Storm Water Pollution Prevention Plan (SWPPP) Associated with Industrial Activities

for

The Los Angeles International Airport

LAX
Los Angeles World Airports

Facility Address:
1 World Way
Los Angeles, California 90045

Waste Discharge Identification (WDID):
419I004995

Exceedance Response Action (ERA) Status:
ERA Level 2

Legally Responsible Person (LRP):
Los Angeles World Airports
1 World Way
Los Angeles, CA 90045
Robert Freeman
(424) 646-6474

SWPPP Preparation Date
Amendment 5, January 18, 2018

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Legally Responsible Person

Approval and Certification of the Storm Water Pollution Prevention Plan

Facility Name:	Los Angeles International Airport (LAX)
Waste Discharge Identification (WDID):	4 19I004995

"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, to the best of my knowledge and belief, the information submitted is, 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."

Robert Freeman

Legally Responsible Person

Signature of Legally Responsible Person

1/19/18

Date

Amendment Log

Facility Name: Los Angeles International Airport (LAX)

Waste Discharge Identification (WDID): 4 19I004995

Amendment No.	Date	Page and Section No.	Requested By	Brief Description of Amendment; include reason for change, site location, and BMP modifications.	Prepared and Approved By
1	9/29/15	App A App F	M. Renaud	Include NOI from Permit submission. Updated Dry Weather Observation Forms	M. Renaud/ R. Freeman
2	10/14/15	Sec 3 Table 3.1	C. Wang	Update of the Facility's Chemical Inventory List	K. Ang/ C. Wang
3	11/30/15	Pp. 31 - 44 Sec. 5; Appendix F; Appendix	C. Wang	Existing Sec 5 is replaced with Appendix J (Sampling Analysis Plan); Include updated Annual Inspection Form in App F.	M. Renaud/ C. Wang
4	8/11/16	p. 3 Sec 1.5; Table Fig. 3	M. Renaud	Update the Facility PPT info; update of employed BMPs per address; update tenant facility maps.	M. Renaud/ C. Wang
5	1/18/18	Sections 1.1, 1.3, 2.1.2, 2.1.4, 3.1, 3.2, 4, 4.1.3, 4.1.4, 4.1.6, 4.2.2, 4.4, 5.6.7, 5.10; Tables, 1.1, 1.3, 3.1, 4.2, 5.2, 5.3; Figures 1,2,3,and 5, Appendix B, C, and D	L. Dugas / L.A. RWQCB	Update the Facility PPT info; update of employed BMPs per address; update tenant facility maps, response to Notice of Violation, and personnel changes.	D. Renfrew/ R. Freeman

1. SWPPP REQUIREMENTS

1.1 Introduction

The Los Angeles International Airport (LAX) facility comprises approximately 3,747 acres and is located at 1 Word Way, Los Angeles, CA 90045. LAX is owned and operated by the City of Los Angeles Department of Airports also known as the Los Angeles World Airports (LAWA). Numerous tenants which conduct a variety of airport-related support functions occupy leaseholds at LAX. The facility location, route to receiving waters and receiving water impairments is shown in **Figure 1,** a general site map of tenant locations is provided in **Figure 2,** tenant specific address maps are provided in **Figure 3**.

This Stormwater Pollution Prevention Plan (SWPPP) is designed to comply with California's General Permit for Stormwater Discharges Associated with Industrial Activities (General Permit) Order No. 2014-0057-DWQ (NPDES No. CAS000001) issued by the State Water Resources Control Board (State Water Board) (**Attachment A**). In accordance with the General Permit, Section X.A, this SWPPP contains the following required elements:

- Facility Name and Contact Information;
- Site Map;
- List of Significant Industrial Materials;
- Description of Potential Pollution Sources;
- Assessment of Potential Pollutant Sources;
- Minimum Best Management Practices (BMPs);
- Advanced BMPs, if applicable;
- Annual Comprehensive Facility Compliance Evaluation (Annual Evaluation);
- Monitoring Implementation Plan (MIP); and
- Date that SWPPP was Initially Prepared and the Date of Each SWPPP Amendment, if Applicable.

1.2 Permit Registration Documents

Required Permit Registration Documents (PRDs) were submitted to the State Water Board via the Stormwater Multiple Application and Report Tracking System (SMARTS) by the Legally Responsible Person (LRP), or authorized personnel (i.e., Approved Signatory) under the direction of the LRP.

The project-specific PRDs include:

- Notice of Intent (NOI);
- Signed Certification Statement (LRP Certification was provided electronically with SMARTS PRD submittal);
- Site Map(s);
- SWPPP; and
- Annual Fee.

A copy of the submitted NOI, Signed Certification Statement and Annual Fee Receipt are kept in **Appendix A** along with the Waste Discharge Identification (WDID) confirmation letter. The site maps are included as **Figures 2 through 9**.

In the event of future significant changes to the facility layout, the Discharger will certify and submit new PRDs via SMARTS.

1.3 SWPPP Availability and Implementation

LAX operates 24 hour a day, 365 days a year. The SWPPP is available on-site to all employees during normal business hours of operation (M-F 8:00 am – 5:00 pm), and will be made available upon request by a State or Municipal Inspectors. Additionally, the SWPPP is electronically available via the LAWA Stormwater Program website at http://www.lawa.org/welcome_LAWA.aspx?id=1864, and the SMARTS website. The SWPPP was implemented July 1, 2015 and incorporates periodic revisions as needed.

1.4 Pollution Prevention Team

LAWA staff that have been designated as Pollution Prevention Team members are listed below in **Table 1.1**, along with their responsibilities and duties. **Table 1.1** will be updated as needed when there are changes to LAWA staff and staff responsibilities.

Tenant staff who are designated as Tenant Pollution Prevention Team members are included in the table in **Appendix B** by site address. The locations of the Tenant leaseholds are shown on **Figure 3.** Tenant specific site maps are attached behind **Figure 3,** organized by tenant address. When there are changes to tenant staff or operations, tenants will provide updated Tenant Pollution Prevention Team member information to LAWA staff who will update the table included in **Appendix B**.

LAWA and Tenant Pollution Prevention Team members will be trained to perform the duties assigned to them. Pollution Prevention Team member training records are provided in **Appendix C**.

Table 1.1: LAX Pollution Prevention Team

Name	Title	Phone Number	Responsibilities and Duties
Lisa Dugas	Environmental Affairs Officer (Team Member)	(424) 646-6485	• Stormwater Program Team Lead • Duly Authorized Representative
Somvang Meksavanh	Environmental Specialist (Team Member)	(424) 646-6492	• SWPPP maintained and updated • Review tenant routine inspections • Coordinate training • Spill data collection • Annual Reporting • Coordinate spill response reporting • Main task manager of water quality monitoring
Kevin Jontz	Environmental Specialist (Alternate Team Member)	(424) 646-9044	• Alternate Team Member for SWPPP tasks at LAX • Coordinate spill response reporting
LAX Tenants	See **Appendix B** for tenant specific Pollution Prevention Team information		• Implement BMPs at their respective facilities • Conduct routine inspections at their respective facilities
David.Renfrew Alta Environmental	Contractor Vice President, Water Resources Director	(760) 908-5749 (C) (562) 495-5777 (O)	• Qualified Industrial Stormwater Practitioner • Training support • Collect storm water discharge samples • Conduct routine inspections
David Schack Alta Environmental	Contractor Vice President	(310) 951-9482 (C) (562) 495-5777 (O)	• Alternate Team Member • Collect storm water discharge samples • Conduct routine inspections

1.5 Permits and Governing Documents

In addition to the General Permit, the following documents have been taken into account while preparing this SWPPP:

- Regional Water Quality Control Board requirements;
- Basin Plan requirements;
- Total Maximum Daily Load (TMDL) requirements;
- Spill Prevention Control and Countermeasures (SPCC) Plan; and
- Hazardous Material Management Plan (HMMP).

1.6 SWPPP Amendments

This SWPPP will be revised, replaced, and/or hand annotated as necessary to properly convey an amendment when:

- There is a General Permit violation;
- There is a reduction or increase in the total industrial area exposed to stormwater;
- BMPs do not meet the objectives of reducing or eliminating pollutants in stormwater discharges;
- There is a change in industrial operations which may affect the discharge of pollutants to surface waters, groundwater(s), or a municipal separate storm sewer system (MS4);
- There is a change to the parties responsible for implementing the SWPPP; or
- Otherwise deemed necessary.

Documentation of the amendment will be included in the Amendments Log located at the front of the SWPPP and will include the following information:

- Who requested the amendment;
- The location of proposed change;
- The reason for change; and
- The new/revised BMPs or relevent changes.

SWPPP amendments must be certified and submitted by the LRP via SMARTS within 30 days whenever the SWPPP is significantly revised. With the exception of significant revisions, SWPPP changes will not be certified and uploaded to SMARTS more than once every three months in the reporting year.

1.7 Exceedance Response Actions (ERAs)

In accordance with the General Permit, storm water discharges from LAX are subject to comparison with numeric action levels (NALs). A NAL exceedance for an individual pollutant can occur in one of two ways:

1. An annual NAL exceedance occurs when the average of all analytical results for a parameter from samples taken within a reporting year (July 1 to June 30) exceeds the Annual NAL; or

2. An instantaneous maximum NAL exceedance occurs when two (2) or more analytical results from samples taken for any single parameter within a reporting year (July 1 to June 30) exceeds the instantaneous maximum NAL value (for Total Suspended Solids and Oil & Grease) or are outside of the instantaneous maximum NAL range for pH.

The annual and instantaneous maximum NALs that are applicable to LAX and listed in the 2014 IGP are provided in **Table 1.2**.

Table 1.2: Applicable NAL Values

Parameter	Reporting Units	Annual NAL	Instantaneous Maximum NAL
pH	pH units	Not Applicable	Less than 6.0 Greater than 9.0
Total Suspended Solids	mg/L	100	400
Oil & Grease	mg/L	15	25
Total Aluminum	mg/L	0.75	
Ammonia (as N)	mg/L	2.14	
Total Arsenic	mg/L	0.15	
Biochemical Oxygen Demand (BOD)	mg/L	30	
Total Cadmium	mg/L	0.0053	
Chemical Oxygen Demand (COD)	mg/L	120	
Total Copper	mg/L	0.0332	
Total Cyanide	mg/L	0.022	
Total Lead	mg/L	0.262	
Total Magnesium	mg/L	0.064	
Total Mercury	mg/L	0.0014	
Total Nickel	mg/L	1.02	
Total Phosphorus	mg/L as P	2.0	
Total Selenium	mg/L	0.005	
Total Zinc	mg/L	0.26	

If a General Permit NAL exceedance occurs in a given reporting year, a Level 1 ERA Evaluation and a Level 1 ERA Report will be required in the following year, or, if in a subsequent year, a Level 2 ERA Action Plan and a Level 2 ERA Report will be required in accordance with the General Permit. The results of either of the ERA reports may require that the SWPPP be amended. Table 1.3 shows the facility status by year.

Table 1.3 Facility Permit Status

Date of Status	Status	NALs Exceedances	Reports Submitted
July 1, 2015	Baseline	Not Applicable	Not Applicable
July 1, 2016	ERA Level 1	• Total Copper • Total Aluminum	Level 1 ERA Report (submitted December 2016)
July 1, 2017	ERA Level 2	• Total Copper • Total Aluminum	Level 2 ERA Action Plan (submitted December 2017)

1.8 Termination and Changes to General Permit Coverage

When any of the following conditions occur, termination of coverage under the General Permit will be requested by certifying and submitting a Notice of Termination (NOT) via SMARTS:

- Operation of the facility has been transferred to another entity;
- The facility has ceased operations, completed closure activities, and removed all industrial related pollutant generating sources; or
- The facility's operations have changed and are no longer subject to the General Permit.

Compliance with the SWPPP and the provisions of the General Permit will continue until a valid NOT is received and accepted by the Board. If ownership changes, the new owner of the facility will be notified of the General Permit and regulatory requirements for permit coverage.

2. FACILITY INFORMATION

2.1 Facility Description

2.1.1 Facility Location

The Los Angeles International Airport (LAX) comprises approximately 3,563 acres and is located at 1 World Way, in Los Angeles County, California. LAX is located in the western region of the Los Angeles metropolitan basin, about a mile east of Santa Monica Bay. The airport is aligned in an east/west transect paralleling Imperial Highway. A site location map showing relevant receiving waters is shown in **Figure 1**.

2.1.2 Facility Operations

Operations at the facility consist of activities required to transport over 70 million passengers and almost two million tons of freight annually. The specific industrial activities conducted at LAX include:

- Aircraft Anti-icing
- Aircraft Fueling
- Aircraft Maintenance
- Aircraft Sanitary Services
- Aircraft Washing
- Cargo Handling
- Catering/Food Service
- Chemical Storage
- Equipment Degreasing/Washing
- Equipment Maintenance
- Equipment Storage
- Floor Washdown
- Fuel Storage
- Manufacturing (e.g., welding, metal grinding)
- Outdoor Apron Washdown
- Pesticide/Herbicide Usage
- Steam Cleaning
- Vehicle Fueling
- Vehicle Maintenance
- Vehicle Painting/Stripping
- Vehicle Washing

Numerous tenants, which conduct a variety of airport-related support functions, occupy leaseholds at LAX. Federal regulations governing stormwater discharges require that transportation facilities consisting of these areas or leaseholds which have discharges

from vehicle maintenance shops, equipment cleaning operations or airplane deicing, which are defined as "associated with industrial activity", must be covered under an NPDES permit. Therefore, in accordance with federal regulations, tenants that conduct industrial activities at LAX must be included as co-permittees under LAWA's program, or obtain separate permit coverage for their discharges.

In order to update current tenant information specifically related to storm water issues, LAX Pollution Prevention Team (PPT) members perform regular site inspections (at least once a year) at each of the tenant facilities/leaseholds where industrial activities are performed. This information is compiled for the annual report and to update the SWPPP. Tenants that conduct industrial activities and their contact information are grouped by their main industrial activity (Appendix B).

2.1.3 Existing Conditions

As shown in **Figure 4**, approximately 60 percent of LAX is impervious surface covered by buildings and paved areas (i.e. runways, taxiways and parking lots). The unpaved areas of the airport, which principally lie at the western end of the airport and between runways and taxiways, are covered by vegetation and soil. Of the developed area, there are approximately 643 acres of industrial activities that are directly exposed to precipitation and storm water runoff.

The facility is divided into six drainage areas which discharge into two receiving waters as summarized in **Table 2.2**.

Table 2.2: LAX Drainage Areas and Receiving Waters

LAX Drainage Areas	Receiving Waters	303(d) Listed Impairments
– Argo Storm Drain Sub-basin – Culver Storm Drain Sub-basin – Imperial Storm Drain Sub-basin – Vista Del Mar Sub-basin	Santa Monica Bay	– DDT – Debris – PCBs – Sediment toxicity
– Dominguez Channel North – Dominguez Channel South	Dominguez Channel	– Ammonia – Copper – Diazinon – Indicator Bacteria – Lead – Toxicity – Zinc

There are identified areas within the facility that have known historic sources of contamination that are consistent with an operating air transportation facility. These areas are not surficial (subsurface soils and groundwater) and are not identified as a threat to storm water run-off.

2.1.4 Description of Drainage Areas and Existing Drainage

LAX is relatively level with an elevation of approximately 100 feet above mean sea level (MSL) and a local topographic gradient to the northeast. LAX is divided into six drainage areas, as shown in **Figure 5. Figures 2 through 7** show the area layout, including the general site topography, storm drainage system, drain inlets, drainage areas, and discharge locations. Specifically, **Figure 6** is a map of the catch basins and storm drains and **Figure 5 and 7** is a map of the stormwater conveyance system discharge points.

A more detailed description of each drainage area is provided below.

Argo Drain Sub-basin (Industrial)

The Argo storm drain carries runoff from 1,082 acres of the northern portion of LAX as well as a smaller portion of the south central portion of the airport. Storm water runoff initially drains into a grassy drainage swale via catch basins, flows west to the Argo storm drain (or sometimes referred to as the Argo Ditch) and continues several miles off-shore through a 10-foot diameter pipe into the Pacific Ocean. The offsite storm runoff from north of the airport enters the Argo Ditch through a large dual box culvert and continues in the subsurface under Pershing Drive and off the airport. Storm water collected within the Argo Ditch consists primarily of non-industrial runoff from runways and taxiways, and the northern greenbelt and golf course north of Westchester Parkway. Storm water runoff from a 95-acre portion of runways 25R-7L and 25L-7R at the south central portion of the airport near Sepulveda Boulevard is pumped north, through a subsurface storm drain passing through the Sepulveda tunnel, and eventually into the Argo Ditch. The Argo Drainage Basin Prop O Project is currently being constructed. The project includes capture, treatment, and infiltration of runoff from the Argo Drainage Area of the airfield (and Westchester offsite areas). The project includes an 8.1 million gallon storage tank, diversion and treatment structures, and infiltration basins.

Culver Drain Sub-basin (Non-Industrial)

Drainage on the northwest corner of LAX, east of the Vista Del Mar Basin, on property adjacent to and on either side of Pershing Boulevard/Drive is collected by a storm drain on Pershing Drive. This drain continues north to Culver Boulevard and then west to an outfall in the Santa Monica Bay at the western end of Culver Boulevard. On LAX, this sub-basin comprises approximately 48 acres and drains mainly unoccupied land. There are no identified industrial activity operations within this drainage basin. The discharge

point from LAX is the Pershing Drive Storm Drain on the north end of LAX at Pershing Drive.

Imperial Drain Sub-Basin (Industrial)

Storm water runoff discharged to the Imperial Storm Drain is collected by catch basins covering the central and southwest portion of LAX. This system drains runoff from a majority of the identified industrial areas at LAX. Two main interceptor storm sewers form the main arteries of this drainage basin: one which runs west along World Way West and then south along Pershing Drive, and the second which drains the Central Terminal area and flows southwest under the southern runways. These interceptors merge near the southwestern property boundary. These two interceptors convey flow from a total drainage area encompassing 1,299 acres. During low flow (dry weather) conditions and the first surge (approximately 1 million gallons) from a storm event, drainage from the two interceptors flows directly to a concrete-lined 2 million-gallon capacity detention basin. The runoff that accumulates within the detention basin is pumped at a rate of approximately 150 gallons per minute (gpm) through a 36' x 10' x 6' clarifier to the nearby Hyperion Wastewater Treatment Plant (operated by the City of Los Angeles). Under high flow (wet weather) conditions when influent to the basin exceeds the 150 gpm pumping capacity to Hyperion, the storm water detention basin fills, triggers closure of sluice gates, and diverts the excess flow directly to the Santa Monica Bay via the Imperial Storm Drain. This diversion system is currently in the stages of being upgraded to handle larger capacity flows. The Imperial Drainage Diversion Enhancement Project is slated to be completed in 2018. This project increases the diversion capacity from the Imperial Drainage Area. Water is diverted to Hyperion Treatment Plant for non-potable water recycling and reduces off-site storm water runoff.

Vista Del Mar Sub-basin (Non-Industrial)

Drainage on the western dune slope of LAX, adjacent to Dockweiler State Beach, is conveyed by local drains to outfalls leading into the Santa Monica Bay. This sub-basin includes LAX property west of the dune peaks and comprises approximately 176 acres. This sub-basin drains, with the exception of Federal Aviation Administration navigational aids, an unoccupied former residential area on and north of the El Segundo Blue Butterfly Preserve.

Dominguez Channel Sub-basin – North (Non-Industrial)

The runoff from the eastern side of LAX, north of Century Boulevard and east of Sepulveda Boulevard, is conveyed through a system of storm drain pipes south and east to a 10 foot by 11 foot box drain at the corner of Century Boulevard and Aviation Boulevard. The box drain continues east on Century Boulevard to La Cienega Boulevard where it turns south and collects drainage from other off airport properties. This part of the sub-basin comprises approximately 178 acres and drains the long-term parking lot C, a youth park, and former and current rental car tenant locations. The drain eventually

connects to Dominguez Channel at Inglewood Avenue. This sub-basin is governed by the LA County MS4 Permit as run-off is conveyed by City of Los Angeles Department of Sanitation storm drain lines.

Dominguez Channel Sub-basin – South (Industrial)

Drainage on the southeast side of LAX is collected in surface swales and catch basins and is discharged to a main concrete-lined surface culvert. The culvert runs east along Century Boulevard, diverts southbound at Aviation Boulevard and eventually discharges to the Dominguez Channel. This part of the sub-basin comprises approximately 964 acres and drains the southeastern portion of runways 25R-7L and 25L-7R, the freight handling facilities, as well as several commercial airline maintenance facilities. The discharge point for this sub-basin's industrial use area is at Aviation Boulevard and 111th Street.

Industrial Area Discharges

Storm water runoff from the three industrial activity exposed drainage areas described above (Dominguez Channel South, Imperial Drain, and Argo Drain) are collected in catch basins located throughout the airport. The runoff flows through a non-municipal underground storm drain system owned and operated by LAWA and discharges into one of three main MS4 conveyances:

- Dominguez Channel,
- Imperial Channel Outfall, or
- Argo Ditch.

Appendix B identifies the LAX tenants whose storm water runoff discharges into each of the three main storm water conveyance systems.

2.1.5 Storm Water Run-On from Offsite Areas

The General Permit requires that BMPs be implemented to direct offsite and non-industrial run-on away from industrial areas and erodible surfaces. Off-site run-on to industrial activity areas at LAX generally does not occur because the LAX storm water conveyance system diverts storm water run-on around the site. Comingling of off-site irrigation drainage with storm water discharge from LAX does occur in the Argo Ditch but does not impact industrial activities at the site.

2.2 Operations Schedule

LAX operates 24 hours a day 7 days a week.

If industrial activities are temporarily suspended for 10 or more consecutive calendar days during a reporting year, BMPs that are necessary to achieve compliance with this General Permit during the temporary suspension of the industrial activity will be identified and incorporated into the SWPPP.

2.3 Required Site Map(s) Information

Figures 2 through 9 include the information required by the General Permit (Section X.E). The maps include information regarding the facility boundary and storm water drainage areas, direction of storm water flow, nearby water bodies, locations of storm water collection and conveyance systems including outfalls, locations of industrial activities and materials, and locations of structural control measures.

3. POLLUTANT SOURCE ASSESSMENT

This section presents a list of industrial activities, materials, and potential pollutant sources at the facility. It also identifies specific pollutants associated with these sources, activities and/or areas that have the potential for spills and leaks, and the pollutant sources that are susceptible to exposure with storm water and non-storm water discharges (NSWDs).

A pollutant source assessment has been conducted for each industrial area and/or activity at the facility as required by Section X.G.2 of the General Permit.

3.1 Description of Potential Pollutant Sources

This section includes a general description of industrial activities and associated materials that are used or stored onsite. The approximate quantities of potential pollutants located on site are listed in **Table 3.1**.

Table 3.1 Approximate Quantity of Potential Pollutants

Potential Pollutants	Approximate Quantity on-site (Gallons)
Anti-freeze	>700
Anti-icing Fluid (Glycol-based)	<1,000
Brake Fluids	>70
Degreasers	>330
Deodorizing Solution	>200
Diesel	>620
Engine Oil	>5,300
Foaming Agent (AFFF)	>13,800
Gasoline	>3,600
Grease	>280
H2O Treatment Chemicals	>40
Hydraulic Fluids	>4,300
Isopropyl Alcohol	>100
Jet A	>78,000,000
Motor Oil	>2,800
Oily Rags	>80
Paint	>380
Pesticides	>80
Soap	>1,200
Solvents	>200
Transmission Fluids	>3,200
Turbine Oil	>3,700
Waste Absorbent	>4,000
Waste Anti-freeze	>1,100
Waste Fuel	>460
Waste Hydraulics	>10
Waste Oil	>3,400
Waste Oil Filters	>25,000
Waste Paint	>100
Waste Solvents	>10

Primary industrial activities conducted by each tenant are listed in **Appendix B.** Tenants may conduct associated ancillary activities in addition to their primary activities. BMPs implemented by each tenant to reduce and prevent potential pollutants from contacting stormwater are discussed in **Section 4.**

These activities and associated materials will or could potentially contribute pollutants to storm water runoff. The anticipated activities and associated pollutants provided below form the basis for selecting the BMPs for the facility as described in **Section 4**. **Figure 8** is a map of the area of pollutant contact. Maps provided by LAX tenants including locations of potential pollutant sources and associated BMPs are attached behind **Figure 3**, organized by tenant address.

Industrial activities conducted onsite at LAX that could be potential sources of pollution include:

- Aircraft, Vehicle and Equipment Maintenance
- Aircraft and Vehicle Fueling
- Aircraft and Vehicle Washing
- Deicing
- Material Loading/Unloading
- Chemical and Fuel Storage
- Building and Grounds Maintenance

A brief description of these industrial activities and associated materials that may be stored onsite is presented below.

Aircraft, Vehicle and Equipment Maintenance

The majority of aircraft, vehicle, and equipment maintenance activities are conducted indoors, but some light maintenance occurs outdoors. Based on the nature of maintenance activities at airports, materials such as lubricating oils, hydraulic oils, degreasers, and cleaning products are potentially present in these areas. Small leaks or spills of these materials are not uncommon during maintenance activities.

Typically maintenance areas that are located indoors have floor drains that discharge the sanitary sewer system in accordance with Industrial Waste Discharge Permits obtained from the Los Angeles Bureau of Sanitation. Therefore, discharges from floor drains at LAX present limited potential for pollutant discharge to the storm drain system.

Aircraft and Vehicle Fueling

The transfer of jet fuel, aviation gasoline, diesel, and gasoline from above ground storage tanks (ASTs) underground storage tanks (USTs) and the fuel hydrant system is conducted via closed hose transfer connections. Aircraft fueling activities are conducted only on concrete ramps or paved areas. Vehicle fueling is predominantly conducted at various fixed locations throughout LAX. Based on the quantity of fueling activities that take place at LAX, fuel spills may occur, with some spills reaching the storm drain system while

other spills are contained by absorption materials and vacuum pump clean-up methods prior to entering a catch basin.

Aircraft and Vehicle Washing

Designated vehicle, aircraft, and equipment wash areas are located on some leaseholds at LAX. Designated wash areas contain a wash rack (a designated area engineered to drain to specific drain inlets), and either an oil/water separator or clarifier that collects and provides treatment of the runoff prior to the runoff being routed to the sanitary sewer system. Each sanitary sewer connected wash area requires a separate Industrial Waste Discharge Permit from the Los Angeles City Bureau of Sanitation. Therefore, the washing of aircraft, equipment and vehicles is only allowed in designated areas meeting the engineered requirements.

Wash areas that have significant exposure to storm water typically have storm water diversion valves that actuate when a rain gauge is triggered and the sanitary sewer connection is closed sending the storm water to the storm drain system. These diversion valves requiring facility staff to reset the valve position after each storm event to ensure the systems will be effective during dry weather conditions. Tenant staff are trained annually on storm drain valve system resets.

Anti-icing

Anti-icing is performed on aircraft to minimize the ice build-up on the wings and plane body during cold weather conditions. A very limited amount of deicing material is used at LAX due to the moderate climate in Southern California. This activity is performed on ramps and on the airfield prior to plane departure when needed. Sweepers are used following anti-icing to clean up material that potentially leaked onto the ground.

The primary anti-icing material used at LAX is glycol-based. This constituent has been banned from the sanitary sewer system. The annual volume of anti-icing material used at LAX (<1,000 gallons) falls well below the 100,000 gallons a year threshold triggering additional sampling parameters as required for SIC Code 45XX facilities.

Material Loading/Unloading

Various chemical products (i.e. oils and waste oils) are regularly transferred to and from tenant facilities at LAX. These loading/unloading areas may consist of loading docks at buildings or outdoor storage and transfer facilities such as at the fuel farms. During chemical and petroleum product loading, spills, leaks, and/or release of residues on the exterior of the drums or containers could occur resulting in pollutants entering the storm drains. Waste oil that is periodically loaded by waste haulers (from maintenance facilities

that generate waste oil) is another source that could potentially pollute the storm water if a spill occurred during loading.

Cargo Container Handling

LAX is currently in ERA Level 2 for aluminum. Tenant facilities with cargo operations have been identified as having a high potential to general aluminum due movement of cargo containers and associated equipment made of aluminum. Cargo tenants are required to train staff to avoid sliding of cargo totes on the ground which causes fine particulates to be generated on-site. Cargo totes and containers should be lifted and placed on associated carts to avoid scraping on the ground. Cargo tenants are required to perform monthly facility sweeping and vacuuming of pavement cracks as needed to reduce aluminum particulates. Tenant inspection staff are also trained on the need to inspect for aluminum shaving generation and corrective actions.

Chemical and Fuel Storage

Large quantities of chemicals and petroleum products (i.e. lubricants, gasoline, diesel and jet fuels) are stored by tenants at LAX. Many tenants have separate covered outdoor storage facilities to house these items. On-site fuels are stored outdoors in underground storage tanks and in aboveground tanks. Chemicals, oils and waste oils may be stored indoors or outdoors in appropriately sized and material (steel or poly) containers. Other materials such as cleansers, paints and paint-related products are stored in appropriate containers located indoors and outdoors.

Building and Grounds Maintenance

Pesticide and herbicide products are applied at select areas at LAX to eliminate insects and to inhibit the growth of weeds. These products are stored indoors and outdoors in various types of containers. Products that are stored outdoors can have residues on the container, which could be washed into the storm drain. During rainfall events, pesticide and herbicide residues that accumulate where they are applied can also wash into the storm drain. Limited pollutant discharge is expected at LAX from the use and storage of pesticides and herbicides.

3.2 Significant Spills and Leaks

Industrial materials where spills and leaks have potential to occur are included in **Attachment B** for each LAX tenant. The tenant information includes material characteristics, quantities, locations, and containers. Spills and leaks will be prevented by implementing the BMPs described in **Section 4** and **Attachment B**.

Historically, spilled materials with the largest threat to water quality consisted primarily of jet fuel, diesel, and gasoline. Airport clean-up methods for fuel spills typically include the use of absorbent materials, and/or detergent scrub with vacuum removal.

The majority industrial fueling activity areas at LAX are conducted in the Imperial Basin which is connected to the Imperial Retention Basin. The Retention Basin is equipped with a clarifier and discharges to the sanitary sewer system during periods of low flow. Dry weather non-stormwater discharges that have historically discharged beyond LAX property boundaries are typically captured in the storm drain system that is connected to the Imperial Retention Basin and are discharged to the sanitary sewer.

Spills and leaks that have occurred during the previous five years are summarized in **Appendix D**. Spills were contained, absorbents were used and the surface was then swept or vacuumed, as necessary.

3.3 Identification of Non-Storm Water Discharges (NSWDs)

NSWDs consist of discharges which do not originate from precipitation events. The General Permit allows certain NSWDs provided they:

- Do not cause erosion;
- Do not carry other pollutants;
- Are not prohibited by the local MS4; and
- Do not require a separate NPDES Permit from the Regional Water Board.

NSWDs that are not specifically listed above, or that are authorized under a separate NPDES permit, are prohibited (referred to as unauthorized NSWD's). There are no unauthorized NSWDs identified at the facility. Authorized NSWDs at this facility are summarized in **Table 3.2** below.

Table 3.2: Authorized NSWDs at the Facility

NSWD Source	Frequency of Discharge	Drainage Area	Discharge Location	Quantity of NSWD	Characteristics of NSWD
Irrigation Drainage	Daily	All Drainage Areas	Dominguez Channel, Argo Channel, Imperial Channel	Varies	Non-potable water
Air Conditioning Condensate	Daily	All Drainage Areas	Dominguez Channel, Argo Channel, Imperial Channel	Varies	Non-potable water
Water-only Fire Fighting Equipment Testing	Varies	All Drainage Areas	Dominguez Channel, Argo Channel, Imperial Channel	Varies	Non-potable water
Potable Water Line Flushing	Daily	Terminals and Gates	Dominguez Channel, Argo Channel, Imperial Channel	Varies	Potable Water

These authorized NSWDs will be managed with the BMPs described in **Section 4** of this SWPPP. Steps will be taken to prevent and eliminate unauthorized NSWDs.

4. BEST MANAGEMENT PRACTICES

LAX is currently in ERA Level 2 Status for total aluminum and total copper. BMPs should place a higher emphasis on identify and addressing potential aluminum and copper source generating areas and activities.

4.1 Minimum BMPs

Sections 4.1.1 through **4.1.7** list the requirements for each minimum BMP. Minimum BMPs will be implemented for additional targeted industrial activities, equipment, and materials as necessary. If any of the required minimum BMPs are applicable but cannot be implemented, an explanation and alternative approach will be provided in the following sections.

As required by the General Permit, a summary of implemented BMPs is included in **Table 4.1**. **Appendix E** includes the applicable LAX and CASQA BMP fact sheets, which provide general guidance on how BMPs should be implemented, the targeted industrial activities and the targeted pollutants that will be controlled by correctly using the BMPs.

4.1.1 Good Housekeeping

The following good housekeeping measures are required to be implemented in accordance with the General Permit (Section X.H.1.a):

- *Observe all outdoor areas associated with industrial activity including storm water discharge locations, drainage areas, conveyance systems, waste handling/disposal areas, and perimeter areas impacted by off-facility materials or storm water run-on to determine housekeeping needs. Any identified debris, waste, spills, tracked materials, or leaked materials will be cleaned and disposed of properly;*
- *Minimize or prevent material tracking;*
- *Minimize dust generated from industrial materials or activities;*
- *Ensure that all facility areas impacted by rinse/wash waters are cleaned as soon as possible;*
- *Cover all stored industrial materials that can be readily mobilized by contact with storm water;*
- *Contain all stored non-solid industrial materials or wastes (e.g., particulates, powders, shredded paper, etc.) that can be transported or dispersed via by the wind or contact with storm water;*

- *Prevent disposal of any rinse/wash waters or industrial materials into the storm water conveyance system;*
- *Minimize storm water discharges from non-industrial areas (e.g., storm water flows from employee parking area) that contact industrial areas of the facility; and*
- *Minimize authorized NSWDs from non-industrial areas (e.g., potable water, fire hydrant testing, etc.) that contact industrial areas of the facility.*

The facility fulfills the above General Permit requirements by implementing the site specific BMPs summarized in **Table 4.1** and described in the LAWA and CASQA BMP Fact Sheets in **Appendix E**. Each tenant at LAX is responsible for implementing specific BMPs based on the industrial activities occurring at their facilities. The BMPs being implemented by each tenant are presented in **Table 4.2**.

4.1.2 Preventative Maintenance

The following preventative maintenance measures are required to be implemented in accordance with the General Permit (Section X.H.1.b):

- *Identify all equipment and systems used outdoors that may spill or leak pollutants;*
- *Observe the identified equipment and systems to detect leaks, or identify conditions that may result in the development of leaks;*
- *Establish an appropriate schedule for maintenance of identified equipment and systems; and*
- *Establish procedures for prompt maintenance and repair of equipment, and maintenance of systems when conditions exist that may result in the development of spills or leaks.*

The facility fulfills the above General Permit requirements by conducting the site specific BMPs summarized in **Table 4.1** and described in the LAWA and CASQA BMP Fact Sheets in **Appendix E**. Each tenant at LAX is responsible for implementing specific BMPs based on the industrial activities occurring at their facilities. The BMPs being implemented by each tenant are presented in **Table 4.2**.

4.1.3 Spill and Leak Prevention and Response

The following spill and leak prevention and response measures are required to be implemented in accordance with the General Permit (Section X.H.1.c):

- *Establish procedures and/or controls to minimize spills and leaks;*

- *Develop and implement spill and leak response procedures to prevent industrial materials from discharging through the storm water conveyance system. Spilled or leaked industrial materials will be cleaned promptly and disposed of properly;*
- *Identify and describe all necessary and appropriate spill and leak response equipment, location(s) of spill and leak response equipment, and spill or leak response equipment maintenance procedures; and*
- *Identify and train appropriate spill and leak response personnel.*
- ***Absorbent materials such as kitty litter shall be swept up immediately after application. Absorbent materials are not to be left on the ground after application***.

The facility fulfills the above General Permit requirements by conducting the site specific BMPs summarized in **Table 4.1** and described in the LAWA and CASQA BMP Fact Sheets in **Appendix E**. Each tenant at LAX is responsible for implementing specific BMPs based on the industrial activities occurring at their facilities. The BMPs being implemented by each tenant are presented in **Table 4.2**.

4.1.4 Material Handling and Waste Management

The following material handling and waste management measures are required to be implemented in accordance with the General Permit (Section X.H.1.d):

- *Prevent or minimize handling of industrial materials or wastes that can be readily mobilized by contact with storm water during a storm event;*
- ***Cargo container handling operations shall not involve the sliding or pushing cargo containers on the ground in outdoor locations. Sliding containers on the ground generates fine aluminum particulates and limits the useable lifetime of the containers. Containers shall be lifted with forklifts or placed on appropriate carts for movement.***
- *Contain all stored non-solid industrial materials or wastes (e.g., particulates, powders, shredded paper, etc.) that can be transported or dispersed by the wind or contact with storm water during handling;*
- *Cover industrial waste disposal containers and industrial material storage containers that contain industrial materials when not in use;*
- *Divert run-on and storm water generated from within the facility away from all stockpiled materials;*
- *Clean all spills of industrial materials or wastes that occur during handling in accordance with the spill response procedures (Section X.H.1.c); and*

- *Observe and clean as appropriate, any outdoor material or waste handling equipment or containers that can be contaminated by contact with industrial materials or wastes.*

The facility fulfills the above General Permit requirements by conducting the site specific BMPs summarized in **Table 4.1** and described in the LAWA and CASQA BMP Fact Sheets in **Appendix E**. Each tenant at LAX is responsible for implementing specific BMPs based on the industrial activities occurring at their facilities. The BMPs being implemented by each tenant are presented in **Table 4.2**.

4.1.5 Erosion and Sediment Controls

The following erosion and sediment control measures will be implemented in accordance with the General Permit (Section X.H.1.e):

- *Implement effective wind erosion controls;*
- *Provide effective stabilization for all disturbed soils and other erodible areas prior to a forecasted storm event;*
- *Maintain effective perimeter controls and stabilize all site entrances and exits to sufficiently control discharges of erodible materials from discharging or being tracked off the site;*
- *Divert run-on and storm water generated from within the facility away from all erodible materials.*

The facility fulfills the above General Permit requirements by conducting the site specific BMPs summarized in **Table 4.1** and described in the LAWA and CASQA BMP Fact Sheets in **Appendix E**. Each tenant at LAX is responsible for implementing specific BMPs based on the industrial activities occurring at their facilities. The BMPs being implemented by each tenant are presented in **Table 4.2**.

4.1.6 Employee Training Program

The following employee training program measures are required to be implemented in accordance with the General Permit (Section X.H.1.f):

- *Ensure that all team members implementing the various compliance activities of this SWPPP are properly trained in topics including but not limited to: BMP implementation, BMP effectiveness evaluations, visual observations, and monitoring activities;*
- *Prepare or acquire appropriate training manuals or training materials;*
- *Identify which personnel need to be trained, their responsibilities, and the type of training they will receive;*

- *Provide a training schedule; and*
- *Maintain documentation of all completed training classes and the personnel that received training in the SWPPP.*

- ***Cargo operators are required to train facility cargo handlers of the importance not to drag aluminum cargo totes on the ground, due to the generation of aluminum debris.***

The Pollution Prevention Team will be trained in implementing the various compliance activities specified in this SWPPP. Task specific training for all employees engaged in activities that have the potential to cause storm water pollution will be conducted when new employees are hired or new tasks are incorporated into the site activities and refresher training will be provided annually. Documentation of training activities is retained in **Appendix C**.

The facility training will be performed by qualified personnel who are familiar with the facility. The training personnel will be responsible for providing information during training sessions and subsequently completing the training logs in **Appendix C**. The training logs identify the site-specific storm water topics covered, as well as the names of site personnel who attended the training. Each team member will be trained in the specific role they are responsible to undertake.

4.1.7 Quality Assurance and Record Keeping

The following quality assurance and record keeping measures are required to be implemented in accordance with the General Permit (Section X.H.1.g):

- *Develop and implement management procedures to ensure that appropriate staff implements all elements of the SWPPP, including the Monitoring Implementation Plan;*
- *Develop a method of tracking and recording the implementation of BMPs identified in the SWPPP; and*
- *Maintain the BMP implementation records, training records, and records related to any spills and clean-up related response activities for a minimum of five years (Section XXI.J.4).*

Paper or electronic records of documents required by this SWPPP will be retained for a minimum of five (5) years from the date generated for the following items:

- Employee Training Records;
- BMP Implementation Records;
- Spill and Clean-up Related Records;
- Sampling and Analysis Records;

- Visual Observation Records;
- Corrective Action Records; and
- Annual Reports.

4.2 Advanced BMPs

Where the minimum BMPs described above will not adequately reduce or prevent pollutants in storm water discharges, the General Permit (Section X.H.2) requires dischargers, to the extent feasible, implement and maintain advanced BMPs necessary to reduce or prevent discharges of pollutants in its storm water discharge in a manner that reflects best industry practice considering technological availability and economic practicability and achievability.

Advanced BMPs being implemented by individual tenants are presented by tenant in **Attachment B**.

4.2.1 Exposure Minimization BMPs

Storm resistant shelters are installed onsite to prevent the contact of storm water with industrial activities and material. The locations of these shelters and other structural management controls are presented for the overall facility in **Figure 9** for LAX and are attached behind **Figure 3**, organized by tenant address, for each tenant. Structural controls, covered canopies and storm resistant shelters are utilized when possible in the following activity/use areas of the facility:

- Loading/unloading areas/docks
- Material handling areas
- Vehicle and equipment fueling areas
- Cargo handling areas

4.2.2 Storm Water Containment and Discharge Reduction BMPs

Storm water containment and discharge reduction BMPs include BMPs that divert, reuse, contain, or reduce the volume of storm water runoff. The locations of these containment and discharge reduction BMPs are presented in **Figure 5**. The relevant CASQA BMP Fact Sheets are included in **Appendix E.** The following are the containment and discharge reduction BMPs found on Site:

- The LAX Retention Basin is an extended detention basin located at the southwest corner of LAX that captures the first 0.1" of rainfall from the Imperial Sub-Basin portion of the site. Potential pollutants that may settle out of the captured storm water include organic hydrocarbons, heavy metals, and sediments.
- Storm water that is collected and pumped to the Hyperion Treatment Plant reduces the volume of storm water discharged from LAX and the potential for pollutants discharged into the environment.
- The Imperial Drainage Diversion Enhancement Project is slated to be completed in 2018. This project increases the diversion capacity from the Imperial Drainage Area. Water is diverted to Hyperion Treatment Plant for non-potable water recycling and reduces off-site storm water runoff.
- The Argo Drainage Basin Prop O Project - LAWA contributed to the $40,000,000 Argo storm water project and the facility includes capture, treatment, and infiltration of runoff from the Argo Drainage Area of the airfield (and Westchester offsite areas). The project includes an 8.1 million gallon storage tank, diversion and treatment structures, and infiltration basins. The project is currently being constructed.

4.2.3 Spill Containment BMPs

Spill containment BMPs prevent spills and leaks from coming in contact with storm water runoff or directly discharging from the site. Secondary containment is used at the facility to contain spills from storage tanks containing potential pollutants. LAX has a SPCC plan. Spill containment BMPs are presented in **Table 4.1.** Each tenant at LAX is responsible for implementing specific BMPs based on the industrial activities occurring at their facilities. The BMPs being implemented by each tenant are presented in **Table 4.2**.

4.2.4 Treatment Control BMPs

Treatment control BMPs include one or more mechanical, chemical, biologic, physical, or any other treatment process technology and is sized to meet the treatment control design storm standard. Specific treatment control BMPs implemented at LAX are summarized in **Table 4.1** and the BMP fact sheets are included in **Appendix E**. Treatment control BMPs implemented at LAX will be incorporated into the SWPPP as they are implemented.

4.3 BMP Implementation and Maintenance Schedule

BMPs will be maintained regularly to ensure proper and effective functionality. If necessary, corrective actions of identified deficiencies will be implemented as soon as

practicable and associated amendments to the SWPPP will be prepared and documented. BMP inspections will occur monthly by Pollution Prevention Team members and records of BMP implementation will be documented on the **Monthly Dry Weather Visual Observations** form. Tenants at LAX are responsible for implementing BMPs specific to the industrial activities conducted at their facilities. The tenants must retain records of BMP implementation and maintenance and provide them to LAX Pollution Prevention Team members for review.

4.4 BMP Summary Table

Table 4.1 summarizes the minimum and advanced BMPs implemented to prevent discharge of pollutants in storm water runoff at LAX. The LAWA and CASQA BMP Fact Sheets included in **Appendix E** summarize the targeted industrial activities, targeted pollutants, purpose, approach, requirements, limitations and other relevant information for each of the BMPs implemented at LAX.

Each tenant at LAX is responsible for implementing specific BMPs based on the industrial activities occurring at their facilities. The BMPs being implemented by each tenant is presented in **Table 4.2**. A specific focus on implementing enhanced sweeping is required at Cargo Facilities due to high potential for aluminum particulate generation. Cargo PPT team members are required to instruct forklift operators to lift aluminum cargo containers fully off the ground before moving and to not drag or slide them on impervious surfaces.

Table 4.1: BMP Summary Table

BMP Fact Sheet Number	Title	Addresses Minimum General Permit BMP Elements Requirements					Addresses Advanced General Permit BMP Elements Requirements		
		Good Housekeeping	Preventative Maintenance	Spill and Leak Prevention and Response	Material Handling and Waste Management	Erosion and Sediment Control	Exposure Minimization	Storm Water Containment and Discharge Reduction	Treatment Control
LAWA SC1	Elimination of Non-Storm Water Discharges	✓		✓		✓			
LAWA SC2	Aircraft, Ground Vehicle, and Equipment Maintenance	✓	✓	✓	✓				
LAWA SC3	Aircraft, Vehicle and Equipment Fueling	✓	✓	✓	✓		✓		
LAWA SC4	Aircraft, Vehicle and Equipment Washing	✓	✓	✓	✓				
LAWA SC5	Aircraft Deicing	✓	✓	✓	✓				
LAWA SC6	Outdoor Material Handling	✓	✓	✓	✓		✓		
LAWA SC7	Outdoor Storage of Significant Material	✓		✓	✓		✓		
LAWA SC8	Waste Handling and Disposal	✓	✓	✓	✓				
LAWA SC9	Building and Grounds Maintenance	✓		✓	✓				
LAWA SC10	Storm Water Pollution Prevention Education	✓	✓	✓	✓	✓			
LAWA SC11	Lavatory Service Operations			✓					
LAWA SC12	Outdoor Washdown/Sweeping	✓	✓	✓	✓				
LAWA SC13	Fire Fighting Foam discharge	✓	✓	✓		✓			
LAWA SC14	Potable Water System Flushing	✓		✓		✓			
LAWA SC15	Runway Rubber Removal	✓	✓	✓	✓	✓			
LAWA TC1	Oil/Water Separators	✓			✓				✓
LAWA SR1	Emergency Spill Cleanup Plan	✓		✓	✓	✓			
CASQA SC-40	Contaminated or Erodible Surfaces					✓			
CASQA SC-44	Drainage System Maintenance	✓	✓	✓					

Table 4.1: BMP Summary Table (Continued)

BMP Fact Sheet Number	Title	Addresses Minimum General Permit BMP Elements Requirements					Addresses Advanced General Permit BMP Elements Requirements		
		Good Housekeeping	Preventative Maintenance	Spill and Leak Prevention and Response	Material Handling and Waste Management	Erosion and Sediment Control	Exposure Minimization	Storm Water Containment and Discharge Reduction	Treatment Control
CASQA TC-22	Extended Detention Basin							✓	✓
CASQA TC-40	Media Filter							✓	✓
CASQA MP-51	Gravity Separator							✓	✓

Table 4.2 LAX Tenant Specific BMPs

Map Site ID	Address	Tenant	SC1 Elimination of Non-Stormwater Discharges	SC2 Aircraft, Ground Vehicle, and Equipment Maintenance	SC3 Aircraft, Vehicle and Equipment Fueling	SC4 Aircraft, Vehicle and Equipment Washing	SC5 Aircraft Deicing	SC6 Outdoor Material Handling	SC7 Outdoor Storage of Significant Material	SC8 Waste Handling and Disposal	SC9 Building and Grounds Maintenance	SC10 Stormwater Pollution Prevention Education	SC11 Lavatory Service Operations	SC12 Outdoor Washdown/Sweeping	SC13 Fire Fighting Foam discharge	SC14 Potable Water System Flushing	SC15 Runway Rubber Removal	TC1 Oil/Water Separators	SR1 Emergency Spill Cleanup Plan	SC40 Contaminated or Erodible Surfaces	SC44 Drainage System Maintenance	TC20 Wet Pond	TC22 Extended Retention Basin	TC40 Media Filter	MP51 Gravity Separator	Sweeping and Removal of Cargo Tote Metal Shavings	Avoidance of Dragging or Pushing Cargo Totes
1	100 World Way	Southwest Airlines/T1	X	X	X		X	X	X	X	X	X	X	X		X			X	X							
2	200 World Way	Terminal 2	X	X	X			X	X	X	X	X	X	X		X			X	X							
3	300 World Way	Virgin America/T3	X		X			X	X	X	X	X	X	X		X			X	X	X						
4	380 World Way	TBIT	X		X			X	X	X	X	X	X	X		X		X	X	X	X						
5	400 World Way	American/T4	X	X	X			X	X	X	X	X	X	X		X			X	X							
6	500 World Way	Delta/T5	X		X			X	X	X	X	X	X	X		X			X	X	X						
7	600 World Way	Alaska Airline/T6	X	X	X			X	X	X	X	X	X	X		X			X	X							
8	700 World Way	United/T7	X	X	X			X	X	X	X	X	X	X		X			X	X	X						
9	800 World Way	United/T8	X		X			X	X	X	X	X	X	X		X			X	X	X						
10	5600 W Century Blvd	Alaska Air Cargo	X					X	X	X	X	X		X					X	X						X	X
10	5600 W Century Blvd	Southwest Cargo	X		X			X	X	X	X	X		X					X	X						X	X
11	5720 Avion Drive	Certified Aviation	X					X	X	X	X	X		X					X	X	X						
12	10080 International Road	AA OSF 2	X	X	X			X	X	X	X	X		X					X	X	X						
13	5720 Avion Drive	TUG LAX	X					X	X	X	X	X		X					X	X	X						
14	5720 Avion Drive	Menzies	X	X	X			X	X	X	X	X		X					X	X							
15	5720 Avion Drive Suite C	Envoy-GSE	X	X				X	X	X	X	X		X				X	X	X							
16	5908 Avion Drive	Mercury/Cathay Pacific	X					X	X	X	X	X		X					X	X	X					X	X
17	5950 Avion Drive	AA-Cargo	X					X	X	X	X	X		X					X	X	X					X	X
18	5970 Avion Drive	AA-GSE	X	X	X	X		X	X	X	X	X	X	X				X	X	X							
19	6020 Avion Drive	United Airlines Hangar	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X						
20	6022 Avion Drive	Envoy Terminal	X		X			X	X	X	X	X	X	X		X			X	X	X						
21	6040 Avion Drive	Mercury Cargo	X	X	X			X	X	X	X	X		X					X	X	X					X	X
22	6060 Avion Drive	Delta GSE	X	X	X			X	X	X	X	X	X	X				X	X	X	X						
23	5932 W Century Blvd	United Cargo	X		X			X	X	X	X	X		X					X	X						X	X
24	6150 W Century Blvd	Raytheon	X	X	X	X		X	X	X	X	X		X					X	X	X						
25	6150 W Century Blvd	Delta Hangar	X	X	X	X		X	X	X	X	X	X	X	X			X	X	X	X						
26	11101 Aviation Drive	Swissport Cargo Building #1	X					X	X	X	X	X		X					X	X	X					X	X
27	11101 Aviation Drive	Delta Cargo	X					X	X	X	X	X		X					X	X	X					X	X
28	11201 Aviation Blvd	China Airlines Cargo	X	X	X			X	X	X	X	X		X					X	X						X	X
29	5621 W Imperial Hwy	Air France	X					X	X	X	X	X		X					X	X							
30	5701 W Imperial Hwy	Menzies	X	X	X	X		X	X	X	X	X	X	X				X	X	X	X						
31	5721 W Imperial Hwy	Lufthansa Cargo	X					X	X	X	X	X		X					X	X						X	X
32	5761 W Imperial Hwy	Polar Air Cargo	X					X	X	X	X	X		X					X	X						X	X

Table 4.2 LAX Tenant Specific BMPs

Map Site ID	Address	Tenant	SC1 Elimination of Non-Stormwater Discharges	SC2 Aircraft, Ground Vehicle, and Equipment Maintenance	SC3 Aircraft, Vehicle and Equipment Fueling	SC4 Aircraft, Vehicle and Equipment Washing	SC5 Aircraft Deicing	SC6 Outdoor Material Handling	SC7 Outdoor Storage of Significant Material	SC8 Waste Handling and Disposal	SC9 Building and Grounds Maintenance	SC10 Stormwater Pollution Prevention Education	SC11 Lavatory Service Operations	SC12 Outdoor Washdown/Sweeping	SC13 Fire Fighting Foam discharge	SC14 Potable Water System Flushing	SC15 Runway Rubber Removal	TC1 Oil/Water Separators	SR1 Emergency Spill Cleanup Plan	SC40 Contaminated or Erodible Surfaces	SC44 Drainage System Maintenance	TC20 Wet Pond	TC22 Extended Retention Basin	TC40 Media Filter	MP51 Gravity Separator	Sweeping and Removal of Cargo Tote Metal Shavings	Avoidance of Dragging or Pushing Cargo Totes
33	5781 W Imperial Hwy	Swissport Cargo	X					X	X	X	X	X		X					X	X						X	X
34	5791 W Imperial HWY	DHL	X		X			X	X	X	X	X		X					X	X							
35	5927 W Imperial Hwy	FedEx	X	X	X	X		X	X	X	X	X	X	X				X	X	X	X						
36	6041 W Imperial Hwy	Japan Air Cargo/Mercury	X					X	X	X	X	X		X					X	X						X	X
36	6041 W Imperial Hwy	UPS LAX Gateway	X					X	X	X	X	X		X					X	X						X	X
37	6041 W Imperial Hwy	United Parcel Service	X					X	X	X	X	X		X					X	X						X	X
38	6101 W Imperial Hwy	Korean Air Cargo	X					X	X	X	X	X	X	X					X	X						X	X
39	6181 W Imperial Hwy	Singapore	X	X	X			X	X	X	X	X		X					X	X						X	X
40	6201 W Imperial Hwy	Landmark Aviation/ Standard Aero	X	X	X	X		X	X	X	X	X	X	X	X			X	X	X	X						
41	6411 W Imperial Hwy	Atlantic Aviation	X	X	X	X		X	X	X	X	X	X	X				X	X	X	X					X	X
42	6501 W Imperial Hwy	Nippon Air Cargo	X	X	X			X	X	X	X	X		X					X	X						X	X
43	6555 W Imperial Hwy	Qantas Freight	X					X	X	X	X	X		X					X	X						X	X
44	6661 W Imperial Hwy	Imperial Terminal	X	X	X			X	X	X	X	X	X	X					X	X						X	X
45	6851 W Imperial Hwy	AeroMexico Cargo	X					X	X	X	X	X		X					X	X							
46	7001 W Imperial Hwy	SIA Engineering USA Inc.	X		X			X	X	X	X	X		X					X	X							
47	7025 W Imperial Hwy	Swissport GSE	X					X	X	X	X	X	X	X				X	X	X							
48	7100 World Way	AA- Maintenance Hangar	X	X	X	X		X	X	X	X	X	X	X		X		X	X	X							
49	7100 World Way	AA- Maintenance RONArea	X					X	X	X	X	X		X					X	X							
50	7183 World Way West	AA Hangar 4	X	X	X	X		X	X	X	X	X		X		X		X	X	X							
51	7250 World Way West	Fire Station #80	X					X	X	X	X	X		X	X			X	X	X	X						
52	7251 World Way West	ASIG	X	X	X			X	X	X	X	X		X		X		X	X	X	X						
53	7255 World Way West	Southwest Airlines Provisions	X			X		X	X	X	X	X		X				X	X	X							
54	7265 World Way West	9900 LAX Fuel	X		X			X	X	X	X	X		X	X			X	X	X	X						
55	7300 World Way West	United Airlines Maintance	X	X	X	X		X	X	X	X	X		X				X	X	X	X						
56	7401 World Way West	FedEx Maintenance	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X						
57	7411 World Way West	LAWA Maintenance	X	X	X	X		X	X	X	X	X		X			X	X	X	X	X						
58	7260 World Way	AA-OSF	X	X				X	X	X	X	X		X				X	X	X							
59	8214 World Way West	Remote Gates	X	X	X			X	X	X	X	X	X	X					X	X							
60	9601 Coast Guard Road	Southwest Airlines GSE	X	X				X	X	X	X	X		X					X	X							
61	7007 W Imperial Hwy	Air New Zealand	X					X	X	X	X	X		X					X	X							
62	8000 World Way West, Los Angeles, CA 90045	Qantas Hangar	X	X	X	X		X	X	X	X	X		X				X	X	X	X						
63	W. Imperial Hwy, Los Angeles, CA 90045	Gate Gourmet GSE	X					X	X	X	X	X	X	X				X	X	X	X						
64	6951 W Imperial Hwy	WFS-Imperial	X					X	X	X	X	X	X	X				X	X	X	X						

Table 4.2 LAX Tenant Specific BMPs

Map Site ID	Address	Tenant	SC1 Elimination of Non-Stormwater Discharges	SC2 Aircraft, Ground Vehicle, and Equipment Maintenance	SC3 Aircraft, Vehicle and Equipment Fueling	SC4 Aircraft, Vehicle and Equipment Washing	SC5 Aircraft Deicing	SC6 Outdoor Material Handling	SC7 Outdoor Storage of Significant Material	SC8 Waste Handling and Disposal	SC9 Building and Grounds Maintenance	SC10 Stormwater Pollution Prevention Education	SC11 Lavatory Service Operations	SC12 Outdoor Washdown/Sweeping	SC13 Fire Fighting Foam discharge	SC14 Potable Water System Flushing	SC15 Runway Rubber Removal	TC1 Oil/Water Separators	SR1 Emergency Spill Cleanup Plan	SC40 Contaminated or Erodible Surfaces	SC44 Drainage System Maintenance	TC20 Wet Pond	TC22 Extended Retention Basin	TC40 Media Filter	MP51 Gravity Separator	Sweeping and Removal of Cargo Tote Metal Shavings	Avoidance of Dragging or Pushing Cargo Totes
65	7401 World Way West, Los Angeles, CA 90045	Swissport-Taxiway E-14 Storage Area West	X					X	X	X	X	X		X					X	X							
66	7401 World Way West, Los Angeles, CA 90045	Swissport Fueling Storage-Taxiway E-14 West	X					X	X	X	X	X		X					X	X							
67	7800 World Way West, Los Angeles, CA 90045	Virgin Australia-WAMA	X	X	X	X		X	X	X	X	X		X				X	X	X	X						
68	5811 W Imperial Hwy	ASIG South Loading Rack	X					X	X	X	X	X		X					X	X							
69	7800 World Way West, Los Angles, CA 90045	Delta Airlines-WAMA	X	X	X	X		X	X	X	X	X		X				X	X	X	X						
70	7401 World Way West, Los Angeles, CA 90045	Swissport-Taxiway E-14 Storage East	X					X	X	X	X	X		X					X	X							
71	7183 World Way West	Southwest Taxiway E-13 West-Storage Area	X					X	X	X	X	X		X					X	X							
72	5795 W Imperial Hwy	Prologis Cargo (TBD)	X					X	X	X	X	X		X					X	X						X	X
73	5625 W Imperial Hwy	Delta Cargo	X	X	X			X	X	X	X	X		X					X	X						X	X
74	7183 World Way West	Menzies-Taxiway E-13 Storage West	X					X	X	X	X	X		X					X	X							
	1 World Way	LAWA-LAX (Total Facility)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

5. MONITORING IMPLEMENTATION PLAN AND REPORTING

5.1 Purpose

This section describes the Site Monitoring Implementation Plan (MIP) and the storm water program reporting obligations. The following topics are addressed:

- Storm water monitoring team;
- Storm water discharge locations;
- Visual observations and response procedures;
- Storm water sampling and analysis procedures;
- Sampling documentation procedures; and
- Quality assurance and quality control, including field instrument calibration.

5.2 Storm Water Monitoring Team

The storm water monitoring team is comprised of the same staff that forms the Pollution Prevention Team. Those individuals are identified in **Table 1.1** of this plan.

5.3 Storm Water Containment Locations

There is one Retention Basin on site which collects storm water drainage from the Imperial Drain Sub-basin. The Retention Basin is shown in **Figure 5.** Each tenant at LAX is responsible for implementing specific BMPs based on the industrial activities occurring at their facilities. The BMPs being implemented by each tenant is presented in **Table 4.2**.

5.4 Storm Water Discharge Locations

As described in **Section 2.1.4** and shown in **Figure 5**, LAX is divided into six storm water drainage areas which combine and discharge at three locations as summarized in **Table 5.1.**

Table 5.1: Storm Water Discharge Locations

Location Identifier	Discharge Location	Industrial or Non-Industrial Activities	Drainage Area
1	Argo Ditch	Industrial	Argo Drain Sub-basin
2	Imperial Channel Outfall	Industrial	Imperial Drain Sub-basin
3	Dominguez Channel	Industrial	Dominguez Channel South Sub-basin
4	Dominguez Channel	Non-Industrial	Dominguez Channel North Sub-basin
5	Culver Storm Drain	Non-Industrial	Ballona Creek
State Beach	Vista Del Mar	Non-Industrial	Santa Monica Bay

Whenever changes in facility operations might affect the appropriateness of visual observation and sampling locations, the locations will be revised accordingly. All such revisions will be implemented as soon as feasible and the SWPPP amended.

5.5 Monthly Dry Weather Visual Observations and Responses

Visual observations are conducted by LAX tenants at least once each calendar month to identify potential storm water pollutant sources associated with outdoor industrial equipment operations and storage areas at their facilities. Monthly visual observation forms are submitted to LAX Pollution Prevention Team staff following completion each month. Monthly visual observations will be conducted during daylight hours of scheduled facility operating hours and on days without precipitation.

Monthly dry weather visual observations include observations of the following:

- Authorized and unauthorized non-storm water discharges
- Industrial activity areas
- BMP implementation

Monthly dry weather visual observations will be documented on the **Monthly Dry Weather Visual Observations** form located in **Appendix F** and will serve as the BMP Implementation Log for the BMPs maintained at the facility. If visual observations are not conducted, an explanation shall be provided on a **Monthly Dry Weather Visual Observation** form.

5.5.1 Non-Storm Water Discharge Observations

Drainage areas shall be observed to identify the presence of or evidence of past spills, leaks, uncontrolled pollutant sources, or other authorized or unauthorized non-storm

water discharges. Non-storm water discharge observations should be documented on the **Monthly Dry Weather Visual Observations** form located in **Appendix F**.

The following information should be recorded on the **Monthly Dry Weather Visual Observations** form, as appropriate:

- Presence or evidence of any non-storm water discharge (authorized or unauthorized);
- Pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.); and
- Source of discharge.

For authorized non-storm water discharges, also document whether BMPs are in place and are functioning to prevent contact with materials or equipment that could introduce pollutants to storm water conveyance systems.

5.5.2 Industrial Activities Areas and BMP Implementation

Drainage areas and identified potential pollutant source areas, including outdoor industrial activity, industrial equipment, and material storage areas, shall be observed for evidence of potential pollutant sources. BMPs shall be observed to verify that they are being implemented as described in **Section 4 and Attachment B**. BMP deficiencies shall be noted and repairs and/or maintenance shall be initiated as soon as possible. Industrial activity areas and BMP observations should be documented on the **Monthly Dry Weather Visual Observations** form located in **Appendix F**.

5.5.3 Visual Observations Follow-Up and Reporting

Correction of deficiencies identified by the observations, including required repairs or maintenance of BMPs, will be initiated and completed as soon as possible. Response actions will include the following:

- Report observations to the Pollution Prevention Team Leader (LAWA) or designated individual;
- Identify and implement appropriate response actions;
- Determine if a SWPPP update is needed;
- Verify completion of response actions; and
- Document response actions.

If identified deficiencies require design changes, including additional BMPs, the implementation of changes will be completed as soon as possible and the SWPPP will be

amended to reflect the changes. BMP deficiencies identified during routine visual observations and the measures taken to correct deficiencies will be tracked on the **Monthly Dry Weather Visual Observations** form.

5.6 Storm Water Sampling and Analysis Procedures

This section describes the methods and procedures that will be followed for storm water sampling and analysis. It contains information for sampling schedule, sampling locations, sample collection procedures, sample handling, sample analysis, and data evaluation and reporting.

5.6.1 Storm Water Sampling Schedule

Storm water discharge samples will be collected during two Qualifying Storm Events (QSEs) within the first half of each reporting year (July 1 to December 31) and two QSEs within the second half of each reporting year (January 1 to June 30).

In accordance with Regional Board requirements for LAX, a QSE is a precipitation event that:

- Produces a discharge for at least one drainage area;
- Is a storm of 0.25 inches or greater of rain; and
- Is preceded by 72 hours of dry weather of less than 0.1 inch of precipitation.

5.6.2 Storm Water Sampling Locations

Three discharge locations have been identified for the facility. **Table 5.2** summarizes the sampling locations. Discharge sampling locations 1, 2 and 3 are shown on **Figure 5** and described in **Table 5.2**.

Table 5.2: Storm Water Sampling Locations

Sample Location Number	**Sample Location Description**	**Sample Location Latitude and Longitude** (Decimal Degrees)
1	Dominguez Channel	33.934555°N, -118.378844°W
2	Argo Ditch	33.948861°N, -118.399366°W
3	Imperial Channel Outfall	33.931061°N, -118.430000°W

5.6.3 Sample Collection Criteria

Storm water parameters that require grab sampling (indicated in **Table 5.3**) will be collected from each discharge location within four hours of the start of the discharge.

Storm water parameters that require composite sampling (indicated in **Table 5.3**) will be collected using automatic stormwater samplers. The samplers will collect flow weighted composite samples throughout the entire storm event, based on LAX specific sampling protocol required by the Regional Board.

Discharges of temporarily stored or contained storm water must also be sampled at the time of discharge.

Samples will be collected:

- During normal operating hours as defined in **Section 2.2**; and
- When sampling conditions are safe (i.e., not during flooding or electrical storms).

Only team members properly trained in water quality sampling will collect samples. If sampling cannot be conducted, document this on the **QSE Sampling Log and Visual Observations** form located in **Appendix G**.

5.6.4 Sampling Preparation

An adequate stock of monitoring supplies and equipment for sampling will be available on site prior to a sampling event. Monitoring supplies and equipment will be stored in a cool temperature environment that will not come into contact with rain or direct sunlight. Sampling personnel will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the facility will include, but are not limited to:

- clean powder-free nitrile gloves;
- sample collection equipment;
- coolers;
- appropriate number and volume of sample containers;
- identification labels;
- re-sealable storage bags;
- paper towels;
- personal rain gear;
- ice; and
- **QSE Sampling Log and Visual Observations** form and **Chain of Custody** (COC) form, which are provided in **Appendix G**.

5.6.5 Sample Collection Procedures

Grab Sampling Protocols

Storm water parameters that require grab sampling are indicated in **Table 5.3.** The most important aspect of grab sampling is to collect a sample that represents the entire runoff stream. Typically, samples are collected by dipping the collection container in the runoff flow paths and streams or holding the mouth of the collection container below the stream of water spilling into the catch basin as noted below.

- For small streams and flow paths, face upstream and simply dip the collection bottle facing upstream until full;
- Avoid collecting samples from ponded, sluggish or stagnant water; and
- Do not stand in the flow path upstream of the sampling point to avoid contaminating the samples.

Composite Sampling Protocols

Storm water parameters that require flow weighted composite sampling are indicated in **Table 5.3.**

Flow-weighted composite samples are collected using an automatic sampler with an automated peristaltic pump, Teflon® sample tubing, silicone peristaltic tubing and borosilicate glass bottles. Equipment should be checked on an as-needed basis monthly and before, during, and after each monitoring event. The sampling container must be cleaned prior to sampling. Flow and rainfall is monitored continuously during wet weather events and throughout the monitoring season.

General Sample Collection Protocols

Collected storm water is transferred from the collection container to the preserved laboratory-supplied sample bottles being careful not to overfill the bottles so as not to flush out any preservative.

To maintain sample integrity and prevent cross-contamination, sample collection personnel will abide by the following protocols:

- Wear clean, powder-free nitrile gloves when collecting samples;
- Change gloves whenever something not known to be clean has been touched;

- Clean/decontaminate all equipment (e.g., sample collection container) prior to sample collection using a phosphate-free water wash, distilled water rinse, and final rinse with distilled water. Dispose of wash and rinse water appropriately (i.e., do not discharge to storm drain or receiving water). Do not decontaminate laboratory-provided sample containers;
- Only use laboratory-provided sample containers for laboratory analysis;
- Do not smoke during sampling events;
- Never sample near a running vehicle;
- Do not park vehicles in the immediate sample collection area (even non-running vehicles);
- Do not eat or drink during sample collection; and
- Do not breathe, sneeze, or cough in the direction of an open sample container.

5.6.6 Sample Handling

5.6.6.1 Field Measurements

Field pH must be measured immediately following sample collection by filling a clean, decontaminated container large enough to submerge the pH sensor in collected storm water. Do not store samples for later pH measurement. Do not use water collected for measuring pH for filling laboratory sample bottles.

5.6.6.2 Laboratory Analysis

Immediately following sample collection, the following will be completed:

- Cap sample containers;
- Complete sample container labels;
- Seal containers in a re-sealable plastic bag;
- Place bagged sample containers into an ice-chilled cooler;
- Document sample information on the Sampling Field Log Sheet; and
- Complete the COC form and place in a re-sealable plastic bag.
- Cross check information recorded in the field log, on sample bottle labels and on the COC form for consistency. Make any corrections by lining through the error without completely obliterating the original entry and initial any changes.

All samples collected for laboratory analysis must be maintained between 0-6 degrees Celsius during delivery to the laboratory. Samples must be kept on ice immediately

following sample collection until the samples are delivered to the laboratory. Place samples into coolers with ice making sure the sample bottles are well packaged to prevent breakage and secure cooler lids with packaging tape.

Deliver samples to the analytical laboratory right away. Hold times are measured from the time the sample is collected to the time the sample is analyzed. The General Permit requires that samples be received by the analytical laboratory within 48 hours of the physical sampling (unless required sooner by the analytical laboratory). Fecal coliform and enterococcus samples must be sent to the laboratory immediately due to a short holding time.

5.6.7 Sample Analysis

Grab samples will be collected and analyzed in the field for pH using a calibrated portable field meter. Instructions for meter calibration and maintenance are included in **Appendix H**.

Storm water discharge grab samples will be collected and preserved in accordance with the methods identified in **Table 5.3** for the required parameters. Samples will be analyzed using sufficiently sensitive test methods by:

Weck Laboratories
14859 E. Clark Avenue, Industry, CA 91745
626-336-2139
ELAP Certification Number: 1132

Table 5.3: Sample Collection, Preservation and Analysis for Water Quality Samples

Constituent	Basis	Sample Type	Analytical Method	Minimum Sample Volume	Sample Containers	Sample Preservation	Method Reporting Limit	Maximum Analytical Holding Time
pH	Minimum Parameter	Grab	Field Meter	100 mL	NA	NA	NA	Less than 15 minutes after collecting sample in field
Oil & Grease (O&G)	Minimum Parameter	Grab	EPA 1664A	1,000 mL	1-L Amber Glass	HCl, 4°C	5 mg/L	28 Days
Temperature	RWQCB Requirement	Grab	Field Meter	NA	NA	NA	NA	Immediately in field
Total + Fecal Coliform	Pollutant Source Assessment/ EPA Priority Pollutants	Grab	SM9221B/E	100 mL	Sterile Plastic	$Na_2S_2O_3$, 4°C	Varies	8 Hours
Enterococcus	Pollutant Source Assessment/ EPA Priority Pollutants	Grab	SM9230B	100 mL	Sterile Plastic	4°C	Varies	6 Hours
Total Suspended Solids (TSS)	Minimum Parameter	Composite	SM 2540-D	1,000 mL	1-L HDPE	4°C	1 mg/L	7 Days
Ammonia (NH_3) (as N)	Pollutant Source Assessment	Composite	EPA 350.1	100 mL	500 mL, plastic or glass	H_2SO_4, 4°C	0.10 mg/L	28 Days

Table 5.3: Sample Collection, Preservation and Analysis for Water Quality Samples (Continued)

Constituent	Basis	Sample Type	Analytical Method	Minimum Sample Volume	Sample Containers	Sample Preservation	Method Reporting Limit	Maximum Analytical Holding Time
Biochemical Oxygen Demand	Pollutant Source Assessment	Composite	SM 5210B	300 mL	1L, plastic or glass	4°C	1.0 mg/L	48 Hours
Chemical Oxygen Demand	Pollutant Source Assessment	Composite	EPA 410.4	20	250 mL glass	H_2SO_4, 4°C	20 mg/L	28 Days
Polyaromatic Hydrocarbons (PAHs)	RWQCB Requirement	Composite	EPA 8270C SIMS	1 L	Amber glass	Do not chill	Varies	40 days
Heavy Metals (Total): Al,As,Ba,Be,Cd,Cr,Cu,Pb, Ni,Se,Ag,Tl,and Zn	RWQCB Requirement	Composite	EPA 200.8	50 mL	500 mL, 16oz Plastic	HNO_3, 4°C	Varies	6 Months
Heavy Metals (Dissolved): Al,As,Ba,Be,Cd,Cr,Cu,Pb, Ni,Se,Ag,Tl,and Zn	RWQCB Requirement	Composite	EPA 200.8	50 mL	500 mL, 16oz Plastic	4°C	Varies	6 Months (after filtration and preservation at laboratory upon receipt)
Mercury (Hg, Total)	RWQCB Requirement	Composite	EPA 245.1	50 mL	Minimum 250mL or 16oz plastic	HNO_3, 4°C	0.00005 mg/L	28 Days
Mercury (Hg, Dissolved)	RWQCB Requirement	Composite	EPA 245.1	50 mL	500 mL, 16oz Plastic	4°C	0.00005 mg/L	28 Days (after filtration and preservation at laboratory upon receipt)

Table 5.3: Sample Collection, Preservation and Analysis for Water Quality Samples (Continued)

Constituent	Basis	Sample Type	Analytical Method	Minimum Sample Volume	Sample Containers	Sample Preservation	Method Reporting Limit	Maximum Analytical Holding Time
Pesticides	RWQCB Requirement	Composite	EPA 608	2-1 L	Amber glass	NaOH or H2SO4,, 4°C	Varies	7 Days
Polychlorinated Biphenyls (PCBs)	EPA Priority Pollutants	Composite	EPA 608	2-1 L	Amber glass	NaOH or H2SO4,, 4°C	Varies	7 Days
Glycol	RWQCB Requirement	Composite	EPA 8015B Mod.	1-40 mL VOA	Glass VOA	4°C	20 mg/L	7 Days
Total Organic Carbon	RWQCB Requirement	Composite	SM 5310B	2-40 mL VOA	Glass VOA	HCL or H_2SO_4, 4°C	0.1 mg/L	28 Days
Total Recoverable Petroleum Hydrocarbons (TRPH)	RWQCB Requirement	Composite	EPA 1664 Non-Polar	500 mL	Amber Glass	HCl, 4°C	5.0 mg/L	28 days
Volatile Organic Compounds (VOCs)	RWQCB Requirement	Composite	EPA 624	2-40 mL VOA	Glass VOA	HCl, 4°C	Varies	14 Days
Semivolatile Organic Compounds (SVOCs)	RWQCB Requirement	Composite	EPA 625	1 L	Amber Glass	4°C	Varies	7 Days
Phosphorous	RWQCB Requirement	Composite	EPA 365.3	100 mL	500ml plastic	H_2SO_4, 4°C	0.01 mg/L	28 Days

Table 5.3: Sample Collection, Preservation and Analysis for Water Quality Samples (Continued)

Constituent	Basis	Sample Type	Analytical Method	Minimum Sample Volume	Sample Containers	Sample Preservation	Method Reporting Limit	Maximum Analytical Holding Time
Tetracholorodibenzodioxin (TCDD)	EPA Priority Pollutants	Composite	EPA 8290A	1 L	Amber Glass	4°C	5.0 pg/L	30 Days
Cyanides	EPA Priority Pollutants	Composite	ASTMD7511	500 mL	Plastic	NaOH, 4°C	0.002 mg/L	14 Days
Asbestos	EPA Priority Pollutants	Composite	EPA 100.2	1 L	Plastic	4°C	1.6 MFL	48 Hours

Notes:
Bolded Analytical Methods are required by the IGP.
°C – Degrees Celsius
EPA – Environmental Protection Agency
HCL – Hydrochloric Acid
HDPE – High Density Polyethylene
H_2SO_4 – Sulfuric Acid
HNO_3 – Nitric Acid
L – Liters
mg/L – milligrams per liter
MFL – Million fiber per liter
mL – milliliters
NA – Not Applicable
NaOH – Sodium Hydroxide
oz. – ounce
pg/L – pictogram per liter
SM – Standard Method
VOA – Volatile Organic Analysis Vial with Septa Seal

5.7 Sampling Documentation Procedures

A blank **QSE Sampling Log and Visual Observations** form and an example COC are included in **Appendix G**. Sampling documentation shall be recorded using waterproof ink. Information recorded on the **QSE Sampling Log and Visual Observations** form, on sample bottle labels and on the COC will be reviewed at the end of the sampling event and prior to submittal of samples to the laboratory. Documentation will be cross-checked for consistency. Make any corrections by lining through the error without completely obliterating the original entry and initial any changes. All corrections will be initialed and dated.

Sample documentation includes the following:

- **QSE Sampling Log and Visual Observations** form - Sampling personnel will complete the form for each sampling event and maintain a copy with the SWPPP; and
- **Chain of Custody -** Sampling personnel will complete the COC for each sampling event for which samples are collected for laboratory analysis. The sampler will sign the COC when the samples are turned over to the testing laboratory or courier. A copy of the completed COC will be maintained with the SWPPP.

5.8 Storm Event Visual Observations and Responses

Whenever storm water samples are collected, sampling event visual observations will also be conducted. These observations allow the Pollution Prevention Team to quickly assess the quality of the discharged storm water and respond to potential BMP deficiencies in a timely manner.

The **QSE Sampling Log and Visual Observations** form found in **Appendix G** will be used to record sampling event observations and will include the following information:

- Pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.);
- Source contributing to the observed pollutants; and
- New or revised BMPs and implementation date.

Discharges of temporarily stored or contained storm water must also be observed at the time of discharge.

When pollutants (i.e., odor, oily sheen, sediment, trash, etc.) are observed in the discharged storm water, follow-up observations of the drainage area will be conducted to identify the probable source of the pollutants and adequacy of BMPs. BMP deficiency corrections, including repairs or maintenance of BMPs, will be initiated as soon as possible. If the deficiencies require substantive design or procedural changes, including additional BMPs, the SWPPP will be amended to reflect the changes.

A **QSE Sampling Log and Visual Observations** form must be filled out every month. In the event that monthly visual observations are not performed or a QSE did not occur, the visual observations form will provide an explanation for why there is no visual observation.

5.9 Quality Assurance and Quality Control

An effective Quality Assurance and Quality Control (QA/QC) plan will be implemented as part of the MIP to ensure that reliable data (field observations and analytical data) is obtained. QA/QC procedures to be initiated include the following:

- Field forms will be carefully and legibly prepared and signed by the team member that conducts the observations and sampling;
- Clean sampling techniques will be implemented by trained team members;
- Field instruments are carefully calibrated and the calibration documented on sampling forms;
- Chains of custody forms will be carefully prepared and reviewed prior to sample shipment; and
- Data will be reviewed to ensure that the laboratory performed the requested analyses and that laboratory performance parameters (hold time, reporting limits, method detection limits, and laboratory QC samples) are satisfactory.

5.10 Storm Event Log

Storm event weather and precipitation data is continuously recorded by the Los Angeles International Airport (KLAX) weather station located at Latitude: 33.93806°N, Longitude: 118.38889°W, Elevation: 125ft. Rainfall data is also continuously recorded by the three mass loading stations located at Argo, Imperial, and Dominguez Monitoring stations. Rainfall event data is provided in the annual monitoring report for LAX.

6. REPORTING AND RECORDKEEPING

6.1 Storm Water Discharge Analytical Results Reporting

Sampling and analytical results for individual samples will be submitted via SMARTS within 30 days of obtaining the results for each sampling event.

- The method detection limit will be provided when an analytical result from samples taken is reported by the laboratory as a "non-detect" or less than the method detection limit. A value of zero will not be reported.

- Analytical results that are reported by the laboratory as below the minimum level (often referred to as the reporting limit) but above the method detection limit will be provided.

- Reported analytical results will be averaged automatically by SMARTS at the end of the reporting year. For any calculations required by the General Permit a value of zero shall be used, analytical results that are reported by the laboratory as "non-detect" or less than the Method Detection Limit (MDL).

6.2 Annual Comprehensive Facility Compliance Evaluation

The General Permit (Section XV) requires the Discharger to conduct one Annual Comprehensive Facility Compliance Evaluation (Annual Evaluation) for each reporting year (July 1 to June 30). Annual Evaluations will be conducted at least eight months and not more than 16 months after the previous Annual Evaluation. The SWPPP will be revised, as appropriate based on the results of the Annual Evaluation, and the revisions will be implemented within 90 days of the Annual Evaluation.

At a minimum, Annual Evaluations will consist of:

- A review of all sampling, visual observation, and inspection and monitoring records and sampling and analysis results conducted during the previous reporting year;
- A visual inspection of all areas of industrial activity and associated potential pollutant sources for evidence of, or the potential for, pollutants entering the storm water conveyance system;
- A visual inspection of all drainage areas previously identified as having no exposure to industrial activities and materials in accordance with the definitions in General Permit Section XVII;
- A visual inspection of equipment needed to implement the BMPs;

- A visual inspection of any BMPs;
- A review and effectiveness assessment of all BMPs for each area of industrial activity and associated potential pollutant sources to determine if the BMPs are properly designed, implemented, and are effective in reducing and preventing pollutants in industrial storm water discharges and authorized NSWDs; and
- An assessment of any other factors needed to comply with the Annual Reporting requirements in General Permit Section XVI.B.

6.3 Annual Report

The Annual Report will be prepared, certified, and electronically submitted no later than July 15th following each reporting year using the standardized format and checklists in SMARTS based on the reporting requirements identified in Section XVI of the General Permit. Annual reports will be submitted in SMARTS and in accordance with information required by the on-line forms.

6.4 Records Retention

Paper or electronic records of storm water monitoring information and copies of reports (including Annual Reports) will be retained at the LAWA Environmental Regulatory Compliance office located at 7301 World Way West, Los Angeles, California for a period of at least five years from date of submittal or longer if required by the Regional Water Board.

Records to be retained include:

- Employee Training Records;
- BMP Implementation Records;
- Spill and Clean-up Related Records;
- Sampling logs and analytical laboratory reports;
- Visual Observation Records, including corrective action responses; and
- Annual Reports from SMARTS (checklist and any explanations).

Copies of these records will be available for review by the Water Board's staff at the facility during scheduled facility operating hours. Upon written request by U.S. EPA or the local MS4, Dischargers will provide paper or electronic copies of requested records to the Water Boards, U.S. EPA, or local MS4 within 10 working days from receipt of the request.

7. REFERENCES

State Water Resources Control Board (2014). Order 2014-0057-DWQ, NPDES General Permit No. CAS000001: National Pollutant Discharges Elimination System (NPDES) California General Permit for Stormwater Discharge Associated with Industrial Activities. Available on-line at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.shtml.

CASQA 2012, *Stormwater BMP Handbook Portal: Industrial Commercial*, August 2014, www.casqa.org

Correspondence Letters with Los Angeles Regional Water Quality Control Board dated November 15, 2001 through January 17, 2012:

- Re: Los Angeles International Airport (LAX) General Industrial Activities Storm Water Discharge National Pollutant Discharge Elimination System (NPDES) Permit No. CAS000001, WDID 419S004995

- Re: Implementation of Toxicity Monitoring of Industrial Storm Water Discharges at the Los Angeles International Airport (LAX)

8. LIST OF ACRONYMS AND ABBREVIATIONS

amsl	above mean sea level
Annual Evaluation	Annual Comprehensive Facility Compliance Evaluation
BMPs	Best Management Practices
CASQA	California Stormwater Quality Association
COC	Chain of Custody
COD	Chemical Oxygen Demand
ERA	Exceedance Response Action
ERAs	Exceedance Response Actions
General Permit	General Permit for Stormwater Discharges Associated with Industrial Activities
HMMP	Hazardous Material Management Plan
LRP	Legally Responsible Person
MDL	Method Detection Limit
MIP	Monitoring Implementation Plan
MS4	Municipal Separate Storm Sewer System
NAL	Numeric Action Level
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharges Elimination System
NSWDs	Non-Storm Water Discharges
PRDs	Permit Registration Documents
PPT	Pollution Prevention Team
QA/QC	Quality Assurance and Quality Control
QSEs	Qualified Storm Events
SMARTS	Stormwater Multi Application and Report Tracking System
SPCC	Spill Prevention Control and Countermeasure
State Water Board	State Water Resources Control Board
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
WDID	Waste Discharge Identification

FIGURES

FIGURE 1

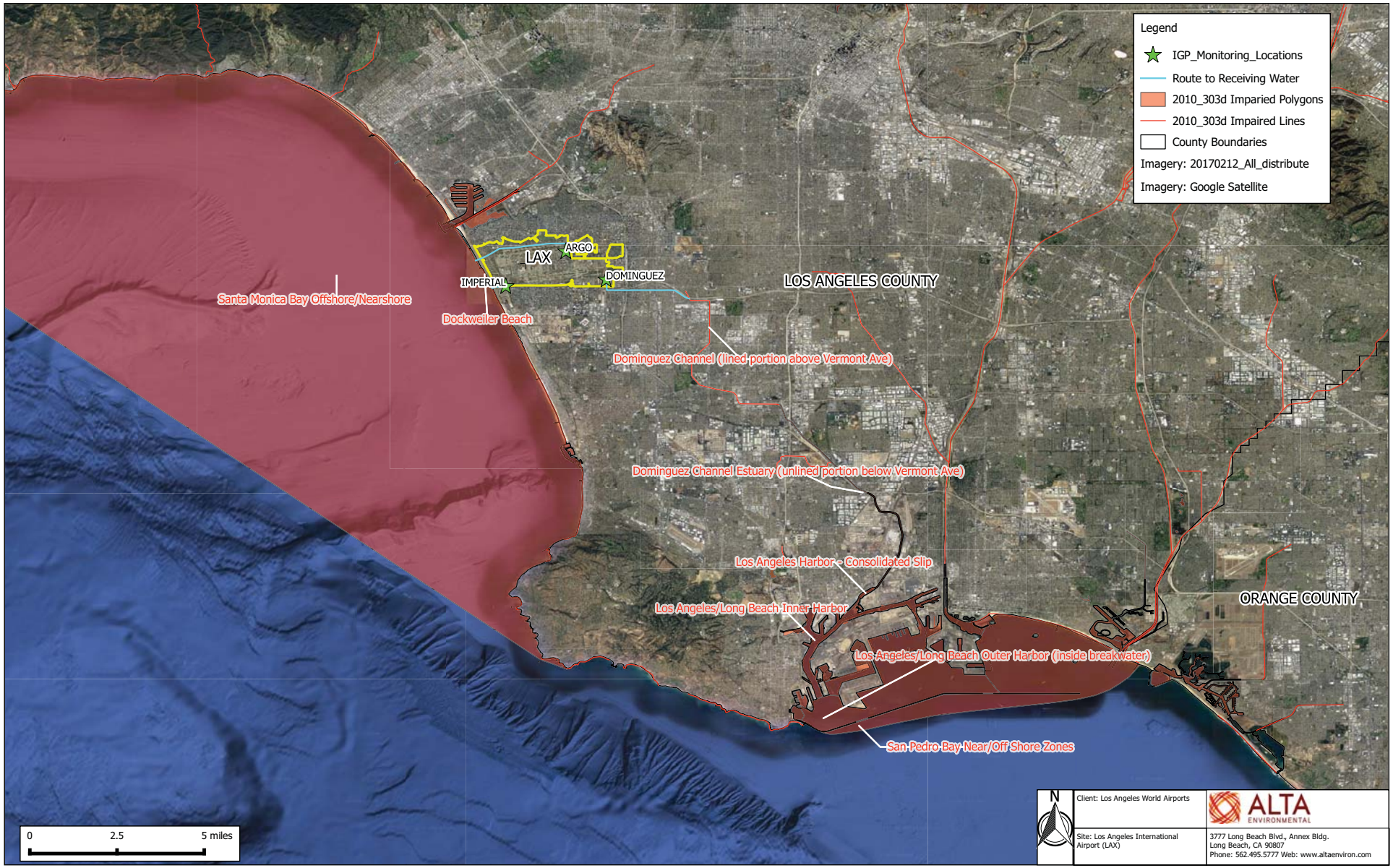
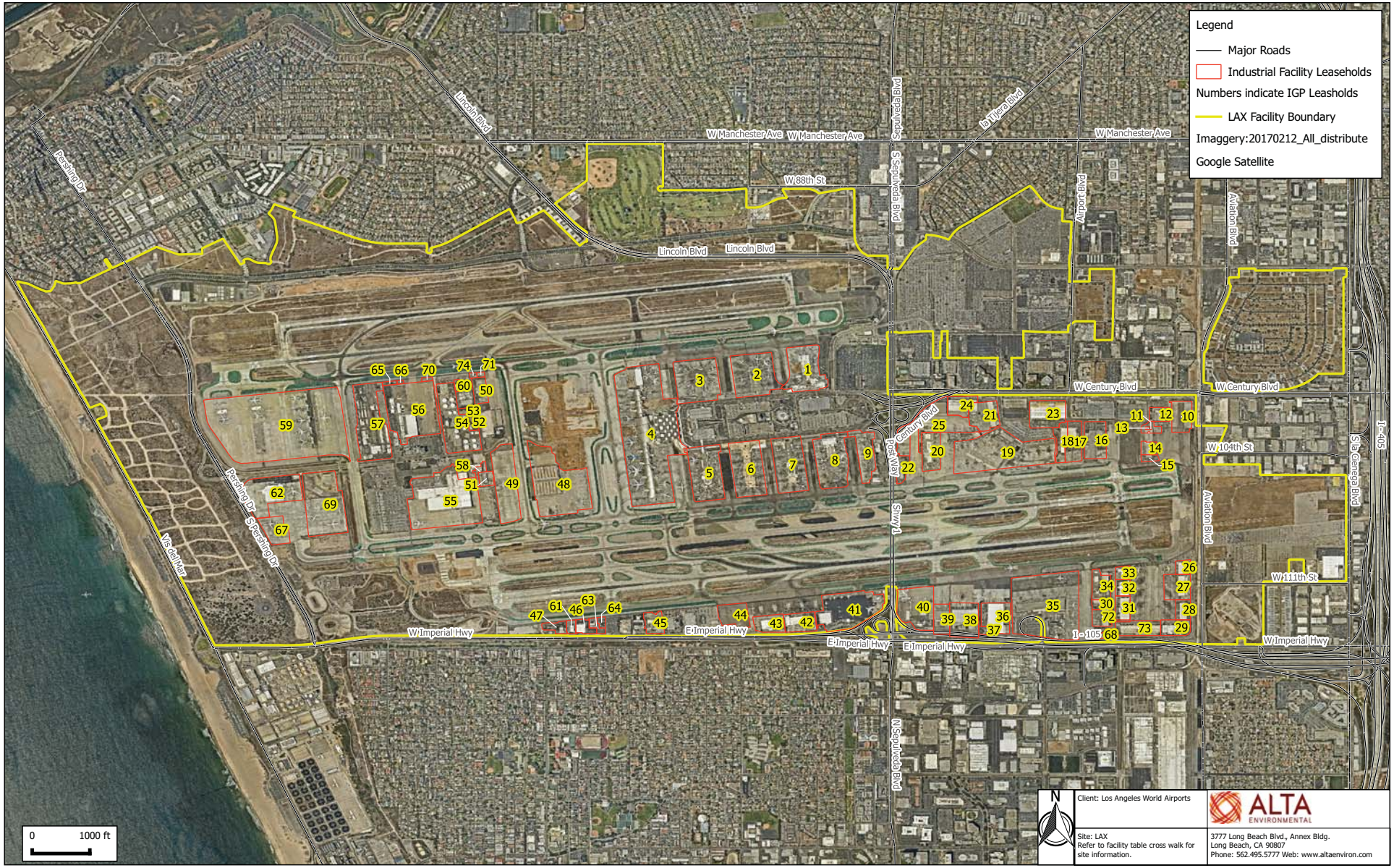

Legend
IGP_Monitoring_Locations
Route to Receiving Water
2010_303d Imparied Polygons
2010_303d Impaired Lines
County Boundaries
Imagery: 20170212_All_distribute
Imagery: Google Satellite
LAX
ARGO
IMPERIAL
DOMINGUEZ
LOS ANGELES COUNTY
ORANGE COUNTY
Santa Monica Bay Offshore/Nearshore
Dockweiler Beach
Dominguez Channel (lined portion above Vermont Ave)
Dominguez Channel Estuary (unlined portion below Vermont Ave)
Los Angeles Harbor - Consolidated Slip
Los Angeles/Long Beach Inner Harbor
Los Angeles/Long Beach Outer Harbor (inside breakwater)
San Pedro Bay Near/Off Shore Zones
0
2.5
5 miles
N
Client: Los Angeles World Airports
Site: Los Angeles International Airport (LAX)
ALTA ENVIRONMENTAL
3777 Long Beach Blvd., Annex Bldg.
Long Beach, CA 90807
Phone: 562.495.5777 Web: www.altaenviron.com

FIGURE 2


Legend
Major Roads
Industrial Facility Leaseholds
Numbers indicate IGP Leasholds
LAX Facility Boundary
Imaggery:20170212_All_distribute
Google Satellite
Lincoln Blvd
W Manchester Ave
W 88th St
Sepulveda Blvd
La Tijera Blvd
Airport Blvd
Aviation Blvd
W Century Blvd
Century Blvd
Pershing Dr
Vista del Mar
W Imperial Hwy
E Imperial Hwy
Imperial Hwy
I-105
W 104th St
W 111th St
S La Cienega Blvd
I-405
Post Way
Stwy 1
N Sepulveda Blvd
0
1000 ft
N
Client: Los Angeles World Airports
Site: LAX
Refer to facility table cross walk for site information.
ALTA ENVIRONMENTAL
3777 Long Beach Blvd., Annex Bldg.
Long Beach, CA 90807
Phone: 562.495.5777 Web: www.altaenviron.com

Los Angeles International Airport - Industrial Tenant Site Summary and Facility Area (1/8/18)

Map Site ID	Facility Name	Address	Note1	Note2	Facility Area (acres)
1	Southwest Airlines-T1	100 World Way, Los Angeles, CA 90045	Aircraft fueling and sanitary services occur at various locations within facilit	Deicing occurs as needed	12.474
2	Delta Terminal 2-TBITEC	200 World Way	Aircraft fueling and sanitary services occur at various locations at facility	Hazardous storage area located indoors	14.536
3	Delta America-T3	300 World Way, Los Angeles, CA 90045	Aircraft fueling and sanitary services	Chemical storage located outdoors under cover	14.999
4	TBITEC-TBIT	380 World Way, Los Angeles, CA 90045	Aircraft fueling and sanitary services occur at facility		57.227
5	American Airlines-T4	400 World Way, Los Angeles, CA 90045	Aircraft fueling and sanitary services occur within facility		14.161
6	American Airlines-Terminal 5	500 World Way, Los Angeles, CA 90045	Aircraft fueling and sanitary services occur within facility boundary		14.026
7	Virgin/Alask Airlines-Terminal 6	600 World Way, Los Angeles, CA 90045	Aircraft fueling and sanitary service occur within facility boundary	Mobile fuel truck used for vehicle fueling if necessary	13.877
8	United Airlines-Terminal 7	700 World Way, Los Angeles, CA 90045	Aircraft fueling and sanitary services occur within facilicity boundary		13.835
9	United Airlines-Terminal 8	800 World Way, Los Angeles, CA 90045	Aircraft fueling and sanitary services occur within facility boundaries		6.839
10	Southwest Cargo	5600 W Century Blvd., Los Angeles, CA			5.111
11	Certified Aviation Services	5720 Avion Drive, Los Angeles, CA 90045	Tug Technologies occupies a small leasehold inside CAS leasehold.		1.508
12	AA OSF2	10080 International Road, Los Angeles, CA 90045			2.325
13	Tug Technologies	5720 Avion Drive, Los Angeles, CA, 90045			0.128
14	Menzies (former ASIG)	5720 Avion Drive, Los Angeles, CA 90045			1.738
15	Envoy GSE	5720 Avion Drive, Suite C, Los Angeles, CA 90045			0.962
16	Mercury Air Cargo, Inc.	5908 Avion Drive, Los Angeles, CA			6.683
17	American Airlines Cargo	5950 Avion Drive, Los Angeles, CA 90045			5.011
18	American Airlines-GSE	5970 Avion Drive, Los Angeles, CA 90045			3.497
19	United Airlines-Hangar 1	6020 Avion Drive, Los Angeles, CA 90045	Aircraft fueling and sanitary services occur on site		26.284
20	Envoy Terminal	6022 Avion Drive, Los Angeles, Ca 90045	Aircraft fueling and sanitary services occur on site		5.797
21	Mercury Air Cargo, Inc.	6040 Avion Drive, Los Angeles, CA 90045			6.466
22	Delta-GSE	6060 Avion Drive, Los Angeles, CA 90045			2.551
23	United-Cargo	5932 W Century Blvd., Los Angeles, CA 90045			7.824
24	Raytheon	6150 W. Century Blvd., Los Angeles, CA 90045	Aircraft fueling occurs on site.		3.926
25	Delta Hangar	6150 W. Century Blvd., Los Angeles, CA 90045	Aircraft fuleing and sanitary services occur at facility.		14.683
26	Swissport Cargo Building 1	11001 Aviation Blvd., Los Angeles, CA 90045			1.741
27	Delta Cargo	11101 Aviation Blvd., Los Angeles, CA 90045			5.548
28	China Air Cargo	11201 Aviation Blvd., Los Angeles, CA 90045			2.479
29	Air France Cargo	5621 West Imperial Hwy, Los Angeles, CA 90045	Leasehold has been subleased Consolidated Aviation Services		3.828
30	Menzies	5701 W. Imperial Hwy., Los Angeles, CA 90045	Aircraft sanitary services performed at facility.		1.199
31	Lufthansa Airlines Cargo	5721 West Imperial Hwy., Los Angeles, CA 90045	All chemicals are stored indoors.		2.969
32	Polar Air Cargo	5761 Imperial Hwy., Los Angeles, CA 90045			2.013

Los Angeles International Airport - Industrial Tenant Site Summary and Facility Area (1/8/18)

Map Site ID	Facility Name	Address	Note1	Note2	Facility Area (acres)
33	Swissport Cargo Services	5781 Imperial Hwy., Los Angeles, CA 90045			1.6
34	DHL Worldwide Express	5791 West Imperial Hwy., Los Angeles, CA 90045			4.206
35	FedEx Express-LAXR	5927 W. Imperial Hwy., Los Angeles, CA 90045			35.045
36	Mercury Air Cargo	6041 Imperial Hwy W., Los Angeles, CA 90045			6.398
37	United Parcel Service	6041 Imperial Hwy W., Los Angeles, CA 90045			1.164
38	Korean Air Cargo	6101 Imperial Hwy W., Los Angeles, CA 90045	All area drains to the north of the building have storm drain filters inserts.		8.246
39	Singapore Airlines Cargo	6181 Imperial Hwy. W., Los Angeles, CA 90045			4.019
40	Landmark Aviation/Standard Aero	6201 W. Imperial Hwy., Los Angeles, CA 90045	Aircraft fueling and sanitary services occur at facility.		11.556
41	Atlantic Aviation	6411 W Imperial Hwy., Los Angeles, Ca 90045	Aircraft fueling and sanitary services occur at facility.		16.603
42	Total Airport Services (Nippon Cargo)	6501 Imperial Hwy W., Los Angeles, CA 90045			4.841
43	Qantas Cargo	6555 Imperial Hwy W., Los Angeles, CA 90045			4.163
44	LAWA Imperial Terminal	6661 W. Imperial Hwy., Los Angeles, CA 90045	Aircraft fueling and sanitary services occur at facility.		5.413
45	Aero Mexico Cargo	6851 Imperial Hwy. W., Los Angeles, CA 90045			3.196
46	SIA Engineering USA, Inc.	7001 W. Imperial Hwy., Los Angeles, CA 90045			1.878
47	Swissport USA	7025 W. Imperial Hwy., Los Angeles, CA 90045			1.924
48	AA Maintenance Hangar	7100 World Way West, Los Angeles, CA 90045			25.413
49	AA Maintenance RON Area	7100 World Way West. Los Angeles, CA 90045	Part of AA Maintenance Hangar Facility		13.734
50	American Airlines Hangar 4	7183 World Way West	Los Angeles, CA 90045		2.994
51	Fire Station #80	7250 World Way West, Los Angeles, CA 90045			1.709
52	ASIG	7251 World Way West, Los Angeles, CA 90045	Diesel AST is contained within 6" Berm.		1.369
53	Southwest Airlines	7255 World Way West, Los Angeles, Ca 90045			0.873
54	9900 LAX Fuel	7265 World Way West, Los Angeles, CA 90045			14.585
55	United Airlines-Maintenance	7300 World Way West, Los Angeles, CA 90045			29.688
56	FedEx LAX Hangar	7401 World Way West, Los Angeles, CA 90045	Aircraft fueling and sanitary services occur at facility.		22.317
57	LAWA Maintenance Yard	7411 World Way West, Los Angeles, CA 90045			17.704
58	AA-OSF	7260 World Way West, Los Angeles, CA 90045			1.064
59	Remote Gates	8000 World Way West, Los Angeles, CA 90045			72.003
60	Southwest Airlines-GSE	9601 Coast Guard Road, Los Angeles, CA 90045			0.606
61	Air New Zealand	7007 W. Imperial Hwy, Los Angeles, CA 90045	Parts and chemical storage		1.019
62	Qantas Hangar	8000 World Way West, Los Angeles, CA 90045			14.328
63	Gate Gourmet GSE	6951 W. Imperial Hwy, Los Angeles, CA 90045	New site		1.139
64	Worldwide Flight Services	6951 W. Imperial Hwy., Los Angeles, CA 90045			0.663
65	Swissport-Taxiway E-14 Storage Area West	7401 World Way West, Los Angeles, CA 90045			0.443
66	Swissport Fueling Storage-Taxiway E-14 W	7401 World Way West, Los Angeles, CA 90045			0.193
67	Virgin Australia-WAMA	7800 World Way West, Los Angeles, CA 90045			5.205
68	ASIG South Loading Rack	5811 W. Imperial Hwy, Los Angeles, CA 90045	Tanker fueling operation		0.928
69	Delta Airlines-WAMA	7800 World Way West, Los Angles, CA 90045	Aircraft Parking and Maintenance		19.505
70	Swissport-Taxiway E-14 Storage East	7401 World Way West, Los Angeles, CA 90045	Equipment storage/maintenance area		0.346
71	Southwest-Taxiway E-13 West-Storage Are	7183 World Way West, Los Angeles, CA 90045	Equipment storage area		0.313

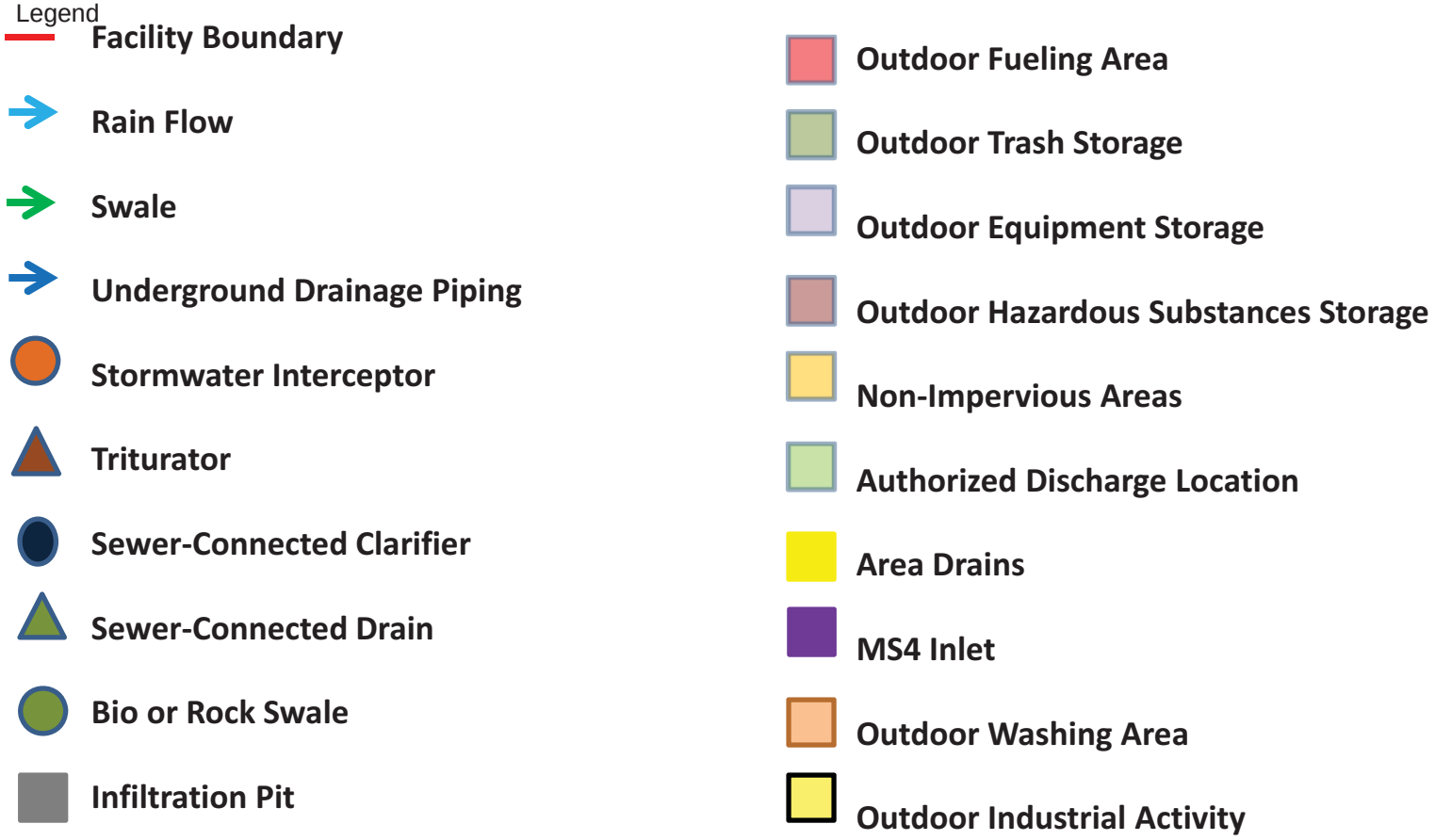
Los Angeles International Airport - Industrial Tenant Site Summary and Facility Area (1/8/18)

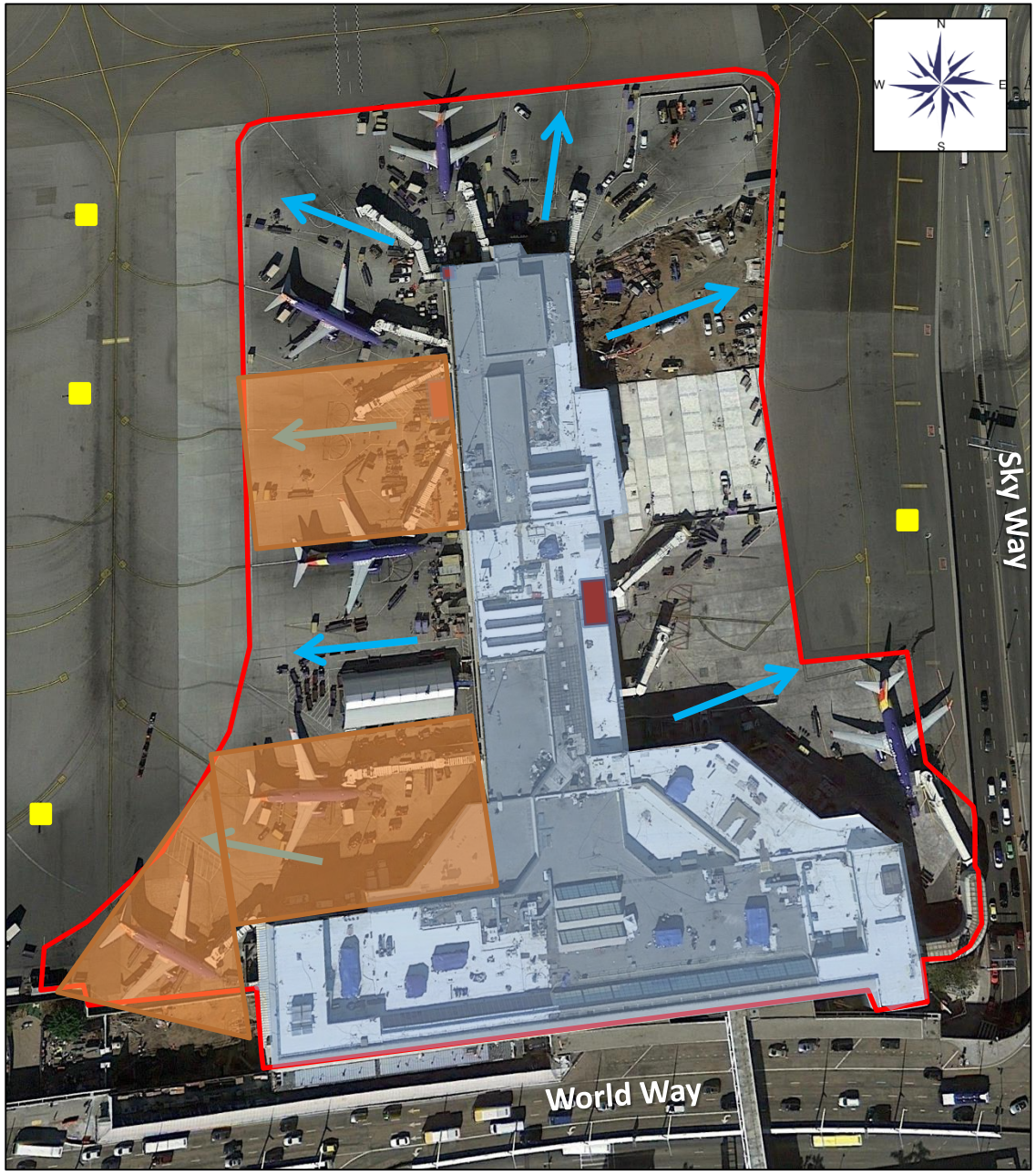
Map Site ID	Facility Name	Address	Note1	Note2	Facility Area (acres)
72	Prologis Cargo (TBD)	5795 W. Imperial Hwy., Los Angeles, CA 90045			2.973
73	Delta Airlines Cargo (Former Site)	5625 W. Imperial Hwy., Los Angeles, CA 90045			5.405
74	Menzies-Taxiway E-13 Storage West	7183 World Way West, Los Angeles, CA 90045			0.311
				Total Industrial Leasehold Area	643

FIGURE 3. TENANT SITE MAPS

Note: Sites 61-74 are new tenant site maps and will be updated during the Annual Evaluations through April 2018

Legend





SWPPP Site Map

LAWA LAX

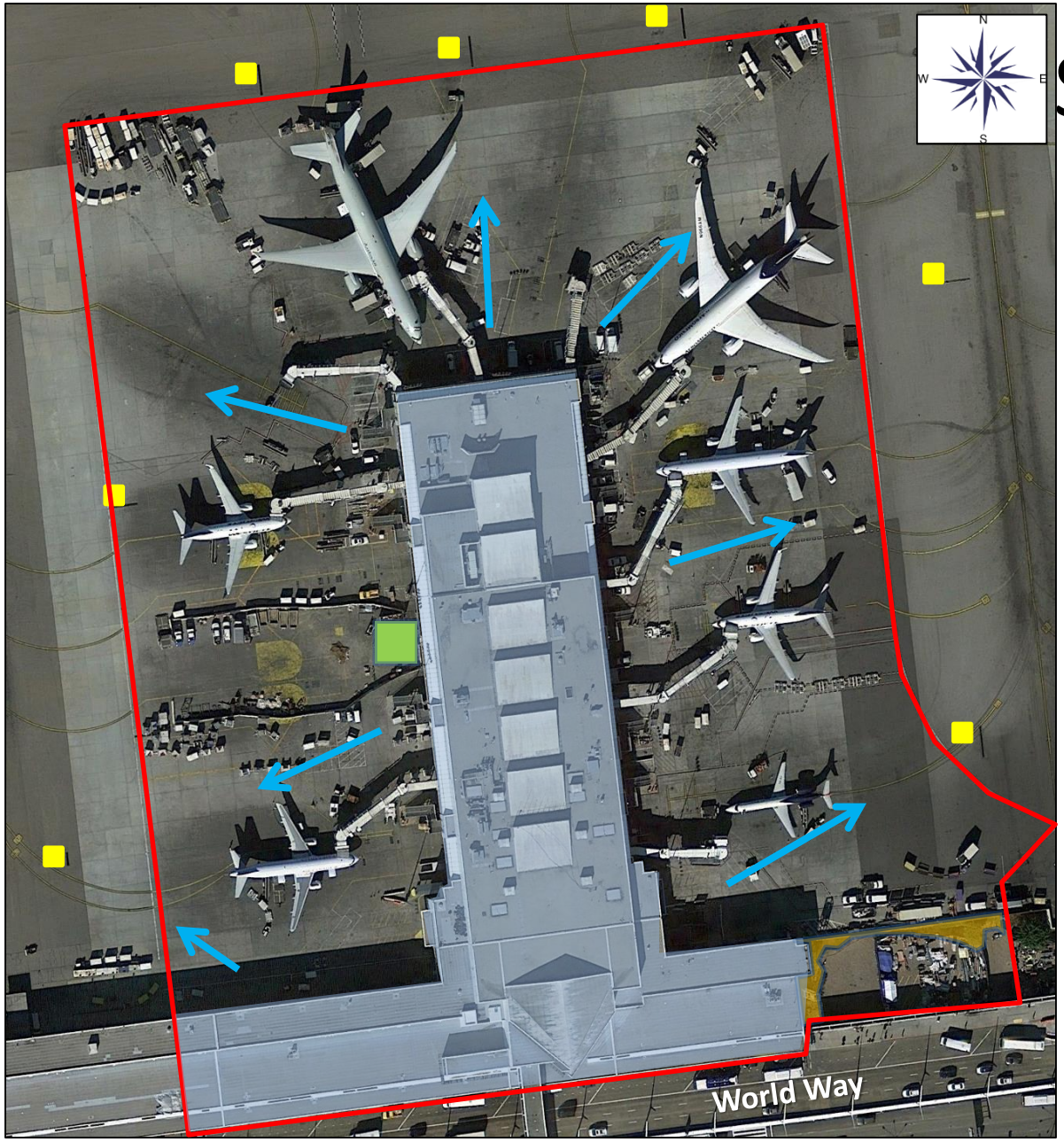
Site 1. Southwest Airlines- T1

100 World Way
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Active construction Area

Note 1: Aircraft fueling and sanitary services occur at various locations within facility boundaries.
Note 2: Deicing occurs as needed

Updated 11/2017



SWPPP Site Map

LAWA LAX

Site 2. Terminal 2- Delta

200 World Way
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1: Aircraft fueling and sanitary services occur at various locations within facility boundaries
Note 2: Hazardous storage area located indoors

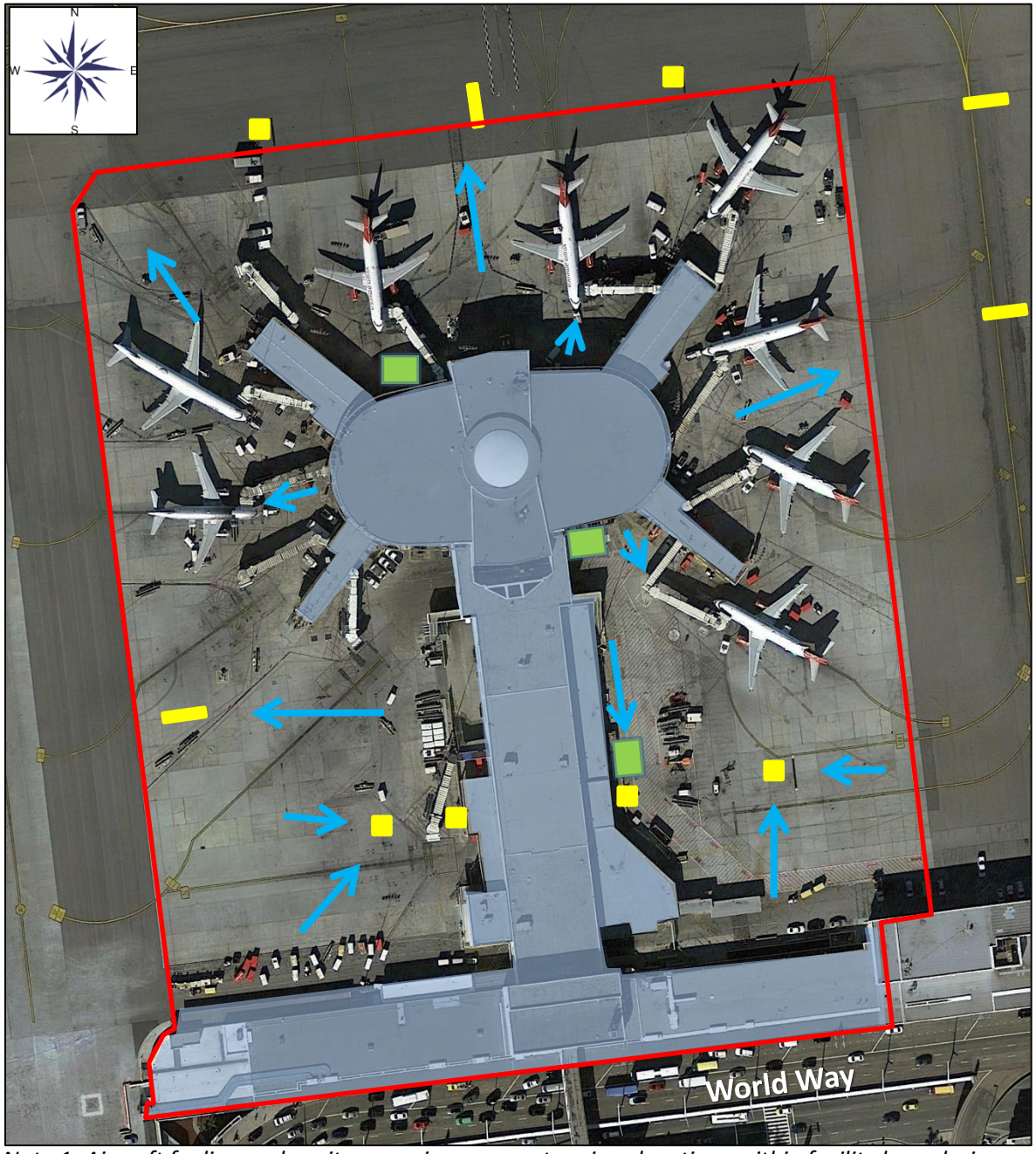
Revised 12/2017

SWPPP Site Map

LAWA LAX

Site 3. Delta - T3

300 World Way
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1: Aircraft fueling and sanitary services occur at various locations within facility boundaries
Note 2: Chemical storage located outdoors under cover

Revised 12/2017

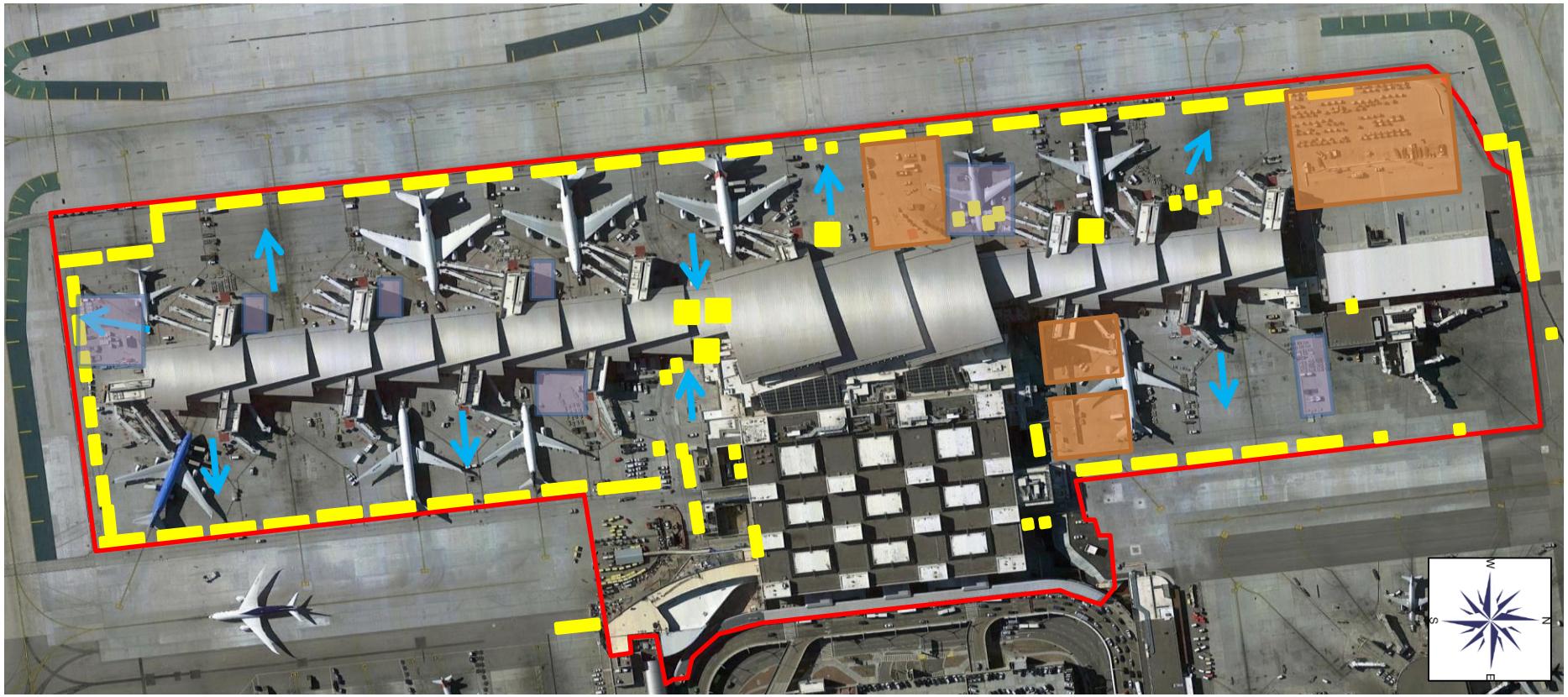
SWPPP Site Map

LAWA LAX

Site 4. TBITEC- TBIT

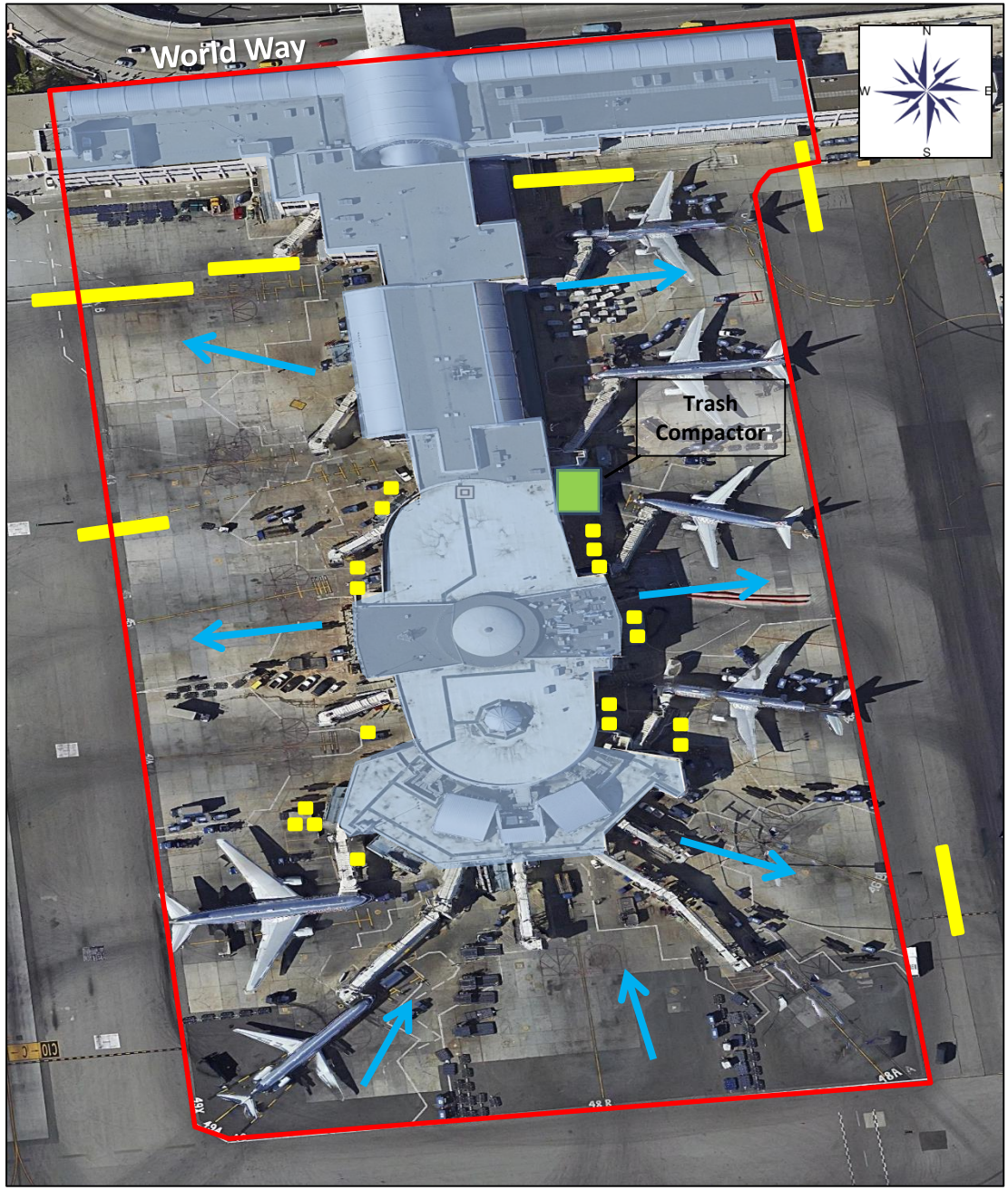
380 World Way
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Active Construction Area



Note 1: Aircraft fueling and sanitary services occur at various locations within facility boundaries. Equipment fueling performed by mobile fuelers.

Revised 10/2017



SWPPP Site Map

LAWA LAX

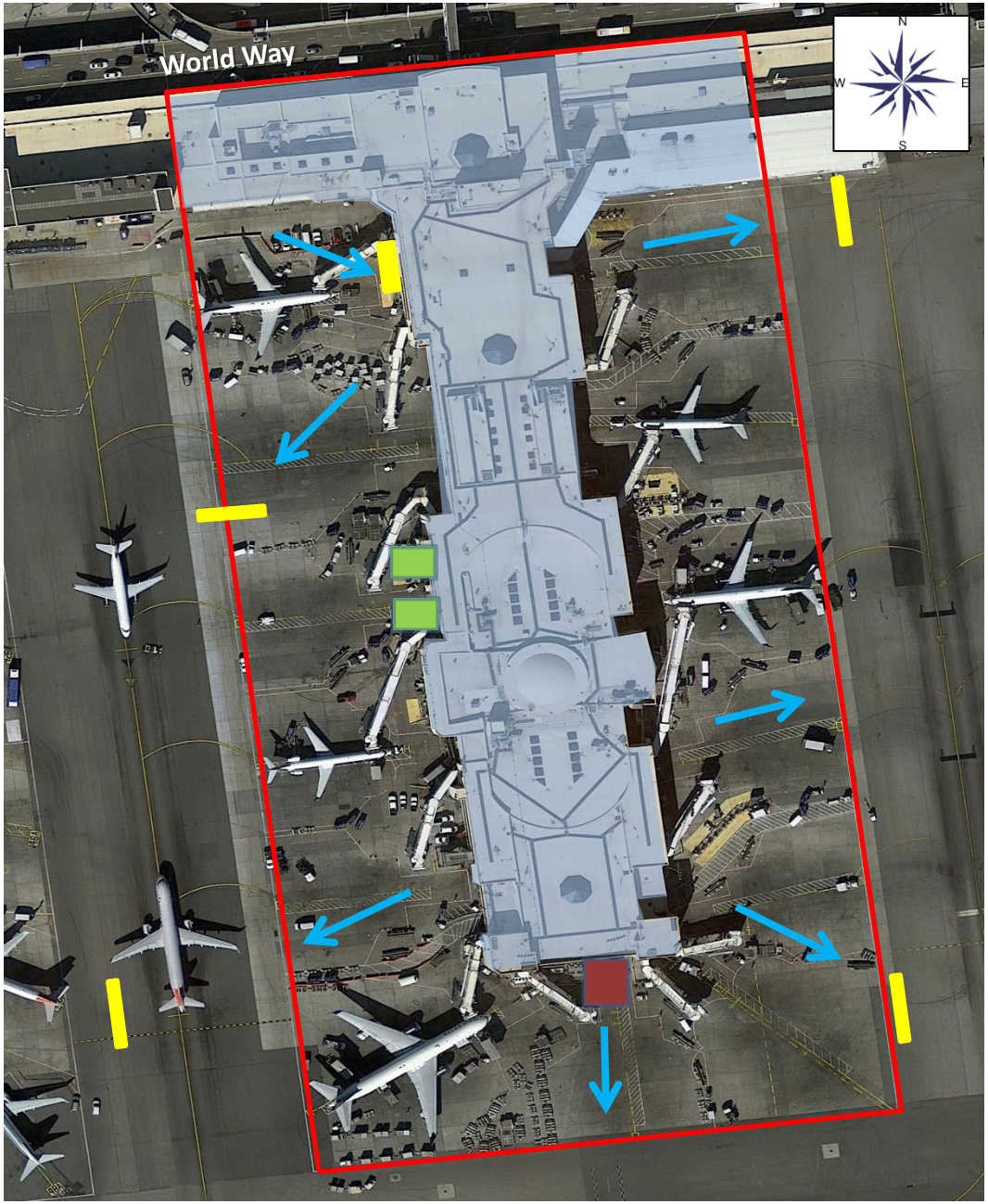
Site 5. AA- T4

400 World Way
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1: Aircraft fueling and sanitary services occur at various locations within facility boundaries

Revised 01/2018



SWPPP Site Map

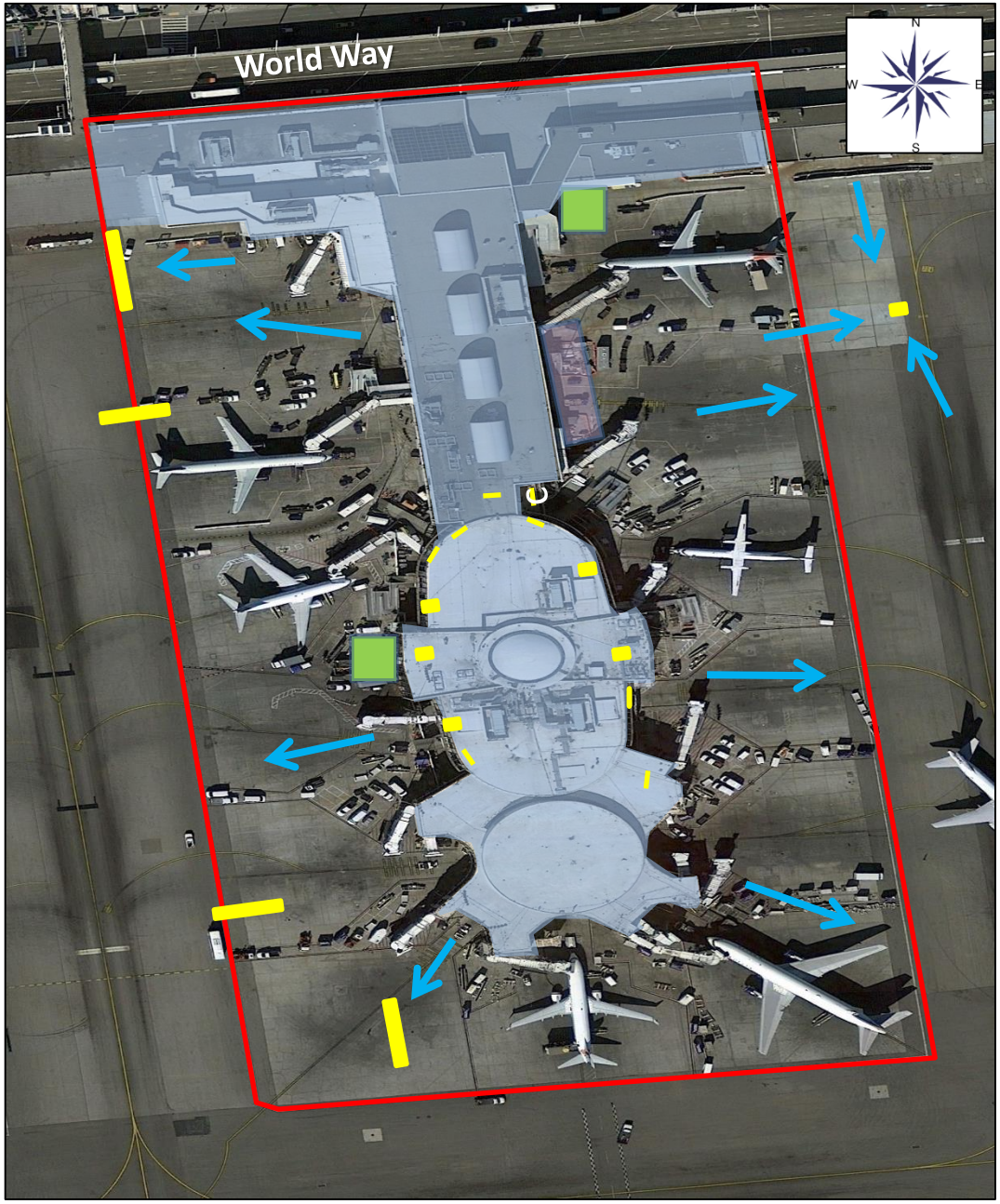
LAWA LAX

Site 6. Delta- Terminal 5

500 World Way
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains (various unmarked drains in subterranean moat)
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Pervious Areas

Note 1: Aircraft fueling and sanitary services occur at various locations within facility boundaries
Rev. 12/2016



SWPPP Site Map

LAWA LAX

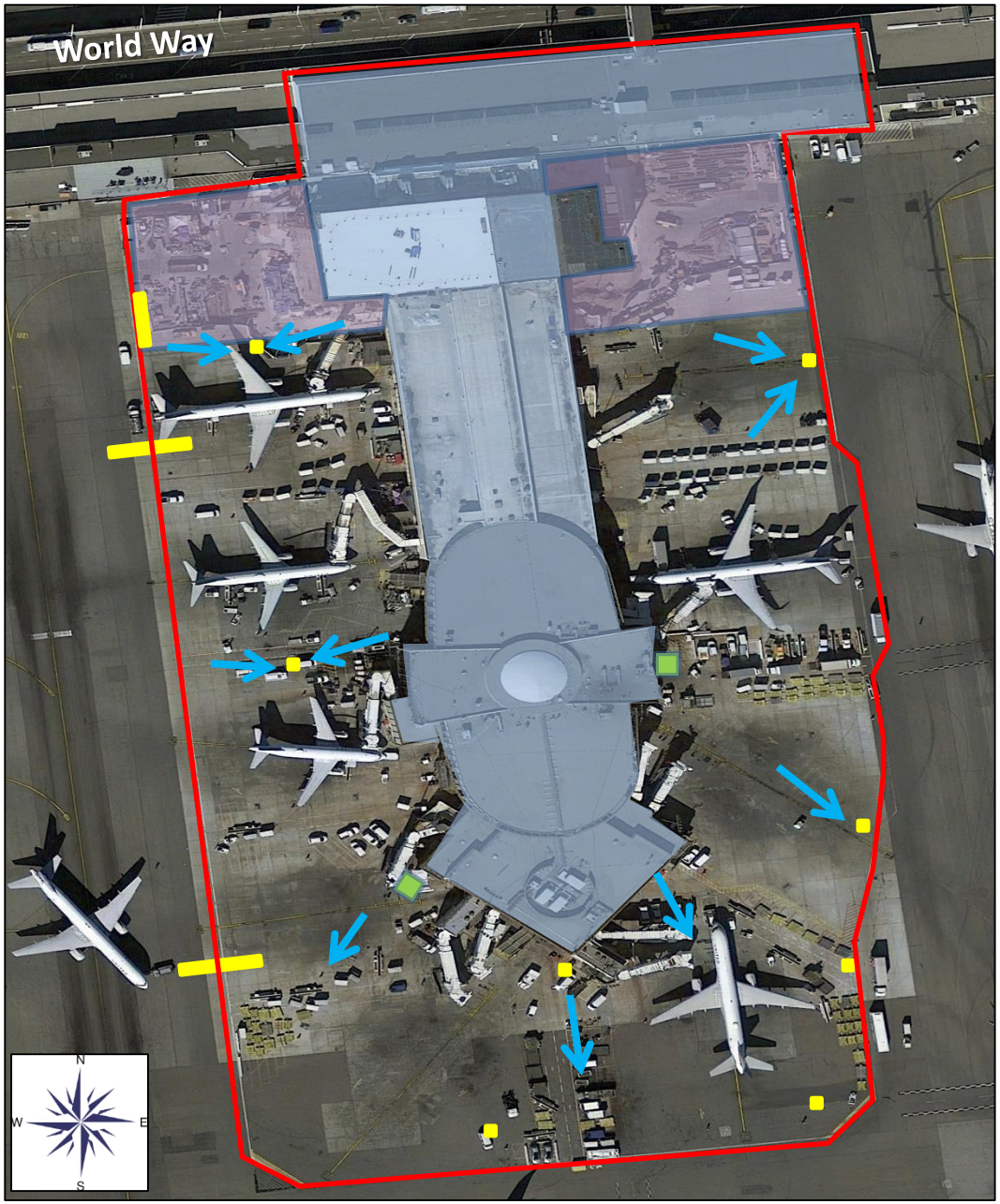
Site 7. Alaska Airlines

600 World Way
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1: Aircraft fueling and sanitary services occur at various locations within facility boundaries
Note 2: Mobile fuel truck used for vehicle fueling if necessary

Revised 03/2017



SWPPP Site Map

LAWA LAX

Site 8. United Airlines- Terminal 7

700 World Way
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1: Aircraft fueling and sanitary services occur at various locations within facility boundaries

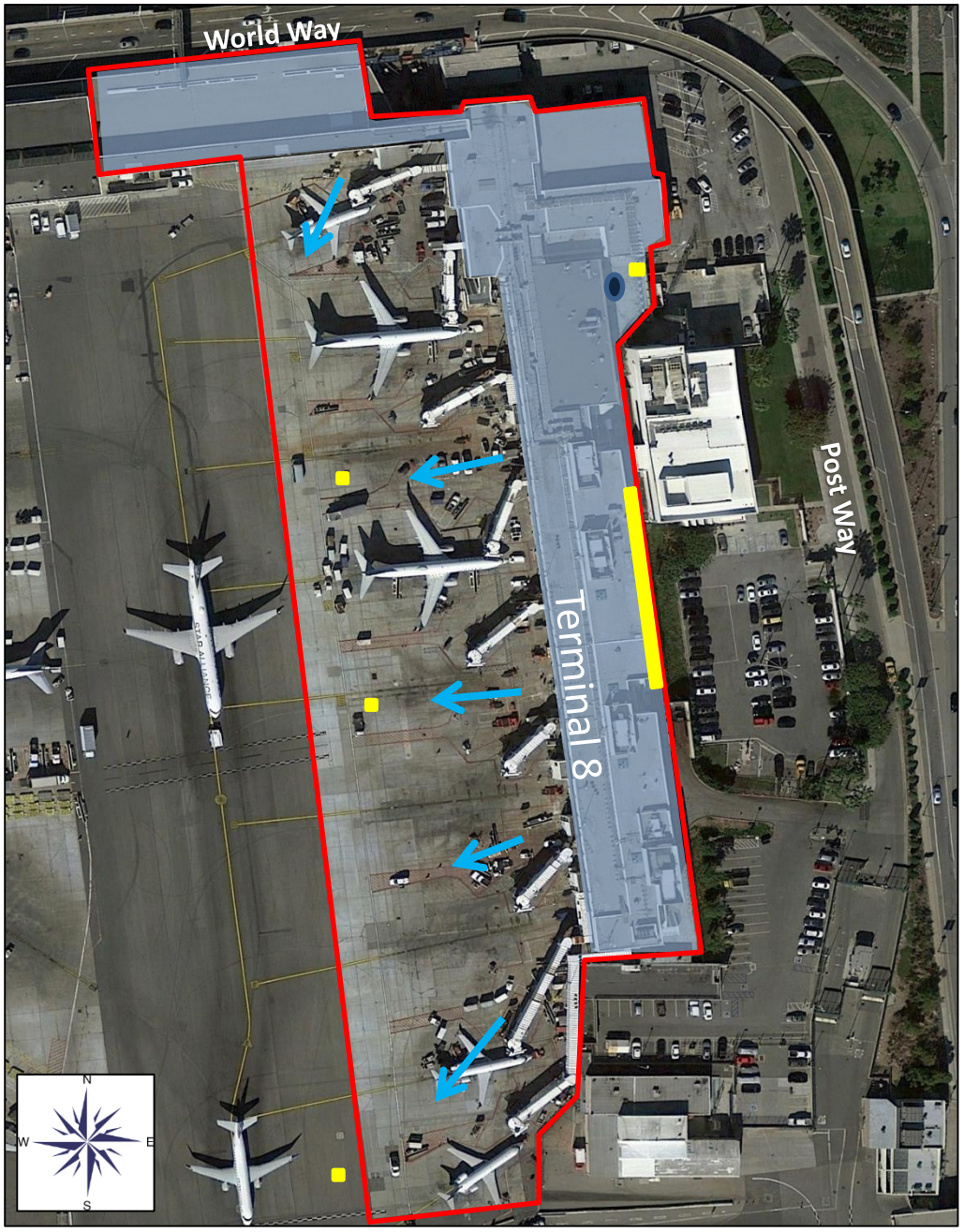
Revised 12/2017

SWPPP Site Map

LAWA LAX

Site 9. United Airlines- Terminal 8

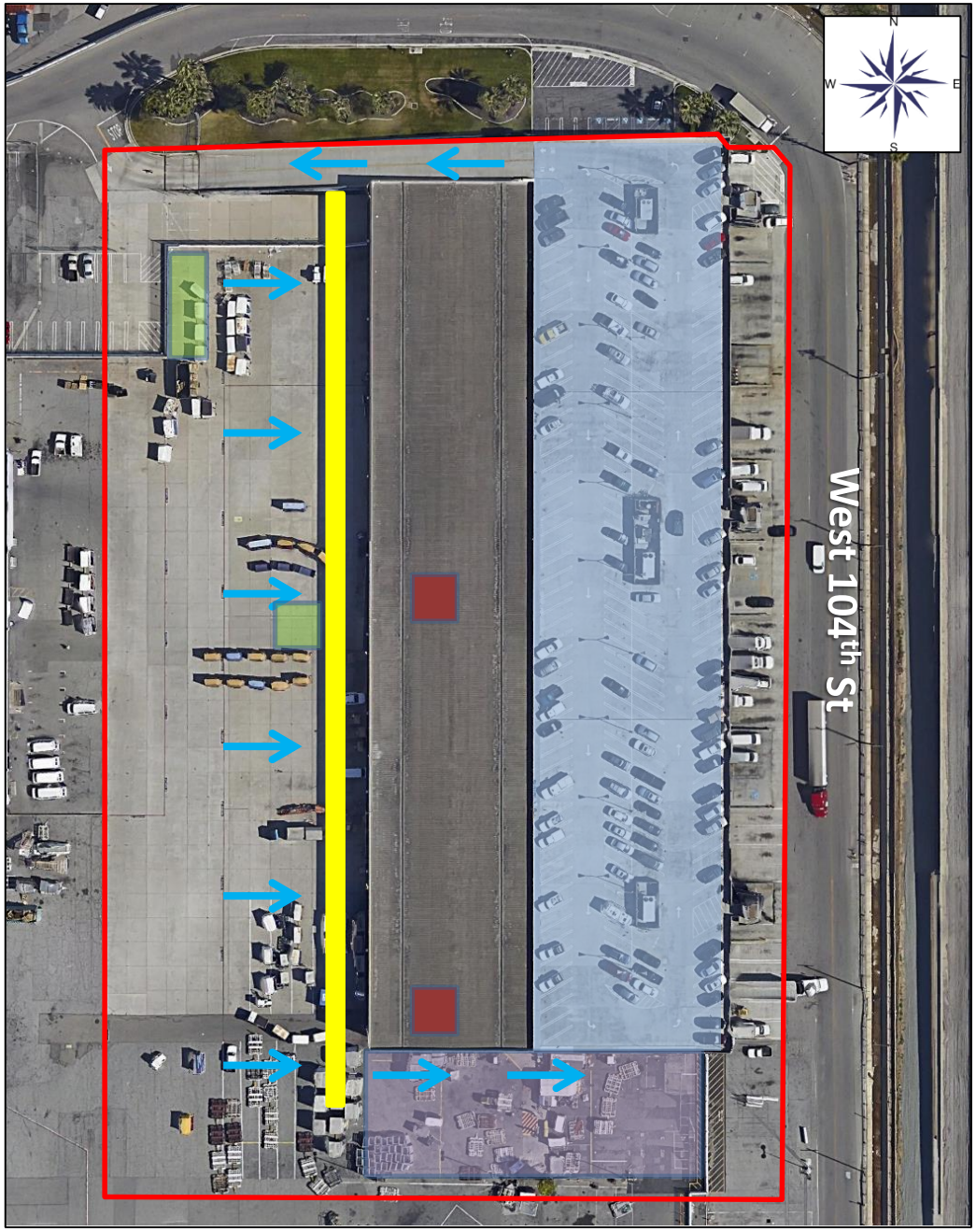
800 World Way
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1: Aircraft fueling and sanitary services occur at various locations within facility boundaries

Revised 12/2017



SWPPP Site Map

LAWA LAX

Site 10. Southwest - Cargo

5600 W Century Blvd
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

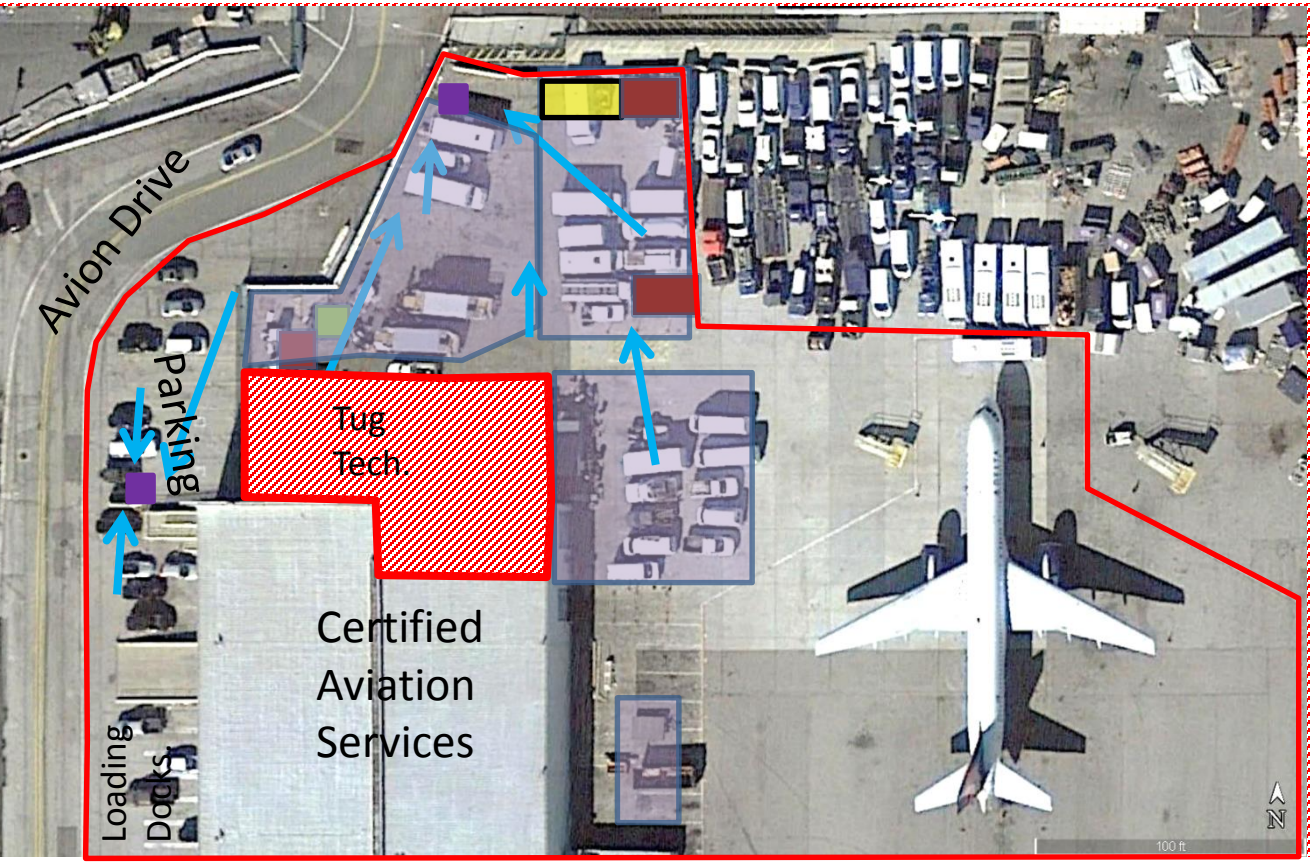
Note 1:
Revised 11/2017

SWPPP Site Map

LAWA LAX

Site 11. Certified Aviation Services

5720 Avion Drive
Los Angeles, CA 90045



- Facility Boundary Lease Area
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Storage Areas
- Outdoor Industrial Activity
- MS4 Inlet
- Excluded lease area

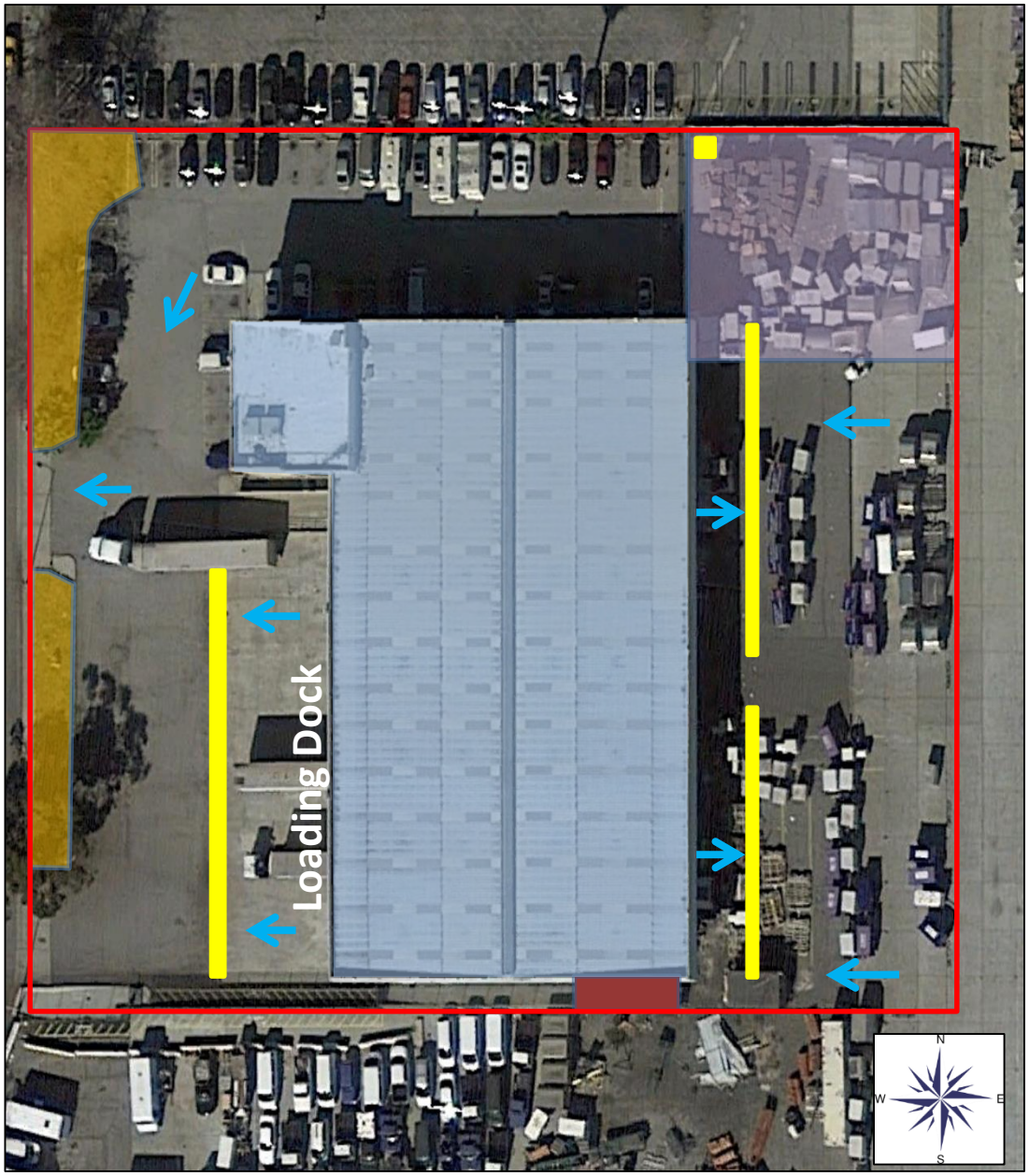
Note 1: Tug Technologies occupies a small leasehold inside Certified Aviation Services leasehold.

SWPPP Site Map

LAWA LAX

Site 12. AA OSF2

10080 International Road
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

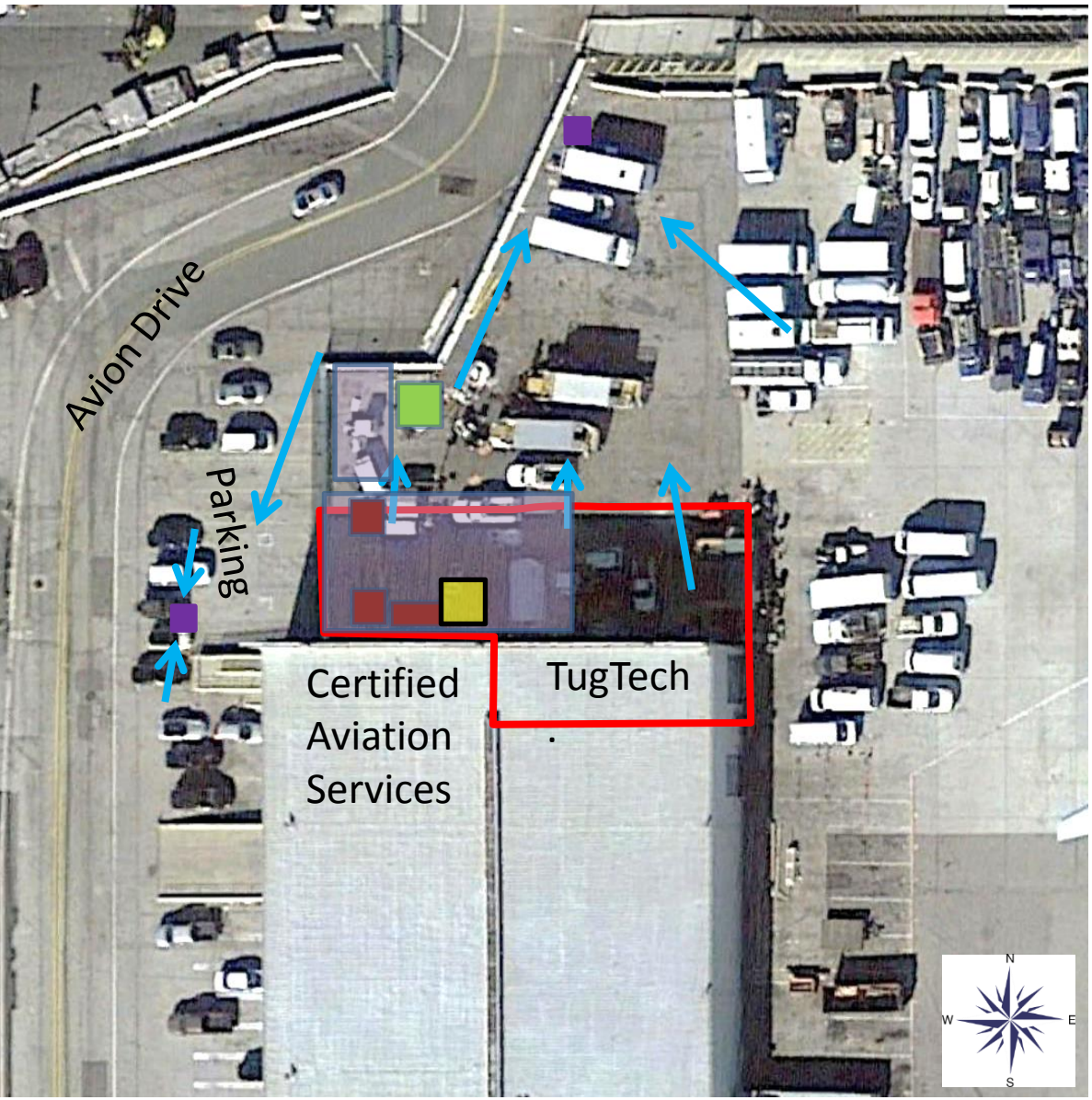
Note 1:

SWPPP Site Map

LAWA LAX

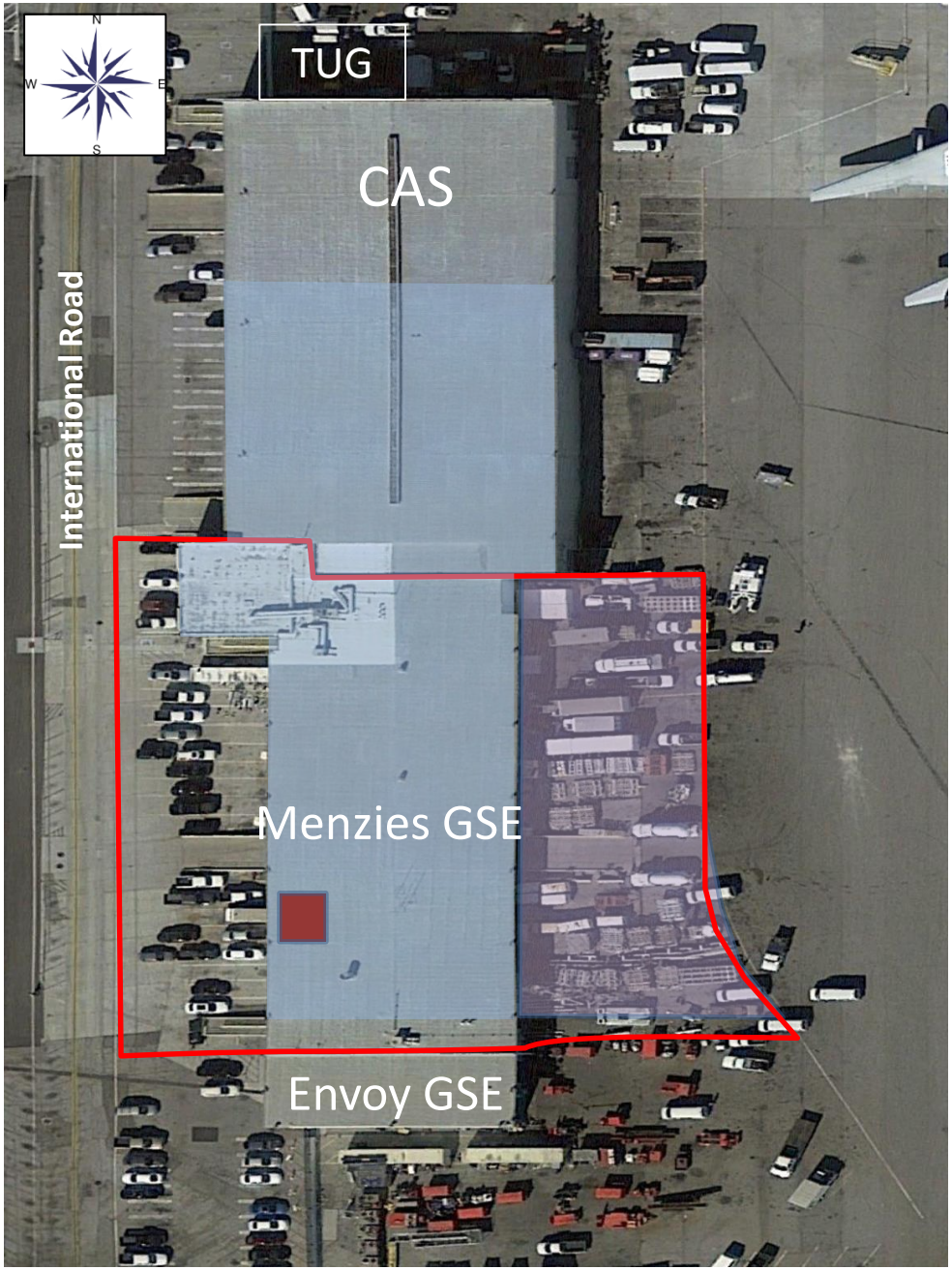
Site 13. Tug Technologies

5720 Avion Drive
Los Angeles, CA 90045



- Facility Boundary Lease Area
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Storage Areas
- Outdoor Industrial Activity
- MS4 Inlet

Note 1: Tug Technologies occupies a small leasehold inside Certified Aviation Services



SWPPP Site Map

LAWA LAX

Site 14. Menzies-GSE

5720 Avion Drive
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

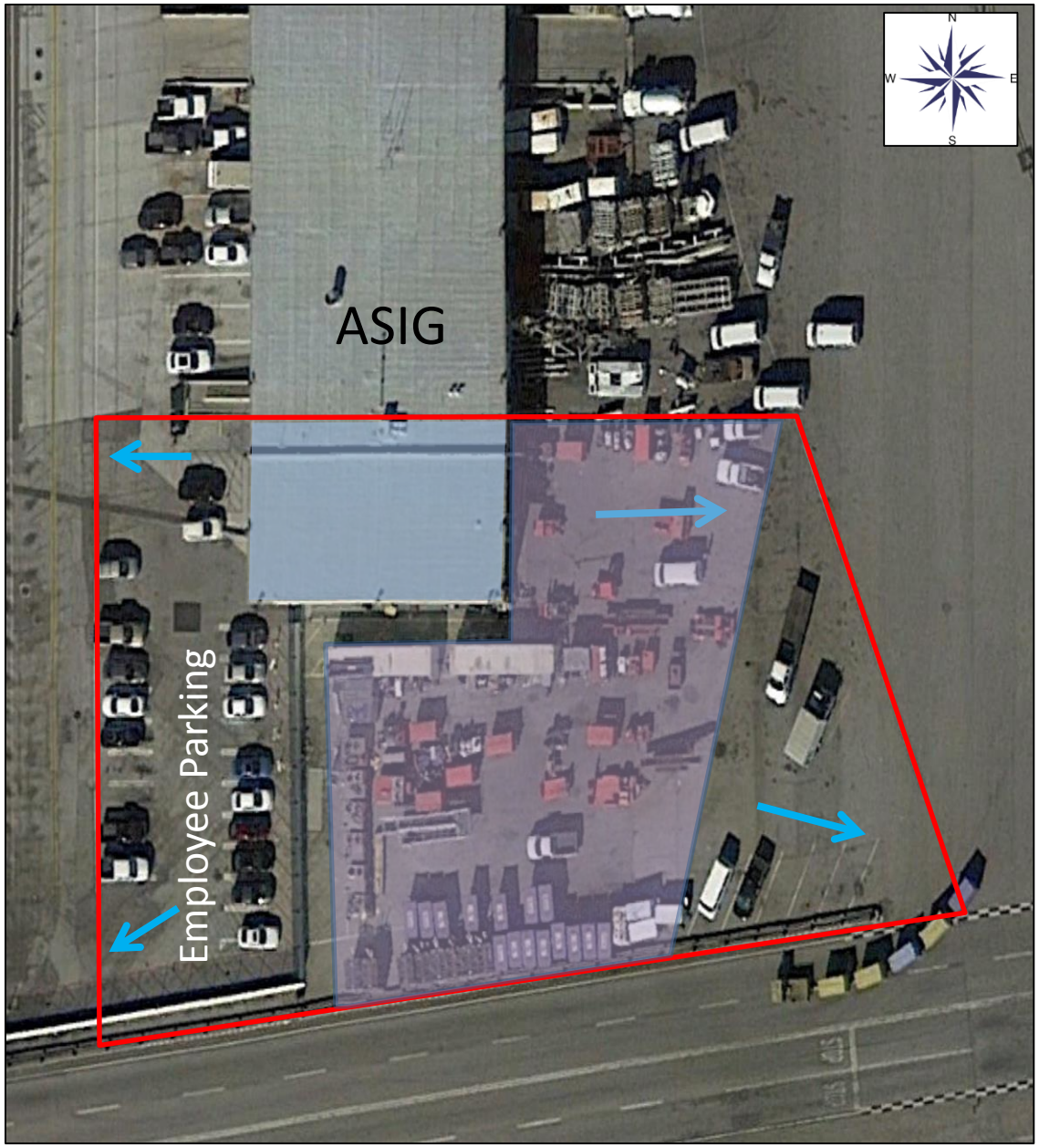
Note 1:

SWPPP Site Map

LAWA LAX

Site 15. American Eagle/ Envoy GSE

5720 Avion Drive, Suite C
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

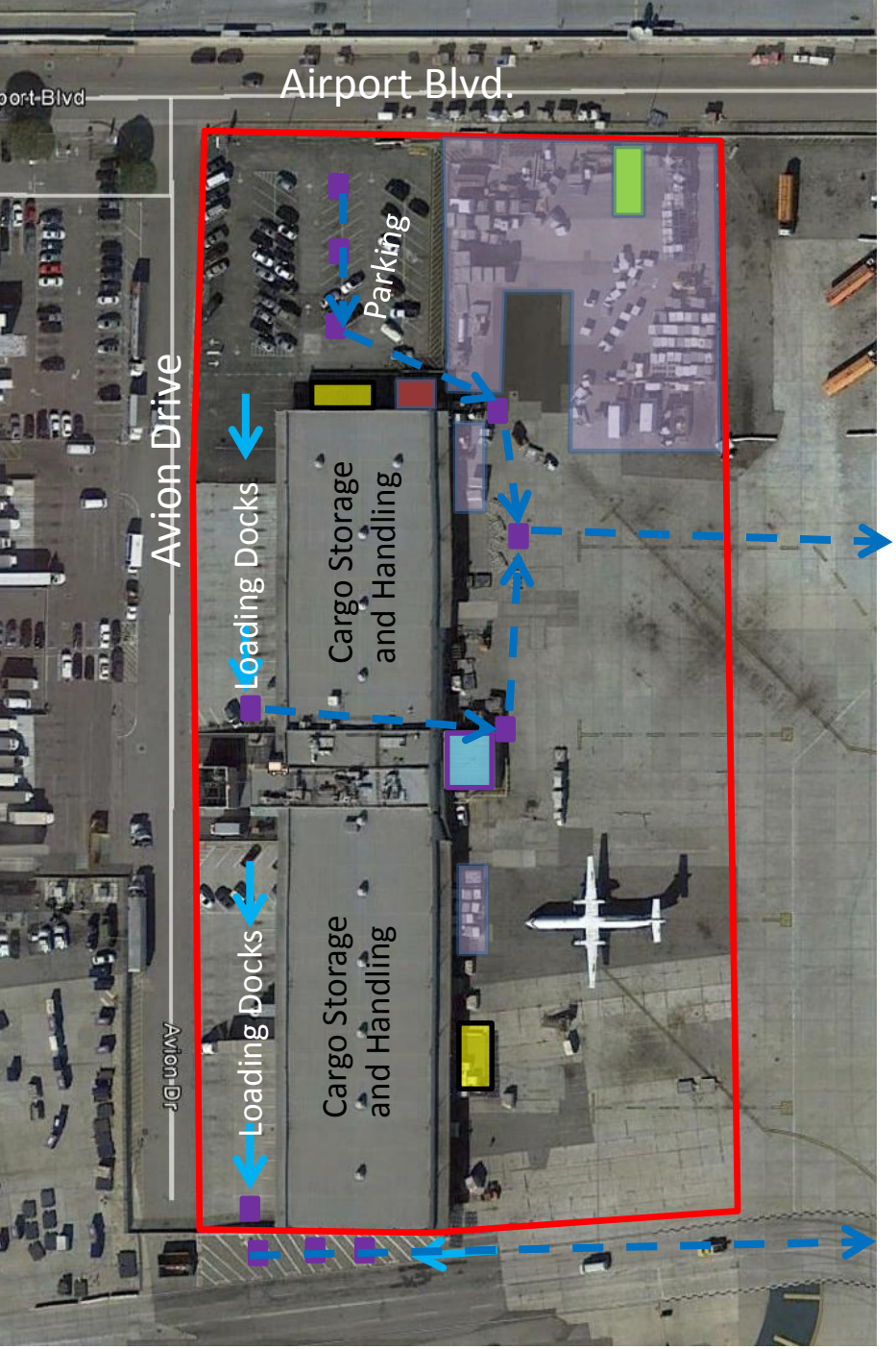
Note 1:

SWPPP Site Map

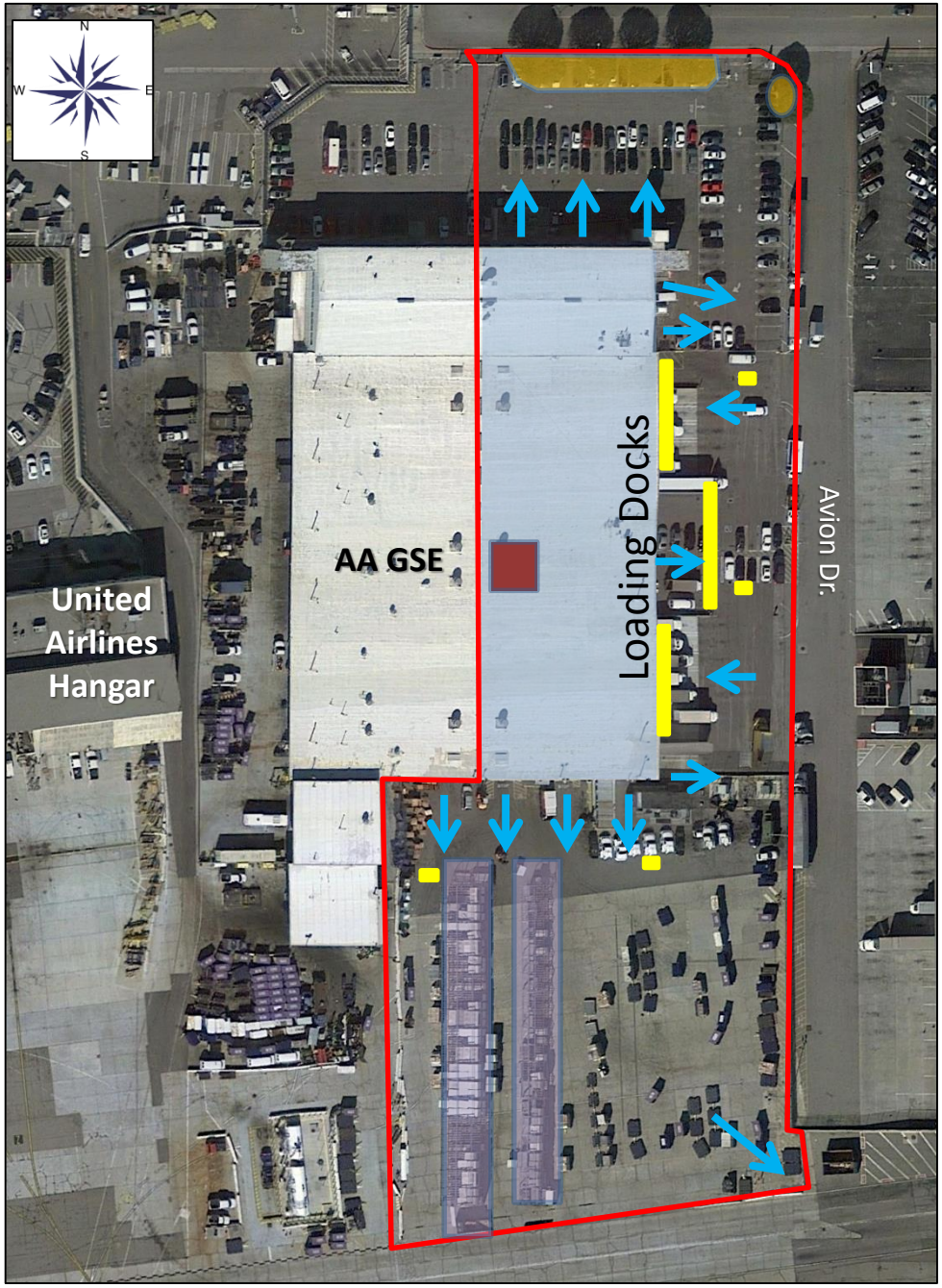
LAWA LAX

Site 16. Mercury Cargo, Inc.

5908 Avion Drive
Los Angeles, CA 90045



- Facility Boundary Lease Area
- Rain Flow
- Underground Storm Drain (not confirmed)
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Storage Areas
- Outdoor Industrial Activity
- MS4 Inlet
- Outdoor Refrigeration Unit



SWPPP Site Map

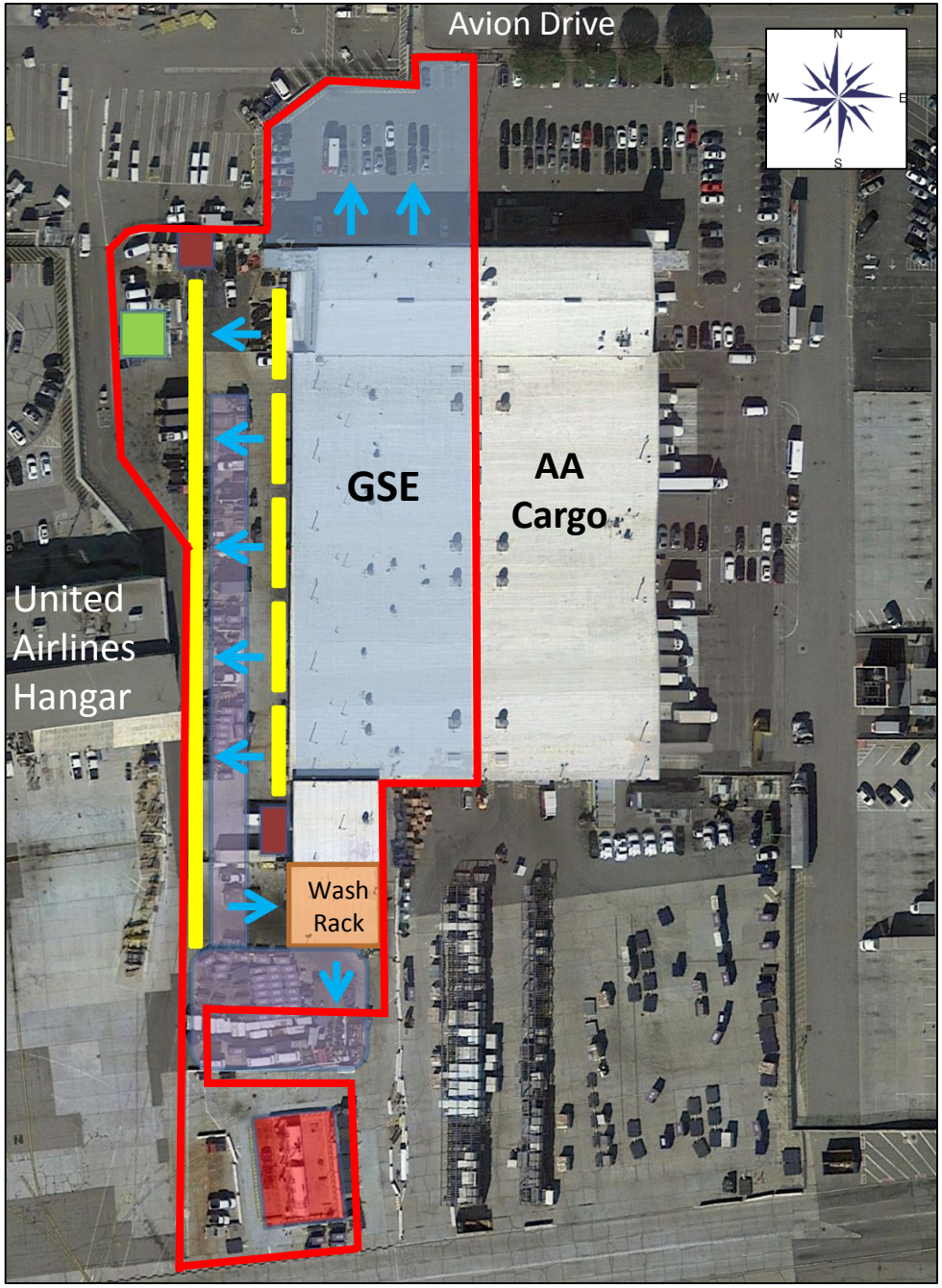
LAWA LAX

Site 17. AA-Cargo

5950 Avion Drive
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Revised: 04/2017



SWPPP Site Map

LAWA LAX

Site 18. AA- GSE

5970 Avion Drive
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1:

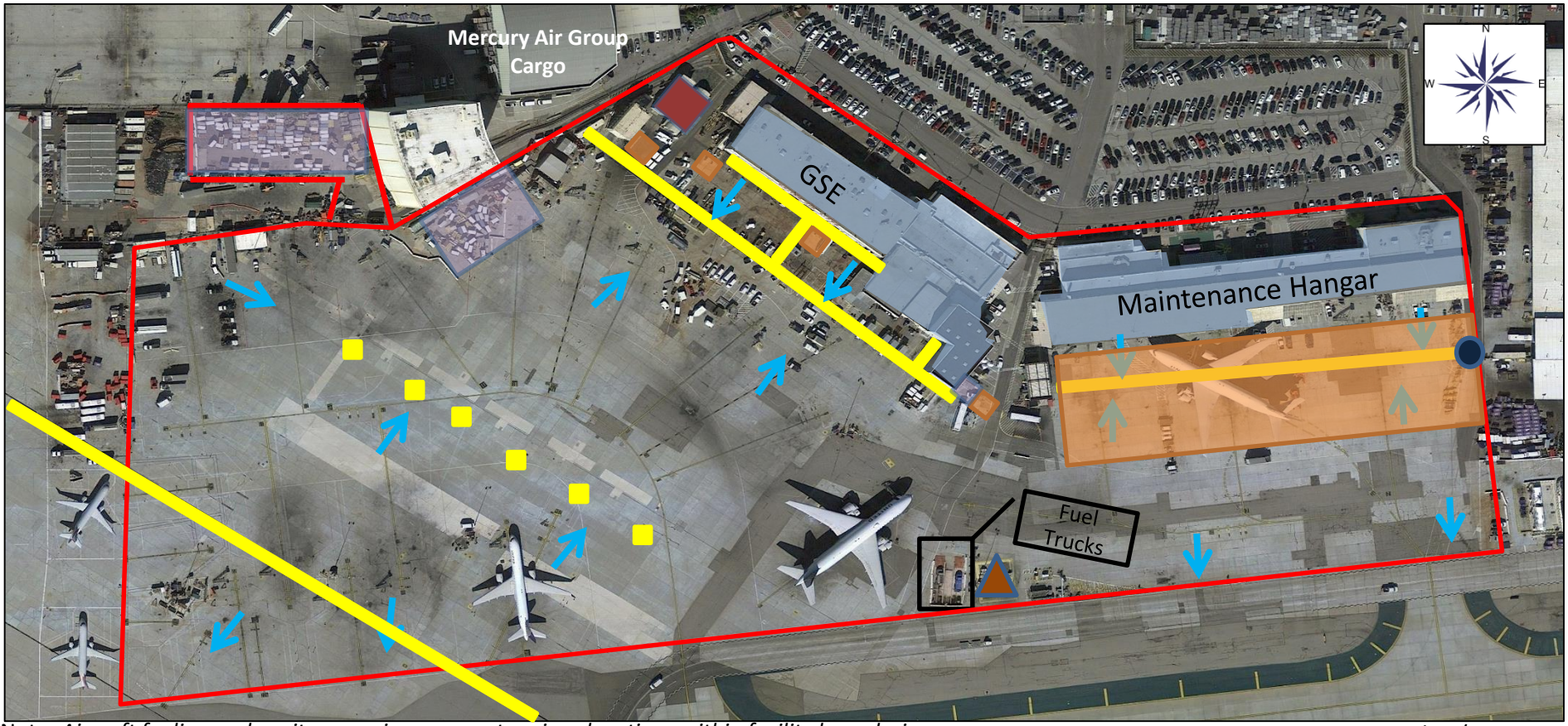
SWPPP Site Map

LAWA LAX

Site 19. United Airlines- Hangar 1

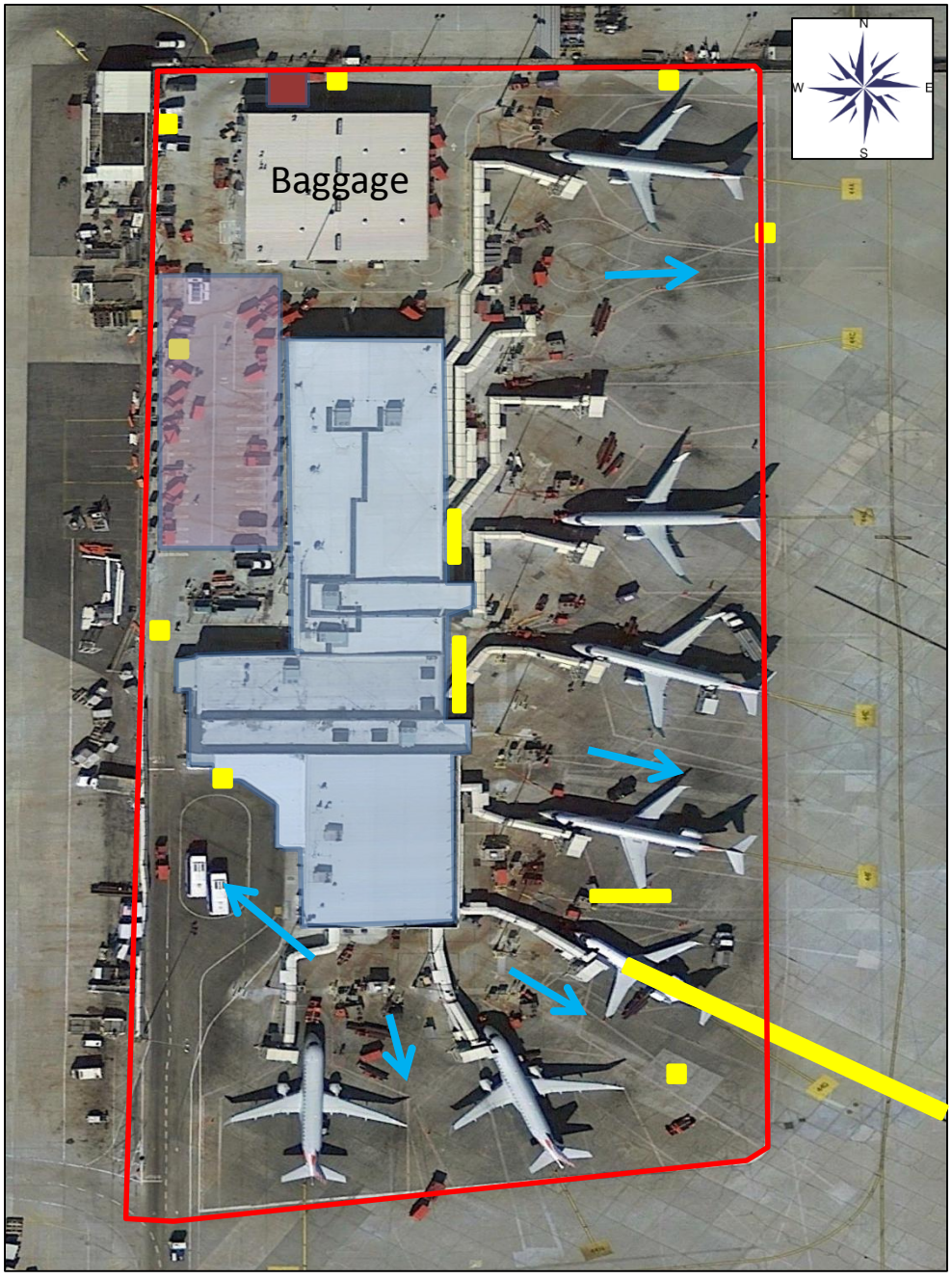
6020 Avion Drive
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas



Note: *Aircraft fueling and sanitary services occur at various locations within facility boundaries*

Revised 12/2017



SWPPP Site Map

LAWA LAX

Site 20. Envoy Terminal

6022 Avion Drive
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator

Note : Aircraft fueling and sanitary services occur at various locations within facility boundaries

Revised 3/2017

SWPPP Site Map

LAWA LAX

Site 21. Mercury Air Cargo, Inc.

6040 Avion Dr.
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Underground Piping (not-confirmed)
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Storage Areas
- Non-Impervious Areas
- Area Drains
- MS4 Inlet
- Outdoor Industrial Activities

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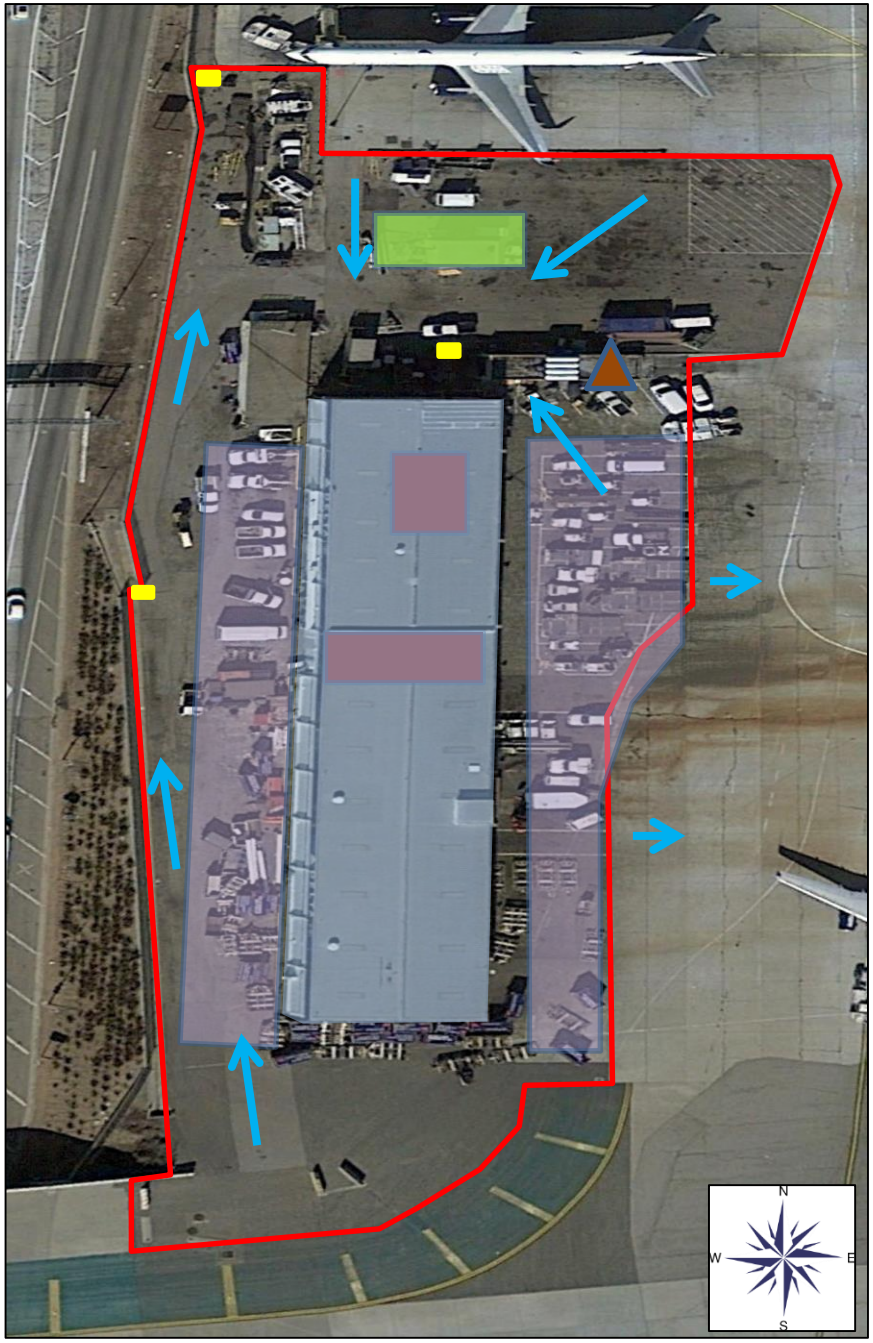
SWPPP Site Map

LAWA LAX

Site 22. Delta-GSE

6060 Avion Drive
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

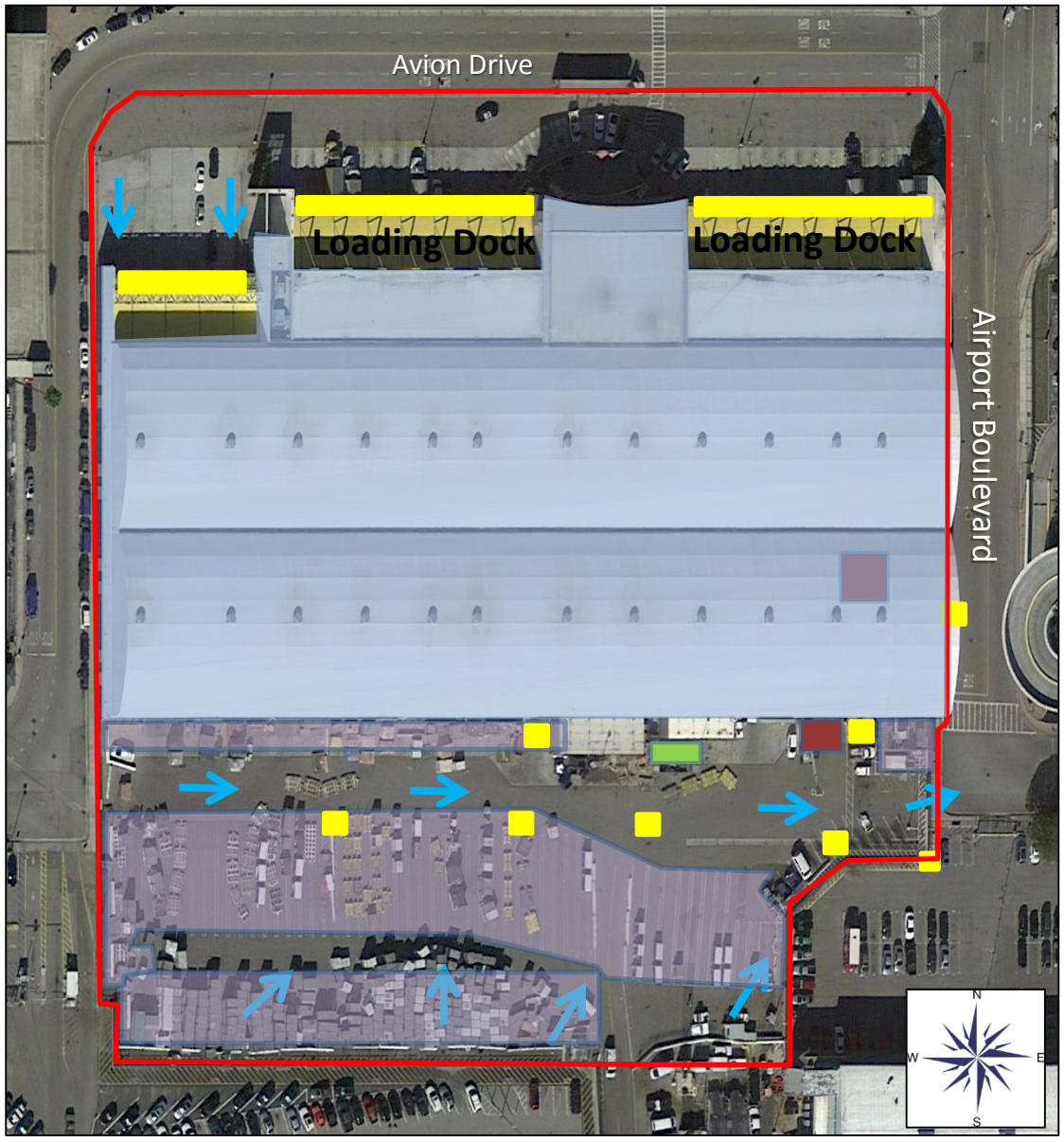
Note 1:
Revised 12/2017

SWPPP Site Map

LAWA LAX

Site 23. United- Cargo

5932 W Century Blvd
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Titurator
- Outdoor Washing Area

Note 1:

Revised 12/2017

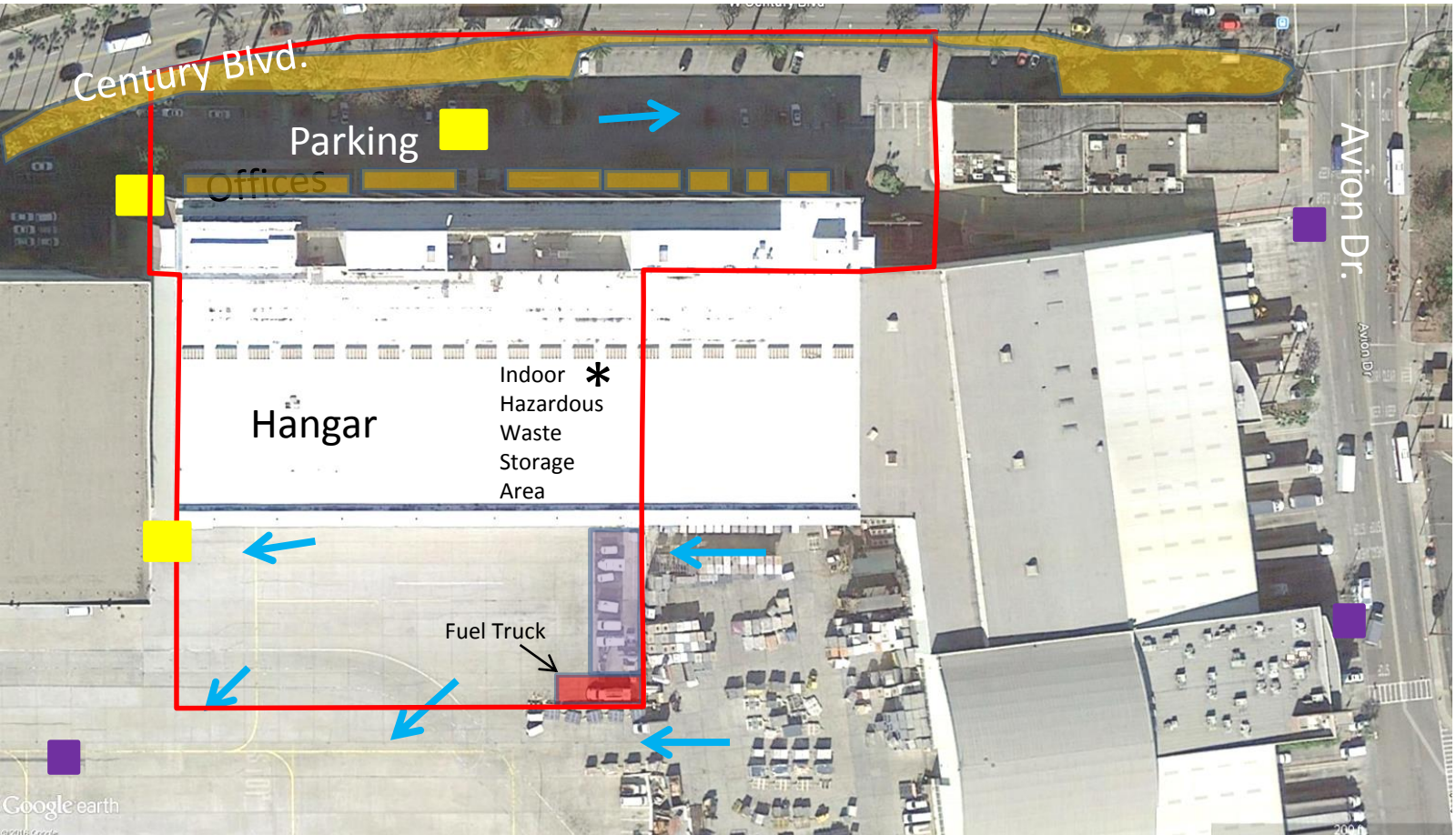
SWPPP Site Map

LAWA LAX

Site 24. Raytheon

6150 W. Century Blvd.
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Non-Impervious Area
- Outdoor Hazardous Storage Areas
- Clarifier
- Area Drains
- MS4 Inlet



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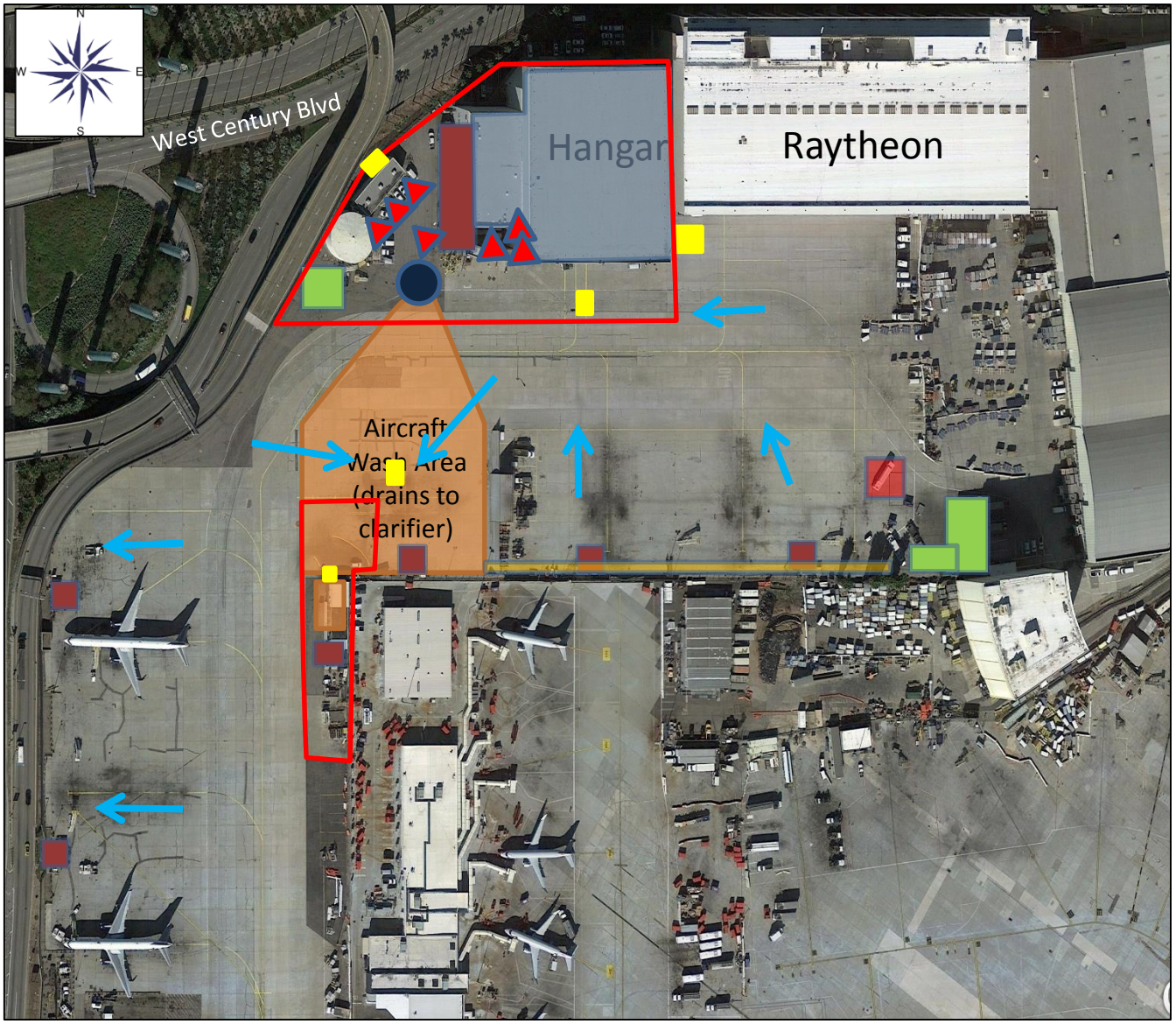
SWPPP Site Map

LAWA LAX

Site 25. Delta Hangar

6150 W Century Blvd
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- AST
- Outdoor Washing Area
- Non-Impervious Areas

Note 1: Aircraft fueling and sanitary services occur at various locations within facility boundaries

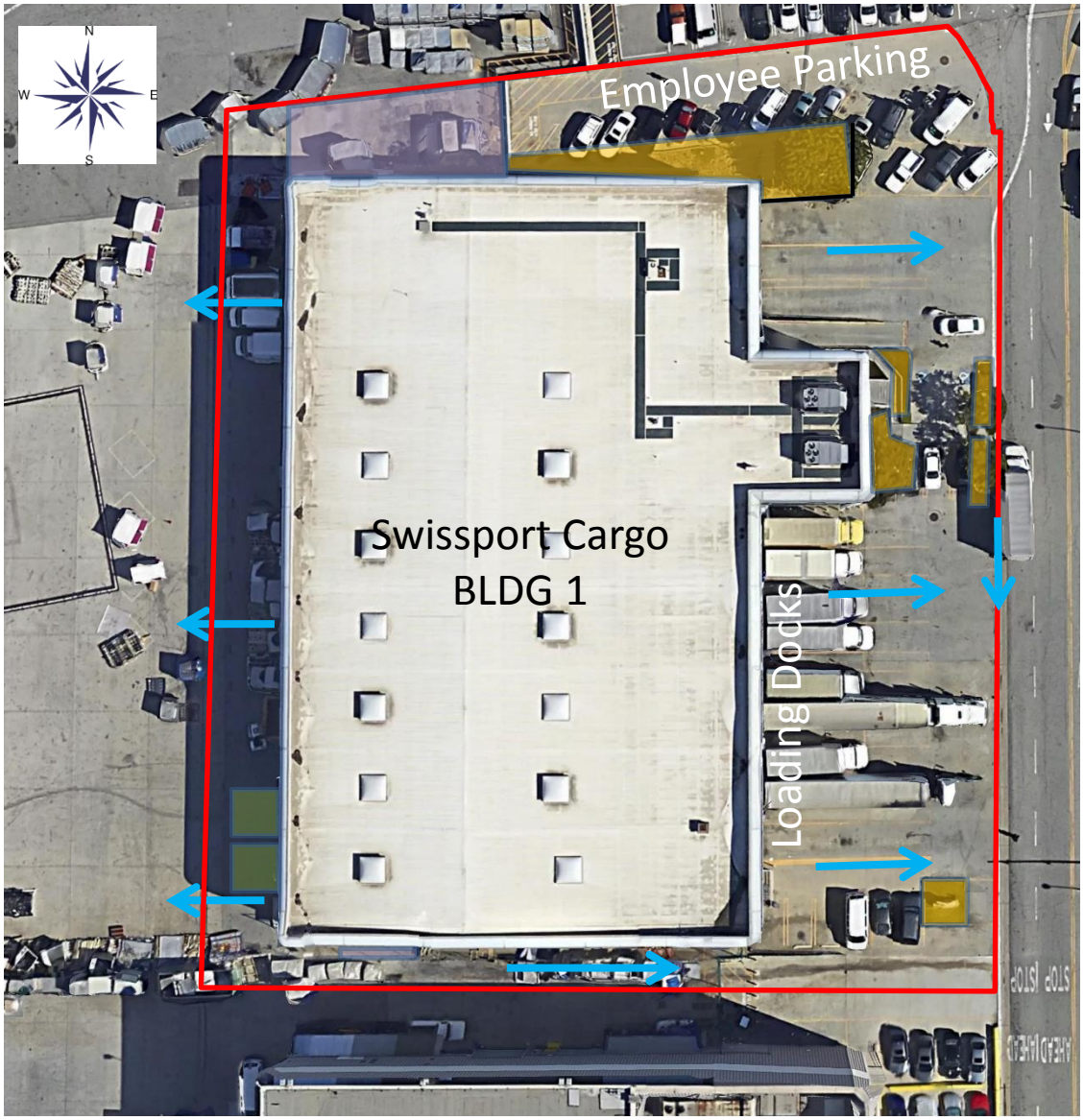
Revised 12/2017

SWPPP Site Map

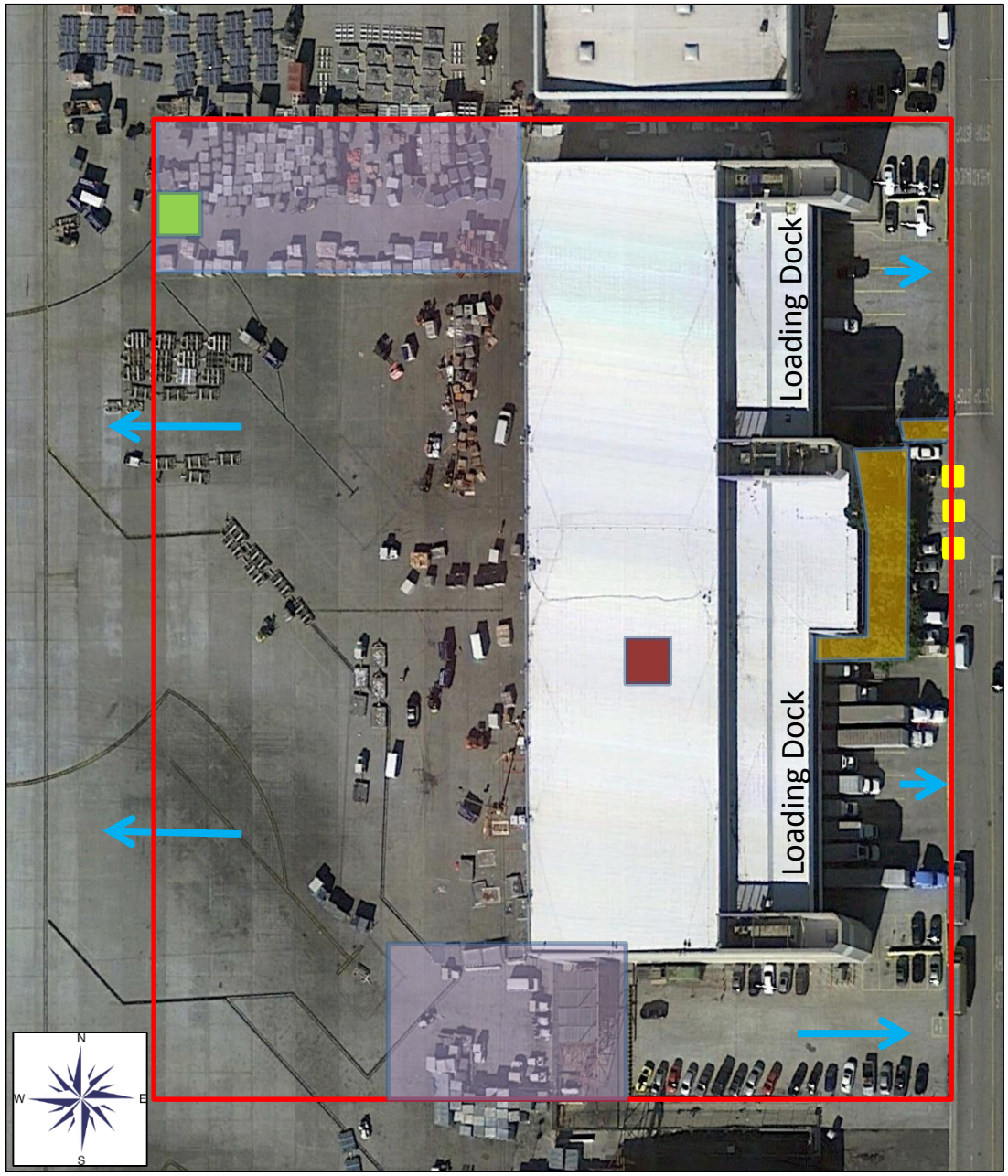
LAWA LAX

Site 26. Swissport Cargo Building 1

11001 Aviation Blvd
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Non-Impervious Areas
- Sediment Control BMP



SWPPP Site Map

LAWA LAX

Site 27. Delta Cargo

11101 Aviation Blvd
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1:
Rev. 11/2017

SWPPP Site Map

LAWA LAX

Site 28. China Air Cargo

11201 Aviation Blvd.
Los Angeles, CA 90045

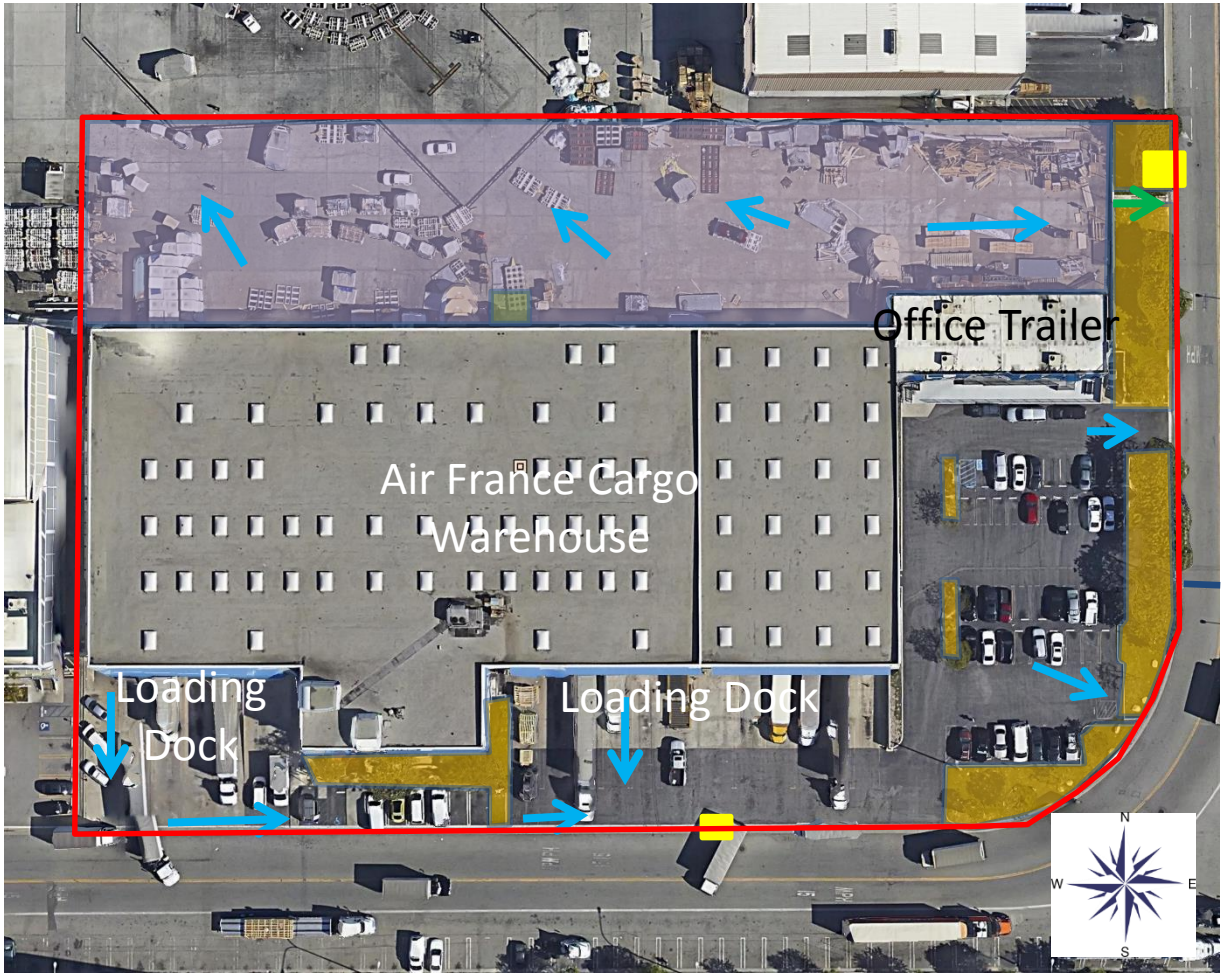
- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Non-Impervious Areas
- Outdoors Vehicle and Equipment Maintenance
- Outdoor Hazardous Substance Storage
- Area Drains
- Outdoor Industrial Activity

SWPPP Site Map

LAWA LAX

Site 29. Air France Cargo

5621 West Imperial Hwy
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Non-Impervious Areas
- Concrete Swale
- Area Drain
- Underground Storm Drain (not confirmed)

Note 1: Leasehold has been subleased to Consolidated Aviation Services

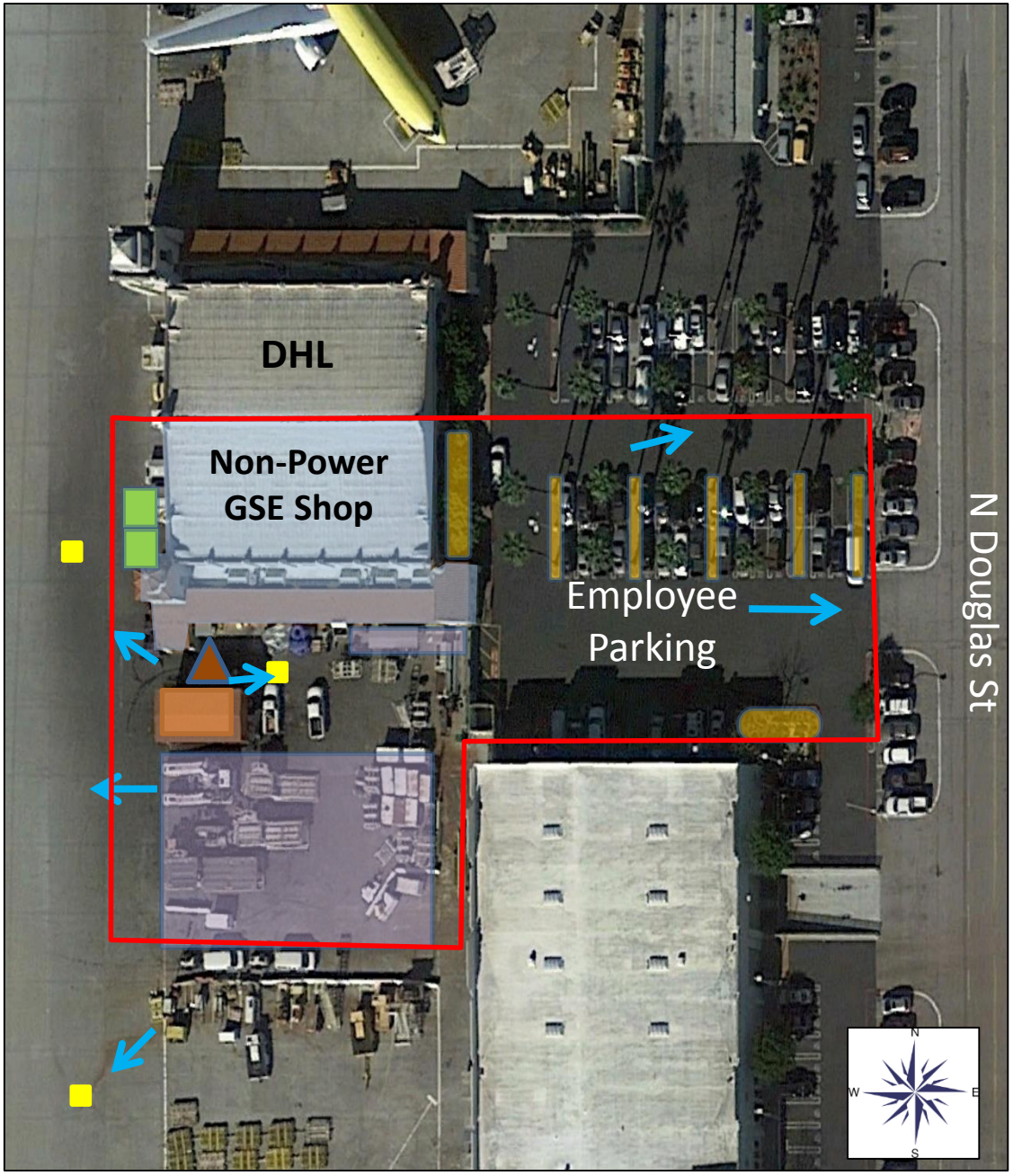
Revised 11/20/2017

SWPPP Site Map

LAWA LAX

Site 30. Menzies

5701 W Imperial Hwy
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1: Aircraft sanitary services performed within facility boundaries

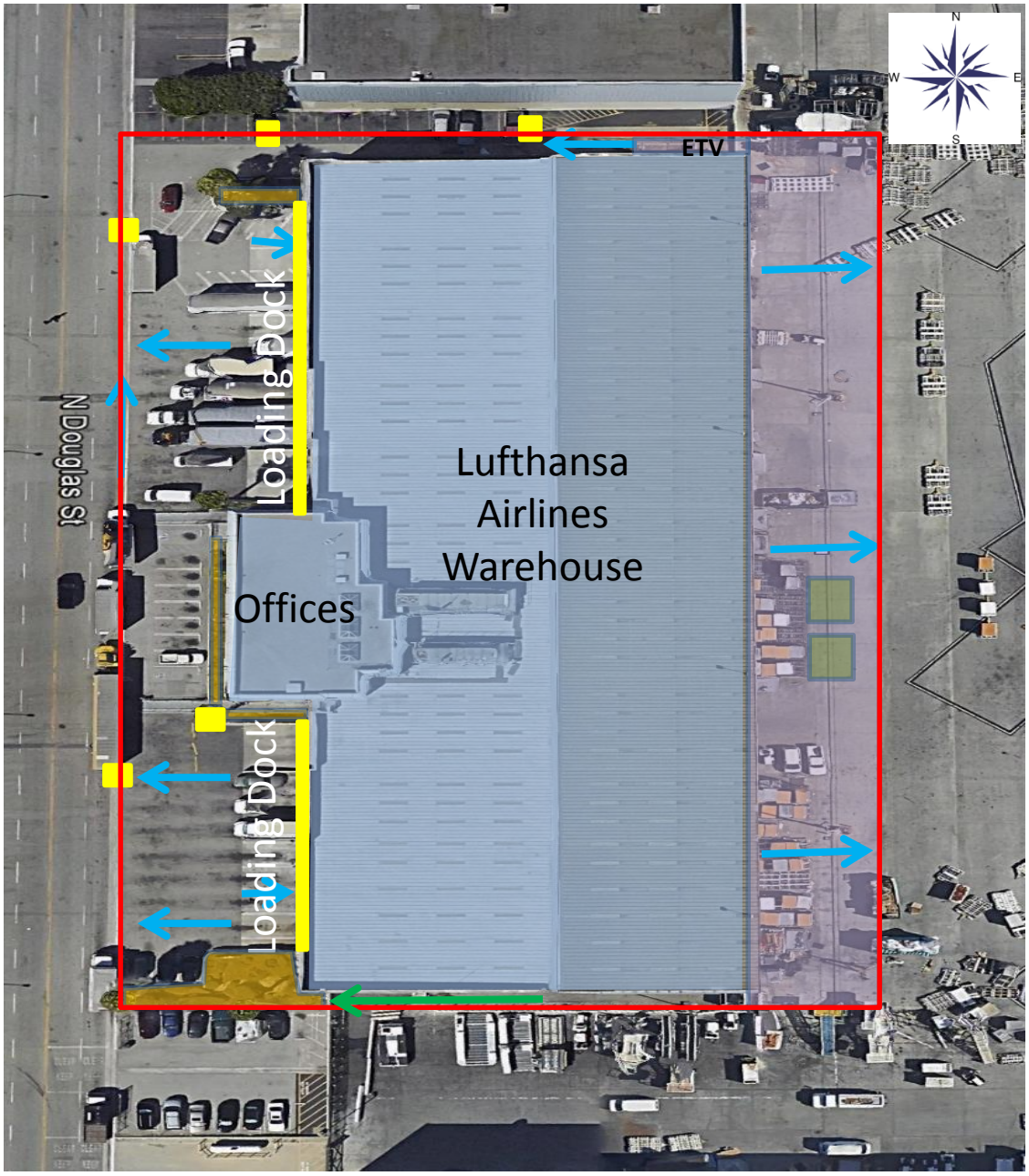
Revised 11/08/2017

SWPPP Site Map

LAWA LAX

Site 31. Lufthansa Airlines

5721 West Imperial Hwy
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Non-Impervious Areas
- Area Drains
- Concrete Swale
- Non-Industrial Area

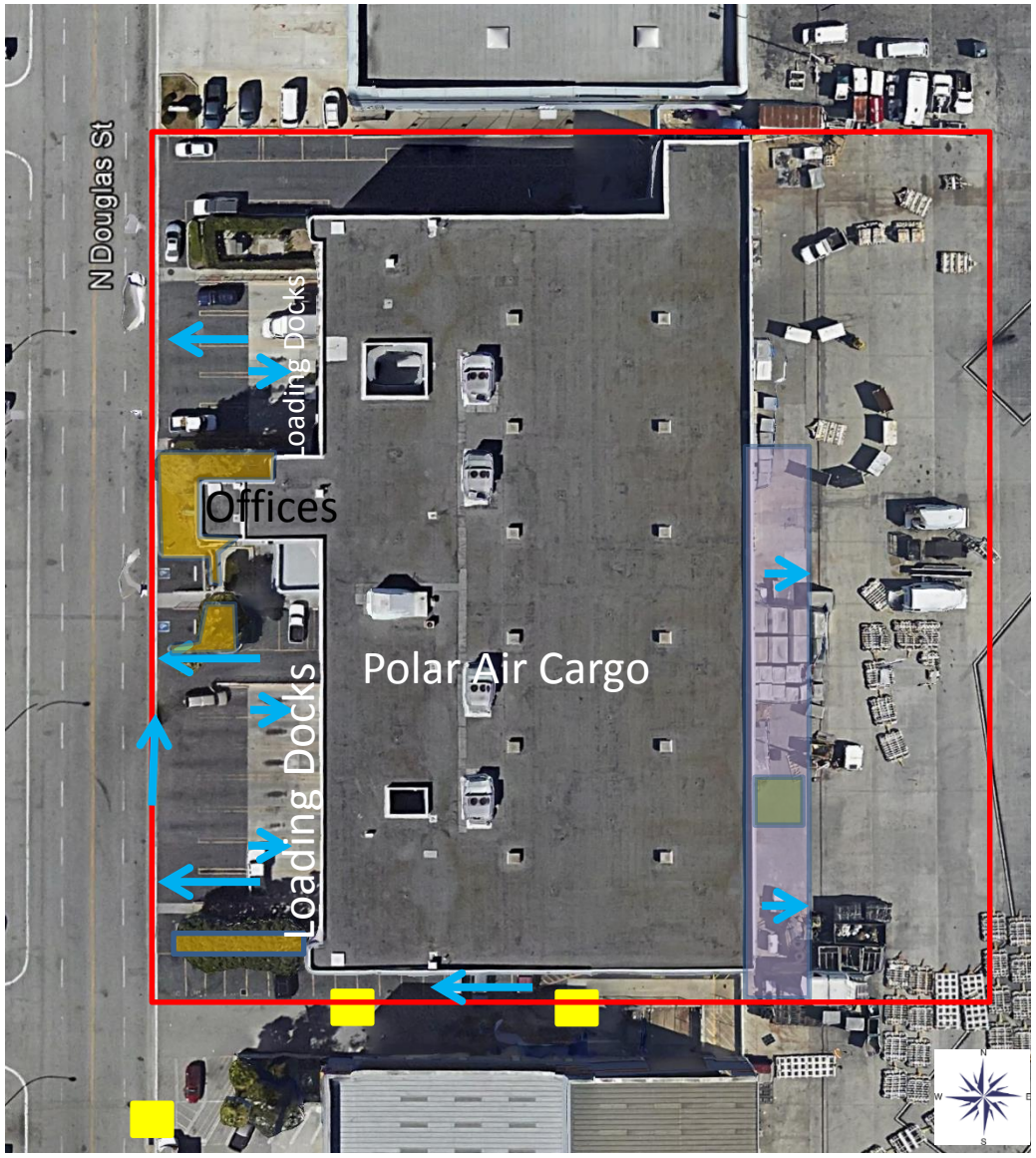
Revised 11/08/2017

SWPPP Site Map

LAWA LAX

Site 32. Polar Air Cargo

5761 Imperial Hwy
Los Angeles, CA 90045



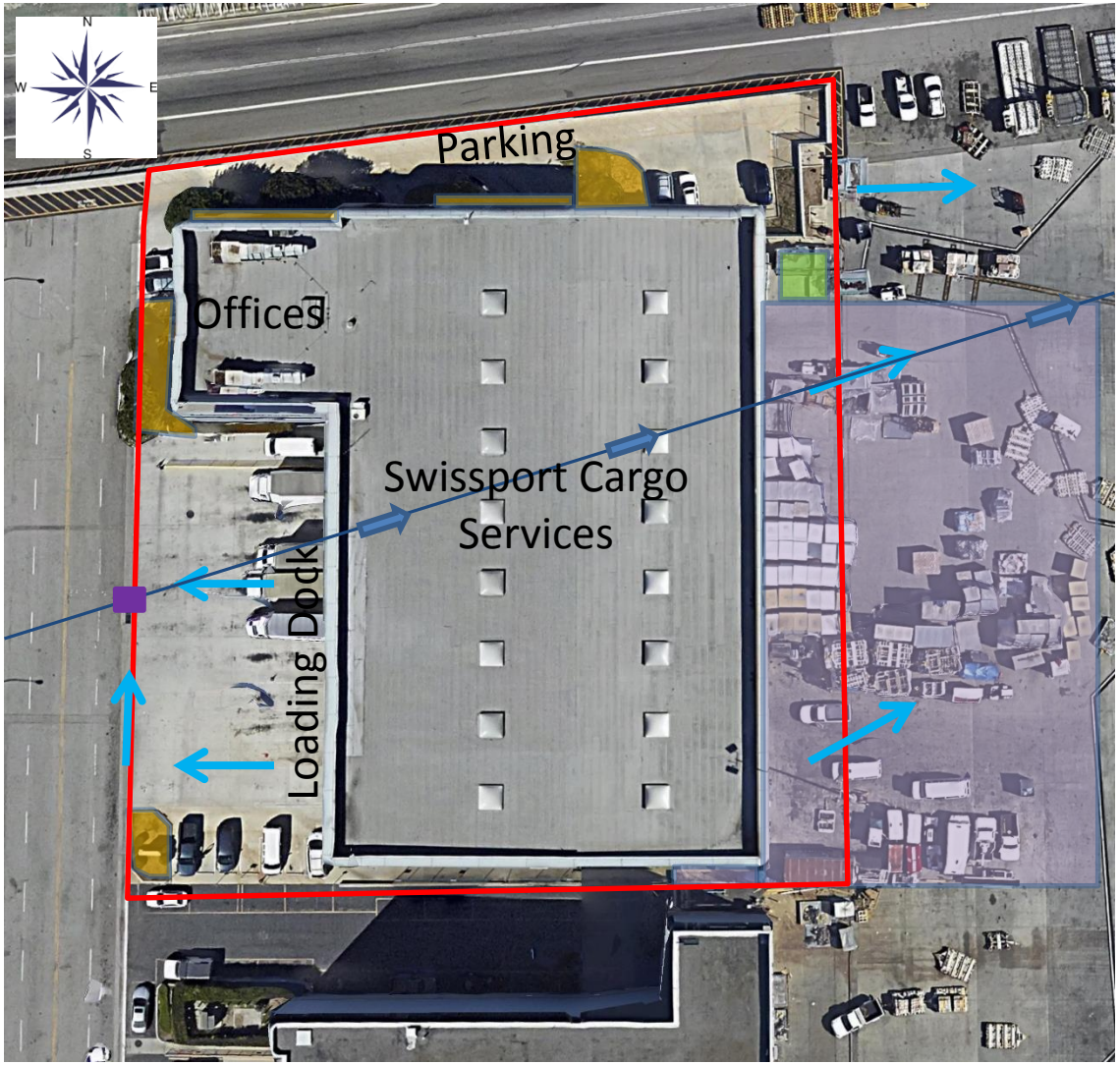
- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Non-Impervious Areas
- Area Drains

SWPPP Site Map

LAWA LAX

Site 33. Swissport Cargo Services

5781 Imperial Hwy
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Non-Impervious Areas
- Area Drains
- Underground Storm Drain (not confirmed)
- MS4 Inlet

Revised 05/31/2016

SWPPP Site Map

LAWA LAX

Site 34. DHL Worldwide Express

5791 West Imperial Hwy
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Non-Impervious Areas
- Area Drains
- MS4 Inlet
- Underground Storm Drain (not confirmed)
- Hazardous Storage Areas

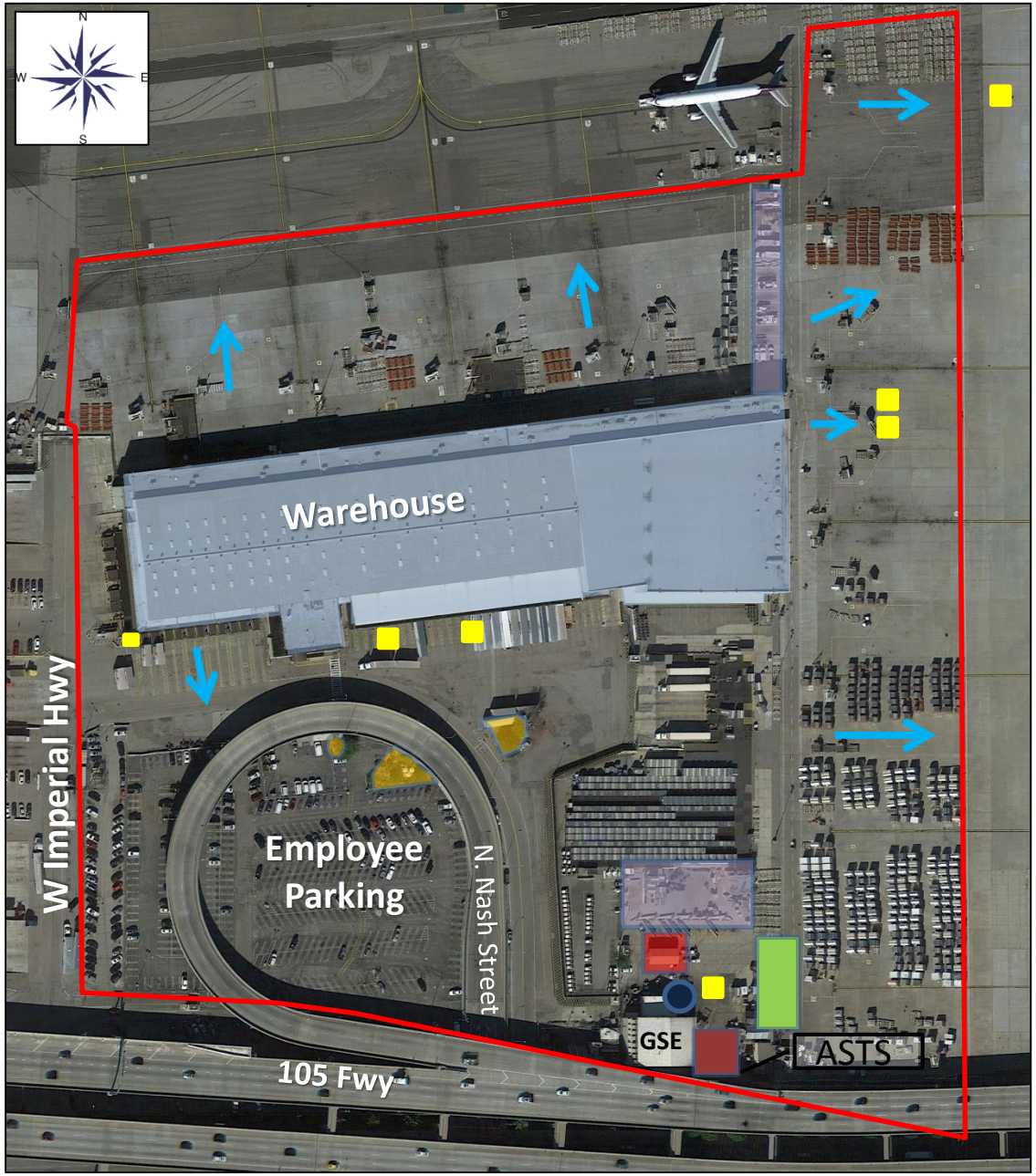
Revised 01/05/2018

SWPPP Site Map

LAWA LAX

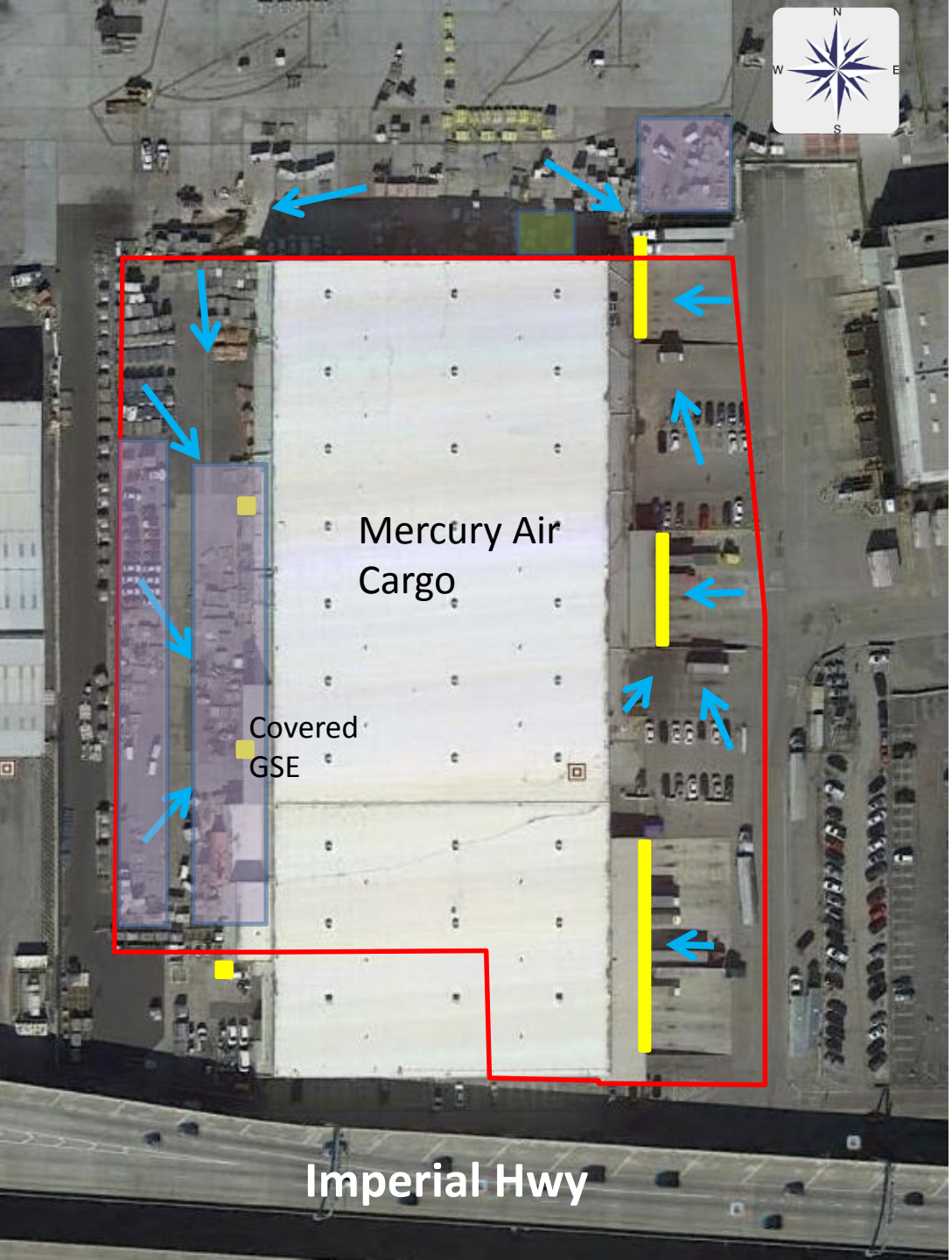
Site 35. FedEx Express- LAXR

5927 W Imperial Hwy
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1:



SWPPP Site Map

LAWA LAX

Site 36. Mercury Air Cargo

6041 Imperial Hwy W.,
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Area Drains

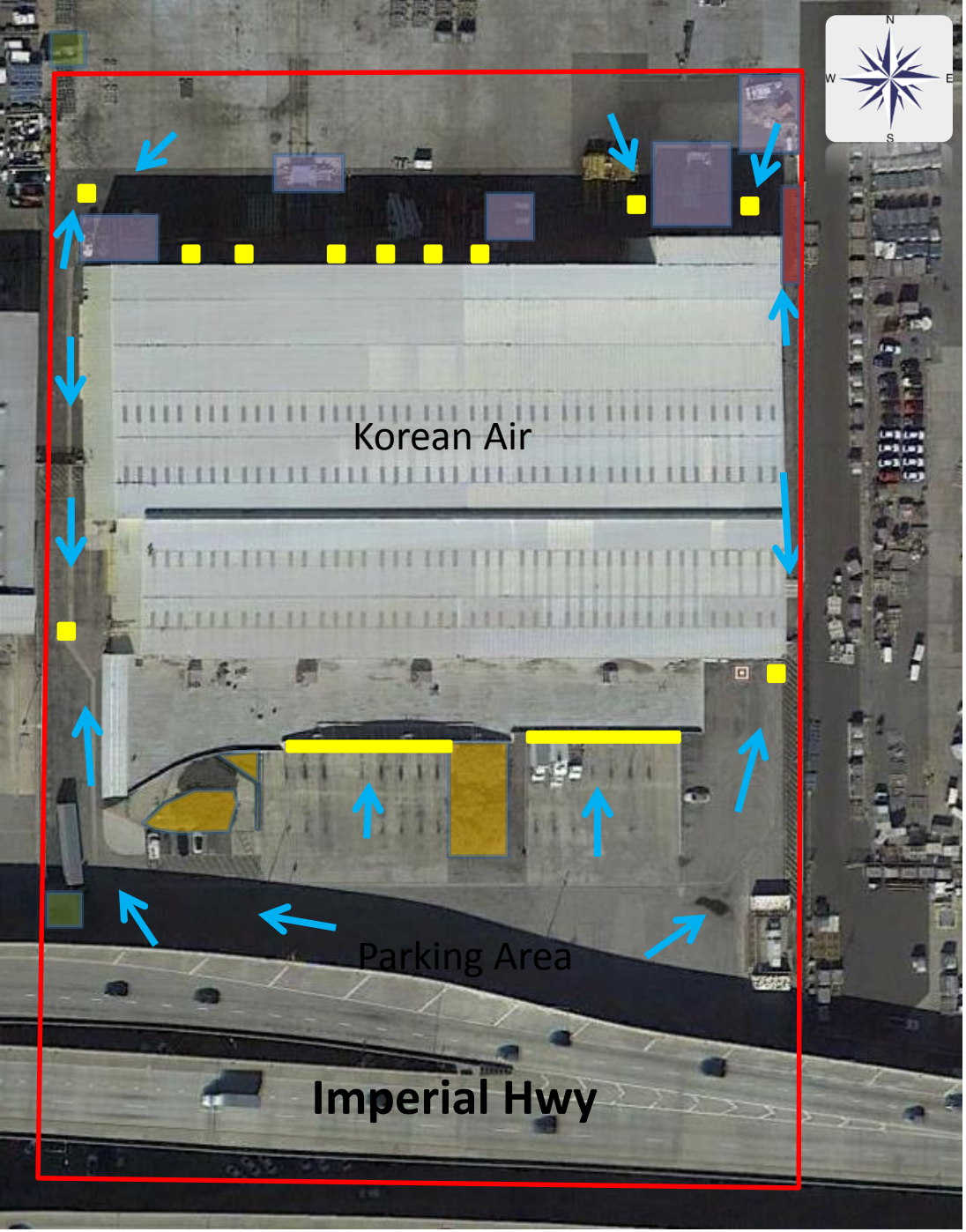
SWPPP Site Map

LAWA LAX

Site 37. United Parcel Service

6041 Imperial Hwy W.,
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Chemical Storage
- Area Drains



SWPPP Site Map

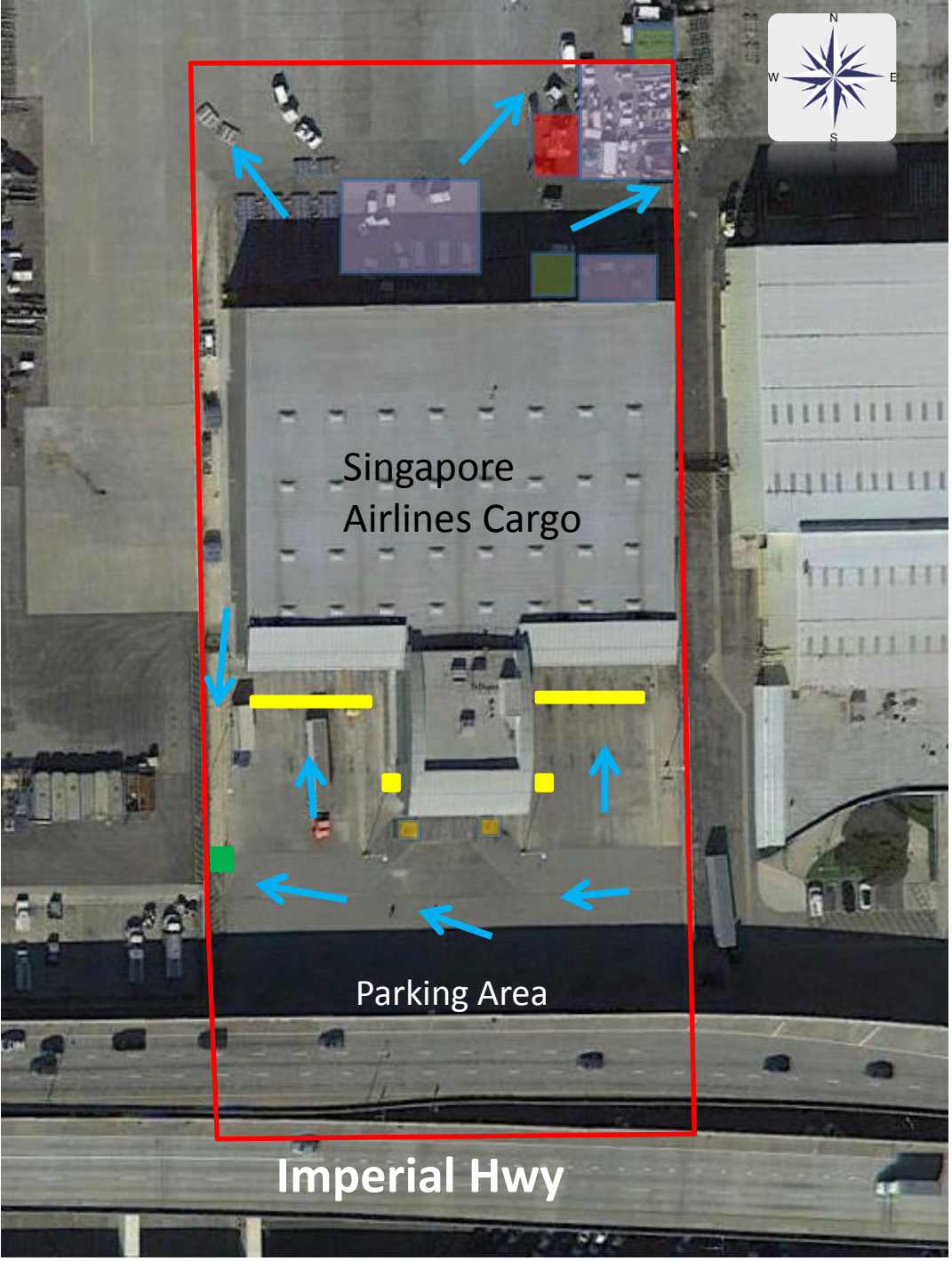
LAWA LAX

Site 38. Korean Air Cargo

6101 Imperial Hwy W.,
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Chemical Storage
- Non-Impervious Areas
- Area Drains

Note 1: All areas drains to the north of the building have storm drain filter inserts.



SWPPP Site Map

LAWA LAX

Site 39. Singapore Airlines Cargo

6181 Imperial Hwy W.,
Los Angeles, CA 90045

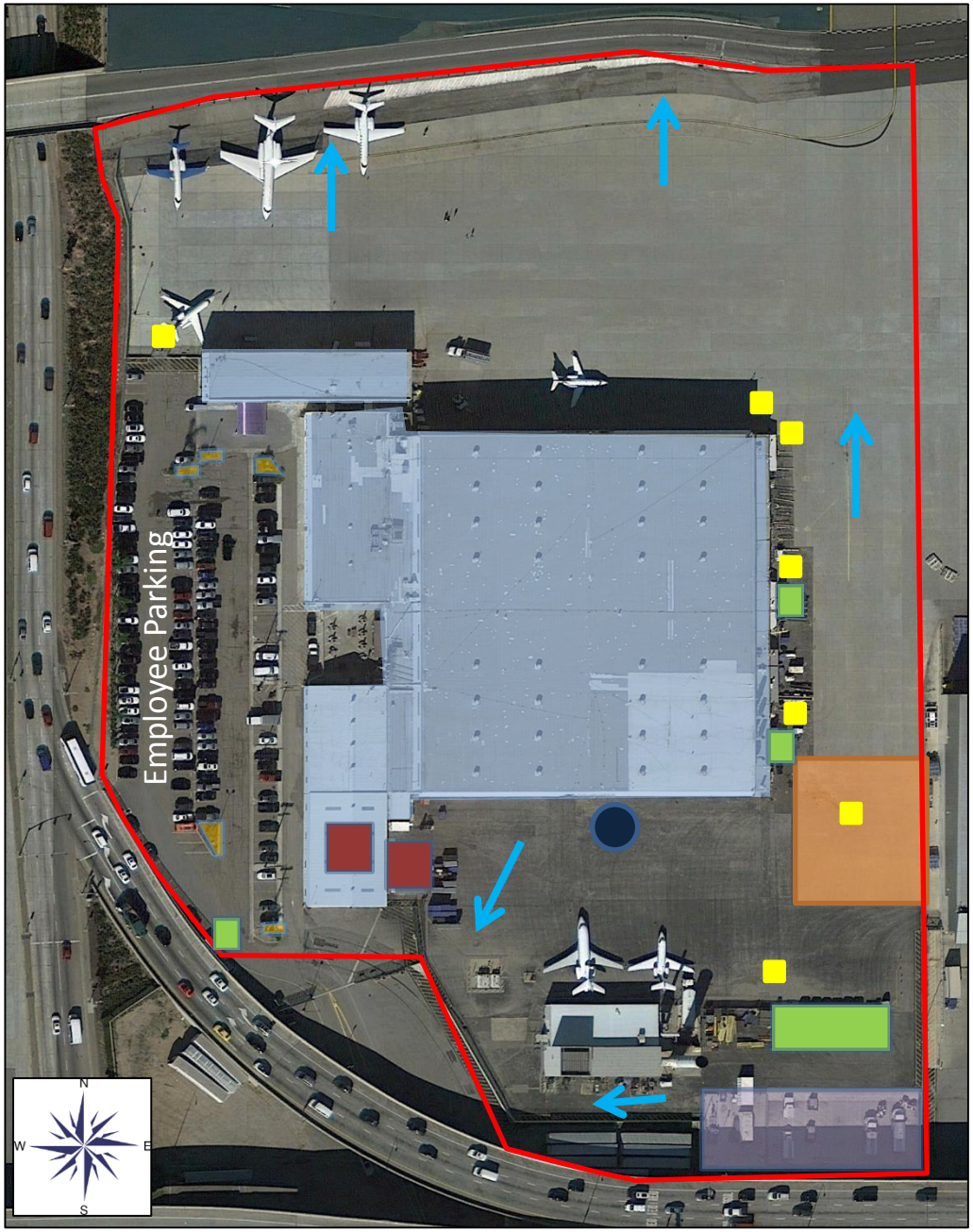
- Facility Boundary
- Rain Flow
- Outdoor Fuel Storage Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Non-Impervious Areas
- Area Drains
- Terminal End of a Drainage Area without an Area Drain

SWPPP Site Map

LAWA LAX

Site 40. Landmark Aviation/Standard Aero

6201 W Imperial Hwy
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Outdoor Washing Area
- Non-Impervious Areas

Note 1: Aircraft fueling and sanitary services occur at various locations within facility boundaries

SWPPP Site Map

LAWA LAX

Site 41. Atlantic Aviation

6411 W Imperial Hwy
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

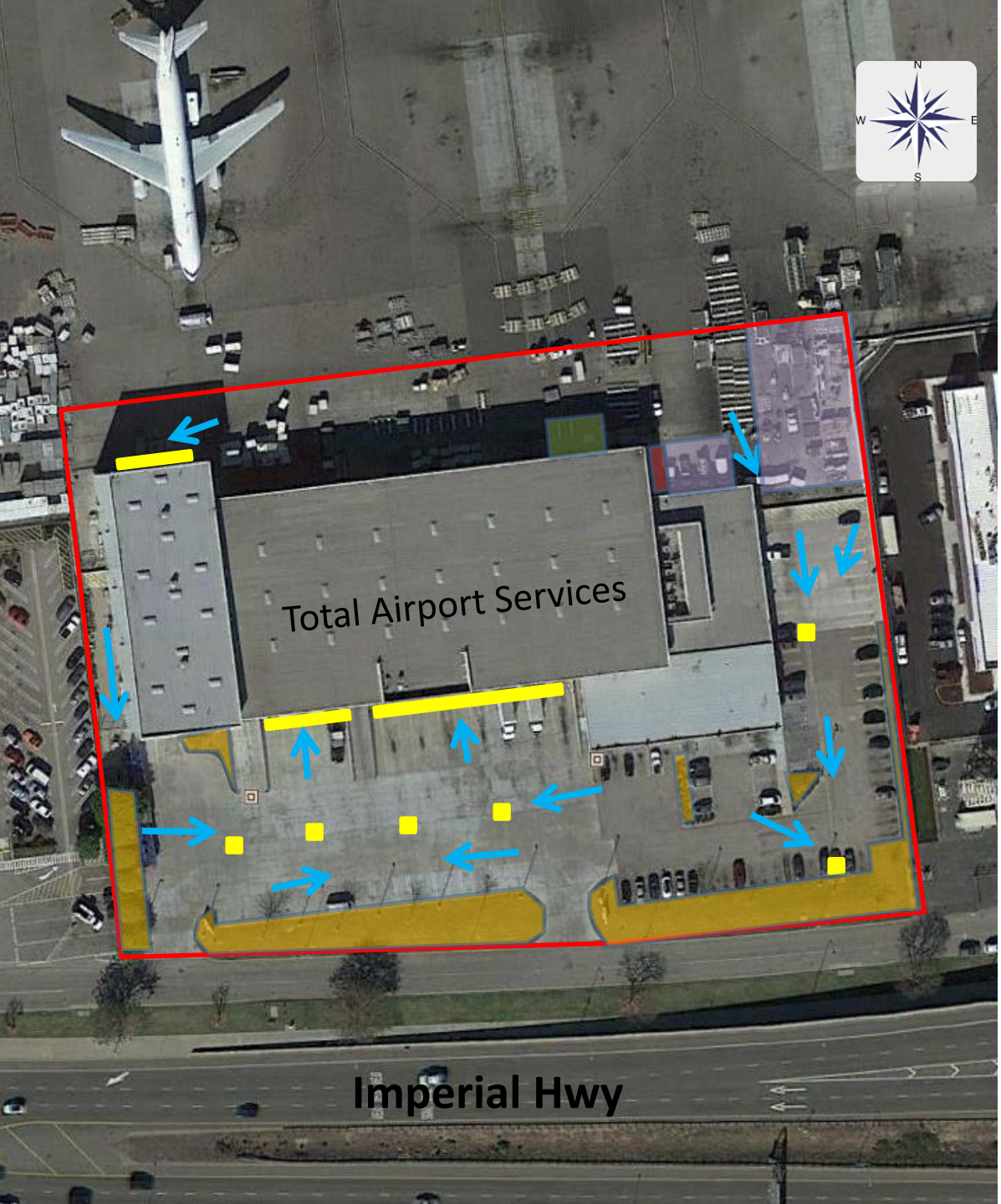
Note 1: Aircraft fueling and sanitary services occur at various locations within facility boundaries

SWPPP Site Map

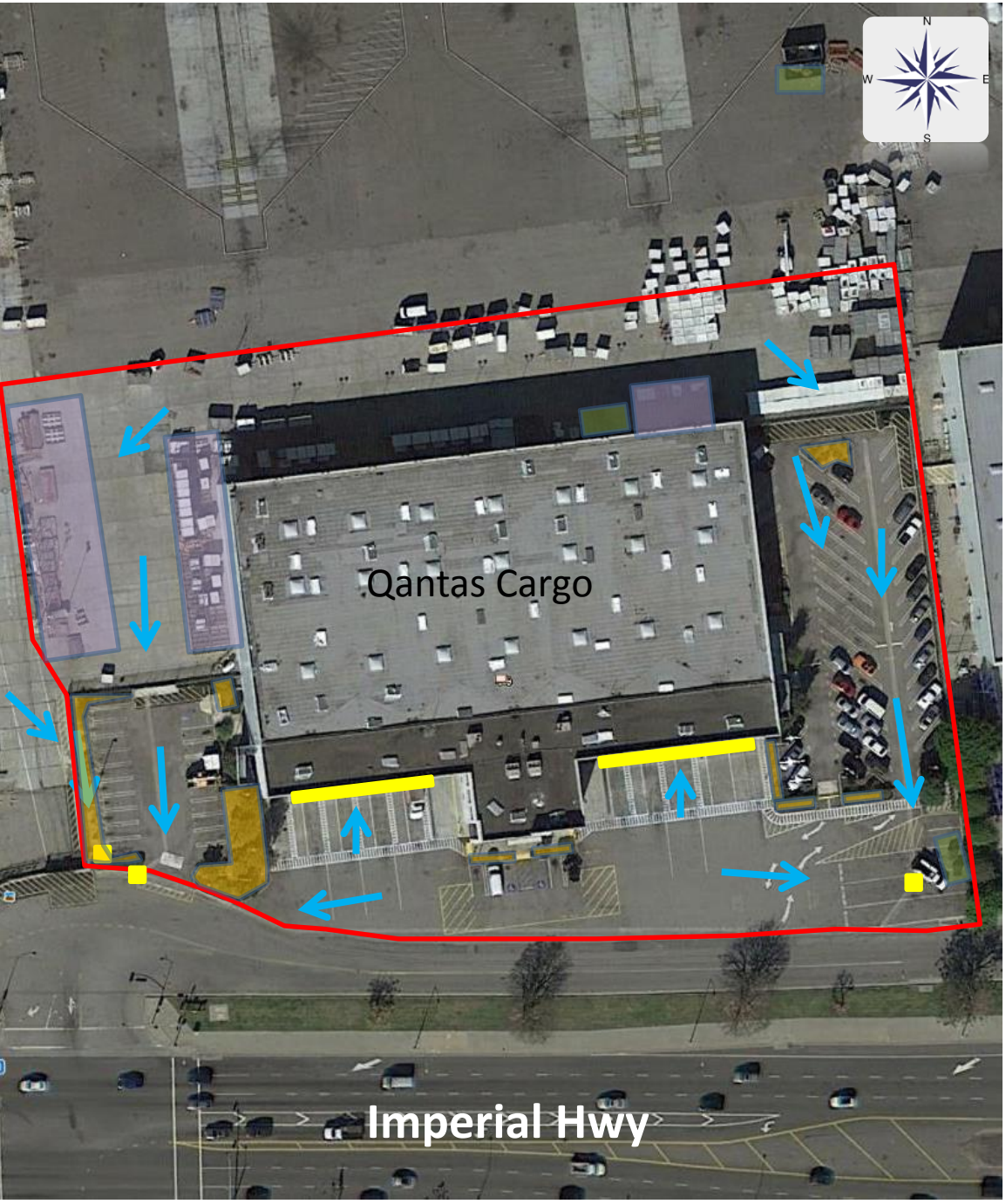
LAWA LAX

Site 42. Total Airport Services (Nippon Cargo)

6501 Imperial Hwy W.,
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Non-Impervious Areas
- Outdoor Chemical Storage
- Area Drains



SWPPP Site Map

LAWA LAX

Site 43. Qantas Cargo

6555 Imperial Hwy W.,
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Non-Impervious Areas
- Area Drains

SWPPP Site Map

LAWA LAX

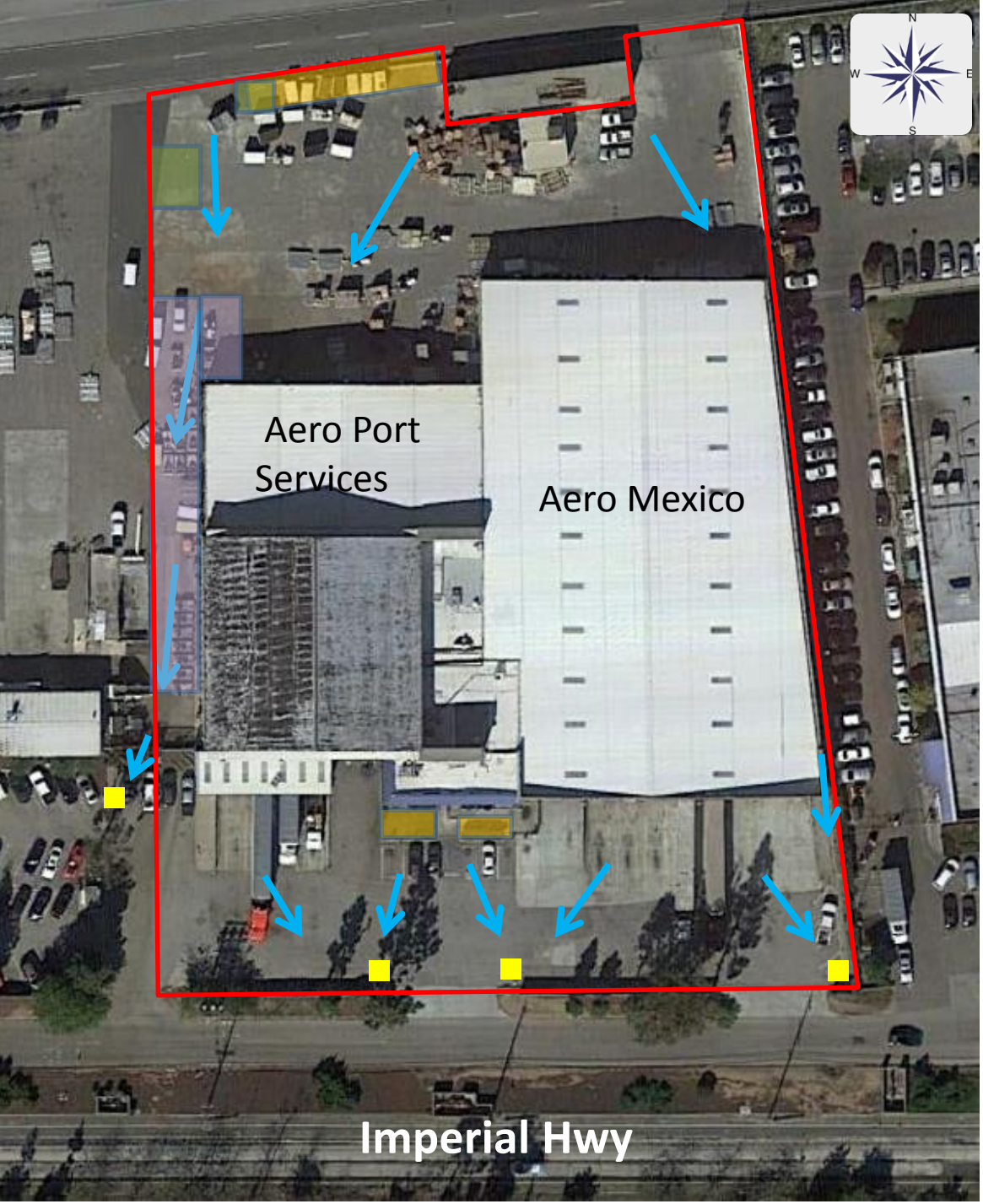
Site 44. LAWA Imperial Terminal

6661 W Imperial Hwy
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area

Note 1: Aircraft fueling and sanitary services occur at various locations within facility boundaries

Revised 12/07/2016



SWPPP Site Map

LAWA LAX

Site 45. Aero Mexico Cargo

6851 Imperial Hwy W.,
Los Angeles, CA 90045

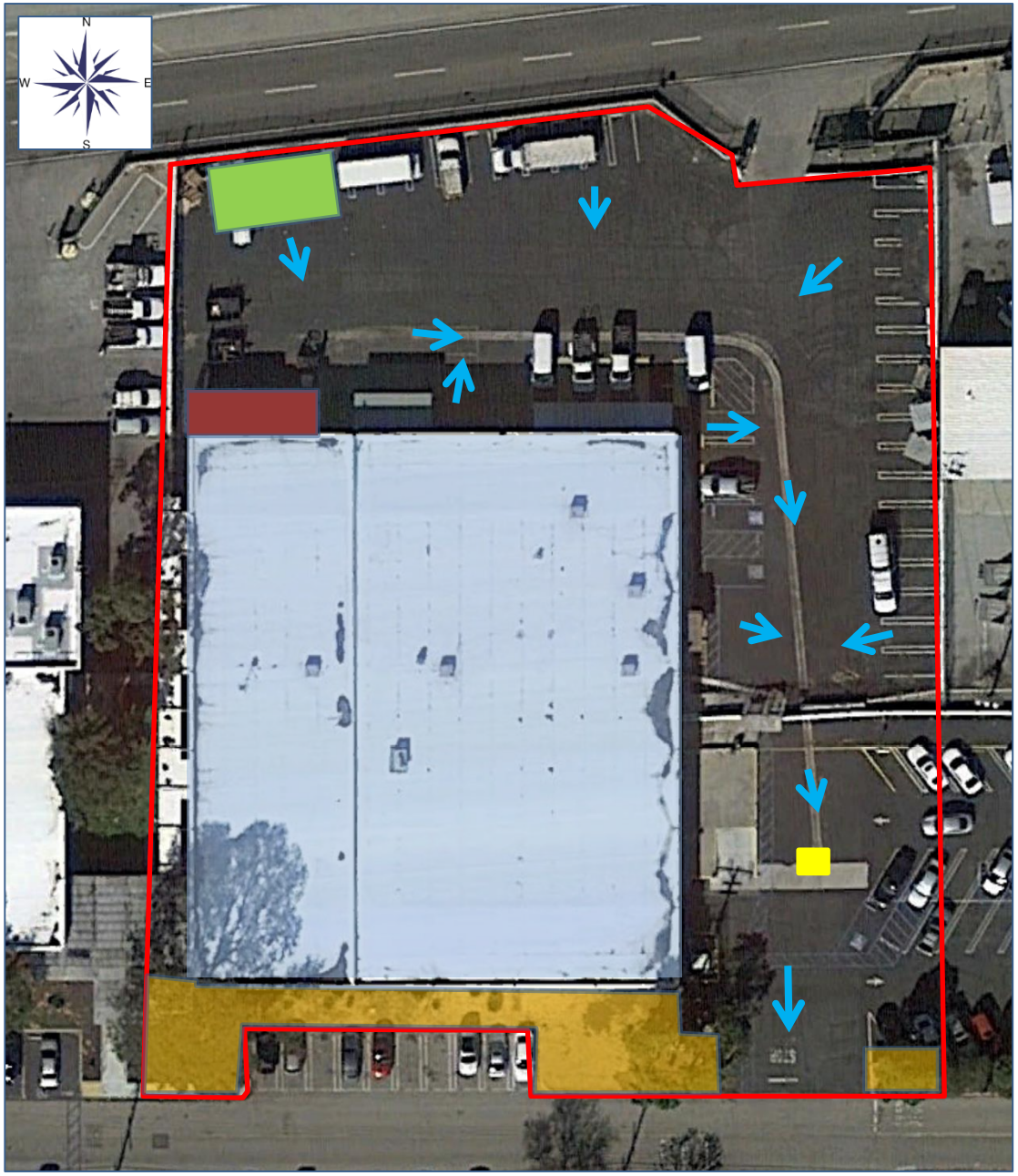
- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Non-Impervious Areas
- Area Drain

SWPPP Site Map

LAWA LAX

Site 46. SIA Engineering USA Inc.

7001 W Imperial Hwy
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Non-Impervious Areas

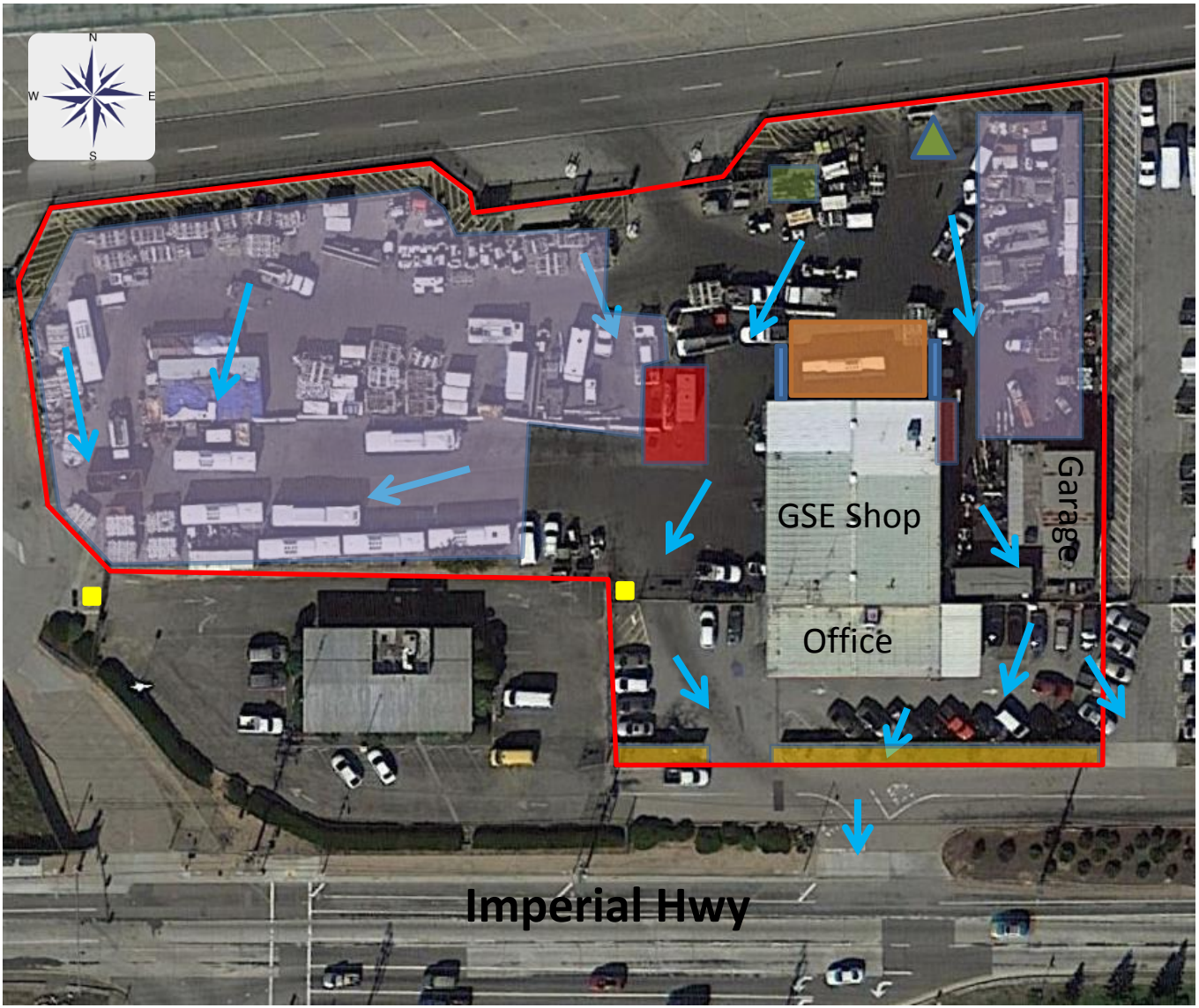
Note 1:

SWPPP Site Map

LAWA LAX

Site 47. Swissport USA

7025 Imperial Hwy W.,
Los Angeles, CA 90045



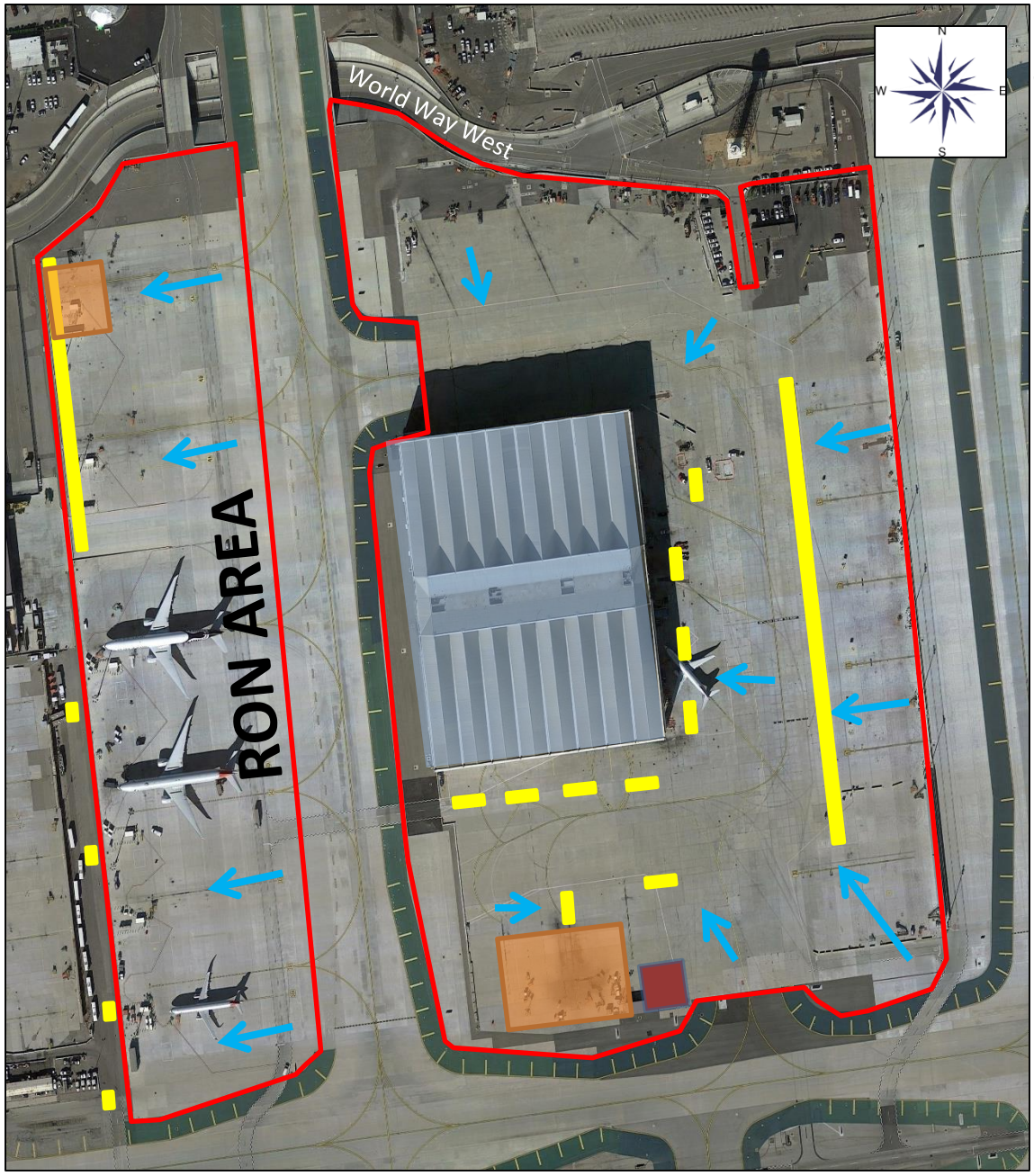
- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Non-Impervious Areas
- Outdoor Chemical Storage
- Outdoor Washing Area
- Sewer-Connected Clarifier
- Sewer-Connected Drain
- Area Drains

SWPPP Site Map

LAWA LAX

Site 48. AA Maintenance Hangar

7100 World Way West
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

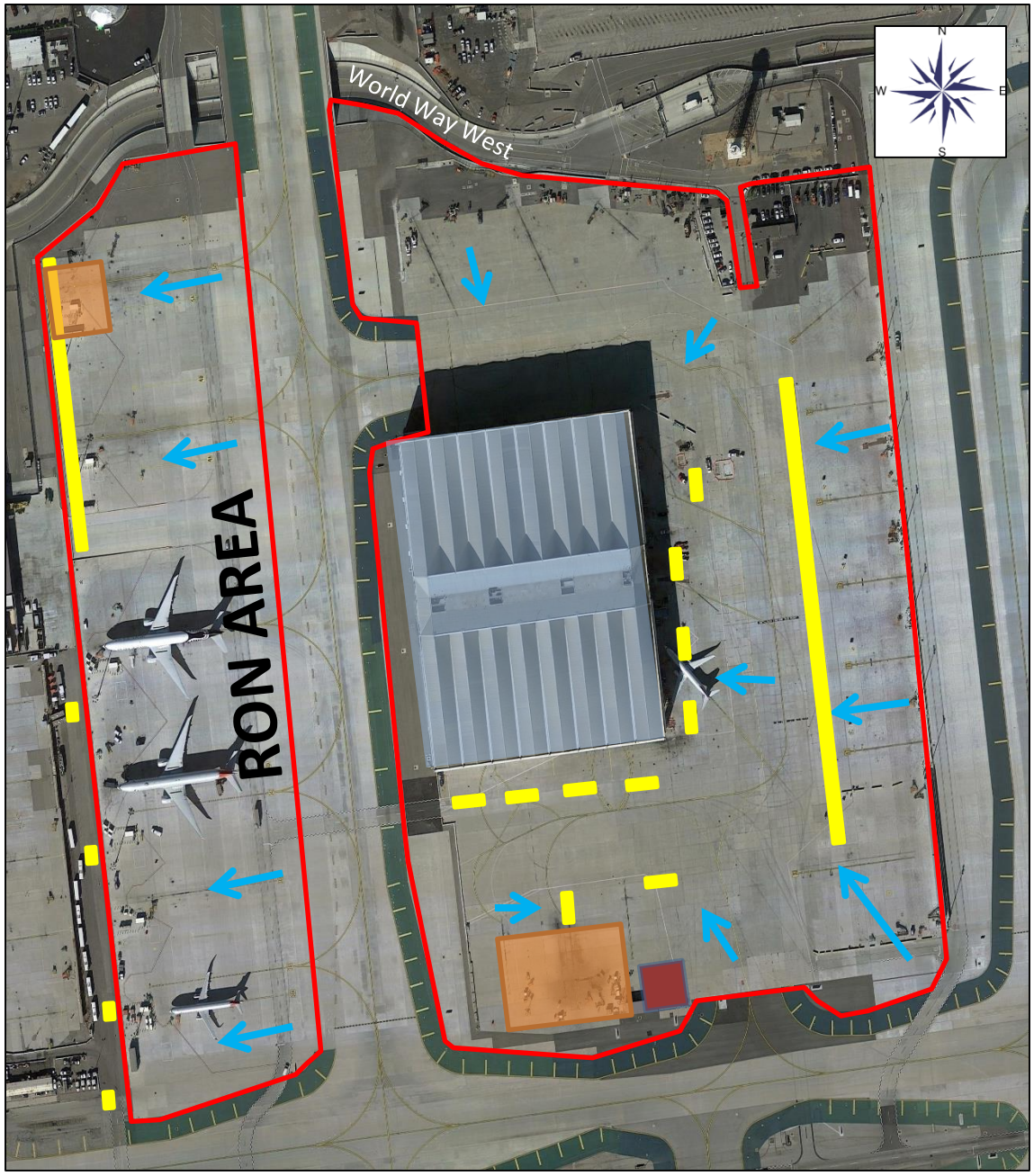
Note 1:

SWPPP Site Map

LAWA LAX

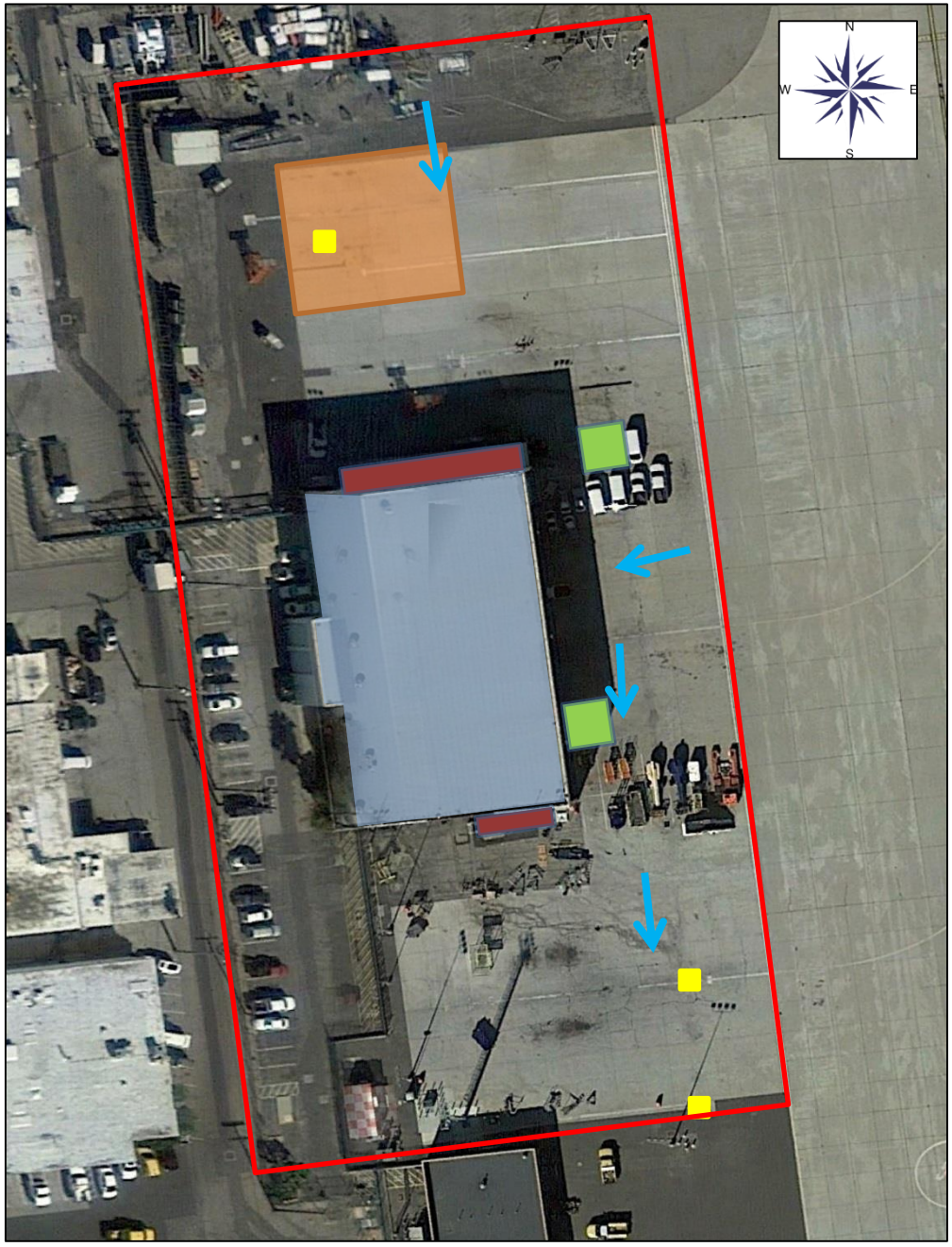
Site 49. AA Maintenance- RON Area

7100 World Way West
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1:



SWPPP Site Map

LAWA LAX

Site 50. Delta Hangar

7183 World Way West
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1:

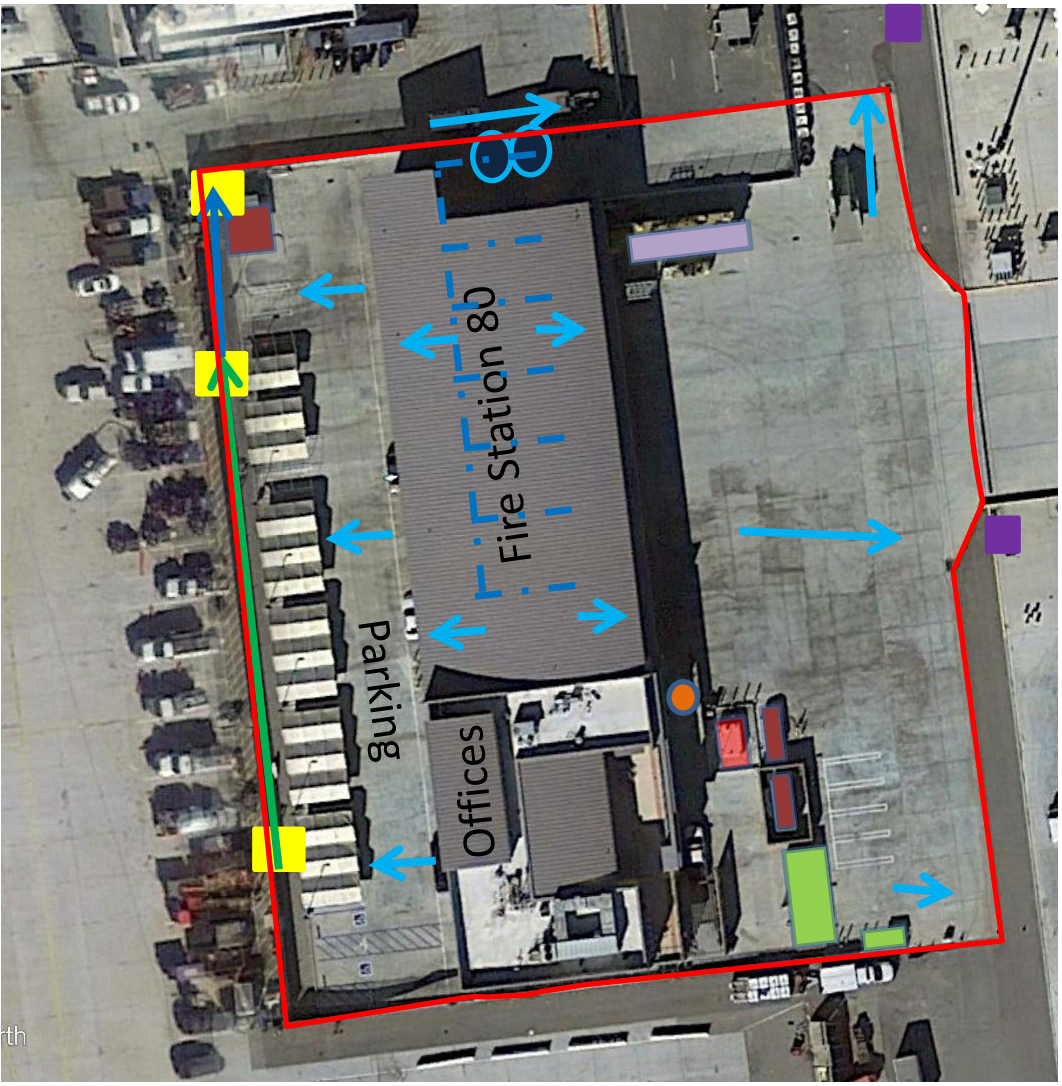
Revised 12/17

SWPPP Site Map

LAWA LAX

Site 51. Fire Station #80

7250 World Way West
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Storage Areas
- Clarifier
- Area Drains
- MS4 Inlet
- Floor Drains to Clarifier (indoors)
- Oil and Grease Trap to Sewer

SWPPP Site Map

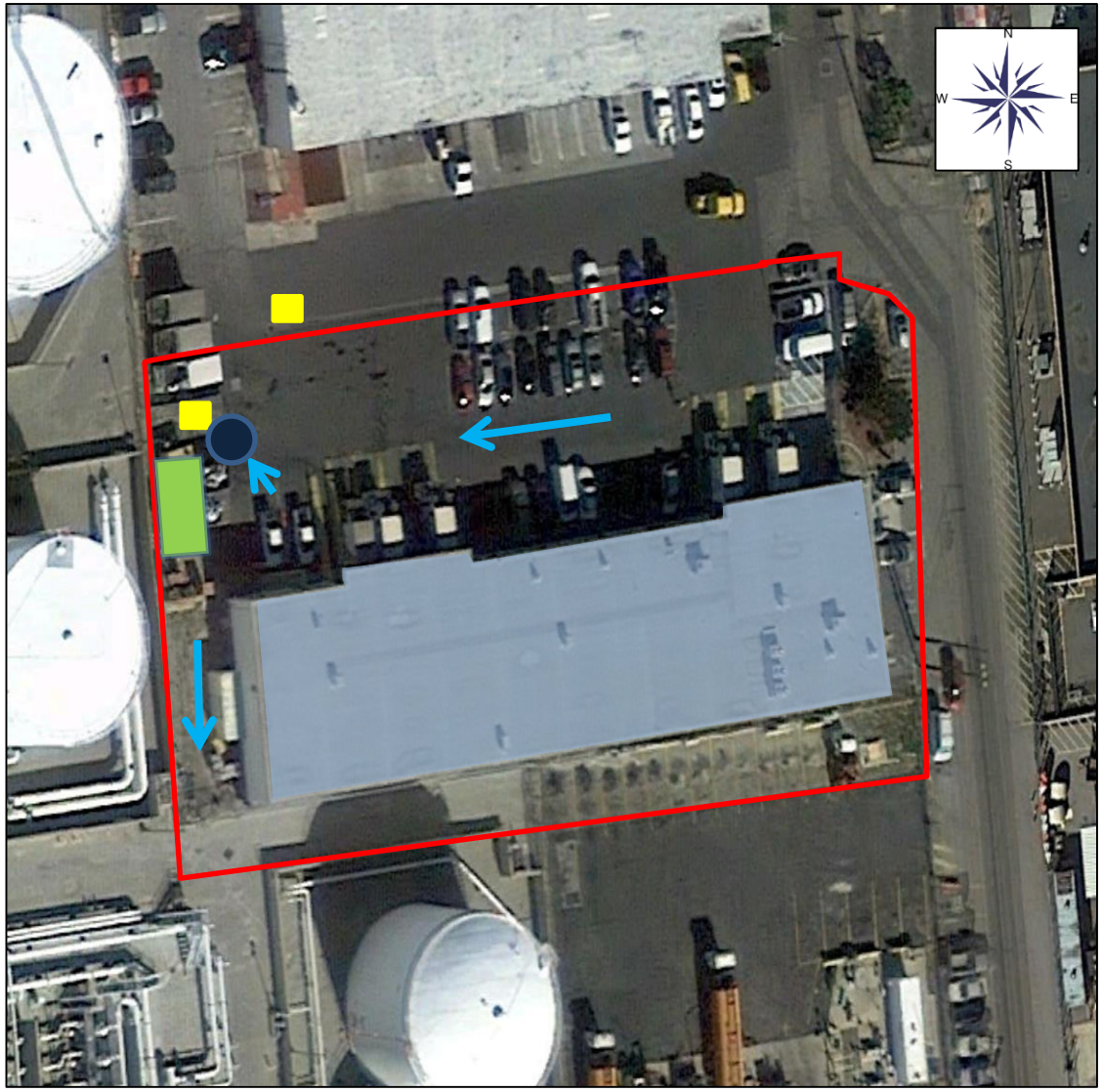
LAWA LAX

Site 52. ASIG

7251 World Way West
Los Angeles, CA 90045

Note 1: Diesel AST is contained with 6" berm

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas
- 6" Berm



SWPPP Site Map

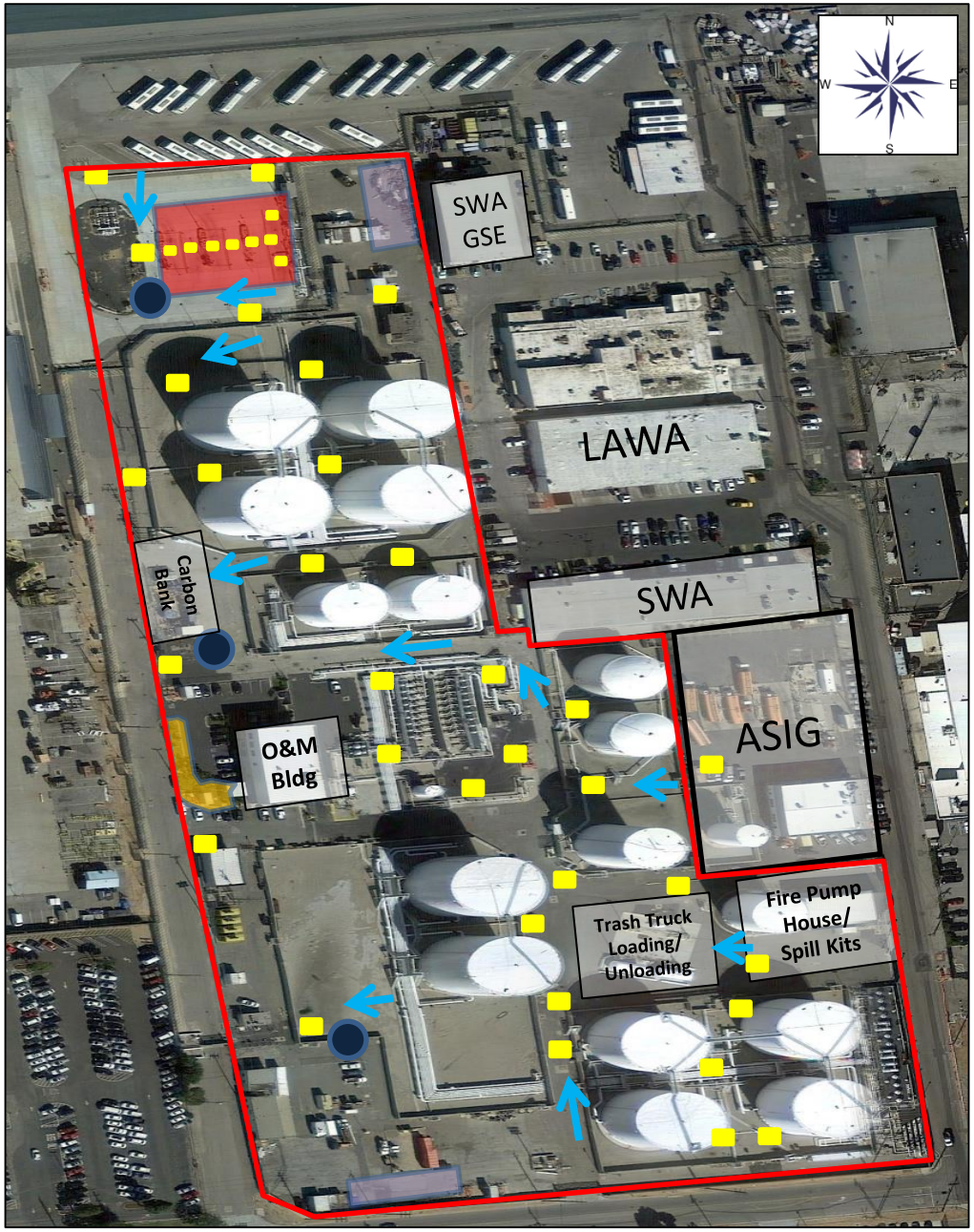
LAWA LAX

Site 53. Southwest Airlines

7255 World Way West
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Titrator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1:



Revised 11/20/2017

SWPPP Site Map

LAWA LAX

Site 54. 9900 LAX Fuel

7265 World Way West
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

SWPPP Site Map

LAWA LAX

Site 55. United Airlines-Maintenance

7300 World Way West
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1:

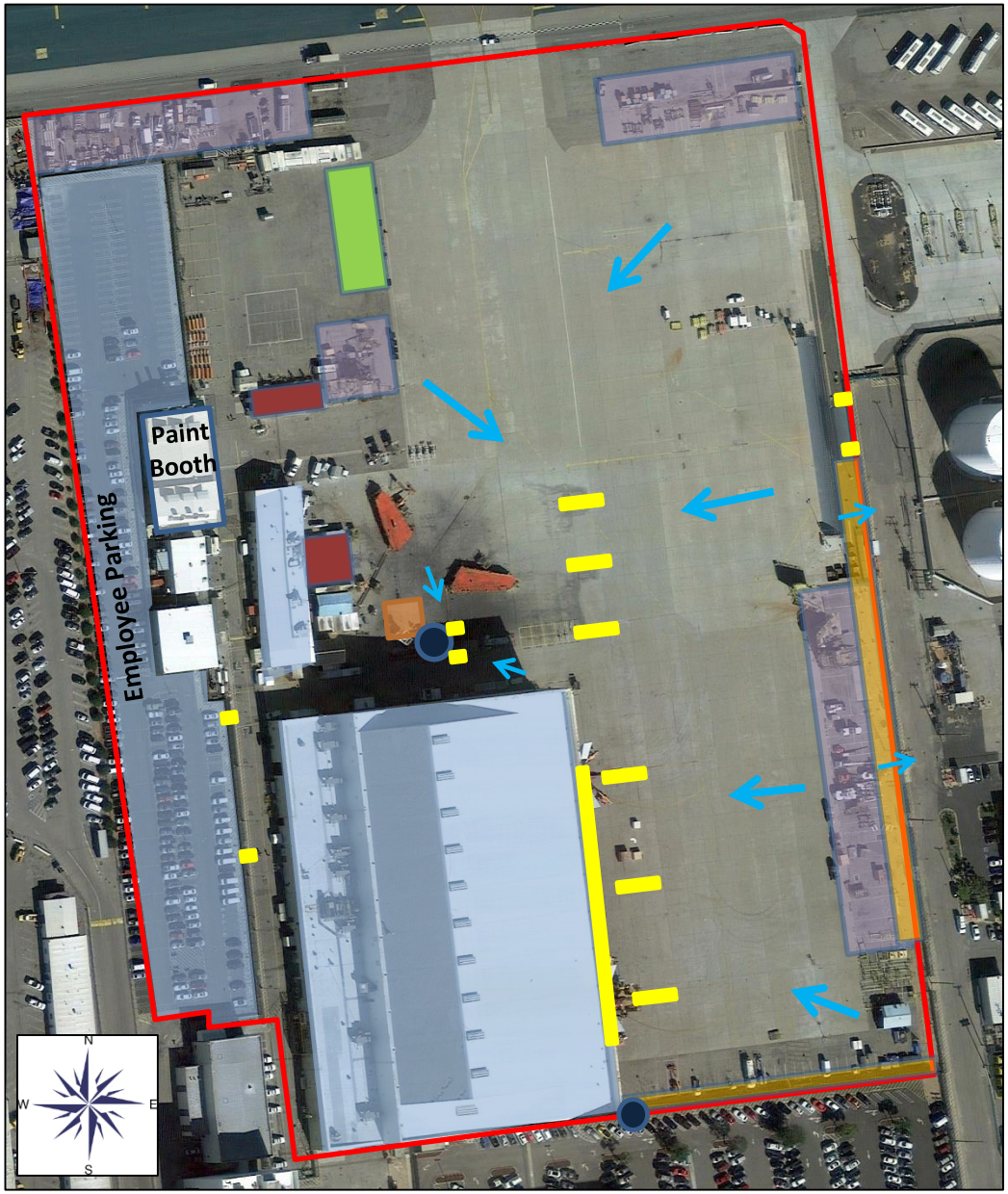
Revised 1/2017

SWPPP Site Map

LAWA LAX

Site 56. FedEx LAX HGR

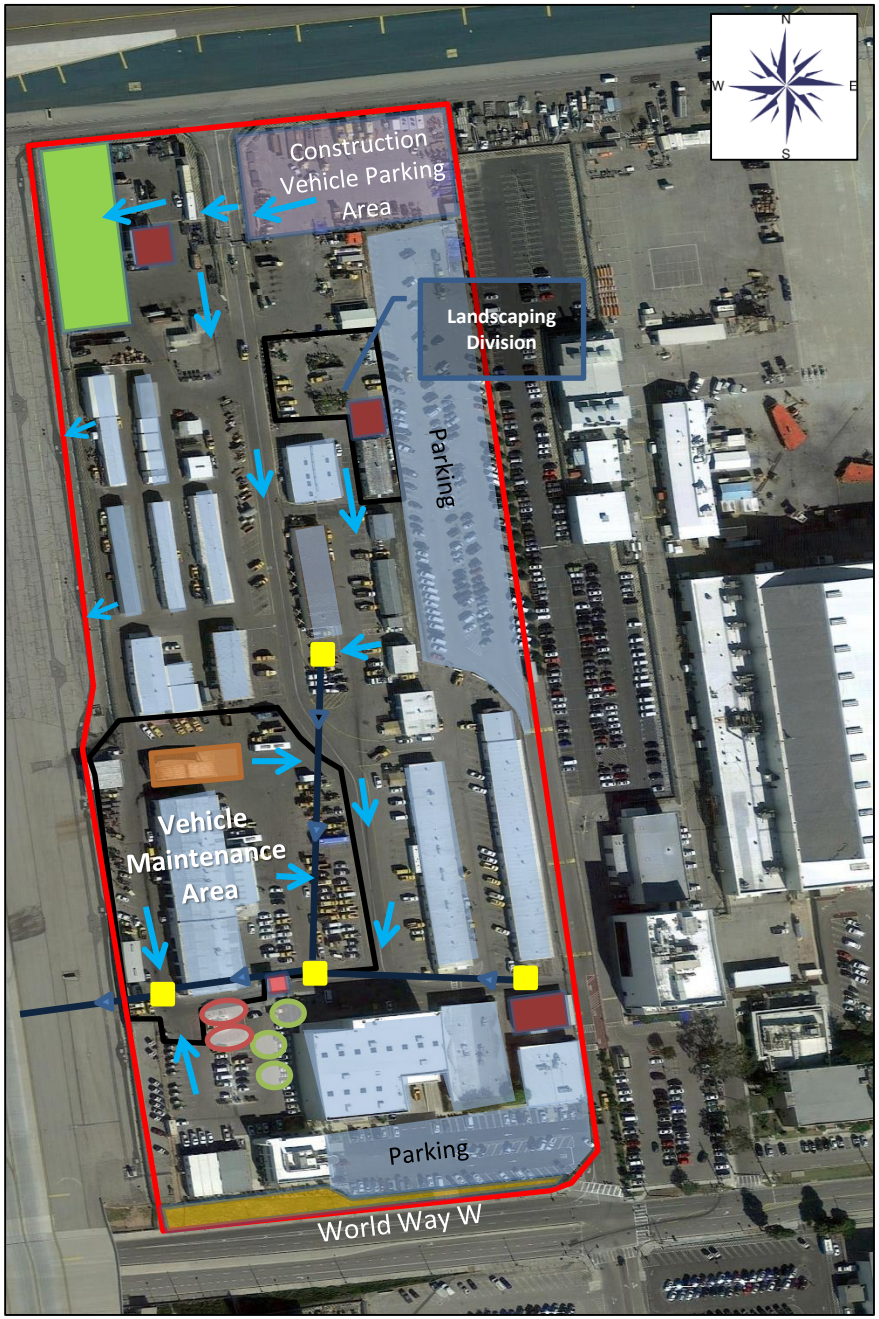
7401 World Way
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1: Aircraft fueling and sanitary services occur at various locations within facility boundaries

Revised 11/17/2016



SWPPP Site Map

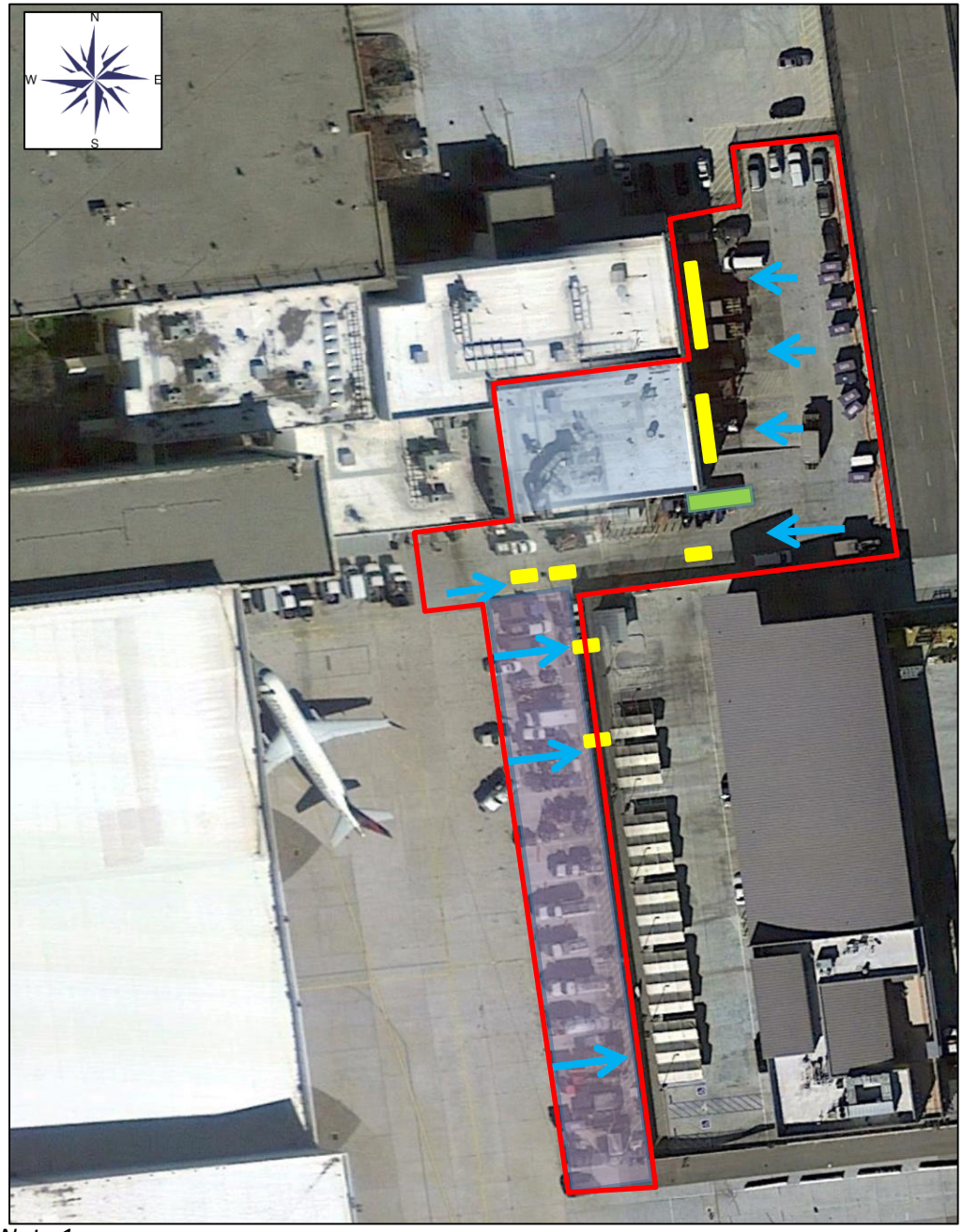
LAWA LAX

Site 57. LAWA Maintenance Yard

7411 World Way West
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Underground Storm Drain
- Above Ground Storage Tank
- Outdoor Washing Area
- Underground Storage Tank
- Non-Impervious Area

Revised 11/21/2017



Note 1:

SWPPP Site Map

LAWA LAX

Site 58. AA- OSF

7260 World Way
Los Angeles, CA 90045

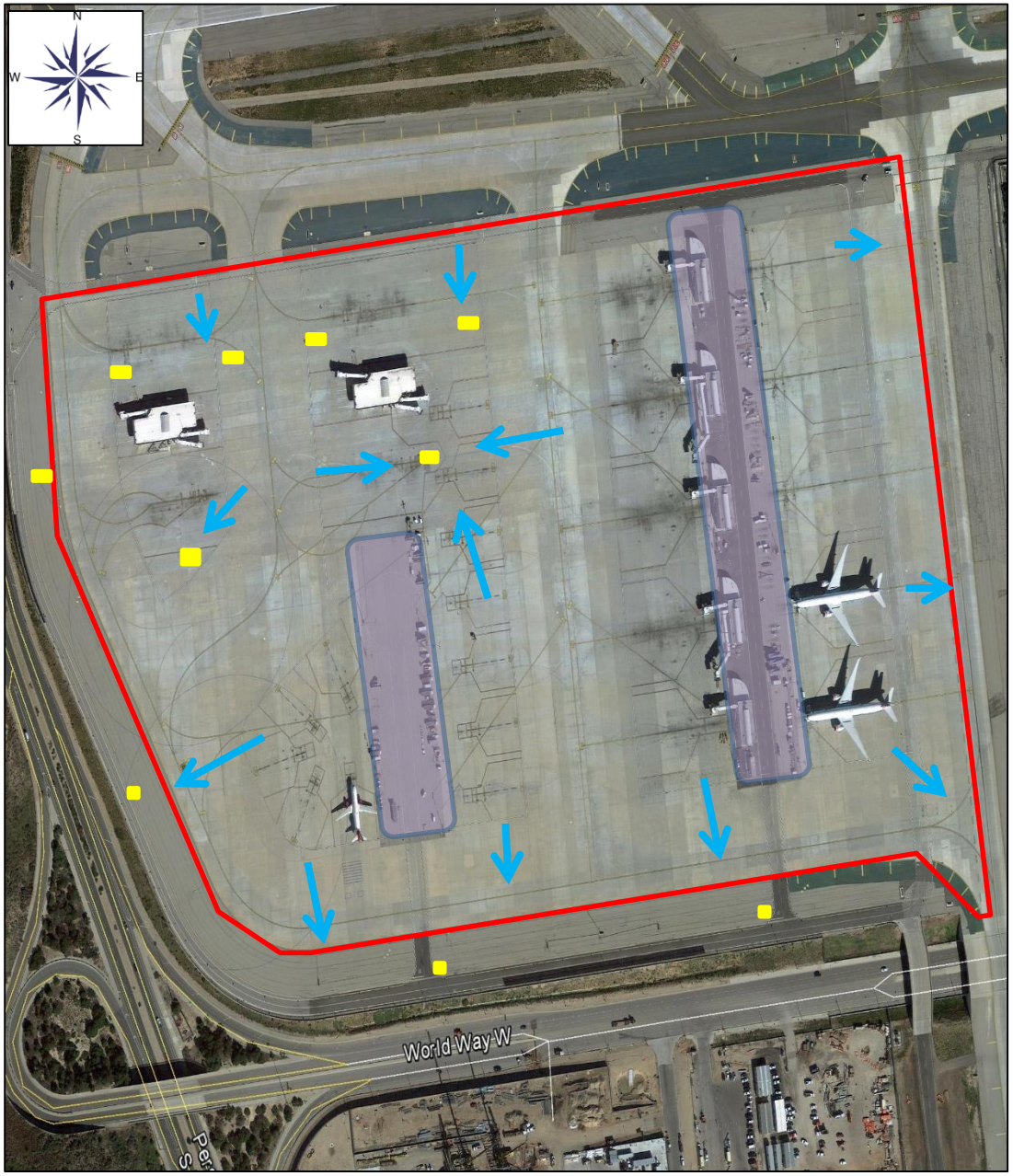
- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

SWPPP Site Map

LAWA LAX

Site 59. Remote Gates

8214 World Way West



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1: Aircraft fueling and sanitary services occur at various locations within facility boundaries.

Revised 11/2017

SWPPP Site Map

LAWA LAX

Site 60. Southwest Airlines-GSE

9601 Coast Guard Road
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

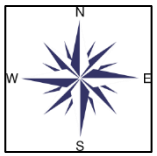
Note 1:

SWPPP Site Map

LAWA LAX

Site 61. Air New Zealand

7007 W. Imperial Hwy
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

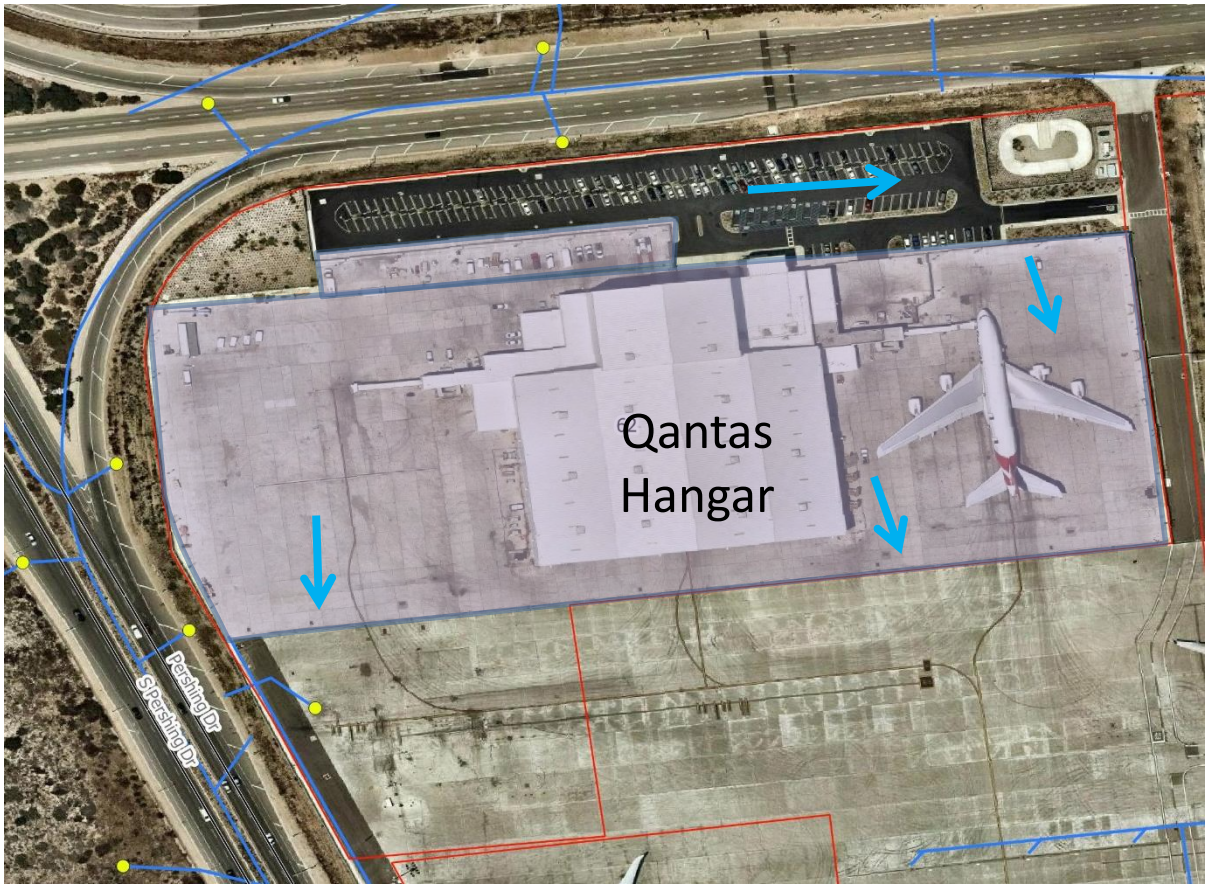
Note 1: New site to be updated in Spring 2018

SWPPP Site Map

LAWA LAX

Site 62. Qantas Hangar

8000 World Way West
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

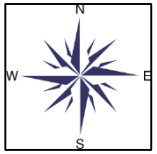
Note 1: New site to be updated in Spring 2018

SWPPP Site Map

LAWA LAX

Site 63. Gate Gourmet

6951 W. Imperial Hwy
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

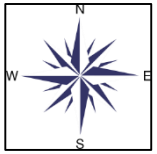
Note 1: New site to be updated in Spring 2018

SWPPP Site Map

LAWA LAX

Site 64. Worldwide Flight Services

6951 W. Imperial Hwy
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1: New site to be updated in Spring 2018

SWPPP Site Map

LAWA LAX

Site 65. Swissport – Taxiway E-14 Storage Area

7401 World Way West
Los Angeles, CA 90045

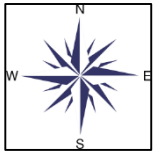
- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Area Drains

SWPPP Site Map

LAWA LAX

Site 66. Swissport Taxiway E-14 Fueling

6951 W. Imperial Hwy
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1: New site to be updated in Spring 2018

SWPPP Site Map

LAWA LAX

Site 67. Virgin Australia-WAMA

7800 World Way West
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

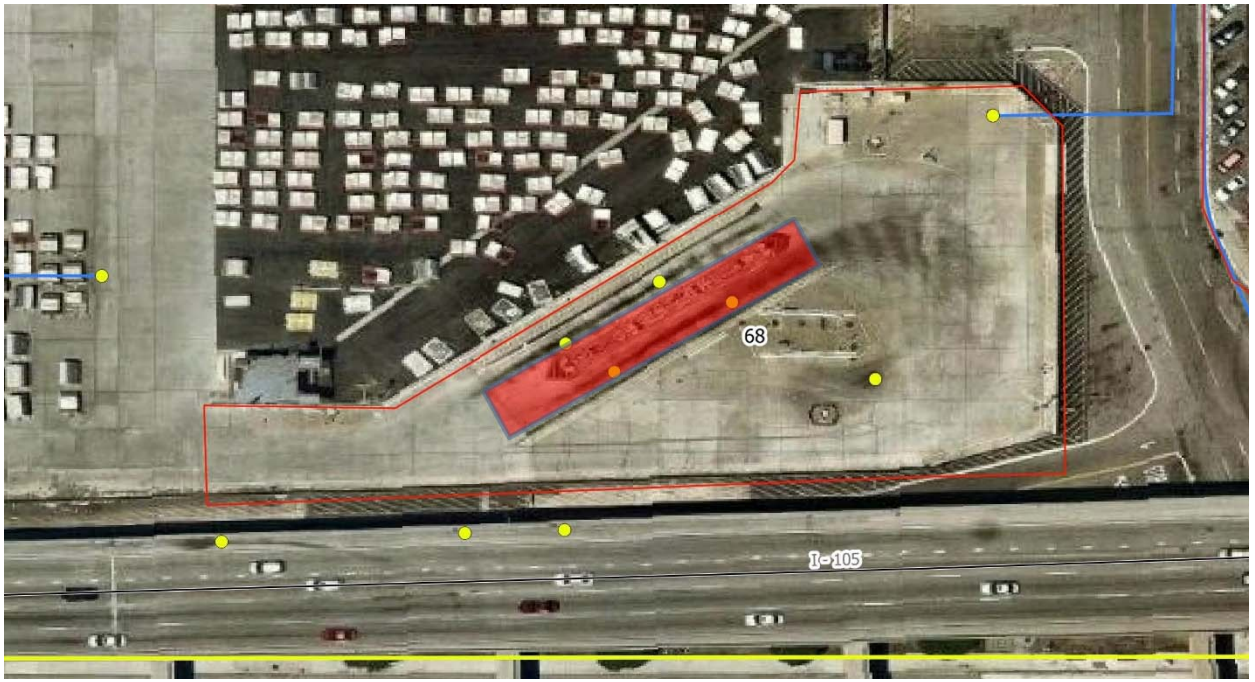
Note 1: New site to be updated in Spring 2018

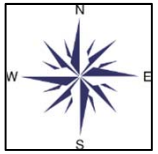
SWPPP Site Map

LAWA LAX

Site 68. ASIG South Loading Rack

5811 W. Imperial Hwy.
Los Angeles, CA 90045





- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

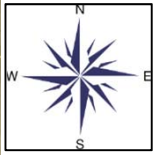
Note 1: New site to be updated in Spring 2018

SWPPP Site Map

LAWA LAX

Site 69. Delta Airlines-WAMA

7800 World Way West
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

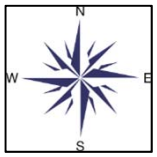
Note 1: New site to be updated in Spring 2018

SWPPP Site Map

LAWA LAX

Site 70. Swissport-Taxiway E-14 Storage East

7401 World Way West
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

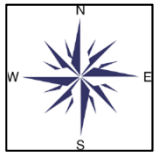
Note 1: New site to be updated in Spring 2018

SWPPP Site Map

LAWA LAX

Site 71. Southwest-Taxiway E-13 West-Storage Area

7183 World Way West
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

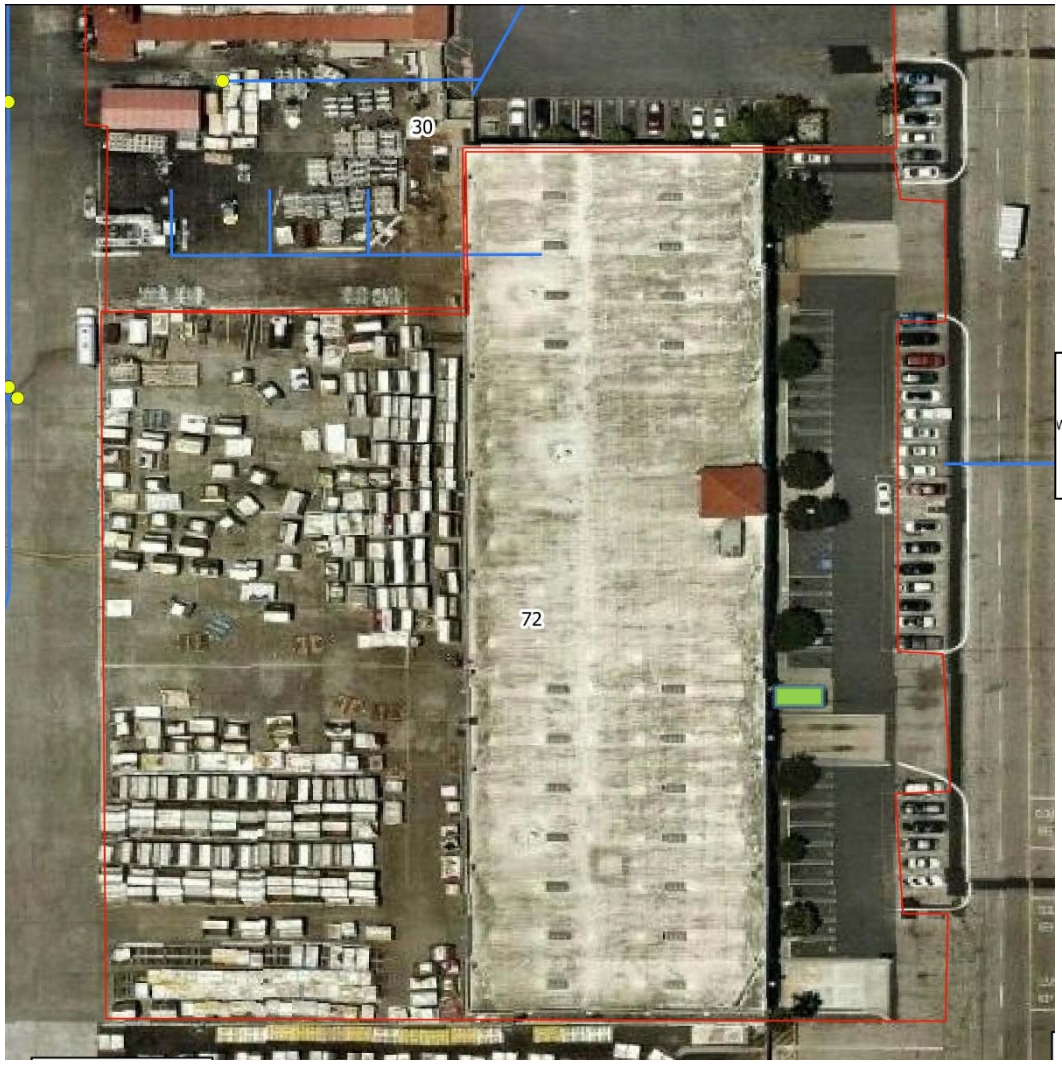
Note 1: New site to be updated in Spring 2018

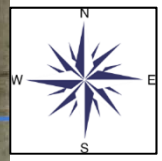
SWPPP Site Map

LAWA LAX

Site 72. Prologis Cargo (TBD)

5795 W. Imperial Hwy.
Los Angeles, CA 90045





- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

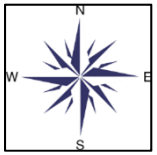
Note 1: New site to be updated in Spring 2018

SWPPP Site Map

LAWA LAX

Site 73. Delta Airlines Cargo (Former Site)

5625 W. Imperial Hwy.
Los Angeles, CA 90045



- Facility Boundary
- Rain Flow
- Outdoor Fueling Area
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Hazardous Storage Areas
- Area Drains
- Non-Industrial Area
- Clarifier
- Triturator
- Outdoor Washing Area
- Non-Impervious Areas

Note 1: New site to be updated in Spring 2018

SWPPP Site Map

LAWA LAX

Site 74. Menzies – Taxiway E-13 Storage Area

7183 World Way West
Los Angeles, CA 90045

- Facility Boundary
- Rain Flow
- Outdoor Trash Storage
- Outdoor Equipment Storage
- Outdoor Hazardous Storage Areas

FIGURE 4

INDUSTRIAL AND NON-INDUSTRIAL ACTIVITY AREAS

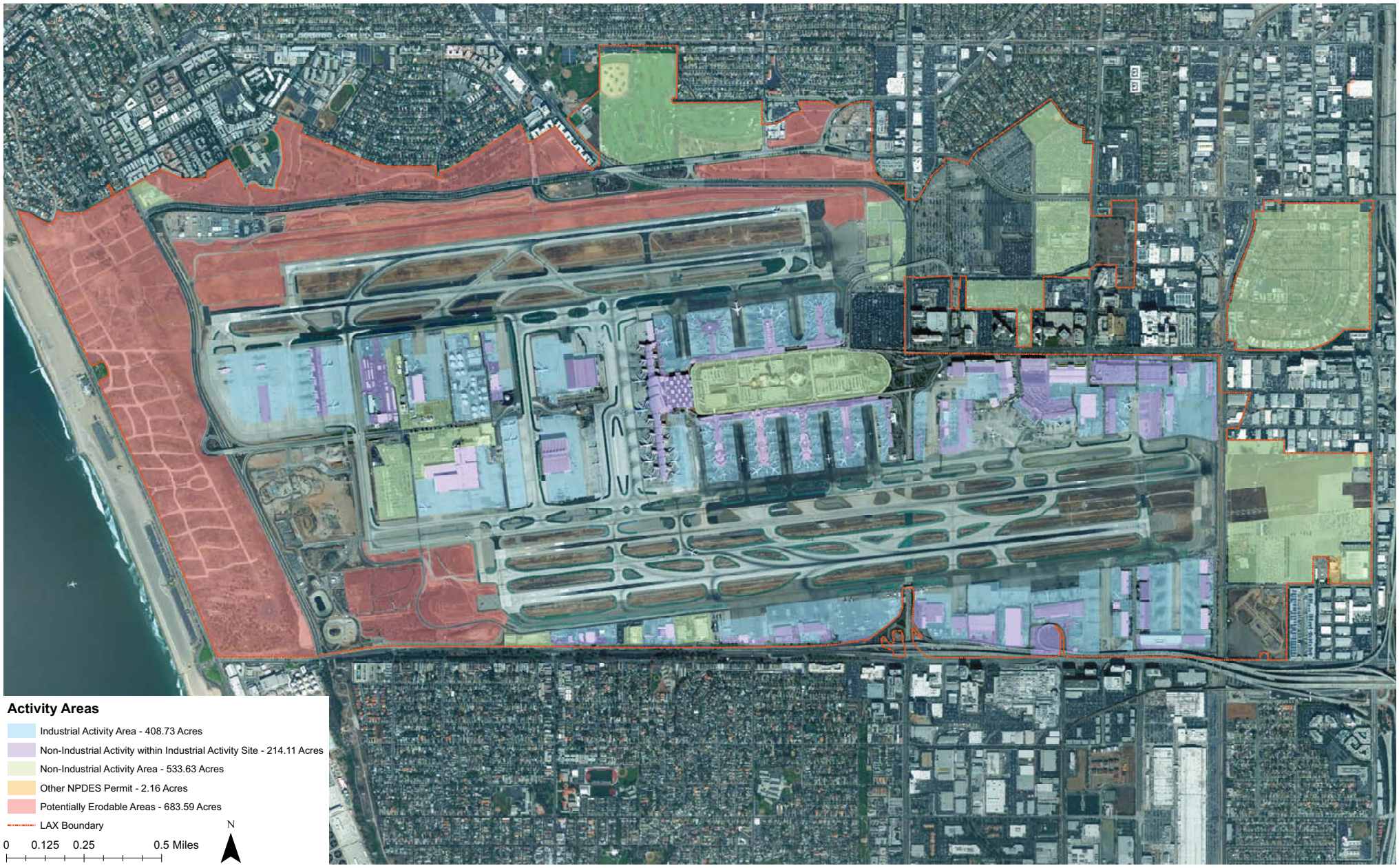


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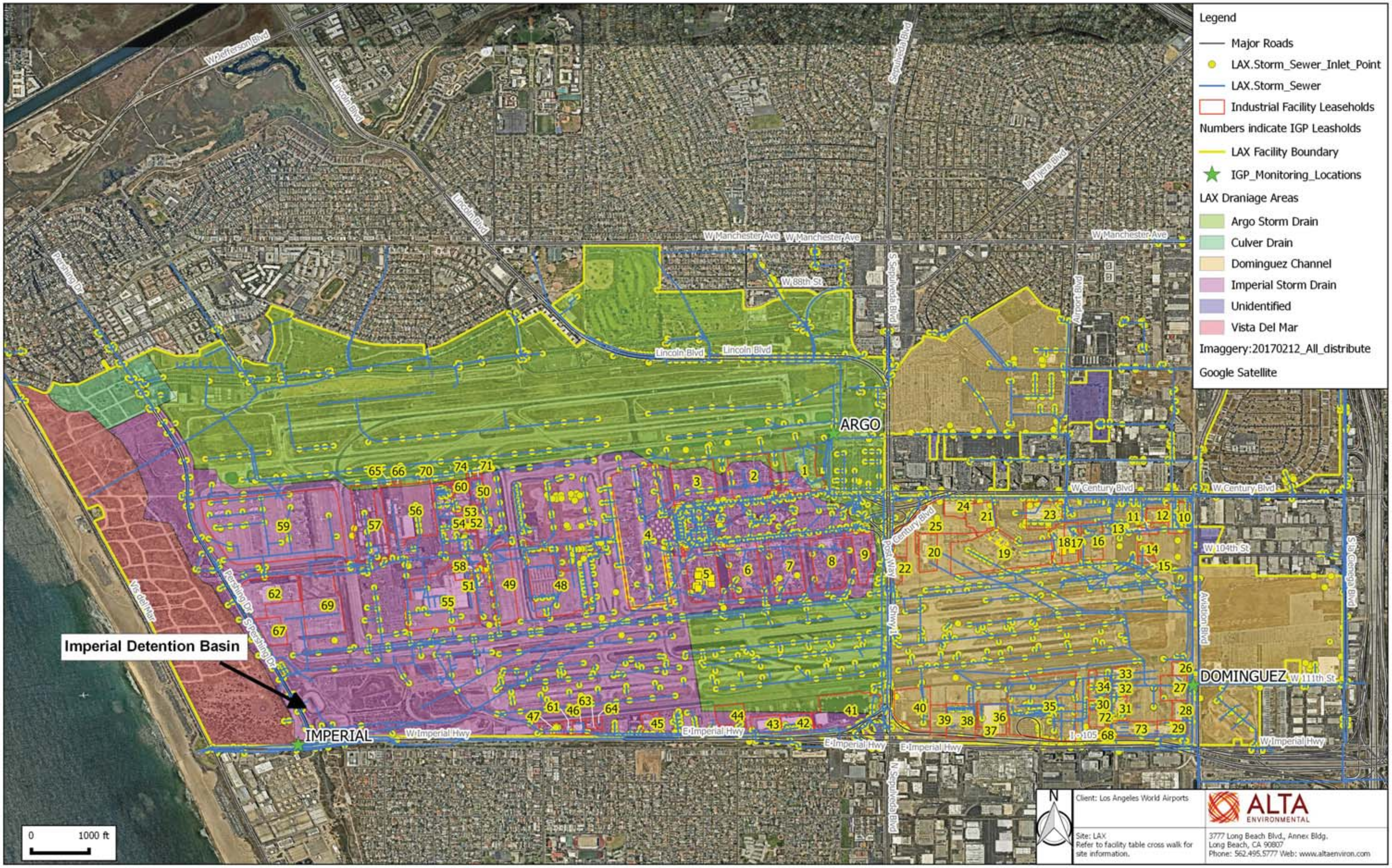
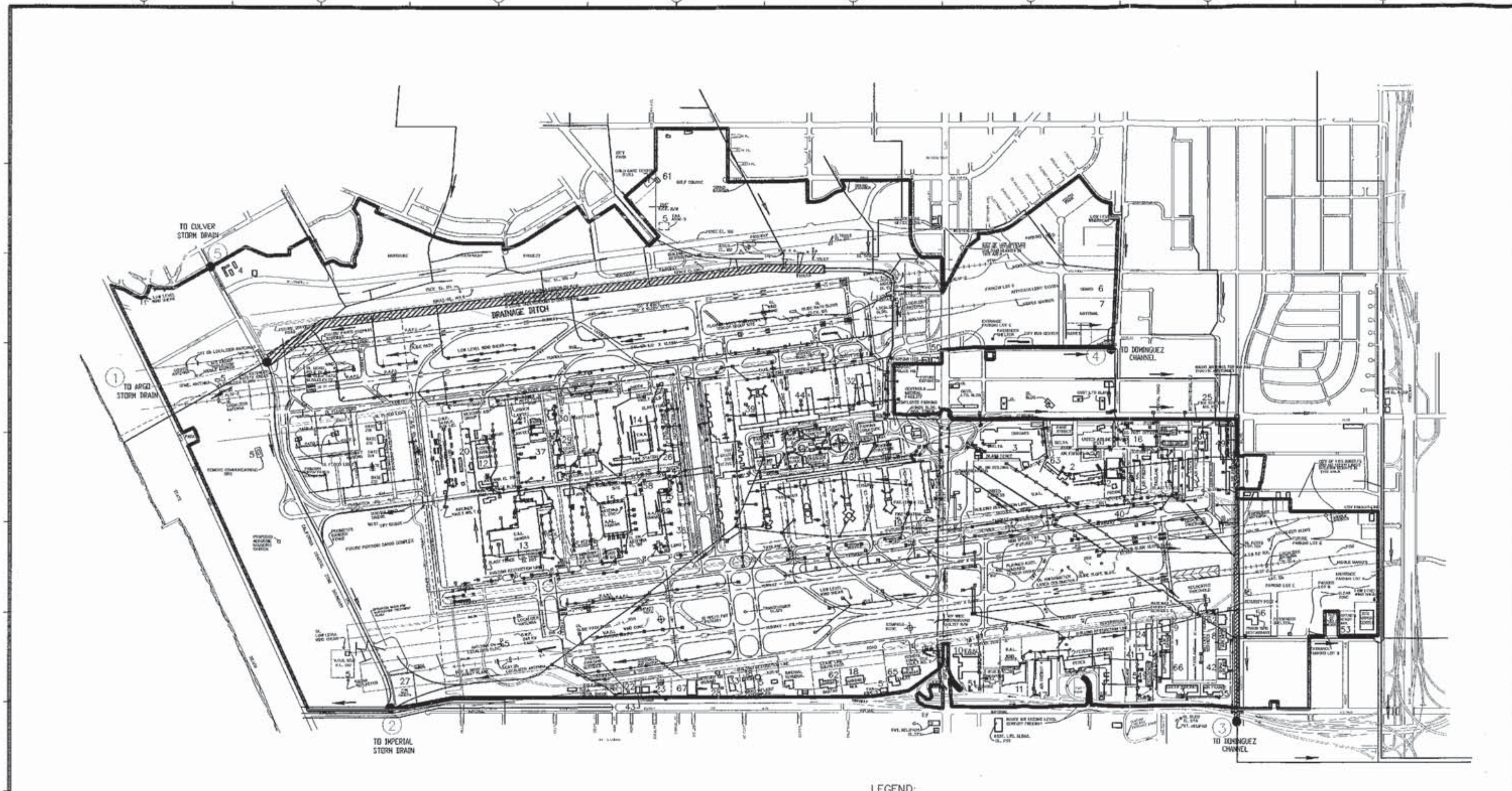
FIGURE 5.


Legend
Major Roads
LAX.Storm_Sewer_Inlet_Point
LAX.Storm_Sewer
Industrial Facility Leaseholds
Numbers indicate IGP Leasholds
LAX Facility Boundary
IGP_Monitoring_Locations
LAX Draniage Areas
Argo Storm Drain
Culver Drain
Dominguez Channel
Imperial Storm Drain
Unidentified
Vista Del Mar
Imaggery:20170212_All_distribute
Google Satellite
ARGO
DOMINGUEZ
IMPERIAL
Imperial Detention Basin
W Manchester Ave
W Century Blvd
W Imperial Hwy
E Imperial Hwy
Lincoln Blvd
Sepulveda Blvd
Aviation Blvd
Pershing Dr
Vista del Mar
0 1000 ft
N
Client: Los Angeles World Airports
Site: LAX
Refer to facility table cross walk for site information.
ALTA ENVIRONMENTAL
3777 Long Beach Blvd., Annex Bldg.
Long Beach, CA 90807
Phone: 562.495.5777 Web: www.altaenviron.com



TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME	TENANT ID NO.	TENANT NAME
1	Air Canada			10	Garrett Aviation Services	20	LAWA Maintenance	41	Ontario Aircraft Services
35	Air France	3	Delta Airlines	9	GFS Inc. I.C.C.	37	LA West Terminal Fuel Corporation	56	Proud Bird Restaurant
36	Aircraft Services Inc.	24	DHL Worldwide Express	53	Greene's Ready Mix Concrete	21	LAX Fuel Corporation	62	Quantas Airways LTD
39	Alaska Airlines	38	Dobbs International Food Service	68	Host Marriot	44	LAX Two Terminal 2	49	Southwest Airlines
32	America West Airlines	43	Dynair	22	Hudson General Aviation	67	LSG/Sky Chefs	14	TWA
15	American Airlines	51	Elsinore Aircraft Services	17	Japan Air Cargo Airlines	66	Lufthansa Airlines	2	United Airlines
40	American Cargo	65	Emery Air Freight	4	Jet Pets	45	Mercury Air Center	30	US Air
69	American Eagle	23	Evergreen International	11	Korean Air Cargo	28	Mercury Air Group	29	U.S. Coast Guard
61	American Golf	52	Express One Airfreight	19	LAFD Station No. 51	54	Mexicana Airlines	16	U.S. Post Office
50	Authorized Taxicab	5	FAA	26	LAFD Station No. 80	7	National Car Rental	63	Western States Maintenance & Engineering
6	Avis Rent-a-Car	12	Federal Express	25	LAFD Station No. 95	33	Nikko In-Flight Catering		
42	China Airlines			27	LAFD Training	18	Nippon Cargo Airlines		
13	Continental Airlines					8	Northwest Airlines		
						64	Ogden Aviation Services		
						47	Ogden Ground Services		

LEGEND:

- AIRPORT BOUNDARY
- DRAINAGE DITCH
- STORM DRAIN
- CATCH BASIN
- DISCHARGE POINT FROM AIRPORT PROPERTY
- DIRECTION OF DRAINAGE FLOW

SCALE - FEET

FIGURE 6

REV. NO.	DATE	DRWN	CHKD	REMARKS

DATE: 9/30/99

CAMP DRESSER & McKEE INC.
18881 Von Karman Avenue, Suite 650
Irvine, California 92612
(949) 752-5452

CDM

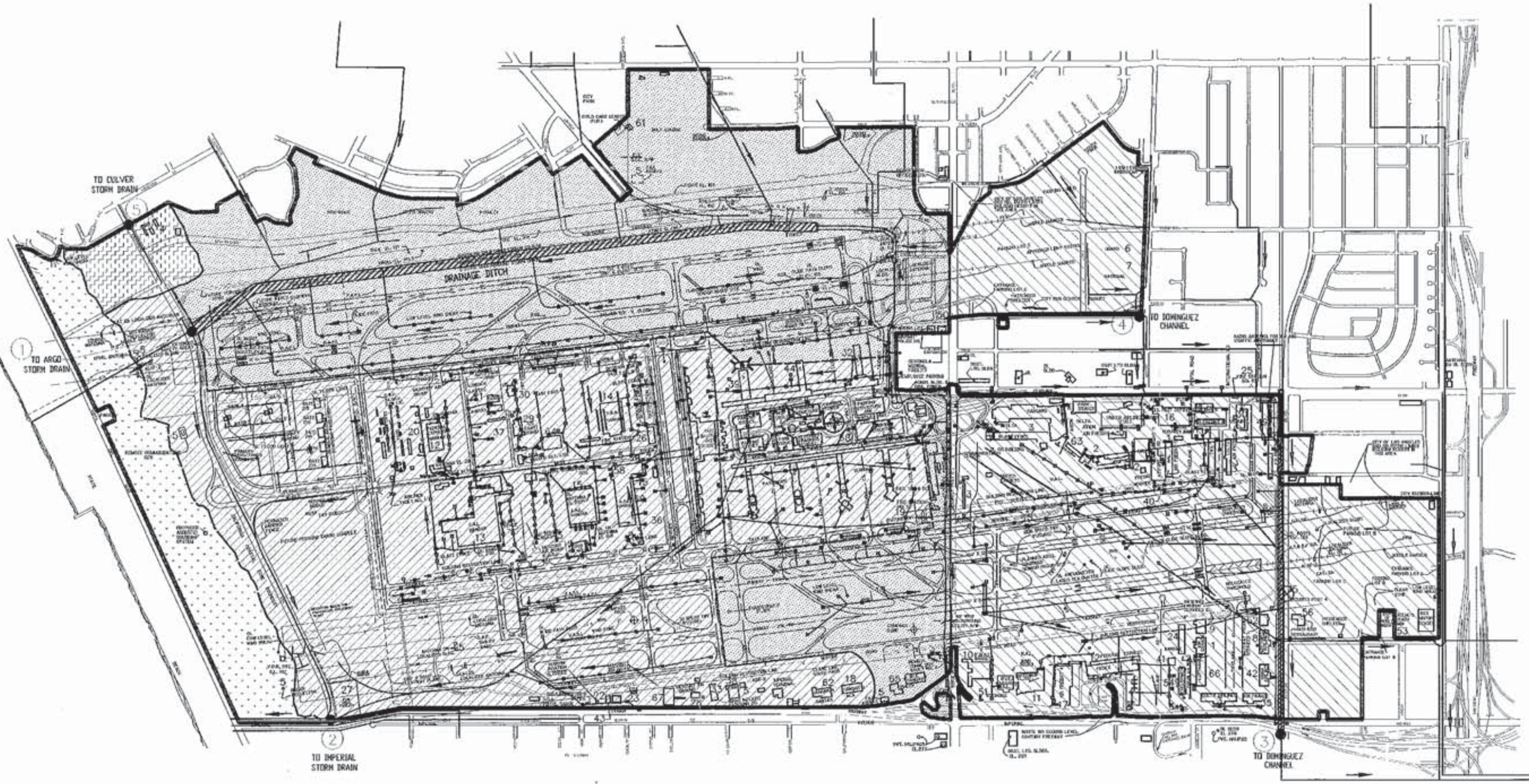
LOS ANGELES WORLD AIRPORTS
LOS ANGELES INTERNATIONAL AIRPORTS

GENERAL STORMWATER PERMIT FOR INDUSTRIAL ACTIVITIES

CATCH BASIN AND STORM DRAIN MAP

PROJECT NO. 2232-12

SHEET NO. 2-2



LEGEND:

- AIRPORT BOUNDARY
- DRAINAGE DITCH
- STORM DRAIN
- CATCH BASIN
- DISCHARGE POINT FROM AIRPORT PROPERTY
- DIRECTION OF DRAINAGE FLOW
- DRAINAGE BASIN BOUNDARY
- SAMPLING POINT
- ARGO DRAIN SUBBASIN
- DOMINGUEZ CHANNEL SUBBASIN
- IMPERIAL DRAIN SUBBASIN
- CULVER DRAIN SUBBASIN
- VISTA DEL MAR SUBBASIN

SCALE - FEET

TENANT ID NO.	TENANT NAME
1	Air Canada
35	Air France
36	Aircraft Services Inc.
39	Alaska Airlines
32	America West Airlines
15	American Airlines
40	American Cargo
69	American Eagle
61	American Golf
50	Authorized Taxicab
6	Avis Rent-a-Car
42	China Airlines
13	Continental Airlines
3	Delta Airlines
24	DHL Worldwide Express
38	Dobbs International Food Service
43	Dynair
51	Elsinore Aircraft Services
65	Emery Air Freight
23	Evergreen International
52	Express One Airfreight
5	FAA
12	Federal Express
10	Garrett Aviation Services
9	GFS Inc. LCC.
53	Greene's Ready Mix Concrete
68	Host Marriot
22	Hudson General Aviation
17	Japan Air Cargo Airlines
4	Jet Pets
11	Korean Air Cargo
19	LAFD Station No. 51
26	LAFD Station No. 80
25	LAFD Station No. 95
27	LAFD Training
20	LAWA Maintenance
37	LA West Terminal Fuel Corporation
21	LAX Fuel Corporation
44	LAX Two Terminal 2
67	LSG/Sky Chefs
66	Lufthansa Airlines
45	Mercury Air Center
28	Mercury Air Group
54	Mexicana Airlines
7	National Car Rental
33	Nikko In-Flight Catering
18	Nippon Cargo Airlines
8	Northwest Airlines
64	Ogden Aviation Services
47	Ogden Ground Services
41	Ontario Aircraft Services
56	Proud Bird Restaurant
62	Quantas Airways LTD
49	Southwest Airlines
14	TWA
2	United Airlines
30	US Air
29	U.S. Coast Guard
16	U.S. Post Office
63	Western States Maintenance & Engineering

FIGURE 7

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	9/22/00			Revised - Building locations from preliminary CAVIAR plans map provided by DGA 11/28/2001

DESIGNED BY:
DRAWN BY:
SKILL CHCK BY:
CROSS CHK'D BY:
APPROVED BY:
DATE: 9/10/99

CAMP DRESSER & McKEE INC.
18881 Von Karman Avenue, Suite 650
Irvine, California 92612
(949) 752-5452

environmental engineers, scientists, planners, & management consultants

CDM

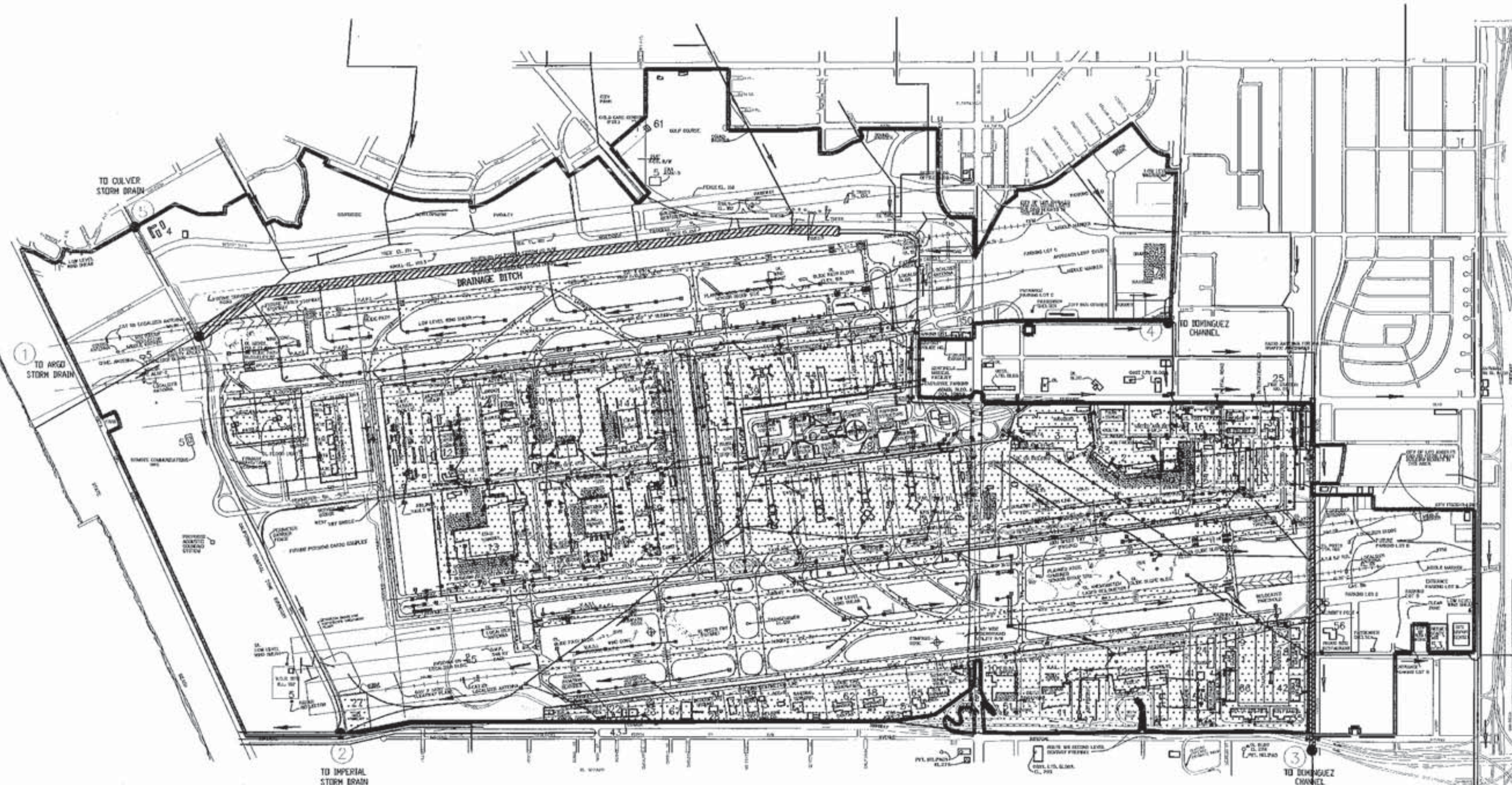
LOS ANGELES WORLD AIRPORTS
LOS ANGELES INTERNATIONAL AIRPORTS

GENERAL STORMWATER PERMIT FOR INDUSTRIAL ACTIVITIES

STORMWATER CONVEYANCE SYSTEM DISCHARGE POINTS

PROJECT NO. 2232-12

SHEET NO. 2-3



TENANT ID NO.	TENANT NAME
1	Air Canada
35	Air France
36	Aircraft Services Inc.
39	Alaska Airlines
32	America West Airlines
15	American Airlines
40	American Cargo
69	American Eagle
61	American Golf
50	Authorized Taxicab
6	Avis Rent-a-Car
42	China Airlines
13	Continental Airlines

TENANT ID NO.	TENANT NAME
3	Delta Airlines
24	DHL Worldwide Express
38	Dobbs International
	Food Service
43	Dynair
51	Elsinore Aircraft Services
65	Emery Air Freight
23	Evergreen International
52	Express One Airfreight
5	FAA
12	Federal Express

TENANT ID NO.	TENANT NAME
10	Garrett Aviation Services
9	GFS Inc. I.C.C.
53	Greene's Ready Mix Concrete
68	Host Marriot
22	Hudson General Aviation
17	Japan Air Cargo Airlines
4	Jet Pets
11	Korean Air Cargo
19	LAFD Station No. 51
26	LAFD Station No. 80
25	LAFD Station No. 95
27	LAFD Training

TENANT ID NO.	TENANT NAME
20	LAWA Maintenance
37	LA West Terminal Fuel
	Corporation
21	LAX Fuel Corporation
44	LAX Two Terminal 2
67	LSG/Sky Chefs
66	Lufthansa Airlines
45	Mercury Air Center
28	Mercury Air Group
54	Mexicana Airlines
7	National Car Rental
33	Nikko In-Flight Catering
18	Nippon Cargo Airlines
8	Northwest Airlines
64	Ogden Aviation Services
47	Ogden Ground Services

TENANT ID NO.	TENANT NAME
41	Ontario Aircraft Services
56	Proud Bird Restaurant
62	Quantas Airways LTD
49	Southwest Airlines
14	TWA
2	United Airlines
30	US Air
29	U.S. Coast Guard
16	U.S. Post Office
63	Western States Maintenance & Engineering

LEGEND:

- AIRPORT BOUNDARY
- DRAINAGE DITCH
- STORM DRAIN
- CATCH BASIN
- DISCHARGE POINT FORM AIRPORT PROPERTY
- DIRECTION OF DRAINAGE FLOW
- AIRCRAFT/VEHICLE MAINTENANCE AREA
- AREA OF POTENTIAL OR ACTUAL POLLUTANT CONTACT
- SAMPLING POINT

SCALE - FEET

FIGURE 8

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	1/27/03			Revised - [illegible]

DESIGNED BY:
DRAWN BY:
SHEET CHK'D BY:
CROSS CHK'D BY:
APPROVED BY:
DATE: 9/10/99

CAMP DRESSER & McKEE INC.
18881 Von Karman Avenue, Suite 650
Irvine, California 92612
(949) 752-5452

CDM

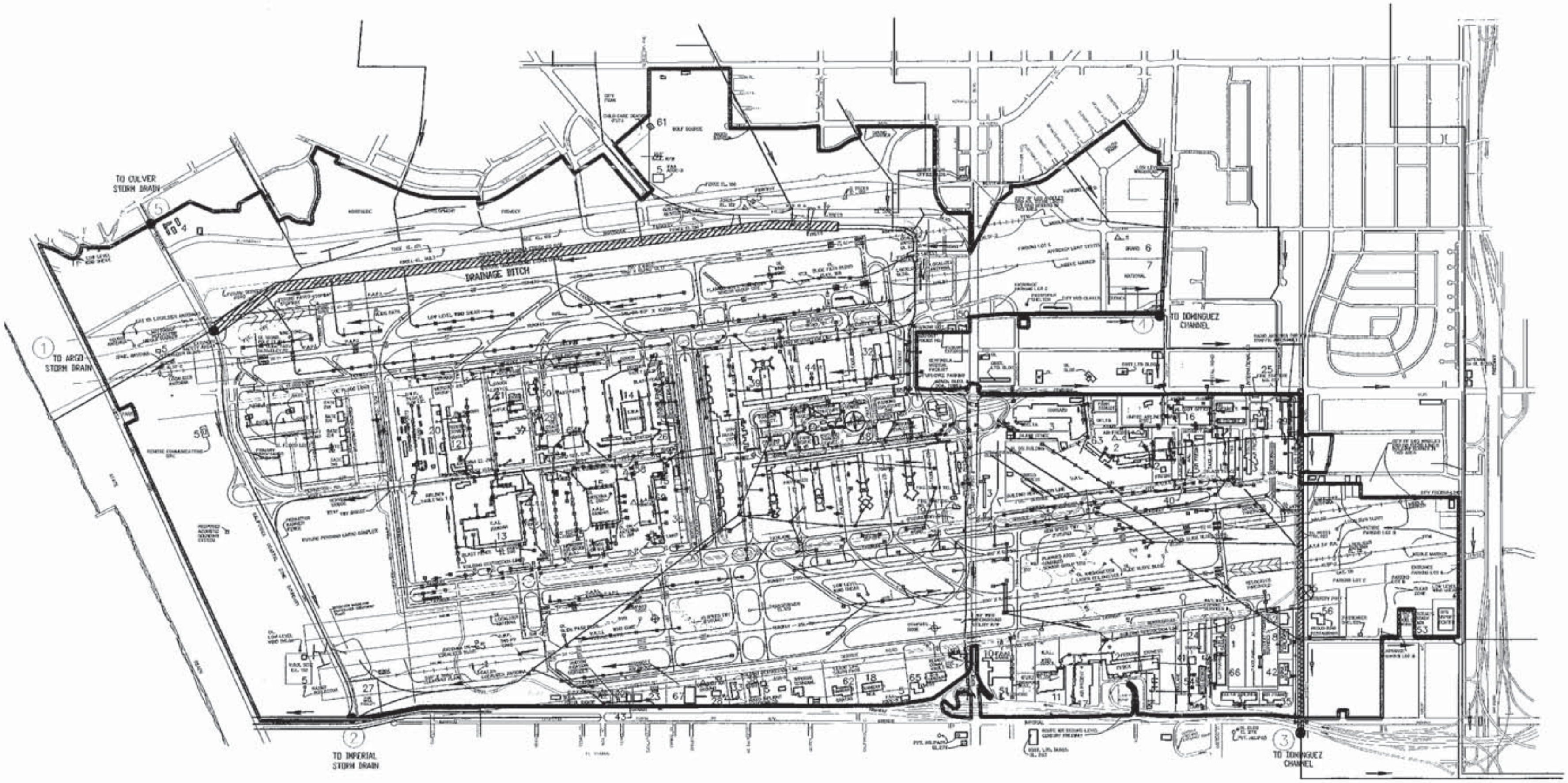
LOS ANGELES WORLD AIRPORTS
LOS ANGELES INTERNATIONAL AIRPORTS

GENERAL INDUSTRIAL STORMWATER PERMIT

AREA OF POLLUTANT CONTACT

PROJECT NO. 2232-92

SHEET NO. 3-1



TENANT ID NO.	TENANT NAME
1	Air Canada
35	Air France
36	Aircraft Services Inc.
39	Alaska Airlines
32	America West Airlines
15	American Airlines
40	American Cargo
69	American Eagle
61	American Golf
50	Authorized Taxicab
6	Avis Rent-a-Car
42	China Airlines
13	Continental Airlines

TENANT ID NO.	TENANT NAME
3	Delta Airlines
24	DHL Worldwide Express
38	Dobbs International Food Service
43	Dynair
51	Elsinore Aircraft Services
65	Emery Air Freight
23	Evergreen International
52	Express One Airfreight
5	FAA
12	Federal Express

TENANT ID NO.	TENANT NAME
10	Garrett Aviation Services
9	GFS Inc. LCC.
53	Greene's Ready Mix Concrete
68	Host Marriot
22	Hudson General Aviation
17	Japan Air Cargo Airlines
4	Jet Pets
11	Korean Air Cargo
19	LAFD Station No. 51
26	LAFD Station No. 80
25	LAFD Station No. 95
27	LAFD Training

TENANT ID NO.	TENANT NAME
20	LAWA Maintenance
37	LA West Terminal Fuel Corporation
21	LAX Fuel Corporation
44	LAX Two Terminal 2
67	LSG/Sky Chefs
66	Lufthansa Airlines
45	Mercury Air Center
28	Mercury Air Group
54	Mexicana Airlines
7	National Car Rental
33	Nikko In-Flight Catering
18	Nippon Cargo Airlines
8	Northwest Airlines
64	Ogden Aviation Services
47	Ogden Ground Services

TENANT ID NO.	TENANT NAME
41	Ontario Aircraft Services
56	Proud Bird Restaurant
62	Quantas Airways LTD
49	Southwest Airlines
14	TWA
2	United Airlines
30	US Air
29	U.S. Coast Guard
16	U.S. Post Office
63	Western States Maintenance & Engineering

LEGEND:

AIRPORT BOUNDARY
DRAINAGE DITCH
STORM DRAIN
CATCH BASIN
DISCHARGE POINT FROM AIRPORT PROPERTY
DIRECTION OF DRAINAGE FLOW
S SEPARATOR
B BERM
C STRUCTURAL COVERING

SCALE - FEET

FIGURE 9

REV. NO. | DATE | DRWN | CHKD | REMARKS

DATE: 9/10/99

CAMP DRESSER & McKEE INC.
18881 Von Karman Avenue, Suite 650
Irvine, California 92612
(949) 752-5452

CDM

LOS ANGELES WORLD AIRPORTS
LOS ANGELES INTERNATIONAL AIRPORTS

GENERAL INDUSTRIAL STORMWATER PERMIT

STRUCTURAL MANAGEMENT CONTROLS

PROJECT NO. 2232-62

SHEET NO. 5-1

APPENDIX A

Permit Registration Documents (PRDs)

State Water Resources Control Board

NOTICE OF INTENT

GENERAL PERMIT TO DISCHARGE STORM WATER
ASSOCIATED WITH INDUSTRIAL ACTIVITIES (WQ ORDER No. 2014-0057-DWQ)
(Excluding Construction Activities)

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

WDID: 4 19I004995 **Status:** Active

Operator Information

Type:

Name: Los Angeles World Airports
Address: 7301 World Wy West
Address 2: Rm 312
City/State/Zip: Los Angeles CA 90045
Federal Tax ID:

Contact Name: Robert Freeman
Title: Airport Environmental Manger
Phone #: 424-646-6474
Email: rfreeman@lawa.org

Facility Information

Level:

Site Name: Los Angeles International Airport
Address: 1 World Way West
City/State/Zip: Los Angeles CA 90045
County: Los Angeles
Latitude: 33.94531 Longitude: -118.3995
Total Site Size: 3563 Acres
Industrial Area exposed to Storm Water: 409 Acres

Contact Name: Robert Freeman
Title: Airport Environmental Manager
Site Phone #: 424-646-6474
Email: rfreeman@lawa.org
Emergency: 424-646-6474
Percent of Site Impervious (including rooftops): %

SIC Code(s)

Primary SIC: 4581 Airports, Flying Fields, and Airport Terminal Services
Secondary SIC:
Tertiary SIC:

Additional Information

Receiving Water: Pacific Ocean
Storm drain system: City of Los Angeles
Compliance Group:
RWQCB Jurisdiction: Region 4 - Los Angeles
Phone: 213-576-6600

Water Flow: Indirectly
Email: r4_stormwater@waterboards.ca.gov

Certification

Name Robert Freeman
Title: Airport Environmental Manager

Date: June 22, 2015

Attachments Meta Data Information:

Attachment ID	File Name	File Description	File Hash	File Size	Date Attached	Attachment Type
1113323	Photos from August 17, 2011 Inspection			22572481	2012-06-14 12:01:01.0	Photograph
1113326	Inspection Report			202318	2012-06-14 12:05:54.0	Other
1127982	NNC 8-10-2012			1989929	2012-08-15 10:20:25.0	Enforcement Document
1139426	Notice of Non-Compliance		5f39e5cde6162d5bbbe8a434189daeb7dad06b19a6cbd318ba4bca6a5334d9f	2002066	2012-09-14 08:40:51.0	Memo
1139232	10-11 AR			9915883	2012-09-13 09:21:39.0	Other
1154657	Latest tenant list received on 12-20-2012	Response to our request for the list made on 12/19/2012.	698f474fb9496614e729b1ba256618037c5bcfbd28b9c6e1fbba7ed71295a5	53656	2012-12-20 11:21:11.0	E-mail Correspondence
1292539	COR zip		ed65cc72ee59eca607c894166e7d4a19daa0e4407fa6477ca77df741ff06	5395179	2014-07-24 15:04:24.0	Report COR
1292538				241934	2014-07-24 15:04:21.0	Submitted Report PDF
1292542	2013-14 AR rcvd via email on 6-30-2014 Email			5326880	2014-07-24 15:13:47.0	E-mail Correspondence
1292532	2013-14 AR rcvd via email on 6-30-2014		e77e6429479e8add1af78e0ee421b9f624ed01e9d1774ccbf2d308b76dbfa	5527835	2014-07-24 15:05:24.0	E-mail Correspondence

APPENDIX B

LAX Tenant Pollution Prevention Team

Los Angeles International Airport - Industrial Tenant Pollution Prevention Team Contacts

Date Ra 1/8/2018

Map Site ID	Street Number	Street	Unit Number	Zip	Basin	Tenant Name	Leasehold	PPT Name	PPT Title	PPT Phone	PPT Mobile	PPT Email	Alternate Name	Alternate Title	Alternate Phone	Alternate Fax	Alternate Mobile	Alternate Email
1	100	World Way		90045	Argo;Imperial	Southwest Airlines	Terminal One	Adam Walters		(214) 792-4615		adam.walters@wnco.com	Hyun Don Lee	Supervisor	(310) 665-5750			hyun.lee@wnco.com
2	200	World Way		90045	Imperial;Argo	LAX Terminal 2	TBITECLAX (Terminal 2 Managing Group)	Susan Yandell		(310) 417-0392		syandell@tbiteclax.com						
2	200	World Way		90045	Imperial;Argo	Delta Airlines	Terminal 2 and 3, GSE Facility, Hangar, and Cabin Services/Stores	Tyreik Randsome	Environmental coordinator	747-215-0579		tyreik.randsome@delta.com; tyriek.randsome@delta.com	Don Littlewood	Environmental Coordinator	(310) 210-8081		(310) 266-2686	donald.littlewood@delta.com
3	300	World Way		90045	Argo;Imperial	Delta Airlines	Terminal 2 and 3, GSE Facility, Hangar, and Cabin Services/Stores	Tyreik Randsome	Environmental coordinator	747-215-0579		tyreik.randsome@delta.com; tyriek.randsome@delta.com	Don Littlewood	Environmental Coordinator	(310) 210-8081		(310) 266-2686	donald.littlewood@delta.com
4	380	World Way		90045	Imperial	TBIT	TBITEC	Arturo Fernandez		(310) 646-0141		afernandez@tbiteclax.com						
5	400	World Way		90045	Imperial	American Airlines	T-4 Connector Bldg	Victor Dataro	Lead Environmental Coordinator	(310) 646-4420	323-632-5960	Victor.Dataro@aa.com	Terry Strait	D. Environmental Coordinator	(310) 646-4420		(310) 686-488	Terry.Straite@aa.com
6	500	World Way		90045	Imperial	American Airlines	T-4 Connector Bldg	Victor Dataro	Lead Environmental Coordinator	(310) 646-4420	323-632-5960	Victor.Dataro@aa.com	Terry Strait	D. Environmental Coordinator	(310) 646-4420		(310) 686-488	Terry.Straite@aa.com
7	600	World Way		90045	Imperial	Virgin America	Passenger Terminal - T6	Steve Pruitt	Manager Line Maintenance	(310) 846-1551		Steven.pruitt@virginamerica.com	Sione Folau (2nd PPT)	Operations Supervisor	(310) 846-1562			sione.folau@virginamerica.com
7	600	World Way		90045	Imperial	Alaska Airlines	Airline Terminal Operation (T6)	Mario Lopez		(310)665-1421		janet.baad@alaskaair.com	Tony Mason	Environmental Coordinator	424-789-5480			tony.mason@united.com
8	700	World Way		90045	Imperial	United Airlines	Terminal 7	Monica Lu	Environmtal Coordinator	(310) 342-8437	(310) 321-8668	Monica.lu@united.com	Tony Mason	Environmental Coordinator	424-789-5480			tony.mason@united.com
9	800	World Way		90045	Imperial	United Airlines	Terminal 6	Monica Lu	Environmental coordinator	(310) 342-8437	(310) 321-8668	Monica.lu@united.com	Tony Mason	Environmental Coordinator	424-789-5480			tony.mason@united.com
10	5600	Century Blvd. W.		90045	Dominguez	Southwest Airlines		Adam walters	Environmental Coordinator	(214) 792-4615		adam.walters@wnco.com						
11	5720	Avion Drive		90045	Dominguez	Certified Aviation (CAS)	Certified Aviation (CAS)	Randy Cantieni	Assistant Station Manager	310-338-1224	310-259-9980	rcantieni@certifiedaviation.com	Salvador Barrera	Appearance Group Manager	(310) 658-3782			sbarrera@certifiedaviation.com
12	10080	International Rd		90045	Imperial	American Airlines	Old Cargo Building	Victor Dataro	Lead Environmental Coordinator	(310) 646-4420	323-632-5960	Victor.Dataro@aa.com	Terry Strait	D. Environmental Coordinator (Environmental)	(310) 646-4420		(310) 686-488	Terry.Straite@aa.com
13	5720	Avion Drive		90045	Dominguez	Tug Technologies		Michael Geigler	Station Manager	310-641-1091	(310) 227-3799	michaelgeigler@tugtech.com	Uwe Dannhauer	Regional Manager	(847) 910-6142			
14	5720	Avion Drive		90045	Dominguez	Aircraft Service International Group	GSE Maintenance Facility	Eric Gomez	GSE Maintenance Assistant Manager	(310) 331-4131	(901) 331-4131	eric.gomez@asig.com						
15	5720	Avion Drive	Ste C	90045	Dominguez	American Airlines	Maintenance Bldg (Former Cargo)	Ronald Hofrighter	GSE Manager	310-414-6841		rosie.rasheed@aa.com	Terry Strait	D. Environmental Coordinator (Environmental)	(310) 646-8780		(909) 239-5678	Terry.Strait@aa.com
16	5908	Avion Drive		90045	Dominguez	Mercury Cargo and Atlantic Aviation		Angel Castrejon	Lead Mechanic	323-516-4300		acastrejon@mercuryair.com	Jose Herrera	Building Maintenance Manager	(310) 420-2229			jherrera@mercuryair.com
17	5950	Avion Drive		90045	Dominguez	American Airlines	AA Cargo Building	Victor Dataro	Lead Environmental Coordinator	(310) 646-4420	323-632-5960	Victor.Dataro@aa.com	Terry Strait	D. Environmental Coordinator (Environmental)	(310) 646-8780		(909) 239-5678	Terry.Strait@aa.com
18	5970	Avion Drive		90045	Dominguez	American Airlines	AA GSE	Victor Daturo	Lead Environmental Coordinator	(310) 646-4420	323-632-5960	Victor.Dataro@aa.com	Terry Strait	D. Environmental Coordinator (Environmental)	(310) 646-8780		(909) 239-5678	Terry.Strait@aa.com
19	6018-6020	Avion Drive		90045	Dominguez	United Airlines	Aircraft Maintenance Facility P.O. Box 92245	Monica Lu	Environmental Coordinator	(310) 342-8437	(310) 321-8668	Monica.lu@united.com	Tony Mason	Environmental Coordinator	424-789-5480			tony.mason@united.com
20	6022	Avion Drive		90045	Dominguez	American Eagle - Envoy	American Eagle Remote Terminal	Miranada Key	Manager	310-417-6845		Miranda.Key@aa.com	Habte Siyoum	Habte Siyoum				Habte.Siyoum@aa.com
21	6040	Avion Drive		90045	Dominguez	Mercury Cargo and Atlantic Aviation	Mercury Air Cargo	Angel Castrejon	Lead Mechanic	323-516-4300		acastrejon@mercuryair.com	Jose Herrera	Building Maintenance Manager	(310) 420-2229			jherrera@mercuryair.com
22	6060	Avion Drive		90045	Dominguez	Delta Airlines		Tyreik Randsome	Environmental Coordinator	747-215-0579		tyreik.randsome@delta.com; tyriek.randsome@delta.com	Denise Scheonfelder	Environmental Coordinator	310-417-7422		310-562-4899	denise.schoenfelder@delta.com
23	5932	Century Blvd W.		90045	Dominguez	United Airlines	New Cargo Facility	Monica Lu	Environmental Coordinator	(310) 342-8437	(310) 321-8668	Monica.lu@united.com	Tony Mason	Environmental Coordinator	424-789-5480			tony.mason@united.com
24	6150	Century Blvd. W.		90045	Dominguez	Raytheon	Maintenance Hangar	Glenn Portillo	Environmental Health and Safety Engineer	(310) 647-9451		Glenn.J.Portillo@raytheon.com	Manju Mohan	Environmental Health and Safety Engineer	(310) 647-9451			manju.mohan@raytheon.com
25	6150	Century Blvd. W.		90045	Dominguez	Delta Hangar	Maintenance Hangar	Tyreik Randsome	Environmental coordinator	747-215-0579		tyreik.randsome@delta.com; tyriek.randsome@delta.com	Don Littlewood	Environmental Coordinator	(310) 210-8081		(310) 266-2686	donald.littlewood@delta.com
26	11001	Aviation Blvd.		90045	Dominguez	SwissPort USA	Cargo Bldg 1	Drew Bentley	Manager			Drew.bentely@swissport.com						
27	11101	Aviation Blvd		90045	Dominguez	Delta Airlines	Cargo Building	Tyreik Randsome	Environmental Coordinator	747-215-0579		tyriek.randsome@delta.com	Denise Scheonfelder		310-417-7422		310-562-4899	denise.schoenfelder@delta.com
28	11201	Aviation Blvd		90045	Dominguez	China Airlines	Cargo Building	George Yang	Cargo Manager	130-646-4232 X-110		george.yang@china-airlines.com	George Yang	Administration	(310) 981-9222			david.tang@china-airlines.com
29	5621	Imperial Hwy W.		90045	Dominguez	Air France	Cargo Building	Jack McAllister	Operations Manager	(310) 646-3620 X-808	(310) 770-1714	jamcallister@airfrance.fr	Wendy Valencia	OPS Supervisor, Menzies	(310) 215-4659	(310) 215-6048	(310) 421-5503	wendy.valencia@menziesaviation.com
30	5701	Imperial Hwy. W.		90045	Dominguez	Menzies Aviation	Vehicle Maintenance Facility	Luis Madrigal	GSE Manager	(310) 622-2875	(310) 646-1929	Luis.Madrigal@menziesaviation.com	Edgar Pacheco	GSE Supervisor	(310) 622-2875		(310) 407-9764	edgar.pacheco@menziesaviation.com
31	5721	Imperial Hwy W.		90045	Dominguez	Lufthansa Airlines	Cargo Building	Rosen Lazanov	Terminal Maintenance Supervisor	310-242-2450		rosen-nikolov.lozanov@dlh.de	Rigoberto Cabrera	Cargo Manager	(310) 254-5345			rigoberto.cabrera@dlh.de

Los Angeles International Airport - Industrial Tenant Pollution Prevention Team Contacts

Date Ra 1/8/2018

Map Site ID	Street Number	Street	Unit Number	Zip	Basin	Tenant Name	Leasehold	PPT Name	PPT Title	PPT Phone	PPT Mobile	PPT Email	Alternate Name	Alternate Title	Alternate Phone	Alternate Fax	Alternate Mobile	Alternate Email
32	5761	Imperial Hwy W.		90045	Dominguez	Polar Air Cargo	Cargo Building	Michelle Mendoza	Environmental Lead	310-730-7111 / 310-730-7112	310-568-455	Michelle.Mendoza@PolarAirCargo.com	Christina Viegas					LAXAMSPO@ATLASAIR.COM
33	5781	Imperial Hwy.		90045	Dominguez	SwissPort USA	Swissport Cargo Services	Anthony Redon	Cargo Manager	310-200-0320		anthony.redon@swissport.com						
34	5791	Imperial Hwy W.		90045	Dominguez	DHL Worldwide Express	Cargo Building	Ruth Montesa	Operation Assistant	(424) 223-6386		Ruth.Montesa@dhl.com	Marcus Lewis	Operations Manager	(646) 789-1641			marcus.c.lewis@dhl.com
35	5927	Imperial Hwy W.		90045	Dominguez	Federal Express	Federal Express (South) - Cargo	Katherine Ervin		310-348-2122		kmhaslem@fedex.com	Julie Randall	Senior Manager	(310) 348-2143			
36	6041	Imperial Hwy W.		90045	Dominguez	Mercury Air Cargo	Cargo Building	Angel Castrejon	Lead Mechanic	323-516-4300		acastrejon@mercuryair.com	Jose Herrera	Building Maintenance Manager	(310) 420-2229			jherrera@mercuryair.com
37	6041	Imperial Hwy W.		90045	Dominguez	United Parcel Service	Cargo Building						Tommy Umemoto	Manager	(626) 253-1416			
38	6101	Imperial Hwy W.		90045	Imperial	Korean Air Cargo	Cargo Building	Dong Lee	ADM Manager	310-417-5260		donglee@koreanair.com	Hang Mo Koo	GSE Manager	(310) 215-8652			hangmkoo@koreanair.com
39	6181	Imperial Hwy W.		90045	Dominguez	Singapore Airlines Cargo	Cargo Building	Ron Cardona	General Manager	(310) 646-9040	(310) 951-1954	ronald_cardona@singaporeair.com.sg	Michael Wang	Manager	(310) 420-7434		(310) 646-1233	michael_wang@singaporeair.com.sg
40	6201	Imperial Hwy W.		90045	Dominguez	StandardAero	StandardAero	Frane Sosic	EHS & Facilities Manager		(818)430-7445	Frane.Sosic@StandardAero.com	Roger Eberhart	Quality Assurance and Safety Manager	(310) 568-3825			
40	6201	Imperial Hwy W.		90045	Dominguez	StandardAero	StandardAero	Peter Chung	Environmental Health and Safety Manager	(310) 568-3760		peter.chung@standardaero.com	Roger Eberhart	Quality Assurance and Safety Manager	(310) 568-3825			
40	6201	Imperial Hwy W.		90045	Dominguez	Landmark Aviation	Landmark Aviation	Frane Sosic	Manager	EHS & Facilities Manager	818-430-7445	Frane.Sosic@StandardAero.com	Al Peterson	General Manager	(310) 410-9605			
41	6411	Imperial Hwy. W.		90045	Imperial;Argo	Atlantic Aviation	Atlantic Aviation	John Raymond	Quality Assurance and Safety Manager	(310) 930-0997		raymond_john@sbcglobal.net, john.raymond@atlanticaviation.com	Anthony Flores	Operations Manager	(310) 258-9884			
42	6501	Imperial Hwy W.		90045	Imperial	Nippon Cargo Airlines Cargo	Total Airport Services, Cargo Operator	Nelson Carrera	Cargo Operation Manager	310-417-0820		nelson.carrera@mca.aero	David Porter	Team Manager	(310) 948-5520			David.Portero@tasinc.aero
43	6555	Imperial Hwy W.		90045	Imperial	Qantas Airways LTD	Cargo Building (Hangar 9)	Miguel Garzon (Prime PPT)	Cargo Manager	(310) 665-2258		mgarzon@qantas.com.au	Mike Jensen (2 PPT)	Manager	(310) 665-2250			
44	6661	Imperial Hwy W.		90045	Argo;Imperial	Los Angeles World Airports	Imperial Terminal	Somvang Meksavanh	Environmental Specialist	424-646-6492		SMEKSAVANH@lawa.org	Kevin Jontz	Environmental Specialist	424-646-9044			Kjontz@lawa.org
45	6851	Imperial Hwy W.		90045	Imperial	AeroMexico	Air Cargo	Joe Amador	Director of Operations	310-215-5062	310-930-6120	jlamador@aeromexico.com						
46	7001	Imperial Hwy W.		90045	Imperial	SIA Engineering	SIA Engineering	Benny Lal	Manager	O 424-646-4710 C 562-688-7673		Benny_Lal@SIAECUSA.com	Marcus White	GSE Coordinator	424-646-4710			
47	7025	Imperial Hwy W.		90045	Imperial	SwissPort USA		David Lopez	Maintenance Services Manager	310-910-9817 gen.	310-869-0048	David.Lopez@swissport.com	Kevin Hernandez	Manager	(310) 403-1408			
48	7100	World Way West		90045	Imperial	American Airlines	Maintenance Hangar (Super Bay)	Vitcor Dataro	Lead Environmental Coordinator	(310) 646-4420	323-632-5960	Victor.Dataro@aa.com	Terry Strait	D. Environmental Coordinator	(310) 646-4420		(310) 686-488	Terry.Straite@aa.com
49	7100	World Way West		90045	Imperial	AA- Maintenance RONArea		Vitcor Dataro	Lead Environmental Coordinator	(310) 646-4420	323-632-5960	Victor.Dataro@aa.com	Terry Strait	D. Environmental Coordinator	(310) 646-4420		(310) 686-488	Terry.Straite@aa.com
50	7183	World Way West		90045	Imperial	American Airlines	Maintenance Facility	Victor Dataro	Lead Environmental Coordinator	(310) 646-4420	323-632-5960	Victor.Dataro@aa.com	Terry Strait	D. Environmental Coordinator	(310) 646-4420		(310) 686-488	Terry.Straite@aa.com
51	7250	World Way West		90045	Imperial	Los Angeles Fire Department	Fire Station # 80	Capt. Keith Massey	Captain	(213) 978-2180		keith.massey@lacity.com	Capt. Brian Allen	Captain	(213) 978-2180			brian.allen@lacity.com
52	7251	World Way West		90045	Imperial	Aircraft Service International Group	ASIG -LA West Terminal Fuel Corporation (PLH)	David Aguilar	Facility Station Manager	(310) 417-0118	(310) 497-1039	david.aguilar@asig.com	Omar Gutierrez	Assistant Manager	O (310) 417-0118			omar.gutierrez@asig.com
53	7255	World Way West		90045	Imperial	Southwest Airlines	Cabin Services	Adam Walters	Senior Environmental Specialist	214-792-4615	214-708-3881	adam.walters@wnco.com	Toni Wilson	Provisioning Manager	(310) 665-5512		(310) 940-9704	
54	9900	LAX Fuel Rd		90045	Imperial	LAX Fuel Corporation (ASIG)	Cargo Building (Air Freight 4)	James Moses	Facility Manager	(310) 646-5915		jim.moses@asig.com						
55	7300	World Way West		90045	Imperial	United Airlines	Maintenance Facility	Monica Lu	Sr. Environmental Specialist	(310) 342-8437	(310) 321-8668	Monica.lu@united.com	Tony Mason	Environmental Coordinator	424-789-5480			tony.mason@united.com
56	7401	World Way West		90045	Imperial	Federal Express	FedEx Express (West)	Yoshikatsu Goya	Lead Environmental Coordinator			ygoya@fesex.com						
57	7411	World Way West		90045	Imperial	Los Angeles World Airports	LAX Maintenance Facility	Somvang Meksavanh	Environmental Specialist	424-646-6492	646-424-9260	SMEKSAVANH@lawa.org	Kevin Jontz	Environmental Specialist	424-646-9044			Kjontz@lawa.org
58	7260	World Way West		90045	Imperial	American Airlines	Maintenance Facility	Victor Dataro	Lead Environmental Coordinator	(310) 646-4420	323-632-5960	Victor.Dataro@aa.com	Terry Strait	D. Environmental Coordinator	(310) 646-4420		(310) 686-488	Terry.Straite@aa.com
59	8214	World Way West		90045	Imperial	Remote Gates		Somvang Meksavanh	Environmental Specialist	424-646-6492	646-424-9260	SMEKSAVANH@lawa.org	Kevin Jontz	Environmental Specialist	424-646-9044			Kjontz@lawa.org
60	9601	Coast Guard Rd.		90045	Dominguez	Southwest Airlines	Ground Support Center	Adam Walters	Environmental Coordinator	(214) 792-4615		adam.walters@wnco.com	Adam Walters (Corporate)	Environmental Coordinator	(214) 792-4615			adam.walters@wnco.com
61	7007	Imperial Hwy W.		90045	Imperial	Air New Zealand	Office Building and Maintenance Facility	1. Mark Bossard, General Manager – Office: (310) 665-3974, mark.bossard@airnz.co.nz Ted Antos, Duty Maintenance Manager – Office: (310) 665-3974, Cell: (310) 529-2772, ted.antos@airnz.co.nz										
62	8000	World Way West		90045	Imperial	Qantas Hangar	Maintenance Facility	1. Chandra Nair, VP Aircraft Maintenance Operations & Customer Contracts, (310) 646-1700, ext. 11700 & 11702, Mobile: (310) 926-3950, cnair@qantas.com.au, Tim Heywood, Engineering OPS Manager LAX Line Maintenance Operations, (310) 646-1722, Mobile: (310) 384-3119, theywood@qantas.com.au.										
63	6951	Imperial Hwy W.		90045	Imperial	Gate Gourmet	Maintenance and Storage Area	Sergio A. Murcio, Cell: (703) 839-3846, smurcio@gategourmet.com										
64	6951	Imperial Hwy W.		90045	Imperial	WFS-Imperial	Maintenance and Storage Area	1. Jose Recinos, GSE Maintenance Manager – Office: (310) 670-4930, Cell: (424) 750-6284, jrecinos@wfs.aero										
65	7401	World Way West		90045	Imperial	Swissport-Taxiway E-14 Storage Area	Storage Area	David Lopez	Maintenance Services Manager	310-910-9817 gen.	310-869-0048	David.Lopez@swissport.com	Kevin Hernandez	Manager	(310) 403-1408			
66	7401	World Way West		90045	Imperial	Swissport Fueling Taxiway E-14 West	Fuel Truck Parking	David Lopez	Maintenance Services Manager	310-910-9817 gen.	310-869-0048	David.Lopez@swissport.com	Kevin Hernandez	Manager	(310) 403-1408			
67	7800	World Way West		90045	Imperial	Virgin Australia-WAMA	Maintenance Area	Kirk Demers|Leader, International Operations, T 1-310-417-7738/M 1-310-993-5677, mailto:Kirk.demers@virginaustralia.com. Benny Lal, SIA Engineering (USA) Inc, 7001 West Imperial Highway, ((424) 646-4710, (562)688-7673, 7(310) 665-9098, benny_lal@siaecusa.com.										
68	5811	Imperial Hwy W.		90045	Dominguez	ASIG South Loading Rack	Fueling	James Moses - 310-646-5915, jim.moses@asig.com										
69	7800	World Way West		90045	Imperial	West Aircraft Maintenance Area-Delta	Maintenance Area	1. Joe Lorenz, Delta Air Lines, Inc. Cargo, East Maintenance Area Station Manager, joseph.lorenz@delta.com, (310) 417-7474, M: (310) 428-8888. Tschumi, Roy, Delta Air Lines, Below Wing Maanger, Roy.Tschumi@delta.com.										

Los Angeles International Airport - Industrial Tenant Pollution Prevention Team Contacts

Date Ra 1/8/2018

Map Site ID	Street Number	Street	Unit Number	Zip	Basin	Tenant Name	Leasehold	PPT Name	PPT Title	PPT Phone	PPT Mobile	PPT Email	Alternate Name	Alternate Title	Alternate Phone	Alternate Fax	Alternate Mobile	Alternate Email
70	7401	World Way West		90045	Imperial	Swissport Taxiway E-14 Storage East	Storage Area	David Lopez	Maintenance Services Manager	310-910-9817 gen.	310-869-0048	David.Lopez@swissport.com	Kevin Hernandez	Manager	(310) 403-1408			
71	7183	World Way West		90045	Imperial	Southwest Taxiway E-13 West-Storage Area	Storage Area	Adam Walters		(214) 792-4615		adam.walters@wnco.com	Hyun Don Lee	Supervisor	(310) 665-5750			hyun.lee@wnco.com
72	5795	Imperial Hwy W.		90045	Dominguez	Prologis Cargo (TBD)	Cargo Building	New site to be determined										
73	5625	Imperial Hwy W.		90045	Dominguez	Delta Cargo	Cargo Building	Tyreik Randsome	Environmental Coordinator	747-215-0579		tyreik.randsome@delta.com; tyriek.randsome@delta.com		Denise Scheonfelder		310-417-7422	310-562-4899	denise.schoenfelder@delta.com
74	7183	World Way West		90045	Imperial	Menzies-Taxiway E-13 Storage Area	Storage Area	Luis Madrigal	GSE Manager	(310) 622-2875	(310) 646-1929	Luis.Madrigal@menziesaviation.com	Edgar Pacheco	GSE Supervisor	(310) 622-2875		(310) 407-9764	edgar.pacheco@menziesaviation.com

APPENDIX C

Training Records

STORMWATER TRAINING

Facility Name: Los Angeles International Airport (LAX)

WDID #: 4 19I004995

Stormwater Management Topic: (check as appropriate)

- ☐ Good Housekeeping
- ☐ Preventative Maintenance
- ☐ Spill and Leak Prevention and Response
- ☐ Material Handling and Waste Management
- ☐ Erosion and Sediment Controls
- ☐ Quality Assurance and Record Keeping
- ☐ Advanced BMPs
- ☐ Visual Monitoring
- ☐ Stormwater Sampling and Analysis

Specific Training Objective: _____

Location: _____ Date: _____

Instructor: _____ Telephone: _____

Course Length (hours): _____

Attendee Roster

(Attach additional forms if necessary)

Name	Company	Phone

As needed, add proof of external training (e.g., course completion certificates, etc.)

Los Angeles
World Airports

May 03, 2017

VIA E-MAIL

All Storm Water Pollution Prevention Team (PPT) Members

Subject: **Los Angeles World Airports (LAWA) 2017 Annual Storm Water Management Training Sessions at LAX (May 31 and June 7, 2017)**

Dear PPT Members:

As required by the General Industrial Storm Water Discharge Permit issued by the State Water Resources Control Board (State Water Board), the LAWA Environmental Programs Group (EPG) will conduct the annual trainings on May 31 and June 7, 2017 at Los Angeles International Airport (LAX).

Storm water PPT members from each airport (LAX &VNY) tenant facility, sub-tenants, and LAWA Maintenance are required to attend the training and maintain his/her leasehold in according to the LAWA's Storm Water Pollution Prevention Plan (SWPPP). All PPTs are responsible for informing their staff, and sub-tenants if applicable, of LAWA's current storm water program requirements and ensure compliance. The 2017 training sessions are listed below:

Date	Time	Airport	Location	Parking
05/31/2017 Wednesday	1:30 - 3:30 PM	LAX	7301 World Way West Rm 101 Los Angeles, CA 90045 (Admin West Building)	Free parking adjacent to the building or across the street.
06/07/2017 Wednesday	9:30 - 11:30 AM	LAX	1 World Way Los Angeles, CA 90045 (Admin East – Samuel Greenberg Board Room)	Park in Lot 1 or 7 and have it validated by the security officer at the Admin East lobby counter.

The training program will include a review of storm water permit requirements, Best Management Practices (BMPs), clarification of PPT members' responsibilities, instructions on completing various required forms and discussions of the Storm Water Pollution Prevention Plan (SWPPP).

The SWPPP, Monthly Dry Weather Visual Observation Form, Spill/Incident Report Form, and LAWA Best Management Practices (BMPs) are available on line at: http://www.lawa.org/welcome_LAWA.aspx?id=1864

Each tenant, as a co-permittee to the LAWA SWPPP, is required to send representatives to one of the training sessions to comply with the requirement of the Permit. The current list of PPT members is listed in Appendix B of the SWPPP.

Please RSVP by Wednesday, May 24 to STORMWATER@lawa.org. For more information or questions please contact either Somvang Meksavanh at smeksavanh@lawa.org, 424-646-6492 or Kevin Jontz at kjontz@lawa.org, 424-646-9044. Thank you for your cooperation.

Sincerely,

Robert D. Freeman
Airport Environmental Manager II

RDF:LRD:SXM:gg

cc: Samantha Bricker
Debbie Bowers
Kendrick Okuda
Ralph Morones
Rick Connolly
Ramon Olivares
Dave Jones
Lisa Dugas

STORMWATER TRAINING

Facility Name: Los Angeles International Airport (LAX)

WDID #: 4 19I004995

Stormwater Management Topic: (check as appropriate)

- ☑ Good Housekeeping
- ☑ Preventative Maintenance
- ☑ Spill and Leak Prevention and Response
- ☑ Material Handling and Waste Management
- ☑ Erosion and Sediment Controls
- ☑ Quality Assurance and Record Keeping
- ☑ Advanced BMPs
- ☑ Visual Monitoring
- ☑ Stormwater Sampling and Analysis

Specific Training Objective: SWPPP Training, ERA Level 1 and 2, BMPs

Location: LAX Admin Building

Date: 05/31/2017

Instructor: David Renfrew, QISP (Alta Environmental)

Telephone: 562-495-5777

Course Length (hours): 2

Attendee Roster

(Attach additional forms if necessary)

Name	Company	Phone	Email
Michael Geigler	Tug Technologies	310-227-3799	Michaelgeigler@Tugtech.com
Manuel Ramos Cardenas	Lufthansa Cargo	310) 242-2440	Manuel.ramos@dlh.de
~~John-Michael Lee~~	~~NPG for KWN~~	~~818 904-0187~~	red
Shawn Beaver	Signature Flight	310-410-9605	Shawn.Beaver@signatureflight.com
Somvang Meksavanh	LAWA - EPG	424-646-6492	Smeksavanh@lawa.org
Kevin Sontz	LAWA - EPG	424-646-9044	Ksontz@lawa.org

As needed, add proof of external training (e.g., course completion certificates, etc.)

STORMWATER TRAINING

Facility Name: Van Nuys Airport

WDID #: 4 19I004994

Stormwater Management Topic: (check as appropriate)

- ☑ Good Housekeeping
- ☑ Preventative Maintenance
- ☑ Spill and Leak Prevention and Response
- ☑ Material Handling and Waste Management
- ☑ Erosion and Sediment Controls
- ☑ Quality Assurance and Record Keeping
- ☑ Advanced BMPs
- ☑ Visual Monitoring
- ☑ Stormwater Sampling and Analysis

Specific Training Objective: SWPPP Training, ERA Level 1 and 2, BMP Implementation

Location: LAX Admin Building

Date: 05/31/2017

Instructor: David Renfrew - QISP (Alta Environmental)

Telephone: 562-495-5777

Course Length (hours): 2

Attendee Roster

(Attach additional forms if necessary)

Name	Company	Phone	Email
ANGEL COLON	GSD MAINTENANCE CITY OF LOS ANGELES	(818)756-8125	angel.colon@lacity.org
John-Michael Lee	MPG INC KVNY	818 904 0187	redaviator@earthlink[illegible]
Eric Zine	Condor Squadron	818 4[illegible]-1702	eric.zine@[illegible]
~~Shaun B~~			

As needed, add proof of external training (e.g., course completion certificates, etc.)

STORMWATER TRAINING

Facility Name: Los Angeles International Airport (LAX)

WDID #: 4 19I004995

Stormwater Management Topic: (check as appropriate)

- [x] Good Housekeeping
- [x] Preventative Maintenance
- [x] Spill and Leak Prevention and Response
- [x] Material Handling and Waste Management
- [x] Erosion and Sediment Controls
- [x] Quality Assurance and Record Keeping
- [x] Advanced BMPs
- [x] Visual Monitoring
- [x] Stormwater Sampling and Analysis

Specific Training Objective: SWPPP Training, ERA Level 1 and 2, BMPs

Location: LAX Admin East Building Date: 06/07/2017

Instructor: David Renfrew, QISP (Alta Environmental) Telephone: 562-495-5777

Course Length (hours): 2

Attendee Roster

(Attach additional forms if necessary)

Name	Company	Phone	Email
David Lopez	Swissport	310.910.9817	david.lopez@swissport.com
Mario Damian	Swissport.	310.200.1165	mario.damian@swissport.com
Kevin Joutz	LAWA-EPG	424-646-9044	Kjoutz@lawa.org
VICTOR DATARO	AMERICAN AIRLINES	310 646 3506	VICTOR.DATARO@AA.COM
Howard Horning	LAWA-MSD	424-646-7900	hhorning@lawa.org
JOHN RAYMOND	ATLANTIC AVIATION	310-930-0997	john.raymond@atlanticaviation.com
Don Littlewood	Delta Air Lines	310-210-8081 donald.littlewood@delta.com	
RICHARD DENTON	AMERICAN AIRLINES	310-642-6807	
Joe Kocielq	American Airlines	310-642-6807	Joseph.Kocielq@AA.com
Omar Gutierrez	ASIG-Menzies	310-162-0657	
Homero Sandoval	Southwest	310-655-5725	homero.sandoval@wnco.com

As needed, add proof of external training (e.g., course completion certificates, etc.)

STORMWATER TRAINING

Facility Name: Los Angeles International Airport (LAX)

WDID #: 4 19I004995

Stormwater Management Topic: (check as appropriate)

- ☐ Good Housekeeping
- ☐ Preventative Maintenance
- ☐ Spill and Leak Prevention and Response
- ☐ Material Handling and Waste Management
- ☐ Erosion and Sediment Controls
- ☐ Quality Assurance and Record Keeping
- ☐ Advanced BMPs
- ☐ Visual Monitoring
- ☐ Stormwater Sampling and Analysis

Specific Training Objective: SWPPP Training, ERA Level 1 and 2, BMPs

Location: LAX Admin East Building Date: 06/07/2017

Instructor: David Renfrew, QISP (Alta Environmental) Telephone: 562-495-5777

Course Length (hours): 2

Attendee Roster

(Attach additional forms if necessary)

Name	Company	Phone	Email
Antonio Villaverde	Laxfuel Corp	(310) 962-6072	
Luis Madrigal	Menzies Aviation	(310) 622-2875	
Luis [illegible]	AGI	(424) 395-8420	
Ron Hofreichter	Envoy	310-215-0466	
Steven Crosby	Southwest	310 806 1649	Steven.Crosby@wnco.com
Glenn Portillo	Raytheon	310.647.9451	
Sergio Avila	Mercury	(323) 479-8464	
Wendu Valencia	WFS	(424) 2153538.	
Malia Jennings	AGI	310-054-8189	
Shanda Glantz	SWA	310-665-5776	
Bianca Machuca	UPS	909-767-7119	

As needed, add proof of external training (e.g., course completion certificates, etc.)

STORMWATER TRAINING

Facility Name: Los Angeles International Airport (LAX)

WDID #: 4 19I004995

Stormwater Management Topic: (check as appropriate)

- ☐ Good Housekeeping
- ☐ Preventative Maintenance
- ☐ Spill and Leak Prevention and Response
- ☐ Material Handling and Waste Management
- ☐ Erosion and Sediment Controls
- ☐ Quality Assurance and Record Keeping
- ☐ Advanced BMPs
- ☐ Visual Monitoring
- ☐ Stormwater Sampling and Analysis

Specific Training Objective: SWPPP Training, ERA Level 1 and 2, BMPs

Location: LAX Admin East Building

Date: 06/07/2017

Instructor: David Renfrew, QISP (Alta Environmental)

Telephone: 562-495-5777

Course Length (hours): 2

Attendee Roster

(Attach additional forms if necessary)

Name	Company	Phone	Email
Nebu John	LAWA - EPG	6-6491	njohn@lawa.org
Somvang Meksavanh	LAWA - EPG		
Mario Lo	Alaska	310 480-8012	
Jacobo Roman	SIA Engineering	(310) 902-3324	
Jesus Moreno	LAWA	(424) 646-7975	
Elbert Daniels	~~LAX~~ DHL	3105689010	
Terry Steait	American Airlines	310.646.8780	Terry.Steait@aa.c
M. Bolyard	American Airlines	310 646 -6509	mj.bolyard@aa.com
James Mora	ASIG/LAXFuel	310-614-2709	
Vanessa Heal	Envoy Air.	310-417-0849	
Frederic Pagy	Envoy Air	310-491-6279	

As needed, add proof of external training (e.g., course completion certificates, etc.)

STORMWATER TRAINING

Facility Name: Los Angeles International Airport (LAX)

WDID #: 4 19I004995

Stormwater Management Topic: (check as appropriate)

- ☐ Good Housekeeping
- ☐ Preventative Maintenance
- ☐ Spill and Leak Prevention and Response
- ☐ Material Handling and Waste Management
- ☐ Erosion and Sediment Controls
- ☐ Quality Assurance and Record Keeping
- ☐ Advanced BMPs
- ☐ Visual Monitoring
- ☐ Stormwater Sampling and Analysis

Specific Training Objective: SWPPP Training, ERA Level 1 and 2, BMPs

Location: LAX Admin East Building Date: 06/07/2017

Instructor: David Renfrew, QISP (Alta Environmental) Telephone: 562-495-5777

Course Length (hours): 2

Attendee Roster

(Attach additional forms if necessary)

Name	Company	Phone	Email
Karina Castro	Menzies	562)481-4504	
Jack Kao	China Airlines	310 6464230	
Vijay Pillai	United Airlines	562)618-2430	VIJAYKUMAR.PILLAI@UNITED.COM
SALVADOR BARRERA	CAS	310 658 3782	
Nelson Carrera	NCA	310. 342 2424	
Maryl Vanden Bos	Raytheon	310 647 4385	
Angel Castrejon	Mercury Air Cargo	323)516-4300.	
Alvarado, Adam	TAS	310-562-8231	
Tim Harvey	WFS	310-920-0484	
Ronald Cardona	SIA Cargo	310-9511954	

As needed, add proof of external training (e.g., course completion certificates, etc.)

STORMWATER TRAINING

Facility Name: Los Angeles International Airport (LAX)

WDID #: 4 19I004995

Stormwater Management Topic: (check as appropriate)

- ☐ Good Housekeeping
- ☐ Preventative Maintenance
- ☐ Spill and Leak Prevention and Response
- ☐ Material Handling and Waste Management
- ☐ Erosion and Sediment Controls
- ☐ Quality Assurance and Record Keeping
- ☐ Advanced BMPs
- ☐ Visual Monitoring
- ☐ Stormwater Sampling and Analysis

Specific Training Objective: SWPPP Training, ERA Level 1 and 2, BMPs

Location: LAX Admin East Building Date: 06/07/2017

Instructor: David Renfrew, QISP (Alta Environmental) Telephone: 562-495-5777

Course Length (hours): 2

Attendee Roster

(Attach additional forms if necessary)

Name	Company	Phone	Email
Monica Lu	United Airlines	310-431-3623	monica.lu@united.com
Angela Carmona	CAS	909-458-6477	acarmona@certifiedaviation.com
KEITH, MASSEY	LAFD	213-978-2180	
Manju Mohan	Raytheon	310-647-1204	manju.mohan@raytheon.com

As needed, add proof of external training (e.g., course completion certificates, etc.)

STORMWATER TRAINING

Facility Name: Van Nuys Airport

WDID #: 4 19I004994

Stormwater Management Topic: (check as appropriate)

- ☐ Good Housekeeping
- ☐ Preventative Maintenance
- ☐ Spill and Leak Prevention and Response
- ☐ Material Handling and Waste Management
- ☐ Erosion and Sediment Controls
- ☐ Quality Assurance and Record Keeping
- ☐ Advanced BMPs
- ☐ Visual Monitoring
- ☐ Stormwater Sampling and Analysis

Specific Training Objective: SWPPP Training, ERA Level 1 and 2, BMP Implementation

Location: LAX Admin East Building Date: 06/07/2017

Instructor: David Renfrew - QISP (Alta Environmental) Telephone: 562-495-5777

Course Length (hours): 2

Attendee Roster

(Attach additional forms if necessary)

Name	Company	Phone	Email
NERU JOHN	LAWA - EPG	6-6491	njohn@lawa.org
JOSE MANZO	CLAY LACY AVIATION	(818) 989-2900	jmanzo@claylacya
Luis Trujillo	Aeroplex Aerolease	(424) 303-8800.	luis@aeroplex.net
Ian Bell	Aerolease Associates	949.515.9423	ian@Aeroplex.net
Justin Castagna	Aeroplex/Aerolease	(562) 981-2659	justin@aeroplex.net
Elizabeth Penuel	North Valley acc Land	818 7595893	epenuel@landsd.net
RAY CAMPOS	CASTLE & COOKE	818-389-2401	rcampos@castlecooke.com

As needed, add proof of external training (e.g., course completion certificates, etc.)

Los Angeles World Airports
Environmental Programs Group

LAWA Storm Water Pollution Prevention Program

Robert Freeman
Airport Environmental Manager
424-646-6474 rfreeman@lawa.org

LAX tenants are subject to rules and regulations to prevent trash and toxic material from getting into storm drains. The State of California has performed inspections of LAX over the past year and has found many activities causing storm water pollution from airport operations including cargo handling, vehicle maintenance and operation, material storage, and trash disposal.

LAWA has found storm water runoff from LAX with excessive amounts of pollutants, notably aluminum and copper. These metals are likely generated from cargo handling and vehicles.

The State has issued LAWA a Notice of Violation that requires actions to reduce the amounts of pollutants that can be mixed with storm water runoff. LAWA Environmental Division is working with tenants and the State to resolve these issues but we need much more cooperation and action from the airport cargo and airline services community. Aggressively following Best Management Practices outlined in the LAX Storm Water Pollution Prevention Plan (SWPPP) and the responsibilities of tenants operating here at LAX is essential.

The consequences of non-compliance may result in being removed from LAWA's stormwater program and SWPPP. This could result in the following for your facility:

- $1,282.00/year permit fee with the Regional Water Quality Control Board
- ~$30,000/year for monitoring requirements
- ~$10,000/year consultant fees for annual monitoring
- ~$20,000 for a facility SWPPP
- $3,000+ for a serious violation per day
- Potential criminal penalties.

The SWPPP is being revised and is available at
http://www.lawa.org/welcome_LAWA.aspx?id=1864

Please contact the LAWA Storm Water Program at Stormwater@lawa.org or any of the following individuals if you have further questions.

Lisa Dugas
Environmental Affairs Officer
424-646-6485
ldugas@lawa.org

Somvang Meksavanh
Environmental Specialist
424-646-6492
smeksavanh@lawa.org

Kevin Jontz
Environmental Specialist
424-646-9044
kjontz@lawa.org

Thank you for help in keeping LAX's nearby beaches and waters free from pollution! Attached are select pictures from the State inspection that illustrate just a few of the practices that need improvement to avoid direct fines and other consequences.

Photo 1: Oil spills observed outdoors without BMPs.

Photo 17: Poor housekeeping and poor management practices were observed here. Oily equipment was observed stored outdoors without containment or cover. Oil spills were observed on the ground.

Photo 23: Debris and aluminum plates for cargo were observed on the ground at this facility without being cleaned up and covered.

Photo 47: An uncovered roll-off container, aluminum boxes on the ground, oily pavement, and oily and dirty equipment were observed outdoors without BMPs in place.

Photo 110: Acid or waste discharge resulted in the concrete pavement being stained and etched. There were no BMPs in place.

Photo 132: An open bin overflowing with trash and debris was observed outdoors at the site with poor housekeeping and poor management practices.

APPENDIX D

Spills and Leaks within the Previous Five-Year Period

Table 3-1
Hazardous Materials Spills Occurring From July 2010 through June 2011
Los Angeles International Airport
2011 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
7/24/2010	American Airlines - T-4 Connector Bldg	gate 42a -south side	Jet - A Fuel	42	500	Dryzit
8/2/2010	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	gate 209	jet fuel	9	0	not provided
8/23/2010	LAX Fuel Corporation (ASIG) - Tank Farm	9900 LAX Fuel Road, LA , CA 90045	Jet A Fuel	50	400	Dryzit
2/27/2011	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	Access post 21, North of the checkpoint	jet fuel	7	0	5 gallon dry zit was used and provided by PLH
	Qantas Airways LTD - Cargo Building (Hangar 9)	Post 21	Jet A fuel	7	0	not provided
2/28/2011	Virgin America - Passenger Terminal	gate 37 A	Jet - A Fuel	4	0	Not reported
5/15/2011	United Airlines - Aircraft Maintenance Facility	gate 87	Jet Fuel	20	0	Not reported
5/19/2011	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	British Airline	Jet A fuel	15		Not reported
6/30/2011	United Airlines former Continental Airlines - Maintenance Facility	gate 60	Jet - A Fuel	7	20	Not reported

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2011 through June 2012
Los Angeles International Airport
2012 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
7/2/2011	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	TERMINAL 2, GATE 28	Fuel	60		SCRUBBED BY WESTERN STATES
7/7/2011	Los Angeles World Airports - Maintenance Yard	Service road C @ C4	Oil	2	10	
7/12/2011	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	TBIT 105	Jet Fuel	50		
	ServisAir (Formerly Globle Ground) - Servisair	TWY C12	Jet Fuel	10		
7/15/2011	Los Angeles World Airports - Maintenance Yard	Service road TWY C10	Hydraulic			Western States Scrubbed
	Los Angeles World Airports - Maintenance Yard	TWY C7	Hydraulic			Western States Scrubbed
	ServisAir (Formerly Globle Ground) - Servisair	Gate 120	Hydraulic Spill	1		
7/18/2011	Los Angeles World Airports - Maintenance Yard	Gate 209	Hydraulic	4		Western States Scrubbed
7/26/2011	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	TBIT Gate 105	Jet Fuel	5		Western States
8/3/2011	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	TBIT Gate 121	Jet Fuel	75		
8/7/2011	American Airlines - T-4 Connector Bldg	Gate 42B	Jet Fuel	25		
8/8/2011	Los Angeles World Airports - Maintenance Yard	Gate 67B	Lavatory waste	4		DRYZIT
8/11/2011	LAX Fuel Corporation (ASIG) - Tank Farm	Gate 65	Jet Fuel	5		Western States Scrubbed
8/12/2011	Alaska Airlines - Airline Terminal Operation	Gate 34	Jet Fuel	5		

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2011 through June 2012
Los Angeles International Airport
2012 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
8/15/2011	Landmark Aviation & StandardAero - Landmark Aviation	Ramp outside building during airplan fueling	Jet fuel	13	10	Dry sorbent
8/23/2011	Los Angeles World Airports - Maintenance Yard	Terminal 7	Sewage			Hand Mopped
8/27/2011	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	Gate 104	Jet Fuel	40		EVERGREEN CONTAINED AND CLEANED SPILL
8/29/2011	Los Angeles World Airports - Maintenance Yard	TWY D	Hydraulic	2		Western States Scrubbed
8/30/2011	ServisAir (Formerly Globle Ground) - Servisair	Gate 33A	Jet Fuel	7		Western States Scrubbed
9/4/2011	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	Gate 105	Jet Fuel	20		
9/11/2011	LAX Fuel Corporation (ASIG) - Tank Farm	North Fuel Farm	Jet Fuel	4		
9/12/2011	Southwest Airlines - Terminal One	Gate 13	Jet Fuel	3		
9/21/2011	Alaska Airlines - Airline Terminal Operation	Gate 32	Hydraulic			Western States Scrubbed
9/24/2011	Aircraft Service International Group - New GSE Maintenance Facility	Gate 52A	Diesel Fuel	5		Western States Scrubbed
10/12/2011	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	TWY C1	Jet Fuel	10		
10/14/2011	Alaska Airlines - Airline Terminal Operation	Gates 33A & 33B	Jet Fuel	10		
10/15/2011	Los Angeles World Airports - Maintenance Yard	TWY D9	Hydraulic	1		Western States Scrubbed
10/16/2011	Los Angeles World Airports - Maintenance Yard	Gate 103	Hydraulic			

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2011 through June 2012
Los Angeles International Airport
2012 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
10/22/2011	American Airlines - Maintenance Hangar (Super Bay)	TWY C12	Jet Fuel	5		
10/24/2011	China Airlines - Cargo Building	TWY C1	Hydraulic			Western States Scrubbed
	Federal Express - Federal Express (South)	TWY A3	Jet Fuel	10		
10/25/2011	Aircraft Service International Group - New GSE Maintenance Facility	ICC7 & ICC8	Hydraulic			Western States Scrubbed
11/1/2011	American Airlines - T-4 Connector Bldg	Gate 40	Jet Fuel	5		
11/2/2011	Aircraft Service International Group - New GSE Maintenance Facility		Jet Fuel	2		
11/4/2011	ServisAir (Formerly Globle Ground) - Servisair	TWY D8	Jet Fuel	10		
11/19/2011	Landmark Aviation & StandardAero - Landmark Aviation	TWY A	Jet Fuel	15		
11/21/2011	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	Gate 104	Jet Fuel	9		DRYZIT
11/30/2011	Aircraft Service International Group - New GSE Maintenance Facility	Gate 51B	Jet Fuel	25		
12/15/2011	United Airlines - Aircraft Maintenance Facility	TWY C3 @ spot #6	Jet Fuel	1300		
12/18/2011	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	Gate 205	Jet Fuel	9		DRYZIT & Western States Scrubbed
	Los Angeles World Airports - Maintenance Yard	TWY "AA" AND SERVICE ROAD "E"	Hydraulic	1		Western States Scrubbed
	Menzies Aviation (former Ogden Ground Service) - Vehicle Maintenance Facility (New)-Former	TWY D	Sewage			Western States Scrubbed

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2011 through June 2012
Los Angeles International Airport
2012 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
12/23/2011	Aircraft Service International Group - New GSE Maintenance Facility	TWY A-2	Jet Fuel	500		Vacuumed and applied absorbent.
12/28/2011	Aircraft Service International Group - New GSE Maintenance Facility	Gate 77	Jet Fuel	7		DRY-ZIT
12/29/2011	Los Angeles World Airports - Maintenance Yard	TWY C8	Hydraulic			
1/2/2012	LAX Fuel Corporation (ASIG) - Tank Farm	Gate 76	Jet Fuel	3		DRYZIT
1/3/2012	SwissPort USA - Office Building and Maintenance Facility	Gates 103 & 104	Hydraulic			Western States Scrubbed
1/4/2012	LAX Fuel Corporation (ASIG) - Tank Farm	Gate 67A	Jet Fuel	10		Western States Scrubbed
1/8/2012	LAX Fuel Corporation (ASIG) - Tank Farm	Gate 73	Jet Fuel	2		
	Los Angeles World Airports - Maintenance Yard	TWY A1	Hydraulic			Western States Scrubbed
1/16/2012	Menzies Aviation (former Ogden Ground Service) - Vehicle Maintenance Facility (New)-Former	Gate 123A	Hydraulic	5		Western States Scrubbed
1/25/2012	American Airlines - T-4 Connector Bldg	Gate 41	Petroleum and water mixture	2		
1/27/2012	Los Angeles World Airports - Maintenance Yard	Gates 39 & 22	Unleaded Fuel	20		
1/28/2012	Los Angeles World Airports - Maintenance Yard	TWY C7	Hydraulic			Western States Scrubbed
2/4/2012	LAX Fuel Corporation (ASIG) - Tank Farm	TWY A7	Jet Fuel	60		Western States Scrubbed
2/7/2012	United Airlines - Aircraft Maintenance Facility	TWY B	Hydraulic	5		Western States Scrubbed

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2011 through June 2012
Los Angeles International Airport
2012 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
2/8/2012	Delta Airlines - Office/Maintenance Facility	TWY B	Jet Fuel	20		
2/9/2012	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	Gate 217 & 218	Jet Fuel	30		Western States Scrubbed
	Los Angeles World Airports - Maintenance Yard	TWY A7	Hydraulic		100	Western States Scrubbed
2/12/2012	LAX Fuel Corporation (ASIG) - Tank Farm	TWY C3	Jet Fuel	50		
2/13/2012	LAX Fuel Corporation (ASIG) - Tank Farm	Gate 57	Jet Fuel	3		
2/15/2012	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	Gate 121	Jet Fuel	3		
2/16/2012	Delta Airlines - Office/Maintenance Facility	Gate 68B TWY C7	Hydraulic	1		Western States Scrubbed
	LAX Fuel Corporation (ASIG) - Tank Farm	Gate 67	Jet Fuel	8		
2/26/2012	Los Angeles World Airports - Maintenance Yard	TWY A	Hydraulic			DRYZIT
2/27/2012	ServisAir (Formerly Globle Ground) - Servisair	Gate 64	Jet Fuel	5		Western States Scrubbing
3/2/2012	Federal Express - Federal Express (South)	TWY E-14	Jet Fuel	50		
3/22/2012	US Airways (Former America West Airlines) - Terminal 3	Gate 8	Jet Fuel	10		
4/1/2012	LAX Fuel Corporation (ASIG) - Tank Farm	South pad # 5	Hydraulic			Western States Scrubbed
	Menzies Aviation (former Ogden Ground Service) - Vehicle Maintenance Facility (New)-Former		Jet Fuel	3		Absorbant
4/2/2012	Virgin America - Passenger Terminal	Gate 344	Hydraulic			Scrubbed

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2011 through June 2012
Los Angeles International Airport
2012 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
4/9/2012	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	TWY A2	Jet Fuel	5		
4/15/2012	Delta Airlines - Office/Maintenance Facility	Gate 68B	Hydraulic		200	Western States Scrubbed
4/16/2012	Menzies Aviation (former Ogden Ground Service) - Vehicle Maintenance Facility (New)-Former	Gates 119 & 120	Hydraulic	10		Western States Scrubbed
4/17/2012	Delta Airlines - Office/Maintenance Facility	Gate 68B	Jet Fuel	20		Western States Scrubbed
4/18/2012	Aircraft Service International Group - New GSE Maintenance Facility		Jet Fuel	1		
	American Airlines - Maintenance Hangar (Super Bay)	Super Bay Spot North 3	Jet Fuel	15		
	LAX Fuel Corporation (ASIG) - Tank Farm		Jet Fuel	1		
4/20/2012	Delta Airlines - Office/Maintenance Facility	Gate 68B	Jet Fuel	30		
4/25/2012	Los Angeles World Airports - Maintenance Yard	Gate 104	Hydraulic	1		Western States Scrubbed
5/5/2012	Los Angeles World Airports - Maintenance Yard	TWY C3	Hydraulic			LAWA Sweeper
5/6/2012	American Airlines - T-4 Connector Bldg	Gate 49A	Jet Fuel	15		
	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	Gate 121	Jet Fuel	5		
	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	Gate 121	Jet Fuel	18		Western States Scrubbed
	ServisAir (Formerly Globle Ground) - Servisair	Gate 104	Oil	3		Western States Scrubbed

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2011 through June 2012
Los Angeles International Airport
2012 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
5/10/2012	Los Angeles World Airports - Maintenance Yard	TWY A	Hydraulic			Western States Scrubbed
5/19/2012	LAX Fuel Corporation (ASIG) - Tank Farm	Gate 72	Jet Fuel	8		
5/27/2012	Menzies Aviation (former Ogden Ground Service) - Vehicle Maintenance Facility (New)-Former	Gate 33A	Hydraulic			Western States Scrubbed
5/29/2012	American Airlines - T-4 Connector Bldg	Gate 40	Jet Fuel	50		
	Host Marriott Services - FORMER - Host Marriott	CUP / Host Marriott Services	Sewage	300	100	
6/2/2012	Menzies Aviation (former Ogden Ground Service) - Vehicle Maintenance Facility (New)-Former	Gate 105	Oil			Western States Scrubbed
	SwissPort USA - Office Building and Maintenance Facility	Gate 103	Oil	1		
6/10/2012	SwissPort USA - Office Building and Maintenance Facility	ICC Spot 6	Jet Fuel	75		Western States Scrubbed
6/17/2012	LAX Fuel Corporation (ASIG) - Tank Farm	Gate 82	Jet Fuel	5		
	SwissPort USA - Office Building and Maintenance Facility	Gate 103	Hydraulic			DRYZIT
6/25/2012	LAX Fuel Corporation (ASIG) - Tank Farm	Gate 23	Jet Fuel	10		
6/30/2012	CAS (Evergreen moved out.) - Aircraft Maintenance Facility	Gate 104	Oil	1		

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2012 through June 2013
Los Angeles International Airport
2013 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
7/2/2012	American Airlines - T-4 Connector Bldg	Service Rd C	Fuel			
7/6/2012	United Airlines - Aircraft Maintenance Facility		Jet A Fuel	3		
	United Airlines former Continental Airlines - Terminal 6		Jet Fuel	3		
7/7/2012	Delta Airlines - Cargo Building	Gate 21B	Jet Fuel	1		Western States Scrubbed
	LAX Terminal 2 (TBITEC) - Terminal 2 (TBITEC)	G 21B	Jet A Fuel	1		WESTERN STATES SCRUBBED THE RAMP AREA
7/9/2012	Alaska Airlines - Airline Terminal Operation	G 69B	Jet-A fuel	8		SPILL WAS CLEANED UP BY PLH
	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	Gate 69B	Jet Fuel	8		
7/10/2012	American Airlines - T-4 Connector Bldg	Gate 42B	Jet Fuel	15		
7/13/2012	United Airlines former Continental Airlines - Terminal 6	Gate 68B	Hydraulic			
7/14/2012	American Airlines - T-4 Connector Bldg	Gate 45	Jet Fuel	15		
7/15/2012	ServisAir (Formerly Globle Ground) - Servisair	G 106	oil	1		WESTERN STATES SCRUBBED
7/20/2012	Alaska Airlines - Airline Terminal Operation	G 69A	Fuel	2		CLEAN UP CONDUCTED BY PLH
	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	Gate 69A	Jet Fuel	2		

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2012 through June 2013
Los Angeles International Airport
2013 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
7/21/2012	American Airlines - T-4 Connector Bldg	G 48A	Jet A Fuel	5		spill containment
	American Airlines - T-4 Connector Bldg	Gate 48A	Jet Fuel	5		
7/23/2012	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	Gate 24A	Jet Fuel	15		Western States Scrubbed
7/24/2012	AeroMexico - Air Cargo	G 24A	Fuel	15		WESTERN STATES CONTACTED FOR RAMP SCRUB AT GATE
7/30/2012	LAX Terminal 2 (TBITEC) - Terminal 2 (TBITEC)	G 27	Fuel	10		Service Air "DRY-IT" Western States to clean.
8/3/2012	Host Marriott Services - FORMER - Host Marriott	Gate 34	Sewage			Western States Scrubbed
8/5/2012	Los Angeles World Airports - Maintenance Yard	Gate 13	Jet Fuel	8		Scrubbing
8/6/2012	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	G 80B	Fuel	2		CLEAN PREFORM BY ASIG FUELERS
	Delta Airlines - Office/Maintenance Facility	G 52	Hydraulic Oil			WESTERN STATES COMPLETED THE HYDRAULIC SPILL CLEAN UP
	Delta Airlines - Office/Maintenance Facility	Gate 54A	Hydraulic			Western States Scrubbed
	LAX Fuel Corporation (ASIG) - Tank Farm	Gate 80B	Jet Fuel	2		
	Los Angeles World Airports - Maintenance Yard	TWY C3	Oil	4		Western States Scrubbed

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2012 through June 2013
Los Angeles International Airport
2013 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
8/9/2012	Menzies Aviation (former Ogden Ground Service) - Vehicle Maintenance Facility (New)-Former	G 38	Fuel	2		Menzies cleaned up
8/11/2012	Delta Airlines - Office/Maintenance Facility	G 68B	Fuel	3		
	LAX Fuel Corporation (ASIG) - Tank Farm	Gate 68B	Jet Fuel	3		
	Qantas Airways LTD - Cargo Building (Hangar 9)	Gate apron	Fuel	10		PLH AND QANTAS ENGINEERING PROVIDED CLEANUP
8/13/2012	Los Angeles World Airports - Tom Bradely International Terminal	G 105	Fuel/Water	5		PHL CONTACTED FOR CLEANUP
8/16/2012	Los Angeles World Airports - Tom Bradely International Terminal	G 106 Ramp	Diesel	50		FUEL CONTAINED IN RETENTION BASIN AND NO DRAINS WERE AFFECTED
	Virgin America - Passenger Terminal	G 39	Fuel	0		PLH CONTACTED FOR CLEANUP
8/22/2012	Landmark Aviation & StandardAero - Landmark Aviation	Unspecified	fuel	5		Area scrubbed.
9/5/2012	American Eagle - American Eagle Remote Terminal	G 44F	Fuel	2		
9/10/2012	Alaska Airlines - Airline Terminal Operation	G 69B	Fuel	10		
	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	G 76	Fuel	25		ASIG HAD CONTROLLED THE FUEL SPILL AND WERE IN THE PROCESS OF CLEANING UP THE SPILL

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2012 through June 2013
Los Angeles International Airport
2013 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
9/17/2012	AeroMexico - Air Cargo	G 23	Fuel	10		WESTERN STATES WILL SCRUB
9/24/2012	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	G 104	oil			ASIG DISPATCH ADVISED, AND DRYZIT REQUESTED FOR CLEAN-UP.
9/30/2012	United Airlines former Continental Airlines - Terminal 6	Taxiway H8 to Taxiway N	Hydraulic Oil			HYDRAULIC CLEAN UP
10/3/2012	American Airlines - T-4 Connector Bldg	G 45	Fuel	20		AA MTCE AND AIRSERVE ARE HANDLING THE CLEAN UP
10/4/2012	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	Singapore Cargo Spot #1	Hydraulic Fluid	8		WSME TO SCRUB THE RAMP
10/7/2012	United Airlines - Aircraft Maintenance Facility	United Airlines Maintenance Facility C-4 Ramp Area	Sewage	250	3200	Diked with absorbent vacuumed and scrubbed by Western States.
10/11/2012	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation		Jet Fuel	10		
10/14/2012	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	T6 G 63	Fuel	12		SPILL HAS BEEN FULLY CONTAINED

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2012 through June 2013
Los Angeles International Airport
2013 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
10/18/2012	Delta Airlines - Office/Maintenance Facility	taxiway C9	hydraulic oil	2		WESTERN STATES MAINTENANCE AND DELTA PERFORMING CLEAN UP
	United Airlines - Aircraft Maintenance Facility	G 70A	Fuel	5		ASIG PERFORMING CLEAN UP, NO SCRUBBING REQUIRED.
10/21/2012	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	G 77	Fuel	1		ASIG performed clean up
11/1/2012	American Airlines - T-4 Connector Bldg		Fuel	10		ServisAir cleaned up
11/2/2012	AeroMexico - Air Cargo	G 24	Fuel	15		Performed by PLH
11/4/2012	Los Angeles World Airports - Tom Bradely International Terminal	G 104	Fuel	7		PHL CLEANED SPILL WITH ABSORBANT
11/9/2012	Southwest Airlines - Terminal One	T1 G 1	Fuel			Scrubbed
	United Airlines former Continental Airlines - Terminal - 7	G 70A	Fuel	5		
11/11/2012	Los Angeles World Airports - Tom Bradely International Terminal	TWY AA/E15	Hydraulic Fluid			SWEEPER FOR SUPPORT

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2012 through June 2013
Los Angeles International Airport
2013 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
11/13/2012	Menzies Aviation (former Ogden Ground Service) - Vehicle Maintenance Facility (New)-Former	G 123A	oil			WESTERN STATES WAS NOTIFIED AT APROX 17:35L AND WILL COMMENCE CLEANUP AT 00:00L
11/24/2012	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	Taxilane B-1	Fuel	5		
11/27/2012	ServisAir (Formerly Globle Ground) - Servisair	T 6 G 69A	Fuel	1		Service Air performed cleanup
12/10/2012	Los Angeles World Airports - Tom Bradely International Terminal	G 103	Jet A Fuel	2		PLH HANDLED THE CLEAN UP
12/23/2012	United Airlines former Continental Airlines - Terminal 6	Taxiway B	Hydraulic oil			WESTERN STATES TO SCRUB THE PAVEMENT
12/28/2012	Menzies Aviation (former Ogden Ground Service) - Vehicle Maintenance Facility (New)-Former	G 104	oil			MENZIES ADVISED AT 1920L AND STATED THEY WOULD HAVE THEIR MAINTENANCE DEPARTMENT CLEAN THE GATE
1/8/2013	United Airlines - Aircraft Maintenance Facility	G 84	Fuel	6		

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2012 through June 2013
Los Angeles International Airport
2013 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
1/20/2013	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	Spot 943 (C1)	oil			ASIG DETERMINED SCRUBBER WAS REQUIRED. WESTERN STATES NOTIFIED.
1/27/2013	Los Angeles World Airports - Tom Bradely International Terminal	G 120	Oil	5		ELS COORDINATING CLEAN UP
2/7/2013	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	G 104	oil			ASIG WAS CONTACTED TO CLEAN UP THE SPILL.
2/10/2013	Qantas Airways LTD - Cargo Building (Hangar 9)	G 101B	Fuel	10		Western States scrubbed
2/14/2013	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	G 69A	Fuel	6		Western States scrubbed
2/22/2013	Los Angeles World Airports - Tom Bradely International Terminal	G 218	Fuel	5		CLEANUP IN PROGRESS. OPS 44,
2/25/2013	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	G 84	Jet A	3		ASIG cleaned up
2/26/2013	Delta Airlines - Cargo Building	ICC SPOT#4	Fuel	25		SPILL WAS CONTAINED
3/26/2013	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	G 75	Fuel	1	3	
3/29/2013	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	G 74	Fuel	4		AREA SCRUBBED

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2012 through June 2013
Los Angeles International Airport
2013 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
4/1/2013	Menzies Aviation (former Ogden Ground Service) - Vehicle Maintenance Facility (New)-Former	G 104	hydraulic oil			MENZIES MTCE WILL RESPOND TO CLEAN GATE
	SwissPort USA - Swissport Cargo Services	G 104	oil			INTERGRATED DISPATCH ADVISED
4/12/2013	American Airlines - T-4 Connector Bldg	G 40	Fuel	25		AIRSERV Scrubbed
4/13/2013	China Airlines - Cargo Building	G 101	hydraulic oil			CLEANED UP AT 2000L
	Los Angeles World Airports - Tom Bradely International Terminal	G 102	Oil			
	Los Angeles World Airports - Tom Bradely International Terminal	G 105	Oil			
4/16/2013	Los Angeles World Airports - Tom Bradely International Terminal	G 102	Hydraulic Oil			WESTERN STATES CALLED BY OPS BASE FOR CLEAN-UP.
4/21/2013	American Airlines - T-4 Connector Bldg	G 40	Fuel	30		ABSORBENT MATERIAL, WESTERN STATES SCRUBBed THE GATE
4/28/2013	Southwest Airlines - Terminal One	T1 G 5	Fuel	10		
5/4/2013	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	G 48B	Fuel	10		OPS 103
5/22/2013	ServisAir (Formerly Globle Ground) - Servisair	G 33B	Fuel			DRYZIT

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2012 through June 2013
Los Angeles International Airport
2013 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
5/28/2013	Southwest Airlines - Terminal One	Terminal 1- Gate #14 and Taxiway	Jet A Fuel	100	1000	Absorbet Kitty Litter
5/29/2013	Virgin America - Passenger Terminal	Gate 33A	JetA	10		wash and scrub by western state engineering
6/16/2013	Qantas Airways LTD - Cargo Building (Hangar 9)	G 134	Fuel	4		OPS 114
6/20/2013	ASIG LA West Terminal Fuel Corp (PLH) - ASIG -LA West Terminal Fuel Corporation	Gate 75B	Fuel	4		OPS 108
6/24/2013	Delta Airlines - Office/Maintenance Facility	G 55 Taxiway	hydraulic oil			WESTERN CONTACTED STATES FOR SCRUBBING
6/28/2013	Southwest Airlines - Terminal One	T1 G9	Fuel	20		FUEL SPILL CLEANED SUPERVISED BY SOUTHWEST

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2013 through June 2014
Los Angeles International Airport
2014 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
8/29/2013	Delta Airlines - Office/Maintenance Facility	TXY C between C4 and C5	Hydraulic Fluid	40		The spill occurred just on the service road and did not get into any drains. The spill was contained by Delta and the road later swept by Western States.
	LAX Terminal 2 (TBITEC) - Terminal 2 (TBITEC)	Terminal 2 - Gate #27	Jet A Fuel	9		The spill was contained and no drains were affected.
9/23/2013	Southwest Airlines - Terminal One	Gate # 14 at Terminal 1 (South West Airlines)	Jet A	90	750	Absorbent and Fuel Truck Pump
2/7/2014	American Eagle - American Eagle Remote Terminal	West side of property	used sanitary fluid	75	80	scrub at surface and vacuum drain lines

ns - not specified

Table 3-1
Hazardous Materials Spills Occurring From July 2014 through June 2015
Los Angeles International Airport
2015 Update

Date	Tenant	Location	Hazardous Material	Quantity Spilled (Gallons)	Estimated Area Covered (Sq. Ft.)	Cleanup Method
12/11/2014	American Eagle - American Eagle Remote Terminal	44F	Jet A	5		Absorbent. Sweeper.
2/27/2015	American Eagle - American Eagle Remote Terminal	44C	Jet A	15	0	Absorbent. Sweeper.

ns - not specified

LAX SPILL LOG 2015-2016

Date	Tenant	Cleaned By	Location	Activity	Hazardous Material	Quantity	Actions Taken to Prevent Re-Occurrence
7/2/2015	ASIG	ASIG	Gate 68A	Spill - Fuel	Jet A	5 Gallons	Per ASIG's Marron: Hydrant truck with the busted sense line was taken out of service and fixed the same day.
7/3/2015	Swissport	Swissport	Gate 63	Spill - Fuel	Jet A	<5 Gallons	Reminder. Retraining.
7/3/2015	Unknown	Uniserve	Taxiway E15 & E17	Spill - Oil	Oil	3 Gallons	Unknown
7/6/2015	Menzies (Jet Blue)	Uniserve	Remote Gate 215	Spill - Oil	Oil		6/22/16: Emailed ARCC/Ops. 6/30/16: Emailed Frank Dobbelsteijn of Menzies.
7/7/2015	PLH	ASIG; PLH	Gate 206	Spill - Fuel	Jet A	6/22/16: Asked ARCC/Ops. 6/30/16: Emailed Guillermo Marron + 2 of ASIG.	6/22/16: Asked ARCC/Ops. 6/30/16: Emailed Guillermo Marron + 2 of ASIG.
7/17/2015	EMAIL SENT TO PAUL HERRERA ARCC SUPERVISOR FOR ANSWERS	Northstar; Anderson Environmental (Air Quality)	T5 - T6 Tunnel	Spill - SSO	Sewage	Approx 600 Gallons (100 gals/hr for 6 hours)	Service Request #91879; Snaked 150 feet of the sewer line.
7/19/2015	Unknown	Uniserve	Gate 31A	Spill - Oil	Hydraulic & Transmission Fluid	10 Gallons	Not Applicable
7/22/2015	United Airlines	Safety Kleen, Ocean Blue	7300 World Way West	Discharge - Paint Solids	Paint Chips and Wash Water	75	Contractors will be trained.
7/29/2015	Uknown	LAWA Maintenance	Imperial Terminal	Spill - Oil	Oil	1	Not Applicable
7/30/2015	Delta Airlines	Delta Cargo; Western States	Service Road C	Spill - Other	Non-Haz White Powder	6/22/16: Emailed ARCC/Ops. 6/30/16: Emailed Greg Lyles of Delta.	6/22/16: Emailed ARCC/Ops. 6/30/16: Emailed Greg Lyles of Delta.
7/31/2015	American Airlines	Swissport	Gate 63	Spill - Fuel	Jet A	5 Gallons	Re-training.
8/2/2015	United Airlines	United Airlines	Gate 75B	Spill - Fuel	Jet A	15 Gallons	Better aircraft inspection and maintenance.
8/3/2015	Unknown	Uniserve	South Cargo Pad #4	Spill - Oil	Oil	<1 Gallon	Not Applicable
8/7/2015	Allegiant Airlines	Allegiant Airlines	Gate 31A	Spill - Fuel	Jet A	10-15	Unknown
8/7/2015	Air Canada	Uniserve, Swissport	Gate 25	Spill - Fuel	Jet A	30 Gallons	Retraining required.
8/10/2015	United Airlines	Western States Maintenance & Engineering	Taxiway C6	Spill - Fuel	Jet A	3-10	Training for better response.
8/14/2015	General Aviation	Western States Maintenance & Engineering	Taxiway A, Between A5 & A6	Spill - Fuel	Jet A	4 Gallons	FBO for private jet unknown. Unable to verify info.
8/15/2015	Swissport	Western States Maintenance & Engineering or Uniserver	Gates 34-35, Terminal 3	Spill - Oil	Oil	2 Gallons	Paymover tagged out of service.
8/16/2015	Unknown	LAWA Maintenance	Gate 130	Spill - Oil	Oil	1 Gallon	Not Applicable
8/16/2015	American Airlines	American Airlines	Gate 40	Spill - Fuel	Jet A	1 Gallon	Check equipment.
8/17/2015	Airport Operations	6/22/16: Groom to find.	Taxiway H & P	Fire	None	None	Not Applicable
8/19/2015	Swissport	Swissport; Western States Maintenance & Engineering	Ramp 44G	Spill - Fuel	Jet A	5 Gallons	Fuel trucks will be monitored.
8/19/2015	Delta Airlines	Western States (per Greg Lyle); Uniserve	Taxiway C7 & C8	Spill - Oil	Hydraulic Oil	<5 Gallons	Per Greg Lyles: The unit was taken out off serve after and a preventative maintenance inspection was completed by our local GSE.
8/21/2015	Aviation Services	6/22/16: Groom said it's not an ASOCS entry. Need to ask Herrera.	Taxilane C8	Fire	Fire Water	Unknown	6/22/16: Groom said it's not an ASOCS entry. Need to ask Herrera.
8/22/2015	United Airlines	ASIG & Western States	Gate 76 - Terminal 7	Spill - Fuel	Jet A	15 Gallons	The fueler stopped immediately and contacted United Control Center for assistance.
8/28/2015	American Airlines	Compass	Gate 44E	Spill - Oil	Skydrol Hydraulic Fluid	1 pint	Equipment replaced.
9/13/2015	Air Canada	Swissport	Gate 25, Terminal 2	Spill - Fuel	Jet A	5 Gallons	Per Rafael Ortiz: Source of spill was unknown, therefore the cause and preventive action are also unknown. Swissport was instructed to clean up by Operations and they did it.
9/19/2015	Qantas Flight	Uniserve	Gate 154	Spill - Fuel	Jet A	20 Gallons	Retraining required.
9/23/2015	Emirates	Uniserve	Taxiway AA, bet. Taxilanes E17 & E	Spill - Oil	Hydraulic Fluid	20 Gallons	Aircarft serviced.
9/23/2015	Unknown	LAWA	Taxilane C7, by Gate 69	Spill - Oil	Hydraulic Fluid	1 Gallon	Unknown
9/24/2015	American Airlines	American Airlines	Gate 48B	Spill - Fuel	Jet A	20 Gallons	7/14/16: Per Veronica Torres, Unknown
9/28/2015	CAS	CAS	Gate 157	Spill - Fuel	Fuel	12 Gallons	ASOCS: CAS BELT LOADER #211 TAGGED OUT AND TOWED FROM GATE 157.
9/29/2015	Swissport	Uniserve	Gate 131	Spill - Oil	Hydraulic Fluid	1 Quart	Equipment replaced.
9/30/2015	American Airlines	American Airlines; Swissport	Taxiway C8	Spill - Fuel	Jet A	< 5 Gallons	6/28/16: emailed Ops' M. Groom. 7/8/16: Emailed AA's Andy Garcia.
10/9/2015	TAS	Western States	Gate 22	Spill - Fuel	Jet A	3 Gallons	LAXFUEL reset the system and it is fully operational.
10/9/2015	Unknown	Uniserve	Gate 27, bet. Taxiways D8 & D9	Spill - Oil	Hydraulic Oil	6 feet X 6 feet	Not Applicable
10/15/2015	Swissport	Western States Maintenance & Engineering	Gate 155	Spill - Oil	Hydraulic Oil	10 Gallons	Per Swissport's David Lopez: Re-Training.
10/19/2015	Swissport	Uniserve	Gate 156	Spill - Oil	Hydraulic Oil	Unknown	Unknown
10/22/2015	LAX Fuel	PLH	Gate 151	Spill - Fuel	Jet A	2 Gallons	ASOCS: Truck was taken out of service.
10/25/2015	American Airlines	American Airlines	Gate 153	Spill - Oil	Hydraulic Oil	1-2 Gallons	Not Applicable

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10/25/2015	Swissport	Swissport	Gate 155	Spill - Oil	Hydraulic Oil	1-2 Gallons	Repair Equipment
10/27/2015	Swissport	Swissport	Gate 60	Spill - Fuel	Jet A	15 Gallons	7/8/16 Emailed Swissport's Richard Woodruff.
10/27/2015	Swissport	Swissport	Gate 42B	Spill - Fuel	Jet A	< 10 Gallons	7/8/16 Emailed Swissport's Richard Woodruff.
11/1/2015	Aeromexico	ASIG, Uniserve	Taxiway D9	Spill - Fuel	Jet A	5 Gallons	7/8/16 Emailed AeroMexico's Juan Ulgade.
11/4/2015	Virgin Australia	Uniserve	Gate 134A	Spill - SSO	Sewage	7/8/16: Emailed Swissport's David Lopez.	7/8/16: Emailed Swissport's David Lopez.
11/4/2015	Unknown	LAWA Maintenance	Gate 212	Spill - Oil	Hydraulic Oil	1-2 Gallons	Not Applicable
11/9/2015	TAS	TAS, ASIG	Taxilane A2	Spill - Fuel	Jet A	75 Gallons	Part has been replaced by TAS.
11/13/2015	Swissport	Swissport; LAWA Maintenance	Gate 22	Spill - Fuel	Jet A	7/8/16: Emailed Swissport's Richard Woodruff.	7/8/16: Emailed Swissport's Richard Woodruff.
11/15/2015	ASIG	ASIG	Gate 77	Spill - Fuel	Jet A	2 - 5 Gallons	Fueler was coached to check hydrant truck "sump tank" throughout the day to ensure it's not filling up past the recommended amount.
11/16/2015	TAS	Southwest	Gate 18B	Spill - Fuel	Fuel	10 Gallons	TAS was not able to find any discrepancies.
11/24/2015	Swissport	Swissport; Uniserve	Gate 157	Spill - Oil	Hydraulic Oil	1-2 Gallons	Not Applicable
12/2/2015	ASIG	ASIG	Taxiway E14	Spill - Fuel	Jet A	300 Gallons	TBD pending investigation.
12/2/2015	Swissport	AirServ	Gate 42B	Spill - Fuel	Jet A	20 Gallons	6/29/16: Emailed Veronica Torres. Said it wasn't them. 6/30/16 Emailed Rafael Ortiz of Swissport.
12/11/2015	LAWA	LAWA Custodial, Hensel Phelps, United Airlines	71B	ID	Water	Unknown	12/11/15: Al Calderon (424-646-9075) of ARCC facilities unit contacted (left msg) per P. Herrera for possible first hand knowledge. Contact Dave Shuter, Deputy Exec Dir. Office regarding information.
12/17/2015	Swissport	Clean Harbors	Gate 40	Spill - Fuel	Jet A	20 Gallons	Increase equipment inspections and employee training on equipment monitoring.
12/18/2016	PLH	PLH	Twy C1 Spot #943	Spill - Fuel	Jet A	10 Gallons	7/13/16: Emailed ASIG's Guillermo Marron.
12/19/2016	Korean Air Fueler	LAWA Maintenance	Gate 156	Spill - Fuel	Jet A	3-5 Gallons	Per Korean Air's Joo Hong Lee: To prevent the spill from reoccuring, we have stocked valve seals in the event that the seal is causing the leak. Will be fully prepared when performing this task with empty 50 gallon container to collect fuel just in case. We will make sure that "no fuel spill" go down to the storm drain.
12/20/2016	Menzies	Uniserve	Twy D, between Twy R & Twy E12	Spill - Oil	Antifreeze; Hydraulic Fluid	800'X2' of Hydraulic Fluid; Unknown of Antifreeze	7/13/16: Emailed Luis Madrigal of Menzies.
12/26/2016	ASIG	ASIG	Twy C, between Twy C7 & C8	Spill - Fuel	Jet A	49 Gallons	7/13/16: Emailed Eric Braun
12/26/2015	ASIG	ASIG	Gate 69	Spill - Fuel	Jet A	6 Gallons	TBD pending investigation.
12/31/2016	Swissport	Swissport; American Airlines	Gate 47A	Spill - Fuel	Jet A	7 Gallons	
1/1/2016	Ground Crew for China Eastern	Ground Crew	Taxiway B-B13	Fire	Hydraulic Fluid	1 Gallon	Not Applicable
1/3/2016	Unknown	LAWA Street Cleaning	Gate 157	Spill - Oil	Hydraulic Fluid	2-3 Gallons	Unknown
1/3/2016	Alliance Ground International	Alliance Ground International	Imperial Cargo Complex	Spill - Oil	Hydraulic Fluid	5 Gallons	Equipment removed.
1/4/2016	COPA Flight 303	Uniserve	Taxiway C	Spill - Fuel	Fuel	20-30 Gallons	7/13/16: Emailed Ops' Moran
1/12/2016	ASIG	ASIG	United Hangar	Spill - Fuel	Jet A	1 Gallon	Spill cleaned up using dry methods. Equipment removed for repairs.
1/16/2016	ASIG	ASIG	Gate 70B	Spill - Fuel	Jet A	3-4 Gallons	Equipment fixed.
1/17/2016	American Airlines	American Airlines	Gate 63	Spill - Fuel	Jet A	30-40 Gallons	6/29/16 Emailed Veronica Torres about this.
1/22/2016	ASIG	ASIG; Uniserve	Gate 67	Spill - Fuel	Jet A	5 Gallons	7/13/16 Emailed ASIG's Guillermo Marron
1/24/2016	Unknown	Uniserve	Taxilane D8	Spill - Oil	Hydraulic Oil	1-2 Quarts	Not Applicable
1/30/2016	ASIG	ASIG; Western States Maintenance & Engineering	Gate 67	Spill - Fuel	Jet A	5-7 Gallons	Training
1/31/2016	7/13/16: Emailed Ops' Duker	United Site Services	Gate 201	Spill - SSO	Sewage	7/13/16: Emailed Ops' Duker	7/13/16: Emailed Ops' Duker
1/31/2016	Swissport	Swissport	Gate 42B	Spill - Fuel	Jet A	X < 5 Gallons	7/13/16: Emailed Swissport's Rafael Ortiz
2/3/2016	Delaware North	Delaware North	Gate 73 & 75A (between)	Spill - Industrial Waste	Grease, Food Waste	Unknown	Clog removed.
2/3/2016	United Airlines	LAWA Maintenance	Runway 25R (at Twy B1)	Spill - Fuel	Hydaulic Oil	2 Gallons	Equipment Repaired
2/5/2016	ASIG	Uniserve	Gate 67	Spill - Fuel	Jet A	3 Gallons	Inoperable deadman shut off repair.
2/6/2016	Swissport	LAWA Maintenance	Gate 130	Spill - Oil	Coolant & Oil	7/14/16: Emailed Swissport's Rafael Ortiz	Equipment removed.
2/7/2016	ASIG	ASIG	Gate 69B	Spill - Fuel	Jet A	5 Gallons	7/14/16: Emailed ASIG's David Aquilar.
2/8/2016	Swissport	Swissport	Gate 47A	Spill - Fuel	Jet A	X < 10 Gallons	7/14/16: Emailed Swisspoort's Rafael Ortiz.
2/14/2016	Unknown	Uniserve	Taxiway D, between D8 & D9	Spill - Fuel	Hydraulic Fluid	20' by 4', 20' by 10' in safety area	Unknown
2/15/2016	ASIG	Uniserve; ASIG	Gate 67	Spill	Jet A	X < 3 Gallons	Equipment Repaired
2/15/2016	Unknown	ASIG	Gate 201	Spill - Fuel	Jet A	10 Gallons	Not Applicable

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2/16/2016	LFWTEC; ASIG	Western States Maintenance & Engineering	Gate 67	Spill - Fuel	Jet A	X < 3 Gallons	ASIG WAS INSTRUCTED TO CHANGE THE PILOT VALVE IN THE FUEL PIT WHICH THE FUELERS CLAIM IS THE CAUSE FOR THE SPILL. LFWTEC HAS BEEN INSTRUCTED TO REMOVE AND REPAIR FUEL TRUCK #LCC122 THAT ASIG CLAIMS IS THE CULPRIT.
2/23/2016	Swissport	Double Barrel (hired by Swissport)	Taxiway E11	Fire	Diesel, Oil, AFFF	30 Gallons	Re-training of driver.
2/25/2016	American Airlines	7/14/16: Emailed AA's Veronica Torres	7/14/16: Emailed AA's Veronica Torres	Spill - Oil	Hydraulic Oil	7/14/16: Emailed AA's Veronica Torres	Equipment removed to be repaired.
2/27/2016	American Airlines	American Airlines	Gate 48B	Spill - Fuel	Jet A	50 Gallons	American Airlines will implement a procedure change "to put handles in closed position after each fueling and to manually put it in open position". American Airlines will make their contractor, Swissport, read and sign the new procedures that Swissport is to implement.
3/9/2016		Uniserve	Gate 26	Spill - SSO	Sewage	1 Gallon	Truck removed from service to be repaired.
3/14/2016	Swissport	Swissport	Taxilane C2	Spill - Fuel	Jet A	30 Gallons	3/14/16 Emailed Veronica Torres. 6/29/16: No response from Torres as of today. Rafael Ortiz and Victor Roman of Swissport were emailed to complete this entry.
3/14/2016	ASIG	ASIG	Spot 943, Taxilane C1	Spill - Fuel	Jet A	10 Gallons	ASIG's David Aguilar: Customers asked to "change the fuel amounts allocated on the main and reserve tanks to prevent fuel expansion when the aircraft sits at the gate for several hours."
3/14/2016	Swissport	Swissport	AA Fuel Farm	Spill - Fuel	Red Dye Diesel	40 Gallons	Swissport to retrain employees.
3/14/2016	Swissport	Swissport	Gate 33A	Spill - Fuel	Jet A	2 Gallons	Equipment Removed.
3/16/2016	ASIG	ASIG, Western States	Gate 156	Spill - Fuel	Jet A	Approximately 75 gallons spilled. About 1 gallon entered the storm drain.	Replace broken cap, cap lanyard and any valve part that was damaged when they forced the moose head on to the valve. Employee fueling was suspended. Retraining will be performed.
3/16/2016	Swissport	Swissport	Gate 12A	Spill - Fuel	Jet A	X < 5 Gallons	Indicator to be fixed.
3/16/2016	LAX Fuel; ASIG	ASIG	Gate 156	Spill - Fuel	Jet A	20-22 Gallons	Equipment replaced. Employee re-trained.
3/21/2016	Unknown	LAWA Maintenance	Taxilane A2	Spill - Fuel	Jet A	2 Gallons	Unknown
3/27/2016	Swissport	Swissport; Uniserve; Western States Maintenance & Engineering	Gate 31B	Spill - Fuel	Jet A	10 - 18 Gallons	FUEL CART #63285 WAS TAGGED OUT OF SERVICE. LAXFUEL HAS BEEN ASKED TO INSPECT THE FUEL HYDRANT TO ENSURE IT IS NOT DAMAGED IN ANY WAY.
3/29/2016	Swissport	Swissport	Gate 49A	Spill - Fuel	Jet A	4 Gallons	6/29/16: Emailed Veronica Torres. Said it wasn't them. 6/30/16 Emailed Victor Roman and Rafael Ortiz of Swissport. Roman said he's in cargo and not involved in these issues.
3/31/2016	Swissport	Swissport	Gate 60	Spill - Fuel	Jet A	25 Gallons	According to Veronica, "AC Maintenance to check plane".
4/2/2016	Menzies	Western States Maintenance & Engineering	Atlantic FBO	Spill - Fuel	Jet A	10 Gallons	Retraining.
4/4/2016	American Airlines	American Airlines	7100 World Way West, inside Hangar	Spill - Oil	Hydraulic Fluid	20 Gallons	According to Veronica, "Research with Manager for further research".
4/10/2016	American Airlines	AirServ	Gate 48A	Spill - Fuel	Jet A	X < 1 Gallon	Retraining.
4/11/2016	Swissport	Swissport; Uniserve	Taxiway E15, abeam Gate 214	Spill - Oil	Hydraulic Fluid	1/2 Gallon	Equipment Removed
4/12/2016	Swissport	Uniserver	Service Roads E & S, Gate 130 to Gate 157	Spill - Oil	Hydraulic Fluid	7/18/16: Emailed Swissport's Richard Woodruff.	Equipment Removed
4/13/2016	American Airlines	American Airlines	Gate 46B	Spill - Fuel	Jet A	2-3 Gallons	Equipment Repaired
4/15/2016	Swissport	Swissport; Uniserv	Gate 123A	Spill - Oil	Hydraulic Fluid	7/18/16: Emailed Swissport's Richard Woodruff.	7/18/16: Emailed Swissport's Richard Woodruff.
4/17/2016	ASIG	ASIG	Gate 159	Spill - Fuel	Jet A	1 Gallon	Retraining
4/20/2016	Swissport	Swissport; Airserv	Gate 153	Spill - Fuel	Jet A	15 Gallons	Equipment Repaired: Clamp tightened.
4/21/2016	ASIG	ASIG	Gate 25	Spill - Fuel	Jet A	X < 5 Gallons	Retraining
4/22/2016	Swissport	Swissport; Western States Maintenance & Engineering	Gate 31A	Spill - Fuel	Jet A	10 Gallons	Per Swissport's Rafael Ortiz: 13 bags of absorbent used for cleaning surface.
4/25/2016	ASIG	ASIG	Gate 75A	Spill - Fuel	Jet A	6-8 Gallons	United aircraft maintenance was informed of the fuel migration on the aircraft (valves not closing all the way, allowing fuel into an undesired tank) that needs to be repaired.
4/27/2016	ASIG	ASIG	Gate 77	Spill - Fuel	Jet A	5 Gallons	United aircraft maintenance was informed of the failed VTO system on the left wing of the aircraft to be repaired.
4/29/2016	Unknown	Uniserve	Taxiway D	Spill - Oil	Oil	3-5 Gallons	Unknown
5/2/2016	Unknown	LAWA Maintenance	Post 4 (north of)	Spill - Oil	Oil	6/29/16: ASKED MATT ABOUT THIS	Equipment to be repaired.
5/4/2016	Swissport	American Airlines	Gate 62	Spill - Fuel	Jet A	5-7 Gallons	Retraining.
5/5/2016	Singapore Airlines Aircraft Maintenance	Virgin Australia; Singapore Airlines Maintenance	WAMA	Spill - Oil	Oil	5-10 Gallons	Equipment repaired.
5/6/2016	ASIG	ASIG	Gate 71B	Spill - Fuel	Jet A	< 20 Gallons	Per Monica Lu of United: Aircraft mechanics and flight crew reported issue for repairs.
5/10/2016	Southwest Airlines	Uniserve	Gate 14	Spill - Fuel	Jet A	8/3/16: Emailed Ops' Robert Daly.	8/3/16: Emailed Ops' Robert Daly.

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5/13/2016	ASIG	ASIG	Gate 131	Spill - Fuel	Jet A	35 Gallons <	Equipment removed from service.
5/17/2016	Atlantic Aviation	Atlantic Aviation	6411 Imperial	Spill - Fuel	Jet A	2 Gallons	Per Flores: "Spoke of the importance of spill prevention."
5/18/2016	ASIG	ASIG	Gate 75B	Spill - Fuel	Jet A	3 Gallons	Per Marron: United aircraft maintenance & flight crew reported bad valve for repairs.
5/19/2016	ASIG	ASIG	Gate 72	Spill - Fuel	Jet A	3 Gallons	Per Marron: United aircraft maintenance reported faulty VTO valve.
5/21/2016	LAX Fuel	Ocean Blue	LAX Fuel Farm South - NW corner of Imperial Highway & Douglas	Spill - Fuel	Jet A	40 Gallons Spilled, 5-10 Gallons into "containment basin"	Corrective Action for #1: (1) The pressure/ flow regulator was adjusted and tested to ensure that the regulator shuts down with pressures exceeding 140 psi. Preventative Measure for #1: (1) Atlantic Aviation's management will brief all operators, instructing them to verify fuel flow. (2) Fill stand pressure/flow regulators will be tested and adjusted on a quarterly basis. Corrective Action for #2: The tank's High/High shut down was adjusted and tested to ensure a proper shut down sequence. Preventative measures for #2: In the future, upon receiving the first stage high level alarm in our control center, our operations staff has been instructed to shut the system down remotely prior to responding to the fill stand.
5/23/2016	AeroUnion A300	LAWA Maintenance	Runway 24R/06L	Spill - Oil	Hydraulic Oil	Unknown	Equipment Repaired
5/26/2016	Swissport	Swissport	Terminal 1 & 2	Spill - Fuel	Jet A	3-4 Gallons	Equipment Replaced
5/27/2016	Polar Air	LAWA Maintenance; ASIG; UniServe	Runway 25L	Spill - Fuel	Jet A	40 Gallons	Per Everbridge Update: Repairs made to the Polar Air aircraft.
5/28/2016	LAWA	LAWA Maintenance	Service Road C until Service Road E	Spill - Oil	Oil	5 Gallons	Bus removed from service.
5/29/2016	Menzies	Atlantic Aviation	6411 Imperial	Spill - Fuel	Jet A	10 Gallons	Per Jose Magdaleno: Menzies equipment and fuel farm diesel loading rack were inspected and tested. No further issues observed. Atlantic Q.A. personnel will continue to spot check weekly.
6/2/2016	Southern Air	Southern Air	Taxiway C; West Imperial Terminal Spot B	Spill - Oil	Oil	1/4 Gallon	Equipment Repaired
6/17/2016	ASIG	ASIG	Gate 69B	Spill - Fuel	Jet A	25 Gallons	6/22/16 Voice msg for Guillermo Maron to submit spill form
6/22/2016	TAS	Swissport and TAS	Gate 31B	Spill - Fuel	Jet A	5 Gallons	Not Applicable
6/29/2016	American Airlines		49B	Spill - Fuel	Jet A	50 Gallons	Asked Veronica Torres for spill form on 6/29/17
6/29/2016	PCI, GCJV subcontractor	Coffman Specialties	7600 World Way West	Spill - SSO	Sewage	Unknown, X>5 Gallons	Primary contractor will meet with PCI in the field before any future wastewater pumping to"field verify" correct discharge point before pumping begins.
6/30/2016	Associated Concrete	LAWA Maintenance	Pershing	Spill - Concrete	Concrete	X > 5 Gallons	Unknown

Date	Tenant	Cleaned By	Location	Activity	Hazardous Material	Quantity	Actions Taken to Prevent Re-Occurrence
7/1/2016	Unknown Airline but mostl likely an aircraft.	Uniserve	Twy A & Twy F	Spill - Oil	Hydraulic Fluid	2-3 Gallons	Unknown
7/7/2016	PLH Fuel	ASIG; Uniserve	Spot 5, Imperial Cargo Complex	Spill - Fuel	Jet A	50 Gallons	ASIG's David Aguilar: "Vents"
7/8/2016	Allegiant Airlines	Allegiant	Gate 39	Spill - Fuel	Jet A	40 Gallons	Aircarft serviced.
7/9/2016	Swissport	Swissport	Gate	Spill - Fuel	Jet A	10 Gallons	Mechanical malfunciton fixed.
7/13/2016	American Airlines	AirServe; American Airlines	Gate 40	Spill - Fuel	Jet A	5 Gallons	7/13/16: Emailed Swissport's Rafael Ortiz.
7/13/2016	Volaris Flight #917	Uniserve	Gate 21B	Spill - Fuel	Jet A	15 Gallons	ASIG's Guillermo Marron: Aircraft maintenance was informed of the issue so the VTO system can be inspected and fixed.
7/18/2016	8/2/16: Emailed Ops Karen Snedden	LAWA Maintenance	Taxiway S, Gate 22	Spill - Oil	Hydraulic Fluid	X < 3 Gallons	Equipment Fixed
7/25/2016	Swissport	Uniserve	Gate 154	Spill - Coolant	Coolant	1 Gallon	Equipment Removed
7/28/2016	Asiana Airlines	PLH; LAWA Maintenance	Gate 213	Spill - Fuel	Jet A	3-4 Gallons	"OZ Maintenance sealed the valve to contain the leak."
7/31/2016	Hacor Catering Truck	Uniserve	Gate 159	Spill - Oil	Hydraulic Fluid	4 Gallons	8/18/16: Emailed Ops' Cary Sharaf for Hacor Catering info.
8/3/2016	Unknown	Uniserve	Gate 133	Spill - Oil	Hydraulic Fluid	1 Gallon	Not Applicable
8/8/2016	Menzies	Uniserve	Gate 134	Spill - Oil	Oil	1 Gallon	Equipment Removed
8/11/2016	ASIG	ASIG	FedEx Ramp, Spot 2	Spill - Fuel	Jet A	3-5 Gallons	Valve was closed.
8/13/2016	Menzies	Menzies; Uniserve	Gate 123A	Spill - Oil	Oil	10 Gallons	8/19/16: Emailed Menzies' Luis Madrigal.
8/14/2016	Delta Airlines	Delta Airlines; Airserve; Uniserve	Taxilance C9	Spill - Oil	Hydraulic Fluid	10 Gallons	Per Delta Airlines' Don Littlewood, "There is no way of knowing when something like this may happen. It was a failure of a component on the aircraft. You just have to be ready with your spill kit supplies which we were".
8/14/2016	Swissport	Uniserve	8/19/16: Emailed Ops Freund	Spill - Oil	Oil	8/19/16: Emailed Ops Freund	8/19/16: Emailed Swissport's Woodruff.
8/16/2016	Swissport	Swissport; Uniserve	Gate 33B	Spill - Fuel	Jet A	7 Gallons	Operator warned.
9/4/2016	American Airlines	American Airlines / Uniserve	Gate 42B	Fuel Spill	jet A	10	
9/6/2016	unknown	unknown	Taxiway B	Transmission Fluid Spill	Transmission Fluid	1/2 quart	
9/8/2016	United	United	Taxi lane C6	Fuel Spill	Jet A	5	
9/9/2016	American Airlines	American Airlines	Gate 46C	Fuel Spill	Jet A	25	
9/9/2016	Aerounion	Swissport	Taxi lane A1	Hydro Spill	hydraulic fluid	2	
9/14/2016	Air Canada	Swissport	Gate 26	Fuel Spill	Jet A	8	
9/14/2016	ASIG	John Rausch - ASIG	Terminal 8, Gate 83	Fuel Spill	Jet A	3 to 4	Hydrant cart removed from service and single point replaced
9/14/2016	FED EX	Yoshikatsu Goya	LAX Hanger area (FED EX)	Hydro Spill	Hydraulic Fluid for ground equipment	20	Inform employees for important of equipment pre trip inspection
9/16/2016	ASIG	Guillermo Marron	Terminal 7, Gate 77	Fuel Spill	Jet-A	5	Truck was removed from service to replace valve
9/19/2016	Southwest	LAWA Maintenance	Runway 25R	Hydro Spill	Hydraulic Fluid	unknown	
9/20/2016	American Airlines	American Airlines	Taxiway C between C-5 and C-7	Fuel Spill	Jet A	25	Unsure
9/24/2016	Air Fayre	Swissport, Jet Blue, Air Fayre	Gate 30	Hydro Spill	Hydraulic Fluid	2 to 3	
10/6/2016	Delta	Delta, Uniserve	C8 alley	Hydro Spill	Hydraulic Fluid	unknown small amount	
10/9/2016	Alaska	Alaska, Uniserve	Taxi lane A2	Lavatory Waste Spill	Lavatory Waste	5	
10/10/2016	Delta	Delta, Uniserve	Gate 159	Hydro Spill	Hydraulic Fluid	10	
10/10/2016	Quantas	unknown	Gate 123A	Oil Spill	oil	small amount (leak)	
10/15/2016	FED EX	Thomas Faye - FedEx	FEDEX Hanger	Fuel Spill	Jet-A	25	"investigation is ongoing"
10/16/2016	ATS TUG	ATS ans ASIG staff	Gate 24A	Hydro Spill	Hydraulic Fluid	5 to 8	
10/25/2016	ASIG/ Delta Airlines	ASIG	Terminal 5, gate 51B	Fuel Spill	Jet A	20	Aircraft maintenance is aware of faulty TO valve on aircraft
10/26/2016	swissport	Uniserve	Gate 131	Hydro Spill	hydraulic fluid	4 to 6	The loader was taken out of service
10/27/2016	United	The contractor working for United	Gate 81	Fuel Spill	Fuel	5	Unknown.
11/6/2016	Virgin America	Swissport	VX 169	Fuel Spill	Jet A	1 to 2	unknown
11/10/2016	American Airlines	MTC 38B	Service road C	unknown spill	unknown	unknown	unknown
11/10/2016	Southwest	Southwest, Swissport	Gate 9	Fuel Spill	Jet A	10 to 12	unknown
11/10/2016	United	United. ASI ASIG	Gate 70	Fuel Spill	Jet A	7	
11/16/2016	Delta	Delta, ASIG	Gate 55A	Fuel Spill	Jet A	10 to 20	unknown
11/19/2016	Air Berlin	ASIG, Uniserve	TBIT	Fuel Spill	Jet A	10	unknown
11/24/2016	American Airlines	Airserve	Gate 42B	Fuel Spill	Jet A	11	
11/30/2016	ASIG	ASIG	Taxiway C-1	Fuel Spill	Jet A	unknown	
11/30/2016	unknown	Uniserve	Intersection of Taxiways A/A7	Hydro Spill	Hydraulic Fluid	10	
12/9/2016	Eva Air	Swissport	not reported	Lavatory Waste Spill	Lavatory Waste	20 to 30	
12/9/2016	swissport	Swissport	Gate 123A	Hydro Spill	Hydraulic Fluid	"large"	
12/10/2016	Menzies	Menzies, MTCE 38	Gate 123AQ	Hydro Spill	Hydraulic Fluid	"a lot"	
12/12/2016	Swissport , Saudia	Swissport, GSE, Swissport, Uniserve	Gate 156	Hydro Spill	Hydraulic Fluid	unknown	
12/15/2016	American Airlines	American Airlines	not reported	Fuel Spill	Jet A	10 to 12	
12/16/2016	Swissport	Swissport	Gate 131	Hydro Spill	Hydraulic Fluid	unknown	

Date	Tenant	Cleaned By	Location	Activity	Hazardous Material	Quantity	Actions Taken to Prevent Re-Occurrence
1/2/2017	unknown	Uniserve	Remote Gate 209	Hydro Spill	Hydraulic Fluid	unknown (5x5 area)	
1/2/2017	swissport	Swissport	Gate 30	Fuel Spill	Jet A	<1	
1/4/2017	swissport	Swissport	Gate 157	Hydro Spill	Hydraulic Fluid	unknown	
1/5/2017	Turkish Air / Swissport	Quantas / Swisport	Gate 154	Hydro Spill	Hydraulic Fluid	unknown	
1/11/2017	CAS	CAS	TBIT	hydro spill	Hydraulic Fluid	Unknown	
1/17/2017	Southwest	Uniserve	Taxiway D	hydro spill	Hydraulic Fluid	7 to 10	
1/26/2017	Swissport	Uniserve	Gate 215	hydro spill	Hydraulic Fluid	10 to 15	
1/27/2017	CAS	Uniserve	Gate 134	hydro spill	Hydraulic Fluid	unknown "minor"	
1/30/2017	Swissport	Swissport	Terminal 2, Gate 21	Fuel Spill	Jet A	2 to 3	
2/13/2017	American Airlines	American Airlines	"by united air transformer"	fire extinguisher discharge	Fire Extinguisher Liquid and Powder	2.5 drums (about 137 gallons)	New procedures implemented for cleaning fire extinguishers
2/19/2017	Air Canada	Swissport, Uniserve	Gate 21B	Fuel Spill	Jet A	10 to 12	"Local MTC debriefed fuel agent and central MTC office"
2/21/2017			Gate 80	Fuel Spill			
2/25/2017	Swissport	Swissport	Gate 148	Hydro Spill	Hydraulic Fluid	unknown	Loader tagged and taken out of service
2/28/2017	AERO BRIDGEWORKS	Clark McCarthy	Gate 135	Hydro Spill	Hydraulic Fluid	3	
3/1/2017	Swissport	Uniserve	Gate 154	Hydro Spill	Likely Hydraulic Fluid	unknown	
3/5/2017	LSG Skychefs	MTCE	Gate 21	Hydro Spill	hydraulic fluid	5	
3/8/2017	swissport	swissport / uniserve	Gate 156	Hydro Spill	hydraulic fluid	5	The loader was taken out of service for repairs.
3/11/2017	Delta	Delta / Uniserve	Gate 57	Fuel Spill	Jet A	5 to 7	
3/11/2017	Delta	Delta / Uniserve	Gate 65A	Fuel Spill	Jet A	2	Delta aircraft mechanic and pilot are aware of the problem and said they would check the fuel migration issue.
3/14/2017	Delta	MTCE 38 and Uniserve	C9 Alley Way	Hydro Spill	Hydraulic Fluid	unknown	
3/18/2017	United	United	Gate 77	Fuel Spill	Jet A	5	
3/23/2017	American Airlines	?	Gate 50B	Fuel Spill	Jet A	5	
3/24/2017	unknown	Uniserve	Gate 68A	Hydro Spill	Hydraulic Fluid	less than 5	
4/4/2017			Gate 64	Fuel Spill	Jet A	7	
4/6/2017	Delta	"outside company"	65A	Fuel Spill	Jet A	5	Delta aircraft mechanic, flight crew and fuelers were made aware of the problem.
4/6/2017	United	"outside company"	Gate 71B	Fuel Spill	Jet A	15	Aircraft taken out of service to repair faulty valve to avoid more fuel spills.
4/10/2017	ASIG	ASIG	South Cargo Loading Rack	Fuel Spill	Jet A	577	Visual inspection. All similar gaskets within the ASIG tanker fleet will be inspected for crack/flaws and replaced if necessary.
4/10/2017	Swissport	MTCE	Gate 159	Oil Spill	Oil	unknown	
4/12/2017	unknown	Uniserve	Taxiway D10 and Taxiway S	Hydro Spill	Hydraulic Fluid	5	
4/21/2017	United		Gate 71B	Fuel Spill	Jet A	20	
4/30/2017	Swissport		Gate 42A	Fuel Spill	Jet A	5	
5/5/2017	Menzies		Gate 71B	Fuel Spill	Jet A	6	
5/7/2017	Atlantic Aviation	Atlantic Aviation	ICC #1	Fuel Spill	Jet A	10 (20 gallons according to OPS report)	Aircraft mechanics fixed problem with aircraft
5/10/2017		Asig	Gate 210	Fuel Spill	Jet A	1	
5/14/2017		MTCE 38	Gate 53B	Hydro Spill	Hydraulic Fluid	15	
5/15/2017	Virgin America	Swissport	Gate 65B	Fuel Spill	Jet A	10	
5/15/2017	Virgin Atlantic		Gate 25	Lavatory Spill	Lavatory Waste		
5/19/2017	Scandinavian Airlines	Swissport	Gate 155	Hydro Spill	oil	1	
5/21/2017	Southwest		Gate 11B	Fuel Spill	Jet A	25	
5/21/2017	Southwest	Uniserve	Gate 17B	Fuel Spill	Jet A	10	
5/21/2017	United		Gate 70A	Fuel Spill	Jet A	20	
5/22/2017	American Airlines	Swissport	Gate 42A	Fuel Spill	Jet A	10	
5/27/2017	American Airlines		Gate 50A	Fuel Spill	Jet A	10	
5/27/2017	Southwest	Swissport / Uniserve	Gate 139	Fuel Spill	Jet A	8	
5/29/2017	American Airlines	Swissport	Gate 53B	Fuel Spill	Jet A	8	
6/13/2017	Atlantic Aviation	Atlantic Aviation	ICC #4	Fuel Spill	Jet A	5	Aircraft mechanics fixed problem with aircraft

APPENDIX E

BMP Fact Sheets

LOS ANGELES WORLD AIRPORTS

SC1 ELIMINATION OF NON-STORM WATER DISCHARGES TO STORM DRAINS

PURPOSE:

Existing discharges*:* Eliminate non-storm water discharges to the storm water collection system. Non-storm water discharges can be classified as follows: 1) *Activity-based* (subtle), and 2) *Overt* (hard pipe connection). Activity-based non-storm water discharges may include: wash water, deicing fluids, and spillage. Overt non-storm water discharges may include: process wastewater, treated cooling water, and sanitary wastewater.

Prevention of illicit connections: Prevent improper physical connections to the storm drain system from sanitary sewers, floor drains, industrial process discharge lines, and wash racks through education, developing project approval conditions, and performing both construction phase and post-construction inspections.

GENERAL APPROACH:

Identification of Activity-Based (Subtle) Discharges:

The following techniques may be used to identify activity-based non-storm water discharges to the storm water collection system:

- Perform frequent activity inspections to identify non-storm water discharges - stagger inspection times to cover all work periods.
- Perform visual inspections of discharge points to the storm drain system - observe uncharacteristic volumes, colors, turbidity, odors, deposition, staining, floatables, and foaming characteristics of any flow.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Perform inspections during the design review and project construction phases to ensure drainage, wastewater, and water supply connections are correct (no cross connections or illicit hookups).
- Develop a set of as-built prints for all projects. Keep a set of the prints at the facility.
- Design projects to include adequate waste repositories at locations near waste origin points.
- Provide adequate and appropriately designed facilities for functions such as steam cleaning, degreasing, painting, mechanical maintenance, chemical/fuel storage and delivery, material handling, waste handling and storage, lavatory service, and food preparation.

TARGETED ACTIVITIES

All Maintenance
All Fueling
All Washing
Equipment Cleaning
Cargo Handling
All Storage
Painting/Stripping
Floor Washdowns
Aircraft Deicing/Anti-Icing
Garbage Collection
Aircraft Lavatory Service
Fire Fighting Equip. Testing
Potable Water System Flush
Runway Rubber Removal

TARGETED POLLUTANTS

Oil and Grease
Vehicle Fluids
Fuel
Solvents/Cleaning Sol.
Deicing/Anti-Icing Fluid
Battery Acid
Pesticides/Herbicides/ Fertilizers
Paint
Aircraft Fire Fighting Foam
Metals
Dumpster Wastes
Sediment
Landscape Waste
Floatables
Lavatory Chem. Wastes
Potable Water System Chemicals
Rubber Particles

KEY APPROACHES

Perform inspections and enforcement
Provide training for employees
Promote education of vendors/public

LOS ANGELES WORLD AIRPORTS

SC1 ELIMINATION OF NON-STORM WATER DISCHARGES TO STORM DRAIN

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

- Use "dry" cleaning and surface preparation techniques where feasible.
- Limit the availability of outdoor water supplies (hose bibs).
- Post signs at outdoor water sources stating the appropriate uses and discouraging uses which would introduce pollutants to the storm drain system/receiving waters.

Contingency Response

- Develop and implement a Spill Prevention Control and Countermeasure (SPCC) Plan, if required under guidelines set forth in 40 CFR, Section 112.3(a), (b).
- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.

Inspection and Training

- Inspect waste containers frequently for leaks and proper closure seal.
- Develop employee training programs which emphasize the proper disposal procedures for operations-derived wastes.
- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.

REQUIREMENTS:

- Capital and O&M costs associated with the elimination of non-storm water discharges can be high.

LIMITATIONS:

- Storm drain documentation for many facilities is not up-to-date.
- Activity-based (subtle) non-storm water discharges from a particular facility are typically sporadic, transient, and often require frequent inspections to detect.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 112 Oil Pollution Prevention (SPCC/OPA Plans)
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC2 AIRCRAFT, GROUND VEHICLE AND EQUIPMENT MAINTENANCE

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from aircraft, vehicle, and equipment maintenance and repair, including ground vehicle and equipment painting/stripping and floor washdowns.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Provide covered maintenance areas when designing new facilities or upgrading existing facilities. Utilize indoor areas, lean-tos, or portable covers.
- Locate outdoor maintenance areas so minimal quantities of runoff cross the site.
- Include appropriate storm water quality structures (oil/water separators, sumps, first flush diversion basins, etc. - see TC-1 for further information regarding treatment control BMPs) in the design of outdoor maintenance areas.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

Implement the following to the maximum extent practicable.

Good Housekeeping

- Use drip pans.
- Use absorbent materials at potential problem areas. Adequately collect/remove absorbent materials from area after use and dispose of them in an appropriate manner.
- Drain and crush oil filters (and oil containers) before recycling or disposal. Store crushed oil filters and empty lubricant containers in a leak-proof container - covered if outdoors.
- Label storm drain inlets to indicate they are to receive no wastes. Do not hose down work areas to the storm drainage system or use concrete cleaning products unless the storm drain inlet is blocked and wash water is collected and properly disposed of through a permitted sewer connection. As an alternative, use mops, dry sweeping compound, or contract professional cleaning services. Confirm the use of appropriate disposal practices by contract cleaning services.
- Drain and properly dispose of all fluids and remove batteries from salvage aircraft, vehicles, and equipment.

TARGETED ACTIVITIES

Aircraft Maintenance

Vehicle Maintenance

Equipment Maintenance

TARGETED POLLUTANTS

Oil and Grease

Vehicle Fluids

Solvents/Cleaning Solutions

Fuel

Battery Acid

Paint

KEY APPROACHES

Conduct maintenance indoors, or in covered area.

Prevent wash water discharges to the storm drain

Clean catch basins regularly

Collect and properly dispose of all fluids

LOS ANGELES WORLD AIRPORTS

SC2	AIRCRAFT, GROUND VEHICLE AND EQUIPMENT MAINTENANCE

Good Housekeeping, cont.

- Recycle or properly dispose of the following: greases, oils, antifreeze, brake fluid, cleaning solutions, hydraulic fluid, batteries, transmission fluid, and filters.
- Use biodegradable products and substitute materials with less hazardous properties where feasible.

Physical Site Usage

- Where feasible, move maintenance activities indoors or provide cover over work area.
- Use designated washing, steam cleaning, and degreasing areas to clean equipment.
- Store mechanical parts and equipment that may yield even small amounts of contaminants (e.g., oil or grease) under cover and away from drains.

Structural Controls

- Equip maintenance and cleaning areas with runoff controls that prevent discharge to storm sewers.
- Install and maintain catch basin filter inserts that assist in the removal of oil and grease, sediments and floatables.

Maintenance

- Maintain clean equipment by eliminating excessive amounts of external oil and grease buildup. Use water-based cleaning agents or non-chlorinated solvents to clean equipment.
- Regularly clean any catch basins that receive runoff from a maintenance area, especially after larger storms.
- Inspect, clean and maintain sump and oil/water separators, if necessary.

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.
- Furnish all maintenance vehicles with adequate supplies of spill response materials and appropriate spill response procedures.

Inspection and Testing

- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.
- Provide employee storm water quality awareness training.
- Develop regular maintenance and inspection programs for oil/water separators.
- Characterize wastes collected from oil/water separators. Provide appropriate employee training.

REQUIREMENTS:

- Capital and O&M costs should be low but will vary depending on the size of the facility. Costs associated with diversion basins can be high.
- Maintenance costs should be low.

LOS ANGELES WORLD AIRPORTS

SC2	AIRCRAFT, GROUND VEHICLE AND EQUIPMENT MAINTENANCE

LIMITATIONS:

- Size, space and time limitations may preclude all work being performed indoors.
- Identification of engine and equipment leakage points may require the use of solvents or other cleaners to remove external accumulations of oily grime.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC3 AIRCRAFT, GROUND VEHICLE, AND EQUIPMENT FUELING

PURPOSE:

Prevent fuel spills and leaks, and reduce their impacts to storm water.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Design fueling areas to prevent the run-on of storm water and the runoff of spills by employing the following approaches:
  - Cover the fueling area if possible.
  - Use a perimeter drain or slope the fueling area to a dead-end sump or oil/water separator.
  - Pave the fueling area with concrete rather than asphalt.
- If storm water runoff from fueling areas is not collected, install an appropriately sized oil/water separator. Regulatory agency approvals are required.
- Install and maintain vapor recovery systems where required and/or appropriate.
- Existing underground fuel storage tanks should be upgraded with leak detection, spill containment, and overfill protection in advance of December 22, 1998, the federal regulatory deadline. This is relevant to storm water regulations due to the potential for contamination of surface soils or waters that could be transported by storm water runoff.
- Design facilities to include secondary containment where required and/or appropriate.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

Implement the following to the maximum extent practicable.

Good Housekeeping

- Fuel pumps intended for vehicular use (not aircraft) should be posted with signs stating "No Topping Off" to prevent overflow.
- Use absorbent materials and spot cleaning for small spills; do not hose down the area unless the storm drain is blocked and drainage is collected by vacuum truck and disposed of through a permitted connection to the sanitary sewer.
- Properly dispose of any fuel spills and leaks. Vacuum equipment/trucks are recommended for collection. Always dispose of materials in an approved manner; use an approved treatment facility through a permitted connection. Never discharge materials to a catch basin or storm drain.

TARGETED ACTIVITIES

Aircraft Fueling

Vehicle Fueling

Equipment Fueling

TARGETED POLLUTANTS

Fuel

KEY APPROACHES

Install berms or curbing around fueling areas

Use absorbent materials and/or vacuum equipment for spills

Install proper equipment for fuel dispensing and tank monitoring to prevent spills, leaks and overflows

SC3 AIRCRAFT, GROUND VEHICLE AND EQUIPMENT FUELING

Good Housekeeping (contd.)
- Use pigs/mats over catch basins during fueling activity.
- Manage the disposal of water that collects in fuel tanks and fueling hydrant sumps according to state and federal regulations.

Physical Site Usage
- Avoid mobile fueling of equipment wherever feasible; fuel equipment at designated fueling areas.

Structural Controls
- Cover the fueling area if possible.
- Divert storm water runoff away from fueling area to avoid storm water contact with contaminated surfaces through the use of berms or curbing.
- Install gate valves at catch basins for use during fueling activity.
- Employ secondary containment or cover when transferring fuel from a tank truck to a fuel tank.

Equipment
- Provide appropriate monitoring for tanks containing fuel, such as:
  - Level indicators and gauges.
  - Overfill protection with alarms.
  - Interstitial leak detection for double-walled tanks.
  - Routine inspection/lockout for drainage valves for tank containment areas.
- Fuel dispensing equipment should be equipped with "breakaway" hose connections that will provide emergency shutdown of flow should the fueling connection be broken through movement.
- Automatic shut-off mechanisms should be in place on fuel tankers. These valves should remain in the closed position unless manually opened during fueling.

Maintenance
- Inspect, clean and maintain sumps and oil/water separators at appropriate intervals.

Contingency Response
- Develop and implement a Spill Prevention Control and Countermeasure (SPCC) Plan if required under guidelines set forth in 40 CFR, Sections 112.3(a), (b).
- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.
- Furnish adequate spill response information, equipment and materials on all fueling vehicles.

Inspection and Training
- Inspect fueling areas and storage tanks regularly. Record all maintenance activities and inspections relating to fueling equipment and containers in a logbook.
- Underground fuel storage tanks should be tested as required by federal and state laws. Provide the appropriate level of spill response training to personnel to address all types of potential spills.

LOS ANGELES WORLD AIRPORTS

SC3 AIRCRAFT, GROUND VEHICLE, AND EQUIPMENT FUELING

REQUIREMENTS:

- The cost of retrofitting existing fueling areas to minimize storm water contamination can be high. Practical design concepts such as incorporating extruded curb along the upstream side of facilities to prevent run-on of storm water can be of modest cost.

LIMITATIONS:

- Properly sized and installed oil/water separators must be regularly maintained to be effective (see TC-1 for a description of management practices relating to oil/water separator operations and maintenance).

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 112 Oil Pollution Prevention (SPCC OPA/Plans)
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm Water Discharge
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC4 AIRCRAFT, GROUND VEHICLE AND EQUIPMENT WASHING

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water drains from aircraft, vehicle, and equipment washing, and equipment degreasing.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Consider off-site commercial washing where feasible. Using appropriate off-site facilities will decrease the waste generated on-site.
- Consider incorporating a wash water recycling system into the project design.
- Outdoor washing operations should have the following design characteristics:
  - Paved with Portland cement concrete.
  - Bermed and/or covered (if feasible) to prevent contact with storm water.
  - Sloped to facilitate wash water collection.
  - Wash water should be collected in a dead-end sump for removal or discharged to the sanitary sewer through a permitted connection.
  - Discharge piping serving uncovered wash areas should have a positive shut-off control valve that allows switching between the storm drain and the sanitary sewer.
  - Clearly designated.
  - Equipped with an oil/water separator designed to operate under storm water runoff conditions (treat storm water volumes and flow rates). Regulatory agency approvals are required.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

Implement the following to the maximum extent practicable.

Good Housekeeping

- Use "dry" washing and surface preparation techniques where feasible. Several products are presently marketed which are being used to clean even the largest aircraft. Remove all materials (i.e., drippings and residue) using vacuum methods. Dispose of properly.
- Provide secondary containment for containers of washing and steam cleaning additives.
- Use pigs/mats to cover catch basins during wash activity.
- Use biodegradable phosphate-free detergents.
- Keep washing area clean and free of waste.
- Include proper signage to prohibit the discharge of waste oils into the drains.
- Collect and discharge wash water to an approved treatment facility (sanitary sewer system) through a permitted connection.

TARGETED ACTIVITIES

Aircraft Washing

Vehicle Washing

Equipment Washing

Equipment Degreasing

TARGETED POLLUTANTS

Oil and Grease

Solvents

Vehicle Fluids

Cleaning Solutions

KEY APPROACHES

Use designated area

Use dry washing techniques

Recycle wash water or discharge appropriately

Cover catch basins

Provide training

LOS ANGELES WORLD AIRPORTS

SC4 AIRCRAFT, GROUND VEHICLE AND EQUIPMENT WASHING

Physical Site Usage

- Consider off-site commercial washing and steam cleaning where feasible. Using appropriate off-site facilities will decrease the waste generated on-site.
- Use designated wash areas indoors, or outdoors covered and bermed where feasible, to prevent contamination of storm water by contact with wastes.

Structural Controls

- Install gate valves at catch basins for use during washing activities to facilitate the collection of the wash water and prevent discharge to the storm drainage system.
- Filter and recycle wash water where practical.

Maintenance

- Conduct berm repair and patching.
- Inspect, clean, and maintain sumps, oil/water separators, and on-site treatment and recycling units.

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.

Inspection and Training

- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.
- Develop regular maintenance and inspection programs for oil/water separators.
- Characterize wastes derived from oil/water separators. Provide appropriate employee training.

REQUIREMENTS:

- Capital costs vary depending on measures implemented.
  - LOW COST: $500-1,000 for berm construction.
  - MEDIUM COST: $5,000-20,000 for plumbing modifications (including re-routing discharge to the sanitary sewer and installing a simple sump).
  - HIGH COST: $30,000-150,000 for on-site treatment and recycling.
- O&M costs increase with increasing capital investment.

LIMITATIONS:

- Some wastewater agencies may require pretreatment and monitoring of wash water discharges to the sanitary sewer.
- Steam cleaning and de-greasing operations can generate significant pollutant concentrations which may require permitting, monitoring, pretreatment, and inspections. These compliance issues will vary according to local agency jurisdiction.

LOS ANGELES WORLD AIRPORTS	
SC4	**AIRCRAFT, GROUND VEHICLE AND EQUIPMENT WASHING**

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC5 AIRCRAFT DEICING/ANTI-ICING

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from aircraft deicing and anti-icing procedures.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- When designing or modifying operating areas, consider the following characteristics:
  - Paved with Portland cement concrete.
  - Sloped to facilitate fluid collection.
  - Fluids could be collected in a dead-end sump for removal or discharged to the sanitary sewer through a permitted connection (check with local wastewater agency).
  - Clearly designated.
  - Equipped with an oil/water separator.
- Consider incorporating a closed loop recycling system into the design of deicing/anti-icing stations.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

- Perform anti-icing and deicing operations only in areas designated by LAWA as appropriate for such activities.
- Depending on conditions, apply only enough fluid to surfaces to ensure the safe operation of the aircraft. Excess fluid dripped to the ground contaminates soil and water if not properly contained.
- Clean ramp areas following deicing/anti-icing operations. Wet-type sweepers are effective in removing deicing fluids from paved areas. Dispose of or recycle the fluids in accordance with local, state, and federal regulations.
- Implement forthcoming recommendations of the FAA technical committee on deicing.
- Inspect, clean and maintain sumps and oil/water separators.

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.

Inspection and Training

- Monitor deicing and anti-icing operations regularly to ensure quantities of fluids used are at a minimum while not jeopardizing aircraft safety.
- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.

TARGETED ACTIVITIES

Aircraft Deicing

Aircraft Anti-Icing

TARGETED POLLUTANTS

Ethylene glycol

Propylene glycol

KEY APPROACHES

Perform in designated areas only

Apply only required amounts of fluid

Clean ramp area when done

Implement forthcoming recommendations of FAA

LOS ANGELES WORLD AIRPORTS	
SC5	**AIRCRAFT DEICING/ANTI-ICING**

REQUIREMENTS:

- Costs associated with the collection and proper disposal of anti-icing fluids can be high.

LIMITATIONS:

- Wastewater agencies may ban conventional anti-icing chemicals, such as ethylene glycol, from the sanitary sewer system or may require extensive pretreatment and monitoring of deicing and anti-icing fluid discharges to the sanitary sewer.

RELEVANT REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC6 OUTDOOR MATERIAL HANDLING

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from loading and unloading of material and cargo.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Design loading/unloading areas to prevent storm water run-on through the use of the following practices:
  - Grading or berming.
  - Positioning roof downspout to direct storm water away from loading/ unloading areas.
- Design facilities so that materials which may contribute pollutants to storm water may be stored indoors or under cover.
- Incorporate oil/water separators into exposed loading dock designs.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

Good Housekeeping

- Use seals or door skirts between vehicles and structures to prevent material exposure to rainfall.
- Contain and adsorb leaks during transfers and spillage from hose disconnections; dispose of residue properly.
- Avoid transferring materials in close proximity to storm drain inlets.
- Use drip pans under hoses.
- Transfer liquids only in paved areas. Portland cement paving should be used if the liquid is asphalt reactive.
- Provide contractors and haulers with copies of pertinent BMPs. Require contractors/haulers adherence to BMP specifications.
- Consider contracting maintenance operations for material handling equipment. Designate an appropriate area for contractors to perform maintenance activities. Verify proper waste disposal practices of contractors.

Physical Site Usage

- Protect all loading/unloading activities from rainfall, run-on and wind dispersal to the maximum extent practicable. Viable options include conducting loading/unloading under existing cover, or moving indoors.
- Position tank trucks or delivery vehicles so that possible spills or leaks can be contained.

TARGETED ACTIVITIES

Cargo Handling

Fuel Storage

Chemical Storage

Equipment Storage

TARGETED POLLUTANTS

Fuel

Pesticides/ Herbicides/ Fertilizers

Oil and Grease

Solvents/Cleaning Solutions

Battery Acid

KEY APPROACHES

Conduct loading/ unloading under cover

Transfer materials in paved areas, away from storm drain inlets

Contain and absorb leaks/spills that occur during material transfer

LOS ANGELES WORLD AIRPORTS

SC6	OUTDOOR MATERIAL HANDLING

Structural Controls

- Cover loading/unloading areas/docks to reduce exposure of materials to rain. Construct roofing structure over material handling area, or move indoors.
- Consider relocating storm drain inlets in areas away from fuel hydrants.

Maintenance

- Conduct berm repair and patching.
- Inspect, clean and maintain oil/water separators.

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.
- Include spill kits on appropriate material handling vehicles and equipment.

Inspection and Training

- Conduct regular inspections and make repairs as necessary.
- Check loading/unloading equipment (valves, pumps, flanges, and connections) regularly for leaks.
- Develop and implement a written operations plan which describes loading/unloading procedures.
- Provide proper training for material handling equipment operators.
- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.

REQUIREMENTS:

- Capital and O&M costs should be low except when covering large loading/unloading areas.

LIMITATIONS:

- Space and time limitations may preclude the indoor or covered transfer of cargo and materials.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 112 Oil Pollution Prevention (SPCC/OPA Plans)
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm water Discharges

LOS ANGELES WORLD AIRPORTS

SC7 OUTDOOR STORAGE OF SIGNIFICANT MATERIAL

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from outdoor storage areas for significant material (e.g., fuels, chemicals, bagged material on pallets, soils or asphalt material bulk storage, deicing compounds, etc.).

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Require the use of appropriate water quality control structures for fuel and chemical storage areas such as detention/retention basins and sumps. Develop appropriate minimum performance standards for these water quality control structures and implement a reporting program to monitor the performance and maintenance of these structures.
- Chemical, fuel, and oil dispensing (non-aircraft) areas should be covered, if possible.
- Develop standard guidelines for the management of storm water which collects in secondary containment areas.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

Good Housekeeping

- Avoid dispensing from drums positioned horizontally in cradles. Dispensing materials from upright drums equipped with hand pumps is preferred. Always use drip pans and self closing spigots if dispensing from horizontally positioned drums.
- Store drums and containers on pallets or other structures to keep the container out of contact with storm water.
- Use drum lids to prevent rainfall from washing materials and drippage from the top of containers to the storm drain system.
- Discharge collected storm water from secondary containment areas according to guidelines developed by the federal government and applicable state and local regulations.
- Store all materials in their original containers or containers approved for that use. Ensure that all containers are appropriately sealed. Store empty containers indoors or under cover or move them off-site.

TARGETED ACTIVITIES

Aircraft/Vehicle/ Equipment Maintenance

Aircraft/Vehicle Fueling

Fuel/Chemical/ Equipment Storage

Cargo Handling

TARGETED POLLUTANTS

Fuel

Solvents/Cleaning Solutions

Deicing/Anti-Icing Fluids

KEY APPROACHES

Store materials indoors or under cover

Store drums/ containers on pallets

Provide berming or secondary containment

Develop/implement an SPCC, if required

Perform and document periodic inspections

LOS ANGELES WORLD AIRPORTS

SC7 OUTDOOR STORAGE OF SIGNIFICANT MATERIAL

REQUIREMENTS:

- Capital and O&M costs will vary widely depending on the size of the facility and the necessary controls. Costs associated with on-site detention/retention facilities could be high.

LIMITATIONS:

- Storage structures must meet local building and applicable local Uniform Fire Code (UFC) requirements. However, spills and releases are frequently caused by improper handling rather than structural deficiencies.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 112 Oil Pollution Prevention (SPCC/OPA Plans)
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC8 WASTE/GARBAGE HANDLING AND DISPOSAL

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from waste handling and disposal by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction, re-use, and recycling; and preventing run-on and runoff from waste management areas, including garbage collection areas.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- If possible, avoid the following characteristics when examining candidate sites for storing wastes:
  - Excessive slope.
  - High water table.
  - Locations near storm drain inlets.
  - Locations near public access areas.
- Waste handling and storage areas should be covered, if possible.
- Develop standard guidelines for the management of storm water which collects in secondary containment areas.
- Incorporate sanitary sewer drains into bermed, outdoor, non-hazardous waste storage areas, if approved by the local wastewater treatment agencies/regulations.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

Good Housekeeping

- Perform regular housekeeping activities in waste storage areas and surroundings.
- Recycle materials whenever possible.
- Inspect waste management areas for spills and waste management containers for leaks.
- Ensure that sediments and wastes are prevented from being washed, leached, or otherwise carried off-site.

TARGETED ACTIVITIES

Fuel/Chemical Storage

Painting/Stripping

Garbage Collection

TARGETED POLLUTANTS

Oil and Grease

Vehicle Fluids

Solvents/Cleaning Solutions

Dumpster Wastes

KEY APPROACHES

Cover waste storage areas

Recycle materials

Regularly inspect and clean waste storage areas

Berm waste storage areas to prevent contact with run-on or runoff

Perform dumpster cleaning in designated areas

Properly dispose of all fluids

SC8 WASTE/GARBAGE HANDLING AND DISPOSAL

Good Housekeeping (contd)

- Schedule waste pickup as frequently as necessary to keep storage of waste to a minimum and to avoid overloaded/overfilled disposal containers.
- Minimize spills and fugitive losses such as dust or mist from loading areas.
- Maintain a minimal inventory of required chemicals to reduce the magnitude of potential spills and limit waste generation.
- Track waste generated:
  - Characterize waste streams.
  - Evaluate the process generating the waste.
  - Prioritize the waste streams using: manifests, bills of lading, biennial reports, permits, environmental audits, SARA Title III reports, emission reports, Material Safety Data Sheets (MSDS), NPDES discharge monitoring reports.
  - Inventory reports.
  - Data on chemical spills.
  - Emissions.
- Find substitutes for harmful chemicals; properly dispose of unusable chemical inventory.

Physical Site Usage

- Segregate and separate wastes.
- Avoid locating waste handling and storage in areas with storm drain inlets/catch basins.
- Locate waste storage areas beneath existing cover, if possible.

Structural Controls

- Enclose or berm waste storage areas, if possible, to prevent contact with run-on or runoff.

Garbage Collection Areas

- Design facilities to provide shelter and secondary containment for dumpsters.
- Use covered dumpsters and keep them closed and locked.
- Use only dumpsters with plugged drain holes to prevent leaks from waste materials.
- Do not dispose of liquid wastes such as oils or hazardous materials into dumpsters.
- Perform dumpster cleaning in designated areas that are bermed to contain wash water for a subsequent disposal or discharge to the sanitary sewer. Ramp scrubbers are effective in removing wash water from paved areas. Dispose of or recycle all fluids collected.

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.
- Equip waste transport vehicles with spill containment equipment.

LOS ANGELES WORLD AIRPORTS

SC8	WASTE/GARBAGE HANDLING AND DISPOSAL

Inspection and Training

- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.
- Perform and document in a log book periodic inspections of hazardous and non-hazardous waste storage areas. Inspection items should include the following:
  - Check for external corrosion and structural failure.
  - Check for spills and overfills due to operator failure.
  - Check for failure of piping system (pipes, pumps, flanges, couplings, hoses, and valves).
  - Check for leaks or spills during pumping of liquids or gases.
  - Visually inspect new tanks or containers for loose fittings, poor welds, and improper or poorly fitted gaskets.
  - Inspect tank foundations and storage area coatings.
  - Inspect dumpster areas for signs of leakage.

REQUIREMENTS:

- Capital and O&M costs for these programs will vary substantially depending on the size of the facility and the types of wastes handled.

LIMITATIONS:

- Hazardous waste that cannot be re-used or recycled must be disposed of by a licensed hazardous waste hauler.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 112 Oil Pollution Prevention (SPCC/OPA Plans)
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC9 BUILDING AND GROUNDS MAINTENANCE

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from building and grounds maintenance by washing and cleaning up with as little water as possible, preventing and cleaning up spills immediately, keeping debris from entering storm drains, and maintaining the storm water collection system.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Incorporate areas of landscape into project design. Landscape areas are pervious and will result in less runoff discharge from a site.
- Incorporate design considerations such as leaving or planting native vegetation to reduce irrigation, fertilizer, and pesticide needs.
- Select landscaping plants which require little maintenance and/or pest control.
- Incorporate storm water detention/retention to reduce peak runoff flows and for water quality control.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

Good Housekeeping

- Collect outdoor washdown water and properly dispose of it through a permitted connection to the sanitary sewer. Approval from treatment facility required for discharge.
- Clean any catch basins that receive runoff from maintenance areas on a regular basis. Use a vacuum truck to remove accumulated materials. Do not simply flush wastes into the storm drain system.
- Minimize use of pesticides, herbicides, and fertilizers. Use according to directions. Seek less harmful/toxic products to replace ones currently used.
- Utilize integrated pest management where appropriate.
- Properly dispose of landscape waste, wash water, sweepings, and sediments.
- Regularly clean paved surfaces that are exposed to industrial activity. Use A “dry” cleaning techniques, such as sweeping, whenever possible.

TARGETED ACTIVITIES

Building Maintenance

Grounds Maintenance

TARGETED POLLUTANTS

Pesticides/Herbicides/ Fertilizers

Oil and Grease

Sediment

Landscape Waste

KEY APPROACHES

Keep paved surfaces cleaned and swept

Clean catch basins regularly using vacuum trucks

Manage use of pesticides/herbicides/ fertilizers

LOS ANGELES WORLD AIRPORTS

SC9	BUILDING AND GROUNDS MAINTENANCE

Structural Controls
- Provide landscaped areas where erosion is becoming a problem.

Contingency Response
- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may occur.

Inspection and Training
- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.

REQUIREMENTS:

- Costs will vary depending on the type and size of the facility. Costs of on-site storm water detention/retention facility could be high.

LIMITATIONS:

- Alternative pest/weed controls may not be available, suitable, or effective in every case.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substances
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC10 STORM WATER POLLUTION PREVENTION EDUCATION

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from activities through implementing an education program targeting employees, vendors, and the public.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Work early on with design and construction engineers, and local storm water authorities to incorporate proactive storm water management features into projects such as decreased impervious areas, infiltration BMPs, biofilters, oil/water separators, etc.
- Inform all construction contractors of their responsibility to comply with adopted BMPs and with regulations prohibiting cross connections between sanitary sewers and storm drains. Provide contractors and subcontractors with copies of relevant BMPs during specification and bidding phases.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Contingency Response

- Provide adequate implementation training for facilities with a Spill Prevention Control and Countermeasure (SPCC) Plan, if required developed under guidelines set forth in 40 CFR, Section 112.3(a), (b).
- Adequately train employees in the use of spill response equipment and materials.

Inspection and Training

- Perform and document in a logbook frequent inspections of work areas, waste storage facilities, maintenance areas, and contractor projects to examine compliance with BMPs. Follow up with additional training or enforcement as required. Incorporate inspection findings into subsequent training efforts.

- Design storm water pollution education programs to contain the following elements:
  - Promote the proper storage, use, and disposal of landscape maintenance chemicals and other potentially harmful chemicals.
  - Promote the use of safer alternative products such as: short-lived pesticides, non-chlorinated solvents, water-based paints, non-aerosol products.
  - Encourage the use of "dry" washing processes for aircraft, vehicles, and equipment.

TARGETED ACTIVITIES

All Maintenance
All Fueling
All Washing
Equipment Cleaning
Cargo Handling
All Storage
Painting/Stripping
Floor Washdowns
Aircraft Deicing/Anti-Icing
Garbage Collection
Aircraft Lavatory Service
Fire Fighting Equip. Testing
Potable Water System Flush.
Runway Rubber Removal

TARGETED POLLUTANTS

Oil and Grease
Vehicle Fluids
Fuel
Solvents/Cleaning Sol.
Deicing/Anti-Icing Fluid
Battery Acid
Pesticides/Herbicides/ Fertilizers
Paint
Aircraft Fire Fighting Foam
Metals
Dumpster Wastes
Sediment
Landscape Waste
Floatables
Lavatory Chem. Wastes
Potable Water System Chemicals
Rubber Particles

KEY APPROACHES

Perform inspections and enforcement
Provide training for employees
Promote education of vendors/public

SC 10 STORM WATER POLLUTION PREVENTION EDUCATION

Inspection and Training (contd)

- Design storm water pollution education programs to contain the following elements:
  - Encourage efficient and safe housekeeping practices in industrial activity areas.
  - Increase awareness of the detrimental environmental impacts that result when fuel, antifreeze, pesticides, lubricants, detergents, paints and other wastes are dumped onto the ground or into storm drains.
  - Promote source reduction and recycling of waste materials.
  - Increase awareness of possible penalties and fines associated with discharge of pollutants into storm drains.
  - Increase awareness of what is and what is not allowed to enter storm drains. Provide a mechanism for violations to be reported.

REQUIREMENTS:

- Capital and O&M costs are minimal for educational programs.
- Educational programs need to be ongoing. Information and training must be disseminated at regular intervals.

LIMITATIONS:

- The success of educational programs is difficult to measure. Acceptance and awareness are critical factors.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 112 Oil Pollution Prevention (SPCC/OPA Plans)
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC11 LAVATORY SERVICE OPERATIONS

PURPOSE:

Eliminate discharges to the storm drain system associated with ground servicing of aircraft lavatory facilities. The sanitary sewage and associated rinse waters produced during the servicing of aircraft lavatory facilities must be discharged to a wastewater treatment facility under appropriate permitting. Trucks or trailers equipped with bulk storage tanks are typically used to service lavatory facilities. Non-storm water discharges and residuals associated with servicing these facilities can be classified as follows:

- Discharges and residuals associated with diluting and mixing the surfactants and disinfectants used for servicing lavatory facilities.
- Discharges and residuals associated with transferring materials from the aircraft.
- Discharges and residuals associated with transporting and disposing materials to the sanitary sewer system.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- If possible, design triturator facilities to be covered, with low roll-over type berming.
- Include a source of water at the triturator for clean up of lavatory service equipment.
- Coordinate permitting of the triturator sanitary sewer connection through the local storm water and sanitary sewering agencies.
- Triturator facilities should not be located near storm drains.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

- Do not discharge lavatory waste to sanitary sewer connections other than triturator facilities. Other industrial-type connections may be equipped with bypass gates which, if improperly maintained or defective, may discharge to the storm water collection system.
- Drain the aircraft connecting hose as completely as possible into the storage tank after servicing an aircraft. Properly secure all hoses, valves, and equipment when transporting waste to eliminate leakage and spills.
- Use only surfactants and disinfectants approved for discharge to the sanitary sewer system. Do not discharge or rinse other unapproved chemicals or materials into the triturator facility. Any change in the chemicals used in aircraft lavatory service operations must be approved by LAWA.

TARGETED ACTIVITIES

Aircraft Lavatory Service

Lavatory Truck Cleanout/ Backflushing

TARGETED POLLUTANTS

Lavatory Chemicals

Lavatory Waste

Lavatory Truck Wash Water

KEY APPROACHES

Do not discharge lavatory waste to sanitary sewer connections other than triturator facilities

Utilize buckets or pans to capture drippage from aircraft lavatory access fittings

Do not perform lavatory truck cleanout/backflushing at any location other than triturator facilities

Carry absorbent and other containment equipment on the lavatory service equipment

SC11 LAVATORY SERVICE OPERATIONS

Operational Considerations (contd)

- If possible, perform surfactant/disinfectant mixing and transfers in the triturator area or under cover. This will allow the rinsing of minor spills and splashes to enter the sanitary sewer system.
- Do not perform lavatory truck cleanout/back flushing at any location other than triturator facilities.
- Utilize buckets or pans to capture drippage from aircraft lavatory access fittings. Immediately dump the drippage into the bulk storage tank on the service cart or truck.
- Carefully handle chemicals and chemical concentrates. Immediately collect dry chemicals or absorb liquid chemicals for proper disposal. Do not hose down spills unless the discharge enters the sanitary sewer system through a permitted connection (triturator facility).
- Practice good housekeeping techniques at the triturator facility. Immediately clean spills of wastes and chemicals.

Contingency Response

- Carry absorbent and other containment equipment on the lavatory service equipment.
- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.

Inspection and Training

- Perform regular inspections of the hose and fittings used for transferring lavatory waste. Keep the equipment in good working order. Replace worn equipment before leaks develop. Notify appropriate ground service personnel if it is noticed that the aircraft lavatory fittings require maintenance.
- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.

REQUIREMENTS:

- Costs associated with the elimination of discharges resulting from aircraft lavatory servicing are generally low. Most management practices are based on careful material handling, good housekeeping, and awareness of maintenance requirements.

LIMITATIONS:

- Facilities may have a limited number of permitted sanitary sewer access points (triturator facilities) for a large quantity of lavatory service equipment.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC12 OUTDOOR WASHDOWN/SWEEPING

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water from outdoor washdown and sweeping operations.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Consider contracting apron washing/sweeping services. Using appropriate contractors will decrease waste handling responsibilities. Inform contractors of their responsibilities regarding proper disposal of sweeper and scrubber waste. Supply contractors with pertinent BMPs and operating specifications. Follow up with contractor inspections frequently.
- Incorporate appropriate waste receiving facilities for sweepers and washing equipment. Coordinate sanitary sewer connection permitting through the local sanitary sewering agency.
- Incorporate oil/water separators or other water quality devices into project designs.
- Consider incorporating gate valves in areas where apron washing will occur. The gate valves will direct wash water to the sanitary sewer in dry weather and will direct storm water to the storm drain system during wet weather. Mechanical devices should be incorporated to ensure that valves are not left open (to sanitary sewer) during wet weather. Coordinate permitting and connections through the local sanitary sewering agency.
- Employ berms to minimize run-on to other areas.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

- Collect and discharge wash water to the sanitary sewer system through a permitted connection.
- Use designated and approved discharge facilities to dispose of waste derived from apron/ramp cleaning.
- Use "dry" sweeping techniques where feasible.
- Dispose of sweepings in an appropriate manner.
- Conduct berm repair and patching.
- Inspect, clean and maintain sumps and oil/water separators.

TARGETED ACTIVITIES

Apron Washing

Ramp Scrubbing

Outdoor Washdown

TARGETED POLLUTANTS

Oil and Grease

Solvents/Cleaning Solutions

Fuel

Aircraft Fire Fighting Foam

Deicing/Anti-Icing Fluids

Sediment

Floatables

KEY APPROACHES

Collect and discharge wash water to the sewer

Use "dry" sweeping techniques

Dispose of sweepings

LOS ANGELES WORLD AIRPORTS

SC12	OUTDOOR WASHDOWN/SWEEPING

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible locations near areas where spills may be likely to occur.

Inspection and Training

- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.
- Develop regular maintenance and inspection programs for oil/water separators. Document inspections and maintenance in a log book.
- Characterize wastes derived from oil/water separators. Dispose of these wastes properly and provide appropriate employee training.

REQUIREMENTS:

- Capital costs vary depending on measures implemented.
  - LOW COST: $500-1,000 for berm construction.
  - MEDIUM COST: $5,000-20,000 for plumbing modification (including re-routing discharge to the sanitary sewer and installing a simple sump).
- O&M costs increase with increasing capital investment:

LIMITATIONS:

- Some wastewater agencies may require pretreatment and monitoring of wash water discharges derived from apron washing to the sanitary sewer.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC13 FIRE FIGHTING FOAM DISCHARGE

PURPOSE:

Eliminate discharges to the storm drain system associated with flushing or testing of fire fighting foam systems.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Design testing facility with the following characteristics:
  - Located away from storm drain inlets, drainage facilities or water bodies.
  - Paved with concrete or asphalt, or stabilized with an aggregate base.
  - Bermed to contain foam and to prevent run-on.
  - Configure discharge area with a sump to allow collection and disposal of foam.
- Discharge foam waste to a sanitary sewer. Foam waste shall not be discharged to storm drains or water bodies.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

- Perform fire fighting foam testing operations only in areas designated by LAWA as appropriate for such activities.
- Properly dispose of, or recycle, foam discharge.
- Service sump regularly.
- Conduct berm repair and patching.
- Inspect, clean, and maintain sumps.

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible locations near area of activity.

Inspection and Training

- Inspect testing facility weekly or monthly, depending on frequency of use.
- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.

TARGETED ACTIVITIES

Fire Fighting Equipment Testing

Fire Fighting Equipment Flushing

TARGETED POLLUTANTS

Aircraft Fire Fighting Foam

KEY APPROACHES

Perform testing operations in designated areas

Properly dispose of, or recycle, foam discharge

Service sump regularly

LOS ANGELES WORLD AIRPORTS

SC13	FIRE FIGHTING FOAM DISCHARGE

REQUIREMENTS:

- Capital costs vary depending on measures implemented.
  - LOW COST: $500-1,000 for berm construction.
  - MEDIUM COST: $5,000-20,000 for plumbing modifications (including re-routing discharge to the sanitary sewer and installing a simple sump.
- O&M costs increase with increasing capital investment.

LIMITATIONS:

- Some wastewater agencies may require pretreatment and monitoring of this type of discharge to the sanitary sewer.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 122-124 NPDES Regulations for Storm water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC14 POTABLE WATER SYSTEM FLUSHING

Purpose:

Eliminate discharges to the storm drain system associated with flushing of aircraft potable water systems.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Design water truck flushing area with the following characteristics:
  - Located away from storm drain inlets or drainage facilities.
  - Paved with concrete or asphalt, or stabilized with an aggregate base.
  - Bermed to contain wastewater and to prevent run-on.
  - Configure discharge area with a sump to allow collection and disposal of water.
- Discharge water to a permitted sanitary sewer connection. Waste water shall not be discharged to storm drains.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

- Perform water truck flushing operations only in designated areas, designed with berms to prevent run-on and runoff. Do not perform flushing near storm drains.
- Collect all discharge from aircraft potable water flushing or water truck flushing containing Purine, chlorine bleach or other chemicals and properly discharge to a permitted sanitary sewer connection, or recycle the water.
- Conduct berm repair and patching.
- Inspect, clean and maintain sumps and on-site treatment and recycling units.

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible locations near area of activity.

TARGETED ACTIVITIES

Aircraft potable water system cleaning and flushing
Water truck cleaning and flushing

TARGETED POLLUTANTS

Purine

Chlorine Bleach

KEY APPROACHES

Perform water truck flushing in designated areas only

Collect all discharge from aircraft potable water flushing or water truck flushing and discharge to a permitted sanitary sewer connection

Do not discharge water to the ground or storm drain sanitary sewer connection

LOS ANGELES WORLD AIRPORTS

SC14	POTABLE WATER SYSTEM FLUSHING

Inspection and Training

- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution educational approaches), right-to-know awareness training, and hazardous materials management.
- Monitor flushing operations regularly to ensure that proper collection and disposal of discharge is being performed.

REQUIREMENTS:

- Capital costs are low for implementation of collection system for aircraft potable water flushing.
- For new facility, capital costs vary depending on measures implemented.
  - LOW COST: $500-1,000 for berm construction.
  - MEDIUM COST: $5,000-20,000 for plumbing modifications (including re-routing discharge to the sanitary sewer and installing a simple sump.
  - HIGH COST: $30,000-150,000 for on-site treatment and recycling.
  -

LIMITATIONS

- Some wastewater agencies may require pretreatment and monitoring of this type of discharge to the sanitary sewer.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges
.40 CFR 401 Effluent Limitation Guidelines

LOS ANGELES WORLD AIRPORTS

SC15 RUNWAY RUBBER REMOVAL

PURPOSE:

Eliminate discharges to the storm drain of particulate rubber generated by runway rubber removal activities.

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

- Design runway storm drain culverts to allow placement of particulate capture devices, such as hay bales or filter fabric that will capture rubber and dirt particles generated during periodic runway rubber removal activities.

APPROACH TO EXISTING FACILITIES ACTIVITIES:

Operational Considerations

- Place devices that will capture rubber particulates, such as haybales or filter fabric, over storm drain culverts or at other areas that will capture rubber particulates generated during periodic runway rubber removal activities.
- Use manual or mechanical cleaning methods (ordinary mechanical street sweepers) to remove rubber particulates from the runway and adjacent paved areas after periodic runway rubber removal activities.

Inspection and Training

- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.
- Inspect storm drain culverts or runway drainage areas after runway rubber removal activities.

REQUIREMENTS:

- Capital and O&M costs should be low.
- Maintenance costs should be low

TARGETED ACTIVITIES

Runway Rubber Removal

TARGETED POLLUTANTS

Rubber particles

Dirt particles

KEY APPROACHES

Use haybales or filter fabric over culverts

Use manual or mechanical cleaning methods (e.g., street sweepers) to remove particulates following normal removal process

LIMITATIONS:

Runway drainage patterns may not be suitable for the collection of rubber particulates in wash water run-off.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges

LOS ANGELES WORLD AIRPORTS

TC1 OIL/WATER SEPARATORS

PURPOSE:

Oil/Water separators are baffled chambers designed to remove petroleum compounds and grease from storm water. Oil/water separators also remove
floatable debris and settled solids (sediment).

APPROACH TO FUTURE FACILITIES AND UPGRADES:

Design of New Facilities and Existing Facility Upgrades

Oil/water separators are typically used in areas where the concentrations of petroleum hydrocarbons, floatables, or sediment may be abnormally high and source control techniques are not very effective. There are two types of oil/water separators: the American Petroleum Institute (API) separator and the coalescing plate separator (CPS). Design, sizing, and placement of oil/water separators is dependent on several factors including: tributary area, type of activity, pollutant type and concentration, and water temperature. General sizing guidelines for API separators include the following:

- Horizontal velocity: 3 feet per minute.
- Depth of 3 to 8 feet.
- Depth-to-width ratio of 0.3 to 0.5.
- Width of 6 to 16 feet.
- Baffle height-to-depth ratios of 0.85 for top baffles and 0.15 for bottom baffles.

CPS separator sizing is more complex. Sizing calculations require the inclusion of information such as packing plate surface areas and plate angles. CPS separators can, due to their packed plate design, remove the same quantities of oils and greases while occupying less space than API separators.

APPROACH TO EXISTING FACILITIES ACTIVITIES:

Operational Considerations

- Separators must be inspected and cleaned frequently for accumulated oil, grease, floating debris and sediments to be effective storm water quality controls.
- Oil absorbent pads are to be replaced as needed, but will always be replaced prior to the wet season.

TARGETED ACTIVITIES

Aircraft/Vehicle/ Equipment Maintenance

Aircraft/Vehicle/ Equipment Fueling

Aircraft/Vehicle/ Equipment Washing

Equipment Maintenance/ Degreasing

Fuel/Chemical Storage

Cargo Handling

TARGETED POLLUTANTS

Oil and Grease

Fuel

Floatables

Sediment

KEY APPROACHES

Frequently inspect and clean separators

Replace absorbent pads as needed

TC1	OIL/WATER SEPARATORS

Operational Considerations (continued):

- The effluent valve will be closed during cleaning operations.
- Any standing water removed during the cleaning operation must be disposed of in accordance with federal, state, and local requirements.
- Any standing water removed during the cleaning operation must be replaced with clean water to prevent oil carry-over through the outlet.

Contingency Response

- Maintain adequate supplies of spill response equipment and materials in accessible location near areas where spills may be likely to occur.

Inspection and Training

- Provide the appropriate level of employee training in the following areas: spill response and prevention, storm water pollution prevention education (see SC-10 for storm water pollution education approaches), right-to-know awareness training, and hazardous materials management.
- Perform and document in a log book all inspections and maintenance operations
- Develop a written operating, sampling and reporting procedure under local storm water authority guidelines. Train appropriate employees to implement these procedures.

REQUIREMENTS:

- Capital and O&M costs should be low.

LIMITATIONS:

- Oil/water separator installations should be designed and installed by experienced individuals. Little data on the characteristics of petroleum hydrocarbons in storm water leads to considerable uncertainty about separator performance.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 112 Oil Pollution Prevention (SPCC/OPA Plans)
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges

LOS ANGELES WORLD AIRPORTS

SR1 EMERGENCY SPILL CLEANUP PLANS

PURPOSE:

Prevent or reduce the discharge of pollutants to storm water resulting from petroleum products or other materials

GENERAL APPROACH:

Owners and operators of facilities that store, process, or refine oil or oil products may be required by federal law (40 CFR 112) to develop and implement a Spill Prevention Control and Countermeasure (SPCC) plan. Emergency spill cleanup plans should include the following information:

- A description of the facility including the owner's name and address, the nature of the facility activity, and the general types and quantities of chemicals stored at the facility.
- A site plan showing the location of storage areas for chemicals, the location of storm drains, site drainage patterns, fire water source locations, and the location and description of any devices used to contain spills such as positive shut-off control valves.
- Notification procedures to be implemented in the event of a spill, such as key company personnel and local, state, and federal agencies.
- Instructions regarding cleanup procedures
- Designated personnel with overall spill response cleanup responsibility.

APPROACH TO EXISTING FACILITY ACTIVITIES:

Operational Considerations

- **Post a summary of the plan at appropriate site locations, identifying the spill cleanup coordinators, location of cleanup equipment, and phone numbers of regulatory agencies to be contacted in the event of a spill.**
- **Maintain an inventory of appropriate cleanup materials on-site and strategically deploy cleanup materials based on the type and quantities of chemicals present.**
- **Make absorbent readily available in the fueling areas**

Contingency Response

- Perform the following notifications in the event of a spill:
  - Fire Department
  - Local Health Department
  - State Office of Emergency Services
  - National Response Center – if spill exceeds reportable quantity (RQ)
- Containment and cleanup of spills shall begin immediately

TARGETED ACTIVITIES

Aircraft/Vehicle/ Equipment Maintenance
Aircraft/Vehicle/ Equipment fueling
Aircraft/Vehicle/ Equipment Washing
Cargo Handling
Fuel/Chemical Storage
Equipment Degreasing

TARGETED POLLUTANTS

Fuel

Vehicle Fluids/Oils

Solvent/Cleaning Solutions

Pesticides/herbicides/ Fertilizers

Battery Acid

KEY APPROACHES

Develop/implement SPCC, if required

SPCC implementation training

Immediate containment/cleanup of spills

Availability of spill response equipment/materials

Required Agency Notification

LOS ANGELES WORLD AIRPORTS	
SR1	**EMERGENCY SPILL CLEANUP PLANS**

Inspection and Training

- Provide formal training in plan execution to key personnel, with additional training for first responder level personnel (29 CFR 1910.120). All employees should have basic knowledge of spill control procedures.

REQUIREMENTS:

- Capital and OEM costs should be small to moderate depending on the types and quantities of chemicals stored on-site.
- Maintenance costs include periodic training and equipment replacement.

LIMITATIONS:

- Spills occurring after work hours in confined areas may go undetected until they impact off-site areas.

RELEVANT RULES AND REGULATIONS:

Industrial Activities Storm Water General Permit, April 17, 1997
.40 CFR 110.3 Discharge of Oil
.40 CFR 122 Oil Pollution Prevention (SPCC/OPA Plan)
.40 CFR 117.3 Determination of Reportable Quantities for a Hazardous Substance
.40 CFR 122-124 NPDES Regulations for Storm Water Discharges

Contaminated or Erodible Areas SC-40

Description

Areas within an industrial site that are bare of vegetation or are subject to activities that promote the suppression of vegetation are often subject to erosion. In addition, they may or may not be contaminated from past or current activities. If the area is temporarily bare because of construction, see SC-42 Building Repair, Remodeling, and Construction. Sites with excessive erosion or the potential for excessive erosion should consider employing the soil erosion BMPs identified in the Construction BMP Handbook. Note that this fact sheet addresses soils that do not exceed hazardous waste criteria (see Title 22 California Code of Regulations for Hazardous Waste Criteria).

Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

General Pollution Prevention Protocols

Implement erosion and sediment control BMPs to stabilize soils and reduce pollutant discharges from contaminated or erodible surfaces.

Erosion and Sediment Controls

- ☐ Preserve natural vegetation whenever possible. See also EC-2 Preservation of Existing Vegetation, in the Construction BMP Handbook.
- ☐ Analyze soil conditions.
- ☐ Remove contaminated soil and dispose of properly.
- ☐ Stabilize loose soils by re-vegetating whenever possible. See also EC-4 Hydroseeding, in the Construction BMP Handbook.

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*
■ *Product Substitution*

Targeted Constituents	
Sediment	✓
Nutrients	✓
Trash	
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	
Preventative Maintenance	
Spill and Leak Prevention and	
Material Handling & Waste Management	
Erosion and Sediment Controls	✓
Employee Training Program	✓
Quality Assurance Record Keeping	✓

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- Utilize non-vegetative stabilization methods for areas prone to erosion where vegetative options are not feasible. Examples include:
  - ✓ Areas of vehicular or pedestrian traffic such as roads or paths;
  - ✓ Arid environments where vegetation would not provide timely ground coverage, or would require excessive irrigation;
  - ✓ Rocky substrate, infertile or droughty soils where vegetation would be difficult to establish; and
  - ✓ Areas where vegetation will not grow adequately within the construction time frame.

  There are several non-vegetative stabilization methods and selection should be based on site-specific conditions. See also EC-16 Non-Vegetative Stabilization, in the Construction BMP Handbook.
- Utilize chemical stabilization when needed. See also EC-5 Soil Binders, in the Construction BMP Handbook.
- Use geosynthetic membranes to control erosion if feasible. See also EC-7 Geotextiles and Mats, in the Construction BMP Handbook.
- Stabilize all roadways, entrances, and exits to sufficiently control discharges of erodible materials from discharging or being tracked off the site. See also TC 1-3 Tracking Control, in the Construction BMP Handbook.
- Implement wind erosion control measures as necessary. See also WE-1 Wind Erosion Control, in the Construction BMP Handbook.

Employee Training Program

- Educate employees about pollution prevention measures and goals.
- Train employees how to properly install and maintain the erosion and sediment source control BMPs described above. Detailed information is provided in the Construction BMP Handbook.
- Use a training log or similar method to document training.

Quality Assurance and Record Keeping

- Keep accurate logs that document actions taken to maintain and improve the effectiveness of the erosion and sediment control BMPs described above.
- Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- Establish procedures to complete logs and file them in the central office.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

- Many facilities do not have contaminated or erodible areas and will require no additional capital expenditures.
- For sites with contaminated or erodible areas, purchase and installation of erosion and sediment controls will require additional capital investments, and this amount will vary depending on site characteristics and the types of BMPs being implemented.
- Minimize costs by maintaining existing vegetation and limiting site operations on bare soils.

Maintenance

- The erosion and sediment control BMPs described above require periodic inspection and maintenance to remain effective. The cost of these actions will vary depending on site characteristics and the types of BMPs being implemented.
- Irrigation costs may be required to establish and maintain vegetation.

Supplemental Information

Stabilization of Erodible Areas

Preserving stabilized areas minimizes erosion potential, protects water quality, and provides aesthetic benefits. The most effective way to control erosion is to preserve existing vegetation. Preservation of natural vegetation provides a natural buffer zone and an opportunity for infiltration of stormwater and capture of pollutants in the soil matrix. This practice can be used as a permanent source control measure.

Vegetation preservation should be incorporated into the site. Preservation requires good site management to minimize operations on bare soils where vegetation exists. Proper maintenance is important to ensure healthy vegetation that can control erosion. Different species, soil types, and climatic conditions will require different maintenance activities such as mulching, fertilizing, liming, irrigation, pruning and weed and pest control.

The preferred approach is to leave as much native vegetation on-site as possible, thereby reducing or eliminating any erosion problem. However, assuming the site already has contaminated or erodible surface areas, there are four possible courses of action which can be taken:

- The area can be revegetated if it is not in use and therefore not subject to damage from site activities. In as much as the area is already devoid of vegetation, special measures are likely necessary. Lack of vegetation may be due to the lack of water and/or poor soils. The latter can perhaps be solved with fertilization, or the ground may simply be too compacted from prior use. Improving soil conditions may be sufficient to support the recovery of vegetation. Use process wastewater for irrigation if possible, and see the Construction BMP Handbook for further procedures on establishing vegetation.

- Watering trucks to prevent dust.

- Chemical stabilization can be used as an alternate method in areas where temporary seeding practices cannot be used because of season or climate. It can provide immediate, effective, and inexpensive erosion control. Application rates and procedures recommended by the manufacturer should be followed as closely as possible to prevent the products from forming ponds and creating large areas where moisture cannot penetrate the soil. See also EC-5, Soil Binders, in the Construction BMP Handbook for more information. Advantages of chemical stabilization include:

  - ✓ Applied easily to the surface;
  - ✓ Stabilizes areas effectively; and
  - ✓ Provides immediate protection to soils that are in danger of erosion.

- Contaminated soils should be cleaned up or removed. This requires determination of the level and extent of the contamination. Removal must comply with State and Federal regulations; permits must be acquired and fees paid.

- Non-vegetated stabilization methods are suitable for permanently protecting from erosion by water and wind. Non-vegetated stabilization should only be utilized when vegetation cannot be established due to soil or climactic conditions, or where vegetation may be a potential fire hazard.

  Examples of non-vegetative stabilization BMPs are provided below:

  - ✓ ***Decomposed Granite (DG) and Gravel Mulch*** are suitable for use in areas where vegetation establishment is difficult, on flat surfaces, trails and pathways, and when used in conjunction with a stabilizer or tackifier, on shallow slopes (i.e., 10:1 [H:V]). DG and gravel can also be used on shallow rocky slopes where vegetation cannot be established for permanent erosion control.
  - ✓ ***Degradable Mulches*** can be used to cover and protect soil surfaces from erosion both in temporary and permanent applications. In many cases, the use of mulches by themselves requires routine inspection and re-application. See EC-3 Hydraulic Mulch, EC-6 Straw Mulch, EC-8 Wood Mulch, or EC-14 Compost Blankets of the Construction BMP Handbook for more information.
  - ✓ ***Geotextiles and Mats*** can be used as a temporary stand-alone soil stabilization method. Depending on material selection, geotextiles and mats can be a short-term (3 months – 1 year) or long-term (1-2 years) temporary stabilization method. For more information on geotextiles and mats see EC-7 Geotextiles and Mats of the Construction BMP Handbook.
  - ✓ ***Rock Slope Protection*** can be used when the slopes are subject to scour or have a high erosion potential, such as slopes adjacent to flowing waterways or slopes subject to overflow from detention facilities (spillways).

- ✓ ***Soil Binders*** can be used for temporary stabilization of stockpiles and disturbed areas not subject to heavy traffic. See EC-5 Soil Binders for more information. References and Resources.

References and Resources

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Drainage System Maintenance SC-44

Description

As a consequence of its function, the stormwater drainage facilities on site convey stormwater that may contain certain pollutants either to the offsite conveyance system that collects and transports urban runoff and stormwater, or directly to receiving waters. The protocols in this fact sheet are intended to reduce pollutants leaving the site to the offsite drainage infrastructure or to receiving waters through proper on-site conveyance system operation and maintenance. The targeted constituents will vary depending on site characteristics and operations.

Approach

Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

General Pollution Prevention Protocols

- ☐ Maintain catch basins, stormwater inlets, and other stormwater conveyance structures on a regular basis to remove pollutants, reduce high pollutant concentrations during the first flush of storms, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capacity, and ensure the system functions properly hydraulically to avoid flooding.
- ☐ Develop and follow a site specific drainage system maintenance plan that describes maintenance locations, methods, required equipment, water sources, sediment collection areas, disposal requirements, and any other pertinent information.

Good Housekeeping

Illicit Connections and Discharges

- ☐ Look for evidence of illegal discharges or illicit connections during routine maintenance of conveyance system and drainage structures:

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*

Targeted Constituents	
Sediment	✓
Nutrients	✓
Trash	✓
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	✓
Preventative Maintenance	✓
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	✓

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- ✓ Identify evidence of spills such as paints, discoloring, odors, etc.
- ✓ Record locations of apparent illegal discharges/illicit connections.
- ✓ Track flows back to potential discharges and conduct aboveground inspections. This can be done through visual inspection of upgradient manholes or alternate techniques including zinc chloride smoke testing, fluorometric dye testing, physical inspection testing, or television camera inspection.
- ✓ Eliminate the discharge once the origin of flow is established.

- ☐ Stencil or demarcate storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as "Dump No Waste Drains to Stream" or similar stenciled next to them to warn against ignorant or intentional dumping of pollutants into the storm drainage system.
- ☐ Refer to fact sheet SC-10 Non-Stormwater Discharges for additional information.

Illegal Dumping

- ☐ Inspect and clean up hot spots and other storm drainage areas regularly where illegal dumping and disposal occurs.
- ☐ Establish a system for tracking incidents. The system should be designed to identify the following:
  - ✓ Illegal dumping hot spots;
  - ✓ Types and quantities (in some cases) of wastes;
  - ✓ Patterns in time of occurrence (time of day/night, month, or year);
  - ✓ Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills); and
  - ✓ Responsible parties.
- ☐ Post "No Dumping" signs in problem areas with a phone number for reporting dumping and disposal. Signs should also indicate fines and penalties for illegal dumping.
- ☐ Refer to fact sheet SC-10 Non-Stormwater Discharges for additional information.

Preventative Maintenance

Catch Basins/Inlet Structures

- ☐ Staff should regularly inspect facilities to ensure compliance with the following:
  - ✓ Immediate repair of any deterioration threatening structural integrity.
  - ✓ Cleaning before the sump is 40% full. Catch basins should be cleaned as frequently as needed to meet this standard.

- Clean catch basins, storm drain inlets, and other conveyance structures before the wet season to remove sediments and debris accumulated during the summer.
- Conduct inspections more frequently during the wet season for problem areas where sediment or trash accumulates more often. Prioritize storm drain inlets; clean and repair as needed.
- Keep accurate logs of the number of catch basins cleaned.
- Store wastes collected from cleaning activities of the drainage system in appropriate containers or temporary storage sites in a manner that prevents discharge to the storm drain.
- Dewater the wastes if necessary with outflow into the sanitary sewer if permitted. Water should be treated with an appropriate filtering device prior to discharge to the sanitary sewer. If discharge to the sanitary sewer is not allowed, water should be pumped or vacuumed to a tank and properly disposed. Do not dewater near a storm drain or stream.

Storm Drain Conveyance System

- Locate reaches of storm drain with deposit problems and develop a flushing schedule that keeps the pipe clear of excessive buildup.
- Collect and pump flushed effluent to the sanitary sewer for treatment whenever possible.

Pump Stations

- Clean all storm drain pump stations prior to the wet season to remove silt and trash.
- Do not allow discharge to reach the storm drain system when cleaning a storm drain pump station or other facility.
- Conduct routine maintenance at each pump station.
- Inspect, clean, and repair as necessary all outlet structures prior to the wet season.

Open Channel

- Modify storm channel characteristics to improve channel hydraulics, increase pollutant removals, and enhance channel/creek aesthetic and habitat value.
- Conduct channel modification/improvement in accordance with existing laws. Any person, government agency, or public utility proposing an activity that will change the natural state of any river, stream, or lake in California, must enter into a Steam or Lake Alteration Agreement with the Department of Fish and Wildlife. The developer-applicant should also contact local governments (city, county, special districts), other state agencies (SWRCB, RWQCB, Department of Forestry, Department of Water Resources), and Army Corps of Engineers and USFWS.

Spill Response and Prevention Procedures

- Keep your spill prevention control plan up-to-date.

- Investigate all reports of spills, leaks, and/or illegal dumping promptly.
- Place a stockpile of spill cleanup materials where it will be readily accessible or at a central location.
- Clean up all spills and leaks using "dry" methods (with absorbent materials and/or rags) or dig up, remove, and properly dispose of contaminated soil.

Employee Training Program

- Educate employees about pollution prevention measures and goals.
- Train employees how to properly handle and dispose of waste using the source control BMPs described above.
- Train employees and subcontractors in proper hazardous waste management.
- Use a training log or similar method to document training.
- Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
- Have staff involved in detection and removal of illicit connections trained in the following:
  - ✓ OSHA-required Health and Safety Training (29 CFR 1910.120) plus annual refresher training (as needed).
  - ✓ OSHA Confined Space Entry training (Cal-OSHA Confined Space, Title 8 and Federal OSHA 29 CFR 1910.146).
  - ✓ Procedural training (field screening, sampling, smoke/dye testing, TV inspection).

Quality Assurance and Record Keeping

- Keep accurate maintenance logs that document minimum BMP activities performed for drainage system maintenance, types and quantities of waste disposed of, and any improvement actions.
- Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.
- Keep accurate logs of illicit connections, illicit discharges, and illegal dumping into the storm drain system including how wastes were cleaned up and disposed.
- Establish procedures to complete logs and file them in the central office.

Potential Limitations and Work-Arounds

Provided below are typical limitations and recommended "work-arounds" for drainage system maintenance:

- Clean-up activities may create a slight disturbance for local aquatic species. Access to items and material on private property may be limited. Trade-offs may exist between channel hydraulics and water quality/riparian habitat. If storm channels or basins are recognized as wetlands, many activities, including maintenance, may be subject to regulation and permitting.

  - ✓ Perform all maintenance onsite and do not flush accumulated material downstream to private property or riparian habitats.

- Storm drain flushing is most effective in small diameter pipes (36-inch diameter pipe or less, depending on water supply and sediment collection capacity). Other considerations associated with storm drain flushing may include the availability of a water source, finding a downstream area to collect sediments, and liquid/sediment disposal.

  - ✓ Develop and follow a site specific drainage system maintenance plan that describes maintenance locations, methods, required equipment, water sources, sediment collection areas, disposal requirements, and any other pertinent information.

- Regulations may include adoption of substantial penalties for illegal dumping and disposal.

  - ✓ Do not dump illegal materials anywhere onsite.

  - ✓ Identify illicit connections, illicit discharge, and illegal dumping.

  - ✓ Cleanup spills immediately and properly dispose of wastes.

- Local municipal codes may include sections prohibiting discharge of soil, debris, refuse, hazardous wastes, and other pollutants into the sanitary sewer system.

  - ✓ Collect all materials and pollutants accumulated in drainage system and dispose of according to local regulations.

  - ✓ Install debris excluders in areas with a trash TMDL.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

- Capital costs will vary substantially depending on the size of the facility and characteristics of the drainage system. Significant capital costs may be associated with purchasing water trucks, vacuum trucks, and any other necessary cleaning equipment or improving the drainage infrastructure to reduce the potential .

- Developing and implementing a site specific drainage system maintenance plan will require additional capital if a similar program is not already in place.

Maintenance

- Two-person teams may be required to clean catch basins with vactor trucks.
- Teams of at least two people plus administrative personnel are required to identify illicit discharges, depending on the complexity of the storm sewer system.
- Arrangements must be made for proper disposal of collected wastes.
- Technical staff are required to detect and investigate illegal dumping violations.
- Methods used for illicit connection detection (smoke testing, dye testing, visual inspection, and flow monitoring) can be costly and time-consuming. Site-specific factors, such as the level of impervious area, the density and ages of buildings, and type of land use will determine the level of investigation necessary.

Supplemental Information

Storm Drain Flushing

Flushing is a common maintenance activity used to improve pipe hydraulics and to remove pollutants in storm drainage systems. Flushing may be designed to hydraulically convey accumulated material to strategic locations, such as an open channel, another point where flushing will be initiated, or the sanitary sewer and the treatment facilities, thus preventing re-suspension and overflow of a portion of the solids during storm events. Flushing prevents "plug flow" discharges of concentrated pollutant loadings and sediments. Deposits can hinder the designed conveyance capacity of the storm drain system and potentially cause backwater conditions in severe cases of clogging.

Storm drain flushing usually takes place along segments of pipe with grades that are too flat to maintain adequate velocity to keep particles in suspension. An upstream manhole is selected to place an inflatable device that temporarily plugs the pipe. Further upstream, water is pumped into the line to create a flushing wave. When the upstream reach of pipe is sufficiently full to cause a flushing wave, the inflated device is rapidly deflated with the assistance of a vacuum pump, thereby releasing the backed up water and resulting in the cleaning of the storm drain segment.

To further reduce impacts of stormwater pollution, a second inflatable device placed well downstream may be used to recollect the water after the force of the flushing wave has dissipated. A pump may then be used to transfer the water and accumulated material to the sanitary sewer for treatment. In some cases, an interceptor structure may be more practical or required to recollect the flushed waters.

It has been found that cleansing efficiency of periodic flush waves is dependent upon flush volume, flush discharge rate, sewer slope, sewer length, sewer flow rate, sewer diameter, and population density. As a rule of thumb, the length of line to be flushed should not exceed 700 feet. At this maximum recommended length, the percent removal efficiency ranges between 65-75% for organics and 55-65% for dry weather grit/inorganic material. The percent removal efficiency drops rapidly beyond that. Water is commonly supplied by a water truck, but fire hydrants can also supply water. To make the best use of water, it is recommended that reclaimed water be used if allowed or that fire hydrant line flushing coincide with storm sewer flushing.

References and Resources

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Extended Detention Basin TC-22

General Description

Dry extended detention ponds (a.k.a. dry ponds, extended detention basins, detention ponds, extended detention ponds) are basins whose outlets have been designed to draw down the stormwater runoff from a water quality design storm for some minimum time (e.g., 48 hours) to allow particles and associated pollutants to settle. Unlike wet ponds, these facilities do not have a large permanent pool. They can also be used to provide flood control by including additional flood detention storage. Considerable stormwater volume reduction can also occur, depending on the infiltration capacity of the subsoil.

Inspection/Maintenance Considerations

Inspections should be conducted semi-annually and after significant storm events to identify potential problems early. Most maintenance efforts will need to be directed toward vegetation management and vector control, which may focus on basic housekeeping practices such as removal of debris accumulations and vegetation management to ensure that the basin dewaters completely (recommended 48 hour residence time or less) to prevent creating mosquito and other vector habitats.

If infiltration is desired for stormwater reduction, the following additional maintenance may be required to maintain infiltrative capacity:

- ☐ Mechanically de-thatching and/or aerating the top soils along the sides and bottom of the basin;
- ☐ Tilling or dicing to scarify the bottom of the basin; and
- ☐ Maintaining adequate vegetative cover.

Advanced BMPs Covered

Maintenance Concerns

- *Accumulation of Metals and Toxics*
- *Clogged Soil Outlet Structures*
- *Vegetation/Landscape Maintenance*
- *Erosion*
- *Vector Control*

Targeted Constituents

Sediment	▲
Nutrients	●
Trash	■
Metals	▲
Bacteria	▲
Oil and Grease	▲
Organics	▲

Legend (Removal Effectiveness)

● Low ■ High ▲ Medium

✱ Requires Pretreatment

Note: The removal effectiveness ratings shown in the table are for properly designed, sited, and maintained BMPs; some configurations will have variations in pollutant effectiveness.

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Extended Detention Basin TC-22

Refer to TC-11 Infiltration Basin for further information.

Inspection Activities	Suggested Frequency
☐ Inspect after several storm events for bank stability, vegetation growth, and to determine if the desired residence time has been achieved. ☐ Inspect outlet structure for evidence of clogging or outflow release velocities that are greater than design flow.	Post construction
☐ Inspect for the following issues: differential settlement, cracking, erosion of pond banks or bottom, leakage, tree growth on the embankment, the condition of the riprap in the inlet, clogging of outlet and pilot channels, standing water, slope stability, presence of burrows, sediment accumulation in the basin, forebay, and outlet structures, trash and debris, and the vigor and density of vegetation on the basin side slopes and floor.	Semi-annual, after significant storms, or more frequent
☐ Inspect for the following issues: subsidence, damage to the emergency spillway, inadequacy of the inlet/outlet channel erosion control measures, changes in the condition of the pilot channel, accumulated sediment volume, and semi-annual inspection items.	Annual
☐ During inspections, changes to the extended storage pond or the contributing watershed should be noted, as these may affect basin performance.	Annual inspection
Maintenance Activities	**Suggested Frequency**
☐ If necessary, modify the outlet orifice to achieve design values if inspection indicates modifications are necessary. ☐ Repair undercut or eroded areas. ☐ Mow side slopes for aesthetics and to remove woody debris that reduces storage volume. ☐ Maintain vegetation in and around basin to prevent any erosion and minimize aesthetic concerns. Minimize use of fertilizers and pesticides. Reseed if necessary. ☐ Remove litter and debris. ☐ Make structural changes or repairs as needed to eliminate pools of water that stand longer than 96 hrs to prevent mosquito production, particularly during the warmer months of the year. Identify and eliminate sources of non-stormwater runoff that feed standing water pools. Coordinate with the local mosquito and vector control agency to control mosquitoes, if necessary.	Standard Maintenance (As needed)
☐ Remove accumulated trash and debris from the basin, around the riser pipe, side slopes, embankment, emergency spillway, and outflow trash racks. The frequency of this activity may be altered to meet specific site conditions. ☐ Trim vegetation at the beginning and end of the wet season to prevent establishment of woody vegetation and for aesthetic and vector reasons.	Semi-annual, or more frequent, as needed
☐ Seed or sod to restore dead or damaged ground cover. ☐ Repair erosion to banks and bottom as required.	Annual maintenance (as needed)
☐ Supplement vegetation if a significant portion have not been established (at least 50% of the surface area). ☐ Remove nuisance plant species.	Annual maintenance (if needed)
☐ Remove sediment from the forebay to reduce frequency of main basin cleaning.	3- to 5-year

☐	Remove sediment from the basin bottom and thatch, aerate, or scarify soils to maintain infiltrative capacity.	maintenance
☐	Monitor sediment accumulation and remove accumulated sediment and regrade about every 10 years or when the accumulated sediment volume exceeds 10-20% of the basin volume, or when accumulation reaches 6 inches or if resuspension is observed. Clean in early spring so vegetation damaged during cleaning has time to re-establish.	Every 10-25 years

Additional Information

In most cases, surface sediment removed from an extended detention basin during periodic maintenance to restore capacity does not contain toxic materials (e/g metals, oil and grease, or organics) at levels posing a hazardous concern. Studies to date indicate that pond sediments are generally below toxicity limits and can be safely landfilled or disposed onsite. Onsite sediment disposal is always preferable (if local authorities permit) as long as the sediments are deposited away from the perimeter to prevent their reentry into the basin. Sediments should be tested for toxic materials in compliance with current landfill requirements and disposed of properly.

Special considerations are required for extended detention basins to be effective in cold climates. Refer to the Stormwater Managers Resource Center for more information.

References

California Department of Transportation. *Treatment BMP Technology Report (CTSW-RT-09-239.06),* 2010. Available online at: http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-09-239-06.pdf.

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Media Filter TC-40

General Description

Stormwater media filters are typically two-chambered including a pretreatment settling basin and a filter bed filled with sand or other adsorptive filtering media. As stormwater flows into the first chamber, large particles settle out, and then finer particles and other pollutants are removed as stormwater flows through the filtering media in the second chamber. There are a number of design variations including the Austin sand filter, Delaware sand filter, and multi-chambered treatment train (MCTT).

Inspection/Maintenance Considerations

Media filters may exhibit decreased effectiveness after a few years of operation, depending on the activities occurring in the drainage area. Media filters clog easily when subjected to high sediment loads. Sediment reducing pretreatment practices, such as vegetated buffer strips or vegetated swales, placed upstream of the filter, should be maintained properly to reduce sediment loads into filter.

Media filters can become a nuisance due to mosquito or midge breeding if not properly designed and maintained. Installations should dewater completely (recommended 96 hour or less residence time) to prevent creating mosquito and other vector habitats.

Maintenance efforts will need to focus on basic housekeeping practices such as removal of debris accumulations and vegetation management (in filter media) to prevent clogs and/or pools of standing water. To minimize the potential for clogging, frequent maintenance and inspection practices are required. Waste sand, gravel, filter fabric, or filter media must be disposed of properly and in accordance with all applicable laws.

Advanced BMPs Covered

Maintenance Concerns

- *Pollutant Breakthrough*
- *Clogged Sand Media*
- *Trash and Debris Accumulation*
- *Vector Control*

Targeted Constituents

Sediment	■✱
Nutrients	●
Trash	■
Metals	■
Bacteria	▲
Oil and Grease	■
Organics	■

Legend (Removal Effectiveness)

● Low ▲ Medium ■ High

✱ Requires Pretreatment

Note: The removal effectiveness ratings shown in the table are for properly designed, sited, and maintained BMPs; some configurations will have variations in pollutant effectiveness.

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Inspection Activities	Suggested Frequency
☐ During the first year of operation, inspect chambers quarterly to ensure that the system is functioning properly. ☐ Inspect sand filters after every major storm in the first few months after construction to ensure that the system is functioning properly.	Post construction
☐ Ensure that filter surface, inlets, and outlets are clear of debris. ☐ Ensure that the contributing area is stabilized and mowed, with clippings removed. ☐ Check to ensure that the filter surface is not clogging. ☐ Ensure that activities in the drainage area minimize oil/grease and sediment entry to the system. ☐ Inspect the facility once during the wet season after a large rain event to determine whether the facility is draining completely within 96 hr.	Quarterly, and after major storms
☐ Inspect for standing water, sediment, trash and debris, structural damage, and to identify potential problems.	Semi-annual
☐ Check to see that the filter bed is clean of sediments and the sediment chamber contains no more than six inches of sediment. ☐ Make sure that there is no evidence of deterioration of concrete structures. ☐ Inspect grates (if used). ☐ Inspect inlets, outlets, and overflow spillway to ensure good condition and no evidence of erosion. ☐ Ensure that flow is not bypassing the facility. ☐ Ensure that no noticeable odors are detected outside the facility.	Annual
☐ Maintenance Activities	Suggested Frequency
☐ Remove trash and debris from the sedimentation basin (Austin design), the riser pipe, and the filter bed as needed. ☐ Prevent grass clippings from washing into the filter. ☐ Remove trash from inlet grates to maintain the inflow capacity of the media filter. ☐ Upstream vegetation should be maintained as needed. ☐ Make structural changes or repairs as needed to eliminate pools of water that stand longer than 96 hrs to prevent mosquito production, particularly during the warmer months of the year. Identify and eliminate sources of non-stormwater runoff that feed standing water pools. Coordinate with the local mosquito and vector control agency to control mosquitoes, if necessary.	Frequently (as needed)
☐ Clean filter surface semiannually; or more often if watershed is excessively erosive. ☐ Replace sorbent pillows (Multi-Chamber Treatment Train only).	Semi-annual
☐ Repair or replace any damaged structural parts. ☐ Stabilize any eroded areas.	Annual
☐ Remove accumulated sediment in the sedimentation chamber every 10 years or when the sediment occupies 10-20% of the basin volume or accumulates to a depth of six inches, whichever is less. ☐ Remove top 2 in. of media filter and dispose of properly if facility drain time exceeds 96 hr. Restore media depth to 18 in. when overall media depth drops to 12 in.).	As needed

Additional Information

In general, media filters are preferred over infiltration practices, such as infiltration trenches, when contamination of groundwater with conventional pollutants is of concern. This usually occurs in areas where underlying soils alone cannot treat runoff adequately - or ground water tables are high. In most cases, media filters can be constructed with impermeable basin or chamber bottoms, which help to collect, treat, and release runoff to a storm drainage system or directly to surface water with no contact between contaminated runoff and groundwater. In regions where evaporation exceeds rainfall and a wet pond would be unlikely to maintain the required permanent pool, a media filtration system can be used.

Special considerations are required for media filters to be effective in cold climates. In cold climates, filters can be used, but surface or perimeter filters will not be effective during the winter months, and unintended consequences might result from a frozen filter bed. Using a larger under drain system to encourage rapid draining during the winter months may prevent freezing of the filter bed. Also, the sediment chamber should be larger in cold climates to account for road sanding.

References

California Department of Transportation. *Treatment BMP Technology Report (CTSW-RT-09-239.06)*, 2010. Available online at: http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-09-239-06.pdf.

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Gravity Separators MP-51

General Description

Gravity separators: (alternatively, swirl concentrators, swirl or vortex separators, or hydrodynamic separators) are gravity separators, and in principle are essentially wet vaults. The difference from wet vaults, however, is that the gravity separator is round, rather than rectangular, and the water moves in a centrifugal fashion before exiting. By having the water move in a circular fashion, rather than a straight line as is the case with a standard wet vault, it is possible to obtain significant removal of suspended sediments and attached pollutants with less space. They can provide effective pretreatment when paired with filtration devices, such as media filters or bioretention systems.

Gravity separators were originally developed for combined sewer overflows (CSOs), where they are used primarily to remove coarse inorganic solids. Gravity separation has been adapted to stormwater treatment by several manufacturers.

Inspection/Maintenance Considerations

Gravity separators require routine removal of accumulated sediment, trash, and debris. As some of the systems have standing water that remains between storms, gravity separators can become a nuisance due to mosquito breeding. Also, a loss of dissolved pollutants may occur as accumulated organic matter (e.g., leaves) decomposes in the units.

Advanced BMPs Covered

Maintenance Concerns

- *Sediment, Trash, and Debris Accumulations*
- *Vector Control*

Targeted Constituents*

Sediment	✓
Nutrients	✓
Trash	✓
Metals	✓
Bacteria	
Oil and Grease	
Organics	

**Removal Effectiveness varies for different manufacturer designs. See New Development and Redevelopment Handbook-Section 5 for more information.*

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Inspection Activities	Suggested Frequency
☐ Inspect the unit twice during the first wet season of operation, setting the cleaning frequency accordingly.	Post construction
☐ Inspect for floating debris, sediment buildup, and accumulated petroleum products.	Annual
☐ Contact the local mosquito and vector control agency if mosquito breeding is observed or suspected.	As needed
Maintenance Activities	**Suggested Frequency**
☐ Remove sediment that has accumulated in the vault after construction in the drainage area is complete.	Post construction
☐ The recommended frequency of cleaning differs with the manufacturer, ranging from one to two years. ☐ Maintenance consists of the removal of accumulated material with a vactor truck. It may be necessary to remove and dispose the floatables separately due to the presence of petroleum product. Annual maintenance is typical.	Annual, or per manufacturers recommendations
☐ Remove floating debris and accumulated petroleum products as needed. Floating oil should be removed from wet vaults that are used as oil/water separators when oil accumulation exceeds one inch.	Annual, or more frequent as needed

References

California Department of Transportation. *Treatment BMP Technology Report (CTSW-RT-09-239.06),* April, 2010. http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-09-239-06.pdf.

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APPENDIX F

Dry Weather Inspection Forms

Los Angeles World Airports

MONTH AND YEAR _____

Monthly Dry Weather Visual Observation Form

(Form due by the 5th of the month following the observation month; submit to stormwater@lawa.org)

Facility Name: _____ **LAWA Follow-up Requested? ☐**

Facility Address: _____

Observer Name: _____ **PPT ☐ or Alternate ☐** **Phone/email:** _____

Signature: _____ **Change in PPT or Alternate? Yes ☐** **Observation Date/Time:** _____

Are all impervious surfaces assessed regularly for spills, stains and other debris? Yes ☐ or No ☐

Has there been a change in Onsite Chemical Inventory? Yes ☐ or No ☐ (If Yes, complete and include Stored Material Checklist)

Has a spill occurred since the previous observation? Yes ☐ or No ☐

Was a Spill/Incident Report Form submitted? Yes ☐ or No ☐ (If "no", complete and include Spill/Incident Report Form)

Is Facility Map up to date? Yes ☐ No ☐; Is Spill Response Plan up to date? No ☐ or Yes ☐

Part I . Non-StormWater Discharge (NSWD) Observations. (Check All Applicable)

	Discharge Type	**A.** Discharge Observed?	**B.** Evidence of prior/ current/ potential/ source of NSWD and/or source? (Y/N)	**C.** Discharge occured in the facility? (Y/N)	**D.** Describe Pollutant Characteristics (Check If Present)					E. BMPs In Place? (Y/N)	F. Dates of Discharge, BMPs Utilized, Describe Discharge Observation. Include supplemental photos if applicable.
					Sheen	Turbidity	Floating Material	Odor	Other		
AUTHORIZED	Fire Hydrant Flushing										
	Potable Water Sources										
	Drinking Fountain Water										
	Atmospheric Condensates										
	Irrigation Drainage/ Landscape										
	Others										
UNAUTHORIZED	Rinse/Wash Water										
	Improperly Disposed/ Dumped										
	Spilled Material										
	Leaked Material										
	Illicit Connection										
	Possible Illicit Connection										
	Food Waste										
	Other										

Comments and Observations

Los Angeles World Airports

MONTH AND YEAR _____

Part II BMP Observation, Implementation, Deficiencies and Corrective Actions

Description of BMPs (Reference BMP Fact Sheet Number); SWPPP Table 4.1 shows summary of the BMPs for each airport (List below shows BMPs implemented at LAWA and may not be airport specific.)	A. Facility BMPs (Check All Applicable); Previously reported BMPs are located in Table 4.2 of the SWPPP	B. Change in BMP use on facility? New or Elimiated Use	C. Implementation Location (Check all Applicable)				D. Implementation Frequency	E. BMP Deficient?	F. BMP Comments (Corrective Actions); Attach Any Supporting Photos (including description)
			Outdoor Industrial Activities Areas	Outdoor Industrial Equipment and Storage Areas	Chemical Storage Areas	Others (Describe all other potential source of industrial pollutants)	Routine (Describe: Daily, Weekly, Monthly, Others, or As Needed)	Yes (describe in "Comments") or No or Not Applicable - NA	
Elimination of NSWD (LAWA SC1); Illicit Connection									
Aircraft, Ground Vehicle, and Equipment Maintenance (LAWA SC2)									
Aircraft, Vehicle and Equipment Fueling (LAWA SC3)									
Aircraft, Vehicle and Equipment Washing (SC4)									
Aircraft Deicing (SC5)									
Outdoor Material Handling (SC6)									
Outdoor Storage of Significant Material (SC7); Storage Tanks and Uncovered Outdoor Storage									
Waste Handling and Disposal (SC8); Housekeeping and Uncovered Dumptsters									
Building and Grounds Maintenance (SC9); Housekeeping									
Storm Water Pollution Prevention (SC10); Employee awareness training and recordkeeping Education									
Lavatory Service Operations (SC11)									
Outdoor Washdown/Sweeping (SC12); Stains on pavement/concrete									
Fire Fighting Foam Discharge (SC13)									
Potable Water System Flushing (SC14)									
Runway Rubber Removal (SC15)									
Oil/Water Separators (LAWA TC1)									
Emergency Spill Cleanup Plan (LAWA SR1); Spill kits and Plan Posted									
Contaminated or Erodible Surfaces (CASQA SC-40)									
Drainage System Maintenance (CASQA SC-44)									
Wet Pond (CASQA - TC-20)									
Extended Detention Basin (CASQA TC-22)									
Media Filter (CASQA TC-40)									
Gravity Separator (CASQA MP-51)									

LAX
Los Angeles World Airports

Monthly Dry Weather Visual Observation Form For LAX Discharge Locations and Erodible Areas

Month: _____
Year: _____

Inspector Name: _____
Title: _____
Signature: _____

DOMINGUEZ CHANNEL	(Observed at the terminus of the open channel)				
	Discharge Observed:		Discharge Type/Source(s):		Discharge Characteristics:
Inspection Date:	□ Yes	□ No	Authorized	Unauthorized	Flow Rate:
	Corrective Actions:				Color:
Inspection Time:					Odors:
					Sheen:
					Turbity:
					Cloudiness:
					Suspended Material:
					Floating Material:

ARGO DITCH	(Observed at the beginning (east end) of the open channel)				
	Discharge Observed:		Discharge Type/Source(s):		Discharge Characteristics:
Inspection Date:	□ Yes	□ No	Authorized	Unauthorized	Flow Rate:
	Corrective Actions:				Color:
Inspection Time:					Odors:
					Sheen:
					Turbity:
					Cloudiness:
					Suspended Material:
					Floating Material:

IMPERIAL CHANNEL	(Observed at Retention Basin, bypassed discharge not observable)			
Inspection Date:	Did the basin bypass since previous inspection:		Number of days basin bypassed flows since previous inspection:	
	□ Yes	□ No		days
Inspection Time:	Corrective Actions:			

Erodible Areas			
Evidence of Erosion:	□ Yes	□ No	Location 1:
			Location 2:
			Location 3:
Potential for Erosion:	□ Yes	□ No	Location 4:
			Location 5:
			Location 6:
BMP reccomendation:	Location _____:		
	Location _____:		
	Location _____:		

Other Areas of Concern:		
Location Description:		Issue:

Annual Comprehensive Facility Compliance Evaluation

Facility Name: Los Angeles International Airport (LAX)	Facility Address: 1 World Way, Los Angeles, CA
Inspector Name:	Inspector Title:
Signature:	Date and Time:

PART I. Records Review

Were all sampling, visual observation and inspection records reviewed?	Yes ☐ No ☐	Explanation:

PART II. Industrial Activity and BMP Inspection

Potential Pollutant Source / Industrial Activity Area	If Yes, to Either Question, Complete the Next Two Columns of this Form		Describe Deficiencies in BMPs or BMP Implementation	Describe Additional/Revised BMPs or Corrective Actions and Their Date(s) of Implementation
	Have any BMPs Not Been Fully Implemented?	Yes ☐ No ☐		
	Are Additional / Revised BMPs Necessary?	Yes ☐ No ☐		
	Have any BMPs Not Been Fully Implemented?	Yes ☐ No ☐		
	Are Additional / Revised BMPs Necessary?	Yes ☐ No ☐		
	Have any BMPs Not Been Fully Implemented?	Yes ☐ No ☐		
	Are Additional / Revised BMPs Necessary?	Yes ☐ No ☐		
	Have any BMPs Not Been Fully Implemented?	Yes ☐ No ☐		
	Are Additional / Revised BMPs Necessary?	Yes ☐ No ☐		

PART II. Industrial Activity and BMP Inspection (Continued)				
Potential Pollutant Source / Industrial Activity Area	**If Yes, to Either Question, Complete the Next Two Columns of this Form**		**Describe Deficiencies in BMPs or BMP Implementation**	**Describe Additional/Revised BMPs or Corrective Actions and Their Date(s) of Implementation**
	Have any BMPs Not Been Fully Implemented?	Yes ☐ No ☐		
	Are Additional / Revised BMPs Necessary?	Yes ☐ No ☐		
	Have any BMPs Not Been Fully Implemented?	Yes ☐ No ☐		
	Are Additional / Revised BMPs Necessary?	Yes ☐ No ☐		
	Have any BMPs Not Been Fully Implemented?	Yes ☐ No ☐		
	Are Additional / Revised BMPs Necessary?	Yes ☐ No ☐		
	Have any BMPs Not Been Fully Implemented?	Yes ☐ No ☐		
	Are Additional / Revised BMPs Necessary?	Yes ☐ No ☐		
	Have any BMPs Not Been Fully Implemented?	Yes ☐ No ☐		
	Are Additional / Revised BMPs Necessary?	Yes ☐ No ☐		
	Have any BMPs Not Been Fully Implemented?	Yes ☐ No ☐		
	Are Additional / Revised BMPs Necessary?	Yes ☐ No ☐		

Annual Comprehensive Facility Compliance Evaluation (Continued)

PART II. Industrial Activity and BMP Inspection (Continued)				
Potential Pollutant Source / Industrial Activity Area	**If Yes, to Either Question, Complete the Next Two Columns of this Form**		**Describe Deficiencies in BMPs or BMP Implementation**	**Describe Additional/Revised BMPs or Corrective Actions and Their Date(s) of Implementation**
	Have any BMPs Not Been Fully Implemented?	Yes ☐ No ☐		
	Are Additional / Revised BMPs Necessary?	Yes ☐ No ☐		

PART III. Drainage Area Inspection

Drainage Area	Stormwater Discharge Locations	Receives Industrial Stormwater?
		Yes ☐ No ☐
		Yes ☐ No ☐
		Yes ☐ No ☐
		Yes ☐ No ☐
		Yes ☐ No ☐
		Yes ☐ No ☐

PART IV. Additional Assessments

Additional Comments or Assessments:

APPENDIX G

Storm Event Forms

Los Angeles Word Airports Storm Water Monitoring 2017-2018
FIELD OBSERVATIONS AND SAMPLING LOG SHEET

PROJECT/SURVEY NAME	STATION ID:
LAX Stormwater 2017-2018	Argo

DATE	TIME STARTED (AT SITE)	TIME FINISHED (AT SITE)

FIELD TEAM	RECORDER

MONITORING PERIOD	□ DRY WEATHER	□ WET WEATHER

WEATHER CONDITIONS □ CLEAR □ CLOUDY □ FOGGY □ DRIZZLING □ RAINY

WATER APPEARANCE

ODOR	□ ROTTEN EGG/H2S	□ MUSTY	□ SEWAGE	□ AMMONIA	□ GASOLINE/PETROLEUM	
	□ FISH/DECAY	□ CHLORINE	□ NONE	□ CHEMICAL	□ OTHER	□ NONE
COLOR	□ YELLOW	□ GREEN	□ BLUE	□ BROWN	□ RED	
	□ COLORLESS	□ OTHER				
FLOATING MATERIALS (ALL THAT APPLY)	□ SUDS/FOAM	□ OILY SHEEN	□ ORGANIC MATERIAL	□ SCUM	□ ALGAE	
	□ OTHER (DESCRIBE)				□ NONE	
TRASH	□ NONE	□ STYROFOAM	□ WOOD	□ PLASTIC (CUPS, BOTTLES, BAGS)	□ OTHER (DESCRIBE)	
TURBIDITY	□ CLEAR	□ CLOUDY	□ HEAVY CLOUDINESS, OPAQUE			

Water Quality Appearance Comments:

GRAB COLLECTION TIME: _____.	**Grab samples to be collected:** Oil and Grease (1 L Amber Glass), Total+Fecal Coliform (120 ml Poly), Enterococci (120 mL Poly)
***Level reading from flowmeter at time of grab sample** (Comment if Level **is not** representative of current level in the MS4)	**Level = _____inches**

FIELD MEASUREMENTS (Taken in duplicate)		Field Meter Serial #_____.		
TEMP (°C)	pH	CONDUCTIVITY (uS/cm)		
TEMP (°C)	pH	CONDUCTIVITY (uS/cm)		

SAMPLING ACTIVITIES (DESCRIBE ALL ACTIONS TAKEN AT EACH SITE VISIT AND PROVIDE ADDITIONAL COMMENTS AS NECESSARY)

Flow-Weighted Sampling
AUTOSAMPLER PACING INTERVAL:_____(cfs) SAMPLE ALIQUOT VOLUME:_____(mL)

TIME ON:_____ TIME OFF:_____

TOTAL SAMPLE VOLUME:_____(mL)

IF USING AUTOMATED SAMPLING EQUIPMENT, RECORD LAST SAMPLE TIME FOR EACH BOTTLE WHEN CHANGED OR REMOVED

BOTTLE 1 _____ BOTTLE 2 _____ BOTTLE 3 _____ BOTTLE 4 _____

BOTTLE 5 _____ BOTTLE 6 _____ BOTTLE 7 _____ BOTTLE 8 _____

PHOTOS TAKEN: □ YES □ NO
PHOTO NUMBERS AND NOTES: _____

TEAM LEADER'S SIGNATURE _____

Los Angeles Word Airports Storm Water Monitoring 2017-2018
FIELD OBSERVATIONS AND SAMPLING LOG SHEET

PROJECT/SURVEY NAME	STATION ID:
LAX Stormwater 2017-2018	Imperial

DATE	TIME STARTED (AT SITE)	TIME FINISHED (AT SITE)

FIELD TEAM	RECORDER

MONITORING PERIOD	□ DRY WEATHER	□ WET WEATHER

WEATHER CONDITIONS □ CLEAR □ CLOUDY □ FOGGY □ DRIZZLING □ RAINY

WATER APPEARANCE

ODOR	□ ROTTEN EGG/H2S	□ MUSTY	□ SEWAGE	□ AMMONIA	□ GASOLINE/PETROLEUM	
	□ FISH/DECAY	□ CHLORINE	□ NONE	□ CHEMICAL	□ OTHER	□ NONE
COLOR	□ YELLOW	□ GREEN	□ BLUE	□ BROWN	□ RED	
	□ COLORLESS	□ OTHER				
FLOATING MATERIALS (ALL THAT APPLY)	□ SUDS/FOAM	□ OILY SHEEN	□ ORGANIC MATERIAL	□ SCUM	□ ALGAE	
	□ OTHER (DESCRIBE)				□ NONE	
TRASH	□ NONE	□ STYROFOAM	□ WOOD	□ PLASTIC (CUPS, BOTTLES, BAGS)	□ OTHER (DESCRIBE)	
TURBIDITY	□ CLEAR	□ CLOUDY	□ HEAVY CLOUDINESS, OPAQUE			

Water Quality Appearance Comments:

GRAB COLLECTION TIME: _____.	**Grab samples to be collected:** **Oil and Grease (1 L Amber Glass), Total+Fecal Coliform (120 ml Poly), Enterococci (120 mL Poly)**
***Level reading from flowmeter at time of grab sample** (Comment if Level **is not** representative of current level in the MS4)	**Level = _____inches**

FIELD MEASUREMENTS (Taken in duplicate)		Field Meter Serial #_____.		
TEMP (°C)	pH	CONDUCTIVITY (uS/cm)		
TEMP (°C)	pH	CONDUCTIVITY (uS/cm)		

SAMPLING ACTIVITIES (DESCRIBE ALL ACTIONS TAKEN AT EACH SITE VISIT AND PROVIDE ADDITIONAL COMMENTS AS NECESSARY)

Flow-Weighted Sampling

AUTOSAMPLER PACING INTERVAL:_____(cfs) SAMPLE ALIQUOT VOLUME:_____(mL)

TIME ON:_____ TIME OFF:_____

TOTAL SAMPLE VOLUME:_____(mL)

IF USING AUTOMATED SAMPLING EQUIPMENT, RECORD LAST SAMPLE TIME FOR EACH BOTTLE WHEN CHANGED OR REMOVED

BOTTLE 1 _____ BOTTLE 2 _____ BOTTLE 3 _____ BOTTLE 4 _____

BOTTLE 5 _____ BOTTLE 6 _____ BOTTLE 7 _____ BOTTLE 8 _____

PHOTOS TAKEN: □ YES □ NO

PHOTO NUMBERS AND NOTES: _____

TEAM LEADER'S SIGNATURE _____

Los Angeles Word Airports Storm Water Monitoring 2017-2018
FIELD OBSERVATIONS AND SAMPLING LOG SHEET

PROJECT/SURVEY NAME	STATION ID:
LAX Stormwater 2017-2018	Dominguez

DATE	TIME STARTED (AT SITE)	TIME FINISHED (AT SITE)

FIELD TEAM	RECORDER

MONITORING PERIOD	□ DRY WEATHER	□ WET WEATHER

WEATHER CONDITIONS □ CLEAR □ CLOUDY □ FOGGY □ DRIZZLING □ RAINY

WATER APPEARANCE

ODOR	□ ROTTEN EGG/H2S	□ MUSTY	□ SEWAGE	□ AMMONIA	□ GASOLINE/PETROLEUM	
	□ FISH/DECAY	□ CHLORINE	□ NONE	□ CHEMICAL	□ OTHER	□ NONE
COLOR	□ YELLOW	□ GREEN	□ BLUE	□ BROWN	□ RED	
	□ COLORLESS	□ OTHER				
FLOATING MATERIALS (ALL THAT APPLY)	□ SUDS/FOAM	□ OILY SHEEN	□ ORGANIC MATERIAL	□ SCUM	□ ALGAE	
	□ OTHER (DESCRIBE)				□ NONE	
TRASH	□ NONE	□ STYROFOAM	□ WOOD	□ PLASTIC (CUPS, BOTTLES, BAGS)	□ OTHER (DESCRIBE)	
TURBIDITY	□ CLEAR	□ CLOUDY	□ HEAVY CLOUDINESS, OPAQUE			

Water Quality Appearance Comments:

GRAB COLLECTION TIME: _____.	**Grab samples to be collected:** Oil and Grease (1 L Amber Glass), Total+Fecal Coliform (120 ml Poly), Enterococci (120 mL Poly)
***Level reading from flowmeter at time of grab sample** (Comment if Level **is not** representative of current level in the MS4)	**Level = _____inches**

FIELD MEASUREMENTS (Taken in duplicate)		Field Meter Serial #_____.		
TEMP (°C)	pH	CONDUCTIVITY (uS/cm)		
TEMP (°C)	pH	CONDUCTIVITY (uS/cm)		

SAMPLING ACTIVITIES (DESCRIBE ALL ACTIONS TAKEN AT EACH SITE VISIT AND PROVIDE ADDITIONAL COMMENTS AS NECESSARY)

Flow-Weighted Sampling
AUTOSAMPLER PACING INTERVAL:_____(cfs) SAMPLE ALIQUOT VOLUME:_____(mL)

TIME ON:_____ TIME OFF:_____

TOTAL SAMPLE VOLUME:_____(mL)

IF USING AUTOMATED SAMPLING EQUIPMENT, RECORD LAST SAMPLE TIME FOR EACH BOTTLE WHEN CHANGED OR REMOVED

BOTTLE 1 _____ BOTTLE 2 _____ BOTTLE 3 _____ BOTTLE 4 _____

BOTTLE 5 _____ BOTTLE 6 _____ BOTTLE 7 _____ BOTTLE 8 _____

PHOTOS TAKEN: □ YES □ NO
PHOTO NUMBERS AND NOTES: _____

TEAM LEADER'S SIGNATURE _____

pH, EC, Temp Meters Calibration Log

Date: ____________________ Project Name: LAX Stormwater 2017-2018

Type	Ser.#	Temp	pH - (2 point: 7, 4 or 10)				EC (1 point)		Batteries	Condition	Calibrator
pH,EC,Temp			Standard:	pH 4	pH 7	pH 10	Standards:	1,413 µS	Charged	Excellent	
Multimeter			Pre-cal:				Pre-cal:		Replaced	Good	
			Post-cal:				Post-cal:		# of days:	Fair	
				0.1 ±	0.1 ±	0.1 ±		100 µS ±		Service	
Type	SSN	Temp	pH - (2 point: 7, 4 or 10)				EC (1 point)		Batteries	Condition	Calibrator
pH,EC,Temp			Standard:	pH 4	pH 7	pH 10	Standards:	1,413 µS	Charged	Excellent	
Multimeter			Pre-cal:				Pre-cal:		Replaced	Good	
			Post-cal:				Post-cal:		# of days:	Fair	
				0.1 ±	0.1 ±	0.1 ±		100 µS ±		Service	
Type	SSN	Temp	pH - (2 point: 7, 4 or 10)				EC (1 point)		Batteries	Condition	Calibrator
pH,EC,Temp			Standard:	pH 4	pH 7	pH 10	Standards:	1,413 µS	Charged	Excellent	
Multimeter			Pre-cal:				Pre-cal:		Replaced	Good	
			Post-cal:				Post-cal:		# of days:	Fair	
				0.1 ±	0.1 ±	0.1 ±		100 µS ±		Service	
Type	SSN	Temp	pH - (2 point: 7, 4 or 10)				EC (1 point)		Batteries	Condition	Calibrator
pH,EC,Temp			Standard:	pH 4	pH 7	pH 10	Standards:	1,413 µS	Charged	Excellent	
Multimeter			Pre-cal:				Pre-cal:		Replaced	Good	
			Post-cal:				Post-cal:		# of days:	Fair	
				0.1 ±	0.1 ±	0.1 ±		100 µS ±		Service	
Type	SSN	Temp	pH - (2 point: 7, 4 or 10)				EC (1 point)		Batteries	Condition	Calibrator
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Multimeter			Pre-cal:				Pre-cal:		Replaced	Good	
			Post-cal:				Post-cal:		# of days:	Fair	
				0.1 ±	0.1 ±	0.1 ±		100 µS ±		Service	
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pH,EC,Temp			Standard:	pH 4	pH 7	pH 10	Standards:	1,413 µS	Charged	Excellent	
Multimeter			Pre-cal:				Pre-cal:		Replaced	Good	
			Post-cal:				Post-cal:		# of days:	Fair	
				0.1 ±	0.1 ±	0.1 ±		100 µS ±		Service	
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pH,EC,Temp			Standard:	pH 4	pH 7	pH 10	Standards:	1,413 µS	Charged	Excellent	
Multimeter			Pre-cal:				Pre-cal:		Replaced	Good	
			Post-cal:				Post-cal:		# of days:	Fair	
				0.1 ±	0.1 ±	0.1 ±		100 µS ±		Service	
Type	SSN	Temp	pH - (2 point: 7, 4 or 10)				EC (1 point)		Batteries	Condition	Calibrator
pH,EC,Temp			Standard:	pH 4	pH 7	pH 10	Standards:	1,413 µS	Charged	Excellent	
Multimeter			Pre-cal:				Pre-cal:		Replaced	Good	
			Post-cal:				Post-cal:		# of days:	Fair	
				0.1 ±	0.1 ±	0.1 ±		100 µS ±		Service	
Type	SSN	Temp	pH - (2 point: 7, 4 or 10)				EC (1 point)		Batteries	Condition	Calibrator
pH,EC,Temp			Standard:	pH 4	pH 7	pH 10	Standards:	1,413 µS	Charged	Excellent	
Multimeter			Pre-cal:				Pre-cal:		Replaced	Good	
			Post-cal:				Post-cal:		# of days:	Fair	
				0.1 ±	0.1 ±	0.1 ±		100 µS ±		Service	
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Multimeter			Pre-cal:				Pre-cal:		Replaced	Good	
			Post-cal:				Post-cal:		# of days:	Fair	
				0.1 ±	0.1 ±	0.1 ±		100 µS ±		Service	
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pH,EC,Temp			Standard:	pH 4	pH 7	pH 10	Standards:	1,413 µS	Charged	Excellent	
Multimeter			Pre-cal:				Pre-cal:		Replaced	Good	
			Post-cal:				Post-cal:		# of days:	Fair	
				0.1 ±	0.1 ±	0.1 ±		100 µS ±		Service	
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			Post-cal:				Post-cal:		# of days:	Fair	
				0.1 ±	0.1 ±	0.1 ±		100 µS ±		Service	
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pH,EC,Temp			Standard:	pH 4	pH 7	pH 10	Standards:	1,413 µS	Charged	Excellent	
Multimeter			Pre-cal:				Pre-cal:		Replaced	Good	
			Post-cal:				Post-cal:		# of days:	Fair	
				0.1 ±	0.1 ±	0.1 ±		100 µS ±		Service	
Type	SSN	Temp	pH - (2 point: 7, 4 or 10)				EC (1 point)		Batteries	Condition	Calibrator
pH,EC,Temp			Standard:	pH 4	pH 7	pH 10	Standards:	1,413 µS	Charged	Excellent	
Multimeter			Pre-cal:				Pre-cal:		Replaced	Good	
			Post-cal:				Post-cal:		# of days:	Fair	
				0.1 ±	0.1 ±	0.1 ±		100 µS ±		Service	
Type	SSN	Temp	pH - (2 point: 7, 4 or 10)				EC (1 point)		Batteries	Condition	Calibrator
pH,EC,Temp			Standard:	pH 4	pH 7	pH 10	Standards:	1,413 µS	Charged	Excellent	
Multimeter			Pre-cal:				Pre-cal:		Replaced	Good	
			Post-cal:				Post-cal:		# of days:	Fair	
				0.1 ±	0.1 ±	0.1 ±		100 µS ±		Service	

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Analytical Laboratory Services - Since 1964

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Tel 626-336-2139 ♦ Fax 626-336-2634 ♦ www.wecklabs.com

Standard CHAIN OF CUSTODY RECORD

WECK WKO#_____

CLIENT NAME:	PROJECT:
Alta Environmental_Oceanside	LAX Airport LAWA-17-6968
ADDRESS:	PHONE: 562-495-5777
3777 Long Beach Blvd., Annex Bldg.	FAX: 526-495-5877
Long Beach, CA 90807	EMAIL: david.renfrew@altaenviron.ocm
	garth.engelhorn@altaenviron.com
PROJECT MANAGER	SAMPLER
David Renfrew	

SPECIAL HANDLING

- ☐ Same Day Rush 150%
- ☐ 24 Hour Rush 100%
- ☐ 48-72 Hour Rush 75%
- ☐ 4 - 5 Day Rush 30%
- ☐ Rush Extractions 50%
- ☑ 10 - 15 Business Days
- ☐ QA/QC Data Package

Charges will apply for weekends/holidays

Method of Shipment:

ID# (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SMPL TYPE	Cl_2	SAMPLE IDENTIFICATION/SITE LOCATION	# OF CONT.	ANALYSES REQUESTED											COMMENTS
							**Coliform Total, Fecal MTFT	**Enterococcus MTFT 9230B	Oil and Grease	200.8 Total&Diss.+ Hg 245.1 Total&Diss	608, 624, 625 Toxic Rule	8015 Water EG+PG,8270 PAH SIM	Ammonia,Asbestos,COD,CN- ASTM	Dioxin	OG_NP, BOD	Total Phosphorus P 365.3	TSS, TOC, Specific Conductance	
				No	Dominguez Grab	4	x	x	x									
				No	Dominguez Composite	22				x	x	x	x	x	x	x	x	
				No	Argo Grab	4	x	x	x									*Ag, Al, As, Be,Cd, Cr, Cu, Ni, Pb, Sb
				No	Argo Composite	22				x	x	x	x	x	x	x	x	Se, Tl, Zn
																		Filter Dissolved Metals at Lab
				No	Imperial Grab	4	x	x	x									
				No	Imperial Composite	22				x	x	x	x	x	x	x	x	**Total and Fecal Coliform, Enterococcus
																		initial 10x dil. followed by 25 tubes(5dil.)

RELINQUISHED BY	DATE / TIME	RECEIVED BY	DATE / TIME
RELINQUISHED BY	DATE / TIME	RECEIVED BY	DATE / TIME
RELINQUISHED BY	DATE / TIME	RECEIVED BY	DATE / TIME

SAMPLE CONDITION:

Actual Temperature:

Received On Ice	Y / N
Preserved	Y / N
Evidence Seals Present	Y / N
Container Attacked	Y / N
Preserved at Lab	Y / N

SAMPLE TYPE CODE:

AQ=Aqueous
NA= Non Aqueous
SL = Sludge
DW = Drinking Water
WW = Waste Water
RW = Rain Water
GW = Ground Water
SO = Soil
SW = Solid Waste
OL = Oil
OT = Other Matrix

PRESCHEDULED RUSH ANALYSES WILL TAKE PRIORITY
OVER UNSCHEDULED RUSH REQUESTS
Client agrees to Terms & Conditions at: www.wecklabs.com

SPECIAL REQUIREMENTS / BILLING INFORMATION

COC version 042707

APPENDIX H

Field Meter Instructions

WATER QUALITY TESTER (COMBO PEN)

(99720)

Supplied with :
Meter x1 , Batteries x2, manual x 1 , carrying pouch x1 , Hard carrying
case x1 , wrist strip , soaking solution , pH solution , Conductivity
solution x 1, Conductivity electrode , pH electrode (built-on)
Optional electrode: ORP electrode

FEATURES: 99702 Four (4) in one Con/TDS/Salt/Temp. combo pen

- A combo smart pen , buy one get 4 parameters with less cost
- Powered by AAA x 4 pcs batteries
- Dual display Conductivity or TDS or Salt and temperature readings
  Self-calibrate with supplied conductivity solution

Supplied with Meterx1 , Cond. solution x1 , Soak solution x 1 , batteries x 4 , manual and wrist strip, hard case.

Model No.	99702 (4 in one)		
Type	Cond.	TDS	Salt
Range	0~2000µS, 2.00~20.00mS	0~1300ppm 1.30~13.00ppt	0~1000ppm, 1.00~12.00ppt
Accuracy	±2%FS (Cond. TDS Salt)		
Resolution	1µS/ 0.01mS	1ppm/ 0.01ppt	1ppm/ 0.01ppt
ATC	0~50℃		
Calibration	Cond: 0µS/ 1413µS/ 12.88mS		

FEATURES :

- A very smart pen type combo water quality tester, buy one get more than 6 parameter measurement ,microprocessor based for fast and accurate display
- A new shape design powered by AAA DC1.5V x 4 pcs batteries
- Simple to calibrate by one button, may float on water
- Compact housing Ip57 water resistant design
- Large LCD display pH or ORP or Cond. or TDS or Salt and temperature simultaneously
- ATC stands for Automatic Temperature Compensation
- MSC stands for Manually salinity calibration
- MAC stands for Manually altitude compensation
- Data hold freezes current reading, Maximum/Minimum function
- Temp.C and F are selectable, battery low indication. Auto power off in 10 minutes
- Easy to replace with new electrode to maintain meter life
- Replacement electrode modules are easy to replace and the type of electrode would be recognized automatically and shown in display during insertion
- Wide range pH measurement from -2 to 16

Model No.	99720 (6 in one)		
Type	pH	ORP	Temp.
Range	-2~16.00	-1000~1000	0~90℃
Accuracy	±0.01+1dg	±2+1dg	±0.2℃+1dg
Resolution	0.01pH	1mV	0.1℃
ATC	0~90℃		
Calibration	pH: 4.00/ 7.00/ 10.01		
Type	Cond.	TDS	Salt
Range	0~2000µS, 2.00~20.00mS	0~1300ppm 1.30~13.00ppt	0~1000ppm, 1.00~12.00ppt
Accuracy	±2%FS (Cond. TDS Salt)		
Resolution	1µS/ 0.01mS	1ppm/ 0.01ppt	1ppm/ 0.01ppt
ATC	0~50℃		
Calibration	Cond: 0µS/ 1413µS/ 12.88mS		
Power	AAA batteries x 4 pcs		
Weight	Meter : 135 g (battery included), Kit: 780g		
Dimension	Meter : 195 X40x36mm (Kit: 230x205x50mm)		

ATTACHMENT A

2014 Industrial General Permit

Available on-line at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.shtml.