

SWMP SECTION H

Annual Monitoring Plan for Fiscal Year 2019

July 1, 2018 – June 30, 2019



Daniel K. Inouye International Airport (HNL)
Small Municipal Separate Storm Sewer System
HI S000005



Prepared For:

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Version 5

RECORD OF REVISION

Revision No.	Revision Date	Description	Sections Affected
1	May 2007	Version 1.0 – Initial Release	All
2	June 2009	Version 2.0 – Clarification on monitoring locations, parameters, and frequency	2.0, App A
3	June 2011	Version 3.0 – NPDES permit extension	1.2, 2.1, 2.2, 2.3
4	April 2014	Version 4.0 - Revised to comply with requirements of the Annual Monitoring Plan per the revised HIS000005	All
5	May 2015	Version 4.1 – Updated for 2015	3.8, 4.4
6	April 2016	Version 4.2 – Updated for 2016	2.0, 4.4
7	April 2017	Version 4.3 – Updated for 2017	4.4
8	April 2018	Version 5 – Updated for Fiscal Year 2019 to include automatic sampler procedures and updates to effluent limitations	All

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.

Jade T. Butay
Director of Transportation
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Date

Program Implementation Responsible Party:

HNL Environmental Health Specialist

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LIST OF ACRONYMS

AOA	Air Operations Area
BMPs	Best Management Practices
CFR	Code of Federal Regulations
COC	Chain of Custody
DMR	Discharge Monitoring Report
DOH-CWB	State of Hawaii, Department of Health, Clean Water Branch
DOTA	State of Hawaii, Department of Transportation, Airports Division
HAR	Hawaii Administrative Rules
HNL	Daniel K. Inouye International Airport
EPA	U.S. Environmental Protection Agency
GPM	gallons per minute
I&M	Implementation and Monitoring
IDDE	Illicit Discharge Detection and Elimination
MDL	Method Detection Limit
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
OWS	Oil Water Separator
PPE	Personal Protective Equipment
QA/QC	Quality Assurance/Quality Control
SWMP	Stormwater Management Program
SWPCP	Stormwater Pollution Control Plan
TMDL	Total Maximum Daily Load
WLA	Waste Load Allocation

1.0 INTRODUCTION

1.1 Background

The State of Hawaii, Department of Transportation, Airports Division (DOTA) owns and operates a Small Municipal Separate Storm Sewer System (MS4) at Daniel K. Inouye International Airport, previously known as Honolulu International Airport or HNL. The State of Hawaii, Department of Health, Clean Water Branch (DOH-CWB) issued to DOTA a National Pollutant Discharge Elimination System (NPDES) Individual Permit, No. HI S000005 for HNL (hereinafter HNL Small MS4 Permit), which authorizes DOTA to discharge stormwater runoff and certain non-stormwater discharges from the Small MS4 as well as stormwater runoff from DOTA municipal industrial facilities (i.e., Baseyards) into State Waters. DOTA conducts stormwater monitoring as part of the HNL Small MS4 Stormwater Management Program (SWMP) Plan in order to satisfy HNL Small MS4 Permit Part F. Monitoring Requirements.

This Annual Monitoring Plan is required by the HNL Small MS4 Permit and the stormwater monitoring will serve to assess compliance with the terms of Part F of that permit. The focus of this program is to monitor stormwater runoff from the HNL Small MS4, including stormwater discharges from industrial facilities which discharge to state waters.

1.2 Objectives

The goal of this Annual Monitoring Plan is to document proposed objectives and provide a description of DOTA's monitoring activities to be performed within the 2019 fiscal year (July 1, 2018 through June 30, 2019). The purpose of the monitoring program is to allow DOTA and DOH to assess the effectiveness of existing stormwater management procedures and to identify potential illicit discharges to the HNL Small MS4.

As per HNL Small MS4 Permit Part F.1.a. - Part F.1.a.(7), the DOTA Monitoring Program includes the following objectives. The Annual Monitoring Report will include evaluation of these objectives (see Section 4.2.2).

1.2.1 Objective #1: Compliance

Monitoring will be conducted to assess compliance with the HNL Small MS4 Permit. Additionally, compliance may also be evaluated in accordance with Total Maximum Daily Load (TMDL) Implementation and Monitoring (I&M) Plans and to demonstrate consistency with Waste Load Allocations (WLAs). However, TMDLs and WLAs have not been assigned to the receiving waters at HNL at this time.

1.2.2 Objective #2: Effectiveness

Monitoring will be conducted to measure the effectiveness of the HNL SWMP in regards to the programs that may be implemented in the monitoring area.

1.2.3 Objective #3: Overall Health

Monitoring will be conducted to assess the overall health of the runoff based on chemical, physical, and biological impacts to receiving waters. As the data is compiled from sampling

events, long-term trends will be evaluated so that the HNL SWMP can be targeted to specific areas of concern.

1.2.4 Objective #4: Characterization

Monitoring will be conducted to characterize stormwater discharges leaving the HNL Small MS4 and DOTA municipal industrial facilities.

1.2.5 Objective #5: Pollutant Source Identification

Monitoring will be conducted to identify specific pollutant sources. Once identified, the pollutant sources can be more readily targeted with operational BMPs (Best Management Practices) or Permanent BMPs (low impact development, source control, or treatment devices).

1.2.6 Objective #6: Illicit Discharge Detection and Elimination (IDDE)

Monitoring will be conducted to assist the IDDE Program, which is designed to prevent illegal discharges and/or connections to the HNL Small MS4.

1.2.7 Objective #7: Assess Receiving Water

Monitoring will be conducted to assess how runoff from the HNL Small MS4 and DOTA municipal industrial facilities may be contributing to water quality issues in the receiving waters (Keehi Lagoon and the Pacific Ocean).

1.3 Management Measures

Per HNL Small MS4 Permit Part F.1.b.(3), DOTA has analyzed its management measures for effectiveness at reduction of pollutants and flow. Education and training programs are one important facet. Education and training is provided in a formal classroom setting, via handouts, and during tenant and construction inspections. At the Maintenance Baseyard, a spill drill was conducted in conjunction with spill response training in 2017. Training also included instruction on BMPs specific to the Maintenance Baseyard, which are summarized in the Maintenance Baseyard Factsheet (a handout DOTA made specifically for the facility). DOTA has found that once maintenance personnel are aware of their stormwater impacts and the BMPs that they can implement to prevent pollution, they begin to incorporate stormwater concerns into their decision-making process.

Managing storm drain inlet cleaning and street sweeping is also vital to minimize pollution to DOTA's stormwater. Storm drain inlet inspection and maintenance, including canal and shoreline cleaning, is conducted as necessary by a service contractor. Street sweeping is conducted twice a month. Storm drain inlet cleaning and street sweeping helps remove debris and sediment before they can impact receiving waters.

Permanent BMPs reduce pollutants and provide water quality improvements. There are three drains at the Maintenance Baseyard near the fuel pump that have Safe Drains® installed; these inlet systems can be closed quickly in the event of a spill and are effective at minimizing oil and grease in stormwater. DOTA installed five drain inlet filter units with multi-layer filter cartridges at the Maintenance Baseyard in November 2017. They were installed as part of HNL's Retrofit Action Plan. The filter media in these units is designed to treat dissolved and particulate metals.

These drains also have a fitted boom to further aid in absorbing and filtering metals. Future sampling will evaluate the effectiveness of these inlet filter units.

Further evaluation of HNL SWMP effectiveness may be found in the HNL Annual Monitoring Report and the HNL Annual Compliance Report.

1.4 Updates from Previous Annual Monitoring Plan

Updates to this Annual Monitoring Plan (Version 5, dated April 2018) from the last one (Version 4.3, dated April 2017) are described below.

An automatic sampler was installed at HNL 003 (the monitoring location at the Maintenance Baseyard; refer to Section 2.2 for more information). Many of the procedures from the Version 4.3 Annual Monitoring Plan were specific to manual sampling, so this Annual Monitoring Plan was updated to include automatic sampling.

Tidal influence was observed at the outfall 4576 and sampling location HNL 003. Figures 1 and 2 below of Kaloaloe Canal show high tide watermarks above the invert of outfall 4576. Additionally, standing brackish water was observed at the bottom of the oil water separator (OWS) 9363 during low tide (Figure 3). When a rain event occurs, there is potential for stormwater to comingle with the standing brackish water, resulting in an unrepresentative stormwater sample.



FIGURE 1: Outfall 4576 on June 1, 2015. Photo taken at 9:15 a.m. during low tide. The high tide water marks are visible above the outfall.



FIGURE 2: Outfall 4576 on March 23, 2018. Photo taken at 12:37 p.m. during low tide. The high tide water marks are visible above the outfall.



FIGURE 3: Outfall 4576 Sample Location. Photo taken on March 23, 2018 at 12:33 p.m. during low tide. Standing water is visible.



FIGURE 4: Manhole 5501 on March 26, 2018. Photo taken at 11:40 a.m. during high tide. There is no standing water.

Observations of tidal influence at outfall 4576 prompted DOTA to reevaluate effluent limitations. HNL 003 discharges into Kaloaloe Canal, a Class 2 Inland Water, which connects to Keehi Lagoon, a Class A Marine Water. Figure 5 shows that HNL 003 is approximately 0.5 miles from Keehi Lagoon. The observed tidal influence at outfall 4576, along with the close proximity to a marine water, suggests that Kaloaloe Canal is brackish.

Previously, DOTA had been using the inland water criteria for fresh water streams (Hawaii Administrative Rules (HAR) Chapter 11-54-5.2(b)) for effluent limitations. By definition, inland waters can be fresh, brackish, or saline. Inland fresh waters are classified as flowing waters (streams, spring, and ditches/flumes), standing waters, or wetlands. Inland brackish or saline waters are classified as standing waters, wetland, or estuaries. Since Kaloaloe Canal is brackish, it could be classified as an estuary. This is also consistent with the language used by the Department of Land and Natural Resources language that the North Peripheral Ditch aka Kaloaloe Canal is brackish and inter-tidal (Final Environmental Impact Statement for Honolulu International Airport, 1991). DOTA revised their effluent limitations to use the inland water criteria for brackish/saline estuaries (HAR Chapter 11-54-5.2(d)(i)) for HNL 003. Also, for the parameters listed, DOTA was using the geometric mean from HAR Chapter 11-54, but per HAR Chapter 11-55 Appendix B, Table 34.1, Note 3, the ten per cent limit will be applied.

Additionally, effluent limitations for metals for HNL 003 can either be applied for discharging to freshwater or discharging to saltwater (HNL Small MS4 Permit Part F.2, notes 10 and 11). Since HNL 003 is discharging to salt water, Kaloaloe Canal and Keehi Lagoon; DOTA revised the effluent limitations that apply to discharge into saltwater for metals.

Previously, DOTA had sampled for salinity and/or conductivity at HNL 003. Since the HNL Small MS4 Permit requires monitoring salinity, salinity will be the parameter analyzed henceforth and not conductivity.

Table 3 Monitoring Parameters reflects the revisions for both the estuary effluent limitations and the metal saltwater effluent limitations.

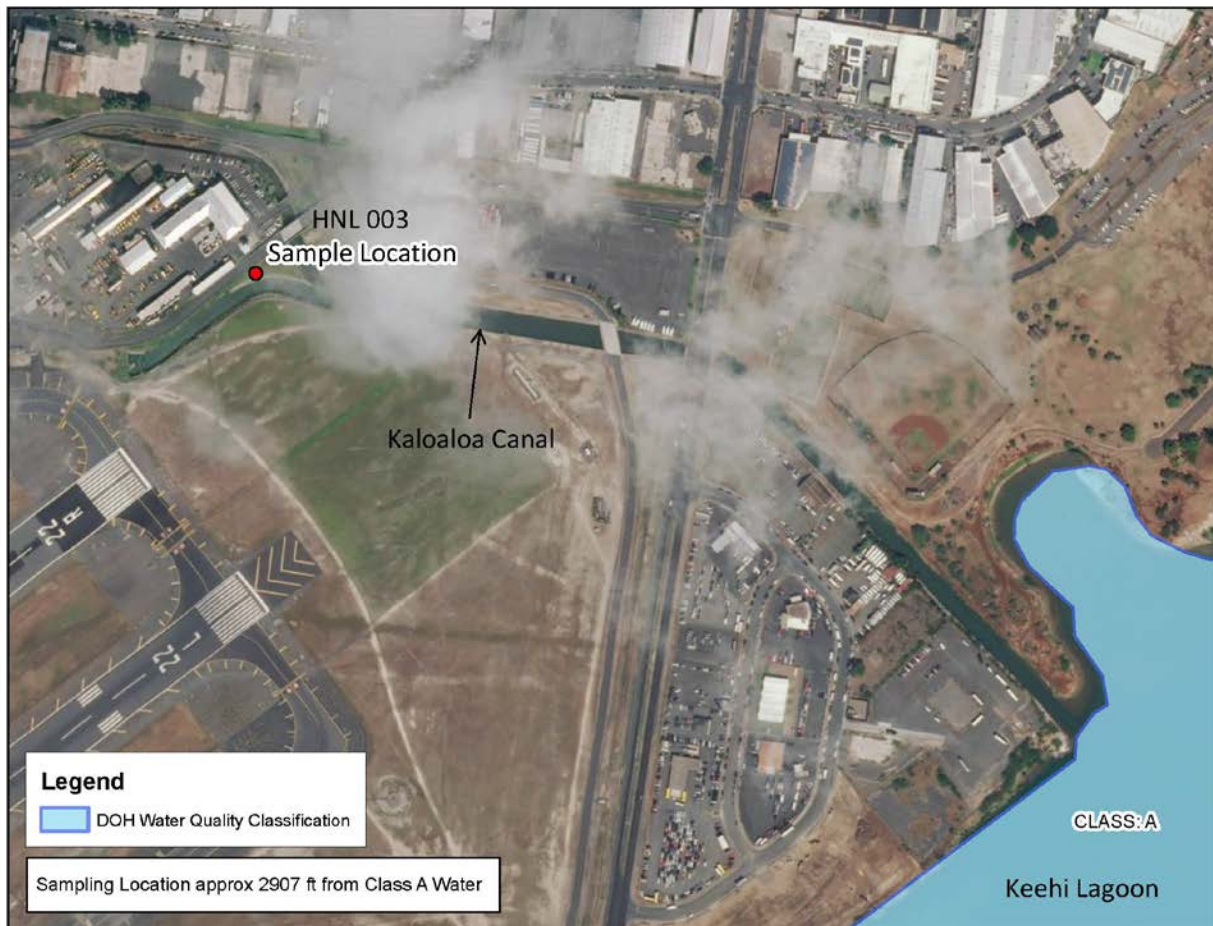


FIGURE 5: HNL 003 SAMPLE LOCATION PROXIMITY TO CLASS A MARINE WATER.

Lastly, DOTA revised the monitoring parameters for HNL 002 (the movement area monitoring location) to be consistent with HNL 003 (Table 3 provides the monitoring parameters for both sample locations). This revision will provide a more comprehensive comparison of results between the monitoring locations and could provide DOTA a comprehensive insight into how different activities affect the stormwater runoff within the HNL.

2.0 MONITORING PROGRAM

The stormwater monitoring program at HNL includes two sample locations that capture different types of drainage areas. The movement area monitoring location (HNL 002) provides an analysis of the common discharges that occur from the HNL Small MS4 located at terminal, ramp, and taxiways within HNL. The industrial activities monitoring location (HNL 003) collects storm water samples from a drainage area within the Maintenance Baseyard.

2.1 Movement Area Monitoring Location

Stormwater runoff from the movement area monitoring location is monitored at outfall 6456 to capture a representative sample of impacts from common airport activities at the terminal, ramp, and taxiways.

This monitoring location was decommissioned due to construction for the redesign and reconstruction of Taxiways G and L. Currently, construction activities prevent the collection of a sample at this location. Once construction activities conclude, an automatic sampler will be installed and sampling will continue at this location.

- **HNL 002** (Outfall 6456, Attachment A) shall be monitored annually and reported to evaluate runoff from the HNL Small MS4. The sampling point captures runoff from a large portion of storm drains at HNL, including the Central and Ewa concourses of the Overseas Terminal, ramp areas, and several taxiways. Stormwater discharge flows to the Manuwai Canal, which is considered a Class 2 Inland Water with salt water intrusion from Ahua Pond/the Pacific Ocean. Effluent limitations for brackish/saline estuary inland waters (HAR Chapter 11-54-5.2(d)) and salt water (HNL Small MS4 Permit, Part F.2, note 11) will be applied.

TABLE 2: MOVEMENT AREA MONITORING LOCATION – HNL 002

STORM DRAIN NUMBER	GPS COORDINATES	DESCRIPTION OF RUNOFF	POTENTIAL POLLUTANTS
Outfall 6456	21° 19' 40.6" N 157° 55' 46" W	Aircraft maintenance and fueling – Central and Ewa Concourse of Overseas Terminal	Jet fuel/diesel/gasoline, lubricants/oils, debris

***Note:** Taxiways G and L are being redesigned and this sampling location may be shifted to accommodate. However, it will continue to capture the same discharge.

2.2 Industrial Activities Monitoring Location

Stormwater runoff from the Maintenance Baseyard located at 2919 Aolele Street, Honolulu, Hawaii is monitored to capture a representative sample of impacts from industrial activities. An automatic sampler was installed at this sample location in October 2017.

The sample location for HNL 003 will be adjusted to capture the sample from manhole 5501 instead of outfall 4576. This change was made due to observation of tidal influence at outfall 4576 and OWS 9363; Figures 1 and 2 of Kaloaloa Canal show high tide watermarks above the invert of the outfall. Furthermore, standing brackish water was observed at the bottom of the sampling location OWS 9363 during low tide (Figure 3). When a rain event occurs, there is

potential for stormwater to comeingle with the standing brackish water, resulting in an unrepresentative stormwater sample. Manhole 5501 is upstream of outfall 4576 and captures the same drainage area (i.e. there are no other storm drain connections in between these two locations). Manhole 5501 is not tidally influenced due to the invert elevation of this manhole; Figure 4 shows no standing water within manhole 5501 during high tide. Therefore, DOTA is adjusting the HNL 003 monitoring location to manhole 5501 in order to provide more accurate representation of stormwater runoff from the Maintenance Baseyard. This adjustment does not affect the stormwater composition or the drainage area of the sample location HNL 003.

- **HNL 003** (Manhole 5501, Attachment A) shall be monitored annually and reported in compliance with HAR Chapter 11-55, Appendix B. The runoff from multiple drain inlets located in the HNL DOTA Maintenance Baseyard is collected and monitored from this point. Stormwater discharge flows to the Kaloaloa Canal, which is considered a Class 2 Inland Water with salt water intrusion from Keehi Lagoon, a Class A Marine Water. Effluent limitations for brackish/saline estuary inland waters (HAR Chapter 11-54-5.2(d)) and salt water (HNL Small MS4 Permit, Part F.2, note 11) will be applied.

An automatic sampler, the Avalanche Portable Refrigerated Sampler with the 2105/2105Ci/Gi Interface Module, was installed at this location in October 2017.

TABLE 2: INDUSTRIAL ACTIVITIES MONITORING LOCATION – HNL 003

STORM DRAIN NUMBER	GPS COORDINATES	DESCRIPTION OF RUNOFF	POTENTIAL POLLUTANTS
Manhole 5501	21° 19' 53.3" N 157° 54' 21.5" W	HNL Baseyard vehicle maintenance and fueling, storage areas for maintenance materials	Diesel / gasoline, lubricants / oils, VOCs, heavy metals, pesticides, surfactants, debris, and hazardous waste

2.3 Monitoring Parameters

The following parameters (Table 3) will be monitored annually from a representative storm event at HNL 002 and HNL 003. Monitoring test methods shall be conducted in accordance with Code of Federal Regulations (CFR), Title 40, Part 122 and HAR Chapters 11-54 and 11-55. In particular, HNL 003, since it is an industrial monitoring location, needs to adhere to HAR Chapter 11-55, Appendix B.

Please review the Section 1.4 for the description of the revisions to the effluent limitations in accordance with the HNL Small MS4 Permit, HAR Chapter 11-54 and HAR Chapter 11-55 Appendix B.

TABLE 3: MONITORING PARAMETERS

PARAMETER (UNIT)	SAMPLE TYPE ²	EFFLUENT LIMITATION ¹
Flow (gpm)	Calculate/ Estimate	Report ⁴
Biochemical Oxygen Demand (5-Day) (mg/l)	Composite ³	Report ⁴
Chemical Oxygen Demand (mg/l)	Composite ³	Report ⁴
Total Suspended Solids (mg/l)	Composite ³	Report ⁴
Total Phosphorus (mg/l)	Composite ³	0.05 mg/l
Total Nitrogen (mg/l) ⁵	Composite ³	0.35 mg/l
Nitrate + Nitrite (mg/l)	Composite ³	0.025 mg/l
Oil and Grease (mg/l) ⁶	Grab	15 mg/l
pH (unit)	Grab	5.5-8.0
Ammonia Nitrogen (mg/l)	Composite ³	0.01 mg/L
Turbidity (0.1 NTU)	Grab	3.00 NTU
Dissolved Oxygen (0.1 mg/l)	Grab	Report ⁴
Oxygen Saturation (%)	Grab	≥ 80%
Temperature (0.1 °C)	Grab	±1 °C from ambient
Salinity (0.1 ppt)	Grab	Report ⁴
Aluminum (µg/l) ⁷	Composite ³	Report ⁴
Cadmium (µg/l) ⁷	Composite ³	43 µg/l

PARAMETER (UNIT)	SAMPLE TYPE ²	EFFLUENT LIMITATION ¹
Chromium (VI) (µg/l) ⁷	Composite ³	1,100 µg/l
Copper (µg/l) ⁷	Composite ³	2.9 µg/l
Lead (µg/l) ⁷	Composite ³	140 µg/l
Nickel (µg/l) ⁷	Composite ³	75 µg/l
Silver (µg/l) ⁷	Composite ³	2.3 µg/l
Zinc (µg/l) ⁷	Composite ³	95 µg/l
Benzene (µg/l)	Composite ³	1,700 µg/l
Additional Toxic Pollutants ⁸	Grab or Composite ^{3,9}	Report ⁴

NOTES:

gpm = gallons per minute

mg/l = milligrams per liter = 1000 micrograms per liter (µg/l)

NTU = Nephelometric Turbidity Units

¹ Pollutant concentration levels shall not exceed the stormwater discharge limits or be outside the ranges indicated in the table. Actual or measured levels which exceed those stormwater discharge limits or are outside those ranges shall be reported to the DOH-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 stormwater 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.

⁴Effluent 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.**

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

⁶Oil and Grease shall be measured using U.S. Environmental Protection Agency (EPA) Method 1664, Revision A.

⁷Test methods shall include the total recoverable portion of all metals.

⁸Toxic pollutants, as delineated in 40 CFR Part 122 or Appendix D or HAR, Chapter 11-54, Section 11-54-4, only need to be tested for if the Stormwater Pollution Control Plan (SWPCP) identifies them as potential pollutants requiring monitoring. The total recoverable portion of all metals shall be monitored. If there is an exceedance of the effluent limit, BMPs aimed to treat the toxic pollutant shall be added to the SWPCP.

⁹Grab samples shall be collected for cyanide and the volatile fraction of toxic organic compounds. Composite samples shall be collected for all other parameters, as identified in 40 CFR Part 122 or Appendix D or HAR, Chapter 11-54, Section 11-54-4.

2.4 Sampling Frequency

Stormwater sampling shall be conducted annually for HNL 002 and HNL 003 for the parameters identified in Table 3, including any additional parameters that HNL suspects may be present in the stormwater. For the Fiscal Year 2019, only HNL 003 will be monitored unless construction at HNL 002 is completed and becomes active.

Since HNL 003 is associated with industrial activities, it shall be sampled in accordance with HAR, Chapter 11-55, Appendix B. If there is an exceedance for HNL 003, sampling will be conducted for the next representative storm event in accordance with HAR, Chapter 11-55, Appendix B, until all parameters are met, unless informed otherwise by the DOH Director.

3.0 WATER QUALITY MONITORING GUIDE

This section describes the procedures that will be followed when collecting stormwater samples. For more information on the automatic sampler operation at HNL 003, refer to the guides provided on the manufactures website (<http://www.teledyneisco.com>). If the automatic sampler has a malfunction, follow the manual sampling procedures from the April 2017 Annual Monitoring Plan, Version 4.3.

3.1 Sample Collection Preparation

The automatic sampler comes equipped with automatic sampler containers. Sampling personnel will coordinate with the laboratory whether they will accept the automatic sampler containers directly, or if they will provide sample bottles (which would entail pouring the sample water from the automatic sampler containers into the sample bottles). Enough sample volume shall be collected for the parameters in Table 3, excluding the parameters that will be measured in the field by the probe.

The automatic sampler is configured to send text message alerts to designated personnel at the start of a representative storm and sample collection. The following equipment and materials are suggested to be readily on hand:

- Sample cooler with ice.
- Laboratory provided sample bottles (unless the laboratory will receive the automatic sampler containers directly).
- Field notebook (a rain resistant notebook is suggested) and/or Stormwater Sampling Logs (Appendix C), sample labels, chain of custody (COC) forms, and a permanent marking pen.
- Disposable nitrile gloves. Note: these should be worn when handling samples and containers and changed between sampling locations.
- Personal Protective Equipment (PPE) such as Air Operations Area (AOA) badge, safety vest, safety glasses, steel toed boots, hard hat, etc., as well as a car with an AOA sticker and driver with a ramp driving permit.
- Paper towels.
- A second set of automatic sampler containers (if available, to replace the existing ones).

3.2 Automatic Sampler Collection

The automatic sampler is configured to only sample during a representative storm event, i.e. rainfall that accumulates more than 0.1 inches of rain and occurs at least 72 hours after the previous measurable rainfall. Rainfall will be measured and logged by the integrated rain gauge, including start and stop times for storm events. An AV sensor will record the flow rate. A field probe will record the grab sample parameters (such as pH, temperature, salinity, and dissolved oxygen) and the automatic sampler will collect the remaining parameters within the first 15-minutes of the storm event. Thereafter, the automatic sampler will continue collecting the composite samples at 15-minute intervals up to one hour of discharge duration or sooner if the discharge stops. The parameters will be analyzed as a grab sample if the discharge ends after just

one sample has been collected. If two or more samples were collected, the laboratory will combine the composite samples appropriately.

All sample bottles should be labeled, an example is provided below.

Date: 1/1/15	Time: 0900	Collected By: J. Smith
Sample Name: Composite Part 1		Sampling Site: HNL 002
Tests Required: See COC		
Sample Type: <input type="checkbox"/> Grab <input checked="" type="checkbox"/> Composite <input type="checkbox"/> Other _____		

FIGURE 6. EXAMPLE OF A SAMPLE BOTTLE LABEL

A COC form will be properly filled out and signed by each individual handling the samples to ensure sample integrity. The samples will be transported in a cooler with ice to the laboratory. Automatic sampler containers will be replaced back in the automatic sampler, either with a clean second set or after the current set are cleaned.

The automatic sampler is programmed to send a text message to designated personnel to alert them when there is a representative storm event and to prompt retrieval of the samples. Since the automatic sampler is refrigerated, the sampling personnel just need to retrieve the samples and deliver them to the laboratory within the laboratory's required holding times for the parameters being analyzed. DOTA will attempt to obtain samples within Monday through Thursday to account for applicable laboratory hold times. If sampling occurs during the weekends or holidays, samples will still be analyzed and DOTA will indicate on the Discharge Monitoring Report (DMR) that hold times had been exceeded in order to obtain the samples.

3.3 Field Notes

The following observations will be recorded in the field notebook and/or on a Stormwater Sampling Log (Appendix C) while personnel are conducting sampling:

- Monitoring location.
- Name(s) of sampling personnel present.
- Date and time of arrival onsite.
- Probe calibration date.
- Automatic sampler activation times.
- Storm event characteristics (duration, time, total rainfall, and date of last rain event greater than 0.1 inches).
- Water quality observations of the discharge (by looking at the sample bottles), such as the following: color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of stormwater pollution.

- Field monitoring parameters (such as pH, temperature, salinity, dissolved oxygen, and flow rate).
- Samples collected (total number and individual sample information).

3.4 Quality Assurance/Quality Control (QA/QC)

The testing laboratory shall be qualified to perform the EPA approved analytical/test methods for analyzing environmental samples as defined in 40 CFR 122 and HAR Chapters 11-54 and 11-55. The EPA methods for analyzing environmental samples contain explicit quality control requirements that must be met. These requirements include specific procedures and criteria for evaluating accuracy and precision, demonstrating the ability of the analyst to generate acceptable accuracy and precision, and demonstrating that extraneous interferences are under control. The laboratory will be required to document strict adherence to the general laboratory QA/QC requirements. The laboratory shall provide appropriate QA/QC documentation with the analytical results. The laboratory results should include the date(s) the analyses were performed, the individual(s) who performed the analyses, the analytical techniques or methods used, method detection limit (MDL), the results of the analyses, and QA/QC documentation.

Field QA/QC includes cleaning of the automatic sampler containers. At a minimum, this involves using phosphate-free detergent and rinsing with DI or distilled water three times. The laboratory may clean the automatic sampler containers, in which case they would follow their internal laboratory QA/QC procedures for cleaning equipment. The analysis of rinsate blank samples may be conducted as appropriate to ensure that the containers are properly decontaminated.

The field probe will be calibrated per the manufacturer's guidelines. A calibration log can be exported from the software and stored electronically.

3.5 Data Review and Validation

Upon receipt of the analytical results from the laboratory, personnel will perform additional data validation to determine whether analytical data is acceptable for use in the context of this site investigation. The evaluation will include an assessment of laboratory QA/QC data and field notes. The field measured parameters will be validated by the calibration of the water quality probe and rinsate blank sample analysis conducted on the automatic sampler containers.

4.0 ANALYSIS AND REPORTING

4.1 Data Analysis

The analytical results of the samples will be used to determine compliance with the HNL Small MS4 Permit. Should effluent limitations be exceeded, an assessment will be conducted to determine possible sources for that exceedance. Once identified, additional measures may be taken to further contain the pollutants.

Sample HNL 002 is representative of airline activities at the airport. Therefore, the sample is representative of the effectiveness of the tenant training program, the tenant inspection program, implementation of BMPs, the IDDE program, and the storm drain maintenance program. Should effluent limitations be exceeded, these programs may be revised to prevent the discharge of pollutants.

Sample HNL 003 is representative of industrial activities at the airport Maintenance Baseyard. Therefore, the sample is representative of the effectiveness of the Baseyard personnel training program, the implementation of BMPs, spill response practices, the debris control program, and adherence to the Maintenance Baseyard SWPCP. Should effluent limitations be exceeded, these programs may be revised to prevent the discharge of pollutants.

4.2 Reporting Requirements

Once the laboratory provides the sample analysis results, the DOTA must evaluate those findings and communicate them to interested parties.

4.2.1 DMRs

DOTA will complete DMRs to document the sample findings in comparison to the effluent limitations listed in Table 3. DMR templates for HNL 002 and HNL 003 are included in Attachment B. Every exceedance of the effluent limitations will be specifically noted with a plan for correction (see Section 4.2.3). If a test result is not detectable, the result shall be reported as “less than #” where the # is the lowest detection limit of the test method (per HAR Chapter 11-55, Appendix B, Section 8.a.4.C). If sampling did not occur for the fiscal year, a DMR will be submitted that includes an explanation as to why sampling was not conducted (e.g. if there was no discharge).

In addition to the DMR form, the DMR submittal shall include a cover letter, the laboratory report with QA/QC data, the COC(s), as well as the flow, the start and end time of the monitored storm event, and the duration between the last storm event of 0.1 inch or more (see Appendix C for a stormwater sampling log template).

Completed DMRs should be signed by the Director of Transportation and submitted no later than 60 (sixty) days following the sample collection via the e-permitting portal or NetDMR, once available. The DOH-CWB website provides DMR instructions.

4.2.2 Annual Monitoring Report

The Annual Monitoring Report is due by August 31st each year to the DOH, covering activities conducted during the past fiscal year and shall, at a minimum, include the following items:

- a) Discussion on the activities/work implemented to meet each objective as outlined in Section 1.2, including any additional objectives identified, and the results and conclusions;
- b) Written narrative of the past fiscal year's activities, including those coordinated with other agencies, objectives of activities, results and conclusions;
- c) Data gathered of levels of pollutants in non-stormwater discharges to the HNL Small MS4;
- d) Using rainfall data collected, relate rainfall events, measured pollutant loads, and discharge volumes from the watershed;
- e) Date when monitoring occurred at the Maintenance Baseyard and the results.
- f) DMRs for the Maintenance Baseyard.

4.2.3 Reporting Exceedances

For each exceedance of the effluent limitations, an oral report shall be made to DOH-CWB via telephone (808) 586-4309 during normal business hours, as soon as the results become available, detailing the suspected origin or cause of the non-compliance and measures which will be taken to prevent re-occurrence. For after business hours, the non-compliance may be reported to the Hawaii State Hospital Operator (808) 247-2191.

In addition to the oral report, a description of the exceedance(s) shall be included in the DMR that includes the dates and times, estimation of how long the exceedance is expected to continue, and measures planned or implemented to combat the exceedance.

4.3 Budget

The proposed budget for fiscal year 2019 is \$19,000 to collect, analyze, and report the findings of the stormwater sampling. Routine maintenance of the auto sampler at HNL 003 is included in this estimate. This budget does not account for sampling from HNL 002.

5.0 WASTELOAD ALLOCATION

Currently, HNL does not have any TMDLs assigned to its receiving waters or WLAs identifying it as a point source at this time. As WLAs are adopted by DOH, Environmental Planning Office, that identify DOTA as a source, DOTA shall develop TMDL I&M Plans for a minimum of one (1) additional TMDL per year within one (1) year of the adoption date. Each I&M Plan shall include a schedule that has a final deadline for the WLAs consistent with the TMDL document; adheres to HAR, Section 11-55-21 and 40 CFR 122.2 and 122.47; includes implementation of BMPs; includes monitoring to evaluate performance; and provides time/flexibility to make changes needed to meet the WLAs. If the schedule is longer than one year, it shall include interim dates and milestones that do not lapse over one year.

6.0 REFERENCES

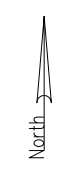
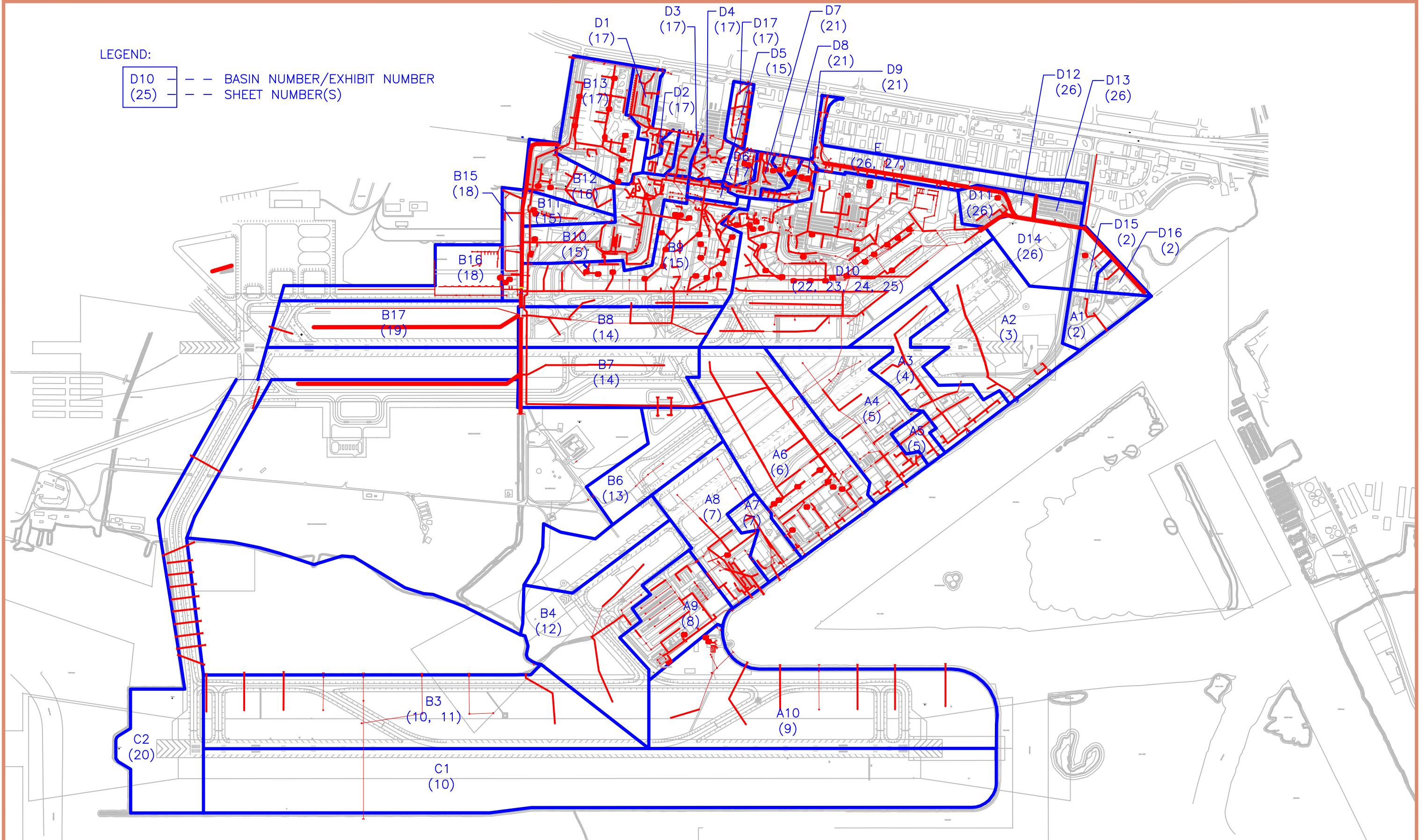
- State of Hawaii, Department of Health. December 2013. *Hawaii Administrative Rules, Chapters 11- 54.*
- State of Hawaii, Department of Health. December 2013. *Hawaii Administrative Rules, Chapters 11- 55.*
- State of Hawaii, Department of Transportation, Airports Division. June 2011. *Honolulu International Airport, Small Municipal Separate Storm Sewer System, Stormwater Management Program, Section H.*
- 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. April 1991. *Final Environmental Impact Statement, Honolulu International Airport, Honolulu, Oahu, Hawaii, State Project No. AO1011-03.*

Attachment A

Stormwater Monitoring Location Maps

LEGEND:

D10 (25) — — BASIN NUMBER/EXHIBIT NUMBER
 (25) — — SHEET NUMBER(S)



HONOLULU INTERNATIONAL AIRPORT



Airports Division

INDEX

Date : AUGUST 2017

DRAINAGE NETWORK
 HONOLULU INTERNATIONAL
 AIRPORT

EXHIBIT:



SHT 1 OF 27

Attachment B

***B1. Blank DMR Form for HNL 003 with Track
Changes***

B2. Blank DMR Form for HNL 003

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME State of Hawaii, Department of Transportation,
Airports Division

ADDRESS 400 Rodgers Blvd, Suite 700
Honolulu, Hawaii 96819

FACILITY Honolulu International Airport

LOCATION 300 Rodgers Blvd, Suite 12
Honolulu, Hawaii 96819

HI S000005			HNL 003		
PERMIT NUMBER			DISCHARGE NUMBER		

MONITORING PERIOD						
YEAR	MO	DAY		YEAR	MO	DAY
FROM			TO			

Form Approved.

OMB No. 2040-0004

☐ Check here if No Discharge

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Flow	SAMPLE MEASUREMENT							gallons/gpm			
	PERMIT REQUIREMENT				Report					1/365	Calc
Biochemical Oxygen Demand (5-Day)	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT				Report					1/365	CP
Chemical Oxygen Demand	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT				Report					1/365	CP
Total Suspended Solids	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT				20 (wet) / 10 (dry) Report					1/365	CP
Total Phosphorus	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT				50 (wet) / 30 (dry)		0.05			1/365	CP
Total Nitrogen	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT				250 (wet) / 180 (dry)		0.35			1/365	CP
Nitrate + Nitrite Nitrogen	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT				70 (wet) / 30 (dry)		0.025			1/365	CP
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	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.				TELEPHONE			DATE			
Jade T. Butay Director of Transportation					808	587-2150					
TYPED OR PRINTED					SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		AREA CODE	NUMBER	YEAR	MO	DAY

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		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Oil and Grease	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT						15			1/365	GR
pH	SAMPLE MEASUREMENT							pH unit			
	PERMIT REQUIREMENT				5.5		8.0			1/365	GR
Ammonia Nitrogen	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT				Report		0.01			1/365	CP
Turbidity	SAMPLE MEASUREMENT							NTU			
	PERMIT REQUIREMENT				5 (wet) / 2 (dry)		3.00			1/365	GR
Dissolved Oxygen	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT				Report					1/365	GR
Oxygen Saturation	SAMPLE MEASUREMENT							%			
	PERMIT REQUIREMENT				80%					1/365	GR
Temperature	SAMPLE MEASUREMENT							°C			
	PERMIT REQUIREMENT				± 1°C					1/365	GR
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	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.				TELEPHONE		DATE				
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PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE	
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS				
Conductivity Salinity	SAMPLE MEASUREMENT							µmhos/cm ppt				
	PERMIT REQUIREMENT				300Report				1/365	CP		
Aluminum	SAMPLE MEASUREMENT							µg/L				
	PERMIT REQUIREMENT				Report750				1/365	CP		
Cadmium	SAMPLE MEASUREMENT							µg/L				
	PERMIT REQUIREMENT						3+43		1/365	CP		
Chromium (VI)	SAMPLE MEASUREMENT							µg/L				
	PERMIT REQUIREMENT						461,100		1/365	CP		
Copper	SAMPLE MEASUREMENT							µg/L				
	PERMIT REQUIREMENT						6+2.9		1/365	CP		
Lead	SAMPLE MEASUREMENT							µg/L				
	PERMIT REQUIREMENT						29+140		1/365	CP		
Nickel	SAMPLE MEASUREMENT							µg/L				
	PERMIT REQUIREMENT						5+75		1/365	CP		
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	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.							TELEPHONE		DATE		
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		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Silver	SAMPLE MEASUREMENT							µg/L			
	PERMIT REQUIREMENT						1+2.3		1/365	CP	
Zinc	SAMPLE MEASUREMENT							µg/L			
	PERMIT REQUIREMENT						22+95		1/365	CP	
Benzene	SAMPLE MEASUREMENT							µg/L			
	PERMIT REQUIREMENT						1.7800		1/365	CP	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

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		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Flow	SAMPLE MEASUREMENT							gpm			
	PERMIT REQUIREMENT				Report				1/365	Calc	
Biochemical Oxygen Demand (5-Day)	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT				Report				1/365	CP	
Chemical Oxygen Demand	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT				Report				1/365	CP	
Total Suspended Solids	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT				Report				1/365	CP	
Total Phosphorus	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT						0.05		1/365	CP	
Total Nitrogen	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT						0.35		1/365	CP	
Nitrate + Nitrite Nitrogen	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT						0.025		1/365	CP	
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		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Oil and Grease	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT						15		1/365	GR	
pH	SAMPLE MEASUREMENT							pH unit			
	PERMIT REQUIREMENT				5.5		8.0		1/365	GR	
Ammonia Nitrogen	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT						0.01		1/365	CP	
Turbidity	SAMPLE MEASUREMENT							NTU			
	PERMIT REQUIREMENT						3.00		1/365	GR	
Dissolved Oxygen	SAMPLE MEASUREMENT							mg/L			
	PERMIT REQUIREMENT				Report				1/365	GR	
Oxygen Saturation	SAMPLE MEASUREMENT							%			
	PERMIT REQUIREMENT				80%				1/365	GR	
Temperature	SAMPLE MEASUREMENT							°C			
	PERMIT REQUIREMENT				± 1°C				1/365	GR	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	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.			TELEPHONE		DATE		
Jade T. Butay Director of Transportation				808	587-2150			
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY	

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			FROM			TO

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Salinity	SAMPLE MEASUREMENT							ppt			
	PERMIT REQUIREMENT				Report				1/365	CP	
Aluminum	SAMPLE MEASUREMENT							µg/L			
	PERMIT REQUIREMENT				Report				1/365	CP	
Cadmium	SAMPLE MEASUREMENT							µg/L			
	PERMIT REQUIREMENT						43		1/365	CP	
Chromium (VI)	SAMPLE MEASUREMENT							µg/L			
	PERMIT REQUIREMENT						1,100		1/365	CP	
Copper	SAMPLE MEASUREMENT							µg/L			
	PERMIT REQUIREMENT						2.9		1/365	CP	
Lead	SAMPLE MEASUREMENT							µg/L			
	PERMIT REQUIREMENT						140		1/365	CP	
Nickel	SAMPLE MEASUREMENT							µg/L			
	PERMIT REQUIREMENT						75		1/365	CP	
NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		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.			TELEPHONE			DATE			
Jade T. Butay Director of Transportation											
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PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Silver	SAMPLE MEASUREMENT							µg/L			
	PERMIT REQUIREMENT						2.3		1/365	CP	
Zinc	SAMPLE MEASUREMENT							µg/L			
	PERMIT REQUIREMENT						95		1/365	CP	
Benzene	SAMPLE MEASUREMENT							µg/L			
	PERMIT REQUIREMENT						1,700		1/365	CP	
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

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Attachment C

Stormwater Sampling Log Template

Stormwater Sampling Log
Honolulu International Airport

1. Monitoring Location:
2. Name of Sampler(s):
3. Date:
4. Time:
5. Probe Calibration Date:
6. Autosampler Activation Times:
7. Duration of Storm:
8. Time Storm Began:
9. Magnitude: _____ inches
10. Date of Last Rain Event Greater than 0.1 inches:
11. Water Quality:
 - a. Color:
 - b. Odor:
 - c. Clarity:
 - d. Floating Solids:
 - e. Settled Solids:
 - f. Suspended Solids:
 - g. Foam:
 - h. Oil Sheen:
 - i. Other:
12. Field Monitoring Parameters:
 - a. pH:
 - b. Temperature:
 - c. Salinity:

d. Dissolved Oxygen:

e. Flow Rate:

f. Other:

13. Samples Collected

a. Total Number:

b. Individual Sample Info (repeat for each sample):

Sample Name:

Sampling Site:

Date:

Time:

Collected by:

Tests Required:

Sample Type: ☐ Grab ☐ Composite ☐ Other_____