ARMA

AUSTIN REGIONAL MANUFACTURERS ASSOCIATION

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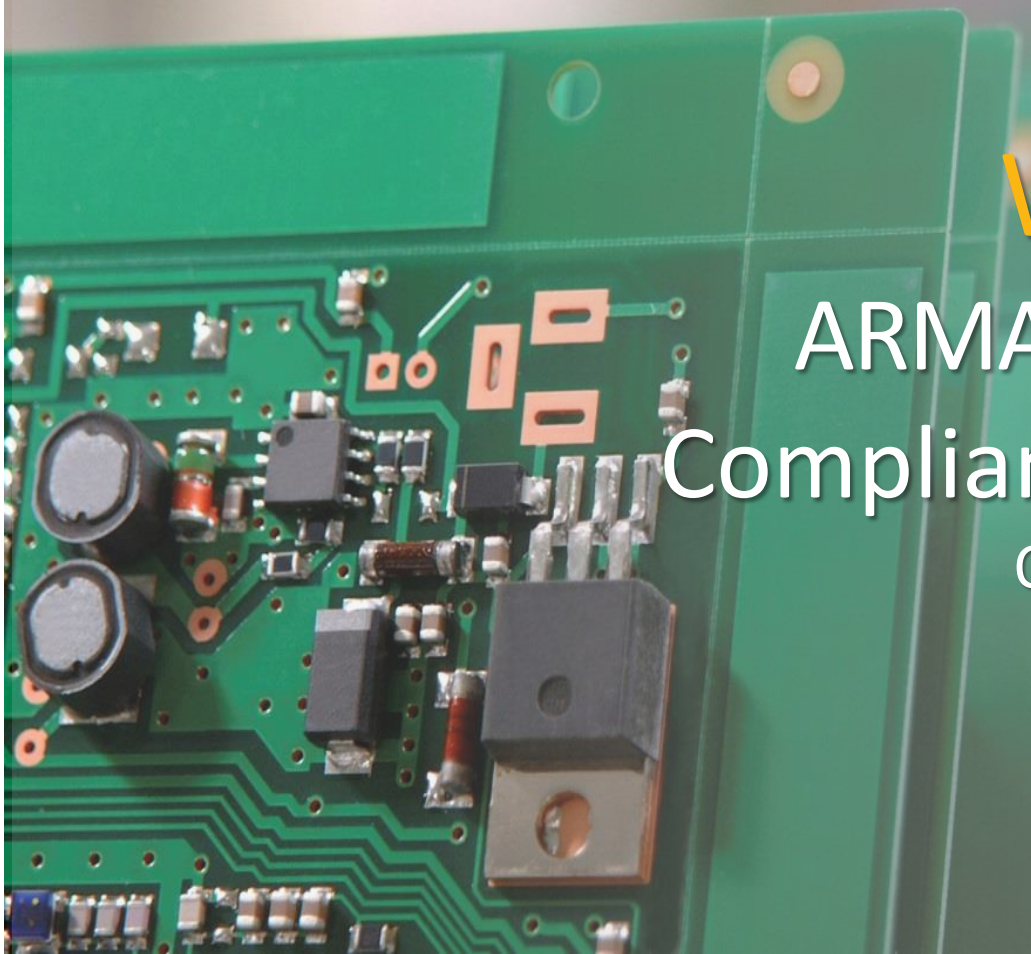

Welcome!

ARMA Environmental Compliance & Risk Seminar

October 7th, 2019

www.arma-tx.org

Overview of Stormwater Pollution Prevention Plans

J.P. Fedigan
Senior EHS Consultant

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AGENDA

- What is ‘Stormwater’?
  - Types of Pollutants
- Where to start?
  - SIC code
- Regulatory Requirements
  - Clean Water Act
  - EPA & TCEQ:
    - Federal (General Permit Outline) & State level permits (Industry-Specific)
  - Edwards Aquifer
    - Checklists
- Pollution Prevention Teams
- SWPPP vs No-Exposure
- What needs to be included in the plan?
- Maps
- Exposed Materials and Best Management Practices
- Recordkeeping & Management
- Quarterly vs Annual Inspections
- Common Findings & Corrective Actions
- Questions

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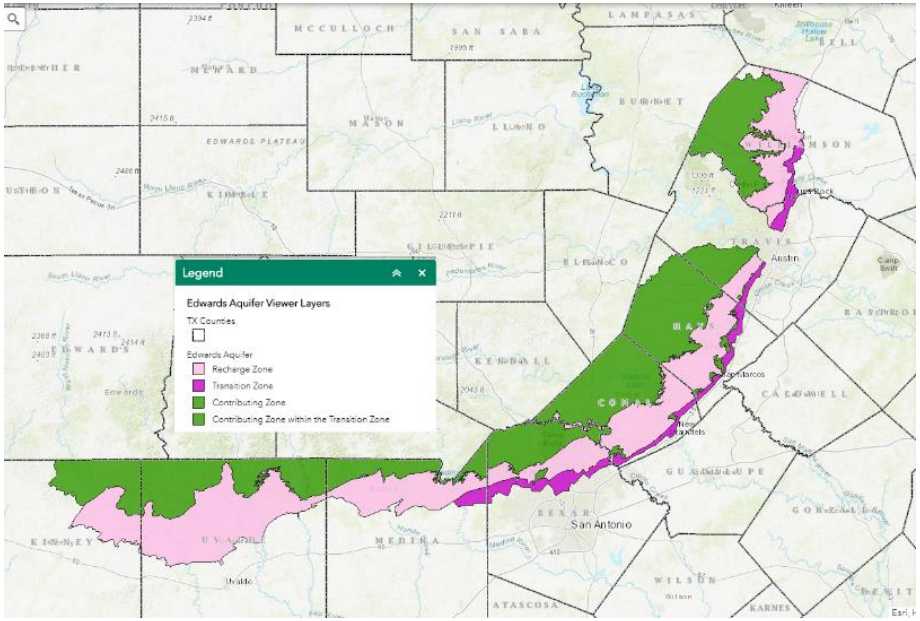
Purpose of SWPPP

- Stormwater: Runoff from rain
- Goal: Prevent contamination of stormwater from reaching waterways
  - i.e., “Only rain in the drain”
- Which waterways do you feed into from your facility?
  - Edwards Aquifer?



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Stormwater Pollution

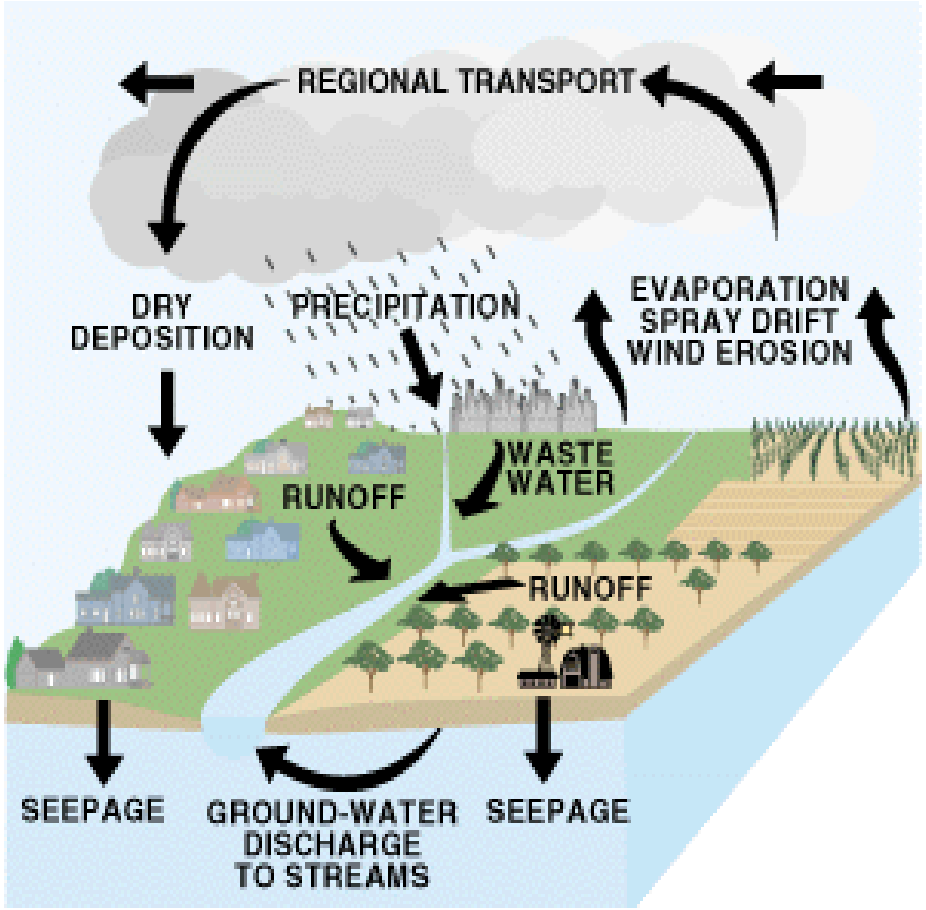
- Sediment
  - Reduces the amount of light in the water available for plant growth, decreasing the supply of food for other organisms.
  - Can clog and damage sensitive tissues such as the gills of fish.
  - Can suffocate organisms by forming thick deposits when the suspended material settles out
- Nutrients
  - An increase of nutrients in water stimulates growth of aquatic plants.
  - Causes excessive growth of aquatic weeds and algae that may choke lakes and streams and lead to dramatic daily fluctuations in dissolved oxygen levels.

Stormwater Pollution

- Oxygen-demanding substances
  - Oxygen is used up more quickly than it can diffuse into the water from the atmosphere. The resulting drop in oxygen levels may then kill fish and other aquatic organisms.
  - If all oxygen in the water is used up, can cause unpleasant odors.
- Micro-organisms
  - Contain very high numbers of bacteria and viruses. Some of these organisms can cause illnesses, including hepatitis and gastroenteritis.

Regulatory Requirements

- Clean Water Act
  - Initially the Federal Water Pollution Control Act Amendments of 1972
- EPA General Stormwater Permit
- TCEQ General Stormwater permit (MSGP)
- SIC Code
  - This code drives the permitting process



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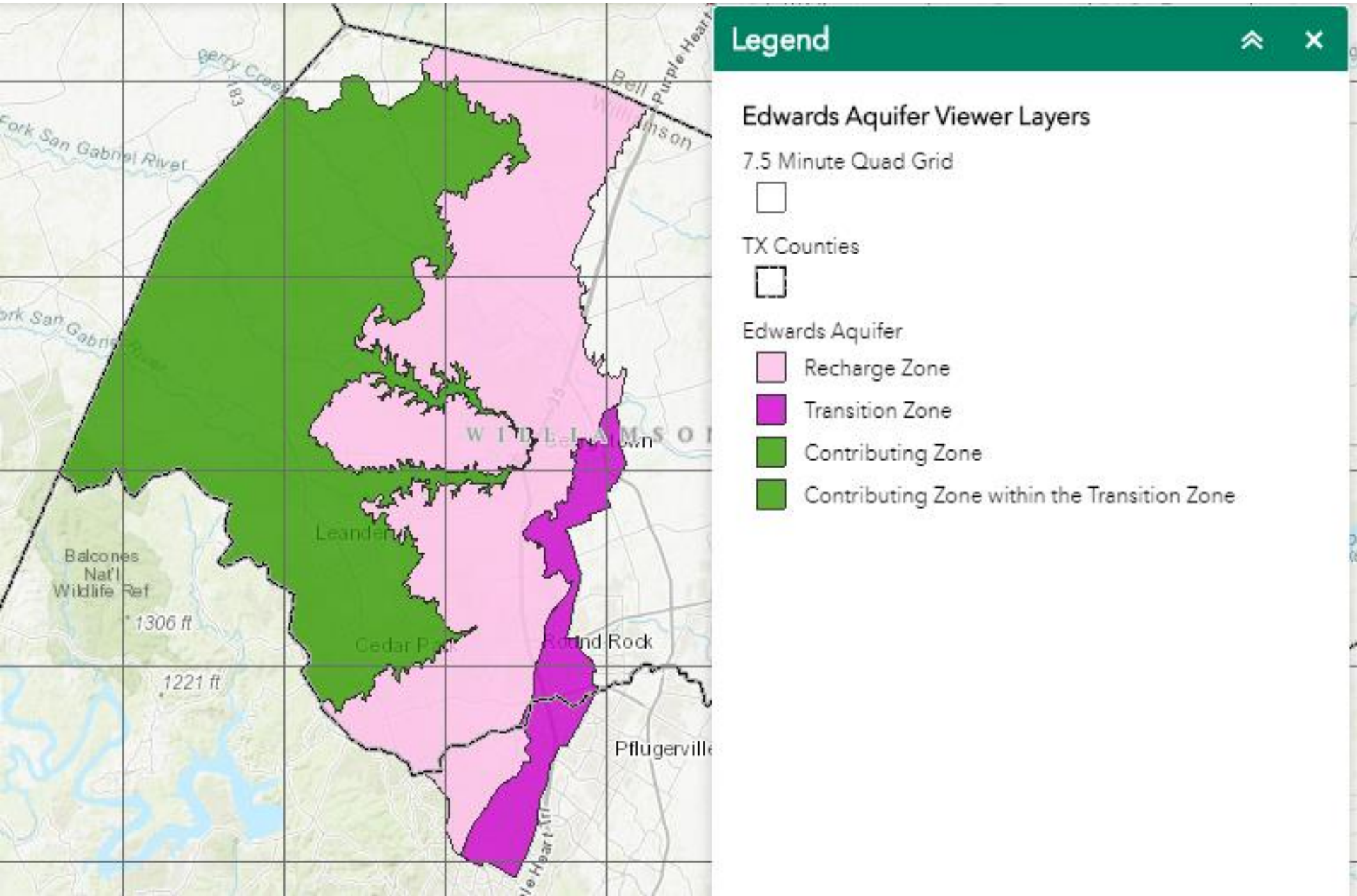
Edwards Aquifer

- Area of concern with special requirements
- Austin area falls within the Edwards Aquifer Recharge Zone
- Detail program requirements
- Wells, AST, hazardous waste, wastewater
  - There are 3 checklists to fill out if the Edwards Aquifer "ends up on your map"

Edwards Aquifer



Multi-sector general permit (MSGP)

- Permit for industrial stormwater runoff, covering runoff from areas for manufacturing, processing, material storage, and waste-material disposal.
- Covers a multitude of industrial sectors, based on standard industrial classification (SIC) code

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Sectors and SIC

- What is a SIC code?
  - A Standard Industrial Classification code, or SIC code, is a four-digit code describing activities taking place at a facility.
  - Facilities conducting multiple operations may have multiple SIC codes, one describing each activity.
- What is a Primary SIC code?
  - A primary SIC code describes the activity that generates the highest net revenue at a facility.

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SWPPP vs No Exposure

- “No Exposure” means that all activities are either conducted indoors or protected by a storm-resistant shelter to prevent exposure of those activities to rain, snow, snowmelt, or runoff.
- ‘Industrial Activities’ include, but are not limited to, the following:
  - Storage, loading/unloading, or transport of raw materials, intermediate products, by-products, or final products
  - Operation of machinery and equipment in manufacturing or production processes
  - Waste Management
  - On-site fleet-maintenance

SWPPP vs No Exposure

- If all of the materials and activities on the “No Exposure Checklist” are sheltered or protected from stormwater and precipitation, then your facility can apply for a ‘conditional no-exposure exclusion’.
- Facilities that obtain a no-exposure exclusion must also conduct regular inspection to ensure that the facility continues to meet the qualifying conditions.
- **Facilities operating under the no-exppsure exclusion are still subject to TCEQ investigations!!**

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Pollution Prevention Team

- **Who is responsible for executing the plan?**
- **Assigning roles**
- **What is required of the team?**
  - Monitoring activities
  - Corrective Actions
  - Exterior housekeeping
  - Identify potential impacts
  - Water quality monitoring
  - Quarterly/Annual Inspections
  - Training

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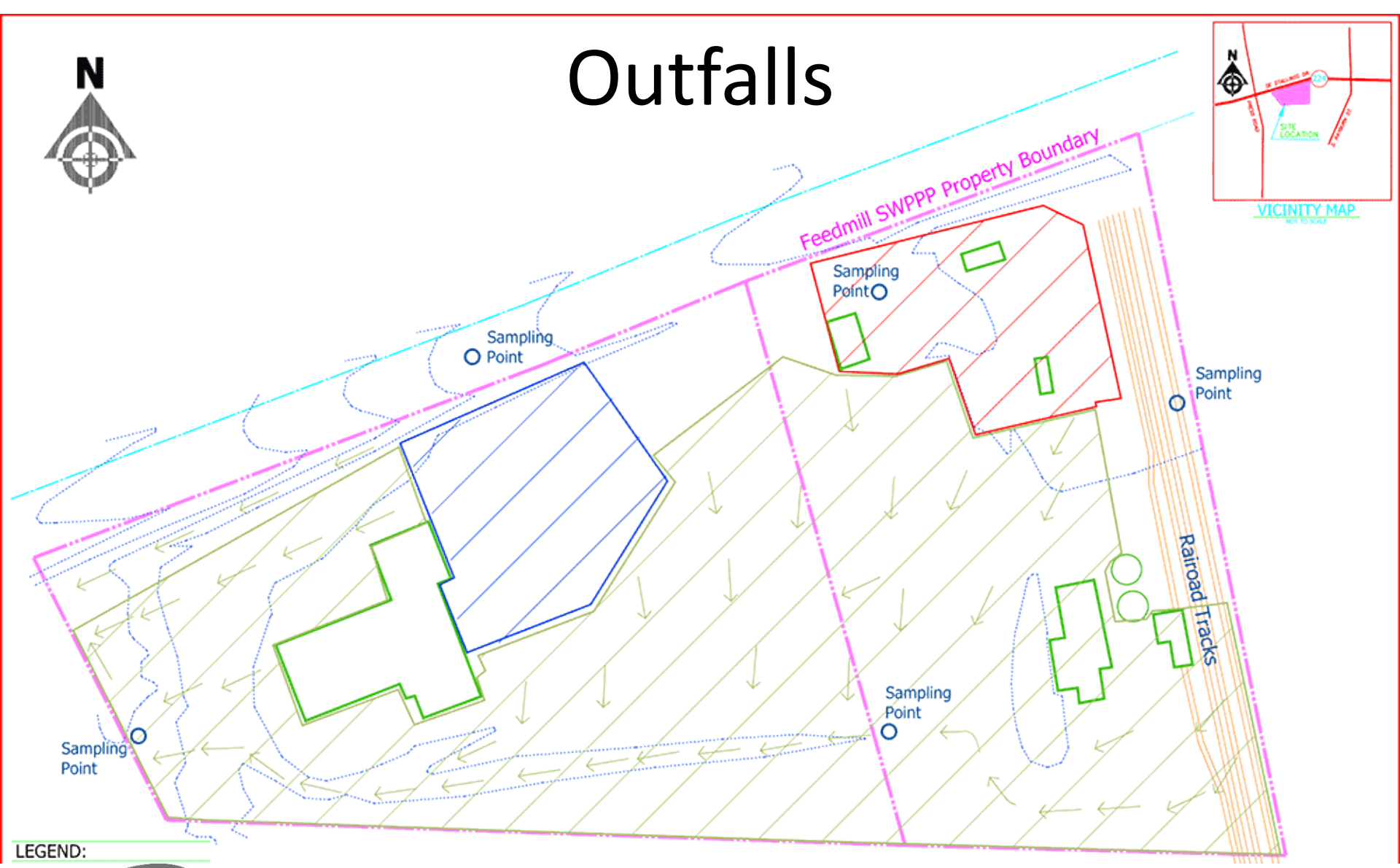
pollution prevention

Outfalls



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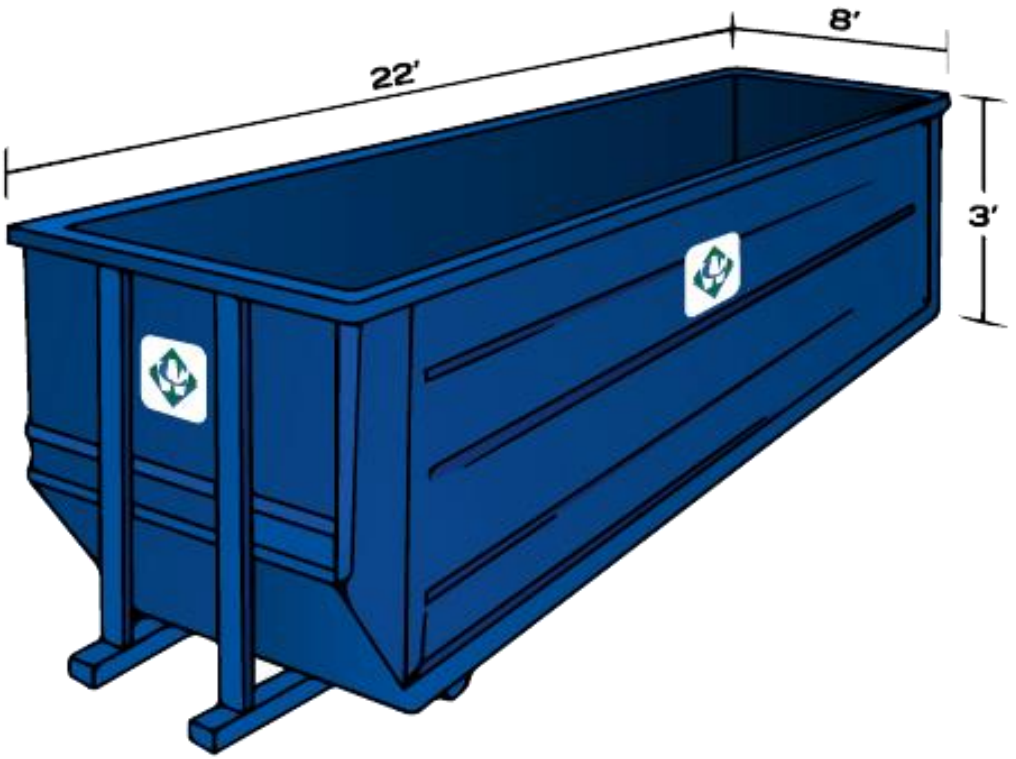
Exposed Materials & BMP

- What:
  - Open Plant Trash Dumpsters
  - Plant = Facility, not shrubbery
- Pollutants:
  - Drainage, trash, litter

- Best Management Practice
  - Keep containers covered
  - Housekeeping and minimize spills



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Exposed Materials & BMP

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Spill Prevention and Response

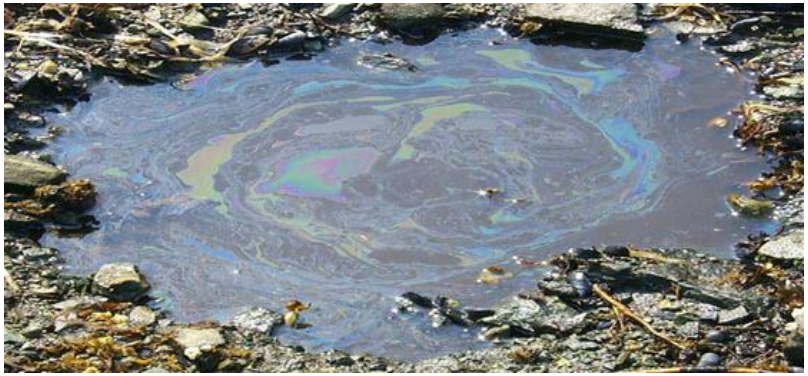
- Keep materials covered to prevent washout
- Stop and Contain any spills – if safe
  - Prevent from reaching ditches, creek, sewer or soil
- Report spills to a supervisor or designee
- Clean up spilled material
- Some spills have to be reported
  - 25 gallons of used oil onto the ground
  - Creates a sheen on water, especially navigable waters

REPORTABLE SPILLS AND LEAKS

Directions: Record below all significant spills and significant leaks of toxic or hazardous pollutants that have occurred at an exposed area, or that drained to a stormwater conveyance, in the 3 years prior to the date this SWPPP was prepared.

Definitions: Significant spills include, but are not limited to, release of oil or hazardous substances in excess of reportable quantities.

	DESCRIPTION							RESPONSE PROCEDURES		
DATE (MONTH/DAY/YEAR)	SPILL	LEAK	LOCATION AS INDICATED ON SITE MAP	TYPE OF MATERIAL	QUANTITY	SOURCE, IF KNOWN	REASON	AMOUNT OF MATERIAL RECOVERED	MATERIAL NO LONGER EXPOSED TO STORM WATER (Y/N)	PREVENTIVE MEASURES TAKEN
2017										
2016										
2015										



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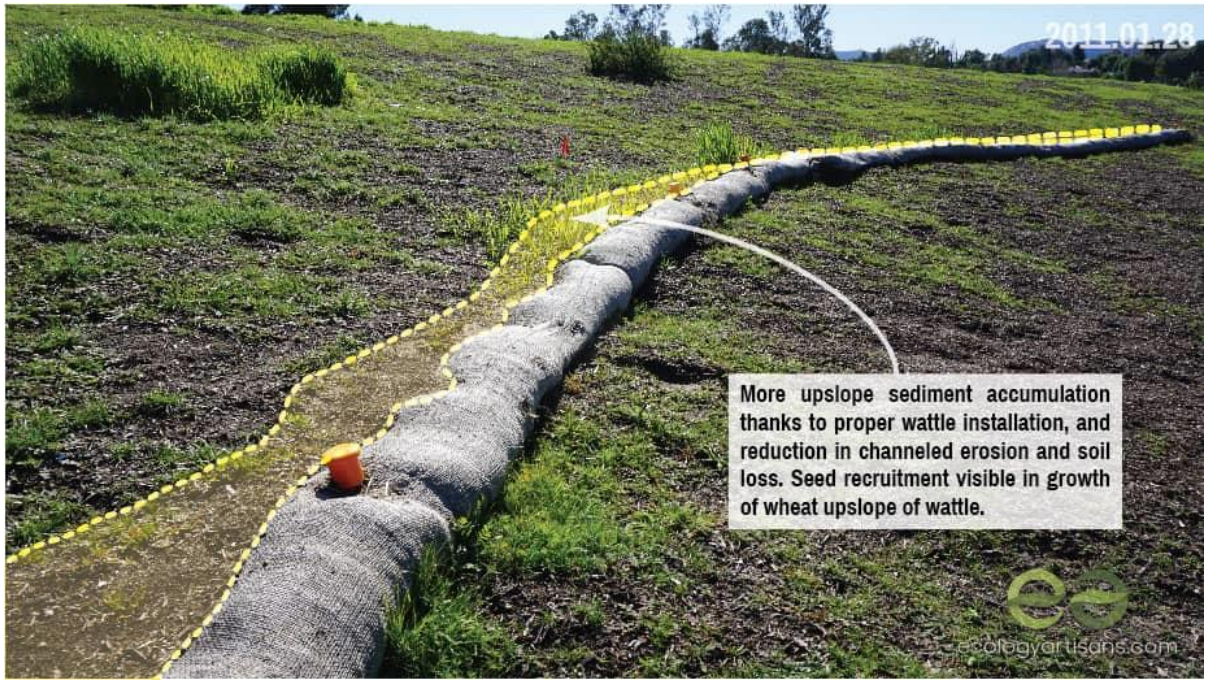
2017										
2016										
2015										

Sediment/Erosion & Run-off Control

- Commonly used systems for the minimization of erosion to direct storm water
  - Dirt channels
  - Vegetation
  - Grassy areas
  - Gravel surfaces
  - Straw Wattle



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Sediment/Erosion & Run-off Control

- Common Examples:

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SWPPP Management

- Inspections
- Water Quality Sampling
- Corrective Actions

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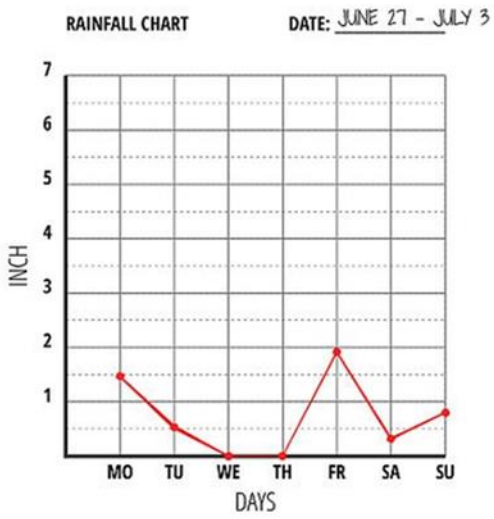
General Record Keeping

- Records retained for 3 years plus an additional year when permit expires or changes
- Quarterly facility inspections
- Quarterly visual monitoring
- Annual comprehensive inspection
- Training records
- Reportable spills
- Maintenance records
- Corrective actions



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Quarterly Inspections

- Quarterly Facility Inspection
  - Weather information and a description of any discharges occurring at the time of inspection;
  - Any previously unidentified discharges of pollutants from the site;
  - Any control measures needing maintenance or repairs;
  - Any failed control measures that need replacement;
  - Any incidents of noncompliance that are observed;
  - Any additional control measures needed to comply with the permit requirements; and
  - Identification of any existing BMPs that are not being properly or completely implemented.

Quarterly Inspections

QUARTERLY STORMWATER VISUAL INSPECTION REPORT

Date of Inspection:	Time of Inspection: Am / Pm
Person(s) Performing Examination:	
Weather information:	
Description of any discharges occurring*	
* If feasible, at least one of these routine facility inspections each calendar year must be conducted during a period when a storm water discharge is occurring.	

Item Evaluated	Describe Incident(s) of Non-Compliance	Corrective Action *Document actions within 30 days*	Estimated Completion	Completed *Completed within 90 days*
Any previously unidentified discharges of pollutants from the site				
Any control measures effective, needing maintenance, repairs, or replacement				
Any additional control measures needed to comply with the permit requirements				
Identification of any existing BMPs that are not being properly or completely implemented.	See Attachment 1			

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Quarterly Visual Monitoring

- Collect and examine stormwater at each outfall
- Conducted during a measurable storm event (.1') that results in an actual discharge from the site.
  - Sampling should be conducted within the first 30 minutes of discharge at the outfalls.
  - If it is not practicable then sampling must be completed within the first hour of discharge.
  - If sampling is not completed within the first 30 minutes of discharge, the reason must be documented and attached to all required reports and records of the sampling activity.
- Follows the preceding measurable storm event by at least 72 hours (3 days).
- Document results

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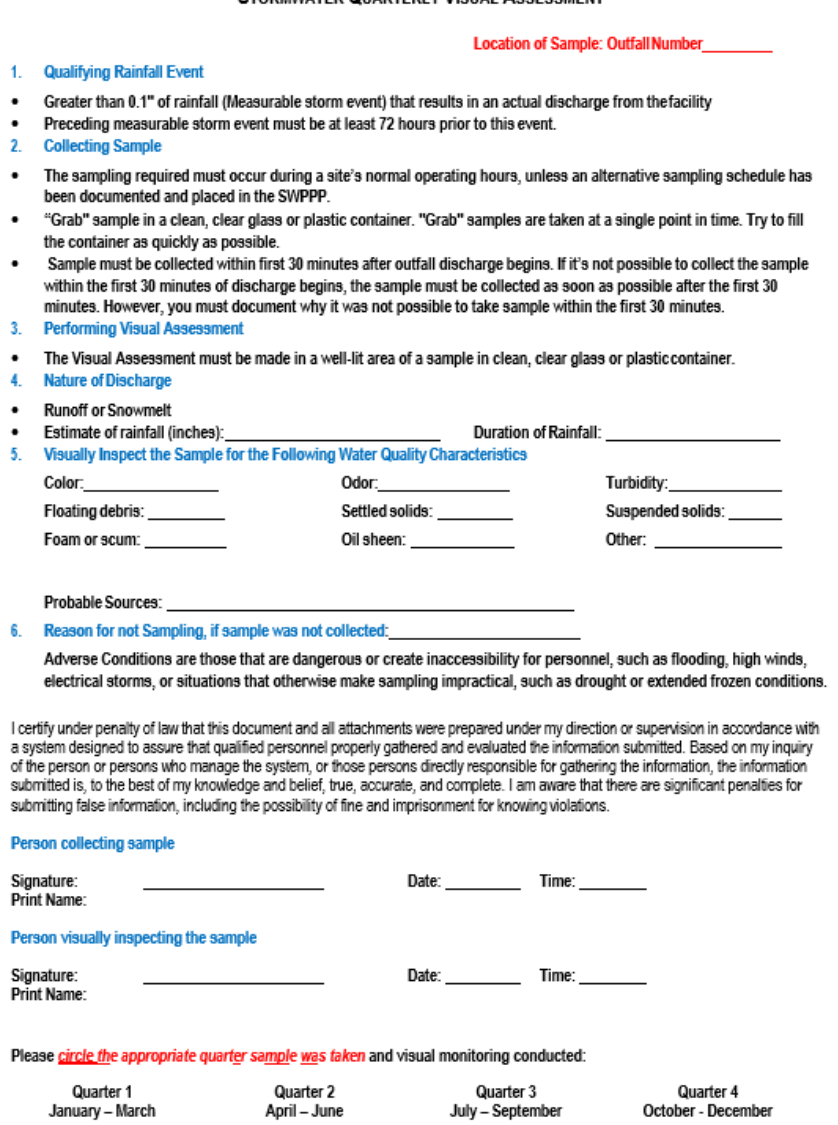
Quarterly Visual Monitoring

- Color
- Odor
- Turbidity (transparency)
- Floating debris
- Settled solids
- Suspended solids
- Foam or scum
- Oil sheen; and
- Other obvious indicators of stormwater pollution.



STORMWATER QUARTERLY VISUAL ASSESSMENT

Location of Sample: Outfall Number_____

1. Qualifying Rainfall Event
   - Greater than 0.1" of rainfall (Measurable storm event) that results in an actual discharge from the facility
   - Preceding measurable storm event must be at least 72 hours prior to this event.
2. Collecting Sample
   - The sampling required must occur during a site's normal operating hours, unless an alternative sampling schedule has been documented and placed in the SWPPP.
   - "Grab" sample in a clean, clear glass or plastic container. "Grab" samples are taken at a single point in time. Try to fill the container as quickly as possible.
   - Sample must be collected within first 30 minutes after outfall discharge begins. If it's not possible to collect the sample within the first 30 minutes of discharge begins, the sample must be collected as soon as possible after the first 30 minutes. However, you must document why it was not possible to take sample within the first 30 minutes.
3. Performing Visual Assessment
   - The Visual Assessment must be made in a well-lit area of a sample in clean, clear glass or plastic container.
4. Nature of Discharge
   - Runoff or Snowmelt
   - Estimate of rainfall (inches):_____ Duration of Rainfall: _____
5. Visually Inspect the Sample for the Following Water Quality Characteristics

   Color:_____ Odor:_____ Turbidity:_____

   Floating debris: _____ Settled solids: _____ Suspended solids: _____

   Foam or scum: _____ Oil sheen: _____ Other: _____

   Probable Sources: _____

6. Reason for not Sampling, if sample was not collected:_____

   Adverse Conditions are those that are dangerous or create inaccessibility for personnel, such as flooding, high winds, electrical storms, or situations that otherwise make sampling impractical, such as drought or extended frozen conditions.

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 gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Person collecting sample

Signature: _____ Date: _____ Time: _____
Print Name:

Person visually inspecting the sample

Signature: _____ Date: _____ Time: _____
Print Name:

Please *circle the appropriate quarter sample was taken* and visual monitoring conducted:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
January – March	April – June	July – September	October - December

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Rainfall Monitoring

- The permittee shall maintain a rain gauge on-site to determine when a qualifying storm event occurs.
- The rain gauge must be monitored a minimum of once per week, and once per day during storm events.
- Records of the date and rainfall total must be retained on-site or made readily available for review.
- Rain gauge monitoring and recordkeeping may be temporarily suspended during a given monitoring period if a qualifying storm event has occurred and the required sampling and analyses or visual observations have been performed.

Severe Weather Log

Adverse Weather Conditions Log

Directions: Adverse conditions are conditions that are either dangerous to personnel (e.g., high wind, excessive lightning) or conditions that prohibit access to a discharge (e.g., flooding, freezing conditions, extended periods of drought). Adverse conditions that result in the temporary suspension of a permit requirement to sample, inspect, examine, or otherwise monitor storm water discharges must be documented.

Date	Time	Names of Personnel that Witnessed the Adverse Conditions	Nature of the Adverse Condition

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Water Quality Monitoring

- WQM is required to perform benchmark monitoring to show overall effectiveness of the SWPPP
- Required annually, and reported electronically to TCEQ
- Exceedance must be investigated within 90 days and documented

These benchmarks apply to each of the outfalls whether described by the primary industrial activity, any applicable co-located industrial activities, or both.

Table 8.A-1

Subsector (Permittees may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Subsector A1. General Sawmills and Planing Mills (SIC 2421)	Chemical Oxygen Demand (COD)	120 mg/L
	Total Suspended Solids (TSS)	100 mg/L
	Dissolved Zinc (freshwater)[2] Dissolved Zinc (saltwater)[1]	Hardness Dependent 0.09 mg/L
Subsector A2. Wood Preserving (SIC 2491)[3]	Dissolved Arsenic (freshwater) Dissolved Arsenic (saltwater)[1]	0.15 mg/L 0.069 mg/L
	Dissolved Copper (freshwater)[2] Dissolved Copper (saltwater)[1]	Hardness Dependent 0.0048 mg/L
	Total Suspended Solids (TSS)	100 mg/L
Subsector A3. Log Storage and Handling (SIC 2411)	Total Suspended Solids (TSS)	100 mg/L
Subsector A4. Hardwood Dimension and Flooring Mills; Special Products Sawmills, not elsewhere classified; Millwork, Veneer, Plywood, and Structural Wood; Wood Pallets and Skids; Wood Containers, not elsewhere classified; Wood Buildings and Mobile Homes; Reconstituted Wood Products; and Wood Products Facilities not elsewhere classified (SIC 2426, 2429, 2431-2439 (except 2434), 2441, 2448, 2449, 2451, 2452, 2493, and 2499)	Chemical Oxygen Demand (COD)	120 mg/L
	Total Suspended Solids (TSS)	100 mg/L
Facilities in Subsectors A1, A2, A3 and A4 with discharges from material storage piles. [4]	Chemical Oxygen Demand (COD)	120 mg/L

Annual Inspection

- Annually, a comprehensive site compliance inspection is conducted to evaluate the effectiveness of the SWP3.
- The annual inspection will occur before December 31st of each year and may substitute for a quarterly inspection.
  - This will usually be for Q4

Tuesday, Dec 31st 2019

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Corrective Actions

- Correct deficiencies as quickly as practical to avoid contamination or pollution.
- Modifications and changes to SWPPP within 30 days.
- If corrective actions will take 90 days or longer to complete, DEP must be notified.
- All Corrective actions must be documented.
- Copies of the reports will be retained of at least three years following the date of inspection.

QUARTERLY STORMWATER VISUAL INSPECTION REPORT

Date of Inspection:	Time of Inspection: Am / Pm
Person(s) Performing Examination:	
Weather information:	
Description of any discharges occurring*	
* If feasible, at least one of these routine facility inspections each calendar year must be conducted during a period when a storm water discharge is occurring.	

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Any additional control measures needed to comply with the permit requirements				
Identification of any existing BMPs that are not being properly or completely implemented.	See Attachment 1			

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Common Citations

- Failure to maintain a drainage area site map and/or identify all required information.
- Failure to conduct employee training and/or education
- Failure to implement BMPs and Good Housekeeping Measures

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Common Citations

- Failure to perform required monitoring and sampling
  - Quarterly visual monitoring of outfalls
  - Periodic routine inspections of the site
  - Annual numeric effluent monitoring (hazardous metals) and analysis
  - Semi-annual benchmark monitoring and analysis
  - Annual comprehensive compliance evaluation of SWP3 and site conditions

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Questions

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