

State of Hawaii
Department of Transportation – Airports Division
Storm Water Sampling (Kahului Airport)

1.0 Purpose

This procedure establishes a standard for collecting storm water samples at the Kahului Airport, in accordance with the National Pollutant Discharge Elimination System (NPDES) permit HIR80A414 and the Kahului Airport Storm Water Pollution Control Plan (SWPCP). Note: Sampling parameters will be those required for permit renewal.

2.0 Definitions

- *Chain of Custody* – A document that provides verification about who has possessed the samples and where the samples have been.
- *Composite Sample* – A combination of at least two sample aliquots collected at periodic intervals. For the purposes of compliance with Hawaii Administrative Rules, Title 11-55, Appendix B, sample aliquots will be collected every fifteen minutes for up to one hour in equal volume. Sampling may cease after one hour.
- *Discharge Monitoring Report* – Report that is required to be submitted to the Department of Health and includes the results of the sampling event.
- *Grab Sample* – A single sample collected during the first fifteen minutes of the discharge.
- *Representative Storm Event* – A rainfall that accumulates more than 0.1 inches of rain and occurs at least 72 hours after the previous measurable rain event of greater than 0.1 inches.

3.0 Sampling Locations

Sampling should be conducted at least once per calendar year during a representative storm event at three locations. Maps are available in the SWPCP online under the “Kahului Airport Storm Water Program” header (<http://hidot.hawaii.gov/airports/doing-business/engineering/environmental/>).

MONITORING SITE	COORDINATES	NOTES
OGG B	156°26'39.394"W 20°53'29.986"N	OGG B is located at the storm drain inlet on the north (makai) side of Keolani Place, immediately across from the Maintenance Baseyard. This sample will only be taken if storm water accumulation from the Maintenance Baseyard has flowed across the street. This is an unlikely occurrence and therefore, this location should be checked last.
OGG D	156°26'32.391"W 20°53'37.365"N	OGG D is located at a storm drain inlet on the south side of Mokuea Place near the western dead end (Avis Rental Car maintenance area). A manhole puller may be necessary to collect this sample.
OGG G	156°26'8.522"W 20°53'57.416"N	OGG G is located in Basin G north of Runway 5/23. The outfall can be accessed from the access road north of the airport security fence and south of Kanaha Beach Park. Note: due to high velocity flows in this area, samplers should stay on the top of the outfall bank and use a sampling pole to collect the sample.

*All locations are outside of the airport secured area and therefore an AOA badge is not required.

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4.0 Sampling Parameters

The sampler must contact an EPA approved laboratory prior to the storm event to obtain sample containers. The laboratory shall be qualified to perform EPA approved water quality test methods to comply with 40 CFR 136 and provide appropriate Quality Assurance/Quality Control (QA/QC) documentation with the analytical results for all parameters analyzed. Ensure that all the constituents listed in the table below are analyzed for each of the three locations.

<i>Outfall No.:</i>		
<i>Parameter</i>	<i>Test Result</i>	<i>Units</i>
<i>Flow (calculated)</i>		<i>GPM or CFS</i>
<i>Biochemical Oxygen Demand (5-Day)</i>		<i>mg/l</i>
<i>Chemical Oxygen Demand</i>		<i>mg/l</i>
<i>Total Nitrogen (10 µg/l)</i>		<i>µg/l</i>
<i>Ammonia Nitrogen (1 µg/l)</i>		<i>µg/l</i>
<i>Nitrate + Nitrite (1 µg/l)</i>		<i>µg/l</i>
<i>Total Phosphorus (10 µg/l)</i>		<i>µg/l</i>
<i>Turbidity (0.1 NTU)</i>		<i>NTU</i>
<i>Total Suspended Solids (1 mg/l)</i>		<i>mg/l</i>
<i>pH (0.1 standard units)</i>		<i>standard units</i>
<i>Dissolved Oxygen (0.1 mg/l)</i>		<i>mg/l</i>
<i>Oxygen Saturation (1%)</i>		<i>%</i>
<i>Temperature (0.1 °C)</i>		<i>°C</i>
<i>Salinity (0.1 ppt)</i>		<i>ppt</i>
<i>or Chloride (0.1 mg/l)*</i>		<i>mg/l</i>
<i>or Conductivity (1 µmhos/cm)*</i>		<i>µmhos/cm</i>
<i>Oil and Grease (1 mg/l)</i>		<i>mg/l</i>

* *Fresh waters and effluent samples*

Ensure Proper Sample Handling

All holding times, protocols and preservation methods will be strictly followed. If any of these protocols are broken the monitoring event will be redone. Specifically, the biochemical oxygen demand has a 48 hour hold time; therefore, sampling should only be attempted Monday through Thursday.

5.0 Sampling Equipment

pH, dissolved oxygen, and temperature will be measured in the field within 15 minutes of collecting the sample. Ensure that the meter is calibrated the day of the sampling event and prior to sampling efforts by following the manufacturer's instructions. Include calibration information in the field notes and provide to DOTA.

Other required sampling equipment may include:

- Timer
- Manhole Puller
- Sampling Pole (4 ft. min)
- Safety Cones and other PPE

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6.0 Documentation

Ensure that the following documentation is completed and provided to the DOTA Environmental Health Specialist.

Field Notes

Once the sampler has reached the sampling location, record observations in the field notebook:

1. Date and time of arrival onsite;
2. Names of sampling personnel present;
3. Start and end time of rain event;
4. Time of sample collection;
5. Number of aliquots collected or indicate grab sample;
6. Other observations about the discharge such as color, odor, clarity, floating solids, settled solids, suspended solids, scum or foam, oil sheen, or other obvious indicators of storm water pollution. If they are not observed, indicate such in the field notes.
7. Take photos of the sampling location and sample containers.
8. Record field measurements (pH, dissolved oxygen, and temperature) for each location.
9. Record flow for each location. Ensure that calculations are provided.

Chain of Custody

Ensure that each handler signs the COC to establish a continuous chain of custody. Retain one of the carbon copies of the COC and provide it to the DOTA.

Discharge Monitoring Reports

Once the laboratory analyzes the samples and provides the final laboratory report, complete the Discharge Monitoring Report (DMR). Every exceedence of the limits from HAR 11-54 listed in the SWPCP should be specifically noted with a plan for correction. In addition to the DMR, the laboratory reporting sheets for the sample with Quality Assurance / Quality Control (QA/QC) data, flow calculations, field notes, and photos should be attached.

Note: If a sample is not able to be collected within the calendar year, a DMR should be completed stating “No Discharge” for each required parameter. Additional documentation should be provided, such as weather records, to support the claim for lack of sampling.

Completed DMRs should be given to the DOTA for review and signature by the Director of Transportation. Once signed, the DMRs should be submitted via the DOH e-permitting website (<https://eha-cloud.doh.hawaii.gov/epermit/View/default.aspx>).

Notice of Intent Form B

Once the laboratory results have been obtained for the sample, complete the Notice of Intent Form B (provided by DOTA) item B.8 and B.9. Submit to DOTA for review and once approved, submit to DOH via the DOH e-permitting website (<https://eha-cloud.doh.hawaii.gov/epermit/View/default.aspx>).