
Section E, 3.2	Chemical Application BMPs	Develop and implement chemical application BMPs.	Confirmation: Chemical application BMPs developed.	Initial
Section E, 4.2	Maintenance BMP Training	Provide annual training to personnel conducting maintenance activities.	Tabulation: • # of parties trained on maintenance BMPs.	Annual
Section E, 4.1	Maintenance BMPs	Develop and implement maintenance BMPs.	Confirmation: • Maintenance BMPs developed.	Initial

SWMPP Reference	BMP / Task	Measurable Standard / Milestones	Monitoring Effectiveness	Timeframe
Section E, 4.3	Maintenance Baseyard Inspection and Enforcement	Conduct Maintenance Baseyard inspection and enforcement. • Conduct inspections. • Maintain inspection reports for 5 years. • Track the number of deficiencies identified during inspections by category.	Confirmation: # of Maintenance Baseyard inspections conducted.	Annual
			Tabulation: • # of deficiencies by category.	Annual
Section E, 5.1	Erosional Areas	Identify, stabilize, and maintain areas exhibiting signs of erosion. • Submit a list of erosional areas. • Submit an Action Plan for Erosional Outfalls. • Submit 401 WQC applications within one year of the effective permit date. • Develop a maintenance plan for vegetated areas associated with erosion control and LID.	Confirmation: • List of erosional areas submitted to DOH.	4/14/15
			Confirmation: • Action Plan for Erosional Outfalls submitted to DOH.	4/14/15
			Confirmation: • 401 WQC applications submitted, if required.	4/14/15
			Confirmation: • Vegetation Maintenance Plan developed.	Initial
		Identify, stabilize, and maintain areas exhibiting signs of erosion. • Install temporary BMPs or permanent solutions on 100% of identified sites within 18 months of effective permit date. • Complete 100% of permanent solutions within the timeframe beginning the 2nd year after the effective permit date and covering a 5 year period.	Tabulation: • % of erosional areas/outfalls with temporary or permanent BMPs.	10/14/15
			Tabulation: • % of erosional areas/outfalls with permanent solutions.	10/14/21

In Table 4, DOTA has set goals for the P2 Program above the minimum control measures listed in Table 3. These goals, presented in Table 4, provide a more complete evaluation of the effectiveness of program activities and will be used to make changes to the program where necessary. These goals will be reported separately in the annual report and may or may not be met depending upon several variables, including available manpower and funding for a particular year. For description of Outcome Categories in Table 4, refer to SWMPP Introduction, Attachment VI: HNL Program Effectiveness Strategy.

TABLE 4: P2 PROGRAM GOALS AND EVALUATION METHODS

SWMPP Reference	Activity	Goals	Evaluation Method	Outcome Category	Timeframe
Section E, 2.2	Drain Placards	Mark storm drains to reduce trash and debris illegally deposited. • Install / replace public placards at 10 MS4 structures.	Tabulation: • # of public placards installed.	1-2	Annual
Section E, 2.3	MS4 Inspection and Maintenance	Conduct MS4 inspections twice per year and maintain as necessary. • Track pounds of debris removed from inlets, catch basins, and trenches. • Track gallons of free product removed from OWS.	Tabulation: • lbs of debris removed from MS4 maintenance.	1, 4	Annual
			Tabulation: • Gallons of free product removed from OWS.	1, 4	Annual
Section E, 2.3	Surface Water Inspection and Maintenance	Conduct inspection and cleaning of surface waters (canals and shorelines). • Track pounds of debris removed by type. • Track number of sorbent booms used on surface waters.	Tabulation: • lbs of debris removed by type (i.e. trash, green waste).	1, 4	Annual
			Tabulation: • # of sorbent booms installed in the surface waters.	1, 4	Annual

SWMPP Reference	Activity	Goals	Evaluation Method	Outcome Category	Timeframe
Section E, 3.2	Chemical Application BMPs	Develop and implement chemical application BMPs. • 2% reduction in the amount of herbicides used over the permit term.	Tabulation: • % reduction in herbicides application.	1-4	3/13/19
Section E, 4.2	Maintenance BMP Training	Conduct training for maintenance personnel on BMPs. • Conduct one BMP related drill at the Maintenance Baseyard. • Baseyard personnel respond to and properly contain a spill at the Maintenance Baseyard within 15 minutes.	Confirmation: • Drill conducted.	1-3	Annual
			Tabulation: • Time Maintenance Baseyard personnel took to respond to spill in a drill scenario.	1-4	Annual
Section H	Stormwater Monitoring	Collect and analyze stormwater samples to determine concentrations of pollutants in the runoff.	Monitoring*: • Analyze stormwater samples to evaluate pollutant sources and concentrations in order to revise or implement BMPs and conduct subsequent sampling to measure effectiveness of the BMPs.	1-5	Annual

*The collection of stormwater samples will be dependent upon several variables including the occurrence of a representative storm event, safety concerns, and personnel availability.

Attachment E.1

Stormwater Pollution Control Plan for Daniel K. Inouye International Airport Maintenance Baseyard Facility

STORMWATER POLLUTION CONTROL PLAN FOR DANIEL K. INOUYE INTERNATIONAL AIRPORT MAINTENANCE BASEYARD FACILITY

NPDES Permit No. HIS000005

Prepared For:

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ETC Project No. 15-6008

Version 6.0
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RECORD OF REVISION

Revision No.	Revision Date	Description	Sections Affected
1	May 2007	Version 1.0 – Initial Release	All
2	May 2012	Version 2.0 – Update	All
3	June 2014	Addition of Stormwater Monitoring	2.3, 6.0, Figure 2, 3, App III, IV
4	September 2018	Version 4.0 – Update	All
5	March 2019	Version 5.0 – Update	All
6	August 2019	Version 6.0 – Update	1.1, 2.0, 3.1, 5.1, 5.2, 5.3, 7.2, 8.0, Appendix II

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 submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for false information, including the possibility of fine and imprisonment for knowing violations.

Jade T. Butay
Director
State of Hawaii
Department of Transportation

AUG 2 9 2019

Date

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LIST OF ACRONYMS

AIR-EE	DOTA, Engineering Branch, Environmental Section
ARFF	Aircraft Rescue and Fire Fighting
AST	Aboveground Storage Tank
BMP	Best Management Practice
CCH	City and County of Honolulu
CWB	State of Hawaii, Department of Health, Clean Water Branch
DOH	State of Hawaii, Department of Health
DOTA	State of Hawaii, Department of Transportation, Airports Division
EC	Emergency Coordinator
EHS	Environmental Health Specialist
EID	Environmental Identification Number
HAR	Hawaii Administrative Rules
HEER	Hazard Evaluation and Emergency Response
HNL	Daniel K. Inouye International Airport
IWDP	Industrial Wastewater Discharge Permit
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
NRC	National Response Center
OWS	Oil Water Separator
PMID	Property Management Identification Number
SDS	Safety Data Sheet
SWMPP	Stormwater Management Program Plan
SWPCP	Stormwater Pollution Control Plan
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
WGS84	World Geodetic System

1.0 INTRODUCTION

Federal regulations administered by the State of Hawaii, Department of Health (DOH), Clean Water Branch (CWB) through State of Hawaii, Department of Transportation, Airports Division (DOTA) National Pollutant Discharge Elimination System (NPDES) Individual Small Municipal Separate Storm Sewer System (MS4) Permit No. HI S000005, henceforth referred to as the Permit, (Appendix I.a) requires that the Maintenance Baseyard for the Daniel K. Inouye International Airport, previously known as Honolulu International Airport (HNL), develop and implement a Stormwater Pollution Control Plan (SWPCP) for its industrial activities. The purpose of the regulations is to protect water quality by reducing the amount of potential pollutants in stormwater runoff caused by industrial activities. The Permit has been administratively extended (Appendix I.b) until execution of the subsequent Permit.

1.1 SWPCP Implementation

The Permit requires the Maintenance Baseyard to develop and implement a SWPCP to minimize the discharge of pollutants in stormwater runoff and maintain compliance with the conditions of the Permit. Requirements for the SWPCP include the following:

- The SWPCP and all subsequent revisions, accompanying records, and reports shall be maintained onsite at the **Maintenance Baseyard office** and/or on the DOTA, Engineering Branch, Environmental Section (AIR-EE) X-Drive and shall be made available to the DOH and/or EPA upon request. The facility will retain these records for a minimum of five (5) years.
- Semi-annual inspections shall be conducted using the Facility Inspection Report, located in Appendix VIII to ensure the facility remains in compliance with the SWPCP. AIR-EE will maintain records of inspection findings and corrective actions taken for a minimum of five (5) years on its X:Drive.
- Annual employee training will be conducted to ensure the SWPCP is properly implemented and documentation records will be maintained on-site. AIR-EE will maintain records of training for a minimum of five (5) years on its X:Drive. DOTA management staff, maintenance personnel, and contractor staff will be knowledgeable of the plan and follow the guidelines set forth in the SWPCP, as well as HNL airport responsibilities as described in Hawaii Administrative Rules (HAR) Title 19 and pertinent State and Federal regulations.
- At minimum, annual stormwater monitoring and reporting is required as described in the Stormwater Management Program Plan (SWMPP) Section H, Annual Stormwater Monitoring Plan. AIR-EE will maintain records of monitoring and reporting for a minimum of five (5) years on its X:Drive.
- The SWPCP will be reviewed as needed to identify necessary changes. Updates may be required due to effectiveness of current Best Management Practices (BMPs), spill events, changes in Maintenance Baseyard activities, changes in Maintenance Baseyard features, or other necessary changes. The Airports Director or designee will be responsible for approving revisions to the SWPCP. In the event the plan is modified, AIR-EE will submit the updated SWPCP to the DOH through e-Permitting, and then provide a copy of the updated SWPCP to the Maintenance Baseyard.

- Implementation of the SWPCP is the responsibility of the General Construction and Maintenance Supervisor. Enforcement of the Permit conditions, the SWPCP, and stormwater monitoring are the responsibility of the AIR-EE Supervisor.

2.0 SITE DESCRIPTION

The Maintenance Baseyard facility is located east of the terminals at 2919 Aolele Street, between the convergence of Kaloaloa Canal and another unnamed drainage ditch, known as Aolele Street Drainage Ditch (Figures 1 and 2). It includes a Maintenance Shop; Fueling Area; Paint Shop; Carpentry Shop; Landscaping Nursery; vehicle, material, and waste storage areas; vehicle and equipment parking; offices; and other buildings and storage areas to ensure the airport remains operational (Appendix II, Figure 2 and Appendix III). A six-foot-high chain link fence surrounds the Maintenance Baseyard and a private contractor provides 24-hour security. More information on activities conducted at the Maintenance Baseyard are described in the next section.

The Maintenance Baseyard occupies several property management identification numbers (PMIDs) listed in Appendix IV, with the primary PMID being HNL.003.003.01.15.

The Maintenance Baseyard supports various operations at the airport, which may include vehicle maintenance, fueling, and washing; body repair; roadway, runway, and taxiway maintenance; landscaping and vegetative management; fertilizer, pesticide, and herbicide application; labor services (furniture moving, trash bin emptying, etc.); building maintenance; and street sweeping.

2.1 Site Activities

The activities conducted at the Subject Property include (see Appendix V for BMPs):

- Street Sweeping;
- Vehicle and Equipment Maintenance and Storage;
- Auto Body Repair;
- Vehicle and Equipment Washing;
- Vehicle and Equipment Fueling;
- Painting;
- Carpentry;
- Vegetation Management;
- Fertilizer, Pesticide, and Herbicide Application;
- Painting;
- Material Storage;
- Material Handling and Use;
- Solid Waste Storage and Disposal; and
- Spill Prevention and Response.

The vehicle and equipment maintenance activities at the Maintenance Baseyard include minor engine services, draining fluids, parts washing, changing fluids, tire change, and battery replacement. The Maintenance Shop, which houses an Automotive Shop and Vehicle Wash Area (Environmental Identification Number [EID] 15005), is located in the northeastern portion of the Maintenance Baseyard. Batteries, solvents, oils, and other lubricants are stored within the

Maintenance Shop. A parts washer is located in the western portion of the Maintenance Shop and collects spent solvent in a 55-gallon drum on secondary containment. Additionally, a 100-gallon underground oil water separator (OWS) (EID 03907) connected to the Maintenance Shop floor drains contains any spills that may extend beyond the secondary containment. The OWS is permitted by the City and County of Honolulu (CCH) to discharge to the sanitary sewer under Industrial Wastewater Discharge Permit (IWDP) No. 20120341 (Appendix VI). Periodically, vehicles are washed in the Vehicle Wash Area in the Maintenance Shop and the wash water is directed to the OWS.

This area also includes 55-gallon drums of new oil, used oil, transmission oil, and other maintenance materials in portable over-pack containers or spill pallets. New and used oil is stored in 55-gallon drums within a spill pallet located outside the Maintenance Shop. The used oil from the drums is then pumped into the to the 280-gallon used oil aboveground storage tank (AST) (EID 09372). The used oil in the AST is properly removed regularly by a licensed contractor. The used oil AST is a Lube Cube manufactured by Containment Solutions with integral secondary containment. It is equipped with a visual leak detection gauge for the interstitial space and a liquid-level gauge for the primary tank. The fill port is located in a locked containment sump that has a capacity of seven gallons.

The Fueling Area is located near the entrance of the Maintenance Baseyard and is under a canopy designed to protect the Fueling Area from direct rainfall. Vehicle fueling is conducted through dispensers that bring fuel from the three 2,300-gallon underground storage tanks (USTs), one of which contains diesel (EID 03121) and two of which contain gasoline (EIDs 03122 and 03123). The three USTs are double-walled and monitored by a Veeder-Root system. There is an Emergency Shutoff valve that is tested by maintenance personnel and a spill kit is maintained in the area. The three storm drains located around the Fueling Area (EIDs 5502, 5503, and 5504) have been fitted with Safe Drains®. These drains are closed when the fuel truck is filling the USTs, or in the event of a spill to prevent any oil product or stormwater pollutant from entering the MS4.

Immediately outside of the western side of the Maintenance Shop is a parking area designated for vehicles that require maintenance, the Impervious Maintenance Area, painted with a material that prevents petroleum leaks from infiltrating into the asphalt and soil. Additionally, the facility uses drip pans to collect the oil leaks from vehicles and equipment.

Painting activities are conducted in the Paint Shop, located north of the Main Office. This area includes a Paint Booth (EID 03684), which is utilized for spray-painting autobody operations. However, the Paint Booth has not been operational and the City and County permit to operate the paint booth has been allowed to expire since the booth is no longer in use. It should also be noted that autobody painting operations have not been conducted since the paint booth became inoperable; DOTA is in the process of securing funding for the Paint Booth to be repaired. Paints and supplies are stored within secondary containment. Paint stripes may be tested on the paved area outside of the Paint Shop.

The Landscape Nursery is located north of the Paint Shop and houses plants being raised for the airport. Chemicals used in this area may include fertilizers and pesticides. There is a small Greenhouse by the Aggregate Storage area as well. The Grounds Maintenance Building, located

in the middle of the Baseyard, is used for landscaping activities. Additional pesticides are stored in the Material Storage Building for use around the airport property. All usage of landscaping chemicals is recorded in accordance with the requirements of the Permit. Lawn mowers and handheld vegetation management equipment are utilized around the airport property.

The Carpentry Shop, next to the Main Office, is located inside a building and includes several types of vacuum equipment to clean up and remove saw dust, hence preventing saw dust from impacting stormwater.

The Equipment Parking area by the T-Hangar Converted Storage is where various Maintenance Baseyard vehicles and equipment are parked, including the sweeper trucks. Plans are currently being developed for the construction of a Heavy Equipment Storage building at the Equipment Parking area just north of the Aggregate Storage.

Materials necessary for operations at the Maintenance Baseyard and throughout the airport are stored properly undercover and on secondary containment when necessary. These materials include new parts, light bulbs, and chemicals available at the Warehouse; maintenance materials in the Maintenance Shop; herbicides and pesticides in the Landscape Nursery and Material Storage Building; paints and solvents in the Paint Shop; various aggregates in the Aggregate Storage areas; tires in the Tire Storage area; and other materials in the various storage areas called out in the site map (Figure 2). There are two Aggregate Storage Areas, one inside the site and one outside of the security fence. The one inside the Maintenance Baseyard consists of aggregate piles contained in concrete masonry units with berms along the front of the units. The one outside the security fence is utilized for temporary storage of aggregate and street sweeping debris (further described in paragraph below). The aggregate is stored for ongoing paving projects.

Wastes are also stored at the Maintenance Baseyard. These include general rubbish in designated bins (Waste Bins area); metal waste stored in a metal collection dumpster and picked up on an "as needed basis" by Schnitzer Steel; green waste and street sweeping debris; used oil in a 280-gallon AST (EID 09372); and hazardous waste from painting operations and tenant activities (Hazardous Material Storage areas). Street sweeping debris in the Sweeper Washout area located outside of the security fence is transported to the dumpster inside the fence daily and then the dumpsters are picked up every morning by Honolulu Disposal. All wastes are properly sorted, labeled, and disposed according to the Solid Waste Storage and Disposal BMP (Appendix V).

2.2 Drainage System Description

The Maintenance Baseyard has five different drainage areas. Each include an outfall (Appendix I, Figures 2 and 3) that either drain into Kaloaloa Canal or an unnamed drainage ditch, known as Aolele Street Drainage Ditch, which connects to Kaloaloa Canal. Kaloaloa Canal drains into Keehi Lagoon through an outfall at the coordinates 21°19'40"N, 157°53'56"W in the World Geodetic System (WGS84) coordinate system. There is no offsite runoff that enters the Maintenance Baseyard. Sampling is conducted from Drainage Area 04 as this drainage area is the most reflective of potential harmful pollutants that could enter the MS4 (see Section 2.2.4 for more information).

2.2.1 Drainage Area 01 (Outfall 3917)

Stormwater runoff drains through a concrete channel located northeast of the Maintenance Baseyard and flows into drainage inlet EID 3912, which discharges into the Aolele Street Drainage Ditch (Base Outfall 01 – EID 3917) north of the Maintenance Baseyard. While EID 3912 is referred to as a drainage inlet, it is an opening in the concrete channel, as shown in the site map (Figure 2). The stormwater runoff in this drainage area flows from a parking area north of the Maintenance Baseyard fence and the Maintenance Baseyard interior road that surrounds the Landscaping Nursery and the backside of the Paint Shop. All industrial activities in this drainage area are performed undercover and protected from contact with stormwater runoff.

2.2.2 Drainage Area 02 (Outfall 3909)

Stormwater runoff drains through a concrete channel located northeast of the Maintenance Baseyard into drainage inlet EID 3908, which discharges into the Aolele Street Drainage Ditch (Base Outfall 02 – EID 3909) to the north of the Maintenance Baseyard. While EID 3908 is referred to as a drainage inlet, it is an opening in the concrete channel, as shown in the site map (Figure 2). The stormwater runoff in this drainage area flows from the Employee Parking area north of the Maintenance Baseyard fence, the Maintenance Baseyard interior road between the Paint Shop and Carpenters Shop, which includes the Paint Storage Area, and the northern end of the Auto Shop/Vehicle Wash Area (EID 15005). While most industrial activities in this drainage area are performed undercover, if pollutants were to escape, they would most likely enter drain inlet EID 3908, as shown in the site map (Figure 2).

2.2.3 Drainage Area 03 (Outfall 12175)

Stormwater runoff through drain inlets EIDs 5496 and 5498 is collected from the west end of the Maintenance Baseyard and flows to the Kaloaloa Canal (Base Outfall 03 – EID 12175) to the south of the facility. Dumpsters for waste steel, green wastes, street sweeping waste, and other solid wastes collected from HNL runways, taxiways, and roadways are kept in the Waste Bins area until DOTA's dumpster contractor removes the dumpsters. This drainage area also is comprised of Aggregate Storage, a small Greenhouse, Grounds Maintenance Building, Equipment Parking, Hazardous Material Storage, and office spaces, including the Sheriff Office Trailer. While most activities are conducted indoors, if pollutants were to escape, they would most likely enter drain inlets EIDs 5496 and/or 5498, as shown in the site map (Figure 2).

2.2.4 Drainage Area 04 (Outfall 4576)

Stormwater runoff into drain inlets EIDs 5499 and 5500 is collected from the Impervious Maintenance Area south of the Main Office, the Recyclable Material/Spent Lead-Acid Batteries storage area, and the Material Storage Building (which houses herbicides and pesticides among other items and tools). Drain inlets EIDs 5502, 5503, and 5504 receive stormwater runoff from the Fueling Area, the Maintenance Shop, the Main Gate, the 280-gallon used oil AST (EID 9372), and the Temporary Equipment Storage area. These three drain inlets are located near the fuel pump and also have Safe Drains® installed, which allow them to be closed quickly in the event of a spill. They are also closed whenever fuel trucks fill the USTs. Five grate inlet filters with a multi-layer filter cartridge were installed in all five above-mentioned drain inlets (EID 5499, 5500, 5502, 5503, and 5504) in November 2017 to reduce levels of dissolved and particulate metals in the effluent (Table 1). Note that while the Vehicle Wash Area (EID 15005) is located in this drainage area, it does not contribute runoff to the drainage system (besides roof runoff) because it connects to OWS

3907, which discharges to CCH sewer. The wash area also has a pit under the vehicle wash area that captures any overflows from washing.

The discharge from Drainage Area 4 is directed south to the Kaloaloa Canal (Base Outfall 04 – EID 4576). OWS EID 9363 is located in between manhole EID 5501 and outfall EID 4576. This underground, concrete, 500-gallon capacity OWS has two manhole covers. DOTA conducts stormwater monitoring from the pipe between manhole 5501 and OWS 9363 via an automatic sampler (HNL Small MS4 Monitoring Point HNL 003).

TABLE 1: LIST OF DRAIN INLETS WITH RETROFITS AT THE MAINTENANCE BASEYARD

DRAIN INLET EID NO.	RETROFIT (PERMANENT BMP) EID NO.	RETROFIT (PERMANENT BMP)
5499	4910	Filter media basket to assist with removal of metals from stormwater runoff.
5500	4911	Filter media basket to assist with removal of metals from stormwater runoff.
5502	4912	Filter media basket to assist with removal of metals from stormwater runoff and Safe Drain® with hydrocarbon boom.
5503	4913	Filter media basket to assist with removal of metals from stormwater runoff and Safe Drain® with hydrocarbon boom.
5504	4914	Filter media basket to assist with removal of metals from stormwater runoff and Safe Drain® with hydrocarbon boom.

2.2.5 Drainage Area 05 (Outfall 12174)

Drain inlet (EID 10230), located just outside of the Maintenance Baseyard fence, discharges into Kaloaloa Canal (Base Outfall 05 – EID 12174). It receives sheet flow from a small southern portion of the facility comprised of Parts & Machine Storage, as well as the Sweeper Washout and Aggregate Storage areas located outside of the security fence on the western side of the Maintenance Baseyard. Since not all of the hoppers can reach the dumpster, the Sweeper Washout area serves as a temporary place for the sweeper debris, the debris is transferred to the dumpster inside the fence daily.

2.3 Groundwater and Climate Conditions

The climate in this area of southern Oahu, near the Subject Property, is marked by seasonal variation in rainfall and small variations in temperature. The average annual rainfall reported by the U.S. Department of Agriculture is between 20 inches and 35 inches, most of which occurs between November and April.

According to Mink and Lau's 1990 publication "Aquifer Identification and Classification for Oahu: Groundwater Protection Strategy for Hawaii," the Subject Property is located above an upper and lower aquifer within the Moanalua Aquifer System, which is part of the Honolulu Aquifer Sector. The upper aquifer is a basal, unconfined, sedimentary aquifer, characterized as moderately saline with high vulnerability to contamination. This aquifer is used neither as a

drinking water source, nor considered ecologically important. The lower aquifer is a basal, confined aquifer in horizontally extensive lavas, characterized as irreplaceable, currently used drinking water source with fresh salinity (less than 250 mg/l Cl^- per liter of water) and a low vulnerability to contamination.

3.0 POTENTIAL POLLUTANTS IN STORMWATER

Table 2 below lists some of the possible pollutants present at the Maintenance Baseyard by their source. The predominant activities conducted on the site include vehicle and equipment maintenance, storage, fueling, washing; painting; carpentry; vegetation management; material management; and waste management. Significant spills of these materials are reported to the General Construction and Maintenance Supervisor as well as to the DOTA Environmental Health Specialist (EHS) for containment/evaluation.

TABLE 2: LIST OF POTENTIAL POLLUTANTS BY SOURCE

POTENTIAL POLLUTANT	SOURCE(S)
Diesel/Gasoline	Fueling Area/Three 2,300-gallon USTs (EID 03121, 03122, 03123)/Small Equipment Fueling
Lubricants/Oils	Vehicle and Equipment Maintenance/Leaking Vehicles and Equipment/Storage/280-gallon AST (EID 09372)
Volatile Organic Compounds (VOCs)	Solvent Storage/Parts Washer/Degreasing (Brake Pad Cleaner)/Painting/Carpentry (e.g. wood glue and laminates)
Heavy Metals	Battery Storage/Engine Repair/Vehicles & Parts/Break Pads/Galvanized Steel Buildings & Fences/Tire Storage
Pesticides/Herbicides/Fertilizers	Chemical Storage/Vegetation Management
Surfactants	Vehicle and Equipment Washing
Debris	Vehicle and Equipment Washing/Carpentry/Street Sweeping/Aggregate Stockpiles/General Rubbish
Hazardous Materials	Hazardous Material Storage

3.1 Pollutant Control

Pollutants are controlled at the Maintenance Baseyard by using BMPs identified in Appendix V.

All washing activities are conducted at the DOTA maintained wash racks located throughout HNL, or within the Maintenance Shop which discharges to an OWS.

Routine maintenance of vehicles and equipment is conducted in covered areas or on the Impervious Maintenance Area, when practicable, to prevent contact with stormwater runoff and liquid materials are stored within secondary containment measures. The Maintenance Shop and Impervious Maintenance Area are swept regularly to prevent the tracking of materials to uncovered areas. Fueling is conducted in designated areas and storm drain inlets located near the fueling area are equipped with Safe Drains, which are closed during fueling operations.

Painting and carpentry operations are conducted in designated areas with BMPs designed to prevent contact with stormwater.

Additionally, spill kits are located throughout the Maintenance Baseyard to ensure that releases are responded to quickly.

3.2 Recent Spill of Pollutants

There have been no reportable spills of pollutants at the Maintenance Baseyard in the last five years. If spills occur in the future, they will be reported to the AIR-EE for recordkeeping purposes and necessary regulatory agencies in accordance with the Spill Prevention and Response BMP in Appendix V. A form for documenting spills is attached (Appendix VII). Refer to Section 5.3 for additional spill procedures.

4.0 NON-STORMWATER CONTROL

The only source of non-stormwater discharge from the Maintenance Baseyard is refrigeration condensate from ice machines, which is an allowable non-stormwater discharge per the Permit, Part B.2.

Wastewater from the Maintenance Baseyard sinks discharges to the sanitary sewer. Wastewater from vehicle washing, located in the covered maintenance shop, discharges to an OWS (EID 03907) that connects to sanitary sewer. The IWDP for the OWS connection is located in Appendix VI. The following procedures will be used to prevent the wash water from entering State waters:

- Vehicles will be washed only in the maintenance shop in areas, where waters can be directed to the OWS (EID 03907) through the floor drains. The OWS removes petroleum products from the wash water before discharging to the City and County of Honolulu sanitary sewer.
- Vehicles will be allowed to dry as much as possible before leaving the maintenance shop.
- The maintenance shop floor and floor drains will be cleaned regularly to remove detergent, oil, and dirt residue.
- The OWS will be inspected at least once per year and cleaned as necessary by a contractor.

5.0 BEST MANAGEMENT PRACTICES

By using proper management techniques and practices, it is possible to improve control of the identified potential sources of pollutants and reduce the number of spills/releases to the stormwater system. BMPs are provided in Appendix V. The BMPs have been adapted from the City & County of Honolulu, Department of Environmental Services "*Best Management Practices Manual for Construction Sites in Honolulu,*" the HNL SWMPP, and the U.S. Environmental Protection Agency (EPA) Office of Water "*Industrial Stormwater Fact Sheet Series - Sector S: Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas located at Air Transportation Facilities* (EPA-833-F-06-034)."

5.1 Good Housekeeping

Good housekeeping practices are developed to maintain a clean, safe and orderly working environment. A clean and orderly work area reduces the possibility of accidental spills caused by mishandling of equipment. Various maintenance materials such as petroleum products are stored at the Maintenance Baseyard. The implemented BMPs will reduce the potential for the contamination from these products to stormwater by minimizing exposure of the materials to stormwater. A BMP has been developed to ensure that waste generated is properly managed. With regards to debris management, the Maintenance Baseyard shall also street sweep their facility and clean debris from the concrete channel by the Employee Parking.

5.2 Preventative Practices

Preventive practices are developed to reduce the occurrence of spillage and/or leakage from vehicles and equipment. Preventive maintenance involves examination of mechanical equipment and systems to uncover conditions that could cause equipment breakdowns, as well as correction of those conditions by adjustment, repair, or replacement of worn parts before the equipment or systems fail. The Maintenance Baseyard personnel conduct checks on their vehicles, AST, USTs, and OWS to ensure that there are no leaks and that they are functioning properly.

5.3 Spill Containment and Remediation

The guidelines outlined below are intended to provide procedures to follow in the event of a spill. The Spill Log provided in Appendix VII will be used to document spills and associated response action for releases in excess of the reportable quantity threshold (25-gallons or more of petroleum). For additional spill response procedures and guidelines, refer to BMPs for Spill Prevention and Response Practices provided in Appendix V. Table 3 includes a list of pertinent contact numbers for reporting purposes if a spill were to occur at the facility. The General Construction and Maintenance Supervisor is responsible for implementing spill response procedures.

Small spills of oil (less than 25-gallons) which are capable of being cleaned up within 72 hours and do not threaten ground or surface waters will be cleaned up using absorbent materials or other acceptable practices, without disrupting facility operations. Frequent inspections of the facility will identify any small spills, which will be addressed immediately. Spilled material less than reportable quantity, regardless of type, shall be reported verbally to Ramp Control.

As defined in HAR Chapter 11-451-6, any spill, leak, or release of petroleum products greater than 25-gallons (for petroleum products), any spill, leak, or release of petroleum products less than 25-gallons that is not remedied or contained within 72 hours, and/or any sheen observed on surface

waters must be reported to the DOH. Several agencies must be informed of the spill, including, DOH Hazard Evaluation and Emergency Response (HEER) Office, DOH CWB (only if it enters State Waters), National Response Center (NRC), Local Emergency Planning Committee (LEPC), and U.S. Coast Guard, District 14. In the event of a large or uncontrolled release, the General Construction and Maintenance Supervisor shall act as the Emergency Coordinator (EC). Table 3 provides emergency contact information.

TABLE 3: EMERGENCY CONTACT INFORMATION

CONTACT	TELEPHONE NUMBER
General Construction and Maintenance Supervisor The General Construction and Maintenance Supervisor should be notified immediately of all spills, leaks, and releases that occur on the Subject Property.	(808) 304-9613
Airport Duty Manager/Code 22 The Airport Duty Manager/Code 22 should be notified of all spills or releases that occur on the Subject Property.	(808) 836-6434
HNL Ramp Control HNL Ramp Control should be notified immediately of all spills, leaks, and releases that occur on the Subject Property so that they can assist in response and notify other entities, if required.	(808) 836-6465
ARFF Station (24 hours) The ARFF Station should be notified of all spills, leaks, and releases that occur at HNL for safety concerns.	(808) 836-6670
AIR-EE Supervisor AIR-EE Supervisor should be notified of all spills or releases that occur on the Subject Property to assist in spill response as well as for recordkeeping purposes.	(808) 838-8656
NRC The EC should call the NRC to report any spill of oil or hazardous materials of a reportable quantity. The NRC will notify the appropriate Federal On-Scene Coordinator (EPA) and various State agencies.	(800) 424-8802
Local Emergency Planning Committee (LEPC) The EC should notify the LEPC of any reportable quantity spill. After business hours, leave a message including name, phone number, time of spill, what was spilled, and quantity of spill.	(808) 723-8960
U.S. Coast Guard, District 14 The U.S. Coast Guard should be notified of any quantity spill that reaches the ocean.	(800) 331-6176 or (808) 842-2600
Hawaii Emergency Management Agency The EC should notify the Oahu Civil Defense of any reportable quantity spill.	(808) 733-4300
DOH HEER Office (Oahu) The EC should notify the HEER Office of any chemical spill of a reportable quantity.	(808) 586-4249 (808) 247-2191 (after hours)
DOH CWB (Oahu) The EC should notify the CWB of spills of any chemical of a reportable quantity immediately by telephone. A written notification must also be submitted no later than thirty (30) days after the initial discovery of a release.	(808) 586-4309

6.0 STORMWATER MONITORING PROGRAM

DOTA conducts a Stormwater Monitoring Program as part of the HNL Small MS4 SWMPP. This Monitoring Program is required by the Permit and procedures are located in SWMPP Section H, Annual Monitoring Plan.

7.0 PROCEDURES FOR IMPLEMENTATION

Procedures for implementation include the training of employees, protocol for inspections, and completion of documentation.

7.1 Employee Training

Training programs are used to inform Maintenance Baseyard personnel, at all levels of responsibility, of the processes and materials with which they are working, the health and safety hazards, the practices for preventing spills, and the procedures for responding properly and rapidly to spills of toxic and hazardous materials. DOTA has developed and implemented annual mandatory environmental training. This employee training program is designed to ensure that the DOTA maintenance personnel understand pollution laws, regulation, and methods of compliance. The program focuses on the Permit conditions and the responsibilities of DOTA personnel. Included in the topics to be covered are:

TABLE 4: SUMMARY OF MAINTENANCE PERSONNEL TRAINING PROGRAM

TRAINING TOPIC	TRAINEE	RESPONSIBILITY	FREQUENCY
Potential Pollutants	Personnel	General Construction and Maintenance Supervisor or AIR-EE	Annual
Best Management Practices	Personnel	General Construction and Maintenance Supervisor or AIR-EE	Annual
Past Releases and Causes	Personnel	General Construction and Maintenance Supervisor or AIR-EE	Annual
Spill Prevention and Response Plan	Personnel	General Construction and Maintenance Supervisor or AIR-EE	Annual

Semi-annual site inspections by the AIR-EE serve as an additional training tool since the site inspections document deficiencies at the Maintenance Baseyard and suggested BMPs (see Section 7.2).

7.2 Protocol for Site Inspections

The HNL EHS or designated personnel will perform semi-annual inspections during the term of the Permit to ensure that BMPs are in place and in proper working order. DOTA EHS personnel will inspect the facility using the Facility Inspection Report (Appendix VIII) in accordance with this SWPCP .

7.3 Revisions to the SWPCP

Plan reviews shall be performed as necessary to assess the effectiveness of the BMPs and implement appropriate revisions due to:

- Evaluations as a result of a spill event;

- Changes in materials used on-site;
- Changes in the maintenance procedures; and/or
- Changes in management practices.

Revisions may also be made if BMPs in the SWPCP are not effective in reducing pollutants in stormwater discharges and/or the facility is found to be in violation of the Permit conditions. Plan review and revisions shall be completed within 30 days. All DOTA personnel at the Maintenance Baseyard with maintenance duties will be informed of any changes made to the SWPCP, and will be trained on new or modified procedures, if necessary.

7.4 Documentation Procedures

Records shall be kept that document all spills, leaks and other discharges, including hazardous substances in reportable quantities that occur at the facility.

Training records, such as sign-in sheets, are maintained on the AIR-EE server for at least five (5) years.

Reports of all inspections performed at the site are maintained on the AIR-EE server for at least five (5) years. The inspector shall document all observations, particularly the effectiveness of site BMPs. Inspection records shall be analyzed semi-annually (to correspond with semi-annual facility inspections) to determine if BMPs are effective and, if not, what needs to be done to improve the methods used at the site.

A copy of this SWPCP shall also be made available to personnel as a reference in the same location that Safety Data Sheets (SDS) and other safety information are maintained and located in the Main Office at the Maintenance Baseyard.

For access to AIR-EE server records, please contact AIR-EE Supervisor.

8.0 REFERENCES

City & County of Honolulu, Department of Environmental Services. (2012). *Best Management Practices Manual for Construction Sites in Honolulu*.

Mink, J. F., and Lau, L. S. (1990). *Aquifer Identification and Classification for Oahu: Groundwater Protection Strategy for Hawaii. Water Resources Research Center, University of Hawaii at Manoa*.

State of Hawaii, Department of Health. (2014, November). *Hawaii Administrative Rules, Chapters 11-54.*

State of Hawaii, Department of Health. (2019, February). *Hawaii Administrative Rules, Chapter 11-55*.

State of Hawaii, Department of Health. (2013, December). *Hawaii Administrative Rules, Chapters 11- 54 and 11-55*.

State of Hawaii, Department of Health. (2013, December 6). *Hawaii Administrative Rules, Chapters 11-55 Appendix B.*

State of Hawaii, Department of Transportation, Airports Division. (2019, April). *Daniel K. Inouye International Airport, Small Municipal Separate Storm Sewer System, Stormwater Management Program, Section H, Annual Stormwater Monitoring Plan*.

State of Hawaii, Department of Transportation, Airports Division. (2015, June). *Honolulu International Airport, Small Municipal Separate Storm Sewer System, Stormwater Management Program Plan.*

State of Hawaii, Department of Transportation, Airports Division. (2007, May). *Honolulu International Airport, Small Municipal Separate Storm Sewer System, Stormwater Management Program Plan*.

State of Hawaii, Department of Transportation, Airports Division. (2014, April 14). *National Pollutant Discharge Elimination System, Permit Number HIS000005*.

U.S. Department of Agriculture Soil Conservation Service. (1972). *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii.*

U.S. Department of Interior Geological Survey. (1999). *Pearl Harbor Quadrangle, 7.5 Minute Series (Topographic Map).*

U.S. EPA Office of Water. (2006, December). *Industrial Stormwater Fact Sheet Series, Sector S: Vehicle Maintenance Areas, Equipment Cleaning Areas, or Deicing Areas located at Air Transportation Facilities (EPA-833-F-06-034).*

Appendix I.a

NPDES Permit No. HI S000005

PERMIT NO. HI S000005

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. §1251 et. seq.; the "Act"); Hawaii Revised Statutes, Chapter 342D; and Hawaii Administrative Rules (HAR), Department of Health (DOH), State of Hawaii, Chapters 11-54 and 11-55;

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
AIRPORTS DIVISION (DOT-AIR)

(hereinafter PERMITTEE)

is authorized to discharge storm water runoff and certain non-storm water discharges as identified in Part B.2. of this permit from the DOT-AIR Small Municipal Separate Storm Sewer System (Small MS4) and storm water discharges associated with Industrial Activities from the Maintenance Baseyard Facility at the Honolulu International Airport (HNL); and additional storm sewer outfalls that may be identified from time to time by the Permittee,

into Manuwai Canal, Kaloaloa Canal, Mamala Bay, Keehi Lagoon, the Reef Runway Marine Pond adjacent to the HNL (a.k.a. Ahua Pond), including various drainage canals (e.g., drainage canal north of the Maintenance Baseyard Facility), Island of Oahu, Hawaii,

in accordance with the general requirements, discharge monitoring requirements, and other conditions set forth herein, and in the attached DOH "Standard NPDES Permit Conditions," that is available on the DOH, Clean Water Branch (CWB) website at http://health.hawaii.gov/cwb/site-map/home/standard-npdes-permit-conditions.

All references to Title 40 of the Code of Federal Regulations (CFR) are to regulations that are in effect on July 1, 2013, except as otherwise specified. Unless otherwise specified herein, all terms are defined as provided in the applicable regulations in Title 40 of the CFR.

This permit will become effective on **April 14, 2014**.

This permit and the authorization to discharge will expire at midnight, **March 13, 2019**.

Signed this 14th day of March, 2014.

(For) Director of Health

FINAL PERMIT
March 14, 2014

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Part A. GENERAL REQUIREMENTS

The Permittee shall:

Part A.1. Comply with the existing DOT-AIR SWMP Plan until submittal of the revised DOT-AIR SWMP Plan to DOH; and future activities as identified in its last submitted Annual Report. The revised SWMP Plan shall be implemented upon submittal to DOH.

Part A.2. Comply with all requirements in this permit and Consent Decree, issued on January 29, 2006, until its termination. In case of conflict with any requirement, the more stringent requirement shall apply.

Part A.3. Retain a copy of this permit and all other related materials and the SWMP, with all subsequent revisions, at the DOT-AIR, HNL office, located at 400 Rodgers Boulevard, Suite 700, Honolulu, Hawaii 96819.

Part A.4. Ensure that anyone working under this permit complies with the terms and conditions of this permit.

Part A.5. Include the permit number, **HI S000005**, and the following certification with all information required under this permit:

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

Part A.6. All “Plans” (e.g., SWMP Plan, Public Education Plan, Enforcement Response Plan, Trash Reduction Plan, Plan for Requiring LID in its Standards; Action plan to address erosion at its outlets, Annual Monitoring Plan, and SWPCPs) shall be available on DOT-AIR website for a minimum of 30 calendar days for public review and comment. DOT-AIR shall notify DOH by email at cleanwaterbranch@doh.hawaii.gov of the plan on their website within five (5) calendar days of the plan being available. DOT-AIR shall address all comments received within the 30 calendar day period and provide both comments and responses to

DOH with its submittal of the Plan in accordance with the deadline as specified in Part H. All Plans shall be implemented upon submittal regardless of DOH's review and acceptance. If any deficiencies are found by DOH after submittal, the Permittee shall correct the deficiencies to DOH's satisfaction within 30 calendar days or such other time as agreed to in writing and resubmit the plan. In addition to the Plans being available for public comment, the current/existing plans shall also be available on DOT-AIR website.

Part A.7. All information and reports required under this permit and updates to information on file shall be submitted through the CWB Compliance Submittal Form for Individual NPDES Permits and Notice of General Permit Coverages (NGPCs). This form is accessible through the e-Permitting Portal website at: https://eha-cloud.doh.hawaii.gov/epermit/View/home.aspx. If not already registered, you will be asked to do a one-time registration to obtain your login and password. After you register, click on the Application Finder tool to locate the form. Follow the instructions to complete and submit this form. All submissions shall include a CD or DVD containing the downloaded e-Permitting submission and a completed Transmittal Requirements and Certification Statement for e-Permitting NPDES/NGPC Compliance Submissions Form, with original signature and date.

Hard copies shall be submitted to the following address unless otherwise informed:

Clean Water Branch
Environmental Management Division
Department of Health
919 Ala Moana Blvd. Room 3001
Honolulu, Hawaii 96814

Part A.8. The Permittee shall submit annual reports to EPA at the following address:

U.S. Environmental Protection Agency, Region 9
Attention: WTR-5
75 Hawthorne Street
San Francisco, CA 94105-3901

Part B. DISCHARGE LIMITATIONS

Part B.1. The Permittee shall effectively prohibit non-storm water discharges through its separate storm sewer system into State Waters and from its Industrial facilities/activities (i.e., Maintenance Baseyard Facility, South Ramp Wash Rack, North Wash Rack, T-Hanger Wash Pad, and Wiki Wiki Wash Rack). National Pollutant Discharge Elimination System (NPDES) permitted discharges and non-storm water discharges identified in Part B.2 of this permit are exempt from this prohibition.

Part B.2. The following non-storm water discharges may be discharged into the Permittee's separate storm sewer system provided that the discharge be identified below, and meet all conditions when specified by the Permittee. In the event that any of the below non-storm water discharges are determined to be a source of pollution by the Permittee, the discharge will no longer be allowed.

- Water line flushing;
- Landscape irrigation;
- Diverted stream flows;
- Rising ground waters;
- Uncontaminated ground water infiltration (as defined in 40 CFR §35.2005(20));
- Uncontaminated pumped ground water, not including construction related dewatering activities;
- Discharges from potable water sources and foundation drains;
- Air conditioning condensate;
- Refrigeration unit condensate from the ice machines at the Maintenance Baseyard;
- Irrigation water;
- Springs;
- Water from crawl space pumps, uncontaminated water from utility manholes or boxes, and footing drains;
- Water from charity car washes;
- Flows from riparian habitats and wetlands;
- Exterior building wash water (water only);
- Residual street wash water (water only), including wash water from sidewalks, plazas, and driveways, but excluding parking lots; and
- Discharges or flows from firefighting activities.

The Permittee may also develop a list of other similar occasional incidental non-storm water discharges (e.g., non-commercial car washes, etc.) that

will not be addressed as illicit discharges. These non-storm water discharges must not be reasonably expected (based on the information available to the Permittee) to be significant sources of pollutants to the Small MS4, because of either the nature of the discharges or conditions the Permittee has established for allowing these discharges to the Small MS4 (e.g., non-commercial car wash with appropriate controls on frequency, proximity to sensitive water bodies, BMPs on the wash water, etc.). The Permittee shall document in the storm water management plan any local controls or conditions placed on the discharges, and include a provision prohibiting any individual non-storm water discharge that is determined to be contributing pollutants to the Small MS4.

Note: Discharges from the Koi Fish Ponds at the Chinese, Japanese, and Hawaiian Gardens to State waters are not covered under this permit and shall obtain separate NPDES permit coverage.

Part B.3. The discharge of pollutants from the Permittee's Small MS4 shall be reduced to the Maximum Extent Practicable (MEP), consistent with Section 402(p)(3)(B) of the CWA. This permit, and the provisions herein, is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants to the MEP from the DOT-AIR Small MS4 to waters of the State. MEP is a dynamic performance standard and it evolves as our knowledge of urban runoff control measures increases.

Part B.4. The discharge of pollutants from the Permittee's Industrial facilities/activities shall be reduced to the appropriate discharge limitations subject to the Best Available Technology currently available (BAT)/ Best Conventional Pollutant Control Technology (BCT) discharge requirement, consistent with the CWA and other respective federal and state requirements for such facilities.

Part C. RECEIVING WATER LIMITATIONS, INSPECTIONS, AND CORRECTIVE ACTIONS

Part C.1. The discharge shall comply with the basic water quality criteria which states:
"All waters shall be free of substances attributable to domestic, industrial, or other controllable sources of pollutants, including:

Part C.1.a. Materials that will settle to form objectionable sludge or bottom deposits;

Part C.1.b. Floating debris, oil, grease, scum, or other floating materials;

Part C.1.c. Substances in amounts sufficient to produce taste in the water or detectable off flavor in the flesh of fish, or in amounts sufficient to produce objectionable color, turbidity or other conditions in receiving waters;

Part C.1.d. High or low temperatures; biocides; pathogenic organisms; toxic, radioactive, corrosive, or other deleterious substances at levels or in combinations sufficient to be toxic or harmful to human, animal, plant, or aquatic life, or in amounts sufficient to interfere with any beneficial use of the water;

Part C.1.e. Substances or conditions or combinations thereof in concentrations which produce undesirable aquatic life; and

Part C.1.f. Soil particles resulting from erosion on land involved in earthwork, such as the construction of public works; highways; subdivisions; recreational, commercial, or industrial developments; or the cultivation and management of agricultural lands."

Part C.2. The discharge shall not cause or contribute to a violation of any of the applicable beneficial uses or water quality objectives contained in HAR, Chapter 11-54, titled "Water Quality Standards."

Part C.3. During inspections/screenings as required by this permit, the Permittee shall also visually inspect the receiving state waters (i.e., in the area where the inspection is occurring), effluent, and control measures and Best Management Practices (BMPs) to detect violations of and conditions which may cause violations of the basic water quality criteria as specified in HAR, Section 11-54-4. (e.g., the Permittee shall look at effluent and receiving state waters for turbidity, color, floating oil and grease, floating debris and scum, materials that will settle, substances that will produce taste in the water or detectable off-flavor in fish, and inspect for items that

may be toxic or harmful to human or other life). Except, if the discharge first enters the MS4, then the permittee may inspect the discharge when it enters the drainage system rather than at the receiving state water (excluding an upset event, BMP failure, or rainfall events greater than 0.25 inches).

Part C.4. The Permittee shall immediately take action to stop, reduce, or modify the discharge of pollutants as needed to stop or prevent a violation of the basic water quality criteria as specified in HAR, Section 11-54-4.

Part C.5. For TMDLs adopted by DOH and approved by the EPA, the Permittee shall demonstrate consistency with the WLAs consistent with the assumption of the associated TMDL document within the timeframe as specified in its Implementation and Monitoring (I&M) Plan.

Part D. STORM WATER MANAGEMENT PLAN (SWMP)

The Permittee shall:

Part D.1. Further develop and improve, implement, and enforce a SWMP designed to address the requirements of this permit and reduce, to the MEP, the discharge of pollutants to and from its Small MS4 to protect water quality and to satisfy the appropriate water quality requirements of the Act. To manage the storm water program, additional personnel and increased contractor support is required. The SWMP shall include the following information for each of the SWMP components described in Part D.1.a. to Part D.1.g. below:

- The BMPs, plus underlying rationale, that shall be implemented for each of the program components.
- The measurable standards and milestones for each of the BMPs, plus underlying rationale, including interim measures to aid in determining level of effort and effectiveness of each program component.
- The name or position title and affiliation (e.g., branch/section within DOT-AIR) of the person or persons responsible for implementation or coordination of each program component.
- Monitoring to determine effectiveness of each SWMP component and of the overall storm water program.

Submittal Date. The SWMP shall be updated and modified per the requirements of this permit, be consistent with the format of this permit, shall be submitted to DOH in accordance with Part A.7. within one (1) year after the effective date of this permit, or as otherwise specified, and shall be fully implemented upon submittal. The Permittee shall implement the existing SWMP until submittal of the revision. The SWMP and any of its revisions, additions, or modifications are enforceable components of this permit.

Part D.1.a. Public Education and Outreach

The Permittee shall further develop, improve, and implement an annual comprehensive education, outreach, and involvement program to distribute educational materials to the following Targeted Groups and General Public (Public) or conduct equivalent outreach activities about the impacts of storm water as well as enabling tenants and the public to

identify and report a pollution-causing activity (i.e., spotting an illicit discharge) and the steps that can be taken to reduce pollutants in storm water runoff.

Within 30 calendar days after the effective date of this permit the Permittee shall notify tenants previously covered under the Permittee's Permit they are no longer covered under DOT-AIR's NPDES Permit. The notification shall be extended to tenants not previously covered, but required to obtain NPDES coverage under HAR, Chapter 11-55, Appendix B, NPDES General Permit Authorizing the Discharge of Storm Water Associated with Industrial Activities (General Industrial Storm Water permit). A list of tenants sent the notification shall be submitted to DOH within its Annual Report. This coverage applies to storm water discharges associated with Industrial activities regulated under 40 CFR 122.26(b)(14), except construction activities listed at 40 CFR 122.26(b)(14)(x). The notification shall include information requiring them to apply for coverage from DOH within 30 calendar days of receiving the notice from DOT-AIR and be issued a Notice of General Permit Coverage (NGPC) within 90 calendar days of receiving the notice. As required in Part D.1.g.(2) the Permittee shall annually update its inventory of Industrial facilities and activities and verify General Industrial Storm Water permit coverage or NPDES Conditional "No Exposure" Exclusion or any other applicable NPDES permit has been obtained. For any failure to comply, the Permittee shall implement its Enforcement Policy as required in PartD.1.g.(6).

The program shall be improved through enhanced branding and may implement an employee and tenant environmental awards program. As an organization, DOT Airports, Harbors, and Highways Divisions shall develop and implement an organization-wide branding message regarding storm water and pollution prevention.

The program should create: changes in attitude, knowledge, and awareness; BMP implementation; pollutant load reduction; and changes in discharge and receiving water quality. The SWMP shall include a written Public Education Plan for how the Permittee will reach all targeted audiences and implement the permit requirements described below. The Permittee may fulfill portions of this requirement by cooperating with DOT Highways and Airports Divisions and the City and County of Honolulu's (City) storm water public education program.

Part D.1.a.(1) *Targeted Groups* - The Permittee shall address the following targeted groups in the Public Education Plan with appropriate messages, and

shall describe outreach activities and anticipated frequencies that each activity will be conducted over the permit term:

- Locations of illicit discharges
- DOT-AIR and HNL employees
- DOT Oahu District Engineers
- DOT-AIR consultants
- DOT-AIR tenants and those that discharge storm water into the DOT-AIR Small MS4 (i.e., neighboring businesses)
- Construction Contractors on DOT-AIR property, including those that discharge storm water into the DOT-AIR Small MS4
- School Children and the General Public, including visitors to the State
- Any other source that the Permittee determines may contribute a significant pollutant load to its Small MS4

Part D.1.a.(2) *General Public* - The Permittee shall include in the Public Education Plan the following activities, with anticipated frequencies that each activity will be conducted over the permit term. The term "General Public" or "Public" shall not be limited to only those with regular access to the airport, such as DOT-AIR employee, tenants, and contractors.

- Public Service Announcements (PSAs)
- School programs
- Telephone number to report illegal discharges to the DOT-AIR Small MS4
- Participation in special events (e.g., storm drain stenciling programs, community clean-ups, citizen watch groups, and "Adopt-A-Storm Drain" programs) and exhibits
- Web site
- Pesticides, herbicides, and fertilizer use program
- Training for the Target Group, etc. on pollution prevention BMPs in the SWMP
- Forming partnerships with HNL tenants and the general public to fulfill the requirements of this program
- Incorporating public meetings/citizen panels to discuss storm water management rules
- Proper disposal of grass clippings, leaves, and other green waste
- Proper storage, disposal/recycling, and spill information for hazardous waste

Part D.1.a.(3) *Evaluation Methods* - The Permittee shall evaluate the progress of the public education program based on the following:

- An annual survey of DOT-AIR and HNL employees, tenants, consultants and contractors to measure both behavior and knowledge relating to storm water. The surveys can be conducted in person at events, on the phone, or using Web-based survey tools. The results of the survey shall be compared to past surveys.
- Number of brochures/information distributed
- Participation in events
- Volunteer hours
- Any other methods that the Permittee determines to be effective

The results of the evaluation shall be summarized in the Annual Report.

Part D.1.b. Public Involvement/Participation

The Permittee shall provide opportunity for tenants and the public in developing, reviewing, and implementing the SWMP. The draft and final SWMP shall be made available on the DOT-AIR Website and at its office. An informational meeting shall be scheduled and announced prior to finalizing the revisions to the SWMP to solicit comments and answer questions from the public. Other activities to involve the public may include providing volunteer opportunities that improve water quality and specific SWMP-related projects, or organizing clean-up events to educate the public about impacts of storm water.

Part D.1.c. Illicit Discharge Detection and Elimination

The Permittee shall implement the ongoing SWMP to detect and eliminate illicit connections and illegal discharges into its Small MS4 and shall include an improved program in the revised SWMP Plan. The program shall include:

Part D.1.c.(1) *Connection and Discharge Permits/Approvals for private storm water discharges* - Within one (1) year after the effective date of this permit the Permittee shall establish requirements for issuing connection and discharge permits/approvals and require obtaining the permit/approval prior to allowing the private storm water discharges. Prior to issuing a permit/approval, the Permittee shall ensure the following are met:

- the project has provided proof of filing a Notice of Intent (NOI) or NPDES application, if applicable; and
- control measures that meets DOT-AIR requirements will be implemented to minimize pollutant discharge into its Small MS4.

Part D.1.c.(2) *Field Screening* - The Permittee shall implement its Outfall Field Screening Plan to screen for improper discharges. The plan shall specify the frequency for screening and identify the procedures for the identification of and response to possible illicit connections and illegal discharges. These procedures shall include, but not limited to, specific time deadlines for responding to identified discharges. At a minimum, all outfalls shall be screened once per permit term.

Part D.1.c.(3) *Tracking* - The Permittee shall maintain a database of illicit connections, illegal discharges, and spills that tracks the type of discharge, responsible party, DOT-AIR response, and resolution of the discharge to the Small MS4.

Part D.1.c.(4) *Investigate complaints* - The Permittee shall promptly investigate observed, suspected, or reported illicit flows and pursue enforcement actions, as appropriate. Complaints made to the CWB, which discharge to the DOT-AIR Small MS4 will be forwarded to the Permittee for their action. The Permittee shall continue to implement:

(i) A database system to identify illicit discharge activities discharging into its system occurring both on and off of DOT-AIR's property by Property ID Number or Tax Map Key (TMK), as applicable. The database shall include information about each suspected improper discharge, the Permittee's investigation of that discharge, follow-up activities, and the resolution of each discharge;

(ii) A program to facilitate reporting of illicit discharges (i.e., environmental hotline and/or website for reporting), including providing at least one contact that the public can reach (including phone number and/or email address) be clearly posted on its website; and

(iii) Response plan for the investigation of illicit discharges that is consistent with the requirements in this permit.

Part D.1.c.(5) *Enforcement* - Within two (2) years after the effective date of this permit the *Permittee* shall:

(i) Establish rules for enforcement and penalties when in noncompliance with its requirements as developed in accordance with Part D.1.c.(1), including for persons illegally discharging pollutants to its Small MS4, and

(ii) Pursue enforcement actions against those in non-compliance with its requirements, those with illegal drain connections, and persons without direct connections whom illegally discharging pollutants to its Small MS4.

Part D.1.c.(6) *Prevent and Respond to Spills to the DOT-AIR Small MS4* - The Permittee shall continue to implement and improve on its ongoing SWMP to prevent, respond to, contain, and clean up all wastewater and other spills, including non-storm waters, except those allowed under Part B.1 that may enter into its Small MS4 from any source.

The Permittee shall provide spill prevention, response and clean up education and training to DOT-AIR maintenance staff, contractors, tenants, Aircraft Rescue Fire Fighting (ARFF) Crew and emergency response teams. This program shall be included in the SWMP. Spill response teams, which may consist of local, state, and/or federal agencies, shall prevent entry of spills into the DOT-AIR Small MS4 and contamination of surface water, ground water, and soil to the MEP.

The Permittee shall coordinate spill prevention, containment, and response activities throughout all appropriate departments, programs, and agencies to ensure maximum water quality protection at all times. The Permittee shall notify DOH of all wastewater spills or overflows from private laterals and failing septic systems into its MS4. The Permittee shall prevent, respond to, contain, and clean up wastewater from any such notification.

Part D.1.c.(7) *Facilitate Disposal of Used Oil and Toxic Materials* - The Permittee shall continue to implement its ongoing SWMP to facilitate the proper management and disposal or recycling of used oil, vehicle fluids, toxic materials, and other household hazardous wastes. Such a program shall include educational activities, public information activities, and identification of collection sites or methods.

Part D.1.c.(8) *Training* - The Permittee shall provide annual training to staff on identifying and eliminating illicit connections and illegal discharges to its Small MS4, and spill prevention, response and clean-up. This

training shall be specific to DOT-AIR responsibilities, activities, rules, and procedures, to comply with this permit.

Part D.1.d. Construction Site Runoff Control

Permittee shall continue to implement a construction site management program to reduce to the MEP the discharge of pollutants from projects on DOT-AIR property and offsite projects into its Small MS4. The construction site management program shall include the following minimum elements:

Part D.1.d.(1) *Requirement to implement BMPs* - Within two (2) years of the effective date of this permit the Permittee shall establish rules to require proposed construction projects to implement BMPs and standards as described in its Construction Best Management Practices Field Manual.

The Field Manual shall be annually reviewed and, as necessary, revised to include descriptions of preferred new, modified, or revised BMPs, including preferred permanent BMPs and LID practices to minimize pollutant discharge for maintenance activities which have the potential to discharge pollutants to its Small MS4. Any revisions shall be discussed within its Annual Report and the documents included within its SWMP Plan. All documents shall be made available to DOT-AIR staff, contractors, and consultants, as appropriate.

Part D.1.d.(2) *Plan Review and Approval* - The Permittee shall continue to implement and improve on the process for review of DOT-AIR and tenant improvement projects. The Permittee shall also continue to implement procedures for the receipt and consideration of public inquiries, concerns, and information submitted regarding construction activities within DOT-AIR property, including offsite projects that discharge into its Small MS4. The Permittee shall:

(i) For construction activities within DOT-AIR property, prior to approval of the construction plans and specifications, DOT-AIR or DOT Oahu District Engineers (i.e., for tenant improvement projects) shall review the appropriate Site-Specific BMP Plan and other pollution prevention measures (e.g., for Erosion and Sediment Control, Grading, Post-construction BMP and Landscaping) or similar plan(s)/document(s) to verify that meets the following requirements:

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

(ii) Require a permit or written equivalent approval for drainage connections to its Small MS4, discharge of surface storm water runoff of storm water associated with construction (i.e., from projects on DOT-AIR property and offsite projects) or discharge permit (i.e., hydrotesting and dewatering effluent or other non-storm water, except those allowed under this permit) into their Small MS4 and maintain a database of the permits/approvals. The permit/approval shall obligate the activity to implement BMPs as required in HAR, Chapter 11-55, Appendices C, F, and/or G. Prior to issuing a drainage connection, discharge of surface runoff permit/approval, discharge permit the Permittee shall ensure that the following are met:

- The project owner has provided a copy of the Notice of General Permit Coverage (NGPC) for the discharge of storm water associated with construction activities that disturb one (1) acre or more and/or for the discharge of dewatering/hydrotesting effluent;

  or

  The project owner has provided proof of filing a NOI Form C and Form F and/or G, if applicable or other NPDES application. The Permittee shall verify prior to the start of construction activity that the NGPC was issued or NPDES Permit coverage has been authorized; and

- A Site-Specific BMP Plan or other documents (e.g., Erosion and Sediment Control, Grading, Post-construction BMP and Landscaping Plans, Dewatering Plan, and Hydrotesting Plan)

relating to pollution prevention or similar document(s) have been reviewed to verify that it fully meets all DOT-AIR requirements and is accepted by DOT-AIR or DOT Oahu District Engineers, as applicable;

(iii) Not allow construction to commence on any construction project on DOT-AIR property unless and until it has verified that the project has received from DOH a Notice of General Permit Coverage (NGPC) under HAR, Chapter 11-55, Appendix C, NPDES General Permit Authorizing the Discharge of Storm Water Associated with Construction Activity (General Construction Activity Storm Water permit) (unless the project will disturb less than one (1) acre of land) and satisfied any other applicable requirements of the NPDES permit program (i.e., an individual NPDES permit);

(iv) Within 90 calendar days of the effective date of this permit, the Permittee shall update and submit for review and acceptance, a plan review checklist that its reviewers shall use in evaluating the plans and BMPs or other similar document(s) which have been implemented pursuant to this Part [i.e., Part D.1.d.]. Copies of this plan review checklist shall be provided to applicants for connection, discharge of surface storm water runoff, and discharge permits (i.e., hydrotesting and dewatering effluent or other non-storm water, except those allowed under this permit); and to consultants and contractors for their use in developing the Plans or other similar document(s) for projects on DOT-AIR property. The plan review checklist shall include, at a minimum, but not be limited to comments on any deficiencies and the date when comments were addressed to the satisfaction of DOT-AIR or DOT Oahu District Engineers, as applicable. A system shall be implemented to ensure all comments, identified during the review process has been properly addressed.

Part D.1.d.(3) Inspections – The Permittee shall:

(i) Prior to the initiation of ground-disturbing activities at any site on DOT-AIR property or offsite project which discharges storm water to the DOT-AIR Small MS4, except for activities associated with the installation of BMPs at a site, a designated DOT-AIR Erosion and Sediment Control Inspector who reviews and becomes familiar with the project's site-specific BMP Plan and/or other equivalent document(s), shall inspect the site to verify BMPs as

required by the BMP Plan and/or other documents have been installed correctly and in the correct locations prior to the commencement of ground-disturbing activity. Inspections shall include a review of site Erosion and Sediment Controls, good housekeeping practices, and compliance with DOT-AIR-accepted erosion and sediment control plans, construction BMPs Plans, or other similar documents and DOT-AIR approved permits. The inspector shall also identify and direct corrective actions of site conditions having the potential for erosion and sediment runoff, including other pollutant discharges which may occur as a result of the project's construction activities.

(ii) In addition to inspections required by the NPDES permit program, all construction projects at any site on DOT-AIR property shall be inspected at least monthly by a qualified construction inspector who is independent (i.e., not involved in the day-to-day planning, design, or implementation) of the construction projects to be inspected. The Permittee may use more than one (1) qualified construction inspector for these inspections. The reporting procedures shall include, at a minimum, notification of any critical deficiencies to the DOH. Upon three successive monthly inspections that indicate, in total, no critical or major deficiencies or less than six (6) minor deficiencies with no more than three (3) minor deficiencies in one (1) month in a project's BMPs or other storm water management activities, the Permittee may decrease the inspection frequency for such project to quarterly. However, if while under a quarterly inspection frequency, an inspection of a project conducted pursuant to this paragraph indicates at least one critical or major deficiency or a total of three (3) or more minor deficiencies in the project's BMPs or other storm water management activities, the inspections frequency shall immediately return to no less than monthly. This reduced inspection frequencies option is contingent upon the Permittee having defined each type (i.e., critical, major, or minor) of deficiency. The Permittee shall further develop and implement written procedures for appropriate corrective actions and follow-up inspections when deficiencies had been identified at an inspected project. The corrective action procedures shall at a minimum require that 1) any critical deficiencies shall be corrected or addressed before the close of business on the day of the inspection at which the deficiency is identified, and 2) any major deficiencies shall be corrected or addressed as soon as possible, but in no event later than five (5) calendar days after the inspection

at which the deficiency is identified or before the next forecasted precipitation, whichever is sooner.

(iii) All construction projects with a connection permit, discharge of surface runoff permit/approval, or discharge permit shall be inspected at least once annually or once during the life of the project, whichever comes first, by a qualified construction inspector who is independent (i.e., not involved in the day-to-day planning, design, or implementation) of the construction projects to be inspected. This inspection is required in addition to the inspection as required prior to the start of the ground-disturbing activities in Part D.1.d.(3)(i). The Permittee may use more than one (1) qualified construction inspector for these inspections. If the project has a site-specific BMP Plan or other equivalent document(s), the inspection shall also verify that the BMPs were properly installed and at the locations specified in the Plan. The reporting procedures shall include, at a minimum, notification of any critical deficiencies to the DOH.

(iv) Develop and implement a standard inspection form(s) and reporting and corrective procedures for inspections, including use of an inspection checklist, or equivalent, and the Permittee shall track inspection results in a database or equivalent system. The inspection checklist shall, include at a minimum, but not be limited to identifying any deficiencies and the date of the corrective actions. Photos shall accompany the inspection checklist to document the deficiencies. The inspection form(s), inspection checklist, reporting and corrective procedures shall be submitted to DOH for review and acceptance within 90 calendar days of the effective date of this permit.

Part D.1.d.(4) Enforcement – Within two (2) years of the effective date of this permit, the Permittee shall:

(i) Establish rules for enforcement and penalties for those in non-compliance with Part D.1.d.(1) requiring the implementation of standards, and

(ii) Develop and implement an Enforcement Response Plan to include written procedures for appropriate corrective and enforcement actions, and follow-up inspections when an inspected project is not in full compliance with its requirements,

other DOT-AIR permits, and any other applicable requirements under the NPDES permit program.

Part D.1.d.(5) Process *to refer noncompliance and non-filers to DOH* - In the event the Permittee has exhausted its use of sanctions and cannot bring a construction site or construction operator into compliance with its rules, standards, or this permit, or otherwise deems the site to pose an immediate and significant threat to water quality, the Permittee shall provide e-mail notification to cleanwaterbranch@doh.hawaii.gov, Attn: Enforcement Section Supervisor within one (1) week of such determination. E-mail notification shall be followed by written notification in accordance with Part A.7. and include a copy of all inspection checklists, notes, and related correspondence in pdf format (300 minimum dpi) within two (2) weeks of the determination. In instances where an inspector identifies a site that has not applied for permit coverage under the NPDES permit program, the Permittee shall provide written notification in accordance with Part A.6. to DOH within two (2) weeks of the discovery.

Part D.1.d.(6) Training - The Permittee shall provide annual training on the Construction BMPs Program Plan to all DOT-AIR staff, including DOT Oahu District Engineers, where applicable, with construction storm water responsibilities, including construction engineers, construction and maintenance inspectors, and plan reviewers. This training shall be specific to DOT-AIR activities (including the proper installation and maintenance of accepted BMPs), rules and procedures.

Part D.1.d.(7) *Education* - The Permittee shall implement an education program as part of its ongoing SWMP to ensure that project applicants, tenants, contractors offsite property owners, and other responsible parties have an understanding of the storm water requirements they need to implement.

Part D.1.e. Post-Construction Storm Water Management in New Development and Redevelopment

The Permittee shall further develop, implement, and enforce a program to address storm water runoff from all new development and redevelopment projects that result in a land disturbance of one (1) acre or more and smaller projects that have the potential to discharge pollutants to the DOT-AIR Small MS4. The Permittee's program must ensure that permanent controls are in place to prevent or minimize water quality

impacts to the MEP. Review and update as necessary the criteria defining when and the types of permanent post-construction BMPs, including among other thing LID techniques, must be included in a project design to address storm water impacts and pollutants of concern. For State waters on the State CWA Section 303(d) list or State established and EPA approved TMDLs, the pollutants of concern to be targeted shall include the parameters causing impairment. Consideration shall also be provided for trash reduction techniques as to comply with its short and long term plans as required in Section D.1.(f)(1)(v). The program shall include, at a minimum, the following elements:

Part D.1.e.(1) *Standards Revision* – The Permittee shall revise its standards for addressing post-construction BMPs (i.e., DOT-AIR's Permanent Post Construction BMP Manual) to include Low Impact Development (LID) requirements and reduce its use of exemptions. Within six (6) months of the effective date of this permit, the Permittee shall submit to DOH for review and acceptance, a plan for requiring LID in the standards to the MEP, including revision to the plan review and inspection checklist to include LID. LID refers to storm water management practices which seek to mimic a site's predevelopment hydrology by minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating storm water runoff close to its source. The standards shall ensure that the management practices are prioritized to favor infiltration, evapotranspiration, or harvesting/reuse of stormwater followed by other practices that treat and release stormwater. The standards shall be applicable to all construction projects disturbing at least one (1) acre and smaller projects that have the potential to discharge pollutants to the DOT-AIR' Small MS4. LID employs principles such as preserving and recreating natural landscape features and minimizing imperviousness to create functional and appealing site drainage that treats storm water as a resource, rather than a waste product. LID treatment measures include harvesting and use, infiltration, evapotranspiration, or biotreatment. The plan for the implementation of LID provisions in the DOT-AIR's standards shall include at a minimum the following:

- Criteria for requiring implementation.
- Investigation into the development of quantitative criteria for a specific design storm to be managed by LID techniques. Examples of design storm requirements include: 24-hour, 85% storm through infiltration; on-site management of the first inch of rainfall within a 24-hour period; retention of the 100-year, 2-hour storm; or on-site management of the 24-hour, 95% storm.

- Feasibility criteria for circumstances in which a waiver could be granted for the LID requirements.
- When a LID waiver is granted, alternatives such as offsite mitigation and/or non-LID treatment control BMPs could be required.

A draft of the revised Standards shall be submitted to the DOH in accordance with Part A.7. for review and acceptance within 12 months after the effective date of this permit and include at a minimum the above. Within 18 months after the effective date of this permit, subject to adoption by rulemaking or other equivalent process, the revised Standards shall be submitted to the DOH in accordance with Part A.6. To the extent that the revised Standards have not been adopted, the Permittee shall submit a compliance schedule for adoption, which shall not exceed 24 months after the effective date of this permit.

Part D.1.e.(2) *Review of Plans for Post-Construction BMPs* – For design-bid- build projects, the Permittee shall not advertise any construction project nor award any construction contract until the project design has been reviewed and accepted to ensure that appropriate permanent post-construction BMPs, which include LID practices upon adoption into its Standards, have been included in the project design and are included in the bid package to ensure compliance with this part of the permit. For design-build projects, the Permittee shall review and approve the project design the same as for design-bid-build projects prior to implementation. No project shall proceed without the inclusion of appropriate permanent post-construction BMPs unless a waiver is granted by DOT-AIR based on specific documentation demonstrating that such post-construction BMPs are not feasible. Project documents for projects that will include installation of permanent post-construction BMPs shall also include appropriate requirements for their future continued maintenance.

Part D.1.e.(3) *BMP, Operation and Maintenance, and Inspection Database* - The Permittee shall continue to implement its Database System to track the frequency of inspections and maintenance of the Permanent BMPs. In addition to the standard information collected for all projects (e.g., project name, owner, location, start/end date, etc.), the database shall also include, at a minimum:

- Type and number of LID practices
- Type and number of Source Control BMPs
- Type and number of Treatment Control BMPs

- Latitude/Longitude coordinates of controls using Global Positioning Systems (GPS) and NAD83 or other Datum as long as the datum remains consistent
- Photographs of controls
- Operation and maintenance requirements
- Frequency of inspections
- Frequency of maintenance

All stormwater treatment and LID BMPs shall be inspected at least once a year for proper operation; maintenance shall be performed as necessary to ensure proper operation.

Part D.1.e.(4) *Education* and *Training*

(i) *Project Proponents* - The Permittee shall provide education and outreach material for those parties who apply for DOT permits (i.e., tenants, engineers, architects, consultants, construction contractors, excavators, and those that discharge to the DOT-AIR MS4) on the selection, design, installation, operation and maintenance of storm water BMPs, structural controls, post construction BMPs, and LID practices. The outreach material may include a simplified flowchart for thresholds triggering permits and requirements, a list of required permits, implementing agencies, fees, overviews, timelines and a brief discussion of potential environmental impacts associated with storm water runoff.

(ii) Inspectors - All Permittee staff and those contractors under DOT-AIR contract responsible for inspecting permanent post-construction BMPs and LID practices shall receive annual training.

Part D.1.f. Pollution Prevention/Good Housekeeping

The Permittee shall further develop and implement a system maintenance program to reduce to the MEP the discharge of pollutants from all Permittee-owned facilities, roads, parking lots, maintenance baseyard, wash racks, wash pad and the DOT-AIR' Small MS4. The program shall include:

Part D.1.f.(1) Debris Control BMPs Program Plan

(i) *Asset Management System and Mapping* - The Permittee shall continue to maintain and implement a comprehensive Asset Management System and map of its Small MS4, including structural and vegetative BMPs; and inventory of related appurtenances including maintenance equipment, to ensure appropriate debris removal and system maintenance. The asset management system shall, at a minimum, assign an identification number for each drain inlet, outfall, and BMPs, and map their location on the Geographic Information System (GIS). The Permittee shall use this asset management system to establish priorities and to schedule and track efforts of appropriate system maintenance and debris removal program activities such as street sweeping, catch basin cleaning, and green waste and accumulated soil removal. The asset management system shall include justification of its priorities on the basis of potential impacts to water quality.

(ii) *Inspection/Maintenance Schedule* – In the SWMP, the Permittee shall continue to include procedures and a schedule for inspections of:

a) Storm drainage structures (e.g., catch basins, inlets, curb gutters, open ditches, trenches) for the purpose of identifying if maintenance (i.e., cleaning) of such structures is needed. Inspections shall be done at least twice per year. Maintenance shall be done as necessary. Both inspection and maintenance logs shall include the date, identification (i.e., asset) number of the storm drain structure and name of the person performing the inspection. For inspections, the log shall also include the inspection results and follow-up actions, if needed. For maintenance, the log shall include the quantity and type of debris removed.

b) Storm water retention basins. Inspections shall be done semi-annually and maintenance shall be performed at a minimum annually or more frequently as needed. At a minimum, one inspection shall be performed before November 1st of each year.

c) Runways/taxiways, major streets, and streets in the industrial and commercial areas for sweeping and litter

pickup as specified in the SWMP or at least twice per month. Indicate how and where the sweepings are disposed.

The need for sweeping and/or maintenance shall, at a minimum, be determined based upon material accumulation rates and/or potential threat of discharge to State waters that may have an effect on water quality. Maintenance may be conducted in lieu of inspections to satisfy this requirement. The procedures shall provide for the identification of features and BMPs that may require more frequent sweeping and/or structure cleaning based upon material accumulation rates and potential threat of discharge to State waters that may have an effect on water quality. The procedures shall establish debris accumulation thresholds above which sweeping and/or structure cleaning must occur. The priority-based schedule shall be annually reviewed; updated as necessary; and the changes, along with explanations of the changes submitted within the Annual Report.

(iii) *Storm Drain Placards* - The Permittee shall evaluate the effectiveness of its placards and revise it as necessary to meet its purpose. The purpose of the placards shall be discussed within the SWMP. All placards shall be installed within five (5) years of the effective date of this permit. The Permittee shall implement its system to track placement of placards and procedures for maintenance staff to inspect and replace, as necessary, placards during routine maintenance activities.

(iv) *Action Plan for Retrofitting Structural BMPs* – Provide the DOH with an Action Plan for Retrofitting Structural BMPs within one (1) year of the effective date of this permit, which shall identify retrofits to be implemented, explanation on the basis for their selection and an implementation schedule. The implementation schedule shall cover a five (5) year period and be updated yearly to include additional retrofit projects with water quality protection measures. The Action Plan shall be initially based on the retrofits as identified in its Retrofit Feasibility Study, Table 10 (i.e., 24 projects) dated, August 2010. As those projects are completed, additional priority ranked retrofit projects shall be added to its schedule. At a minimum, two (2) retrofit projects starting with the highest priority project shall be annually completed following submittal of its Action Plan. A description of the projects' statuses shall be included in the Annual Report.

(v) *Trash Reduction Plan* - Within three (3) years after the effective date of this permit, the Permittee shall develop and submit to DOH for review and acceptance, a trash reduction plan which assesses the issue, identifies and implements control measures, and monitor these activities to reduce trash loads from the Small MS4. Trash means all improperly discarded waste material, excluding vegetation, except for yard/landscaping waste that is illegally disposed of in the storm drain system. Examples of trash include, but are not limited to, convenience food, beverage, and other product packages or containers constructed of aluminum, steel, glass, paper, plastic, and other natural and synthetic materials. The plan shall include, at a minimum and be formatted consistent with the following:

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

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

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

Part D.1.f.(2) Chemical Applications BMPs Program Plan

(i) *Training* - The Permittee shall update its Authorized Use List of the chemicals DOT-AIR uses and implement a specific training program for all potential appliers (bulk and hand-held) of the chemicals (e.g., fertilizers, pesticides, and herbicides) in its proper application. The Permittee shall not permit the application of fertilizers, pesticides, or herbicides unless the applier has first received this training.

(ii) *Implement appropriate requirements for pesticide, herbicide, and fertilizer applications* - The Permittee shall continue to implement BMPs to reduce the contribution of pollutants associated with the application, storage, and disposal of pesticides, herbicides, and fertilizers from municipal areas and activities to its Small MS4. Municipal areas and activities include, at a minimum, municipal facilities, public right-of-ways, and landscaped areas.

Such BMPs shall include, at a minimum: (1) educational activities, permits, certifications and other measures for municipal applicators; (2) integrated pest management measures that rely on non-chemical solutions; (3) the use of native vegetation; (4) chemical application, as needed; and (5) the collection and proper disposal of unused pesticides, herbicides, and fertilizers.

The Permittee shall ensure that their employees or contractors or employees of contractors applying registered pesticides, herbicides, and fertilizers shall work under the direction of a certified applicator, follow the pesticide label, and comply with any other State, City, or government regulations for pesticides, herbicides, and fertilizers. All Permittee employees or contractors applying pesticides, herbicides or fertilizers shall receive training on the BMPs annually.

Part D.1.f.(3) Erosion Control BMPs Program Plan - The Permittee shall, if not restricted for aircraft safety reasons or does not conflict with any other Federal rules:

(i) Implement permanent erosion control improvements for erosional areas with the potential for significant water quality impact. Identification of erosional areas with the potential for significant water quality impact shall include areas where there is evidence of rilling, gullying, and/or other evidence of significant sediment transport, and areas in close proximity to receiving waters listed as impaired by either sediment, siltation and/or turbidity. The Permittee shall include procedures to identify and implement erosion control projects based on water quality concerns. A list of the projects and an implementation schedule for permanent erosion control improvements shall be submitted to DOH within one (1) year from the effective date of this permit. The implementation schedule shall begin in the 2nd year after the effective date of this permit and cover a five (5) year period with a deadline to complete all projects by the end of the 5th year.

(ii) Require the implementation of temporary erosion control measures (e.g., erosion control blankets and/or fabrics, gravel bag placement and silt fencing/fiber rolls) on erosional areas within DOT-AIR property with the potential for significant water quality impact if a permanent solution is not immediately possible. Notwithstanding any other implementation provisions, the SWMP shall require the implementation of such temporary erosion control measures on all applicable areas within 18 months of the effective date of this permit. For projects which require a CWA Section 401 Water Quality Certification (WQC), the WQC application shall be submitted to DOH within one (1) year of the effective date of this permit and be implemented with six (6) months of the WQC or other regulatory permit(s) issuance date.

(iii) Develop a maintenance plan for vegetated portions of the drainage system used for erosion and sediment control, and LID features; including controlling any excessive clearing/removal, cutting of vegetation, and application of herbicide which affects its usefulness.

(iv) Provide the DOH with an Action Plan to address erosion at its storm drain system outlets with significant potential for water quality impacts to be completed within one (1) year of the effective date of this permit, which shall identify outfalls to be addressed, explanation on the basis for their selection and an implementation schedule. The implementation schedule shall begin in the 2nd year after the effective date of this permit and

cover a five (5) year period with a deadline to complete all projects by the end of the 5th year. A status report on implementation of the plan shall be included in the Annual Report. The Permittee shall install velocity dissipators or other BMPs to reduce erosion at locations identified by the Retrofit Feasibility Study or through its periodic required inspections. The Action Plan may include, but not be limited to projects in compliance with any TMDL I&M Plan.

Part D.1.f.(4) Maintenance Activities BMPs Program Plan

(i) *BMPs for DOT-AIR maintenance activities* - The Permittee shall implement the BMPs as identified in its SWMP Plan, Section E and the Baseyard SWPCP, as applicable for all DOT-AIR maintenance activities. Examples of such activities include, but are not limited to: paving and road repairs, street cleaning (including proper storage and disposal of sweeper waste), saw cutting, concrete work, curb and gutter replacement, buried utility repairs and installation, vegetation removal, painting and paving, debris and trash removal, spill cleanup, etc.

(ii) *Training* - The Permittee shall further develop and provide annual training to staff on proper airport maintenance activities to prevent storm water pollution. The training shall cover the Field Manual, identify potential sources of pollution, general BMPs that can be used to reduce and/or eliminate such sources, and specific BMPs for their activities. The training shall incorporate components of the public education campaign and educate staff that they serve a role in protecting water quality. Staff shall be made aware of the NPDES permit, the overall SWMP, and the applicable BMPs Program(s).

Part D.1.g. Industrial and Commercial Activities Discharge Management Program

The Permittee shall develop and implement an industrial and commercial discharge management program to reduce to the MEP the discharge of pollutants from all industrial and commercial facilities and activities which initially discharge into the Permittee's Small MS4. This program applies to both DOT-AIR tenants and those offsite which discharge to the DOT-AIR Small MS4. Industrial facilities are those regulated under 40 CFR 122.26(b)(14), except construction activities listed at 40 CFR 122.26(b)(14)(x). Other facilities or activities that are not industrial shall be classified as Commercial. At a minimum, the program shall include:

Part D.1.g.(1) *Requirement to Implement BMPs* - Require a permit or written equivalent approval for drainage connections and discharge of surface runoff into the Small MS4 and maintain a database of the permits/approvals. The permit/approval shall obligate the facility to implement BMPs as required in HAR, Chapter 11-55, Appendix B, Section 8.(b) – Non-numeric Technology-Based Effluent Limitations. BMPs shall also be implemented to target the industrial/commercial activity's pollutant(s) of concern identified through facility inspections, storm water monitoring results and those pollutants DOT-AIR believes to be present in the storm water runoff.

Part D.1.g.(2) *Inventory and Map of Industrial Facilities and Activities* - The Permittee shall annually update and submit, in electronic portable document format (pdf - minimum 300 dpi), the industrial facilities and activities inventory (industrial i*n*ventory), sorted by HNL Property ID Number (i.e., for tenants) or TMK (i.e., for others discharging to DOT-AIR's Small MS4), and map of such facilities and activities discharging, directly or indirectly, to its Small MS4 within its Annual Report. The industrial inventory update may be based on the following:

- Findings from the Airport Tenant Asset Survey (Questionnaire Survey);
- Available information about parcel owners from the City and the State or though other readily available intra-agency informational databases (e.g., business licenses, pretreatment permits, sanitary sewer hook-up permits); and/or
- Collection of new information obtained during field activities, asset inventory, illicit detection, etc.

The industrial inventory shall include the facility name, street address, HNL Property ID Number or TMK, nature of business or activity, Standard Industrial Classification (SIC) code(s) that best reflect the facility product or service, principal storm water contact, receiving State water, and whether an NGPC under HAR, Chapter 11-55, Appendix B, NPDES General Permit Authorizing the Discharge of Storm Water Associated with Industrial Activities (General Industrial Storm Water permit) or NPDES Conditional "No Exposure" Exclusion or any other applicable NPDES permit has been obtained, including a permit or file number, issuance date, expiration date, and administrative extension date.

At a minimum, the industrial inventory shall include facilities and activities such as:

- Hazardous waste recovery, treatment, storage and disposal facilities
- Facilities subject to Section 313 of the Emergency Planning and Community Right-to-Know Act, 42 U.S.C. 11023
- Findings from follow-up investigations of the industrial facilities identified in the Questionnaire Survey
- Facilities subject to NPDES permit coverage which are adjacent to DOT-AIR property and discharge into its Small MS4

Part D.1.g.(3) *Inventory and Map of Commercial Facilities and Activities* - The Permittee shall annually update and submit, in pdf format (minimum 300 dpi), the commercial facilities and activities inventory (commercial inventory) and map of such facilities and activities discharging, directly or indirectly, to its Small MS4 within its Annual Report. The commercial inventory update may be based on the following:

- Findings from the Questionnaire Survey;
- Available information about parcel owners from the City and the State or through other readily available intra-agency informational databases (e.g., business licenses, pretreatment permits, sanitary sewer hook-up permits); and/or
- Collection of new information obtained during field activities, asset inventory, illicit detection, etc.

The commercial inventory shall include, the facility name, street address, HNL Property ID Number or TMK, nature of business or activity, SIC code(s) that best reflect the facility product(s) or service(s), principal storm water contact, and receiving State water.

At a minimum, the commercial inventory shall include facilities and activities such as:

- Findings from investigations of the commercial facilities identified in the Questionnaire Survey
- Retail Gasoline Outlets
- Retail Automotive Services, including Repair Facilities
- Restaurants
- Any other commercial facility that either the Permittee or DOH determines is contributing pollutants to the DOT-AIR Small MS4 that may cause or contribute to an exceedance of State water quality standards.

Part D.1.g.(4) *Inspection of Industrial and Commercial Facilities and Activities* - The industrial/commercial inspection program shall be implemented and updated to comply with this permit and consent decree.

The Permittee shall ensure industrial and commercial facilities and activities identified in the industrial and commercial inventories required under Parts D.1.g.(2) and D.1.g.(3) are inspected and re-inspected as often as necessary based on its findings to ensure corrective action was taken and the deficiency was resolved.

DOT-AIR shall rank each tenant and offsite activities for its relative potential either to contribute pollutants to storm water runoff or to have a non-storm water discharge either into the DOT-AIR Small MS4 or otherwise into State waters. Rankings shall be made on a low/medium/high threat basis. Those that are required to have NPDES permit coverage shall always be ranked as high threat. At least once each calendar year, the Permittee shall review its inspection list and rankings and update them as necessary. The updated list shall be submitted in the Annual Report.

DOT-AIR shall inspect each tenant/activity in each ranking class as follows:

- High ranked, other than those that are required to have NPDES permit coverage, shall be inspected at least quarterly.
- High ranked that are required to have NPDES permit coverage shall be inspected at least annually. DOT-AIR shall submit a copy of each report of these inspections to DOH within 30 calendar days of the inspection.
- Medium ranked shall be inspected at least annually.
- Low ranked shall be inspected at least biennially.

Any industrial facility discharging Industrial Storm Water (as defined by 40 C.F.R. Part 122.26(b)(14)) that does not have NPDES Permit coverage shall be reported to DOH within 30 calendar days of the inspection.

All inspections shall be in accordance with the applicable portions (e.g., Chapter 11 – Storm Water) of the "NPDES Compliance Inspection Manual" (EPA 305-X-04-001), dated July 2004. Inspectors shall be trained to identify deficiencies, assess potential impacts to receiving waters, evaluate the appropriateness and representativeness of storm water sampling locations, evaluate storm water monitoring

results, evaluate the appropriateness and effectiveness of deployed BMPs, and require controls to minimize the discharge of pollutants to the DOT-AIR Small MS4. The inspectors shall use an inspection checklist, or equivalent, and photographs to document site conditions and BMP conditions. Records of all inspections shall be maintained for a minimum of five (5) years, or as otherwise indicated.

Copies of all inspection reports shall be maintained for a minimum of five (5) years and shall be made available to EPA or DOH upon request, except as otherwise required (i.e., for those highly ranked tenants that are required to have NPDES permit coverage).

Part D.1.g.(5) *Storm Water Pollution Control Plan (SWPCP) Review and Acceptance for Industrial Facilities* - The Permittee shall:

(i) Require Industrial Activities that initially discharge storm water into DOT-AIR's Small MS4 to develop, implement, and update, as necessary, a SWPCP that meets DOT-AIR's Standards and HAR Chapter 11-55, Appendix B SWPCP requirements, which includes storm water monitoring;

(ii) Verify the facility owner has received NPDES permit coverage for the discharge of storm water associated with industrial activity or NPDES "No Exposure"; and

(iii) Review for acceptance, the SWPCP and any revisions or updates or other plans relating to pollution prevention or similar document(s) to ensure the discharge of pollutants will be minimized to the maximum extent practicable.

Part D.1.g.(6) *Enforcement Policy for Industrial and Commercial Facilities and Activities* - Within two (2) years of the effective date of this permit, the Permittee shall establish and implement its own polices for enforcement and rules for penalties for industrial and commercial facilities which have failed to comply. The policy shall be part of an overall escalating enforcement policy and must consist of the following:

- Conducting inspections.
- Issuance of written documentation to a facility representative within 30 calendar days of storm water deficiencies identified during inspection. Documentation must include copies of all field notes, correspondence, photographs of deficiencies, and sampling results if applicable.

- A timeline for correction of the deficiencies.
- Provisions for re-inspection and pursuing enforcement actions, if necessary.

In the event the Permittee has exhausted all available sanctions and cannot bring a facility or activity into compliance with its rules and this permit, or otherwise deems the facility or activity an immediate and significant threat to water quality, the Permittee shall provide e-mail notification to cleanwaterbranch@doh.hawaii.gov, Attn: Enforcement Section Supervisor within one (1) week of such determination. E-mail notification shall be followed by written notification and include a copy of all inspection checklists, notes, photographs, and related correspondence in pdf format (300 minimum dpi) in accordance with Part A.6. within two (2) weeks of the determination. In instances where an inspector identifies a facility that has not applied for the General Industrial Storm Water permit coverage or any other applicable NPDES permit, the Permittee shall provide email notification to DOH within one (1) week of such determination.

Part D.1.g.(7) *Training* - The Permittee shall provide training to staff on how to conduct industrial and commercial inspections, the types of facilities covered by the General Industrial Storm Water permit coverage or any other applicable NPDES permit, components in a SWPCP for industrial facilities, BMPs and source control measures for industrial and commercial facilities, and inspection and enforcement techniques. This training shall be specific to DOT-AIR activities, rules, and procedures. Any updates to the training shall be submitted to DOH for review and acceptance within 90 calendar days of the change. Permittee inspectors shall receive annual training.

Part D.1.h. Hydrocarbon Removal and Remediation Plan

The Permittee shall provide DOH with an update to the status of its Hydrocarbon Removal and Remediation Plan within 90 calendar days of the effective date of this permit. The Permittee shall continue to monitor the depth of the fuel plume and shall notify DOH at least 90 calendar days before any construction which requires disturbing contaminated soil or construction dewatering activities. The Permittee is required to install and maintain BMPs that DOT-AIR determines appropriate for these activities when they occur to prevent any storm water runoff which contacts the contaminated soil or dewatering effluent from being discharged to State waters.

Part D.2. Revise the SWMP, as necessary, if any discharge limitation or water quality standard established in HAR, Section 11-54-4, is exceeded. The revisions shall include BMPs and/or other measures to reduce the amount of pollutants found to be in exceedance from entering State Waters.

Part D.3. Properly address all modifications, concerns, requests, and/or comments to the satisfaction of the DOH and/or EPA.

Part D.3.a. SWMP Modifications - The storm water pollution control activities described in the SWMP may need to be modified, revised, or amended from time to time over the life of the permit to respond to changed conditions and to incorporate more effective approaches to pollutant control. Minor changes may be proposed by the Permittee or requested by DOH or the EPA. Proposed changes that imply a major reduction in the overall scope and/or level of effort of the SWMP must be made for cause and in compliance with 40 CFR §122.62 and Part 124. A written report shall be submitted to the Director of Health (Director) for acceptance at least 30 calendar days prior to the initiation date of the major modification. The Permittee shall report and justify all other modifications made to the SWMP in its Annual Report for the year in which the modification was made.

Part D.3.b. System Modifications include any planned physical alterations or additions to the permitted MS4 and any existing outfalls newly identified over the term of the permit. All alterations and/or additions to the DOT-AIR Small MS4 shall be indicated in its Annual Report. Major alterations and/or additions shall be identified by letter within 30 calendar days of the completion of the alteration and/or addition.

Part E. DOT-AIR INDUSTRIAL FACILITIES/ACTIVITIES

Part E.1. DOT-AIR's Maintenance Baseyard, South Ramp Wash Rack, North Wash Rack, Wiki Wiki Wash Rack, and T-Hanger Wash Pad shall comply with the requirements in HAR, Chapter 11-55, Appendix B, which includes requiring the DOT-AIR to comply with the EPA's 2008 Multi-Sector General Permit, Part 8 of the Sector-Specific Requirements for Industrial Activity (e.g., Part 8, Subpart S – Air Transportation). Refer to HAR, Chapter 11-55, Appendix B, Section 8.(b). The inspection frequency shall

Part E.2. An individual at the facility (e.g., yard foreman) shall be charged with ensuring implementation of the SWPCP. This individual shall be trained to implement the SWPCP, including but not limited to, collecting storm water samples and analyzing samples for temperature and pH, conducting inspections, identifying deficiencies and performing corrective actions.

Part E.3. The Permittee shall submit within 90 calendar days from the effective date of this permit the CWB NOI Form B and updated SWPCP for its Industrial facilities/activities and be included within its SWMP Plan. The updated SWPCP must be implemented upon submittal to DOH.

Part E.4. The Permittee may add new Industrial facilities into this permit by requesting in writing to the DOH. Along with a written request, the Permittee shall submit the applicable NOI Form(s) and SWPCP, and other attachments to the DOH for review and comment, including updating its SWMP Plan. Upon acceptance of the information, the DOH will acknowledge by letter, the inclusion of the facility into this permit. The SWPCP must be implemented upon the start-up of the facility or for an existing municipal industrial facility; the SWPCP must be implemented upon submittal of the written request.

Part E.5. For the submittal of facility information, please contact the CWB for the forms and submittal instructions.

Part F. MONITORING REQUIREMENTS

Part F.1. DOT-AIR Small MS4 Annual Monitoring Plan

Part F.1.a. The Permittee shall submit the Annual Monitoring Plan to the Director by June 1st of each year for review and acceptance. The Annual Monitoring Plan shall be implemented over the coming fiscal year.

The monitoring program must be designed and implemented to meet the following objectives:

Part F.1.a.(1) Assess compliance with this permit (including TMDL I&M Plans and demonstrating consistency with WLAs, when applicable);

Part F.1.a.(2) Measure the effectiveness of the Permittee's storm water management program;

Part F.1.a.(3) Assess the overall health based on the chemical, physical, and biological impacts to receiving waters resulting from storm water discharges and an evaluation of the long term trends;

Part F.1.a.(4) Characterize storm water discharges;

Part F.1.a.(5) Identify sources of specific pollutants;

Part F.1.a.(6) Detect and eliminate illicit discharges and illegal connections to the Small MS4; and

Part F.1.a.(7) Assess the water quality issues in each receiving State water resulting from storm water discharges from the DOT-AIR Small MS4.

Part F.1.b. The plan shall, at a minimum, include the following items:

Part F.1.b.(1.) Written narrative of the proposed monitoring plan's objectives, including but not limited to the objectives identified in Part F.1.a., and description of activities;

Part F.1.b.(2.) For each activity, a description of how the results will be used to determine compliance with this permit.

Part F.1.b.(3.) Identification of management measures proven to be effective and/or ineffective at reducing pollutants and flow.

Part F.1.b.(4.) Written documentation of the following:

(i) Characteristics (timing, duration, intensity, total rainfall) of the storm event(s);

(ii) Parameters for measured pollutant loads; and

(iii) Range of discharge volumes to be monitored, as well as the timing, frequency, and duration at which they are identified;

Part F.1.b.(5.) Written documentation of the analytical methods to be used;

Part F.1.b.(6.) Written documentation of the Quality Assurance/Quality Control procedures to be used; and

Part F.1.b.(7.) Estimated budget to be implemented over the coming fiscal year.

Part F.2. Storm Water Associated with Industrial Facilities/Activities

The Permittee shall also include in its Annual Monitoring Plan, annual monitoring to comply with HAR, Chapter 11-55, Appendix B and at a minimum annually monitor the storm water runoff for the parameters specified below, for its Maintenance Baseyard, including any additional parameters which the Permittee also believes to be present in the storm water runoff. For any exceedance, the next representative storm event shall be monitored in accordance with HAR, Chapter 11-55, Appendix B.

Effluent Parameter (units)	Effluent Limitation {1}	Type of Sample {2}
Flow (gallons)	{4}	Calculated or Estimated
Biochemical Oxygen Demand (5-Day) (mg/l)	{4}	Composite {3}
Chemical Oxygen Demand (mg/l)	{4}	Composite {3}
Total Suspended Solids (mg/l)	{4}	Composite {3}
Total Phosphorus (mg/l)	{4}	Composite {3}
Total Nitrogen (mg/l) {5}	{4}	Composite {3}
Nitrate + Nitrite Nitrogen (mg/l)	{4}	Composite {3}
Oil and Grease (mg/l)	15	Grab {6}

Effluent Parameter (units)	Effluent Limitation {1}	Type of Sample {2}
pH Range (Standard Units)	5.5-8.0 {7} 7.6-8.6 {8}	Grab {9}
Ammonia Nitrogen (mg/l)	{4}	Composite
Turbidity (0.1 NTU)	{4}	Grab
Dissolved Oxygen (0.1 mg/l)	{4}	Grab
Oxygen Saturation (1%)	{4}	Grab
Temperature (0.1 ºC)	{4}	Grab
Salinity (0.1 ppt)	{4}	Grab
Aluminum (µg/l) {12}	750 {10} {4} {11}	Composite {3}
Cadmium (µg/l) {12}	3+ {10} 43 {11}	Composite {3}
Chromium (VI) (µg/l) {12}	16 {10} 1,100 {11}	Composite {3}
Copper (µg/l) {12}	6+ {10} 2.9 {11}	Composite {3}
Lead (µg/l) {12}	29+ {10} 140 {11}	Composite {3}
Nickel (µg/l) {12}	5+ {10} 75 {11}	Composite {3}
Silver (µg/l) {12}	1+ {10} 2.3 {11}	Composite {3}
Zinc (µg/l) {12}	22+ {10} 95 {11}	Composite {3}
Benzene (µg/l)	1,800 {10} 1,700 {11}	Composite {3}
Additional Toxic Pollutants {13}	{14}	{15}

mg/l = milligrams per liter = 1000 micrograms per liter (µg/l)
+ = The value listed is the minimum standard. Depending upon the receiving water $CaCO_3$ hardness, higher standards may be calculated using the respective formula in the U.S. Environmental Protection Agency publication Quality Criteria

for Water (EPA 440/5-86-001, Revised May 1, 1987).

NOTES:

{1} Pollutant concentration levels shall not exceed the storm water discharge limits or be outside the ranges indicated in the table. Actual or measured levels which exceed those storm water discharge limits or are outside those ranges shall be reported to the CWB required in HAR, Chapter 11-55, Appendix B, Section 10(c).

{2} The Permittee shall collect samples for analysis from a discharge resulting from a representative storm. A representative storm means a rainfall that accumulates more than 0.1 inch of rain and occurs at least 72 hours after the previous measurable (greater than 0.1 inch) rainfall event.

"Grab sample" means a sample collected during the first 15 minutes of the discharge.

"Composite sample" means a combination of at least two (2) sample aliquots, collected at periodic intervals. The composite shall be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to the total flow of storm water discharge flow since the collection of the previous aliquot. The Permittee may collect aliquots manually or automatically.

Samples for analysis shall be collected during the first 15 minutes of the discharge and at 15-minute intervals thereafter for the duration of the discharge, as applicable. If the discharge lasts for over an hour, sample collection may cease.

{3} If the duration of the discharge event is less than 30 minutes, the sample collected during the first 15 minutes of the discharge shall be analyzed as a grab sample and reported toward the fulfillment of this composite sample specification. If the duration of the discharge event is greater than 30 minutes, the Permittee shall analyze two (2) or more sample aliquots as a composite sample.

{4} Monitor and Report. The value shall not exceed the applicable limit as specified in Chapter 11-54 for the applicable classification of the receiving state waters. If no limitation is specified in Chapter 11-54, then the Permittee shall monitor and report the analytical result. The Department may include discharge limitations specified in Section 11-55-19 and discharge limitations based on Federal Register, Vol. 73, No. 189, Pages 56572–56578, dated September 29, 2008.

{5} The Total Nitrogen parameter is a measure of all nitrogen compounds in the sample (nitrate, nitrite, ammonia, dissolved organic nitrogen, and organic matter present as particulates).

{6} The Permittee shall measure Oil and Grease using EPA Method 1664, Revision A.

{7} This limitation applies to discharge into state waters classified as inland streams.

{8} This limitation applies to discharge into state waters classified as marine open coastal waters.

{9} The Permittee shall measure pH within 15 minutes of obtaining the grab sample.

{10} This limitation applies to discharge into freshwater.

{11} This limitation applies to discharge into saltwater.

{12} The Permittee shall test for the total recoverable portion of all metals.

{13} Toxic pollutants, as identified in Appendix D or 40 CFR Part 122 or in HAR, Chapter 11-54, Section 11-54-4, need only be analyzed if they are identified as potential pollutants requiring monitoring in the SWPCP. The Permittee shall test for the total recoverable portion of all metals. If monitoring results indicate that the discharge limitation was equaled or exceeded, the SWPCP shall be amended to include additional BMPs targeted to reduce the parameter which was in excess of the discharge limitation.

{14} Effluent limitations are the acute water quality standards established in HAR, Chapter 11-54, Section 11-54-4. For pollutants which do not have established acute water quality standards, any detection concentration greater than 0.01 mg/l shall be reported.

{15} Cyanide and the volatile fraction of the toxic organic compounds shall be sampled by grab sample. All other pollutants, as identified in Appendix D of the 40 CFR Part 122 or in HAR Chapter 11-54, Section 11-54-4 shall be sampled by composite sample.

Part F.3. Future TMDLs

As TMDLs are adopted by DOH and approved by the EPA that identify the Permittee as a source, the Permittee shall develop I&M Plans for a minimum of one (1) additional TMDL per year within one (1) year of the approval date. The Permittee shall include within each I&M Plan a compliance schedule with a final deadline to demonstrate consistency with the WLAs consistent with the assumption of the associated TMDL document. The schedule shall meet the requirements of HAR, Section 11-55-21 and 40 CFR 122.2 and 122.47 and provide for the implementation of the BMPs, monitoring to evaluate its performance, and time to make adjustments necessary to demonstrate consistency with the WLAs consistent with the assumption of the associated TMDL document at the earliest possible time. If the schedule extends beyond a year, interim dates and milestones shall be included in the schedule with the time between interim dates not to exceed one (1) year.

Part F.4. Re-opener

In accordance with 40 CFR Parts 122 and 124, this permit may be modified (i.e., to include compliance schedules, permit conditions, etc.) to address TMDLs as adopted by DOH and approved by the EPA.

Part G. REPORTING REQUIREMENTS

All submittals to DOH shall be in a format consistent with first satisfying the requirements of this permit.

Part G.1. Annual Report

PartG.1.a. The Permittee shall submit the Annual Report by August 31st of each year in pdf format (minimum 300 dpi) in accordance with Part A.7. The Annual Report shall cover the past fiscal year. The Annual Report for the fiscal year prior to the expiration date of the permit shall serve as the permit's renewal application. Submittal of the renewal application shall include a $1,000 filing fee.

PartG.1.b. The Permittee shall revise its SWMP to include a description of reporting procedures and activities, including schedules and proposed content of the Annual Reports such that, at a minimum, the following is reported for each storm water program component in each Annual Report:

Part G.1.b.(1) *Requirements* - Describe what the Permittee was required to do (describe status of compliance with conditions of this permit and other commitments set forth in the SWMP).

Part G.1.b.(2) *Past Year Activities* - Describe activities over the reporting period in comparison to the requirements, including, where applicable, progress accomplished toward meeting specific measurable goals, standards and milestones or other specific performance requirements. When requirements were not fully met, include a detailed explanation as to why the Permittee did not meet its commitments for the reporting period. Also describe an assessment of the SWMP, including progress towards implementing each of the SWMP program components.

Part G.1.b.(3) *Future Activities* - Describe planned activities, including, where applicable, specific activities to be undertaken during the next reporting period toward accomplishing specific measurable goals, standards and milestones or other specific performance requirements.

Part G.1.b.(4) *Resources* - Report on the status of the Permittee's resource base for implementing this NPDES permit during the applicable reporting period and an estimate of the resources over and above those required in the current reporting period that will be required in the next reporting period.

PartG.1.c. *Modifications* - In each Annual Report, the Permittee shall describe any modifications made to the SWMP and implementation schedule during the past year, including justifications. The Permittee shall also describe major modifications made to the Permittee's Small MS4, including, but not limited to, addition and removal of outfalls, drainage lines, and DOT-AIR facilities.

PartG.1.d. *Program Effectiveness Reporting* - Within one (1) year of the effective date of the permit, the Permittee shall submit to DOH a written strategy for determining effectiveness of its SWMP. The strategy shall include water quality monitoring efforts as well as program implementation information and other indicators. The Permittee shall include an assessment of program effectiveness and identification of water quality improvements or degradation beginning with the 2nd Annual Report.

Part G.2. Annual Monitoring Report

Part G.2.a. The Permittee shall submit the Annual Monitoring Report by August 31st of each year in pdf format (minimum 300 dpi) in accordance with Part A.7. The Annual Monitoring Report shall cover the past fiscal year.

Part G.2.b. The monitoring report shall at a minimum, include the following items:

Part G.2.b.(1) Discussion on the activities/work implemented to meet each objective, as outlined in Part F.1.a., including any additional objectives identified by the Permittee, and the results [e.g., assessment of the water quality issues in each receiving State water resulting from storm water discharges from the DOT-AIR Small MS4, refer to Part F.1.a.(7)] and conclusions.

Part G.2.b.(2) Written narrative of the past fiscal year's activities, including those coordinated with other agencies, objectives of activities, results and conclusions.

Part G.2.b.(3) Data gathered on levels of pollutants in non-storm water discharges to the DOT-AIR Small MS4; and

Part G.2.b.(4) Using rainfall data collected by the Permittee and other agencies, the Permittee shall relate rainfall events, measured pollutant loads, and discharge volumes from the watershed and other watersheds that may be identified from time to time by the Director or Permittee.

Part G.2.b.(5) The date when monitoring occurred at the DOT-AIR Maintenance Baseyard Facility. The monitoring event shall be of a representative storm event, where results were available for all required parameters following the QA/QC measures as described in your Annual Monitoring Plan.

Part G.2.b.(6) Discharge Monitoring Reports (DMRs) for the DOT-AIR Maintenance Baseyard Facility shall be included in the Annual Monitoring Report and be submitted via NetDMR once established by the DOH. NetDMR is a Web-based tool that allows NPDES permittees to electronically sign and submit their DMRs to EPA's Integrated Compliance Information System (ICIS-NPDES) via the Environmental Information Exchange Network. A DMR must be submitted for the facility which is scheduled to be monitored even if sampling was not conducted. An explanation as to why sampling was not conducted shall be explained with the submittal.

Part G.3. Memorandum of Understanding (MOU)

DOT-AIR shall continue to maintain and comply with the "Memorandum of Understanding (MOU) Between Department of Transportation, State of Hawaii, and Department of Health, State of Hawaii" which was executed on March 29, 2000, to help the DOT-AIR comply with its NPDES permit coverages for various airports. As stated in the MOU, 40 CFR 122.26(d)(2)(i) requires that DOT-AIR obtain the legal authority to control the discharge of pollutants to its storm sewer system. Amendments to the MOU, if any, shall be summarized in the Annual Report.

Part H. SUMMARY OF DEADLINES

Deadline	Description	Part	Submit to DOH
1 year after the Effective Date of Permit (EDOP)	Revised SWMP Plan.	D.1.	Yes
30 calendar days after EDOP	Notify tenants previously covered under the DOT-AIR NPDES Permit that they are no longer covered and must obtain their own NPDES permit coverage or NPDES Conditional "No Exposure" Exclusion.	D.1.a.	No
1 year after EDOP	Establish requirements for issuing connection and discharge permits/approvals and require obtaining the permit prior to allowing the drain connection.	D.1.c.(1)	No
2 years after EDOP	Establish rules for enforcement and penalties for non-compliance with Part D.1.c.(1) and for persons illegally discharging pollutants to its Small MS4; and pursue enforcement actions.	D.1.c.(5)	No
2 years after EDOP	Establish rules to require construction projects to implement BMPs and standards.	D.1.d.(1)	No
90 calendar days after EDOP	Plan review checklist.	D.1.d.(2)(iv)	Yes
90 calendar days after EDOP	Inspection form(s), inspection checklist, and reporting and corrective procedures.	D.1.d.(3)(iv)	Yes
2 years after EDOP	Establish rules for enforcement and penalties for non-	D.1.d.(4)	No

Deadline	Description	Part	Submit to DOH
	compliance with Part D.1.d.(1); and develop and implement an Enforcement Response Plan.		
6 months after EDOP	Plan for requiring LID in its Standards.	D.1.e.(1)	Yes
12 months after EDOP	Draft of the revised Standards.	D.1.e.(1)	Yes
18 to 24 months after EDOP dependent on adoption by rulemaking	Final of the revised Standards.	D.1.e.(1)	Yes
1 year after EDOP	Action Plan for Retrofitting Structural BMPs	D.1.f.(1)(iv)	Yes
3 year after EDOP	Trash Reduction Plan	D.1.f.(1)(v)	Yes
1 year after EDOP	Implementation schedule for permanent erosion control improvements	D.1.f.(3)(i)	Yes
18 months after EDOP	Require the implementation of temporary erosion control measures on erosional areas within the DOT-AIR right-of-ways.	D.1.f.(3)(ii)	No
1 year after EDOP	WQC application(s) for temporary erosion control measures.	D.1.f.(3)(ii)	Yes
1 year after EDOP	Action Plan to address erosion at its storm drain system outlets.	D.1.f.(3)(iv)	Yes
Annual Report	Industrial facilities and activities inventory information.	D.1.g.(2)	Yes
Annual Report	Commercial facilities and	D.1.g.(3)	Yes

Deadline	Description	Part	Submit to DOH
	activities inventory information		
Within 30 calendar days of the inspection.	Inspection reports for high ranked industrial facilities that are required to have NPDES permit coverage.	D.1.g.(4)	Yes
2 years after EDOP	For Industrial and Commercial Facilities, establish and implement rules for enforcement and penalties.	D.1.g.(6)	No
90 calendar days of the change	Updates to the industrial and commercial inspection training	D.1.g.(7)	Yes
90 calendar day after EDOP	Status of its Hydrocarbon Removal and Remediation Plan	D.1.h.	Yes
90 days before any construction which requires disturbing contaminated soil or dewatering effluent.	DOH notification of projects which will disturb contaminated soil or involve dewatering.	D.1.h.	Yes
30 calendar days prior to the initiation date of the major modification	SWMP Modification Report	D.3.a.	Yes
90 calendar days after EDOP	NOI and SWPCP for its Industrial facilities/activities	E.3.	Yes
June 1st of each year	Annual Monitoring Plan	F.1.a.	Yes
August 31st of each year	Annual Report, to include but not limited to: • Progress evaluation results of the public	G.1.	Yes

Deadline	Description	Part	Submit to DOH
	education program [Part D.1.a.(3)], • Description and reason for any revision to its Standards and copy of the revised Standards [Part D.1.d.(1)], • Updates to its inspection/maintenance schedule, including explanation of the changes [Part D.1.f.(1)(ii)], • Statuses of retrofitting projects [Part D.1.f.(1)(iv)], • Summary of its trash load reduction actions [Part D.1.f.(1)(v), • Status report on implementation of erosion control measures at its storm drain system outlets [Part D.1.f.(3)(iv)], • Updated industrial inventory information [Part D.1.g.(2)] • Updated commercial inventory information [Part D.1.g.(3)] • SWMP Modifications [Part D.3.a.] • System Modifications [Part D.3.b.], • Annual Report requirements [Part G.1.],		

Deadline	Description	Part	Submit to DOH
	and • Amendments to MOUs [Part G.3.].		
1 year after EDOP	Written strategy for determining effectiveness of its SWMP	G.1.d.	Yes
August 31st of each year	Annual Monitoring Report with Discharge Monitoring Reports	G.2.	Yes

Appendix I.b

Administrative Extension of NPDES Permit No. HI S000005

DAVID Y. IGE
GOVERNOR OF HAWAII

BRUCE S. ANDERSON Ph.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
EMD/CWB

HI S000005.EXT.19

March 1, 2019

The Honorable Jade Butay
Director
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Attention: Ms. Stacy Paquette
Section Supervisor

Dear Mr. Butay:

Subject: Administrative Extension of the National Pollutant Discharge Elimination System (NPDES) Permit for the Department of Transportation, Airports Division (DOTA) Small Municipal Separate Storm Sewer System (Small MS4) And Maintenance Base Yard Honolulu, Island of Oahu, Hawaii Permit No. HI S000005

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of your NPDES renewal application and filing fee. However, the DOH will not be able to complete the processing of the subject application prior to the current expiration date.

Therefore, in accordance with the Hawaii Revised Statutes (HRS), Chapter 342D-6(h), the DOH hereby administratively extends the subject NPDES permit until a final determination on your application is made. The DOTA shall not be held in violation of HRS, Chapter 342D; and Hawaii Administrative Rules, Chapters 11-54 and 11-55, during the pendency of its application, as long as it acts consistently with the permit presently granted. **This administrative extension shall expire on the effective date of the subsequent permit.**

Any non-compliance with the conditions of the administratively extended permit may be subject to penalties of up to $25,000 per violation per day. It is the Permittee's responsibility to ensure that anyone working under this administrative extension understands and complies with the terms and conditions therein.

Should you have any questions, please contact Mr. Colin Maruoka of the Engineering Section, CWB, at (808) 586-4309.

Sincerely,

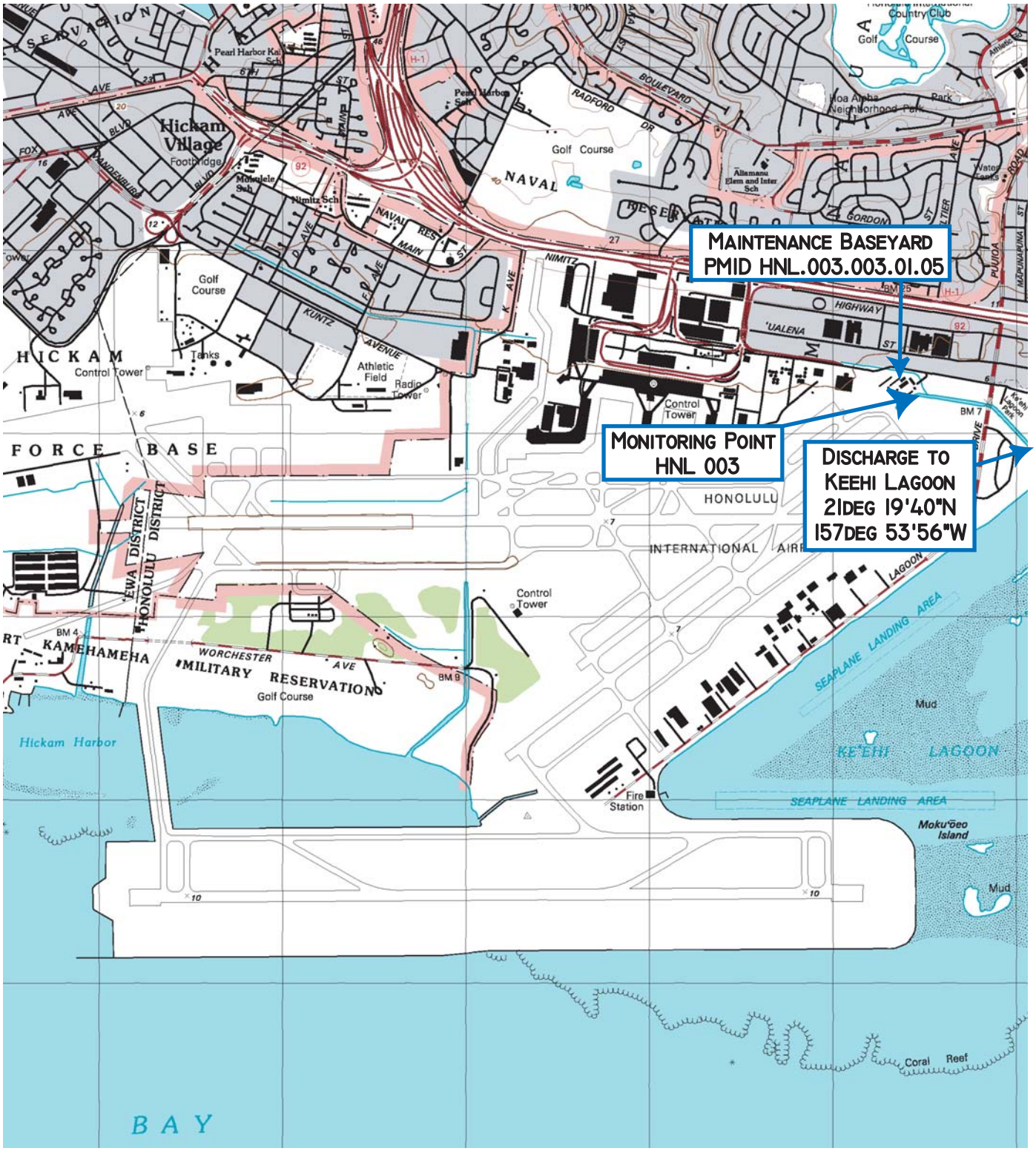
for

BRUCE S. ANDERSON, Ph.D.
Director of Health

c: Water Division (WTR-5), CWA Standards and Permits Office, EPA, Region 9
[via e-mail kozelka.peter@epa.gov only]
EnviroServices & Training Center, LLC
[via e-mail info@gotoetc.com only]
Ms. Vijaya Tummala, EnviroServices & Training Center, LLC
[via e-mail vtummala@gotoetc.com only
Mr. Brant Tanaka, EnviroServices & Training Center, LLC
[via e-mail brant@gotoetc.com only]
Ms. Stacy Paquette, DOTA
[via e-mail stacy.a.paquette@hawaii.gov only]

Appendix II

Figures



Source:
United States Geological Survey
Pearl Harbor Quadrangle
Island of Oahu, 7.5 Minute Series, 1999

enviro SERVICES & TRAINING CENTER, LLC	Permit No. HI S000005 August 2019	**Figure 1 - Site Location Map** Stom Water Pollution Control Plan Daniel K. Inouye International Airport Maintenance Baseyard

Underground Storage Tanks
Aboveground Storage Tanks
55-gallon Drums
Secondary Containment
Spill Kits
HNL MS4 Storm Drains
Runoff Direction

Drainage Area
Filter Media PBMP
Property Boundary

NOTE: Number and placement of drums and spill kits may vary depending on current operations.

BASE OUTFALL 01

BASE OUTFALL 02

BASE OUTFALL 03

BASE OUTFALL 04

BASE OUTFALL 05

ADDIE ST DRAINAGE DITCH

Drainage Area 1

Drainage Area 2

Drainage Area 3

Drainage Area 4

Drainage Area 5

3917

3909

3912

3908

3907

VW-15005

Storage Shed

Employee Parking

Concrete Channel

Paint Booth (EID 03684)

Paint Shop

Paint Storage

Office

Hazardous Material Storage

Main Office

Warehouse

Maint. Shop

Carpentry Shop

Landscape Nursery

T-Hangar Converted (Storage)

T-Hangar Converted (Storage)

Equipment Parking

Storage Shed

MAINTENANCE BASEYARD

Impervious Maintenance Area

100-gallon underground OWS (EID 03907) to the CCH Sanitary Sewer

Automotive Shop / Vehicle Wash Area (EID 15005)

Baseyard Access Road

4581

4582

4580

4578

4577

4579

Overfill Alarm

Safe Drain

Main Gate

Temporary Equipment Storage

5503; 4913

5504; 4914

Safe Drain

280-gal used oil AST (EID 09372)

5505

2,300-gal diesel UST (EID 03121)
2,300-gal gas UST (EID 03122)
2,300-gal gas UST (EID 03123)

Fueling Area

5502; 4912

5501

Monitoring Point HNL 003

9363

500-gallon underground OWS (EID 9363) to Outfall 4576

4576

Emergency Shutoff

Material Storage Building

5500; 4911

Recyclable Material/ Spent Lead-Acid Batteries

Safe Drain

Security Fence

Gate

Waste Bins

Office

Grounds Maintenance Building

Equipment Parking

Green House

Aggregate Storage

Sheriff Office Trailer

Sweeper Washout

Aggregate Storage

Equipment Parking

Hazardous Material Storage

Tire Storage

5498

5499; 4910

Covered Parking

5496

Parts & Machines Storage

10230

12175

12174

AIRPORT ACCESS ROAD

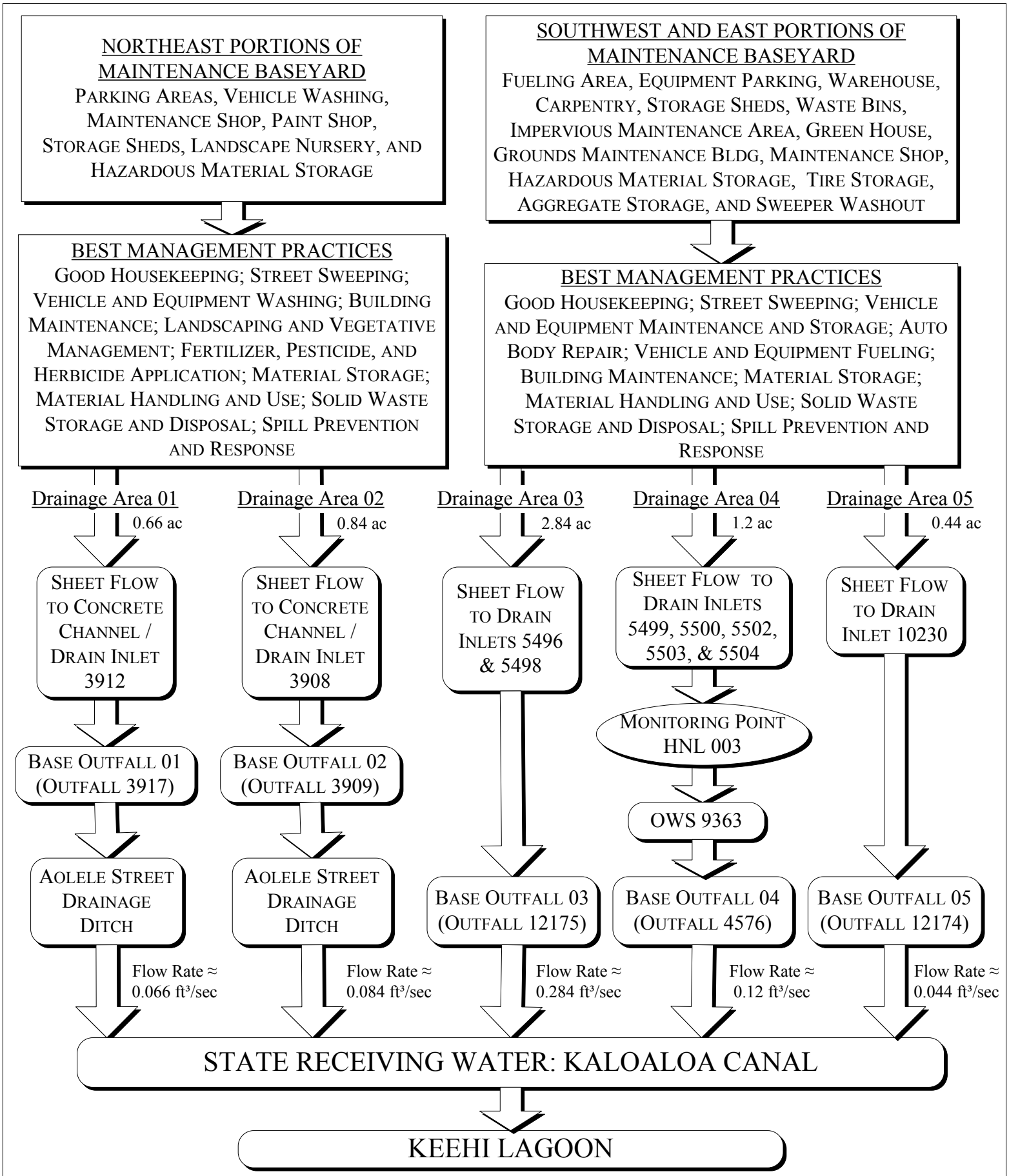
Hazardous Herbicide Room

KALAOA CANAL

CLEAR ZONE
810124A
20:1

AIR TRANS. FA

enviro SERVICES & TRAINING CENTER, LLC	Permit No. HIS000005	**Figure 2 - Site Map** Storm Water Pollution Control Plan Daniel K. Inouye International Airport Maintenance Baseyard
	Scale 1" = 60'	
	August 2019	



enviro SERVICES & TRAINING CENTER, LLC	Flow Calculation: Q = CIA, where Q = flow rate in cubic feet / sec C = runoff coefficient = 1 I = 0.1" / hr A = area in acres	Permit No. HIS000005 August 2019	**Figure 3 – Storm Water Flow Chart** Storm Water Pollution Control Plan Daniel K. Inouye International Airport Maintenance Baseyard

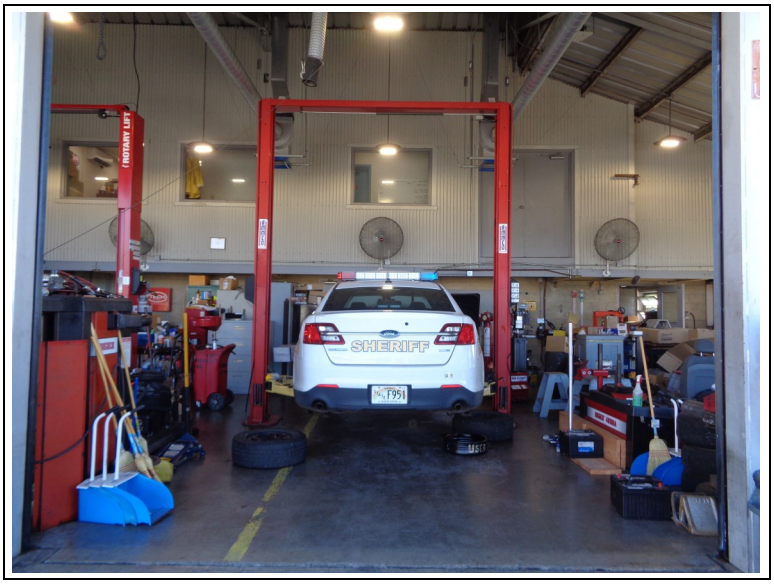
Appendix III

Photographic Documentation

Photograph 1: Main Office.

Photograph 2: Exterior of Warehouse and Maintenance Shop.

Photograph 3: Impervious Maintenance Area.



Photograph 4: Inside the Auto Shop.

Photograph 5: Interior of the Maintenance Shop with the maintenance bay to the left and vehicle washing area ahead.

Photograph 6: 100-gallon oil water separator (3907) in the Maintenance Shop.

Photograph 7: Floor drain in the Maintenance Shop that goes to the oil water separator (3907).

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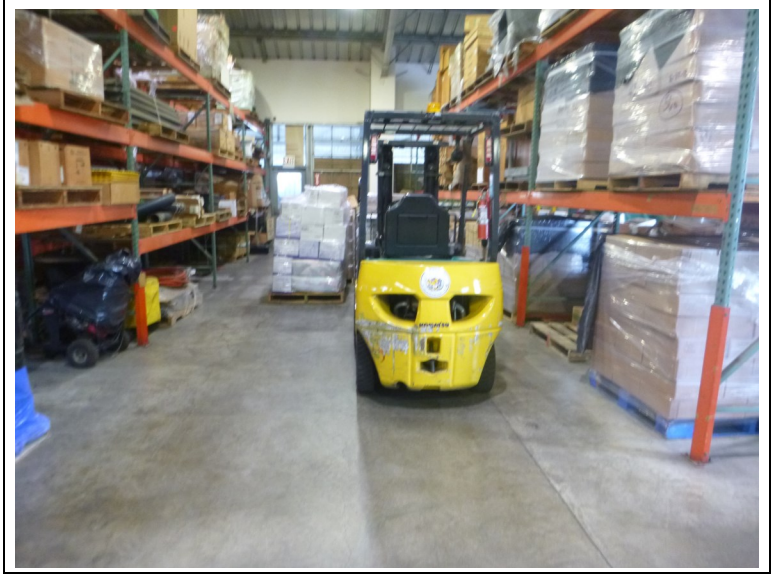
Photograph 19: One of the Safe Drains ® located in the Fueling Area.

Photograph 20: Emergency Shutoff for the Fueling Area.

Photograph 21: Veeder-Root monitoring system for the underground storage tanks.



Photograph 22: Inside the Warehouse storage area.

Photograph 23: Flammable storage locker in the Warehouse area.

Photograph 24: Interior of the Carpentry Shop. Visible piping is a part of the sawdust vacuum system.

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Photograph 43: Sweeper Washout and Aggregate Storage located in the AOA outside of the Maintenance Baseyard fence.

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Photograph 46: Employee Parking lot.

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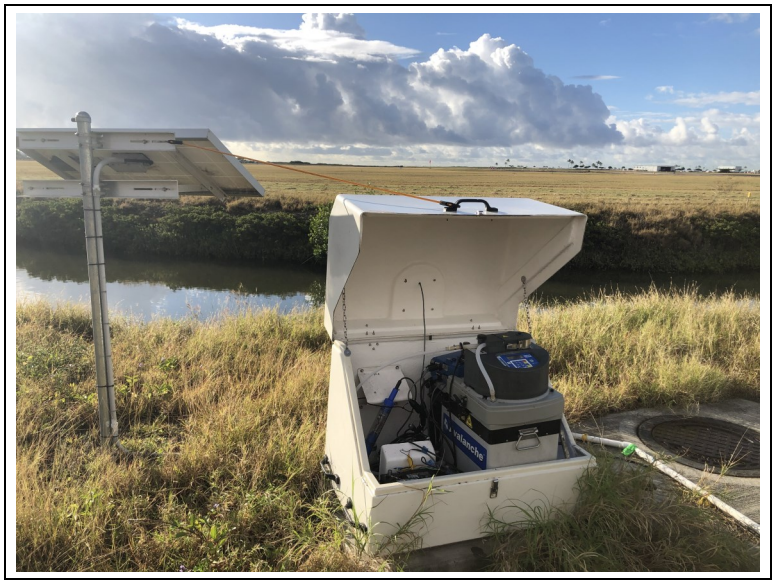
Photograph 48: Concrete Channel aligning the Employee Parking lot.

Photograph 49: Aolele Street Drainage Ditch and Outfall EID 3917 by the Employee Parking Area.



Photograph 50: Monitoring Point HNL 003 automatic sampler.

Photograph 51: Kaloaloa Canal on the southern side of the Maintenance Baseyard. Monitoring Point HNL 003 identified by arrow.

Appendix IV

Maintenance Baseyard PMID List

HNL Maintenance Baseyard
Property Management Identification (PMID) Numbers

003.003.01.06	408.408.01.01
003.003.01.15	408.408.01.02
003.003.01.16	408.408.01.03
125.125.01.00	412.412.01.01
126.126.01.00	412.412.01.02
127.127.01.00	412.412.01.03
129.129.01.00	614.614.01.01
134.134.01.00	614.614.01.02
135.135.01.00	614.614.01.03
136.136.01.00	614.614.01.04
138.138.01.00	614.614.01.05
139.139.01.00	614.614.01.08A
402.402.01.01	614.614.01.08B
402.402.01.01A	614.614.01.08C
402.402.01.02	614.614.01.08D
402.402.01.03	614.614.01.12
402.402.01.04	614.614.01.13
402.402.01.05	614.614.01.14
402.402.01.06	614.614.01.15
402.402.01.07	614.614.01.16
402.402.01.08	614.614.01.17
402.402.01.09	614.614.01.18
402.402.01.10	632.632.01.01
402.402.01.10A	632.632.01.02
403.403.01.01	632.632.01.03
403.403.01.01A	802.802.01.04
403.403.01.02	802.802.01.05
403.403.01.03	802.802.01.07
403.403.01.04	802.802.01.10
403.403.01.05	802.802.01.11
403.403.01.06	802.802.01.12
403.403.01.07	
403.403.01.08	
403.403.01.10A	
407.407.01.01	
407.407.01.02	
407.407.01.03	
407.407.01.04	
407.407.01.05	
407.407.01.06	
407.407.01.07	
407.407.01.08	
407.407.01.09	
407.407.01.10	
407.407.01.11	

Appendix V

Best Management Practices

BEST MANAGEMENT PRACTICES
FOR DANIEL K. INOUYE INTERNATIONAL AIRPORT
MAINTENANCE BASEYARD

TABLE OF CONTENTS

Maintenance Baseyard Best Management Practices
Good Housekeeping

Description

Daily activities performed at the Maintenance Baseyard require the use of materials and products that may be potential contaminants in stormwater. Good housekeeping practices are intended to maintain a clean, safe, and orderly working environment at the facility where these materials are used or stored. Implementing the good housekeeping Best Management Practices (BMPs) will reduce the amount of pollutants entering the Department of Transportation, Airports Division (DOTA) Small Municipal Separate Storm Sewer System (MS4).

Limitations

There are no major limitations to the implementation of this BMP.

Practice		
☐	1	DO NOT overfill dumpsters or leave trash outside of containers. Ensure that materials put into dumpsters will not leak out of dumpsters and commingle with stormwater runoff. Use leak-proof dumpsters and keep covered when not in use. If dumpsters are delivered without lids or it is determined that dumpsters need repairs because leaks from dumpsters are observed, implement BMPs to prevent pollution until dumpsters can be repaired or replaced.
☐	2	Remove and properly dispose of debris from all areas daily. Minimize the potential for waste, garbage and floatable debris to be discharged to the MS4 by keeping exposed areas free of such materials, or by intercepting them before they are discharged.
☐	3	Schedule for regular pickup and disposal of garbage and waste materials.
☐	4	Dry sweep or vacuum all areas to prevent tracking of materials. DO NOT hose down facility floors with water or use a blower to remove cleanup materials. If washing down an area, ensure collection and/or treatment and proper disposal of the wash water.
☐	5	Maintain ample spill cleanup supplies and keep them in proper physical condition.
☐	6	Clean up spills and leaks promptly using dry methods such as rags or absorbent material to prevent discharge of pollutants into the MS4, and properly dispose of spent cleaning materials. Put spent rags or absorbent material used to contain any non-hazardous spills in durable plastic bags, double wrap if applicable, seal with tape, and place in trash dumpsters. Disposal of hazardous spilled material and spent cleanup materials should be in accordance with the Solid Waste Storage and Disposal BMP.
☐	7	Inspect storm drain inlets and catch basins regularly for sediment build-up or debris accumulation. The Maintenance Baseyard storm drain inlets and catch basins are maintained through a routine maintenance contract. Notify AIR-OME or AIR-EE if storm drain inlets and catch basins need cleaning.

Maintenance Baseyard Best Management Practices
Good Housekeeping
(Continued)

		Practice
☐	8	Inspect concrete channels regularly for sediment build-up or debris accumulation. Clean debris from the concrete channel. Check the condition of the filter socks located on top of the concrete channel (if using), and maintain the filter socks as needed. The Maintenance Baseyard may choose to implement a different temporary or permanent BMP in lieu of the filter socks to address the debris accumulation within the concrete channel.
☐	9	Perform inspections and preventive maintenance of stormwater drainage, source controls, treatment systems, and plant equipment and systems that could fail and result in contamination of stormwater.
☐	10	Identify storm drains and waterways in each work area and prevent non-stormwater discharges into the MS4.
☐	11	Designate an area for paint testing at the Maintenance Baseyard to ensure any pollutants from paint testing activities are controlled.
☐	12	Divert, infiltrate, reuse, contain, or otherwise reduce stormwater runoff to minimize pollutants in the Maintenance Baseyard's discharges.
☐	13	Perform routine facility inspections to ensure good housekeeping practices are being followed by facility personnel.
☐	14	Conduct employee training on all BMPs annually and as required.

Maintenance Baseyard Best Management Practices
Street Sweeping

Description

Street, runway, and taxiway sweeping is performed to remove litter and debris from the vehicle and aircraft travelways in order to prevent discharge of potential pollutants into the MS4, improve safety, and improve aesthetics. DOTA HNL maintenance personnel and contractors perform street sweeping.

Limitations

BMPs will be controlled by weather, air and surface traffic, controlled area access, and maintenance worker safety considerations.

Practice		
☐	1	DOTA maintenance personnel will inspect and sweep applicable areas of HNL at least twice per month. Sweeping more frequently than twice per month may be necessary if inspections or complaints indicate such.
☐	2	Properly maintain sweepers. Adjust broom heights frequently to maximize efficiency of sweeping operations.
☐	3	Provide dust control for sweeping, if applicable. When controlling dust, sweep and/or apply water so that it will not impact storm drains, surface or ground water.
☐	4	Properly transport, store, and dispose of sweeper waste when sweeper is full or when sweeping operations are complete. Empty sweepers in designated areas to capture solid material and minimize windblown materials.
☐	5	Clean sweepers with clean water only in a contained area where water is properly treated and disposed of, such as the airport wash racks.
☐	6	Keep logs of locations swept, tonnage of material swept, and disposal method of debris to document sweeping for the Annual Report.

Maintenance Baseyard Best Management Practices
Vehicle and Equipment Maintenance and Storage

Description

Routine maintenance of vehicles and equipment must be done to maintain their proper operation. The maintenance and repair activities conducted may include fluids removal, engine and parts cleaning, tire repair and replacement, and battery replacement. These activities represent a potentially significant source of contaminants due to the harmful materials and waste generated. This BMP is designed to prevent or reduce the impact of contaminants from maintenance and repair on the DOTA Small MS4.

Limitations

There are no major limitations to the implementation of this BMP.

Practice		
☐	1	Maintain vehicles and equipment used at the facility in good operating condition. Inspect damaged vehicles and equipment for fluid leaks and repair as soon as possible. Use drip pans as necessary and empty when full. Assign each vehicle and equipment a stall, so if there is an oil leak, personnel can identify which vehicle or equipment is leaking.
☐	2	Perform vehicles and equipment maintenance and repair activities in designated indoor or covered areas or on the painted concrete pad area, aka the Impervious Maintenance Area, located outside the maintenance shop away from stormwater runoff. If leaks and spills occur, immediately implement BMPs to contain them before discharge reaches storm drains.
☐	3	Clean up spills and leaks promptly using dry methods (e.g., absorbent material) to prevent the discharge of pollutants. Use appropriate cleanup materials for the spill. Please note that Maintenance Baseyard is not manned all the time and spills will be addressed when they are observed by personnel. Clean paved surfaces to remove oil and grease stains using degreasers and water as long as all the water is contained, captured by a vacuum, and disposed of properly.
☐	4	Store damaged and/or leaky vehicles and equipment indoors whenever possible and use drip pans to catch leaks if stored outdoors. DO NOT leave leaking vehicles and equipment parked overnight on the painted concrete pad area outside the maintenance shop without appropriate drainage controls.
☐	5	Drain fluids from equipment and vehicles that will be decommissioned and/or remain unused for extended periods of time. Inspect at least monthly for signs of deterioration.
☐	6	Transfer removed vehicle fluids to designated storage containers as soon as possible.
☐	7	Remove batteries and store under cover. Store cracked, damaged, or acid batteries within secondary containment and under cover.

Maintenance Baseyard Best Management Practices
Vehicle and Equipment Maintenance and Storage
(Continued)

Practice		
☐	8	When not in use, store 55-gallon drums of liquid materials and waste indoors or under cover and within secondary containment. Store smaller containers of liquid materials and waste indoors or under cover.
☐	9	Use the parts washer or designated areas in service bays for parts cleaning to keep solvents in one area. Allow parts to drain over parts washer, solvent tank or drip pan. DO NOT wash or rinse parts outdoors, and do not allow solvent to drip or spill onto the floor. Remove any parts that are dipped in liquid slowly to avoid spills.
☐	10	Prohibit the practice of hosing down an area where the practice would result in the discharge of pollutants to the MS4; use dry cleanup methods and remove cleanup materials. Dry sweep or vacuum all areas.
☐	11	Prohibit pouring liquid waste into floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections. Dispose of the waste liquids properly.
☐	12	Maintain well stocked spill kits throughout the facility, especially in maintenance areas, to contain and clean up potential discharge to receiving waters and storm drain inlets in the event of a spill.
☐	13	Ensure that the BMPs installed at the Maintenance Baseyard for stormwater management, such as the Safe Drains, Storm Drain inlet inserts etc. are functioning as designed. Coordinate with appropriate parties (AIR-OME and AIR-EE) if these BMPs need maintenance or repair.
☐	14	Inspect the maintenance area regularly for proper implementation of BMPs and control measures.
☐	15	Conduct employee training annually and as required. Train all employees who work in areas where industrial materials or activities are exposed to stormwater, or who are responsible for implementing activities in this SWPCP.

Maintenance Baseyard Best Management Practices
Auto Body Repair

Description

Body repair for vehicles and equipment is conducted at the Maintenance Baseyard. Body repair activities include sanding, painting, welding, washing and floor cleaning. The materials and waste generated by these activities have the potential to release pollutants such as oil and grease, organics, heavy metals, toxic chemicals, and paints to stormwater. This BMP is designed to prevent or reduce the impact of pollutants on the stormwater from auto body repair.

Limitations

There are no major limitations to the implementation of this BMP.

Practice		
☐	1	Perform all body repair activities indoors or under cover.
☐	2	Keep the amount of airborne dust to a minimum. Use vacuum attachments on sanding equipment whenever possible in order to reduce the amount of airborne dust.
☐	3	Sweep, vacuum, or use other dry cleanup methods routinely to pick up dust from dry sanding of primer, metal, or body filler. Make extra efforts to thoroughly sweep or vacuum dust prior to mopping.
☐	4	Clean up wet sanding drips with rags, absorbent materials or let them drip dry. Then sweep or vacuum up the dust. Finally, mop the area and dispose of the mop water properly. Put spent rags or absorbent material used to contain any non-hazardous spills in durable plastic bags, double wrap if applicable, seal with tape, and place in trash dumpsters. Disposal of hazardous spilled material and spent cleanup materials should be in accordance with the Solid Waste Storage and Disposal BMP.
☐	5	Use solvents with low volatility and coatings with low volatile organic compound (VOC) content; use high transfer efficiency coating techniques such as brushing and rolling to reduce overspray and solvent emissions.
☐	6	Mix paints and solvents in designated areas away from drains, ditches, and waterways, preferably indoors or under cover.
☐	7	Establish and implement effective inventory control to reduce paint waste, including tracking date received and expiration dates.
☐	8	Conduct all priming and painting activities in enclosed paint booths whenever possible. Enclose, cover, or contain painting activities to the maximum extent practical to prevent overspray from reaching receiving waters. Prohibit uncontained spray-painting activities.
☐	9	DO NOT use water to control overspray or dust in the paint booth unless the water evaporates in the booth.

Maintenance Baseyard Best Management Practices
Auto Body Repair
(Continued)

Practice		
☐	10	Store waste paint, solvents, and rags in covered containers to prevent evaporation to the atmosphere.
☐	11	Wash water-based and latex paint brushes, rollers, and other equipment in utility sinks or other locations where wash water is treated or hauled.
☐	12	Rinse the oil-based paint brush using paint thinners. Use a brush-and-roller spinner after the paint solids are loosened from the brush, dip the brush into a clean container of paint thinner, and spin the brush again. DO NOT dump the paint thinner when done; let the paint solids settle to the bottom of the container, then pour off the rest into a clean container. Let the paint solids dry out and then dispose properly.
☐	13	DO NOT clean out brushes or rinse paint containers into the dirt, street, gutter, storm drain, or waterways. "Paint out" brushes as much as possible. Prohibit washing paint equipment outside on pavement or into storm drains.
☐	14	Properly segregate and label waste paints for disposal according to the Solid Waste BMP. Note: oil-based paints are considered hazardous waste.
☐	15	Inspect painting procedures to ensure that they are conducted properly.
☐	16	Conduct employee training annually and as required.

Maintenance Baseyard Best Management Practices
Vehicle and Equipment Washing

Description
Periodic washing of vehicles and equipment may be performed at DOTA approved wash racks around the airport or within the maintenance shop that discharges to an oil water separator (OWS). Wash water may contain oils, greases, heavy metals, sediments, and other pollutants that can pose a threat to the HNL Small MS4 and receiving water bodies. This BMP is intended to reduce the impact of these activities on stormwater runoff.

Limitations
There are no major limitations to the implementation of this BMP.

Practice		
☐	1	Wash vehicles and equipment at the designated washing area within the maintenance shop or at a designated Airports wash rack using minimal water.
☐	2	Where applicable, sponge wash vehicles or equipment with a bucket of water to eliminate excess wash water. Clean up any water on the ground or the floor using absorbent materials or a wet/dry vacuum immediately after washing. DO NOT discharge wash or rinse water to a storm drain or to waterway.
☐	3	Use detergents that meet US Environmental Protection Agency's (EPA) Safer Choice Standard. Please refer to the link below to verify if the product you are using meet this standard. https://www.epa.gov/saferchoice/products
☐	4	Follow posted directions or Wash Rack and Wash Areas BMP Fact Sheet for wash rack or wash area use.
☐	5	See Solid Waste Storage and Disposal BMP for OWS maintenance.
☐	6	Ensure the OWS has all applicable permits.
☐	7	Washing of personal vehicles is prohibited.
☐	8	Inspect designated washing area regularly to ensure BMPs are implemented and maintained.
☐	9	Conduct employee training annually and as required.

Maintenance Baseyard Best Management Practices
Vehicle and Equipment Fueling

Description

During fueling of vehicles and equipment, there is the potential for leaked or spilled fuel to contaminate stormwater. The Maintenance Baseyard's fueling area is located adjacent to storm drain inlets (5502, 5503, and 5504) and these drains have Safe Drain containment measures to capture any spills from reaching the ocean. These safe drains are closed during filling of the underground storage tanks (USTs). The procedures outlined in this BMP are intended to prevent fuel spills and leaks and reduce their impact on stormwater.

Limitations

There are no major limitations to the implementation of this BMP.

Practice		
☐	1	Where able, perform fueling of vehicles and equipment in designated areas away from storm drain inlets, drainage channels, or receiving waters.
☐	2	Conduct fueling operations (including the transfer of fuel to tank trucks) on an impervious or contained pad and under a roof or canopy where possible. Covering should extend beyond spill containment pad to prevent rain from entering. When fueling in an uncovered area, use a concrete pad (asphalt is not chemically resistant to the fuels being handled).
☐	3	No topping off or unattended fueling.
☐	4	Ensure that safe drains in drain inlets 5502, 5503, and 5504 are closed during filling of USTs. Monitor filling of USTs. Conduct a visual check/test of the stormwater collected in the Safe Drain containment measures prior to discharge.
☐	5	DO NOT hose off fueling area.
☐	6	Use only dry absorbents or cleanup materials to contain any spills. Promptly clean spills with rags or absorbent material, and properly dispose of cleaning materials. Put spent rags or absorbent material in a durable container until disposal can be facilitated. For larger spills, contact spill response personnel immediately. See Spill Prevention and Response BMP. Disposal of hazardous spilled material and spent cleanup materials should be in accordance with the Solid Waste Storage and Disposal BMP.
☐	7	Maintain an ample supply of spill cleanup materials and spill control equipment near fueling areas to protect discharge to storm drain inlets and receiving waters in the event of a spill. Equip fuel trucks and mobile tanks with spill cleanup materials. Each kit should have, at a minimum, loose absorbent, booms, broom, and a non-sparking shovel.
☐	8	Post proper fueling and cleanup instructions in fueling areas.

Maintenance Baseyard Best Management Practices
Vehicle and Equipment Fueling
(Continued)

Practice		
☐	9	Inspect storage tanks, piping systems (pipes, pumps, flanges, couplings, hoses, and valves), hoses and dispensing nozzles daily for failure, cracks, and leaks. If any defects are noticed, replace defective parts immediately, repair as needed, or remove from service until repaired. Perform preventive maintenance on fuel storage tanks to detect potential leaks before they occur. Ensure posts surrounding the fuel pumps and tanks are in good condition to prevent collisions during vehicle ingress and egress.
☐	10	Check for proper operation of automatic shut off controls on fuel dispensing nozzles. Repair as needed.
☐	11	Test, monitor, and maintain fuel storage tanks as required by all applicable federal, state, and local laws.
☐	12	Train oil and hazardous material handling personnel annually and as required.

Maintenance Baseyard Best Management Practices
Roadway, Runway, and Taxiway Maintenance

Description
Roadway, runway, and taxiway maintenance includes saw cutting, crack or joint repair, pothole repair, patching, resurfacing of asphaltic or concrete surfaces, sealing, pavement marking, and curb/gutter/sidewalk repair. Proper maintenance of roadways, runways, and taxiways reduces the contaminants entering the MS4 and improves safety for ground vehicles and aircraft. This BMP is designed to prevent or reduce the impact of pollutants on the stormwater from roadway, runway, and taxiway maintenance.

Limitations
The only limitation is that roadway, runway, and taxiway maintenance should not be performed during inclement weather. BMPs will also be controlled by air and surface traffic, controlled area access, and maintenance worker safety considerations.

Practice		
☐	1	Respond to notification of roadway problems as soon as possible. Assess safety and pollution potential in assigning priority for repair.
☐	2	Avoid work during rain, when possible.
☐	3	Protect storm drain inlets and waterways with sediment control BMP measures such that loose asphalt or concrete, concrete materials, sealants, and/or soil do not enter the MS4. Remove sediment control BMP measures once maintenance is complete.
☐	4	For concrete paving, create a concrete wash area and prevent wash water from entering MS4. For on-site washout: • Locate washout area at least 50 ft. from storm drains, open ditches, or water bodies. • DO NOT allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste. • Wash out waste into a temporary pit or container where the concrete can set, be broken up, and then disposed of properly. • DO NOT wash out concrete trucks into storm drains, open ditches, streets, or streams. • Cover concrete washout areas prior to a forecasted rain event. • Ensure container or pit is not filled to more than 70% of the capacity.
☐	5	If work cannot be completed within one day, address/provide for protection from pollution and safety hazards before leaving site for the day.
☐	6	Use berms around stockpiled material and locate stockpile down slope and away from storm drain inlets and waterways.
☐	7	Park equipment and store supplies at locations where leaks, leaching, or runoff are contained in a localized area away from waterways and storm drain inlets.

Maintenance Baseyard Best Management Practices
Roadway, Runway, and Taxiway Maintenance
(Continued)

Practice		
☐	8	When possible, place drip pans or equivalent BMPs under leaky paving equipment. Inspect drip pans and empty when full.
☐	9	Remove residue from grinding/saw cutting operations in the work area by vacuuming. Provide storm drain protection during grinding/saw cutting operations to prevent slurry material from entering catch basins and storm drain inlets.
☐	10	For curb and/or gutter replacement: • Ensure that BMPs are placed in downstream drainage structures to prevent the discharge of debris or concrete material. • Remove any accumulated debris from the curb or gutter. Revegetate any disturbed areas as applicable.
☐	11	For painting operations: • Conduct paint and thermoplastic loading operations away from storm drain inlets and exercise caution to prevent spillage of materials. • Use drop cloths or equivalent measures in paint mixing areas. • If painting must be done outdoors, ensure that it is not raining. Please note that if it begins to rain before the paint has dried, contain the area and clean it up according to the Spill Prevention and Response BMP. • Use tarps or other containment devices to prevent paint drips from impacting the storm drains or waterways. • Ensure any spilled paint or glass beads are immediately cleaned up. • Clean brushes and materials using a containment system such as solvent washer, bucket, or sink connected to the sanitary sewer in accordance with the Auto Body Repair BMP. Note: DO NOT clean painting materials over the storm drain inlets. • Properly segregate and label waste paints for disposal according to the Solid Waste Storage and Disposal BMP. Note: oil-based paints are considered hazardous waste.
☐	12	Collect and properly dispose/recycle excavated material from resurfacing activities.
☐	13	Sweep the work area when maintenance activities are completed.
☐	14	DO NOT hose down any work areas.
☐	15	Remove and properly dispose of litter and debris from the work zone, nearby storm drains, and adjacent areas before, during, and after roadway maintenance activities.
☐	16	Clean tools and machinery in a manner where rinse water is collected and disposed of properly to the sanitary sewer.
☐	17	Ensure employees are trained in implementing appropriate measures during maintenance activities.

Maintenance Baseyard Best Management Practices
Building Maintenance

Description
Building maintenance includes carpentry, welding, and painting. Proper building maintenance reduces the contaminants entering the MS4 and improves aesthetics at HNL. This BMP is designed to prevent or reduce the impact of pollutants on the stormwater from building maintenance.

Limitations
There are no major limitations to the implementation of this BMP.

Practice		
☐	1	Conduct carpentry, welding, and painting indoors or under cover to prevent contact of contaminants with the rainwater.
☐	2	Prohibit outside spray painting, blasting, or sanding activities during windy and rainy conditions.
☐	3	Conduct painting in paint booth or indoors when possible.
☐	4	Store equipment, chemicals, and waste in accordance with the Material Storage BMP and Solid Waste Storage and Disposal BMP.
☐	5	Use tools that have a vacuum or filter system to reduce airborne saw dust whenever possible.
☐	6	Sweep or vacuum the area frequently to prevent saw dust or metal shavings from leaving the shop, dispose of in a covered waste bin.
☐	7	Use ground or drop cloths while conducting outdoor painting, scraping, and sandblasting work, if feasible, and properly dispose of collected material daily.
☐	8	Mix paint over secondary containment such as a ground cloth or an oversized tub.
☐	9	Clean brushes and tools using a containment system such as a solvent washer, bucket, or sink connected to the sanitary sewer.
☐	10	Use appropriate measures to control fumes from welding such as filtration systems, air extraction units etc., where necessary.
☐	11	Use a water collection device that enables collection of wash water and associated solids when pressure washing paved areas. Use a sump pump, wet vacuum or similarly effective device to collect the runoff and loose materials.
☐	12	Dispose of wash water, sweepings, and sediments in accordance with the Solid Waste Storage and Disposal BMP.
☐	13	Train employees on these BMPs, stormwater discharge prohibitions, and wastewater discharge requirements.

Maintenance Baseyard Best Management Practices
Landscaping and Vegetative Management

Description
Landscaping and vegetative management is conducted by the Maintenance Baseyard personnel throughout HNL. Such management includes preventative measures and good housekeeping practices, both of which will reduce the amount of pollutants entering the Small MS4. This BMP is designed to prevent or reduce the impact of pollutants on the stormwater from landscaping and vegetative management operations.

Limitations
There are no major limitations to the implementation of this BMP.

Practice		
☐	1	Maintain all chemical application equipment in good operating condition. Check for proper operation of controls, valves, and regulators prior to going into field. Assure that all hoses are attached properly and in good-working condition.
☐	2	Clean spray tanks, hand sprayers, mowers, weed trimmers, and any vehicles used during landscaping operations. Perform cleaning in a location that will not result in contamination of storm drains, channels, or waterways. Recycle rinse water for future chemical application, if applicable.
☐	3	Conduct chemical mixing and equipment rinsing at properly located stations in designated areas only.
☐	4	DO NOT fuel or service equipment near drain inlets, channels, or receiving waters. Perform fueling and maintenance in an area protected from stormwater runoff.
☐	5	Store all chemicals in closed containers within covered areas. Provide secondary containment in the event of spills.
☐	6	Maintain accurate inventory of all chemicals and have safety data sheets (SDS) on file for all hazardous chemicals.
☐	7	Review work area requirements to determine areas where chemical application is not needed to minimize chemical application.
☐	8	Use weed blocking geotextile where feasible.
☐	9	Mow/cut grass and landscaping covers to appropriate height.
☐	10	If possible, trim trees and shrubs regularly to prevent overgrowth, eliminate traffic hazards, maintain a neat appearance, and to maintain healthy growth.
☐	11	Upon mobilizing to a work site, identify storm drainage inlets.
☐	12	Identify areas for waste material collection and stockpiling. Prevent grass, other vegetative materials, sediment, or chemicals from entering storm drains.

Maintenance Baseyard Best Management Practices
Landscaping and Vegetative Management
(Continued)

Practice		
☐	13	Clean storm drains, if deemed necessary, before leaving work areas.
☐	14	Design and maintain proper irrigation rates to prevent erosion and minimize runoff.

Maintenance Baseyard Best Management Practices
Fertilizer, Pesticide, and Herbicide Application

Description

Fertilizer, pesticide, and herbicide application is conducted by the Maintenance Baseyard personnel to maintain landscaping at HNL. Overuse of pesticides, herbicides, and fertilizers can lead to the presence of these chemicals in stormwater at significant concentrations. Pesticides are defined as chemicals used to kill pest animals or plants and can be herbicides, fungicides, rodenticides, or insecticides. The normal pesticides used at HNL are herbicides used to control the growth of weeds or other undesirable vegetation. Occasionally, insecticides or rodenticides are used to control an infestation of insects or to prevent the spread of diseases (i.e. mosquito or rodent control). Proper management of fertilizer application and irrigation will promote growth and help prevent excess fertilizer from being released with stormwater runoff and entering State Waters. This BMP is designed to prevent or reduce the impact of pollutants on the stormwater from fertilizer, pesticide, and herbicide application. Additional information and BMPs are provided in the Section 3.0 and Attachment E.2 of the HNL SWMPP Section E.

Limitations

Fertilizer, pesticide, and herbicide application should not be conducted during inclement weather and should not be applied within 6 feet of a waterway or on slopes greater than 3:1.

Practice		
☐	1	DO NOT over apply.
☐	2	Use only DOTA Authorized List for chemical application.
☐	3	Log fertilizer, herbicide, and pesticide use for reporting purposes.
☐	4	DO NOT apply these chemicals just before it rains, during rain events, or in high winds. Additionally, DO NOT apply within 6 feet of a surface water body or on slopes greater than 3:1.
☐	5	Apply surface dressings in several smaller applications, as opposed to one large application, to allow time for infiltration and to avoid excess material being carried off-site by runoff.
☐	6	Store fertilizers, pesticides, and herbicides in accordance with the Material Storage BMPs to minimize contact with stormwater runoff.
☐	7	Conduct a monthly inventory and check for condition of containers. Look for leaking or corroded containers, crystallization on covers or bases of containers, or discolored labels. Dispose unnecessary containers properly in accordance with the Solid Waste Storage and Disposal BMPs.

Maintenance Baseyard Best Management Practices
Fertilizer, Pesticide, and Herbicide Application
(Continued)

Practice		
Fertilizer Application Practices		
☐	8	Perform soil analysis for each landscaped area wherever possible to determine need and composition of fertilizer required. • Use fertilizer only when needed • Base fertilizer type and composition upon soil analysis and site conditions
☐	9	Use natural/organic alternatives, if possible. Organic fertilizers increase the capacity of the soil to retain water and reduce runoff.
☐	10	Except on steep slopes, till the fertilizer into the top 4-inches of soil rather than surface spreading or spraying it to prevent it from being carried away as runoff.
☐	11	Use slow-release fertilizers, which can be applied less frequently than conventional fertilizers.
Herbicide and Pesticide Application Practices		
☐	12	Control vegetation with non-chemical means first, if and where feasible. Consider spot spraying.
☐	13	Assess the pest control requirements for each area. Use only the least toxic and most effective chemicals available that are suited to the vegetation or pest to be controlled. In choosing pesticides, avoid non-biodegradable chemicals or chemicals with long half-lives in the environment.
☐	14	Mix herbicides and pesticides in areas away from storm drains to minimize potential impact to storm drains.
☐	15	Prepare only the amount needed. Follow the recommended usage instructions.
☐	16	Monitor/adjust irrigation systems following pesticide application to optimize effectiveness of the pesticide and avoid conveying pesticide contaminated sprinkler runoff.

Maintenance Baseyard Best Management Practices
Material Storage

Description
A variety of products and materials that may adversely affect water quality are stored at the Maintenance Baseyard. This BMP is intended to reduce the potential for the contamination of stormwater by minimizing exposure of such products and materials to rainfall and runoff.

Limitations
There are no major limitations to the implementation of this BMP.

Practice		
☐	1	Store materials in their original or appropriate containers as recommended by the manufacturer. Store small containers of flammable materials within flammable storage lockers.
☐	2	Ensure that all containers are closed, secured to prevent movement, stored neatly, and properly labeled.
☐	3	Maintain accurate and organized inventory of stored supplies and materials used in the maintenance areas. Compile SDS for all chemicals and maintain them in an accessible location for employees. Periodically review inventory and properly dispose of materials that are expired or no longer used. Only purchase and store required quantities of hazardous materials. Dispose any unusable material, such as dried out paint.
☐	4	Store materials and containers indoors or under cover and keep away from traffic areas to avoid spills.
☐	5	Containers holding liquid materials and aboveground storage tanks (ASTs) should also be in good condition to prevent or minimize contamination of stormwater. Provide secondary containment for chemical / fuel storage containers and ASTs. Place these liquid materials under cover, where practicable.
☐	6	Cover containers and materials with a plastic wrap or tarp when temporarily storing them outdoors (24 hours or less). DO NOT store materials outdoors that may leach pollutants into the stormwater or come into contact with stormwater runoff.
☐	7	Store rusted metal materials, such as old reinforcing steel and dowels, on pallets or dunnage, and under cover, or in containers to prevent contact with stormwater and runoff, where practicable. May not be able to cover using tarp due to proximity to airport operations area and safety concerns with foreign object debris (FOD).
☐	8	Ensure that aggregate piles are contained by walls, berms, or other device to prevent the material from being carried away by stormwater runoff and to prevent run-on.
☐	9	Locate material storage areas away from high traffic areas and waterways so that potential leaks and spills are contained or diverted before discharge.

Maintenance Baseyard Best Management Practices
Material Storage
(Continued)

Practice		
☐	10	Maintain an ample supply of spill clean-up materials near where spills may occur (e.g., liquid material storage areas, fueling areas, etc.) or where a rapid response can be made.
☐	11	Use absorbent materials to contain any spills. Promptly clean spills with rags or absorbent material, and properly dispose of cleaning materials. Put spent rags or absorbent material in durable plastic bags, double wrap if applicable, seal with tape, and dispose in trash dumpsters. Disposal of hazardous spilled material and spent cleanup materials should be in accordance with the Solid Waste Storage and Disposal BMP. For larger spills, contact spill response personnel immediately. See Spill Response BMP.
☐	12	Sweep or vacuum up spilled materials immediately.
☐	13	Inspect material storage and equipment parking areas daily. Look for leaking or corroded containers, chemical discoloration, or other changes in the containers or contents that may indicate a potentially hazardous condition or chemical deterioration.
☐	14	Implement the HNL Spill Prevention, Control, and Countermeasure (SPCC) Plan. Coordinate with AIR-EE if the SPCC Plan needs to be updated.
☐	15	Conduct a visual check/test of the stormwater collected in the containment areas prior to discharge. If there is a sheen in the water, follow procedures to properly dispose the water. Document in a log provided in the SPCC Plan.
☐	16	Conduct employee training annually and as required on the procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases.

Maintenance Baseyard Best Management Practices
Material Handling and Use

Description
Prevent or reduce the discharge of pollutants to stormwater from material handling by minimizing hazardous material use on-site and training employees in the proper handling and use of materials. The loading and unloading of materials is usually conducted outside and therefore, materials spilled, leaked, or lost during the process may collect in the soil or on other surfaces and have the potential to be carried away by stormwater runoff. Additionally, paint, chemical, and carpentry applications may impact the environment.

Limitations
There are no major limitations to the implementation of this BMP.

Practice		
☐	1	Use materials only where and when needed to complete the work.
☐	2	Minimize use of hazardous material. Use less hazardous or alternative materials where possible.
☐	3	Follow manufacturer's instructions regarding uses, protective equipment, ventilation, flammability, and mixing of chemicals.
☐	4	Recycle spent anti-freeze, used oil, spent solvents, windshield washer fluid, used batteries, degreasers, used paints, thinners, etc.
☐	5	Limit exposure of material to rainfall whenever possible, such as only loading or unloading during dry weather or conducting the loading or unloading indoors or under cover. Avoid placing the loading area near storm drains or cover storm drains during loading or unloading operations.
☐	6	Conduct regular dry sweeping of the loading or unloading areas.
☐	7	Conduct employee training annually and as required in spill prevention and proper material management. Train all employees who work in areas where industrial materials or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of this permit.

Maintenance Baseyard Best Management Practices
Solid Waste Storage and Disposal

Description

The chemicals used at the airport ultimately require waste management. The improper handling of solid waste can allow contaminants to enter stormwater runoff. The discharge of these pollutants can be reduced by tracking solid waste storage, handling, and disposal, as well as reducing the waste generation through reuse and recycling.

The solid waste generated from the Maintenance Baseyard and collected from common areas of the airport may include, but are not limited to, oil-based paints, solvents, thinners, petroleum products, acid from batteries, anti-freeze, and other compounds. Some of these types of waste should be managed as hazardous waste, universal waste, and/or used oil as required by federal and state regulations (Refer to Appendix II). Hazardous waste generators are responsible for making a hazardous waste determination and to dispose of the waste properly. Universal waste includes batteries, some pesticides, mercury containing equipment (mercury thermostats), and bulbs (lamps).

The procedures outlined in this BMP are intended to prevent or reduce the discharge of pollutants to stormwater and to the land from waste through proper solid waste storage and disposal and training of employees and subcontractors.

Limitations

There are no major limitations to the implementation of this BMP.

Practice		
☐	1	Use the entire product before disposing of the container. Minimize use of hazardous materials. Use less hazardous, alternative materials where possible.
☐	2	DO NOT remove the original product label; it contains important safety and disposal information. If a container is empty, label as such.
☐	3	Maintain good integrity of all storage containers (e.g., used oils, hydraulic fluids, spent solvents, waste aircraft fuel). Inspect containers regularly and transfer waste from damaged containers into containers that are intact.
☐	4	Identify, list, and inventory all chemical substances present in the facility. Compile SDS for all chemical substances. Have SDS data readily accessible for facility employees.
☐	5	Only purchase and store required quantities of hazardous materials.
☐	6	Water-based paints should be dried and disposed of in the dumpsters. Dispose of excess oil-based paints and sludge as hazardous waste.
☐	7	Keep waste streams separate. Ensure that hazardous waste or chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for dry construction debris.
☐	8	Designate an indoor or covered hazardous waste collection area. Also, designate a centralized storage area for waste materials.

Maintenance Baseyard Best Management Practices
Solid Waste Storage and Disposal
(Continued)

Practice		
☐	9	Hazardous waste and acid batteries should be stored in secure, covered containers, and protected from damage. Place hazardous waste containers in secondary containment.
☐	10	Label hazardous waste containers clearly with the words "Hazardous Waste" and the date when the hazardous waste accumulation began.
☐	11	DO NOT mix wastes; this may cause chemical reactions, make recycling impossible, and complicate disposal.
☐	12	Arrange for regular hazardous waste collection before containers reach capacity.
☐	13	Ensure that hazardous waste is collected, removed, and disposed of only at authorized disposal sites by an approved hazardous waste hauler. Maintain disposal manifests for a minimum of three years.
☐	14	Recycle any useful waste such as used oil, spent solvents, spent lead acid batteries, scrap metal, and used oil filters, etc. Filter and re-use thinners and solvents.
☐	15	Store used oil in appropriate containers, label containers clearly with the words "Used Oil" and provide secondary containment.
☐	16	Store universal waste in appropriate containers, indoors or under cover, and label containers clearly with the words "Universal Waste" followed by "lamps, batteries, etc.", in addition to marking with the accumulation start date. Dispose of Universal Waste within a year of the accumulation start date.
☐	17	Ensure that universal waste is properly recycled of by a licensed waste disposal company.
☐	18	Store used tires and rusted metal under cover and off ground while awaiting disposal.
☐	19	Place spill cleanup materials where they will be readily accessible.
☐	20	If containers do spill, clean up immediately – follow procedures in Spill Prevention and Response BMP.
☐	21	At a minimum, OWSs must be inspected annually and cleaned to remove accumulated oil, grease, floating debris, and sediment in order to maintain solids and petroleum removal efficiency. The Maintenance Baseyard OWS is maintained through a routine maintenance contract. Notify AIR-OME or AIR-EE if the OWS needs to be serviced or repaired. Note: OWS inspection and maintenance is tracked in DOTA database.

Maintenance Baseyard Best Management Practices
Solid Waste Storage and Disposal
(Continued)

Practice		
☐	22	Conduct employee training annually and as required. Train employees on proper waste control and disposal procedures as well as spill prevention and control.

Maintenance Baseyard Best Management Practices
Spill Prevention and Response

Description

Spills of materials used and stored at the Maintenance Baseyard can contaminate stormwater runoff. The procedures outlined in this BMP are intended to prevent spills from occurring and to outline procedures to be followed in the event of a spill.

Small spills of oil (less than 25 gallons) which are capable of being cleaned up within 72 hours and that do not threaten ground or surface waters will be cleaned up using absorbent materials or other acceptable practices and disposed properly, without disrupting airport operations. Daily inspections of the facility will identify any small spills, which will be addressed immediately.

In the event of a large or uncontrolled release, the General Construction and Airfield Maintenance Supervisor shall act as the Emergency Coordinator (EC). Employees should follow the guidelines listed below where practicable. Report any spills (irrespective of the size) to Airport Duty Manager or Code 22, Ramp Control, and AIR-EE.

Limitations

There are no major limitations to the implementation of this BMP.

Practice		
☐	1	Stop work.
☐	2	Shut down equipment and secure work operations.
☐	3	Determine the source of the release and any hazards present.
☐	4	Notify the EC, Airport Duty Manager or Code 22, and Ramp Control. Notify and alert others of the incident via: (1) voice; (2) hand-held radios; and/or (3) other effective communication.
☐	5	The EC shall evaluate the situation and decide whether to implement a "fight or flight" response by gathering the following information, if it can be done safely: • Location of the release. • Type, quantity, and description of the release. • Hazards of the release. • Type of media affected (soil, asphalt, concrete, etc.). • Rate of the release. • Migratory direction of the release. • Potential for fire or explosion. • Potential for human exposure. • Potential for migration to surface water (ocean, storm drains, etc.).

Maintenance Baseyard Best Management Practices
Spill Prevention and Response
(Continued)

☐	6	Keep non-essential employees and visitors away from the spill area.
☐	7	Prevent vehicles and equipment from driving through the spill area.
☐	8	Remove all injured persons from the area of danger and render first aid.
☐	9	Never subject yourself or other personnel to unreasonable risk of illness or injury.
☐	10	If the decision is to "fight," spill response personnel are to don the appropriate PPE.
☐	11	Eliminate all possible sources of ignition/detonation such as vehicle engines, welding and grinding operations, and smoking.
☐	12	Remove or isolate ignitable and incompatible materials from the area of the release if the spill is of a flammable substance.
☐	13	Locate, stop, and contain the source of the release.
☐	14	Confine the release to prevent further migration using drainage controls, including but not limited to methods from the following list: ▪ Diking and berming using sand, soil, or other inert material; ▪ Sealing storm drains with plastic and sandbags; ▪ Placing granular absorbent or absorbent pads and booms; ▪ Diverting the chemicals from entering drains, manholes, streams, etc.; and ▪ Implementing retention techniques.
☐	15	Call the facility spill response contractor for cleanup and removal of accumulated product resulting from the release. Ensure that the contactor collects and containerizes the spilled materials, affected media, used decontamination solutions, and disposable PPE in proper containers. The contractor will transport and properly dispose of the hazardous waste in accordance with applicable federal and state regulations.
☐	16	Implement proper decontamination procedure on vehicles, pavement, PPE, equipment, and other affected media to prevent the spilled material from being tracked into a larger area.

Maintenance Baseyard Best Management Practices
Spill Prevention and Response
(Continued)

☐	17	Clean any stained pavement by placing a berm for containment around the stained area, scrubbing the area using detergent or cleaning agent, and rinsing. The detergent and rinse water must be collected in the bermed area around the spill and removed.
☐	18	If the release is not readily and easily controlled, evacuation may be necessary.
☐	19	If the EC decides on the "flight" option, the EC is to immediately alert and evacuate all personnel to a safe distance upwind from the spill in a designated assembly area. Notify ARFF and Ramp Control to request assistance.
☐	20	Call the facility spill response contractor to handle the cleanup of the spilled material.
☐	21	EC shall determine whether the spill is of a reportable quantity in accordance with the Spill Reporting Fact Sheet for HNL. If the spill is of a reportable quantity, the following agencies should be notified: ▪ National Response Center - (800) 424-8802 ▪ Local Emergency Planning Committee – (808) 23-8960 ▪ DOH HEER office - (808) 586-4249 or after hours (808) 247-2191 ▪ DOH Clean Water Branch (CWB) – (808) 586-4309 (only if spill reaches state waters) The following information should be provided: 1) Caller Name, location, organization, and telephone number 2) Name, address, and telephone number of the facility owner 3) Name, address, and telephone number of the facility contact person 4) Date, time, and duration of the release 5) Date and time the release was discovered 6) Name of the chemical spilled and the approximate quantity released 7) Location of the release 8) Type of media affected (e.g. soil, asphalt, concrete, etc.) 9) Measures taken in response to the release 10) Danger or threat posed by the release or spill 11) Number and type of injuries (if any) 12) Weather conditions at the incident location 13) Any other information that may help emergency personnel respond to the incident
☐	22	If the spilled material is of a reportable quantity, a written notification must also be submitted to various agencies no later than thirty (30) days following the discovery of the release in accordance with the Spill Reporting Fact Sheet for HNL.

APPENDIX I
LIST OF APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS APPLYING TO ENVIRONMENTAL COMPLIANCE AT AIRPORTS

LIST OF REGULATIONS

Code of Federal Regulations

29 CFR 1910 (Subparts G, H, I, J, and K,) Hazardous Materials, Environmental Controls, and Personal Protection
29 CFR 1910.1200 OSHA Hazard Communication Standard
40 CFR 110 Discharge of Oil
40 CFR 112 Oil Pollution Prevention (SPCC/OPA Plans)
40 CFR 117 Determination of Reportable Quantities for a Hazardous Substance
40 CFR 122-124, 401 NPDES Regulations for Stormwater Discharges
40 CFR 260-263 Hazardous Waste Management
40 CFR 273 Universal Waste Management
40 CFR 279 Used Oil Management
40 CFR 280 Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST)
40 CFR 355 Emergency Planning and Notification
40 CFR 370 Hazardous Chemical Reporting: Community Right-to-Know
40 CFR 372 Toxic Chemical Release Reporting: Community Right-to-Know
40 CFR 403 General Pre-Treatment Regulations for Existing and New Sources of Pollution
40 CFR 761 Toxic Substances (PCBs)
49 CFR 110.3 Discharge of Oil
49 CFR 171-173, 175, and 177 Department of Transportation Regulations

Hawaii Administrative Rules

HAR Title 11 Chapter 54 Water Quality Standards
HAR Title 11 Chapter 55 Water Pollution Controls
HAR Title 11 Chapter 58.1 Solid Waste Management Control
HAR Title 11 Chapter 62 Wastewater Systems
HAR Title 11 Chapter 104.1 Management and Disposal of Infectious Waste
HAR Title 11 Chapter 260-263 Hazardous Waste Management
HAR Title 11 Chapter 273 Universal Waste Management
HAR Title 11 Chapter 279 Used Oil Management
HAR Title 11 Chapter 281 Underground Storage Tanks
HAR Title 11 Chapter 451 State Contingency Plan
HAR Title 19 Department of Transportation, Airports Division

Hawaii Revised Statutes

HRS 128D Environmental Response Law
HRS 128E Hawaii Emergency Planning and Community Right-to-Know Act
HRS 174C State Water Code
HRS 261 Transportation and Utilities
HRS 342-D Water Pollution
HRS 342-G Integrated Solid Waste Management
HRS 342-H Solid Waste Pollution
HRS 342-I Special Waste Management
HRS 342-J Hazardous Waste
HRS 342-L Underground Storage Tanks
HRS 342-N Used Oil Recycling

City and County Ordinances

City and County of Honolulu Sewer Ordinance 14

Airport Rules

Property Management Clauses

APPENDIX II
SUMMARY OF FEDERAL AND STATE REGULATIONS FOR SOLID WASTE MANAGEMENT

SUMMARY OF FEDERAL AND STATE REGULATIONS FOR SOLID WASTE MANAGEMENT

Solid waste is defined in 40 CFR Part 261.2 of the RCRA regulations as well as the HAR Title 11, Chapter 261.2 (§11-261-2). Solid waste can be further classified into hazardous waste and non-hazardous waste. Hazardous waste is defined in 40 CFR Part 261.3 as well as §11-261-3. Hazardous waste can be a listed waste, a characteristic waste, or a mixed waste. A waste is determined to be a hazardous waste if it is specifically listed on one of four lists (the F, K, P and U lists) found in title 40 CFR Part 261. Characteristic waste is when the waste exhibits EPA established four hazardous waste characteristics: ignitability, corrosivity, reactivity and toxicity. Mixed waste regulated under the RCRA and the Atomic Energy Act is hazardous waste. Hazardous waste generators are responsible for making a hazardous waste determination and properly disposing of hazardous waste. The identification and listing of hazardous waste and standards applicable to hazardous waste generators are available in the 40 CFR Parts 261 and 262 as well as §11-261 and §11-262. The facility can determine their hazardous waste generator status based on the following table:

Table 1 – Hazardous Waste Generator Status, Quantity, and Accumulation Time

Hazardous Waste Generator Status	Quantity of Hazardous Waste Generated Per Calendar Month	On-site Accumulation Time
Large Quantity Generators (LQG)	• ≥ 1,000 kg (approximately 2,200 lbs.); • > 1 kg (approximately 2.2 lbs.) of acute hazardous waste; and • > 100 kg (approximately 220 lbs.) residue or contaminated soil from cleanup of acute hazardous waste spill. • No accumulation limits.	≤ 90 days
Small Quantity Generators (SQG)	• >100 kg (approximately 220 lbs.) and <1,000 kg (approximately 2,200 lbs.); • Never accumulate more than 6,000 kg (approximately 13,200 lbs.) at any one time.	≤ 180 days or ≤ 270 days (for Hawaii, since hazardous waste is shipped 200 miles or more)
Very Small Quantity Generator (VSQGs)	• ≤ 100 kg (approximately 220 lbs.) • < 1 kg (approximately 2.2 lbs.) of acute hazardous waste; • ≤ 100 kg (approximately 220 lbs.) residue or contaminated soil from cleanup of acute hazardous waste spill; and Never accumulate more than 1,000 kg (approximately 2,200 lbs.) at any one time.	None.

Universal Waste, as defined in 40 CFR Part 273 and §11-273, includes batteries, some pesticides, mercury containing equipment (mercury thermostats), and bulbs (lamps). The Universal Waste rules are not applicable to the very small quantity generators of hazardous waste. Universal Waste handlers are classified into small-quantity Universal Waste handlers and large-quantity Universal Waste handlers. A small-quantity handler of universal waste means a universal waste handler who does not accumulate more than 5,000 kilograms (approximately 11,000 lbs.) total of universal waste (batteries, pesticides, or thermostats, calculated collectively) at any time (§11-273-6). A large quantity handler of universal waste means a universal waste handler who accumulates 5,000 kilograms or more total of universal waste (batteries, pesticides, or thermostats, calculated collectively) at any time (§11-273-6). This designation as

a large-quantity handler of universal waste is retained through the end of the calendar year in which 5,000 kilograms or more total of universal waste is accumulated.

Universal Waste must be managed in a way that prevents releases of any Universal Waste or component of a Universal Waste to the environment. Universal Waste must be labeled or marked to identify the type of universal waste as follows: Universal Waste – Batteries, Universal Waste – Lamps, Universal Waste – Pesticides, and Universal Waste – Mercury Containing Equipment or Universal Waste – Mercury Thermostat. Universal Waste can be stored for one year starting from the date the universal waste was generated. A large quantity Universal Waste handler shall retain the non-hazardous waste manifest associated with Universal Waste disposal at the facility for three (3) years. A small quantity Universal Waste handler is not required to keep records of shipments of universal waste.

Used oil, as defined in 40 CFR Part 279.1 and §11-279-1, is regulated under the 40 CFR Part 279, §11-279, and §11-261-6(a)(4). Containers and ASTs used to store used oil as well as fill pipes used to transfer used oil into UST at generator facilities must be labeled or marked clearly with the words "Used Oil." Additionally, used oil generators are subject to all applicable SPCC requirements (40 CFR Part 112). Used oil generators are also subject to the State's UST standards and any applicable Federal standards for used oil stored in underground tanks whether or not the used oil exhibits any characteristics of hazardous waste.

Appendix VI

Industrial Wastewater Discharge Permit

EE 17.0056

DEPARTMENT OF ENVIRONMENTAL SERVICES
CITY AND COUNTY OF HONOLULU
DIVISION OF ENVIRONMENTAL QUALITY
1000 ULUOHIA STREET, SUITE 303 • KAPOLEI, HAWAII 96707
Website: http://envhonolulu.org

KIRK CALDWELL
MAYOR

LORI M.K. KAHIKINA, P.E.
DIRECTOR

ROSS S. TANIMOTO, P.E.
DEPUTY DIRECTOR

JEROME ABABA, P.E.
ACTING ASSISTANT CHIEF

IN REPLY REFER TO:
EQ 17-181

August 23, 2017

State Department Of Transportation
Airport Division
Honolulu International Airport
300 Rodgers Blvd.
Honolulu, Hawaii 96819

IWDP No. 20172246829

Gentlemen:

Subject: Automatic Renewal Industrial Wastewater Discharge Permit

17 AUG 28 A6:29

This letter serves as an automatic renewal for the Industrial Wastewater Discharge Permit Number 20120341 previously issued to your business. Your new Industrial Wastewater Discharge Permit Number is **20172246829** effective September 4, 2017 and will expire September 3, 2022.

This letter shall be kept on file with your permit at your place of business and is not transferable without written consent. **You are required to provide written notification within thirty (30) days, to the City, of any changes to your contact information (e.g. business name, mailing address, contact person/number) and process modifications that may affect the nature and character of your wastewater discharge. Failure to provide notification of such changes may result in escalating enforcement action including permit suspension, revocation and/or fines.** It is your responsibility to ensure that all waste from your operation is properly collected, recycled, or disposed in accordance with all applicable regulations.

If you have any questions, please contact Dawn Farinas of our Regulatory Control Branch at (808)768-4108.

Sincerely,

Jerome Ababa, P.E.
Acting Assistant Chief

Attachment: IWDP Renewal (Pages 1 and 2)

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

CITY AND COUNTY OF HONOLULU
DEPARTMENT OF ENVIRONMENTAL SERVICES

Permit No. 20172246829 **Expiration Date** 09/03/2022

Issued By _____ for Director **Effective Date** 09/04/2017

This Permit grants authorization to the Industrial User (hereinafter referred to as "IU") named below to discharge industrial wastewater into the City and County of Honolulu's publicly owned treatment works (hereinafter referred to as "POTW"). This Permit may be revoked or suspended by the Department of Environmental Services of the City and County of Honolulu (hereinafter referred to as "ENV") in the event that the IU fails to comply with the Permit Conditions, Discharge Limits, or General Provisions contained herein. A COPY OF THIS PERMIT MUST REMAIN ON THE PREMISES OF THE INDUSTRIAL USER INDICATED BELOW.

INDUSTRIAL USER: STATE DEPARTMENT OF TRANSPORTATION
AIRPORT DIVISION

DISCHARGE LOCATION: HONOLULU INTERNATIONAL AIRPORT
300 RODGERS BLVD
HONOLULU, HI 96819

PERMIT CONDITIONS

1. The IU is subject to regulation and enforcement by the ENV in accordance with all regulatory requirements pertaining to indirect discharges into the POTW including, but not limited to the following together with any amendments: Chapter 14 (hereinafter referred to as the "Sewer Ordinance") of the Revised Ordinances of Honolulu, applicable Pretreatment Standards and requirements as set forth in Title 40 of the Code of Federal Regulations, Sections 204(b) and 403 of the Federal Water Pollution Control Act, Subtitles C and D of the Resource Conservation and Recovery Act, and the State of Hawaii Water Quality Standards.

2. The IU is limited to wastewater discharge only through City and County of Honolulu approved fixed connections from the Discharge Location set forth above in this Permit.

3. The Standard Industrial Classification of the IU is determined to be:

4581 – AIRPORTS, FLYING FIELDS & AIRPORT TERMINAL SERVICES

INDUSTRIAL WASTEWATER DISCHARGE PERMIT

PERMIT CONDITIONS

Continued

4. PRETREATMENT: The IU shall install, maintain, and operate the following wastewater pretreatment devices to pretreat its industrial process wastewater in order to comply with all Discharge Limits prior to discharge into the POTW:

OIL INTERCEPTOR (PETROLEUM ONLY)

HAULING USED MECHANICAL / HAZARDOUS FLUIDS

5. OPERATION AND MAINTENANCE RECORDS: The IU shall maintain Operation and Maintenance Records for the pretreatment devices named in Permit Condition 4 and for any and all other devices on its premises which serve to pretreat process wastewater. At a minimum, these records shall include a chronological log of any and all installation, maintenance, servicing, repair, and modification of pretreatment devices at the Discharge Location. Should an outside party be hired by the IU to perform services related to any pretreatment devices, the Operation and Maintenance Records are required to include documentation of those services, including the name of the outside party, the address of the outside party, the dates of the service, the nature of the service, and the quantities, nature, and origin of wastes handled or disposed.

In addition, the Operation and Maintenance Records shall be maintained at all times on the Discharge Location premises and shall be available, at any time, for compliance evaluation and copying by City, State, or Federal officials as provided by law.

6. SELF-MONITORING AND REPORTING: The IU shall perform periodic industrial wastewater self-monitoring sampling and analysis and report its self-monitoring results to the ENV.

The self-monitoring requirements for this Permit are described below. These self-monitoring requirements are subject to change should the IU fail to maintain continued compliance with any of the Permit Conditions, Discharge Limits, or General Provisions, or should new or revised regulations be established.

- NO SELF MONITORING REQUIRED AT THIS TIME

Appendix VII

Spill Log

HNL MAINTENANCE BASEYARD

SPILL LOG

Date	Location	Material Spilled	Amount Spilled	Clean-up Methods

Appendix VIII

Facility Inspection Report

State of Hawaii
Airports Division
Environmental Section

Airport Facility
Stormwater BMP Inspection Report

400 Rodgers Blvd. 7th Floor
Honolulu, Hawaii 96819

Date:	Time:	Weather:	Address:
Facility:			PMID(s):
Representative:			Contact Information:
Previous Risk Rank:			
Type of Inspection: ☐ Routine ☐ Follow-up ☐ Complaint ☐ Other:			
Previous Enforcement: ☐ None ☐ Written Warning ☐ Report/Memo ☐ Other:			
Facility Description:			
Facility Classification: ☐ Industrial ☐ Commercial			SIC Code:

Facility Operations:

☐ Vehicle and/or Equipment Maintenance & Repair
☐ Vehicle and/or Equipment Fueling
☐ Vehicle and/or Equipment Washing
☐ Vehicle and/or Equipment Parking
☐ Material Storage & Handling
☐ Hazardous Material Storage
☐ Waste Handling & Disposal
☐ Other: _____

NPDES:

NPDES Permit:	☐ Yes ☐ No ☐ N/A	NPDES Permit On-site: ☐ Yes ☐ No ☐ N/A
NGPC / CNEE Permit Number:	_____	Expiration Date: _____
SWPCP or BMP Plan On-site:	☐ Yes ☐ No ☐ N/A	SWPCP Date: _____
SWPCP Training Date:	☐ Yes ☐ No ☐ N/A	SWPCP Inspection Date: _____
DMR Submittal to DOH Date:	_____	

SPCC & UST:

SPCC Plan:	☐ Yes ☐ No ☐ N/A	SPCC Plan Date: _____
Reflects Facility's Current Assets?	☐ Yes ☐ No ☐ N/A	AST & UST Inspection Records: ☐ Yes ☐ No ☐ N/A
UST Permit:	☐ Yes ☐ No ☐ N/A	UST Permit No. & Exp Date: _____

Records Review:

Factsheet/Training Date:	_____	Paint Booth Operations Permit: _____
Annual Permanent BMP Inspections:	☐ Yes ☐ No ☐ N/A	Permanent BMP Inspection Date: _____
Permanent BMP Maintenance:	☐ Yes ☐ No ☐ N/A	UIC Permit No. & Exp. Date: _____
Waste Disposal Records (incl. OWS):	☐ Yes ☐ No ☐ N/A	UIC Inspection Records: _____
Spill History (Past 3 Years):	☐ Yes ☐ No ☐ N/A	Waste Generator Status (RCRA): _____
IWDP Permit No. & Exp Date:	_____	EPA ID No.: _____

Asset & Material Inventory (*provide coordinates for each new asset):

State of Hawaii
Airports Division
Environmental Section

Airport Facility
Stormwater BMP Inspection Report

400 Rodgers Blvd. 7th Floor
Honolulu, Hawaii 96819

No.	Inspection Item	Yes	No	N/A	Comments
	General / Good Housekeeping				
1.	Exposed areas of the facility are free of stains that produce sheen, unattended spills, or active leaks.				
2.	Surfaces are swept and not washed down unless a collection method and/or treatment device contains wash water, properly disposes, and has no potential to impact stormwater.				
3.	Trash and debris are minimized at the facility.				
4.	No illicit discharges are observed during the inspection. *Document any evidence of discharge to DOTA MS4/UIC or receiving waters.*				
5.	Discharge points to storm drainage system do not exhibit unusual characteristics (e.g., color, odor, sheen, foam, or floatables) or sediment/debris accumulation. Outfalls on-site correspond to SWPCP, if applicable.				
6.	BMPs implemented within storm drains are adequately maintained.				
7.	Parked vehicles and equipment are located in designated areas, not over storm drains, and not leaking or drip containment measures have been implemented.				
8.	Spill kits are available to prevent discharge to stormwater.				
9.	Fertilizer and pesticide storage and application minimize impact to stormwater.				
	Vehicle and Equipment Maintenance and Repair				
10.	Maintenance is conducted indoors, under cover, or outside (when cover is not available) with BMPs implemented to prevent contact with stormwater.				
11.	Greasy and/or leaking vehicles and equipment are stored under cover and with drip protective measures.				
12.	Salvage equipment is store indoors or under cover, when possible. Fluids and batteries have been removed.				
	Vehicle and Equipment Fueling				
13.	Accumulation in bermed or diked areas are minimized, managed, and disposed of correctly. Disposal records maintained.				
14.	Containers, ASTs, MSTs, and equipment in fueling areas are labeled and in good condition (e.g., do not exhibit signs of leaking, severe rust, or malfunction).				
15.	Containers, ASTs, or MSTs are equipped with overfill alarms/automatic shutoff valves. USTs are equipped with a monitoring system (e.g. Veeder Root). Valves, hoses, and piping are free of damage and excessive corrosion.				
	Vehicle and Equipment Washing				
16.	Washing at the facility takes place at DOTAs wash racks or within designated areas where all wash water is collected, contained, and properly disposed of. Biodegradable soap is used.				
	Container and Material Storage and Handling				
17.	All containers are compatible with materials stored, free of damage with no signs of failure, and are properly labeled. Empty containers are labeled as "empty".				
18.	All liquid containers in quantities of 25 gallons or greater are stored indoors or under cover and within secondary containment measures. Accumulation in secondary containment is minimized, managed, and disposed of properly.				
19.	All liquid containers stored in quantities less than 25 gallons are stored indoors or under cover. If stored outdoors, they are within secondary containment measures. Accumulation in secondary containment is minimized, managed, and disposed of properly.				
20.	Materials are stored indoors or under cover where practicable. Materials stored outside are covered and placed on dunnage, where practicable.				
21.	Used acid batteries are stored indoors or under cover and within secondary containment measures.				
	Waste Management and Disposal				
22.	Hazardous and universal waste are stored in designated areas, compatible with materials stored, free of damage, leaks or stains, and properly labeled. Hazardous liquids are stored within secondary containment as appropriate.				
23.	Waste collection and disposal (including parts washers) is properly removed off-site and recycled (if applicable). Records maintained.				
24.	Waste dumpsters are covered when not in use and do not exceed capacity. Waste areas are free of leaks or stains and located away from storm drainage system.				

Airport Facility
Stormwater BMP Inspection Report

	Description of Deficiency	
No.	**Description**	**Deficiency Due Date**
	Additional Comments and Recommendations:	
No.	**Description**	

Check box if:

☐ No deficiencies were found, and I certify that this inspection found this site to be in conformance with both the Storm Water Management Program Plan and applicable permits.

☐ Incidents of deficiencies were found and discussed with Facility Representative.

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

Print Name: _____

Signature: _____ Date: _____

INSPECTION PHOTOGRAPHS

Photo 1 Description:	**Photo 2 Description:**
Photo 3 Description:	**Photo 4 Description:**

INSPECTION PHOTOGRAPHS

Photo 5 Description:	**Photo 6 Description:**
Photo 7 Description:	**Photo 8 Description:**

Attachment E.2

Chemical Applications BMPs

Best Management Practices

Chemical Applications BMP Program Plan

PROTECT OUR WATER
MĀLAMA I KA WAI
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION

STATE OF HAWAII, DEPARTMENT OF TRANSPORTATION, AIRPORTS DIVISION
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819-1880

August 2019

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Chemical Applications Program Best Management Practices
General Vegetation Management Guidelines

Description

Proper vegetation management is a BMP that applies to routine landscape maintenance at HNL. Such management includes preventative measures and good housekeeping practices, both of which will reduce the amount of pollutants entering the Small MS4. The following practices are to be undertaken during routine maintenance of landscaped areas.

Limitations

There are no major limitations to the implementation of this BMP.

Practice		
☐	CP1.1	Maintain all chemical application equipment in good operating condition. Check for proper operation of controls, valves, and regulators prior going into field. Assure that all hoses are attached properly and in good-working condition.
☐	CP1.2	Clean spray tanks, hand sprayers, mowers, weed trimmers, and any vehicles used during landscaping operations. Perform cleaning in a location that will not result in contamination of storm drains, channels, or surface waters (i.e. graveled rinse area in DOTA Maintenance Baseyard or wash racks). Recycle rinse water for future chemical application, if applicable.
☐	CP1.3	Properly locate chemical mixing and equipment rinsing stations in designated areas only.
☐	CP1.4	Do not fuel or service equipment near drain inlets, channels, or receiving waters. Perform maintenance in an area protected from storm water runoff.
☐	CP1.5	Store all chemicals in closed containers within covered areas. Provide secondary containment in the event of spills.
☐	CP1.6	Maintain accurate inventory of all chemicals and have material safety data sheets on file for all hazardous chemicals.
☐	CP1.7	Review work area requirements to determine areas where chemical application is not needed to minimize chemical application.
☐	CP1.8	Use weed blocking geotextile where feasible.
☐	CP1.9	Mow/cut grass and landscaping covers to appropriate height.
☐	CP1.10	Trim trees and shrubs regularly to prevent overgrowth, eliminate traffic hazards, maintain a neat appearance, and to maintain healthy growth.
☐	CP1.11	Do not apply fertilizers or herbicides preceding rainy weather.
☐	CP 1.12	Do not spray chemicals during high winds.
☐	CP1.13	Upon mobilizing to a work site identify storm drainage inlets.
☐	CP1.14	Identify areas for waste material collection and stockpiling. Prevent grass, other vegetative materials, sediment, or chemicals from entering storm drains.
☐	CP1.15	Clean storm drainage facilities before leaving work areas.
☐	CP1.16	Design and maintain proper irrigation rates to prevent erosion and minimize runoff.

Chemical Applications Program Best Management Practices
Fertilizer Management

Description
Maintaining health and aesthetically pleasing landscaping within HNL requires the application of fertilizers. Proper management of fertilizer application and irrigation will promote growth and help prevent excess fertilizer from being released with storm water runoff and entering State Waters. All DOTA maintenance personnel and contractors will follow this BMP for fertilizer application.

Limitations
Applying BMP will be controlled by weather, air and surface traffic, controlled area access, and maintenance worker safety considerations.

Practice		
☐	CP 2.1	Perform soil analysis for each landscaped area wherever possible to determine need and composition of fertilizer required. ▪ use fertilizer only when needed ▪ base fertilizer type and composition upon soil analysis and site conditions
☐	CP 2.2	Consider natural versus manufactured fertilizers, such as the following: ▪ manure, grass clippings, potash, milorganite, ringer, or sustane
☐	CP2.3	Use only State of Hawaii; Department of Agriculture approved fertilizers and chemicals.
☐	CP2.4	Store fertilizers in clean, sealed, and properly labeled containers.
☐	CP2.5	Store fertilizer containers in covered areas, protected from rain and wind.
☐	CP2.6	For newly planted areas, till the top four inches of soil to evenly incorporate fertilizer into soil and protect fertilizer from storm runoff. Divert storm runoff around area using temporary berms and use silt fences downstream of area to control silt laden runoff, if needed.
☐	CP2.7	Do not apply fertilizer to slopes greater with grade larger than 3:1.
☐	CP2.8	Follow all manufacturers' instructions for fertilizer application.
☐	CP2.9	Do not apply fertilizers during or preceding heavy rainfall.
☐	CP2.10	Do not spray fertilizers during high winds.
☐	CP2.11	Maintain a log of the amount, type, and locations where fertilizers applied (see attached log sheets). Report annual fertilizer application amount (pounds) in End-of-Year Report.

Chemical Applications Program Best Management Practices
Pesticide Application for Vegetation Control

Description

Maintaining landscaping at HNL in a healthy, safe, and aesthetically pleasing condition may require the application of various chemical pesticides. Pesticides are defined as chemicals used to kill pest animals or plants and can be herbicides, fungicides, rodenticides, or insecticides. The normal pesticides used at HNL are herbicides used to control the growth of weeds or other undesirable vegetation. Occasionally, insecticides or rodenticides are used to control an infestation of insects or to prevent the spread of diseases (i.e. mosquito or rodent control). The contamination of storm water runoff and State Waters by pesticides is to be minimized or prevented through proper handling and application procedures. Irrigation systems also need to be adjusted following pesticide application to optimize effectiveness of the pesticide and avoid conveying pesticide contaminated sprinkler runoff to State Waters. All DOTA maintenance personnel and contractors will follow this BMP for pesticide application.

Limitations

Applying the BMP will be controlled by weather, air and surface traffic, controlled area access, and maintenance worker safety considerations.

Practice		
☐	CP3.1	Assess the pest control requirements for each area. Use only the least toxic and most effective chemicals available that are suited to the vegetation or pest to be controlled. In choosing pesticides, avoid non-biodegradable chemicals or chemicals with long half-lives in the environment.
☐	CP3.2	Use only State of Hawaii, Department of Agriculture approved pesticides.
☐	CP3.3	Keep chemicals in their original containers, properly sealed, and with readable labels (re-label as needed). Kept diluted pesticides shall only be stored following the manufacturers' recommendations on type of storage container and storage conditions (i.e. temperature and sunlight exposure). Label containers with the pesticide name, mix concentration, expiration date, and any other pertinent information.
☐	CP3.4	Store pesticide containers in enclosed sheds or building that have secondary containment structures.
☐	CP3.5	Keep an up-to-date pesticide inventory. Check for expiration dated monthly and dispose of outdated pesticides according to the manufacturers' guidelines and Federal, State, and City regulations. If the pesticide waste is classified as hazardous according to Hawaii Administrative Rules Chapter 11-261, do not move waste and contract a licensed hazardous waste contractor to pack and dispose of waste properly. If the facility is a classified Conditionally Exempt Small Quantity Generator, no USEPA identification number is needed. If the facility is Small Quantity Generator or Large Quantity Generator, an USEPA identification number must be obtained and proper protocols followed based on generator status.
☐	CP3.6	During monthly inventory, check for condition of containers - look for leaking or corroded containers, crystallization on covers or bases of containers, or discolored labels. Dispose of properly if necessary.
☐	CP3.7	All personnel performing pesticide application must wear proper personal protective equipment (PPE): long pants, long sleeved shirt, respirator, gloves, rubber boots, and goggles.
☐	CP3.8	Apply pesticides according to manufacturers' instructions.

Chemical Applications Program Best Management Practices
Pesticide Application for Vegetation Control
(continued)

☐	CP3.9	Properly locate chemical mixing and equipment rinsing stations in designated areas only.
☐	CP3.10	Do not apply pesticides or herbicides during or preceding heavy rainfall. Do not apply pesticide sprays in high winds.
☐	CP3.11	Protect treated areas from storm water sheet-flows. Place diversion berms or implement other control measures to prevent contact of storm runoff will pesticide.
☐	CP3.12	Rinse empty tanks and containers three (3) times before reuse or disposal. Reuse rinse water if possible or dispose according to the manufacturers' instructions.
☐	CP3.13	Maintain a log of the amount, type, and locations where pesticide applied (see attached log sheets). Report annual pesticide application amount (gallons) in the End-of-Year Report.

Chemical Applications Program Best Management Practices
Spill Prevention and Response Practices

Description

Spills of materials used and stored at the tenant facility can contaminate storm water runoff. The procedures outlined in this BMP are intended to prevent spills from occurring and to outline procedures to be followed in the event of a spill.

Small spills of oil (less than 25 gallons) which are capable of being cleaned up within 72 hours and that do not threaten ground or surface waters will be cleaned up using absorbent materials or other acceptable practices and disposed properly, without disrupting airport operations. All the tenants and/or their contractors are requested to report any spills (irrespective of the size) to r HNL Ramp Control. Daily inspections of the facility will identify any small spills, which will be addressed immediately.

In the event of a large or uncontrolled release, the owner or manager of the tenant facility shall act as the Emergency Coordinator (EC). Large spills of oil (greater than 25 gallons or spills which cannot be contained and remediated within 72 hours of spill) and spills of hazardous substances in quantities equal to or exceeding their Reportable Quantities (RQ) shall be reported to National Response Center and State of Hawaii, Department of Health (DOH) - Office of Hazard Evaluation & Emergency Response (HEER).

Limitations

There are no major limitations to the implementation of this BMP.

Practice		
☐	1	Stop work.
☐	2	Shut down equipment and secure work operations.
☐	3	Determine the source of the release and any hazards present.
☐	4	Notify the EC, Ramp Control (Pax Line 711 or 836-6671), Airport Duty Manager (836-6434), and ARFF. Notify and alert others of the incident via: (1) voice; (2) hand-held radios; and/or (3) other effective communication.
☐	5	The EC shall evaluate the situation and decide whether to implement a "fight or flight" response by gathering the following information, if it can be done safely: 1) Your name, location, and how you may be reached. 2) Location of the release. 3) Type, quantity, and description of the release. 4) Hazards of the release. 5) Type of media affected (soil, asphalt, concrete, etc.). 6) Rate of the release. 7) Migratory direction of the release. 8) Potential for fire or explosion. 9) Potential for human exposure. 10) Potential for migration to surface water (ocean, storm drains, etc.).

Chemical Applications Program Best Management Practices
Spill Prevention and Response Practices
(continued)

☐	6	Keep non-essential employees and visitors away from the spill area.
☐	7	Prevent vehicles and equipment from driving through the spill area.
☐	8	Remove all injured persons from the area of danger and render first aid.
☐	9	Never subject yourself or other personnel to unreasonable risk of illness or injury.
☐	10	If the decision is to "fight," spill response personnel are to don the appropriate PPE. • Eliminate all possible sources of ignition/detonation such as vehicle engines, welding and grinding operations, and smoking. • Remove or isolate ignitable and incompatible materials from the area of the release if the spill is of a flammable substance. • Locate, stop, and contain the source of the release. • Confine the release to prevent further migration using drainage controls, including but not limited to methods from the following list: ▪ Diking and berming using sand, soil, or other inert material; ▪ Sealing storm drains with plastic and sandbags; ▪ Placing granular absorbent or absorbent pads and booms; ▪ Diverting the chemicals from entering drains, manholes, streams, etc.; and ▪ Implementing retention techniques. • Call the facility spill response contractor for cleanup and removal of accumulated product resulting from the release. Ensure that the contactor collects and containerizes the spilled materials, affected media, used decontamination solutions, and disposable PPE in proper containers. The contractor will transport and properly dispose of the hazardous waste in accordance with applicable state and federal regulations. • Implement proper decontamination procedure on vehicles, pavement, PPE, equipment, and other affected media to prevent the spilled material from being tracked into a larger area. • Clean any stained pavement by placing a berm for containment around the stained area, scrubbing the area using detergent or cleaning agent, and rinsing. The detergent and rinse water must be collected in the bermed area around the spill and removed. • If the release is not readily and easily controlled, evacuation may be necessary.
☐	11	If the EC decides on the "flight" option, the EC is to immediately alert and evacuate all personnel to a safe distance upwind from the spill in a designated assembly area. Call the facility spill response contractor to handle the clean-up of the spilled material.

Chemical Applications Program Best Management Practices
Spill Prevention and Response Practices
(continued)

☐	12	DOTA personnel will assist the EC in determining whether the spill is of a reportable quantity. If the spill is of a reportable quantity, the following agencies should be notified: ▪ National Response Center - (800) 424-8802 ▪ U.S. Coast Guard - (808) 842-2606 ▪ DOH HEER office - (808) 586-4249 or after hours (808) 247-2191 ▪ DOH Clean Water Branch (CWB) – (808) 586-4309 (only if spill reaches state waters) The following information should be provided: ▪ Caller Name, location, organization, and telephone number ▪ Name, address, and telephone number of the facility owner ▪ Name, address, and telephone number of the facility contact person ▪ Date, time, and duration of the release ▪ Date and time the release was discovered ▪ Name of the chemical spilled and the approximate quantity released ▪ Location of the release ▪ Type of media affected (e.g. soil, asphalt, concrete, etc.) ▪ Measures taken in response to the release ▪ Danger or threat posed by the release or spill ▪ Number and type of injuries (if any) ▪ Weather conditions at the incident location Any other information that may help emergency personnel respond to the incident
☐	13	If the spilled material is of a reportable quantity, a written notification must also be submitted to the DOH HEER no later than thirty (30) days following the discovery of the release. A copy of this report must be provided to the DOH CWB if the spilled material reached the state waters. Written notifications must be provided per the reporting procedures detailed on Page 1 of the HNL Spill Reporting Fact Sheet located at http://hidot.hawaii.gov/airports/doing-business/engineering/environmental/hnl-storm-water-program/ The written notifications must include verbal notification information, photos, and any other related information not previously provided.

Attachment E.3

Action Plan for Erosional Outfalls

ACTION PLAN FOR EROSIONAL OUTFALLS

HONOLULU INTERNATIONAL AIRPORT
NPDES PERMIT NO. HI S000005

Prepared For:
DEPARTMENT OF TRANSPORTATION, AIRPORTS DIVISION
Honolulu International Airport
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819-1880

June 2015

Version 1.0

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1.0 ACTION PLAN

1.1 Introduction

The State of Hawaii Department of Transportation, Airports Division (DOTA) has completed this action plan for addressing erosion at its storm drain system outfalls within the Honolulu International Airport (HNL) in accordance with the National Pollutant Discharge Elimination System (NPDES) Small Municipal Separate Storm Sewer System (MS4) permit HI S000005, Part D.1.f.(3)(iv). The purpose of this plan is to reduce erosion from the outfalls that have a significant potential for water quality impacts by implementing appropriate permanent best management practices (BMP) or repairs. This plan includes the justification for the selection of erosional outfalls, identification of erosional outfalls, and an implementation schedule for correction.

1.2 Selection of Erosional Outfalls

In accordance with the *Storm Drain Outfall Inspection & Field Screening Plan* dated April 2009, an inspection was conducted for outfalls within HNL on June 2 and 4, 2015. All outfalls were inspected with the exception of 4388, 4387, and 4390 due to construction in the area. These outfalls have been previously inspected and were observed to connect directly from the main terminal parking garage to the underground MS4 pipeline; therefore, it is not anticipated that they would cause erosion. A summary of the outfalls inspected is provided in Attachment I.

Erosion at the outfalls was defined as the significant movement of soil particles due to the flow of water. Outfalls were determined to have significant potential for water quality impacts if evidence of erosional rilling or gullying was observed immediately below the outfall structure or if downstream areas had evidence of sediment transport and/or accumulation that could be attributed to that outfall.

1.3 Identified Erosional Outfalls

As a result of completed outfall inspections, adjacent outfalls 4555 and 4556, located at 21°19’58.8”N, 157°54’35.5”W, were identified to have erosion (photo below). EID 4555 is an approximately 6 inch diameter corrugated metal pipe and EID 4556 includes two approximately 6 inch diameter polyvinyl chloride (PVC) pipes encased in concrete. Both outfalls discharge into the Aolele Street canal, which flows to Keehi Lagoon, a Class A Embayment Water.

1.4 Implementation Schedule

Outfalls 4555 and 4556 will be studied in 2016 to determine the best course of action to remedy the erosion and final stabilization of the area will be completed no later than 2021.

ATTACHMENT I

HNL Outfall Summary

Honolulu International Airport Outfalls

Basin	EID	POI Location	POI Inspection Date	POI Outfall Risk Ranking	POI Latitude	POI Longitude
A1	4641	OUTFALL INTO KEEHI LAGOON	06/02/2015	Medium	[21 deg 19' 33.8'' N]	[157 deg 54' 3.2'' W]
A10	4105	OUTFALL BY ARFF #2 TO KEEHI LAGOON	06/02/2015	Medium	[21 deg 18' 44.2'' N]	[157 deg 55' 11.3'' W]
A10	4750	KEEHI LAGOON ABOVE TWY "RA"	06/02/2015	Medium	[21 deg 18' 38.1'' N]	[157 deg 55' 6.9'' W]
A10	4761	KEEHI LAGOON ABOVE TWY "RA"	06/02/2015	Medium	[21 deg 18' 38.1'' N]	[157 deg 55' 6.9'' W]
A10	4764	KEEHI LAGOON ABOVE TWY "RA"	06/02/2015	Medium	[21 deg 18' 37.6'' N]	[157 deg 55' 1.7'' W]
A10	4765	KEEHI LAGOON ABOVE TWY "RA"	06/02/2015	Medium	[21 deg 18' 37.7'' N]	[157 deg 54' 54.9'' W]
A10	4766	KEEHI LAGOON ABOVE TWY "RA"	06/02/2015	Medium	[21 deg 18' 37.7'' N]	[157 deg 54' 47.9'' W]
A10	4767	KEEHI LAGOON ABOVE TWY "RA"	06/02/2015	Medium	[21 deg 18' 37.8'' N]	[157 deg 54' 41.4'' W]
A10	7626	KEEHI LAGOON ABOVE TWY RA	06/02/2015	Medium	[21 deg 18' 37.7'' N]	[157 deg 54' 30.8'' W]
A10	12039	ARFF 2	06/02/2015	Low	[21 deg 18' 40.96'' N]	[157 deg 55' 11.99'' W]
A2	4695	LAGOON DRIVE ENTRANCE	06/02/2015	Medium	[21 deg 19' 27.8'' N]	[157 deg 54' 13.3'' W]
A2	4771	LAGOON DRIVE ENTRANCE	06/02/2015	Medium	[21 deg 19' 22.3'' N]	[157 deg 54' 19.6'' W]
A3	4622	OUTFALL INTO KEEHI LAGOON NEAR IOLANA PLACE	06/02/2015	Medium	[21 deg 19' 17.1'' N]	[157 deg 54' 27.5'' W]
A4	4728	KEEHI LAGOON BELOW CORPORATE AIR	06/02/2015	Medium	[21 deg 19' 7.3'' N]	[157 deg 54' 41.6'' W]
A4	4734	KEEHI LAGOON BELOW TAXILANE 2	06/02/2015	Medium	[21 deg 19' 8.9'' N]	[157 deg 54' 38.5'' W]
A6	4710	KEEHI LAGOON BELOW FEDERAL EXPRESS	06/02/2015	Medium	[21 deg 18' 59.1'' N]	[157 deg 54' 53.6'' W]
A6	4715	KEEHI LAGOON BELOW FEDERAL EXPRESS	06/02/2015	Medium	[21 deg 19' 1.1'' N]	[157 deg 54' 50.5'' W]
A6	4717	KEEHI LAGOON BELOW UPS	06/02/2015	Medium	[21 deg 19' 3.9'' N]	[157 deg 54' 46.1'' W]
A6	5751	KEEHI LAGOON BELOW FEDEX	06/02/2015	Medium	[21 deg 18' 56.6'' N]	[157 deg 54' 56.6'' W]
A7	4686	KEEHI LAGOON BELOW CONTINENTAL	06/02/2015	Medium	[21 deg 18' 53.1'' N]	[157 deg 55' 1.2'' W]
A8	4678	KEEHI LAGOON BELOW HCC	06/02/2015	Medium	[21 deg 18' 50.3'' N]	[157 deg 55' 6.4'' W]
A8	4679	KEEHI LAGOON BELOW CHELSEA	06/02/2015	Medium	[21 deg 18' 51.2'' N]	[157 deg 55' 4'' W]
A8	4687	KEEHI LAGOON BELOW LSG	06/02/2015	Medium	[21 deg 18' 54.8'' N]	[157 deg 54' 59.9'' W]
A8	5731	OUTFALL IN KEEHI LAGOON	06/02/2015	Medium	[21 deg 18' 48.5'' N]	[157 deg 55' 7.8'' W]
A9	4658	OUTFALL INTO KEEHI LAGOON	06/02/2015	Medium	[21 deg 18' 47.6'' N]	[157 deg 55' 9.9'' W]
A9	4756	SOUTH RAMP AREA END OF LAGOON DRIVE	06/02/2015	Low	[21 deg 18' 38.3'' N]	[157 deg 55' 20.6'' W]
A9	4757	SOUTH RAMP AREA END OF LAGOON DRIVE	06/02/2015	Low	[21 deg 18' 38.2'' N]	[157 deg 55' 20.5'' W]
B12	9709	MANUWAI CANAL FROM HA & AQ MAINTENANCE	06/02/2015	Low	[21 deg 19' 57.9'' N]	[157 deg 55' 45.2'' W]
B13	5061	DRAIN FROM HAWAIIAN AIR CARGO AND IIT RAMP	06/02/2015	Low		
B15	6461	AREA BEHIND ARFF #1	06/02/2015	Low	[21 deg 19' 52.4'' N]	[157 deg 55' 49.8'' W]
B16	12040	Ewa Hardstands	06/02/2015	Low	[21 deg 19' 40.15'' N]	[157 deg 56' 2.09'' W]
B3	4221	AHUA POND	06/02/2015	Low	[21 deg 18' 36.5'' N]	[157 deg 56' 11.9'' W]
B3	4744	AHUA POND	06/02/2015	Low	[21 deg 18' 36.5'' N]	[157 deg 56' 11.9'' W]
B3	4805	AHUA POND	06/02/2015	Low	[21 deg 18' 36.5'' N]	[157 deg 56' 11.9'' W]
B3	4807	AHUA POND	06/02/2015	Low	[21 deg 18' 36.5'' N]	[157 deg 56' 11.9'' W]
B3	4808	AHUA POND	06/02/2015	Low	[21 deg 18' 36.5'' N]	[157 deg 56' 11.9'' W]
B3	4810	AHUA POND	06/02/2015	Low	[21 deg 18' 36.5'' N]	[157 deg 56' 11.9'' W]
B3	4811	AHUA POND	06/02/2015	Low	[21 deg 18' 36.5'' N]	[157 deg 56' 11.9'' W]
B3	4815	AHUA POND	06/02/2015	Low	[21 deg 18' 36.3'' N]	[157 deg 56' 4.2'' W]
B3	4818	AHUA POND	06/02/2015	Low	[21 deg 18' 36.5'' N]	[157 deg 56' 11.9'' W]
B4	4747	AIRFIELD NEAR T HANGAR BUILDING	06/02/2015	Low	[21 deg 18' 42.4'' N]	[157 deg 55' 34.7'' W]
B6	9177	EVAPORATION POND SOUTH	06/02/2015	Low	[21 deg 19' 20'' N]	[157 deg 55' 20.3'' W]
B6	9180	EVAPORATION POND SOUTH	06/02/2015	Low	[21 deg 19' 19.9'' N]	[157 deg 55' 20.1'' W]

Honolulu International Airport Outfalls

Basin	EID	POI Location	POI Inspection Date	POI Outfall Risk Ranking	POI Latitude	POI Longitude
B6	9181	EVAPORATION POND SOUTH	06/02/2015	Low	[21 deg 19' 20.1'' N]	[157 deg 55' 22.5'' W]
B6	10272	OUTFALL END OF RWY 4L	06/02/2015	Low	[21 deg 19' 7.9'' N]	[157 deg 55' 28.1'' W]
B6	10274	OUTFALL AT SOUTH FENCE BY CONTROL TOWER	06/02/2015	Low	[21 deg 19' 11.7'' N]	[157 deg 55' 32.4'' W]
B6	10275	SERVICE ROAD AT BACK OF RWY 4L	06/02/2015	Low	[21 deg 19' 6.3'' N]	[157 deg 55' 34'' W]
B6	10276	SERVICE ROAD AT BACK OF RWY 4L	05/14/2010	Low	[21 deg 19' 5.4'' N]	[157 deg 55' 36.4'' W]
B7	9176	EVAPORATION POND NORTH	06/02/2015	Low	[21 deg 19' 22.2'' N]	[157 deg 55' 20.3'' W]
B7	9178	EVAPORATION POND NORTH	06/02/2015	Low	[21 deg 19' 21.8'' N]	[157 deg 55' 22.4'' W]
B7	9179	EVAPORATION POND NORTH	06/02/2015	Low	[21 deg 19' 22.2'' N]	[157 deg 55' 20.1'' W]
B7	9957	MANUWAI CANAL NEAR TWY A	06/02/2015	Low	[21 deg 19' 36.3'' N]	[157 deg 55' 45.5'' W]
B9	6456	MANUWAI CANAL	06/02/2015	Low	[21 deg 19' 40.6'' N]	[157 deg 55' 46'' W]
B9	7681	MANUWAI CANAL NEAR ARFF #1	06/02/2015	Low	[21 deg 19' 41'' N]	[157 deg 55' 46.7'' W]
C1	4812	OUTFALL SOUTH OF REEF RUNWAY	06/02/2015	Medium	[21 deg 18' 28.6'' N]	[157 deg 56' 16'' W]
C2	4785	MAMALA BAY	06/02/2015	Low	[21 deg 18' 56.1'' N]	[157 deg 56' 49.9'' W]
C2	4786	AHUA POND	06/02/2015	Low	[21 deg 18' 57.8'' N]	[157 deg 56' 45.8'' W]
C2	4787	MAMALA BAY	06/02/2015	Low	[21 deg 18' 55.2'' N]	[157 deg 56' 49'' W]
C2	4788	AHUA POND	06/02/2015	Low	[21 deg 18' 58.1'' N]	[157 deg 56' 45.9'' W]
C2	4789	MAMALA BAY	06/02/2015	Low	[21 deg 18' 53.3'' N]	[157 deg 56' 48.9'' W]
C2	4790	AHUA POND	06/02/2015	Low	[21 deg 18' 53.6'' N]	[157 deg 56' 45.7'' W]
C2	4791	MAMALA BAY	06/02/2015	Low	[21 deg 18' 50.8'' N]	[157 deg 56' 48.7'' W]
C2	4792	AHUA POND	06/02/2015	Low	[21 deg 18' 51.7'' N]	[157 deg 56' 45.3'' W]
C2	4793	MAMALA BAY	06/02/2015	Low	[21 deg 18' 48.8'' N]	[157 deg 56' 48.2'' W]
C2	4794	AHUA POND	06/02/2015	Low	[21 deg 18' 49.8'' N]	[157 deg 56' 44.9'' W]
C2	4795	MAMALA BAY	06/02/2015	Low	[21 deg 18' 47.3'' N]	[157 deg 56' 47.8'' W]
C2	4796	AHUA POND	06/02/2015	Low	[21 deg 18' 47.8'' N]	[157 deg 56' 44.8'' W]
C2	4797	MAMALA BAY	06/02/2015	Low	[21 deg 18' 45.1'' N]	[157 deg 56' 47.7'' W]
C2	4798	AHUA POND	06/02/2015	Low	[21 deg 18' 46'' N]	[157 deg 56' 44.5'' W]
C2	4799	MAMALA BAY	06/02/2015	Low	[21 deg 18' 43.3'' N]	[157 deg 56' 47.4'' W]
C2	4800	AHUA POND	06/02/2015	Low	[21 deg 18' 43.7'' N]	[157 deg 56' 44.2'' W]
C2	4801	MAMALA BAY	06/02/2015	Low	[21 deg 18' 41.4'' N]	[157 deg 56' 47.1'' W]
C2	4802	AHUA POND	06/02/2015	Low	[21 deg 18' 41.5'' N]	[157 deg 56' 43.9'' W]
C2	4803	MAMALA BAY	06/02/2015	Low	[21 deg 18' 40.5'' N]	[157 deg 56' 47'' W]
C2	4804	AHUA POND	06/02/2015	Low	[21 deg 18' 38.8'' N]	[157 deg 56' 43.3'' W]
C2	9747	TWY RB & B	06/02/2015	Low	[21 deg 19' 20.5'' N]	[157 deg 56' 34.5'' W]
D10	4363	NW CARGO PARKING LOT	06/02/2015	Low	[21 deg 19' 49.3'' N]	[157 deg 54' 53.2'' W]
D10	4502	AOLEWA PLACE NEAR ACCESS A	06/02/2015	Medium	[21 deg 19' 49'' N]	[157 deg 54' 51.4'' W]
D10	4503	AOLEWA PLACE NEAR ACCESS A	06/02/2015	Low	[21 deg 19' 49.4'' N]	[157 deg 54' 50.8'' W]
D10	4572	KALOALOA CANAL NEAR BASEYARD	06/02/2015	Low	[21 deg 19' 50.7'' N]	[157 deg 54' 25.5'' W]
D10	4573	KALOALOA CANAL NEAR BASEYARD	06/02/2015	Low	[21 deg 19' 50.2'' N]	[157 deg 54' 25.5'' W]
D10	5425	NORTHWEST CARGO AREA	06/02/2015	Medium	[21 deg 19' 49.5'' N]	[157 deg 54' 54.3'' W]
D10	5464	WIKI WIKI WASH RACK AREA	06/02/2015	Medium	[21 deg 19' 48.6'' N]	[157 deg 54' 47.2'' W]
D11	3909	OUTLET FROM 3908 IN BASEYARD PARKING LOT	06/02/2015	Low	[21 deg 19' 56.1'' N]	[157 deg 54' 22.6'' W]
D11	3917	OUTFALL FROM 3912 IN BASEYARD PARKING LOT	06/02/2015	Low	[21 deg 19' 56.7'' N]	[157 deg 54' 23.7'' W]

Honolulu International Airport Outfalls

Basin	EID	POI Location	POI Inspection Date	POI Outfall Risk Ranking	POI Latitude	POI Longitude
D11	4570	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 19' 57.2'' N]	[157 deg 54' 26.4'' W]
D11	4571	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 19' 57.1'' N]	[157 deg 54' 26.8'' W]
D11	4576	OUTFALL KALOALOA CANAL	06/02/2015	Low	[21 deg 19' 52.9'' N]	[157 deg 54' 21.3'' W]
D11	7586	AOLELE STREET NEAR BASEYARD	06/02/2015	Low	[21 deg 19' 57.2'' N]	[157 deg 54' 24.1'' W]
D11	7594	AOLELE STREET NEAR BASEYARD FROM CB 7590	06/02/2015	Low	[21 deg 19' 57.3'' N]	[157 deg 54' 25.1'' W]
D11	15107	OUTFALL KALOALOA CANAL	06/02/2015	Low	[21 deg 19' 51.3'' N]	[157 deg 54' 24.3'' W]
D11	15108	OUTFALL KALOALOA CANAL	06/02/2015	Low	[21 deg 19' 52'' N]	[157 deg 54' 23.3'' W]
D13	10096	AOLELE STREET & LAGOON DRIVE PARKING LOT FROM 10146	06/02/2015	Low	[21 deg 19' 52.1'' N]	[157 deg 54' 12.5'' W]
D14	10105	KALOALOA CANAL BY PERIMETER ROAD	06/02/2015	Low	[21 deg 19' 50.9'' N]	[157 deg 54' 13.7'' W]
D14	10220	KALOALOA CANAL BY PERIMETER ROAD	06/02/2015	Low	[21 deg 19' 50.9'' N]	[157 deg 54' 13.7'' W]
D14	10263	KALOALOA CANAL BY PERIMETER ROAD	06/02/2015	Low	[21 deg 19' 50.9'' N]	[157 deg 54' 13.7'' W]
D14	10269	KALOALOA CANAL BY PERIMETER ROAD	06/02/2015	Low	[21 deg 19' 50.9'' N]	[157 deg 54' 13.7'' W]
D14	10270	KALOALOA CANAL BY PERIMETER ROAD	06/02/2015	Low	[21 deg 19' 50.9'' N]	[157 deg 54' 13.7'' W]
D15	4590	OUTFALL NEAR KALEWA STREET	12/27/2012	Low	[21 deg 19' 51'' N]	[157 deg 54' 6.1'' W]
D15	4595	OUTFALL VISIBLE KALEWA STREET	06/02/2015	Low	[21 deg 19' 47'' N]	[157 deg 54' 3.9'' W]
D16	4599	OUTFALL VISIBLE KALEWA STREET	06/02/2015	Low	[21 deg 19' 42.7'' N]	[157 deg 54' 2.9'' W]
D5	4388	MAIN TERMINAL PARKING DRAIN PIPE	11/29/2012	Low	[21 deg 19' 59.6'' N]	[157 deg 55' 21.1'' W]
D7	4387	MAIN TERMINAL PARKING DRAIN PIPE	11/29/2012	Low	[21 deg 19' 59.6'' N]	[157 deg 55' 21.1'' W]
D7	4390	MAIN TERMINAL PARKING DRAIN PIPE	11/29/2012	Low	[21 deg 19' 57.6'' N]	[157 deg 55' 1'' W]
E	4481	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 20' 2.2'' N]	[157 deg 54' 53.3'' W]
E	4482	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 20' 1'' N]	[157 deg 54' 52.6'' W]
E	4484	OUTFALL AT AOLELE STREET/PAIEA STREET FROM CB 4483	06/02/2015	Low	[21 deg 20' 0.4'' N]	[157 deg 54' 52.4'' W]
E	4487	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 20' 1'' N]	[157 deg 54' 51.6'' W]
E	4488	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 20' 0.5'' N]	[157 deg 54' 50.2'' W]
E	4489	OUTFALL FROM DI 4490 IN HAWAIIAN TELCOM	06/02/2015	Low	[21 deg 20' 0.9'' N]	[157 deg 54' 48.8'' W]
E	4492	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 19' 59.7'' N]	[157 deg 54' 47.1'' W]
E	4494	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 19' 59.5'' N]	[157 deg 54' 45.5'' W]
E	4496	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 19' 59.3'' N]	[157 deg 54' 44.1'' W]
E	4498	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 19' 59.4'' N]	[157 deg 54' 42.3'' W]
E	4500	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 19' 59.3'' N]	[157 deg 54' 40.6'' W]
E	4505	OUTFALL FROM DI 4511 AT GROUND TRANSPORTATION	06/02/2015	Low	[21 deg 19' 59.7'' N]	[157 deg 54' 42.5'' W]
E	4506	OUTFALL AT AOLELE STREET NEAR GROUND TRANSPORTATION	06/02/2015	Low	[21 deg 20' 0'' N]	[157 deg 54' 43.3'' W]
E	4507	OUTFALL AT AOLELE STREET NEAR GROUND TRANSPORTATION	06/02/2015	Low	[21 deg 20' 0.6'' N]	[157 deg 54' 43.1'' W]
E	4508	OUTFALL FROM DI 4512 AT GROUND TRANSPORTATION	06/02/2015	Low	[21 deg 19' 59.7'' N]	[157 deg 54' 40.8'' W]
E	4509	OUTFALL FROM DI 4513 AT GROUND TRANSPORTATION	06/02/2015	Low	[21 deg 19' 59.5'' N]	[157 deg 54' 39.5'' W]
E	4553	ROOF DRAIN FROM 3069 UALENA STREET	06/02/2015	Low	[21 deg 19' 58.9'' N]	[157 deg 54' 35.9'' W]
E	4555	OUTFALL FROM 3059 UALENA STREET DRAIN 4568	06/02/2015	Low	[21 deg 19' 58.5'' N]	[157 deg 54' 35.8'' W]
E	4556	OUTFALL FROM PUNALUU BUILDERS ROOF DRAINS	06/02/2015	Low	[21 deg 19' 58.8'' N]	[157 deg 54' 35.5'' W]
E	4557	OUTFALL FROM PUNALUU BUILDERS ROOF DRAINS	07/02/2007	Low	[21 deg 19' 58.7'' N]	[157 deg 54' 34.6'' W]
E	4558	OUTFALL FROM AIRPORT CENTER BASEMENT DRAIN	06/02/2015	Low	[21 deg 19' 58.6'' N]	[157 deg 54' 34.2'' W]
E	4559	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 19' 58.4'' N]	[157 deg 54' 34.6'' W]
E	4560	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 19' 58'' N]	[157 deg 54' 32.5'' W]
E	4562	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 19' 57.9'' N]	[157 deg 54' 31.1'' W]

Honolulu International Airport Outfalls

Basin	EID	POI Location	POI Inspection Date	POI Outfall Risk Ranking	POI Latitude	POI Longitude
E	4564	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 19' 57.6'' N]	[157 deg 54' 30'' W]
E	4566	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 19' 57.4'' N]	[157 deg 54' 27.9'' W]
E	4567	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 19' 57.5'' N]	[157 deg 54' 27.6'' W]
E	4574	OUTFALL FROM DI 4575 AT SW CORNER OF 3017 UALENA STREET	06/02/2015	Low	[21 deg 19' 58.4'' N]	[157 deg 54' 31.8'' W]
E	4585	OUTFALL INTO AOLELE STREET DITCH FROM DI 4586	06/02/2015	Low	[21 deg 19' 58.3'' N]	[157 deg 54' 31.6'' W]
E	4587	OUTFALL INTO AOLELE STREET DITCH	06/02/2015	Medium	[21 deg 19' 56.9'' N]	[157 deg 54' 19.8'' W]
E	4588	OUTFALL FROM BASEYARD DRAINAGE INLET 4569	06/02/2015	Low	[21 deg 19' 57.6'' N]	[157 deg 54' 27.5'' W]
E	5446	AOLELE STREET OUTFALL	06/02/2015	Low	[21 deg 19' 58.9'' N]	[157 deg 54' 39.3'' W]
E	7606	AOLELE STREET DITCH FROM DI 7602 AT DELTA AIR CARGO	06/02/2015	Low	[21 deg 19' 59.2'' N]	[157 deg 54' 39.6'' W]
E	9713	DRAINAGE DITCH ON AOLELE STREET NEAR PAIEA STREET	06/02/2015	Low	[21 deg 20' 0.6'' N]	[157 deg 54' 52.1'' W]

Attachment E.4

Maintenance Plan for Vegetated Portions of the MS4

Storm Water Management Program Plan

Daniel K. Inouye International Airport

Maintenance Plan for Vegetated Portions of the MS4

PROTECT OUR WATER
MĀLAMA I KA WAI
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION

STATE OF HAWAII, DEPARTMENT OF TRANSPORTATION, AIRPORTS DIVISION
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819-1880

NPDES Permit No. HIS000005

September 2018

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1.0 INTRODUCTION

The Daniel. K. Inouye International Airport formerly known as Honolulu International Airport (HNL) includes a Small Municipal Separate Storm Sewer System (MS4) that conveys storm water away from the airport facilities to the receiving waters. The discharge from this MS4 is permitted by the National Pollutant Discharge Elimination System (NPDES) as HIS000005, which requires the State of Hawaii, Department of Transportation, Airports Division (DOTA) to create a maintenance plan for vegetated areas necessary for erosion and sediment control as well as for Low Impact Development (LID) features (Part D.1.f.(3)(iii)). Maintaining these vegetated areas is vital to preventing sedimentation from negatively impacting storm water runoff and ultimately the receiving waters.

This plan includes best management practices (BMPs) that provide guidance on the cutting of vegetation, application of herbicide and fertilizers, controlling invasive species, restoring vegetation, and generally ensuring that the vegetation remains healthy in order to prevent erosion. The goal of this plan is to provide a set of principles that DOTA Baseyard Maintenance staff and vegetated service contactors may apply during the maintenance of vegetated portions of the MS4. However, in instances where the Designer has provided maintenance practices for an installed LID, erosion, or sediment control BMP, those site-specific practices shall take precedence over this plan.

DEFINITIONS:

Erosion - Movement of soil particles from their original location by wind or water. May be visible as rilling or gullying.

Sedimentation – Deposition of soil particles by wind or water in a different location.

Low Impact Development (LID)- Site design that seeks to mimic predevelopment hydrology by minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspirating, and/or biotreating storm water runoff close to its source.

Impervious Surface - Material that limits the infiltration of storm water, such as rooftops, runways, taxiways, parking lots, or paved areas.

Vegetated Area – An area where the soil has been properly stabilized such that erosion is prevented by the roots of plants and other organic material.

1.1 Responsible Parties

Maintenance activities for vegetated areas are generally carried out by DOTA maintenance staff (AIR-OMF) or contractors. Specifically, DOTA has contracts for maintaining vegetation in and around HNL's canals and shorelines. Both parties will be responsible for adhering to this program.

1.2 Importance of Vegetation

Vegetated portions of the MS4 play an important role in erosion and sediment control and can also provide treatment for other types of pollutants that may be present in the storm water runoff. Specifically, as the storm water flows through vegetated areas, it provides the following benefits:

1. Reduces runoff volume. Storm water runoff volume is reduced when it is absorbed by the plants and infiltrates into the soil. An overall reduction in volume reduces the quantity of potential pollutants that may be contributed to the MS4. Additionally, a reduced volume minimizes the amount of storm water that may be acting on unstablized areas and resulting in erosion.

2. Reduces runoff velocity. The velocity of storm water is reduced when it encounters the barriers created by the roots, stems, and other organic material present in vegetated areas. This reduced velocity aids in minimizing the erosional force of the storm water runoff.

3. Filtration. Vegetated areas include plants, soils, and microorganisms that can break down, absorb, or otherwise neutralize certain pollutants. Furthermore, various pollutants may bind to the soil particles, such as nitrogen, phosphorus, and metals. When sediment is retained in a vegetated area, those additional pollutants are also prevented from impacting the MS4 and receiving water. Therefore, the monitoring parameter total suspended solids (TSS) has been identified as an important measure of the total pollutant removal provided by vegetation.

1.3 Vegetated Maintenance Guidelines

Vegetated areas of the airport have the potential to attract wildlife which can be a danger to aircraft. Therefore, BMPs selected for this plan not only consider the best environmental practice, but also the best safety practice per the guidance provided in the Federal Aviation Administration (FAA) *Wildlife Hazard Management at Airports Manual* dated July 2005. Specific principles and practices for maintaining vegetated areas in regards to controlling hazardous wildlife can be found in, VM1: Vegetated Areas and Aircraft Safety.

2.0 TARGETED AREAS

This plan covers sites where vegetation is required as part of the permanent BMP design and where areas of erosion have been identified within HNL's MS4, see Table 1 for a listing of these targeted vegetation areas. Other vegetated areas at HNL that are not designed to provide stormwater quality treatment are not covered under this plan and have subsequently been removed from Table 1.

Although, several of the erosional areas identified in the table below (in parenthesis), do not currently have vegetation, these maintenance practices should be employed once stabilization has occurred. (*Note: An updated list of erosional areas will be included in the HNL Annual Report. An EID will be assigned to the permanent BMPs that were designed to provide water quality. Any erosional areas that are addressed as a non-vegetative permanent BMPs will be deactivated from this listing below.)

TABLE 1: HNL MS4 TARGETED VEGETATED AREAS

EID	Basin	Location Description	Receiving Water	Latitude / Longitude	Approx. Size (acres)
12002	B12	Canal #1. Grassed channel along Elliot Street between Hickam and the federal prison.	Manuwai Canal	21°20'4.5" N 157°55'40.5" W	<0.5
12003	B6	Canal #3. Grassed channel south of Runway 4L near the control tower.	Ahua Pond	21°19'7.5" N 157°54'28.5" W	0.5 - 1
12004	B4	Canal #4. Grassed channel west of the T-Hangars.	Ahua Pond	21°18'42.9" N 157°55'34.1" W	0.5 - 1
12005	D10	Canal #7. Grassed channel east of the terminal near Access A.	Access A Canal	21°19'49.9" N 157°54'55" W	<0.5
12006	D11	Canal #6. Grassed channel along Aolele Street, north of the Maintenance Baseyard.	Aolele Canal	21°19'59.8" N 157°54'43.3" W	0.5 - 1
12007	D12	Canal #8. L-shaped grassed channel located along Aolele Street, east of the Maintenance Baseyard.	Aolele Canal	21°19'57.2" N 157°54'20.6" W	<0.5
(D10-1)	D10	Walls of Access A Canal from Aolewa Place to the diamond head hardstands.	Access A Canal	21°19'49.03" N, 157°54'49.17" W	<0.5
(D10-2)	D10	Slight slope between Access A Canal and the diamond head hardstands.	Access A Canal	21°19'48.74" N, 157°54'45.39" W	<0.5

EID	Basin	Location Description	Receiving Water	Latitude / Longitude	Approx. Size (acres)
(D14-2)	D14	Slight slope south of Kaloaloa Canal and immediately west of AOA perimeter road.	Kaloaloa Canal	21°19'50.80" N, 157°54'11.24" W	<0.5
(D14-1)	D14	Unstabilized slope south of Kaloaloa Canal, between the AOA perimeter road and Lagoon Drive.	Kaloaloa Canal	21°19'49.70" N 157°54'09.77" W	<0.5
(D10-3)	D10	Walls of Kaloaloa Canal south of DOTA Maintenance Baseyard.	Kaloaloa Canal	21°19'51.02" N 157°54'24.70" W	<0.5
(E-2)	E	Walls of Aolele Street canal from the highway on-ramp to the Aolele Street bridge.	Aolele Canal	21°19'58.3" N 157°54'33.8" W	<0.5
15335	B	Bioswale at Elliot Street pervious pavement parking lot.	Manuwai Canal	21° 19' 49.8" N 157° 55' 48.5" W	<1
15336	A	Bioswale at Kalewa Street parking lot.	Keehi Lagoon	21° 19' 34.4" N 157° 54' 5.6" W	1
15337	D	Bioswale at Mokulele Airlines.	N/A (infiltrates)	21° 19' 53.76" N 157° 54' 38.93" W	<0.5

3.0 BEST MANAGEMENT PRACTICES (BMPS)

Best Management Practices (BMPs) are schedules of activities, prohibitions or practices, maintenance procedures, and other management practices to prevent or reduce pollution from storm water runoff to the MS4 or receiving water. The following categories of BMPs should be reviewed for maintenance on vegetated portions of the MS4.

3.1 Maintenance Baseyard Storm Water Pollution Control Plan

The HNL *Maintenance Baseyard Storm Water Pollution Control Plan* (*SWPCP*) includes BMPs that maintenance personnel may apply during their daily activities. Although the *SWPCP* was designed to be applied at the Maintenance Baseyard, many of the BMPs such as material use and spill response may also be applied when managing vegetated areas throughout the MS4. A copy of the *Maintenance Baseyard SWPCP* is available in the *SWMPP Section E, Attachment E.1*.

3.2 Chemical Application BMPs

Chemicals such as herbicides and fertilizers may need to be applied to areas where unwanted or invasive species have been identified. BMPs for use of these chemicals are provided in *SWMPP Section E, Attachment E.2*; however, where possible, application of these chemicals should be avoided in targeted areas (Table 1).

3.3 Vegetation Management BMPs

The following vegetation management BMPs are specifically for target areas (Table 1) and will aid in ensuring that the vegetation remains viable and able to stabilize the soil. The categories of these BMPs include:

- Vegetated Areas and Aircraft Safety.
- Mowing and Edging.
- Cutting Trees, Palms, Shrubs, and Hedges.
- Invasive Species Management.
- Restoring and Replanting Vegetation.

Vegetation Management Best Management Practices
VM1: Vegetated Areas and Aircraft Safety

Description

Vegetated areas in and around the airport can attract wildlife, which can be hazardous to aircraft. These BMPs are designed to identify safety requirements from the FAA while balancing the need to maintain vegetation for storm water runoff concerns.

HAZARDOUS WILDLIFE AT FERIHEGY AIRPORT, BUDAPEST, HUNGARY. (FAA WILDLIFE HAZARD MANAGEMENT AT AIRPORTS MANUAL, JULY 2005)

Limitations

Storm water BMPs such as evaporation ponds should be designed to drain within **48 hours** of a major storm event. Standing water is not permitted due to the attraction of hazardous wildlife. Where there is standing water, install bird net, balls, or other determent device.

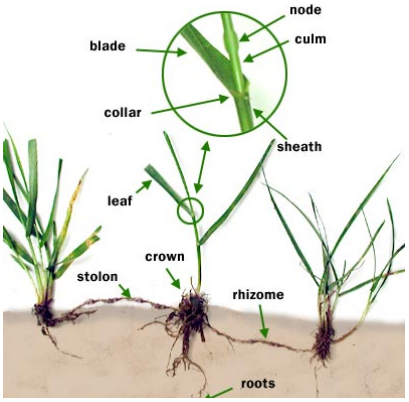
PRACTICES		
☐	VM1.1	Consider developing a preferred/prohibited plant species list, reviewed by a wildlife biologist, which has been designed to reduce the attractiveness to hazardous wildlife for landscaping airport property. For warm climates, such as Hawaii, FAA recommends wedelia and bermuda grass.
☐	VM1.2	Avoid plants that produce fruits and seeds desired by birds. Where these have already been established, ensure they are cut before they begin to produce seeds.
☐	VM1.3	Avoid the creation of areas of dense cover where birds may roost. Tree canopies should be thinned out in accordance with VM4.
☐	VM1.4	Consider using synthetic turf to stabilize soil and minimize attractiveness to wildlife.
☐	VM1.5	Where possible, do not allow trees or shrubs to grow within the runway safety area or near taxiways. For trees and shrubs that must remain in the area, trim to below 6 feet.
☐	VM1.6	Monitor vegetated areas for the presence of hazardous wildlife should be conducted on a continuing basis.

- For more information, refer to Federal Aviation Administration. July 2005. *Wildlife Hazard Management at Airports, Second Edition.*

Vegetation Management Best Management Practices
VM2: Mowing and Edging

Description

Mowing is the most required vegetation maintenance job. It consists of the mechanical trimming of turf, weeds, and other vegetation. Mowing to the required standards helps limit erosion, control weed invasion, enhances the natural beauty of the vegetated areas, and limits the roosting or nesting of hazardous wildlife.



ANATOMY OF TYPICAL GRASS PLANT, WWW.TRIMMERASSIST.NET.

Mowing Standards

All turfgrasses grown in Hawaii are warm weather grasses. They can tolerate high temperatures with a high humidity but may stop growing and go dormant at certain times of the year depending on consistently low temperatures or long periods of drought.

Maintaining the recommended turfgrass height will help ensure that the root base remains healthy. Different grasses prefer different optimal leaf heights and the following are recommendations for common turf grasses:

- St. Augustine = 2-3 inches
- Centipede grass = 1½-2 inches
- Common Bermuda = 1½-2 inches
- El Toro zoysia = 1-1½ inches
- Seashore paspalum = 1/2-1 inch
- Emerald zoysia = 1/2-1 inch
- Hybrid Bermuda = 1/2-3/4 inch
- Wedelia = 1-3 inches

Limitations

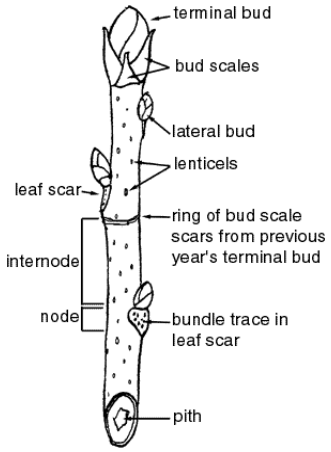
None

PRACTICES		
☐	VM2.1	Schedule mowing of turfgrass before it reaches 3 feet high.
☐	VM2.2	Use the <u>One-Third Rule</u> when mowing. Do not cut more than one-third of the turfgrass blade during any one mowing whenever possible.
☐	VM2.3	Do not mow when grass is wet.
☐	VM2.4	Remove all litter and debris before mowing.
☐	VM2.5	Consider placing berms around and/or covering storm drain inlets in the area when mowing.
☐	VM2.6	When mowing on slopes steeper than 1:3, use a side-mounted mower or a weed wacker.
☐	VM2.7	Edge cutting should be no more than ¼ inch wide.
☐	VM2.8	Trim and edge grass around sprinkler heads and valve boxes as needed to maintain a clean appearance and good irrigation coverage.
☐	VM2.9	Do not mow areas with excessive invasive weeds until they have been eradicated (see VM5).
☐	VM2.10	Rake or otherwise clear the area of excessive clippings after mowing. The removal of excessive clippings reduces the amount of green waste that may contribute pollutants to the MS4.
☐	VM2.11	Sweep or otherwise remove all clippings from hard surfaces such as runways, taxiways, road, and parking lots.
☐	VM2.12	Ensure that green waste is stored in a contained area until disposal.
☐	VM2.13	When fueling equipment on-site, select a location away from storm drains and waterways and conduct the activity over a drip pan.

Vegetation Management Best Management Practices
VM3: Cutting Trees, Palms, Shrubs and Hedges

Description

Trees, palms, shrubs, and hedges are beneficial to soil stabilization due to the extensive root systems associated with this vegetation. In order to maintain their health, specific maintenance practices such as cutting, pruning, or thinning of plant density may be required.



Definitions

Branch collar – the swollen area at the base of the branch.
Canopy – one or more plant crowns growing in a given area.
Crown – the plant's aboveground parts (stems, leaves, etc.).
Node – is the point on the stem where a leaf or bud is attached.

Limitations

A certified arborist should be consulted prior to implementing these BMPs. Only a qualified line clearance arborist or line clearance arborist trainee shall be assigned to utility line clearance work in accordance with ANSI Z 133.1, 29CFR 1910.331-335.

PRACTICES		
☐	VM3.1	Recommended vertical height of vegetation: • 6 feet near runways and taxiways. • 17 feet for overhanging vegetation above roadways. • 7 feet canopy clearance above sidewalks (i.e. Lagoon Drive).
☐	VM3.1	Top cut trees to a height of at least 5 years of growth below the instrument or visual surface requiring protection. As a rule of thumb, use a growth rate of 2.5 feet per year.
☐	VM3.1	Do not prune more than 25% of the canopy at one time.
☐	VM3.1	When cutting, pruning cuts should be made just beyond the branch collar. By doing so, the tree will retain a protective zone allowing the tree to close over the open wound.
☐	VM3.1	Do not allow trees to establish in areas where they can become a hazard. Stumps should be removed or treated to prevent re-growth.
☐	VM3.1	For palm trees, remove fronds, fruit, seedpods and fruit stalks carefully without damaging the trunk or fronds that are to be retained.
☐	VM3.1	Do not remove live, healthy fronds from palm trees except where encroaching on utilities or structures.
☐	VM3.1	Avoid the use of spikes for trees; use aerial lifts where practical.
☐	VM3.1	For hedges and shrubs, remove dead stems and remove or cut back stems that extend far beyond the edge of the crown.
☐	VM3.1	Reduce 1/3 of remaining stems (oldest third) to about 4-6 inches inside the crown of the shrub.
☐	VM3.1	Hedges should be pruned wider at the base than at the top, allowing more sunlight to reach the base.
☐	VM3.1	Naupaka and Bougainvillea: maintain large groupings of naupaka as formal hedges by shearing.
☐	VM3.1	Dispose of cutting by chipping for mulch or in another confined waste container until disposal.

Vegetation Management Best Management Practices
VM4: Invasive Species Management

Description
Invasive species are alien species of a certain ecosystem whose introduction does or is likely to cause harm to the environment, the economy, or to human health. Prevention and early detection are essential in managing invasive species.

Priority Weeds and Pests
Due to time constraints and budgetary limits, it may not be possible to fully eradicate all weeds from vegetated maintenance areas. Therefore, priority weeds and pests have been identified by Federal and State agencies. Invasive species listed as priorities should be controlled before species not on these lists:

- Unites States Department of Agriculture - Federal Noxious Weed List
- State of Hawaii, Department of Agriculture – Noxious Weed Rules (HRS 4:6:68)
- State of Hawaii, Department of Agriculture – Seed Rules (HRS 4:6:67)
- Invasive Species Councils/Committees – species identified by such councils or committees in each county
- Plants identified by maintenance crews to be of local nuisances in vegetated maintenance areas

INVASIVE SPECIES IN HAWAII, CLOCKWISE FROM TOP LEFT: 1. YELLOW GINGER, 2. BANANA POKA, 3. STRAWBERRY GUAVA, 4. AUSTRALIAN TREE FERN, 5. POISON DEVIL'S PEPPER, 6. MICONIA, 7. KOSTER'S CURSE , 8. FOUNTAIN GRASS. WWW.KOHALAWATERSHED.ORG.

Limitations
None

Vegetation Management Best Management Practices
VM4: Invasive Species Management (continued)

PRACTICES		
☐	VM4.1	Where possible, minimize disturbance of soil. If soil disturbance is necessary, replant disturbed areas with desirable vegetation.
☐	VM4.2	Monitor and evaluate areas that require more effort to control invasive species. Keep records of control work to assist with monitoring invasive species.
☐	VM4.3	Report any new alien or target species in your area to the Pest Hotline (808) 643-7378 (PEST).
☐	VM4.4	Thoroughly clean equipment, vehicles, Personal Protection Equipment (PPE), and any other materials that are used in the vegetated maintenance areas. Cleaning can be done by either washing or dusting the equipment in a grassy area that limits runoff or in a designated wash rack.
☐	VM4.5	Regular inspections of equipment, vehicles, and PPE should be conducted to ensure cleaning protocols are effective. If found ineffective, cleaning practices should be modified or repeated.

Additional Invasive Noxious Weed and Pest Information:

- The Coordinating Group on Alien Species— http://www.hawaiiinvasivespecies.org/cgaps/
- The Hawai'i Invasive Species Council— http://www.hawaiiinvasivespecies.org/hisc/
- Invasive Species Committees— http://www.hawaiiinvasivespecies.org/iscs/
- CTAHR Cooperative Extension Service— http://www.ctahr.hawaii.edu/site/extprograms.aspx
- U.S. Department of Agriculture— http://www.invasivespeciesinfo.gov/unitedstates/hi.shtml
- U.S. Fish and Wildlife Service— http://www.fws.gov/pacificislands/invasives.html
- The Outdoor Circle— http://www.outdoorcircle.org/protecting_hawaii
- Hawai'i Ecosystems at Risk— http://www.hear.org
- Hawai'i Department of Agriculture— http://hawaii.gov/hdoa/
- University of Hawai'i— http://www.hawaii.edu
- The Nature Conservancy— http://www.nature.org/
- The Sierra Club— http://www.sierraclub.org/

Vegetation Management Best Management Practices
VM5: Restoring and Replanting Vegetation

Description
In many cases vegetation maintenance involves restoring or reviving vegetation in order to sustain the functionality and aesthetics of the vegetated areas. Maintaining vegetative cover is critical in reducing erosion and sediment loss.

Limitations
Vegetation should be selected in accordance with VM1 and VM4.

PRACTICES		
☐	VM5.1	All old vegetation that is being replaced should be removed or mulched as appropriate.
☐	VM5.2	Replace a plant with the same species or with an appropriate non-invasive or native alternative that is ecologically and culturally appropriate for that location. The replacement plant should have a similar mature spread and height.
☐	VM5.3	If plant was previously removed, the replacement plant(s) should be replaced as soon as possible or within four weeks of removal.
☐	VM5.4	When planting replacement trees, top of root ball should be 10-20% above vegetated soil. Do not cover the root ball with soil or mulch.
☐	VM5.5	Loosen soil around edges of planting hole, at least several feet. This allows for new roots to easily grow out of the root ball and into the native soil.
☐	VM5.6	Water root ball thoroughly by building a circular watering well around the edges of the root ball.
☐	VM5.7	Cover the walls of the water well and the loose soil outside the well with an approximate 3-inch thick layer of wood chip mulch.
☐	VM5.8	Stake tree with at least 2 stakes driven into the undisturbed soil at least 1 foot from the trunk and do not drive stake into the root ball.
☐	VM5.9	Secure the stakes to the trunk of the tree no more than half way up the trunk. The straps should be loose enough to allow for a few inches of movement of the trunk in all directions.
☐	VM5.10	Inspect tightness of straps frequently and adjust as necessary.
☐	VM5.11	Remove staking as soon as root ball is well anchored in soil and does not move in to the soil when the plant is pulled and pushed from side to side.
☐	VM5.12	Do not leave the staking in place for more than one year.
☐	VM5.13	Apply fertilizers in accordance with the Chemical Applications BMP Plan in order to restore levels of nutrients to the soil necessary for plant vitality.

4.0 REFERENCES

- Federal Aviation Administration. July 2005. Wildlife Hazard Management at Airports, Second Edition.

- State of Hawaii, Department of Health. December 2013. Hawaii Administrative Rules, Chapters 11- 54 and 11-55.

- State of Hawaii, Department of Transportation, Airports Division. June 2014. Honolulu International Airport Storm Water Pollution Control Plan, Maintenance Baseyard Facility.

- State of Hawaii, Department of Transportation, Airports Division. June 2015. *Erosional Areas Summary.*

- State of Hawaii, Department of Transportation, Airports Division. April 14, 2014. *National Pollutant Discharge Elimination System, Permit Number HI S000005,* expires March 13, 2019.

- State of Hawaii, Department of Transportation, Airports Division. June 2015. Honolulu International Airport, Small Municipal Separate Storm Sewer System, Storm Water Management Program Plan.

- State of Hawaii, Department of Transportation, Highways Division. 2011. *Highway Manual for Sustainable Vegetated Maintenance.*

- State of Hawaii, Department of Transportation, Highways Division. November 2011. *Statewide Noxious Invasive Pest Program (SNIPP) Strategic Plan 2012 – 2022.*

- State of Hawaii, Department of Transportation, Highways Division. April 2015. *Maintenance Plan for Vegetated Portions of the MS4*.

Attachment E.5

Trash Reduction Plan

Honolulu International Airport

Trash Reduction Plan

PROTECT OUR WATER
MĀLAMA I KA WAI
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION

STATE OF HAWAII, DEPARTMENT OF TRANSPORTATION, AIRPORTS DIVISION
400 Rodgers Boulevard, Suite 700
Honolulu, Hawaii 96819-1880

NPDES Permit No. HIS000005

April 2017

RECORD OF REVISION

Revision No.	Revision Date	Description	Sections Affected
1	April 2017	Initial Release	All

Plan Approval:

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

Ford N. Fuchigami
Director
State of Hawaii
Department of Transportation

4.19.17
Date

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APPENDICES

ACRONYMS

ACR	Annual Compliance Report
AIR-EE	DOTA, Engineering Branch, Environmental Section
AIR-OMF	DOTA, Oahu District, Airfield & Ground Maintenance Unit (Baseyard)
AOA	Air Operations Area
ARFF	Aircraft Rescue Fire Fighting Unit
BAT	Best Available Technology
BMP	Best Management Practice
CDS	Continuous Deflective Separation Units
COP	Continual Improvement, Obey Laws, Prevent Pollution
DOT	State of Hawaii Department of Transportation
DOTA	State of Hawaii Department of Transportation, Airports Division
EHS	Environmental Health Specialist
ENV	City and County of Honolulu Department of Environmental Services
FOD	Foreign Object Debris / Foreign Object Damage
IDDE	Illicit Discharge Detection and Elimination
USEPA	United States Environmental Protection Agency
FAA	Federal Aviation Administration
HAR	Hawaii Administrative Rules
HNL	Honolulu International Airport
LID	Low Impact Development
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
PSA	Public Service Announcement
SWMPP	Storm Water Management Program Plan
TRP	Trash Reduction Plan

1.0 INTRODUCTION

The Honolulu International Airport (HNL) facility is owned by The State of Hawaii Department of Transportation, Airports Division (DOTA) and is operated within the Oahu District. The airport consists of 4,520 acres of land on the southern portion of the island of Oahu. HNL is the busiest airport in the State of Hawaii and consists of four active runways and associated taxiways, three terminals, air carrier facilities, general aviation facilities, a maintenance baseyard, and two aircraft rescue and firefighting (ARFF) stations.

DOTA is subject to the requirements under the National Pollutant Discharge Elimination System (NPDES) Program for storm water discharges. This Trash Reduction Plan (TRP) was submitted to comply with the conditions of the NPDES Permit No. HI S000005, effective April 14, 2014. The municipal separate storm sewer system (MS4 Permit, Part D.1.f.(1).(v) requires DOTA to develop and submit a TRP within three years of the effective date of the MS4 Permit (April 14, 2017).

1.1 DEFINITIONS, SOURCES, AND PATHWAYS

Trash that enters the MS4 at HNL is a result of activities that occur both outside and within the airports boundary. Numerous connections with adjacent storm water systems (Hawaii DOT and Honolulu City and County) represent outside pathways for trash to enter the MS4 at HNL. Trash that originates within the boundary of HNL may be generated by inadequate waste management practices such as overflowing receptacles, improper disposal, and poor landscaping practices.

The HNL MS4 Permit (HI S000005) defines ***trash*** as "improperly discarded waste material, excluding vegetation, except for yard/landscaping waste that is illegally disposed of in the storm drain system. Examples of trash include, but are not limited to, convenience food, beverage, and other product packages or containers constructed of aluminum, steel, glass, paper, plastic, and other natural and synthetic materials". ***Trash*** is considered analogous to ***litter***. For the purpose of this plan, ***debris*** includes rock, sediment, and vegetation in addition to items defined above as trash.

The "**BMP-Collected Trash Load**" is defined as the total amount of trash that is intercepted by all BMPs that would otherwise be discharged from the MS4. This is the sum of all trash that is collected via sweeping, permanent BMPs, booms, manual cleaning of the MS4 and canals, volunteer events, and other BMPS.

The "**MS4-Discharged Trash Load**" is defined as the total amount of trash that bypasses all BMPs and is discharged from the MS4 to the environment. The main objective of this TRP (Trash Reduction Plan) is to reduce this value to zero over a given amount of time.

The "**Generated Trash Load**" is defined as the sum of the MS4-discharged trash load and the BMP-Collected trash load (Equation 1).

EQUATION 1. GENERATED TRASH LOAD

Generated Trash Load = BMP-Collected Trash Load + MS4-Discharged Trash Load

2.0 CURRENT TRASH CONTROL MEASURES AT HNL

This section describes the control measures that DOTA has implemented at HNL to manage storm water runoff and MS4-related debris. Trash that is currently intercepted through these measures is thus considered BMP-Collected Trash. DOTA currently utilizes the following control measures:

- Institutional Control Measures
- Land-based Interception Control Measures
- MS4 Interception Control Measures

These BMP programs are implemented to reduce trash discharges from the DOTA MS4 to receiving water bodies. These control measures are also discussed in more detail in the comprehensive State of Hawaii Department of Transportation, Airports Division, *Storm Water Management Program Plan* (SWMPP).

2.1 Institutional Control Measures

Institutional control measures prevent or reduce the potential of trash to be deposited into the environment. DOTA implements both preventative and corrective institutional control measures.

2.1.1 *Public Education, Outreach, and Training*

DOTA places a high emphasis on their Public Education Program which increases the general public understanding those actions of individuals can have a significant cumulative impact on water quality. The goal of the Public Education Program is to raise awareness in targeted groups to cultivate greater behavioral and cultural changes to ultimately protect and improve water quality.

Training is vital to cultivate general awareness for targeted groups about environmental regulations, DOTA policies, the impact activities may have on water quality, and BMPs that can be implemented to reduce or eliminate impacts. Training is conducted in a variety of forms including, but not limited to classroom training, training videos, printed materials, and informal training (on-the-job, information during inspections, and public inquiry response).

Advertising is an effective means to generate awareness to a broader audience. DOTA has created educational signs placed within terminal public areas and has partnered with Leeward Community College to develop a public service announcement (PSA) that has been broadcasted on the community access TV channel Olelo.

All DOTA employees and contractors are required to watch a short video that discusses airport safety. The video also promotes environmental stewardship by reminding viewers it is everyone's responsibility to pick up trash within the HNL boundary in order to prevent trash from making its way to the MS4 and receiving waters.

The DOTA utilizes two logos and branding messages to represent both the DOTA storm water program as well as its connection with the Department of Transportation, Highways and Harbors Divisions storm water programs. The airport specific logo includes a concept developed in partnership with Radford High School graphic's class and reflects the Director of

Transportation's environmental policy (COP: Continual Improvement, Obey Laws, Prevent Pollution). This logo allows for DOTA documents to be more readily identified and invokes greater ownership by personnel at the airport.

The shared DOT logo includes the state fish, a humuhumunukunukuapua'a, in the form of a rain drop as a reminder that our storm water runoff ultimately impacts the ocean wildlife. The message, "Protect Our Water," is designed to remind individuals of their responsibility for water quality. Both branding messages are incorporated in training and educational materials.

2.1.2 *Legislative Actions*

Legislative actions influence societal behavior, improve enforcement, and enhance compliance with existing laws. DOTA trash reduction efforts benefit from several existing laws aimed at reducing the amount of trash entering the environment.

- Hawaii Pollution Prevention and Waste Minimization Program – Established in 1991 to reduce hazardous waste generation and promote environmental protection.

- Green Business Program – Established in 2003 – the program offers a variety of services to businesses interested in reducing their generation of waste and conserving resources.

- State of Hawaii Department of Environmental Services (ENV) – Provides island wide waste management system that protects the environment (Bulky item collection, curbside recycling, community recycling bins, condo recycling).

- HI-5 Program – Implemented in 2005 – beverage container deposit program placed a value on glass, aluminum, and plastic beverage containers. Although general public is not required to recycle beverage containers, all agencies, restaurants, and bar serving alcoholic beverages are required to recycle aluminum, glass, and plastic. *Airline and shipping companies that transport beverages to the state are not included.*

- City and County Commercial Recycling Ordinances – Recycling requirements and landfill bans put in place by the City and County of Honolulu. Office buildings with 20,000 square feet or more of office space are required to recycle paper, newspaper, and cardboard while city agencies are required to recycle newspaper, cardboard, office paper, aluminum, glass, and plastic. Additionally, the city is required to purchase recycled paper products (toilet paper, paper towels, copier paper, and computer paper) to support the recycle paper market. Hotels, restaurants, grocery stores, food courts, food manufactures/processors, and hospitals are required to recycle food waste and used cooking oil.

2.2 Land-Based Interception Control Measures

Trash that has entered the environment at HNL may be intercepted and removed through land-based interception control measures prior to reaching the MS4 network. This includes land-based trash clean ups and street sweeping. Table 1 shows the mass of debris removed from 2013-2016 by various land-based and MS4 cleaning activities.

TABLE 1. DEBRIS REMOVAL 2013- 2016

Reporting Year	MS4 Inspection & Debris Cleaning (lbs)*	Surface Water Trash (lbs)	Street Sweeping Debris (ft^3)*	FOD Walk Trash (lbs)
2013-2014	118,194	23,164	5,250	730
2014-2015	204,963	32,021	10,330	1,000
2015-2016	16,046	29,623	3,190	1,508

* Value includes green waste

2.2.1 *Land Based Trash Clean Up Programs*

The Airport EHS Department organizes Foreign Object Debris / Foreign Object Damage (FOD) walk-downs with tenants and employees. This annual volunteer event addresses the issues of FOD that threaten the safety of aircraft, airport vehicles, equipment, and passengers while bringing together the airport community and creating awareness (Table 1).

HNL's biannual Recycle Drive allows tenants to bring their infrequent waste items such as e-waste, tires, and other bulky objects in order to properly recycle, reuse, or dispose of these items to prevent illegal dumping or improper disposal while promoting awareness to participants. DOTA utilizes a third party contractor to recycle waste materials and used oil whenever practicable.

DOTA uses a third party contractor to conduct surface water cleaning in canals, the shoreline of the Reef Runway Pond, the shoreline along Lagoon Drive, and the shoreline near the Reef Runway Oceanside as a proactive measure to keep Hawaii's waters clean and free of trash (Table 1). The Reef Runway Pond (Ahua Pond), catches and contains trash that escapes via the Manuwai Canal. Trash accumulated along the shorelines of Keehi Lagoon generally originates from outside sources, not from DOTA's MS4 network; therefore, trash removed from these locations is not considered HNL-derived trash and will not be included in this plan.

2.2.2 *Street Sweeping*

Street sweeping is a cost effective method to remove litter, debris, and other pollutants from runways, taxiways, major streets, parking areas, and commercial and industrial streets. Street sweeping focuses on the removal of trash, green waste, sediment, and other large waste to reduce the potential of these items entering the MS4. DOTA tracks the amount of debris removed through all street sweeping operations. Based on data from 2015-2016 Annual Compliance Report (ACR), the street sweeping program removed 3,190 lbs of debris (Table 1).

2.3 MS4 Interception Control Measures

The Honolulu International Airport operates within 4,520 acres of land adjacent to Keehi Lagoon (Appendix A- HNL Trash Generation Map). Once trash enters the MS4, it may be intercepted

and removed through routine MS4 structure cleaning. The DOTA MS4 network at HNL consists of the following key structures:

- 2 Caps
- 33 Box Culverts
- 247 Catch Basins
- 10 Head Walls
- 837 Inlets
- 407 Manholes
- 3 Evaporation Ponds
- 102 Oil Water Separators
- 2 Continuous Deflective Separation Units (CDS)
- 69 Trench Drains
- 137 Outfalls
- Sorbant Booms in 3 Canals
- 2 Catch Basin Trash Trays
- 7 Hydrodynamic Separators
- 1 Infiltration Bed
- 19 Swales/Vegetated Filter Strips
- 1 Parking lot with pervious pavement

MS4 structures have been previously ranked according to the mass of trash removed during a reporting year. The most recent ranking information shown below was obtained from the 2015-2016 HNL Annual Compliance Report.

- High – 24 structures
- Medium – 387 structures
- Low – 676 structures

2.3.1 *Inspection and Cleaning Program*

DOTA's pollution prevention program is successful at capturing large amounts of debris that would otherwise discharge to the receiving water. DOTA's long term maintenance contracts ensure that all MS4 drains, oil water separators, and canal areas are routinely inspected and cleaned. Additionally, sorbent booms are placed in the two main discharge canals (Kaloaloa and Manuwai), which not only capture petroleum sheens, but also capture floating trash. In general, the MS4 cleaning program produces the most recovered debris (Table 1). Current contractors (as of 2017) and their responsibilities are described in Table 2.

TABLE 2: DOTA CONTRACTOR RESPONSIBILITIES (2017)

CONTRACTOR	INSPECTION AND CLEANING RESPONSIBLITY
Eckard Brandes, Inc.	• Maintains wet wells and catchment basins
EnviroServices & Training Center, LLC	• Waste materials, used oil, used batteries, old tires, and e-waste disposal services
Hawaii Industrial Services, Ltd.	• Drainage Canal Booms Maintenance for Ditch Pollution Control • Inspect and Clean HNL MS4 (drainage manholes, catch basins, inlets, box culverts, outfalls, head walls, and trench drains) • Oil water separator and evaporation pond maintenance • Storm drainage canal vegetative clearing & fugitive litter removal
Smalt & Co. Inc.	• Provides shoreline cleaning on Lagoon Drive, the Reef Runway Oceanside, and the Reef Runway Pond

2.3.2 *Permanent BMP Program*

HNL's *Storm Water Management Program Plan (SWMPP), Section D Post-Construction Storm Water Management* requires that specified construction projects include permanent Best Management Practices (BMPs). DOTA considers BMPs in the following categories:

1. Low Impact Development Strategies (LID)
2. Source Control BMPs (Source Control)
3. Storm Water Treatment BMPs (Treatment)

DOTA completed an action plan for retrofitting permanent BMPs at HNL that strives to achieve the following performance goals:

1. Pollutant Removal
2. Reduce on-site trash and floatables
3. Reduce Runoff volume
4. Provide outdoor learning and community outreach opportunities at HNL

Additional information can be found in HNL's SWMPP, Section D.

3.0 CURRENT ESTIMATE OF THE BASELINE TRASH LOAD

To estimate the current baseline trash load, historical data from canal cleaning contracts was analyzed.

3.1 Available Data

All data collected by trash removal activities is accessible via the DOTA online database Enviance.

3.1.1 *Trash Removed from Canals and Booms*

Canals represent the last possible location to quantify trash before it is discharged to state waters. Since data collection began, 32,102 lbs of trash (not including landscaping waste) was removed from the canals and booms (Figure 1) over the course of 3 years (canal cleaning contracted ended 5/31/16). To estimate the current baseline MS4-discharged trash load, the last two years of data will be used. The average amount of trash removed from 7/3/14 to 5/31/16 was roughly 633 lbs per month or 7,598 lbs per year.

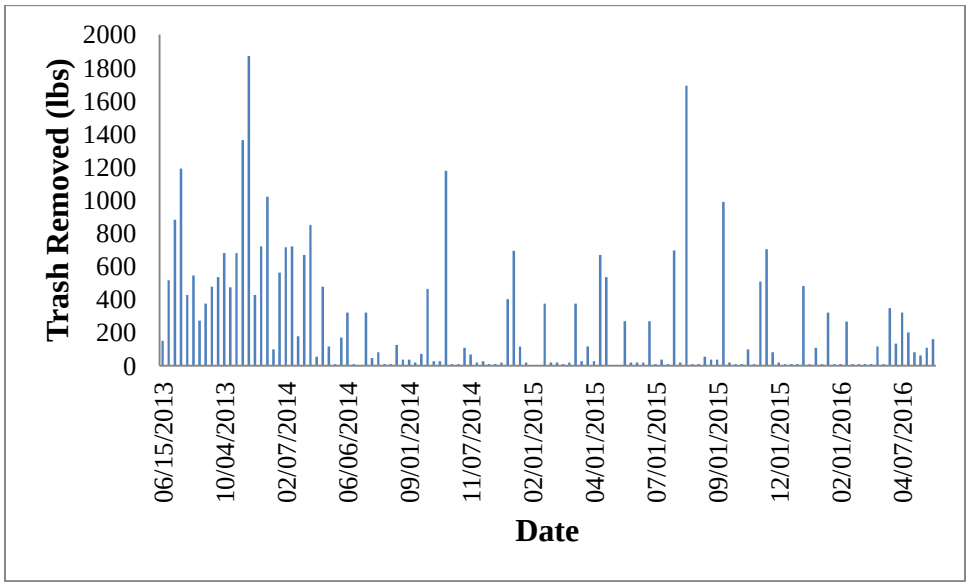


FIGURE 1. TRASH REMOVED FROM CANALS AND BOOMS (2013-2016)

3.1.2 *Trash Removed From MS4 Cleaning, Sweeping, and Volunteer Events*

Significant amounts of debris are regularly removed from surfaces and the MS4 via cleaning, sweeping, and volunteer events (Table 1), however the available data does not distinguish between types of debris. Therefore, the amount of trash removed during these events is unknown; this must be quantified in order to show increased trash capture and trash load reductions in the future.

3.2 Current Estimate of the Baseline MS4-Discharged Trash Load

MS4-discharged trash enters Keehi Lagoon and the Pacific Ocean from canals, Ahua pond, or directly from MS4 outfalls (Appendix A- HNL Trash Generation Map). As shown in Appendix A and Figure 2, 22 % (994 acres) of HNL areas drain to the Manuwai and Kalaoloa canals.

Approximately 10 % (452 acres) of the total HNL area is categorized as areas that generate trash and that discharge storm water directly Keehi Lagoon via outfalls; these outfalls are typically submerged. The remaining 68% (3,074 acres) of the total HNL area is categorized as non-trash generating due to the extremely limited activities that take place in these areas. Much of these non-trash generating areas are runways and taxiways (and associated grassy areas) that are frequently and thoroughly cleaned with sweepers to remove any FOD that would pose an aviation risk (Figure 2, Appendix A).

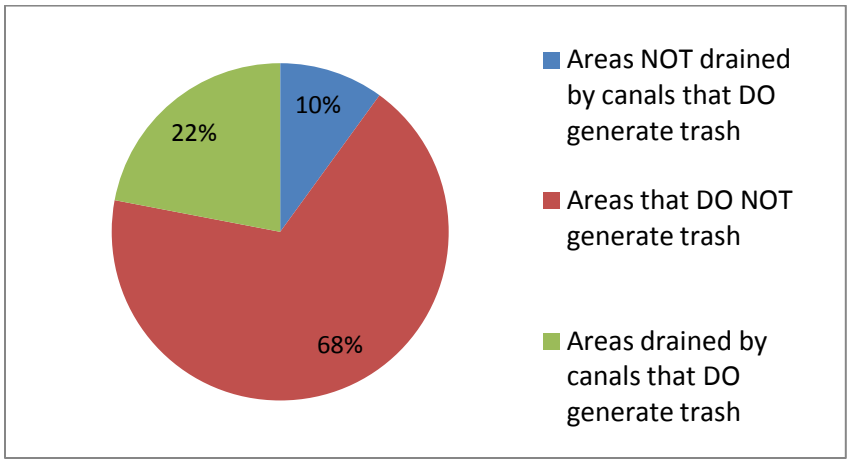


FIGURE 2. TRASH GENERATION FROM HNL AREAS

3.2.1 *MS4-discharged trash from areas drained by canals*

In order to estimate MS4-discharged trash for areas drained by canals (994 acres), it is assumed that an additional 10 % of all trash that was removed from canals (7,600 lbs per year) actually bypasses these BMPs and is discharged to the environment; therefore, approximately **760** lbs of trash is estimated to escape canals as MS4-discharged trash each year.

3.2.2 *MS4-discharged trash from areas NOT drained by canals*

As stated above, canals at HNL drain storm water from approximately 22 % (994 acres) of the airport areas that generate trash (Figure 2, Appendix A). MS4-discharged trash from the remaining 78 % of the airport must be estimated using a different method from that used in section 3.2.1.

Assumptions:
1) MS4-discharged trash from areas not drained by canals will be proportional (by area) to the amount of trash that enters canals (8,360 lbs).
2) Areas classified non-trash generating do not generate trash.

The amount of trash that enters canals can be estimated as the sum the mass of trash that is discharged from canals (760 lbs) and the mass of trash that is removed from canals (7,600 lbs). Therefore, it is estimated that 8,360 lbs of trash enter canals (but is not necessarily discharged to the environment). This is equal to 8.4 lbs per acre of trash from areas that generate trash and that

discharge storm water to canals. The estimated mass of MS4-discharged trash from areas not drained by canals (452 acres) is equal to **3,797** lbs (8.4 lbs / acre X 452 acres).

3.2.3 *Total estimate for current baseline MS4-Discharged trash load*

The baseline MS4-discharged trash load is the sum of estimated MS4-discharged trash loads from section 3.2.1 and 3.2.2. HNL areas that drain to canals are estimated to discharge an average **760 lbs** of trash. HNL areas that do not drain to canals are estimated to discharge an average **3,797 lbs** of trash to state waters. Thus, the baseline MS4-Discharged trash load for HNL is **4,557 lbs**.

3.3 Current Estimate of the Baseline BMP-Collected Trash Load

The baseline BMP-Collected trash load is the total amount of trash removed from land surfaces and the MS4 system by all BMPs combined. Because historical data from street sweeping, FOD walks and MS4 cleaning activities did not quantify the amount of trash with respect to other debris, an estimate for the current baseline BMP-Collected Trash cannot be calculated. Estimation of a baseline for this parameter will be essential to quantifying future trash reductions.

3.4 Current Estimate of the Baseline Generated Trash Load

The baseline Generated Trash Load is the sum of the baseline BMP-Collected Trash Load (section 3.2) and baseline MS4-Discharged Trash Load (section 3.3). This value is the total estimated trash that is generated/arrives at the airport that has the potential to be discharged to receiving waters via the airports MS4 system. This does not include waste that is properly disposed or recycled at HNL. Because an estimate for the baseline BMP-Collected Trash Load is not available, an estimate for the baseline Generated Trash Load cannot be calculated. Estimation of a baseline for this parameter (Generated Trash Load) will be essential to quantifying trash reductions in the future.

4.0 BASELINE TRASH LOAD QUANTIFICATION AND CHARACTERIZATION STUDY

In order to meet future trash reduction goals outlined in this plan, it is essential to calculate an accurate estimate of the baseline Generated-Trash Load. To accomplish this, a baseline study that quantifies and characterizes both MS4-Discharged Trash and BMP-Collected Trash is essential. In addition, this study will provide insight into which airport activities (and sources) are associated with various types and amounts of trash. This approach will allow DOTA to focus trash reduction efforts on certain areas or activities in order to meet trash reduction goals in the future. In order to account for annual and seasonal variability, a three-year baseline study will be implemented.

4.1 Trash Quantification and Characterization Method

Debris that is removed from HNL areas will be quantified empirically and visually characterized. For a particular activity in a particular area (eg. Canal 1 cleaning), the volume and mass of items collected will be measured. A visual estimate of the percent of total volume will then be recorded for debris that falls into each of the categories below:

a. Single-use plastics (bags, bottles, straws, cutlery, packaging etc.), polystyrene foam (Styrofoam), and rubber products
b. Metal (nuts and bolts, rust chips, cans), glass and fiberglass, paper, and cardboard
c. Cigarette butts and other misc. man-made trash
d. Green trash (landscaping debris, cut wood, plant/grass clippings, etc.)
e. Green waste (vegetation, branches, leaves, non-landscaping green waste, etc.)
f. Sediment, sand, rock, aggregate, and asphalt debris

Per the definition given in section 1.1, trash includes the amount of debris that falls into categories a-d.

4.2 MS4-Discharged Trash Load Baseline

The total MS4-Discharged Trash Load is equal to the sum of the amount of trash (debris removed that falls into categories a-d) removed from the Baseline-Booms (section 4.2.1) and the estimate of MS4-Discharged Trash from areas not drained by canals (section 4.2.2). This value will be calculated annually for the three-year duration of this baseline study. To account for annual variability, the average of these values will represent the baseline value for MS4-Discharged Trash Load.

4.2.1 *MS4-discharged trash from areas drained by canals*

The most accurate way to estimate the actual MS4-Discharged Trash Load (trash that is currently bypassing all existing BMP and is discharged to state waters) is to install end-of-pipe full capture trash devices at all outfalls and canals. For areas that ultimately drain to canals, this will be achieved by the installation of an additional trash boom (with a submerged net to catch non-floatables) in both the Manuwai and Kalaoloa canals at a location near the canal mouth (or closest practical location). Debris that is removed from these "Baseline-Booms" will be quantified and categorized as above in section 4.1.

4.2.2 *MS4-discharged trash from areas NOT drained by canals*

The installation of end-of-pipe catchment devices may not be feasible for outfalls in areas that are not drained by canals due to high costs and logistical issues (the majority outfalls are submerged). Therefore, the baseline value for MS4-Discharged Trash from areas not drained by canals will be estimated using a similar method to that used in section 3.2.2. The baseline value for MS4-Discharged Trash from areas not drained by canals is equal to 10 % of trash removed from "Baseline-Booms" (section 4.2.1).

4.3 BMP-Collected Trash Load Baseline

Over the duration of this three-year study, trash removed via BMPs and activities such as MS4 and canal cleaning, FOD Walks, street sweeping, etc., will be quantified and categorized as shown in section 4.1. Only trash removed by BMPs within areas categorized as trash producing areas will be used in trash reduction calculations. To account for annual variability, the three year average of these values will represent the baseline value for the BMP-Collected Trash Load.

4.4 Total Generated Trash Load Baseline

During this three-year baseline study, both MS4-discharged and BMP-Collected trash loads will be calculated annually. The annual Generated Trash Load is the sum of both of these values (Eq. 1). To account for annual variability, the average of these values will represent the Baseline value for Total Generated Trash Load.

5.0 TRASH LOAD REDUCTION CALCULATION

The long term goal of this trash reduction plan is to increase the amount of BMP-Collected trash, through the implementation and enhancement of various control measures, until the amount of BMP-Collected trash in a given year is equal or greater than the baseline value of Total Generated Trash. Similarly, the goal is also to increase the amount of BMP-collected trash to a point where the increase in trash collected (above the baseline BMP-collected trash value) is equal to or greater than the baseline value for MS4-discharged trash.

Future trash load reductions will be calculated by comparing the BMP-collected trash in a given year to the baseline values as calculated in section 4. The following equation shows the calculation for the trash load reduction using the mass of trash (volume can also be used).

EQUATION 2. CALCULATION OF PERCENT LOAD REDUCTION

$$\%\ Reduction = \frac{(Baseline\ Generated\ Load - Current\ BMP\ Collected\ Load)}{Baseline\ MS4\ Discharged\ Load} \times 100$$

The following is an example of reduction calculations for year X; note the slight variability in values during the baseline study (years 1-3). The MS4-Discharged Load is not estimated after the baseline study (year 1-3) because baseline booms are considered permanent BMPs after year 3.

TABLE 3. TRASH REDUCTION CALCULATION EXAMPLE

Year	BMP-Collected Load (lbs)	MS4-discharged Load (lbs)	Generated Load (lbs)
Baseline 1	= 76	19	95
Baseline 2	= 80	20	100
Baseline 3	= 84	21	105
Average Baseline	***= 80***	***20***	***100***
Year X	= 88	N/A	88

Year X Reduction = (100 - 88) / 20 = 60 % Trash Reduction from Baseline

6.0 PLAN IMPLEMENTATION SCHEDULE

This section describes the implementation schedule, which consists of a Short-Term Plan and a Long-Term Plan to meet the trash reduction targets set at 50% by 2023 and 100% by 2036, respectively.

6.1 TRASH BASELINE LOAD

DOTA plans to install full capture trash devices wherever feasible as described in section 4 and initiate the three year baseline study as soon as possible. The exact start date will be determined by the date agree upon in new/revised contracts for the cleaning and sorting of debris from canals and MS4 structures.

6.2 SHORT-TERM PLAN

DOTA plans to adopt a variety of feasible control measures to efficiently meet the 50% reduction from the MS4-Discharged load by 2023. DOTA will benefit from implementing new control measures and enhancing those that are currently in place.

6.2.1 *Enhancement of Existing Control Measures*

DOTA intends to enhance the following control measures that have already been implemented.

Public Education: DOTA continuously holds tenant and airport employee training events and distributes educational handouts on storm water issues throughout the year. PSAs and educational signs have been created by DOTA which reaches a broader audience to educate and promote storm water awareness. In addition to continuing existing education and outreach activities, DOTA plans to increase the amount of educational signs displayed around the airport and educational materials sent to tenants and airport employees.

Permanent BMPs: There are currently 145 Permanent BMPs installed which function as trash capture devices. DOTA will continue to monitor, maintain, and evaluate the trash removal efficiency of the current Permanent BMPs to estimate potential future trash load reductions.

Cleaning Contracts: DOTA ensures that storm drainage structures such as catch basins, inlets, curb gutters, open ditches, canals, trenches, and evaporation ponds are inspected every six months to identify any maintenance or cleaning requirements. Cleaning of these structures is done on an as needed basis following inspection.

The full capture trash booms installed in canals as part of the baseline study will remain in place after the baseline study period to act as permanent BMPs. This alone will provide a

large reduction in the amount of trash that escapes the MS4. Because canals drain roughly 70 % of airport areas that generate trash (22 % of total HNL area), these trash booms are expected to play a large role in meeting the short goal of 50 % trash reduction.

Drainage structures in the movement area are classified as a low priority and have historically not required maintenance cleaning because the only activities conducted in this area are aircraft taxiing, take-off, and landing, which generally do not create debris.

DOTA will increase inspection and cleaning (if needed) of Ahua Pond. Trash resulting from potential cleaning activities along the shoreline of Keehi lagoon or the Pacific Ocean is not considered to have originated from HNL and thus will not be used in trash reduction calculations.

Sweeping: Street and runway/taxiway sweeping is performed to remove litter, debris, and other pollutants from surface vehicle and aircraft travel ways before they are discharged to the MS4. DOTA maintenance Section (AIR-OMF) conducts sweeping operations at runways, taxiways, major streets, and streets in industrial and commercial areas once per week or more frequently if a complaint is received. Sweeping is also initiated when the FAA requests cleaning the area due to FOD concerns, AIR-EE inspectors require that an area be swept where there is a potential threat of discharge to State waters, and/or if operators fill two sweeper trucks and there is additional debris remaining on the ground. DOTA will increase sweeping frequency in selected basin areas that are considered to be high priority or contain structures identified as hot spots based on previous data.

Recycling Programs: HNL's biannual Recycle Drive allows tenants to bring their infrequent waste items such as bulky items, papers, magazines, binders, general office equipment, scrap metal, carpet, appliances, and e-waste in order to properly recycle, reuse, or dispose items in order to prevent illegal dumping or improper disposal of these items. Sustainable HNL targets an increased recycling rate to 4% by 2020. This includes scrap metals, pallets, hazardous waste, office paper, newspaper, cardboard, green waste, and e-waste.

Clean-Up Events: HNL's FOD Walk program is an annual volunteer event that brings together the airport community while addressing the issues of Foreign Object Debris / Foreign Object Damage (FOD) that threatens the safety of aircraft, airport vehicles, equipment, and passengers at HNL. HNLs FOD Walk program will be expanded to multiple events per year that will focus on different areas and known hot spots.

Employee Responsibility: All airport employees must complete AOA training which promotes environmental stewardship and responsibility of all employees to pick up trash at HNL. Baseyard and street sweeper personnel are trained to be the "eyes and ears" for Illicit Discharge Detection and Elimination (IDDE).

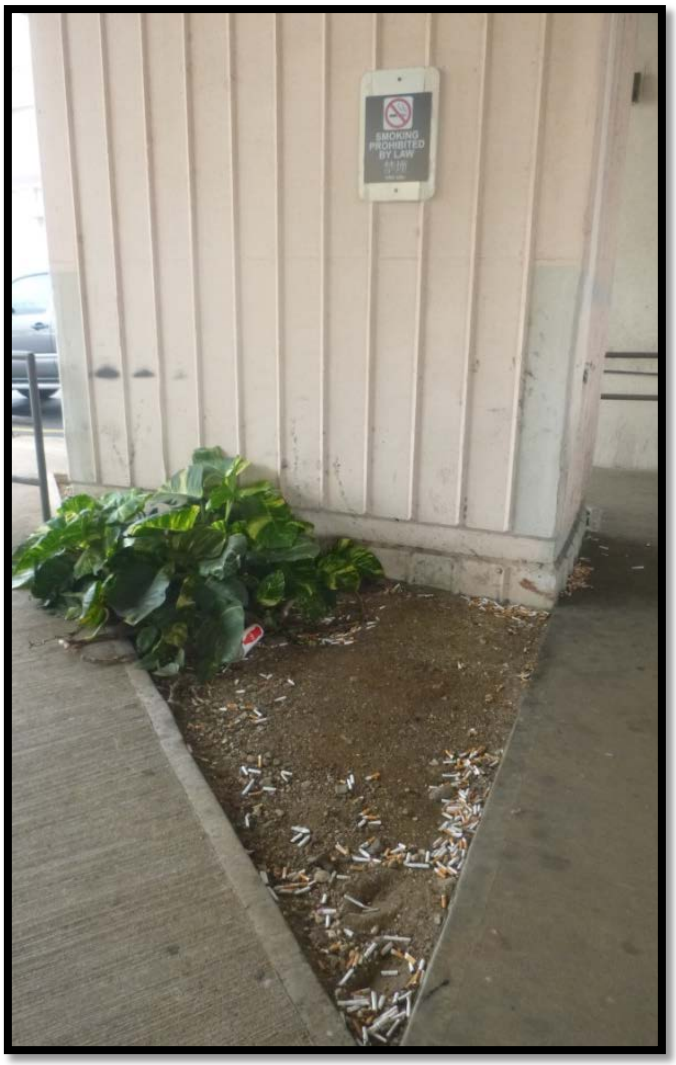
Tenant and Construction Inspections: DOTA inspectors generally consist of AIR-EE, Environmental Health Specialists (EHS), and their consultants. They are required to receive annual training for Industrial and Commercial Tenant Site Inspections and Construction Site

Inspections. These inspections have been put in place to verify site conditions and ensure BMPs are properly maintained and effective in containing potential pollutants.

6.2.2 *Future Control Measures*

Future control measures are needed for DOTA to meet trash load reduction goals. Based on the findings of the baseline study, DOTA will prioritize management and implementation of suitable BMPS to address trash generated by specific activities in specific areas. The baseline characterization of trash will allow DOTA to identify the types of trash associated with specific areas of HNL. Several BMPs are available to meet the stated reduction targets:

Cigarette Butt Program: The goal of this future program is to increase educational signs and handouts in areas where smokers congregate to eliminate improper disposal. Increasing cigarette butt receptacles around the airport will further enhance the program goals.



Waste Receptacles: This future control measure will increase amount and visibility of proper waste and recycling receptacles throughout HNL. Improvements in trash bin and container management will also help to prevent dumping around bins/containers and overflow related issues.

Permanent BMP Retrofits: Baseline trash booms installed for the baseline study will remain in place as permanent BMPs. If possible, other full and partial capture devices will be installed at specific locations. In addition, DOTA has produced a Retrofit Action Plan (HNL SWMPP) that includes a tentative schedule for each Retrofit BMP Project as shown in Table 4.

TABLE 4. RETROFIT SCHEDULE

RETROFIT BMP PROJECT DESCRIPTION	BMP TYPE	YEAR 1 2015	YEAR 2 2016	YEAR 3 2017	YEAR 4 2018	YEAR 5 2019
New Employee Parking Lot	Pervious Concrete	X				
South Ramp Fuel Rack	OWS	X				
New Hawaiian Hangar	CDS Units		X			
Widening of Taxiways G&L, P1	CDS Units		X			
Diamond Head Site Improvement	CDS Units			X		
Diamond Head Commuter Terminal	CDS Units			X		
CONRAC Phase 2B (Rental Car Facility)	Detention Basin					X
New Mauka Concourse	Detention Basin					X
Various Storm Drains (Table 5)	Filtration Products				X**	
D10-1 Access "A" Canal	Canal Stabilization				X	
D14-1 Kaloaloa Canal	Canal Stabilization	To Be Determined				
Triturator	Redesign for Containment	To Be Determined				
A9-3 Lagoon Drive Parking Lot	Permeable Pavers	To Be Determined				

* Based on construction start dates and may be subject to change. Timeframes are based on calendar years.
** Storm Drain retrofits may also be included as an addition to other projects and will be subject to their construction schedule. At least one of the storm drain retrofits will be completed by this date.

6.3 LONG-TERM PLAN

In 2024, an assessment of data collected during implementation of the Short-Term Plan will be completed in order to verify the efficiency of trash control measures. This will allow an additional 16 years after completion of the Short-Term Plan to create new programs and alter existing ones. Throughout the duration of the Long-Term Plan, DOTA plans to enhance all successful control measures to meet the 100% trash load reduction from the baseline MS4-Discharged Trash Load by 2036.

The Long Term Plan may include these control measures:

- Install PBMPs and retrofits
- Install additional full catchment devices in canals and outfalls where feasible
- Stringent rules plastic bags and plastic bottles
- An ordinance to ban Styrofoam within HNL
- Implementation of monetary fine for tenants or individuals caught littering

6.3.1 *Single-use Plastic Bag and Plastic Bottle Ordinances*

Single-use plastic bags and plastic bottles have harmful effects on the environment and these items can compromise the functionality of the MS4. DOT-A will benefit from a municipal ordinance designed to reduce the environmental impacts of single-use plastic bags within HNL boundaries.

Prohibiting distribution of single-use carryout plastic bags at all restaurants/food service institutions and retail establishments will ultimately reduce the amount of waste generated at the airport and the risk of trash waste entering the MS4. Increased water bottle refill stations and a plastic bottle ban within the AOA will promote the use of re-useable bottles and reduce the risk of plastic water bottles entering the MS4.

6.3.2 *Polystyrene Foam Food Service Ware Ordinances*

Polystyrene foam is used as food ware in the food service industry and has the potential to impact human health, wildlife, and the aquatic environment (USEPA 2002). Prohibiting restaurants and food vendors from distributing polystyrene foam containers and replacing polystyrene with less hazardous, compostable or readily recyclable products will protect public health and safety at HNL, as well as the surrounding environment and waterways.

6.3.3 *Anti-Littering Enforcement*

Successful anti-littering and illegal dumping enforcement activities include laws and ordinances which prohibit littering or dumping. Laws are enforced by various municipal agency staff who issue citations in response to citizen complaints or other enforcement methods such as surveillance cameras or signs/barriers at illegal dumping "hot spots". DOT-A will support local government actions that reduce illegal littering through enforcement, surveillance, and increasing visibility and distribution of proper waste and recycling receptacles.

7.0 TRASH LOAD REDUCTION MONITORING AND REPORTING

All data associated with trash collection, quantification, and characterization will be input to the online database system Enviance. Enviance will be configured to produce reports that automatically calculate annual trash reductions in addition to detecting "hot spot" locations for particular types of trash.

7.1 ANNUAL REPORTING

HNL's annual report (due August 31st) will include a summary of its trash reduction actions (control measures and BMPs) including types of actions and levels of implementation. This will include total trash loads and dominant types of trash removed by specific trash reduction actions.

8.0 REFERENCES

- State of Hawaii, Department of Transportation, Airports Division. April 14, 2014. *National Pollutant Discharge Elimination System, Permit Number HI S000005.*

- State of Hawaii, Department of Transportation, Airports Division. June 2015. *Honolulu International Airport, Small Municipal Separate Storm Sewer System, Storm Water Management Program Plan.*

- State of Hawaii, Department of Transportation, Airports Division. 2016. *sustainableDOTA, sustainableHNL Sustainable Management Plan, A flight plan for the DOT-A flagship airport.*

Appendix A

HNL Trash Generation Map

LEGEND

- Areas drained by canals that generate trash
- Areas not drained by canals that generate trash
- Areas that do not generate trash
- MS4 Drain Lines
- Canals
- D10 Basin Number

D1 D2 D3 D4 D5 D6 D7 D8 D9 D11 D12 D13 D14 D15 D16 D17

B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B15 B16 B17

A1 A2 A3 A4 A5 A6 A7 A8 A9 A10

C1 C2

E

1500 0 1500 3000

GRAPHIC SCALE IN FEET

North

HONOLULU INTERNATIONAL AIRPORT

Date: April 2017

DEPARTMENT OF TRANSPORTATION • STATE OF HAWAI'I •

Airports Division

HNL Trash Generation Map

Appendix A