



# STORMWATER POLLUTION PREVENTION PLAN

## 2024 TRAINING MAUNAL

### PALM BEACH COUNTY INTERNATIONAL AND GENERAL AVIATION AIRPORTS

Prepared For:

Palm Beach County Department of Airports

846 Palm Beach International Airport

Palm Beach, Florida 33406



NOVEMBER 2024

Prepared By:





SECTION	TENANT NAME
1	SWPPP Training and Virtual Training Workshop(s) Presentation Slides
2	SWPPP Test Questionnaire
3	Certificate of Completion
4	SWPPP Training Records / Attendance



## **Introduction**

The Palm Beach County Department of Airports (PBDOA) has contracted AVCON and Earthology, LLC to conduct the Stormwater Pollution Prevention Plan (SWPPP) Annual Training Workshop in order to comply with the Airport's National Pollutant Discharge Elimination System (NPDES) permit requirements. This annual training is a benefit provided by the Airport to its tenants, in order to ensure SWPPP compliance, and to recertify Airport staff and tenants under the Airport's SWPPP program.

In 2024, one (1) In Person training workshop was conducted on April 4, 2024, at the PBCDOA Admin Building, 1000 PBIA, Suite 846, West Palm Beach, FL 33406-141. Following that, one (1) virtual workshop SWPPP training workshop was conducted on April 9, 2024, via zoom.

An Attendance sheet was filled out by SWPPP In person training workshop attendees. For the virtual training workshop, attendance was recorded via Zoom. Testing was conducted at the end of the virtual training session through virtual Questionnaire.

Enclosed are the copies of all the training materials provided for the 2024 Annual SWPPP Training.



# **SWPPP In Person Training and Virtual Training Workshop(s)**

**In-Person: Thursday, April 4, 2024, from 10:00 a.m. – 11:30 a.m.**

**Virtual: Tuesday, April 9, 2024, from 2:00 p.m. – 3:30 p.m.**

## **Presentation Slides**

# ***STORMWATER POLLUTION PREVENTION PLAN TRAINING MANUAL***

**April 2024**

**Palm Beach International Airport - PBI  
Palm Beach County Park Airport - LNA  
North Palm Beach County General Aviation Airport - F45  
Palm Beach County Glades Airport – PHK**



Prepared for:

Palm Beach County Department of Airports  
846 Palm Beach International Airport  
Palm Beach, Florida 33406





# STORMWATER POLLUTION PREVENTION PLAN

## *TRAINING MANUAL* 2024 TRAINING WORKSHOP

### PALM BEACH COUNTY INTERNATIONAL AND GENERAL AVIATION AIRPORTS

#### Prepared For:

Palm Beach County Department of Airports  
846 Palm Beach International Airport  
Palm Beach, Florida 33406

**April 2024**

#### Prepared By:





General Presentation is for all airports. If you have specific questions regarding a specific airport, please ask the respective airport officials during the Questions & Answers session or email us.



Participation is documented via your attendance and test completion today.



Training Certification will be provided based on attendance and receipt of passing test documentation.



Certificates will be distributed at the In-Person training and emailed to the Virtual training attendees.





# ***Presented by:***

***Earthology Environmental Consulting Services, LLC  
(EARTHOLOGY)***

Raj Kamthe (Presenter)

and

Patrick Huhn

[Patrick.Huhn@earthology.info](mailto:Patrick.Huhn@earthology.info)







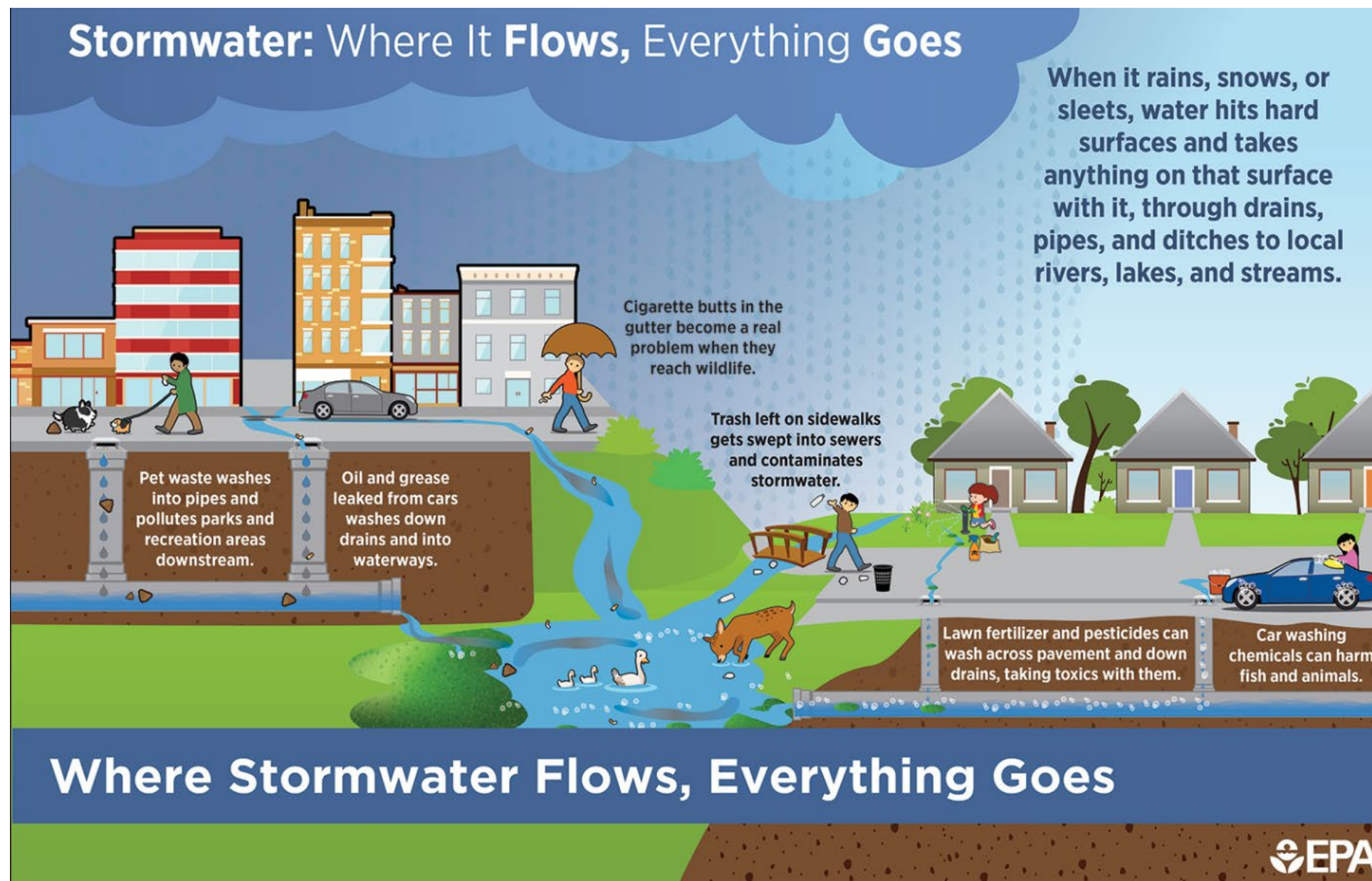
## ***Table of Contents***

- SWPPP Training Workshop Slides
- SWPPP Training Handouts
- SWPPP Test Questionnaire
- Certificate of Completion
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***What are we  
going to  
discuss?***

## ***Training Agenda***

- Stormwater Runoff and Stormwater permit
- SWPPP Course Goals
- SWPPP Components
- Your role and importance of your participation
- Who to Call?
- Know your Airport
- Best Management Practices (BMPs)



## ***What is stormwater runoff?***

Stormwater runoff refers to water from rainfall that does not infiltrate into the ground and flows over impervious areas accumulating pollutants and sediments, with final disposal discharging into our waterways.

***Why are you here?***

***Airport's NPDES Multi-Sector Generic Permit (MSGP) for Industrial Activities at Airports requires:***

- SWPPP
- Annual Training Workshops
- Annual Inspections



# ***NPDES Multi-Sector Generic Permit (MSGP)***

## **NPDES MSGP - 40 CFR 122.26(b)(14) (i)- (xi)**

“Federal regulations require stormwater discharges associated with specific categories of industrial activity to be covered under NPDES permits”

Specific applicable categories of industrial activity to the permit include, but are not limited to:

- Chemical
- Land application/disposal
- Transportation
- Construction
- Light industry





# ***NPDES MSGP Coverage***

## **What is Covered under the Airport's Permit?**

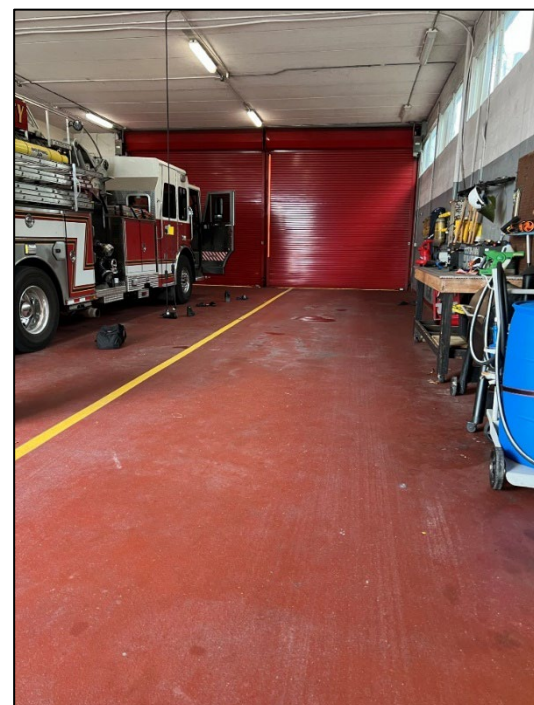
### ***Stormwater runoff from Airport facilities***

- Runways and taxiways
- Parking areas
- Building and hangar roofs

## **What is Not Covered under the Permit?**

### ***Non-stormwater runoff***

- Vehicle, Equipment & Aircraft washing
- Fire fighting activities and fire hydrant flushing
- A/C condensate, lawn watering, potable line flushing





# **Who is covered by the DOA MSGP?**

***The DOA MSGP is for airport operations only:***

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- DOA Facilities
- Aircraft and vehicle servicing, repairing, maintaining
- Equipment cleaning and maintenance
- Mechanical repairs, Painting, Fueling, Lubrication

Coverage is effective for 5 years

## ***Who is not covered by the DOA MSGP?***

***Some Airport Tenants require a separate NPDES permit for the following activities:***

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- Operations covered by a separate MSGP:
  - Petroleum bulk stations (e.g., fuel farms)
  - Motor Freight Transportation
  - Miscellaneous Manufacturing
  - Fabricated Metal Products (e.g., electroplating)
- Aircraft and vehicle wash waters
- Land disturbance greater than 1 acre



## ***What is SWPPP?***

***A Storm Water Pollution Prevention Plan (SWPPP) is a site-specific document that:***

- Identifies potential sources of stormwater pollution.
- Describes control measures to reduce/ eliminate pollutants in discharges.
- Identifies procedures to comply with the NPDES permit.
- Provides major updates every 5 years.



## ***SWPPP Components***

### ***What is included in the SWPPP?***

Organization Plan

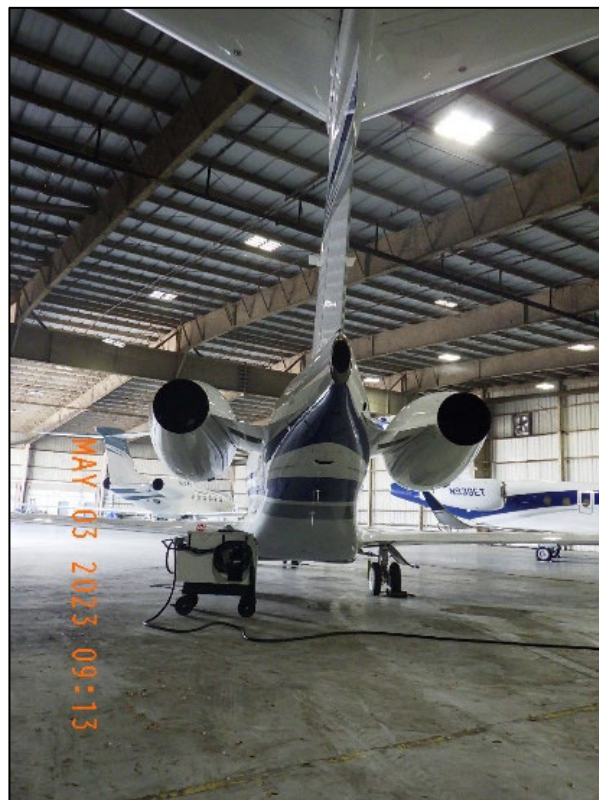
Airport Site and Drainage Maps

Potential Stormwater Pollutant Sources

Best Management Practices (BMPs)

Monitoring and Inspections

Record keeping



## ***Roles of Tenants and their Employees***

**Integrate** employee feedback into training and BMPs implementation.

Employees must **know how** and to **whom** they can **report** problems and solutions.

**Encourage** employees to become **active players** in pollution prevention.

*\*This applies to Tenants as well as their employees.*

## ***Who to Call?***

### ***Storm Water Team Leader***

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**SWPPP Manager**

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**Andrew Gämboa-Villamil**

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**(561) 656-5989**

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**[jgamboa@pbia.org](mailto:jgamboa@pbia.org)**

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***The SWPPP Team Leader and/or the authorized representative  
is responsible for maintaining and implementing the SWPPP!***







***Know your Airport***

***Know your Facility!***

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**1. Lease Boundary**

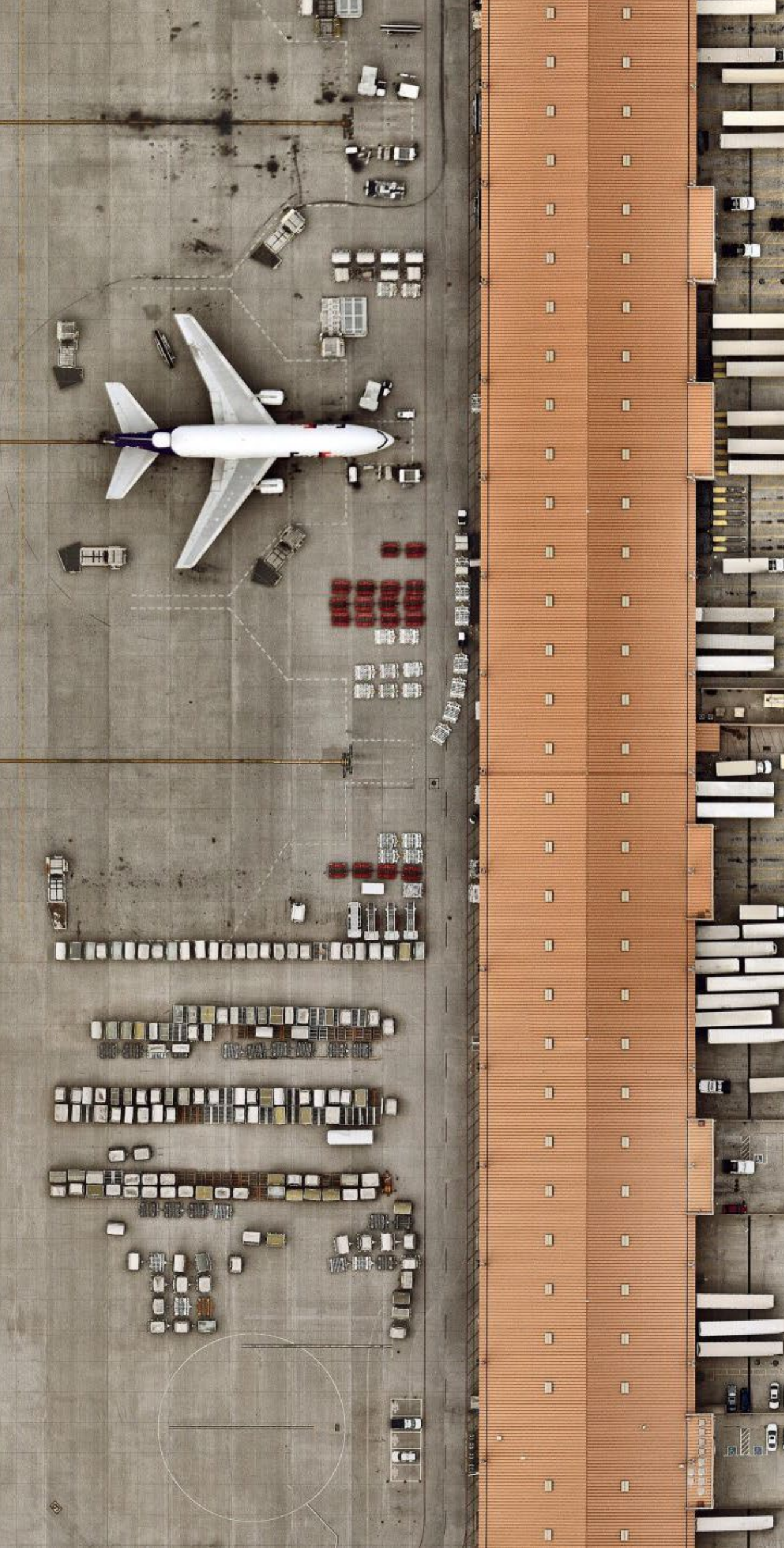
- Terminal Areas
- Fixed-Base Operator (FBOs)
- Runways, taxiways, & aprons
- Vehicle parking lots
- Hangers & buildings
- Fuel farms and tanks
- Waste collection areas

**2. Nearest drainage structure of your lease**

**3. How does the water flow**

**4. What to do if there is a spill**





## ***Airport Layout: Drainage***

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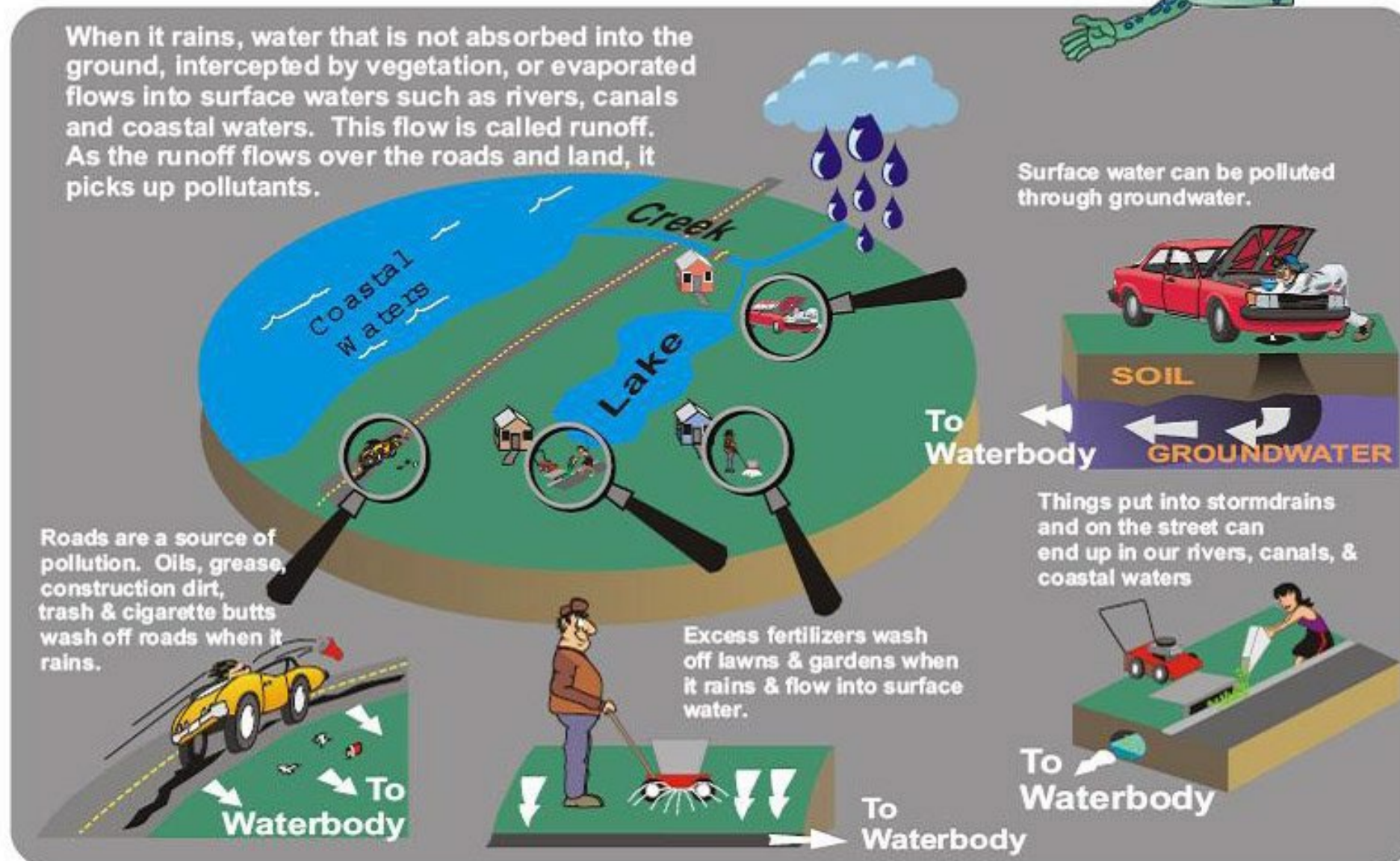
- Shows NPDES outfalls, ponds, ditches, swales, pipes, etc.
- Indicates stormwater flow direction
  - Review SWPPP Appendix E to identify the nearest inlet to your Facility
- Identifies commingling areas
- Divides airport into sub-basins
- Identifies stormwater structures and their connection to each other
- Identifies the connection of stormwater structures with offsite drainage



# Best Management Practices (BMPs)

## Potential Sources of Pollutants

### The CULPRITS



WATERSHED WEEKLY

- Fuel farms – **Fuel**
- Airport warehouse – **fertilizers, pesticide, paint, herbicide, cleaners, etc.**
- FBOs – **oil, degreaser, paint, fuel, solvents, etc.**
- Aircraft/vehicle traffic – **oil, rubber, etc.**
- Taxiways & grassy areas – **dust and landscape waste**
- Wildlife – **animal waste**



## ***What is a BMP?***

### **BMP = Best Management Practices**

BMPs are programs, practices, techniques, processes, measures, and devices that control, prevent, remove, or reduce water pollution.

There are:

- *General Stormwater BMPs*
- *Structural BMPs*
- *Non-Structural BMPs*
- *Specific Activities BMPs*





## ***General Stormwater BMPs***

### ***GOALS of General Stormwater BMPs***

- Minimize use of contaminants
- Source control
- Minimize exposure
- Maximize infiltration
- Inspect/maintain structural measures (ditch, pond, OWS)
- Spill prevention and control
- Materials management and storage



## ***Structural BMPs***

- Ditches and Swales
- Retention/Detention ponds
- Oil-water separators
- Buffer zones/vegetative stabilization
- Dikes, check dams, weirs
- Rip-rap
- Berms

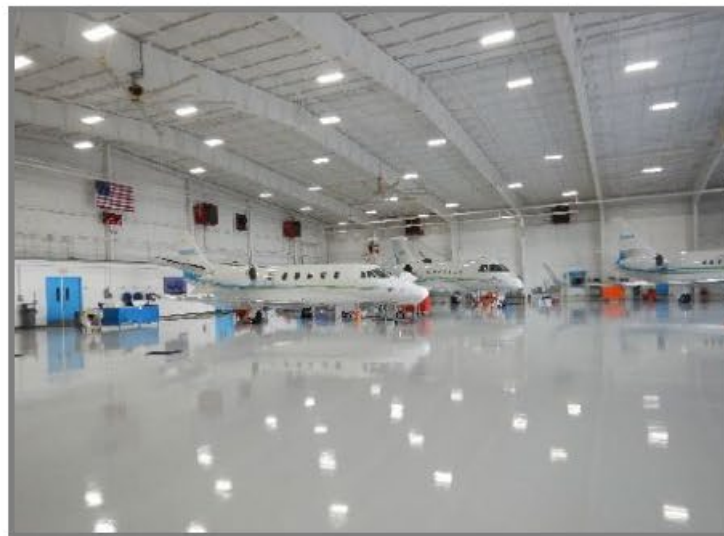


## ***Non-Structural BMPs***

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### ***INCLUDE:***

- **Clean or sweep daily**
- **Provide ample uncluttered workspace**
- **Keep walkways/passageways accessible**
- **Have a usable, up-to-date fire extinguisher**
- **Spill procedures & kits**
- **Proper storage of significant materials**



***BMPs for Specific  
Activities:  
Aircraft, Vehicle and  
Equipment  
Maintenance Areas  
BMPs***

- **Use drip pans.**
- **Drain and properly dispose of all fluids and batteries from aircraft, vehicles, and equipment.**
- Recycle/properly dispose of grease, oil, brake fluid, cleaning solutions, hydraulic fluid, batteries, transmission fluid, filters, etc.
- **Conduct maintenance activities indoors or under covered areas.**
- **Use designated areas to clean equipment (parts washer).**
- Regularly clean catch basins.
- Inspect, clean, and maintain sump and oil/water separators.
- Keep hazardous waste containers covered.
- Properly label hazardous materials.
- **Do not pour used/leftover materials into storm drains.**
- Clean shop floors.





## ***Specific Activity BMPs: Significant Materials Storage BMPs***

### ***INCLUDE:***

- **Store materials in their original or approved containers .**
- Label all chemical containers.
- **Store drums and containers on spill containment pallets.**
- Protect all significant materials from rainfall, run-off, and wind dispersal.
- **Maintain a spill response plan near the material or waste storage area.**
- Store like solvents, solutions together.
- Do not store bleach with oils or fuel.
- **Maintain an up-to-date Safety Data Sheet binder.**
- **Use fireproof storage cabinets.**
- Keep hazardous waste containers covered.
- Properly dispose of used oil and fluids.



## ***Specific Activity BMPs: Aircraft, Vehicle and Equipment Cleaning Areas BMPs***

- **Use “dry” washing and surface preparation techniques.**
- **Keep wash area clean and free of waste.**
- **Collect stormwater runoff from cleaning area and provide treatment or recycling.**
- **Include proper signage to prohibit the discharge of waste oils into the drains.**
- **Keep degreasing activities in a fully enclosed area.**
- **Properly manage and dispose of cleaning/degreasing waste.**





## ***Specific Activities BMPs: Aircraft, Vehicle and Equipment Painting and Storage BMPs***

- **Use efficient paint equipment to reduce over spray waste.**
- **Use tarps, drip pans, or other spill control devices to prevent from entering stormwater drainage.**
- **Waste paint, paint thinner and solvents should be disposed of properly or stored in cabinets away from stormwater drainage.**
- **Sanding should be performed inside in a well-ventilated area.**
- **Work areas should be clean and clear to prevent wind from carrying dust into stormwater drainage.**





## ***Specific Activities BMPs: Waste Management BMPs***

- **Waste handling and storage areas should be covered.**
- **Use covered dumpsters and keep them closed and locked.**
- Maintain waste storage areas in a clean and orderly condition.
- Inspect waste management areas for spills and leaks.
- Eliminate waste collection piles.
- Ensure that sediments and wastes are prevented from being washed, leached, or otherwise carried off-site.
- **Schedule waste pickup frequently to avoid overloaded/overfilled disposal containers.**
- Segregate and separate wastes.
- **Do not dispose of liquid wastes into dumpsters.**





## ***Specific Activities BMPs: Litter Control BMPs***

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- **Provide sufficient garbage receptacles, strategically placed**
- Anchor covered garbage receptacles outdoors
- **Make sure garbage cans do not leak**
- **Implement a recycling program**
- Provide recycling containers

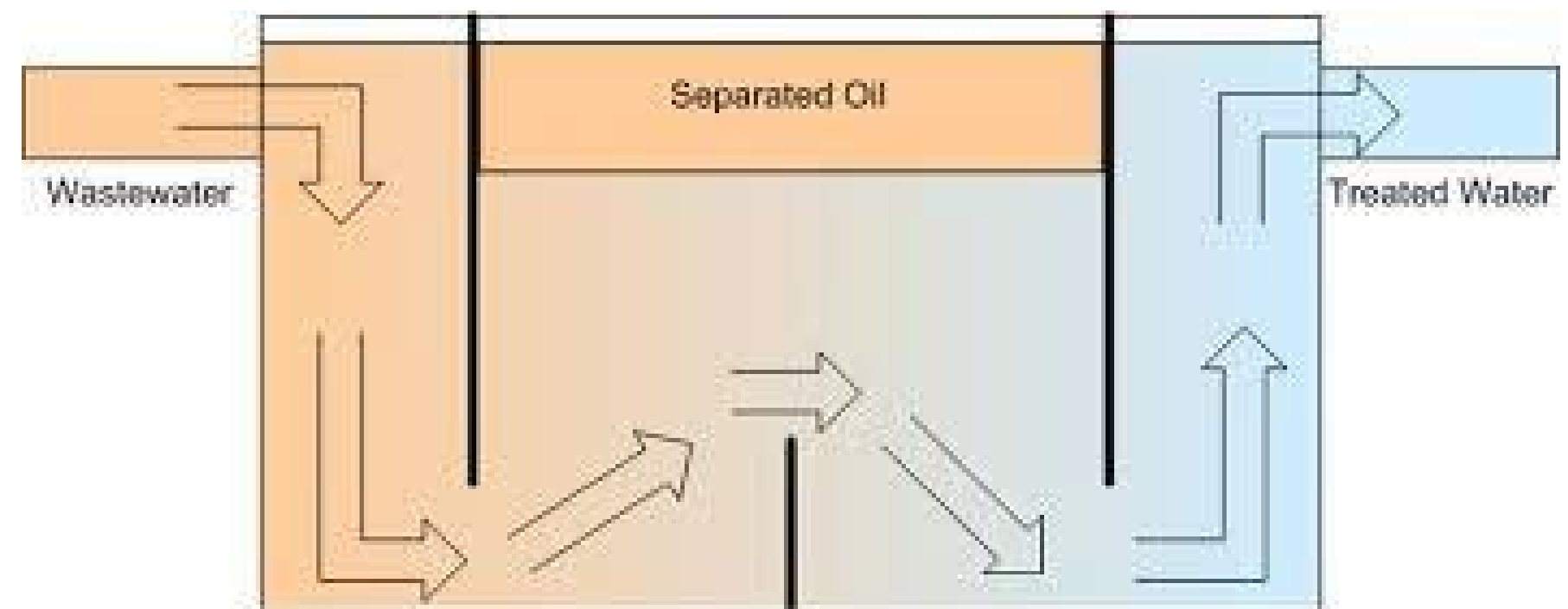
***Specific Activities***  
***BMPs:***  
***Oil/Water Separator***  
***BMPs***

**Separators must be inspected and cleaned frequently to be effective stormwater quality controls.**

Oil absorbent pads are to be replaced as needed but should always be replaced prior to the wet season.

The effluent shutoff valve will be closed during cleanup operations.

Any standing water removed during the cleanup operation must be disposed of in accordance with all regulatory requirements and replaced with clean water to prevent oil carry-over through the outlet.







## ***Specific Activities BMPs: Lavatory Waste Management BMPs***

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- **Only discharge lavatory waste to sanitary sewer connections at triturator facilities.**
- Drain the aircraft connecting hose as completely as possible into the storage tank after servicing an aircraft.
- Use only surfactants and disinfectants approved for discharge to the sanitary sewer system.
- Utilize buckets or pans to capture drippage from aircraft lavatory access fittings.
- **Carry absorbent and other containment equipment on the lavatory service equipment.**



***Specific Activities  
BMPs:  
Outdoor Waste and  
Material  
Handling BMPs***

- Use seals or door skirts between vehicles and structures to prevent material exposure to rainfall.
- Contain and absorb leaks during transfers and spillage from hose disconnections; dispose of residue properly.
- **Avoid transferring or using materials in close proximity to storm drain inlets.**
- Use drip pans to contain small releases.
- **Transfer and use liquids only in paved areas.**
- Provide contractors and haulers with copies of pertinent BMPs.

***Specific Activities  
BMPs:  
Pest Management  
and  
Landscape  
Maintenance BMPs***

- **Incorporate areas of landscape into project design to reduce runoff discharge from a site.**
- Incorporate design considerations such as leaving or **planting native vegetation to reduce irrigation, fertilizer and pesticide needs.**
- Minimize the use of pesticides, herbicides and fertilizers.
- **Properly dispose of landscape waste, wash water, sweepings and sediments.**
- Select landscaping plants that require little maintenance and/or pest control.
- For sandy soils, apply fertilizer half the recommended rate but 2x as often.
- **Do not over water!**
- **Leave grass clippings on turf areas.**
- Compost leaves.
- Use Integrated Pest Management.
- Promptly clean spills on impervious surfaces.

***Specific Activities  
BMPs:  
Sediment and  
Erosion Control  
BMPs***

- Leave as much plant cover as possible.
- **Sod immediately.**
- Divert flow to grassy areas.
- **Install and inspect silt screens.**
- Locate staging areas in disturbed areas.
- Provide drainage ways for increased runoff.



***Specific Activities  
BMPs:  
Dust Control BMPs***

- **Do not expose large areas of soil especially during drought conditions.**
- Leave buffer/planted areas between graded areas.
- Plant areas not subject to traffic.
- **Mulch areas to control dust.**
- Minimize impact by using tarps and other surface treatments.
- **Install temporary or permanent surface stabilization measures after completing land grading.**
- Reduce speed limits on roads that generate dust.

## ***Specific Activities BMPs:***

### ***Parking Areas BMPs***

- Collect all waste, liquid and solid, for appropriate disposal.
- **Protect storm drains, gutters or off-site migration points from any liquid or solid waste during maintenance or repair work.**
- **Regularly clean parking lots to remove dirt, accumulations of grease and oil, general debris and trash.**
- If a wet cleaning method is used, ensure storm drains or off-site migration points are protected.

### ***Runway Rubber Removal BMP***

- Place devices that will capture rubber and dirt particulates over storm drain culverts.
- Use manual or mechanical cleaning methods.

## ***Specific Activities BMPs: Aircraft, Vehicle and Equipment Fueling BMPs***



- **Use absorbent materials and spot cleaning for small spills.**
- **Properly dispose of any fuel spills and leaks.**
- **Use PIG absorbent mats over catch basins during fueling activity.**
- **Provide curbing or posts around fuel pumps to prevent collisions from vehicles.**
- **Store fuel drums indoors, when possible.**
- **Employ secondary containment or cover when transferring fuel from a fuel truck to a fuel tank.**
- **Avoid topping off fuel tanks.**
- **Instruct operators how to use and dispose of absorbent material.**
- **Fuel dispensing equipment should be equipped with “breakaway” hose connections that will provide emergency shut-down of flow should the fueling connection be broken through movement.**
- **Inspect, clean and maintain sumps and oil/water separators at appropriate intervals.**
- **Automatic shut-off mechanisms should be in place on fuel tankers.**



***Specific Activities  
BMPs:  
Preflight Fuel  
Sample BMPs***

- **Pour sump fuel in waste fuel container.**
- Sump fuel containers are provided.
- Use fuel testers, which separate out all non-fuel contaminants.
- Provide educational brochures on sump fuel.

***Specific Activities  
BMPs:  
Spill Plan BMPs***

**Spill Prevention Control and Countermeasures Plan (SPCC) are required for facilities:**

- **Storage capacity greater than 1,320 gallons of oil, petroleum or oil-based material.**
- May be inclusive of several facilities which may not be adjacent to one another.
- Spill plans should include the following:
  - Description of the facility.
  - Site plan showing location of chemical storage areas, storm drains, site drainage patterns, fire extinguishing locations, and description of devices used to contain spills, (i.e., positive shutoff control valves).
  - Notification procedures to be implemented in the event of a spill.
  - Spill prevention, containment and cleanup procedures.
  - Designated personnel with spill response cleanup responsibility.
  - Annual training required for compliance with federal regulations.

## ***Specific Activities BMPs: Spill Kits BMPs***

- Make spill clean up materials accessible – *fuel farms, FBOs, mobile fuel truck, vehicles, hangars, maintenance canopy.*
- Replenish spill kit materials regularly.
- Evaluate the need/feasibility of retrofitting fuel trucks with vacuum pumps for spill response.







***Spills Happen...***

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## ***Spill Procedures What to do in a spill?***

1. Identify and stop the source.
2. Contain the spill in the smallest area possible.
3. Establish “spill perimeter zone.”
4. Clean up spill and use absorbent material.
5. If the spill is too large to contain, place absorbent materials around nearest storm drain.
6. Notify the Proper Authority FOR ANY SIZE SPILL :

### **ALL AIRPORTS:**

**PBI Communications Center (24/7)– ALL SPILLS- (561) 471-7420**

### **LNA:**

**Stellar Aviation – Aaron Klein**

**Office: (561) 656-9815**

**Cell: (561) 445-7991**

### **F45 & PHK:**

**Signature Flight Support**

**José Oliveira - Office: (561) 626-9799**

7. Complete spill report.\*

*\* Spills over 25 Gallons requires the submittal of a Discharge Reporting Form to FDEP.*

## ***Spill Procedures*** (continued)

### ***1. Identify the Source and Stop the Flow of Fuel***

Emergency shutoff valve, place container under source of leaking fuel, reconnect hoses, etc.

### ***2. Contain the Spill***

Spread absorbent materials (Oil-Dri, absorbent pads, PIG)

Set up absorbent materials around any nearby storm drains to protect from fuel entering stormwater system

### ***3. Set Up “Perimeter Zone”***

Alert PBI Communications Center

Clear the area of unnecessary personnel (only spill responders, fire-rescue, and operations personnel should be in area of spill)

Direct traffic away from area



# Spill Procedures (continued)



**Department of  
Environmental Protection**  
2600 Blair Stone Road • Tallahassee, Florida 32399-2400  
**DISCHARGE REPORT FORM**

DEP Form: 62-761.900(1)  
Form Title: Discharge Report Form  
Effective Date: June 2023  
Incorporated in Rule 62-761.405, F.A.C.

Complete all applicable blanks, and submit copies of any analytical or field test results confirming contamination to soils, surface water, or groundwater to the County via email or mail.

Facility ID Number (If Registered): \_\_\_\_\_ Date of Form Completion: \_\_\_\_\_ Date of Discovery: \_\_\_\_\_  
Facility Name: \_\_\_\_\_ County: \_\_\_\_\_  
Facility (Property) Owner: \_\_\_\_\_ Telephone Number: \_\_\_\_\_  
Owner Mailing Address: \_\_\_\_\_  
Location of Discharge (Facility Street Address): \_\_\_\_\_ Lat/Long: \_\_\_\_\_  
Date of receipt of any test or analytical results confirming a discharge: \_\_\_\_\_ Estimated number of gallons discharged: \_\_\_\_\_

**Discharge affected:** (Check all that apply)  
☐ Soil ☐ Groundwater ☐ Surface water (water body name) \_\_\_\_\_  
☐ Drinking water well(s) ☐ Shoreline ☐ Other (specify) \_\_\_\_\_

**Evidence of discharge:** (Check all that apply)  
☐ Visual observation of sheen ☐ Results or receipt of results of analytical tests ☐ Stained soils  
☐ Visual observation of free product ☐ Spill or vehicle overfill > 25 gallons to a pervious surface ☐ Other (explain in comments)

**Method of discovery and confirmation of discharge:** (Check all that apply, see rule language explanation on instructions for this form)  
☐ Visual observation ☐ Closure/Closure sampling assessment ☐ Surface water analytical results  
☐ Groundwater analytical results ☐ Soil analytical results ☐ Other (specify) \_\_\_\_\_

**Type of regulated substance discharged:** (Check all that apply)  
☐ Gasoline ☐ Jet fuel ☐ Mineral acids (ASTs) ☐ Ammonia compound ☐ Chlorine compound  
☐ Diesel ☐ Used/waste oil ☐ Biofuel blends  
☐ Heating oil ☐ New motor/lube oil ☐ Unknown  
☐ Kerosene ☐ Pesticide ☐ Other (specify) \_\_\_\_\_  
☐ Aviation gas ☐ Grade 5 & 6 residual oils  
☐ Hazardous substance (USTs) – write name or Chemical Abstract Service (CAS) #: \_\_\_\_\_

**Discharge originated from a:** (Check all that apply)  
☐ Tank ☐ Other secondary containment ☐ Railroad tankcar  
☐ Piping ☐ Fitting or pipe connection ☐ Barge, tanker ship, or other vessel  
☐ Spill bucket ☐ Valve ☐ Pipeline  
☐ Dispenser ☐ Tank truck ☐ Drum  
☐ Piping sump ☐ Vehicle or customer vehicle ☐ Unknown  
☐ Dispenser sump ☐ Aircraft ☐ Other (specify) \_\_\_\_\_

**Cause of the discharge:** (Check all that apply)  
☐ Spill ☐ Material failure (crack, split, etc.) ☐ Collision ☐ Weather  
☐ Overfill ☐ Material incompatibility ☐ Vehicle accident ☐ Human error  
☐ Corrosion ☐ Improper installation ☐ Fire/explosion ☐ Unknown  
☐ Puncture ☐ Loose connection ☐ Vandalism ☐ Other (specify) \_\_\_\_\_

**Actions taken in response to the discharge and additional comments:**  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Financial Responsibility Mechanism: \_\_\_\_\_ For Insurance - Name of Insurance Company: \_\_\_\_\_  
Policy Period: \_\_\_\_\_

**Agencies notified (as applicable):**  
☐ Fire Department ☐ County Program ☐ District Office ☐ State Watch Office ☐ National Response Center  
800-320-0519 800-424-8802

To the best of my knowledge and belief, all information submitted on this form is true, accurate and complete.

\_\_\_\_\_  
Printed Name of Owner, Operator or Authorized Representative

\_\_\_\_\_  
Signature of Owner, Operator or Authorized Representative

## Discharge Reporting Form\*

Required when:

**Spills over 25 gallons or when sheen  
present on surface water:**

- **Call FDEP Emergency Response  
(800) 320-0519**
- **Submit Discharge Reporting Form  
to FDEP**

**\* FDEP Discharge Reporting Form was  
revised in June 2023**

## ***FDEP Spill Response Contacts***



**FDEP Office Hours: M-F; 8am – 5pm**

**FDEP Office Phone: (561) 681-6767**

**Camren Richter**

**Professional Responder**

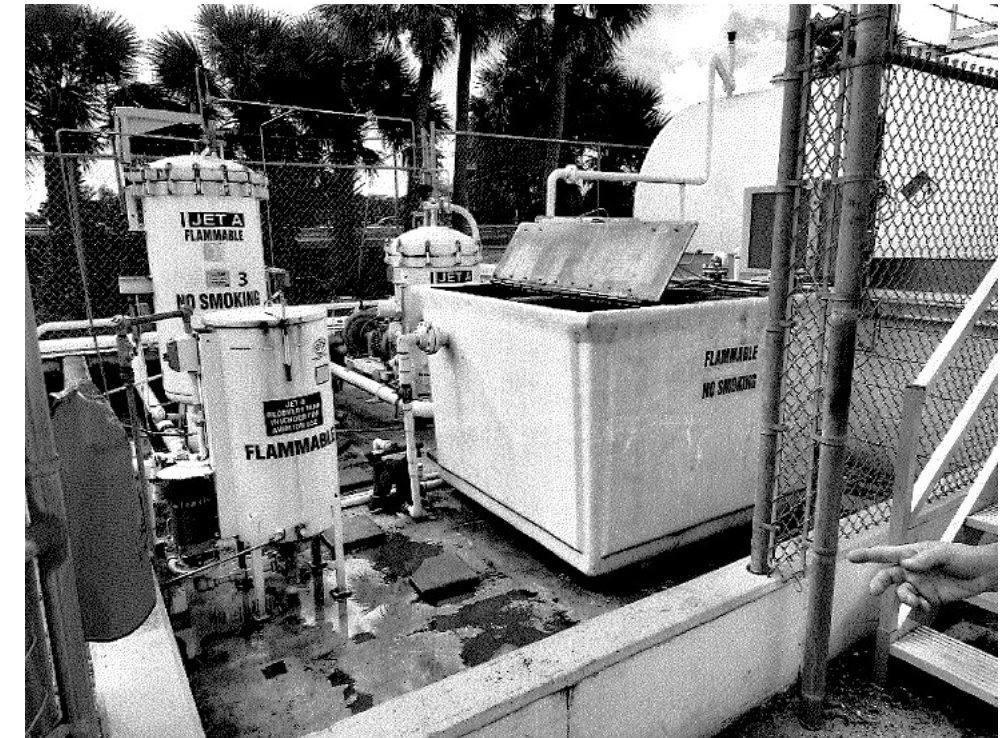
**Cell: (954) 658-4506**



# Summary of Spills (2023 – 2024)

**Since September 2023, 22 spills have been reported at PBI**

- 20 of the 22-spills reported thus far have been fuel spills. Most of these spills have occurred on the ramp, during fueling activities.
- Only one of these fuel spills were from a Fuel truck undergoing maintenance.
- Most of these spills can be attributed to human error. Frequent training is recommended.





## ***Spill Prevention/Preparation: What are the causes?***

### ***Human Error:***

- Enforce proper training procedures for fueling, spill response, and inspections.
- Employees must be diligent and pay attention, do not leave trucks unattended, etc.
- Evaluate upgrading equipment to minimize spill potential (e.g., auto shut-off on dispensers, high level audio/visual alarms, reconfigure/enhance dispenser location/area, etc.).

### ***Equipment Malfunction:***

- Regularly inspect equipment (daily inspection checklists) & routine maintenance.
- Recommend logging routine inspections, can use SPCC inspection checklists to prepare inspection sheet.
- Red-tag equipment and establish procedure for timely repair/disposal/replacement.

## ***Spill Prevention/Preparation*** (continued)



Know your facility prior to conducting fuel activities, especially the location of ALL nearby **storm drains** and **spill kits**.



**Proper spill kits** on fuel trucks and fuel farms:

Evaluate retrofitting fuel trucks with vacuum pump and small tank or a separate spill cart equipped with vacuum pump and two empty 55-gallon drums for spills greater than 25 gallons, annual training on equipment use.



Fuel handlers/managers required to have **annual spill training and an exercise**.

## ***Spill Prevention/Preparation*** (continued)



Maintain a list of environmental/remediation firms for large spills (vacuum trucks, tow companies, etc.)

***FDEP 24-Hour Emergency Environmental/ Remediation Contractors are listed in the following link:***

- <https://floridadep.gov/dle/oer/content/24-hour-emergency-response-contractors>



First responders and/or crew members need to provide detailed site information (i.e., size and cause of spill, location, type of hazardous material, etc.) when communicating with the environmental/ remediation firms so they are able to respond in a timely manner, and with the necessary equipment and supplies.



## Calculating Spill Volume

### Approximate Volume Spilled (in gallons)

$$(V) \text{ (gal)} = \text{Area (A) (ft}^2\text{)} \times \text{Height (h) (ft)} \times C \text{ (gal/ft}^3\text{)}$$

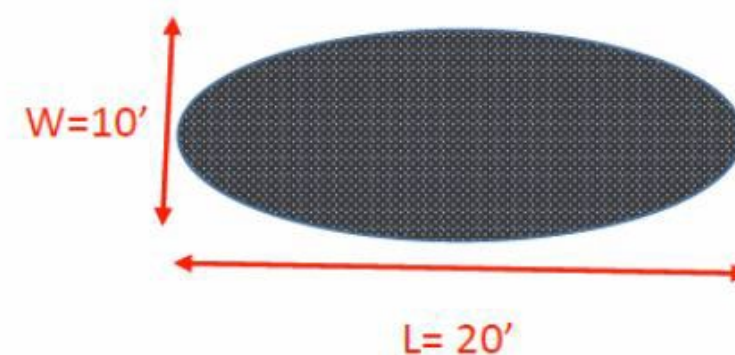
$$\text{Conversion (C)} = 7.48 \text{ (gal/ft}^3\text{)}$$

$$\text{Area (A) (ft}^2\text{)} = \text{Length (L) (ft)} \times \text{Width (W) (ft)}$$

(measured on the ground)

Height (h) (ft) is variable, for flat impervious surfaces use 0.02 – 0.04 ft

- If the spill has pooled and is measurable (i.e., along containment berm), a measurement will be taken to determine the height of the spill.
- If spill occurs on a pervious surface where infiltration can occur (sand, soil), the depth of the spill can be substituted for height.



#### EXAMPLE:

$$(L \times W \times h) (C) = V$$


$$(20' \times 10' \times 0.02') \times 7.48 = 29.9 \text{ gal}$$

## ***Components of your SWPPP: SWPPP Training, Education, Monitoring, and Inspections***

***SWPPP Training and education:*** *should contain the following elements:*

---

- **Promote** the proper storage, use and disposal of potentially harmful chemicals.
- **Promote** the use of safer alternative products such as: short-lived pesticides, non-chlorinated solvents, water-based paints, non-aerosol products.
- **Increase** awareness of the detrimental environmental impacts that results when harmful chemicals and wastes are dumped onto the ground or into storm drains.
- **Increase** awareness of possible penalties and fines associated with discharge of pollutants into storm drains.



## SWPPP Monitoring and Inspections: What we will be inspecting

- Non-stormwater discharges
- Stormwater structures
- Facilities – *fuel farms, parking areas, waste collection areas, etc.*
- Industrial Tenants
- Fuel Tanks
- Security





## ***Visual Inspections of Stormwater Structures***

***Some of the items we do inspect, but not limited to, are the following:***

- Is the pond choked with water plants?
- **Are there dead fish?**
- Is the water green?
- Is the pipe cracked?
- **Is there silt in the pipe or ditch?**
- **Are there dying plants around the structure?**
- Integrity and condition



## ***Industrial Tenants Inspections***

***We will inspect, but not limited to, the following:***

- Cleanliness
- Floor drain/storm drain
- Safety
- Waste management
- Record keeping
- Structural BMPs
- Storage
- Secondary containment
- Significant materials use



## ***Fuel Farm Facility Inspections***

***Facility Inspections include, but are not limited to:***

- Double walled tank
- Concrete pad
- Concrete wall for containment
- Emergency procedures posted
- Bollards to protect tank
- Spill kit & fire extinguisher
- Fence and padlock for security



## ***Fuel Tanks Facility Inspections***

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***These facilities' inspections are FBO's responsibility,  
should include:***

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### ***Daily***

- Sump Fuel Check
  - Check Hoses for Damages
  - Fuel receiving quality
- 

### ***Monthly***

- Filter membrane color test.
  - Bonding cable electrical continuity test
  - Dike integrity condition
  - Test and inspect storm water pumps and pipes
  - Clean and inspect nozzle screens.
  - Inspect and replace signs, placards and product labeling
-

## ***Fuel Tanks\* Facility Inspections (continued)***

### ***Quarterly Inspections***

- Emergency fuel shut off system test.
- Water defense mechanism test and repair, if necessary.

### ***Annual Inspections***

- Tank integrity inspection.
- Valve flow inspection.
- Filter inspection and/or replacement.
- Filter separator and coalescer elements.
- Full flow monitor and Micronic filter elements.
- Check/calibrate dispenser.
- Check pressure gauges and pressure controller for accuracy.

***\* Quarterly and Annual inspections for Fuel tanks are also FBO's responsibility***

## ***Security Measures Visual Inspections***



Fencing



Padlock and Key



Daily check



Badge entry system



Electronic keypad entry system



Airport limits access only!



## ***Record Keeping***

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**Inspection records**

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**Maintenance records**

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Corrective actions records

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Changes to the Plan

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Annual reports

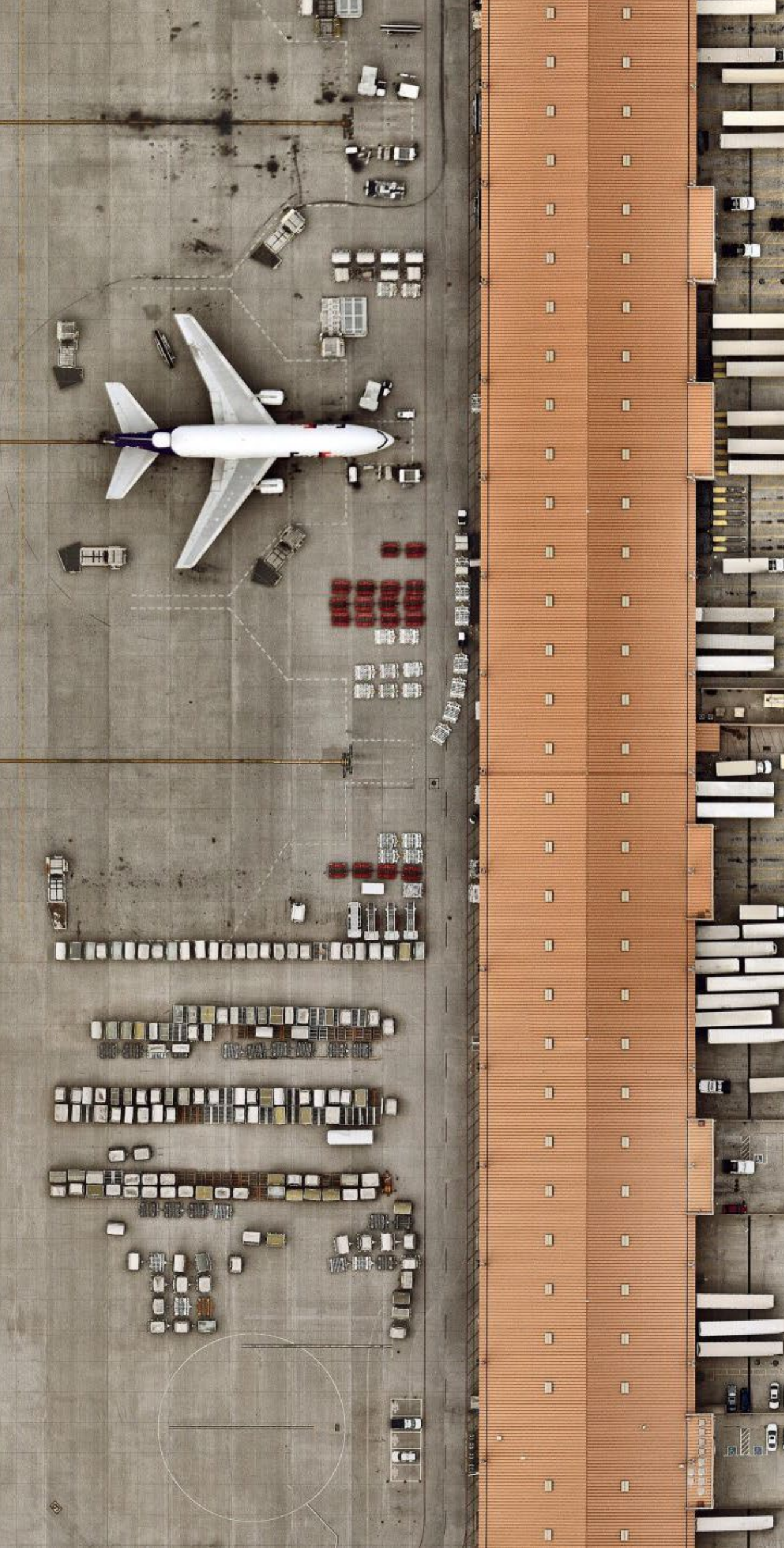
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**Training records**

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***REMEMBER: No documentation = Non-compliance***





## ***Review:***

### **What is in the SWPPP?**

- Organization plan
- Airport layout/drainage maps
- Potential sources of pollutants
- BMPs
- Monitoring/Inspections
- Record keeping

### **What can you do?**

- Generate less waste.
- Keep your hangars/buildings clean!
- Share your ideas with the airport.
- Follow our Airport plan and rules!
- Prevent pollution



## ***Next Steps:***

### ***Initial Inspections***

- To be completed following training.
- COVID protocols, if recurrent.
- “As Built”

### ***Follow Up Inspections***

- To be conducted 30 - 45 days after distribution of the initial inspection results.
- Provide documentation of corrective actions of action plan.



## ***2023 Inspection Summary of Results:***

- Expired Fire extinguisher
- SDS reports not available
- Waste dumpster not covered; trash debris around dumpster
- No spill kit or spill containment procedures posted
- Insufficient spill equipment/materials
- No oily rag bin
- Outdoor storage of materials not covered
- HAZMAT, waste and/or oil storage near building exit or covering the drain
- HAZMAT, waste, and/or chemical containers not labeled properly
- Oil drips on the floor
- No flammable cabinet; flammable materials not stored inside flammable cabinet
- No secondary containment or insufficient
- Flammable materials improperly stored outside of Fire Cabinet.

***We are all in this together to keep our airports'  
stormwater discharges clean of pollution!***

**Questions?**





Contact information:

**Earthology**

[www.earthology.info](http://www.earthology.info)

**Patrick Huhn**

[Patrick.Huhn@earthology.info](mailto:Patrick.Huhn@earthology.info)







# **SWPPP Test Questionnaire**

# 2024 SWPPP Training Workshop

## Test Questionnaire

April 4<sup>th</sup>, 2024

Annual Stormwater Pollution Prevention Training

\* Required

Email \*

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Name \*

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Company \*

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Instructions: Please mark only one answer to each question.

1. A stormwater pollution plan (SWPPP) does which of the following: \*
  - A. Identifies procedures to comply with the NPDES permit.
  - B. Identifies potential pollution sources.
  - C. Implements control measures to reduce or eliminate pollutants.
  - D. All of the above
2. What is a potential source of pollution?
  - A. Ticketing lobby
  - B. FBOs
  - C. Restrooms
  - D. None of the above
3. What does BMP stand for?
  - A. Bitmap
  - B. Best Manufacturing Practices
  - C. Best Management Practices
  - D. None of the above
4. What is stormwater runoff?
  - A. Saltwater intrusion in canals close to shore.
  - B. Water that comes from the faucet.
  - C. Rainwater that runs off rooftops, streets, etc.
  - D. Contaminated water with pollutants.
5. What would you do in case of a spill?
  - A. Contain the spill in the smallest area possible.
  - B. Notify proper authorities.
  - C. Identify and stop the source.

D. All of the above

6. What does SDS stand for?

- A. Stormwater Drainage Simulator
- B. Safety Data Sheet
- C. All of the above
- D. None of the above

7. When should you report a spill to the PBI Communications Center?

- A. 125 gallons
- B. 10 gallons
- C. Any size spill
- D. 15 gallons

8. What are examples of security measures?

- A. Padlock and key
- B. Identification badges
- C. Fencing
- D. All of the above

9. What are examples of non-structural BMPs?

- A. Proper storage of significant materials.
- B. Maintain handy spill procedures and kits.
- C. Have an up-to-date fire extinguisher.
- D. All of the above

10. How often should you attend SWPPP training?

- A. Twice a year
- B. Once every two years
- C. Once a year
- D. Never



## ANSWERS TO THE QUESTIONS

1. D
2. B
3. C
4. C
5. D
6. B
7. C
8. D
9. D
10. C



# **Certificate of Completion**

# Palm Beach County Department of Airports

## CERTIFICATE OF COMPLETION

This is to certify that

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Has attended and fully participated in the

2024 SWPPP Training Workshop

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April 4, 2024

Instructor: Prajakta Kamthe







# **SWPPP Training Records / Attendance**



**SWPPP In Person Training Workshop April 4 - List of Attendees**

<b>Full Name (First and Last)</b>	<b>Company</b>	<b>Email</b>	<b>Phone Number</b>
Art Apicella	Rotortech	<a href="mailto:Aapicella@rotortechservices.com">Aapicella@rotortechservices.com</a>	561-758-9589
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### SWPPP Virtual Training Workshop - List of Attendees

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