Best Practices for
NPDES/SWPPP and SPCC Compliance

31st Annual Conference on Environmental Permitting in Ohio
July 21, 2022

Elisabeth Martin – Trinity
Anita Evenson – Anchor
Jason Fyffe – OEPA

Ohio Environmental Protection Agency

Anchor Glass Container

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Elisabeth Martin – Senior Consultant

- Joined Trinity May 2017
- Air permitting/compliance and multi-media support to multiple industries in OH and KY primarily
- MS – Environmental Engineering, University of Cincinnati
- BS – Civil Engineering, University of Cincinnati

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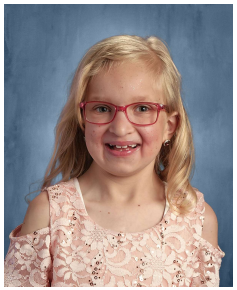
Jason Fyffe – Environmental Manager

- Joined Ohio EPA 2001
- Division of Surface Water, Storm Water Program
- Primary duties consist of developing and administering rules and permits associated with the NPDES Storm Water Program
- BS – Environmental Engineering Technology, Shawnee State University

Ohio Environmental Protection Agency

Anita Evenson – Corporate Environmental Engineer

- Joined Anchor April 2022
- Managing 6 sites across the US
- Prior consulting experience providing multi-media support to a wide range of industries and clients in several states
- BS – Chemical Engineering, Rose-Hulman Institute of Technology



Agenda

- CWA, SWPPP, and SPCC Entwined
- General Stormwater Permit Renewal
- SWPPP Overview
- SPCC Overview
- Spot the Issues

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CWA, SWPPP, and SPCC Entwined

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Key Definitions

- CWA – Clean Water Act
  - Primary US EPA law governing water pollution to restore and maintain chemical, physical, and biological integrity of WOTUS
- SWPPP – Stormwater Pollution Prevention Plan
  - Outlines actions a facility will take to minimize and prevent potential negative impact on storm water quality
- SPCC – Spill Prevention Control and Countermeasure Plan
  - Establishes procedures, methods, and equipment for prevention, minimization and response to oil discharges

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CWA Relationship to SPCC and SWPPP

- CWA gives US EPA authority to implement pollution control programs
  - Ohio, Indiana, and Kentucky are delegated to issue permits to protect WOTUS
  - Each state has general stormwater permits and issues NPDES that require SWPPP
  - 40 CFR 112, SPCC regulations, is a federal program

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SWPPP Applicability

- Requirement of Ohio, Kentucky, and Indiana general stormwater permits
- Industrial activities that require stormwater permits include –
  - Loading and unloading operations
  - Outdoor storage and process activities
  - Dust/particulate generating processes
  - Waste management activities

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SPCC Applicability

- Federal Regulation – 40 CFR 112
- Applicability determination made by facility
  - No 40 CFR 112 requirement to submit under typical circumstances
- Facilities with an aggregate aboveground oil storage capacity of greater than 1,320 U.S. gallons AND “reasonable expectation of an oil discharge” to waterway or adjoining shoreline
  - Includes only oil containers with a capacity of 55 gallons or greater
  - Includes oil-filled operational equipment
    - Transformers, gear boxes, hydraulic reservoirs, etc.

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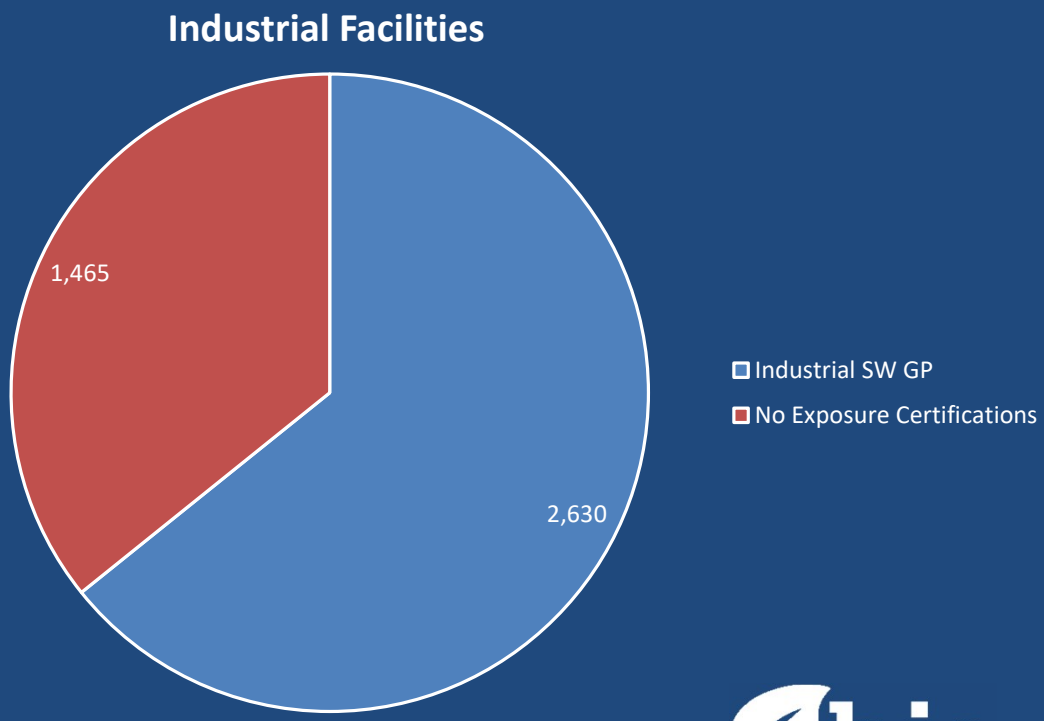
NPDES Industrial Stormwater General Permit (OHR000007)

Jason Fyffe

Ohio EPA, Division of Surface Water

Ohio Environmental Protection Agency

Ohio's Industrial Stormwater Universe



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Conditional Exclusion for No Exposure

- Meet the definition of No Exposure
  - *All industrial materials and activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff*
- Submit No Exposure Form
- Re-Certify every five years

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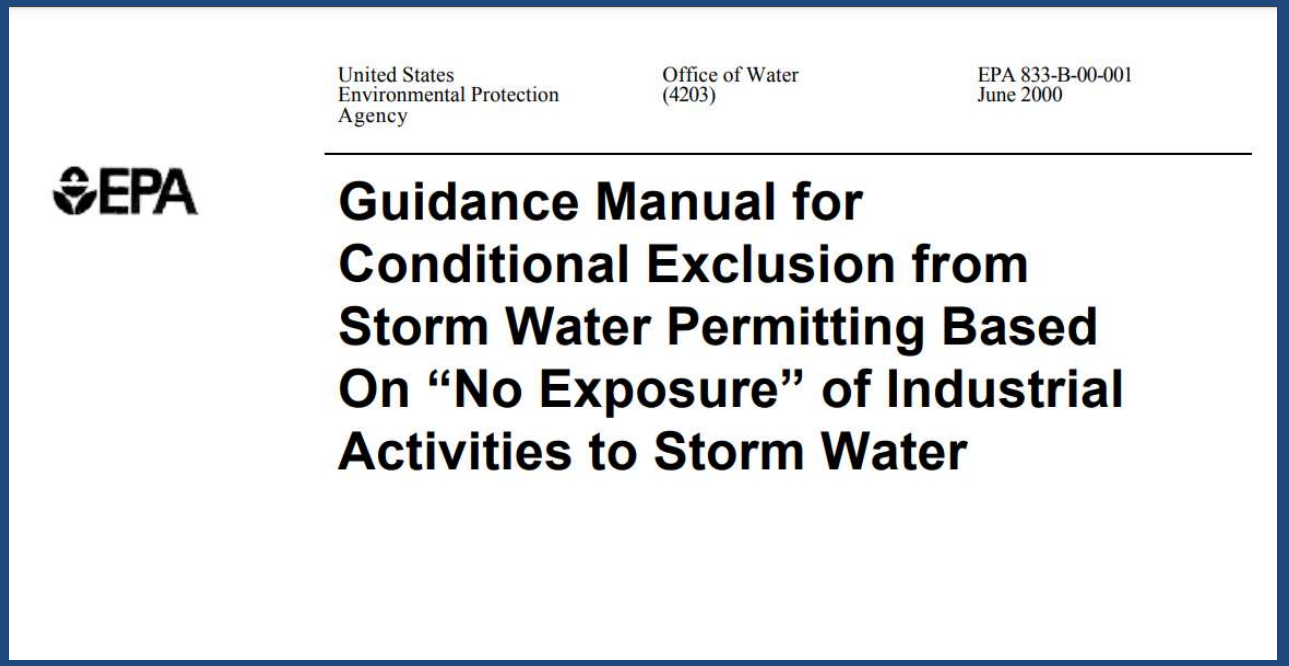

United States Environmental Protection Agency | Office of Water (4203) | EPA 833-B-00-001 June 2000

EPA

Guidance Manual for Conditional Exclusion from Storm Water Permitting Based On "No Exposure" of Industrial Activities to Storm Water

epa.gov/sites/default/files/2016-02/documents/noxguide.pdf

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OHR000007

- OHR000006 Expired May 31, 2022

- OHR000007 is 7th generation of this GP
  - Effective Date: June 1, 2022
  - Expiration Date: May 31, 2027

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Permit Changes

- **Storm water** has been changed to **stormwater** throughout permit
- Typos and Error Corrections
- Parameter Reporting Units
  - **mg/L** to **ug/L**
    - Arsenic, Copper, Zinc, Aluminum, Lead, Selenium, Silver and Cadmium
  - **mg/L** to **ng/L**
    - Mercury

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Permit Changes

- Benchmark Monitoring Schedule
  - **Part 6.2.1.2**
    - Requires **four** quarterly benchmark samples to be taken within the first **eight** quarters of permit

Q1	Q2	Q3	Q4
January	April	July	October
February	May	August	November
March	June	September	December

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Permit Changes

- Benchmark Monitoring – If average exceeded
  - **Part 6.2.1.2**
    - If exceed benchmark value
      - Make corrective actions (Part 3 of permit), and
      - Take four more quarterly samples during years three and four

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Permit Changes

- Annual Reporting Form
  - **Appendix I**
    - Added the following **Yes/No** question to the Annual Report:

    "Has your facility used coal-tar sealcoat to seal paved surfaces where industrial activities are located during the reporting year? Note: Substitutes for coal-tar sealcoats are available, such as asphalt emulsion sealants and acrylic sealants."

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Permit Changes

- NPDES General Permit Transfer Application
  - **Appendix L**
    - Added Appendix L to the permit to identify that the general permit coverage is transferable, and instructions provided on how to do so.

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How to Renew Coverage

- Existing permittees must renew coverage by **September 1, 2022**
  - Submit a renewal Notice of Intent (NOI)
  - Renewal NOI application fee = $350
  - No renewal application fee if previous coverage was issued on or after June 1, 2021

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How to Renew Coverage

- Creating an OH|ID Account:

  https://epa.ohio.gov/static/Portals/47/facts/OHIDStepbyStepInst.pdf
- PIN Walkthrough:

  https://epa.ohio.gov/static/Portals/35/edmr/doc/(Attach3)PIN-Walkthrough.pdf
- Industrial Stormwater NOI:

  https://epa.ohio.gov/static/Portals/35/edmr/doc/STREAMSGuide(IndSW).pdf

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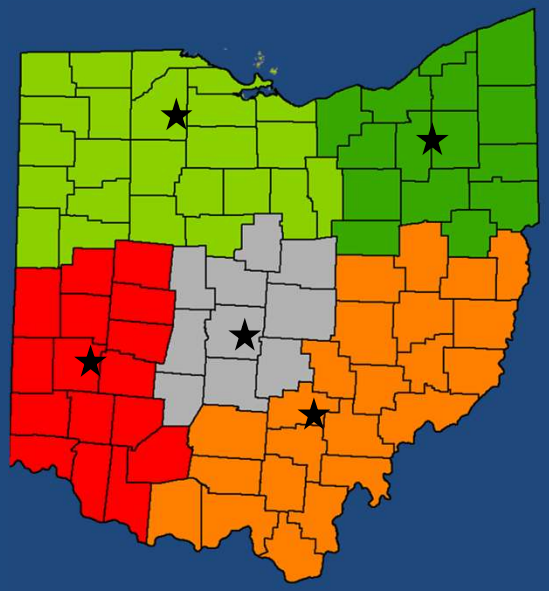
Ohio EPA's Stormwater Program Staff



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epa.ohio.gov/divisions-and-offices/surface-water/permitting/stormwater-program

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SWPPP Overview

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Intent of SWPPP

- Identify potential sources of stormwater pollution
- Describe practices/methods to reduce pollutants reaching stormwater discharges
- Detail procedures a facility will implement to comply with conditions of stormwater permit

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Contents of SWPPP

- Pollution prevention team identified
- Site description
- Summary of potential stormwater pollution sources
- Description of control measures and best management practices (BMP)
- Schedules and procedures
- Certification by facility management

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SWPPP Pollution Prevention Team

- Identify facility staff on team
  - By NAME and TITLE
  - Individual responsibilities
- Team responsibilities
  - Overseeing development of and updates/modifications to SWPPP
  - Implementing and maintaining control measures
  - Completing corrective actions
- SWPPP team support other programs

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SWPPP Site Description

- Activities performed at the facility – emphasis on outdoors
- "Zoomed-out" general location map
- Summary of potential pollutant sources
- Detailed site/facility map
  - Property boundaries and structures/buildings
  - Surface types (pervious, impervious)
  - Direction of stormwater flow
  - Potential stormwater pollutant sources with control measures
  - Stormwater outfalls with monitoring points

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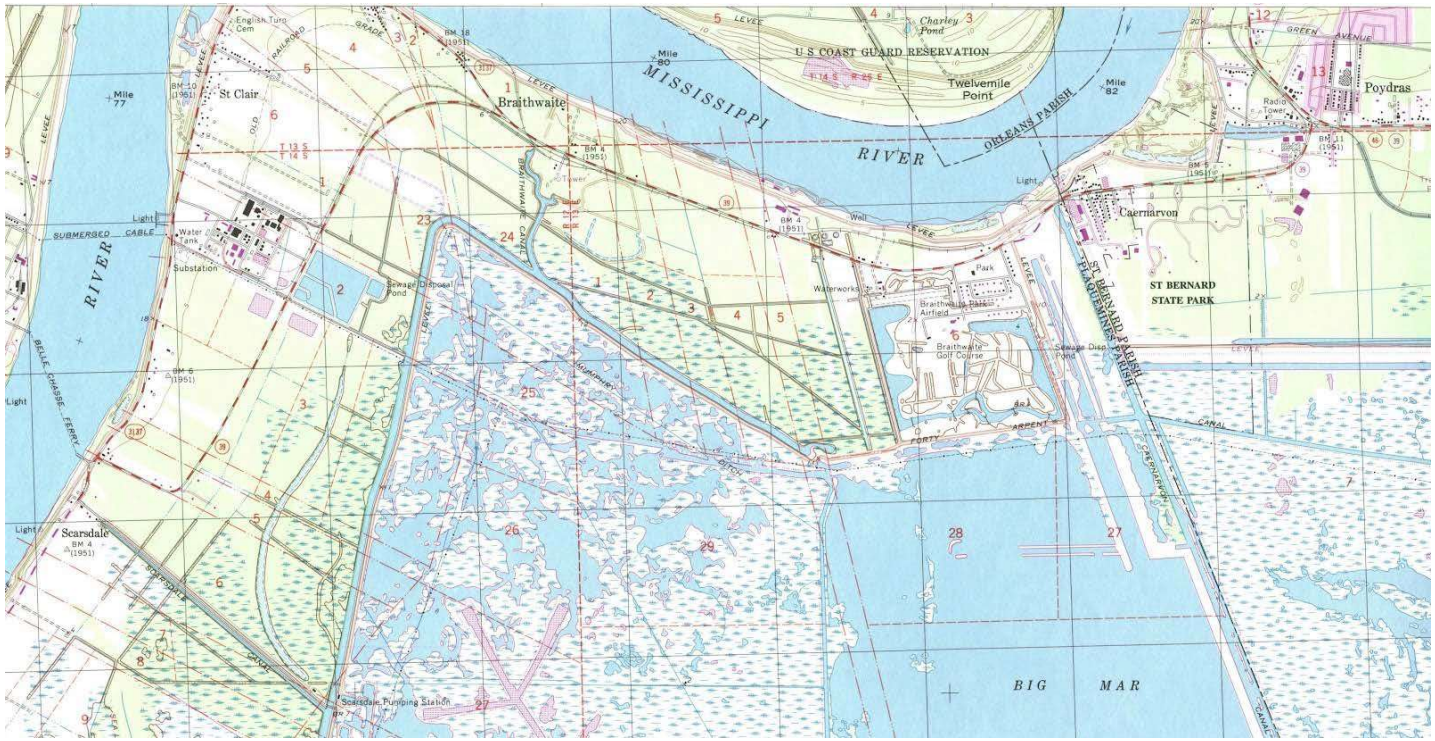
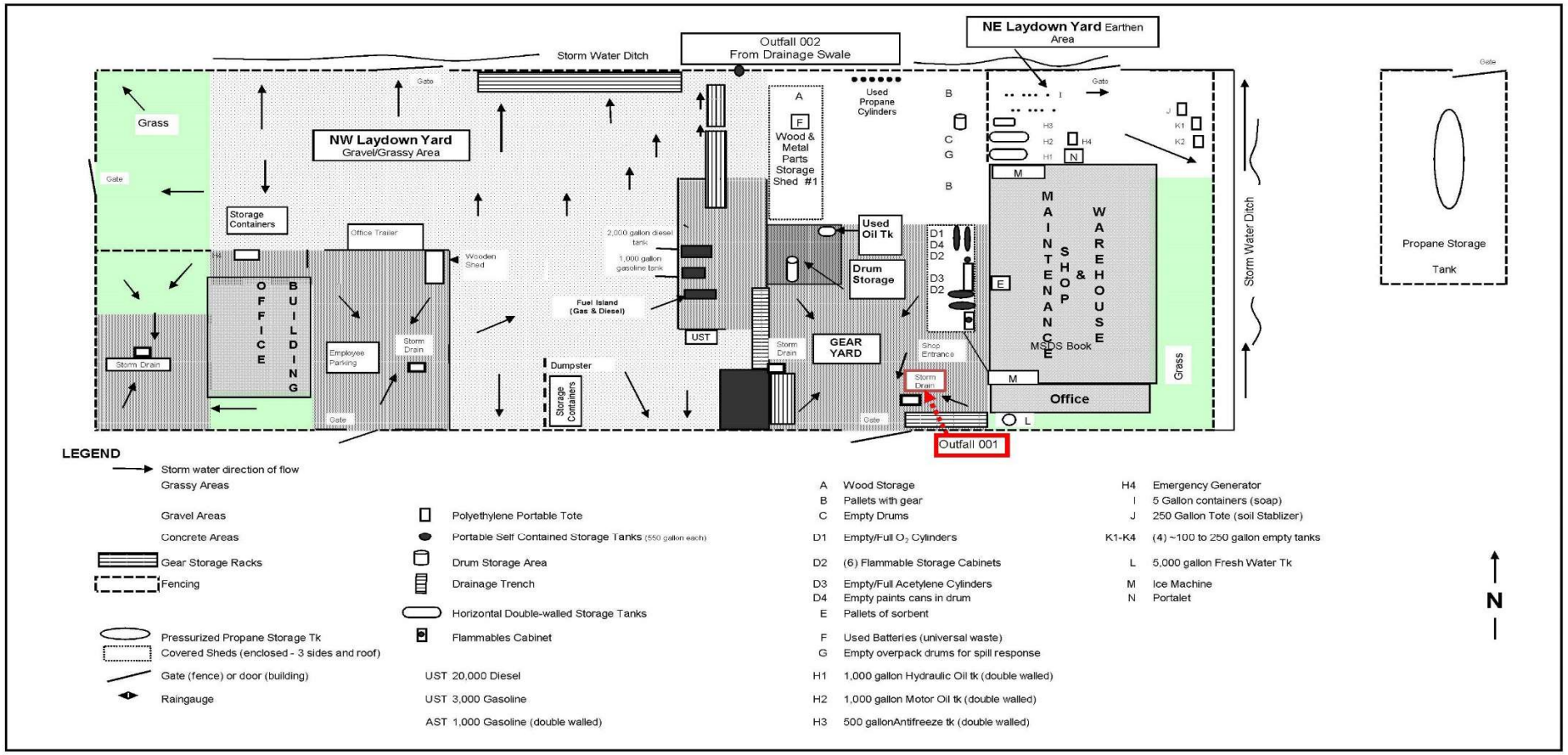
SWPPP General Location Map Example



SWPPP Site Map Example



SWPPP Summary of Potential Pollution Sources

- Describe areas at your facility where industrial materials or activities are exposed to stormwater
- For each area identified –
  - List of industrial activities exposed to stormwater
  - Pollutants that could be exposed to precipitation and discharges
  - Where potential spills and leaks could occur
  - Unauthorized non-stormwater discharges evaluation
  - Sampling data to be collected

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SWPPP Control Measures Description

- Look at state specific guidelines
- Good housekeeping – maintain a clean and orderly facility
- Best management practices – devise realistic maintenance program and implement
- Spill prevention and response procedures – can borrow from SPCC
- Manage runoff – reduce pollutants from discharging to stormwater
- Physical controls – containment, erosion/sediment
- Employee training – document!
- Routine inspections – typically monthly and comprehensive annually

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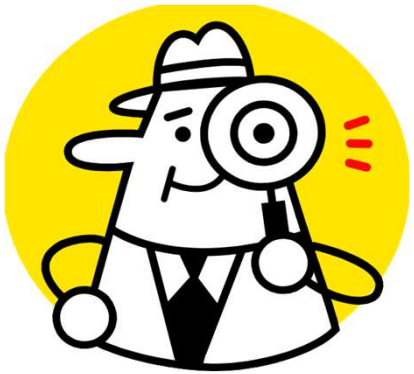
SWPPP Procedures – Inspections and Assessments

- Routine (monthly) visual facility inspections by trained staff
- Periodic inspections of outfalls, some states require analytics
  - Carefully read permit for submittal schedule of sampling
  - Sample early!
- Document any items found on inspections are corrected promptly



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SWPPP Facility Management Certification

- Facility/plant manager should understand SWPPP
- Sign state-specific certification statement
- Keep one hard copy of SWPPP with signature

I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

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SWPPP and SPCC Master Inventory Workbook

- SWPPP and SPCC
- Map locations
- Process/facility area
- Type of oil-filled item
- Container identification
- Contents
- Volume
- Container material
- Year installed
- Potential failures
- Prediction of flow
- Containment type and volume
- Integrity testing
- Requirements for other plans

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SWPPP Sustainability

- Plan is easy to maintain and keep updated
  - Use tables to summarize oil inventories and exposed significant materials
  - Required inspections, testing, monitoring, etc. are clearly identified
- Easily transferrable to new EHS personnel
- Plan does not require constant revisions
  - Not too specific, but specific enough to meet the regulatory requirements
  - Avoid generic language that can be misinterpreted
    - Wrong: “Site personnel regularly receive SPCC training.”
    - Better: “All oil-handling personnel receive annual SPCC training.”

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SPCC Overview

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US EPA SPCC Guidance for Regional Inspectors

SPCC Guidance for Regional Inspectors, December 16, 2013 (epa.gov)

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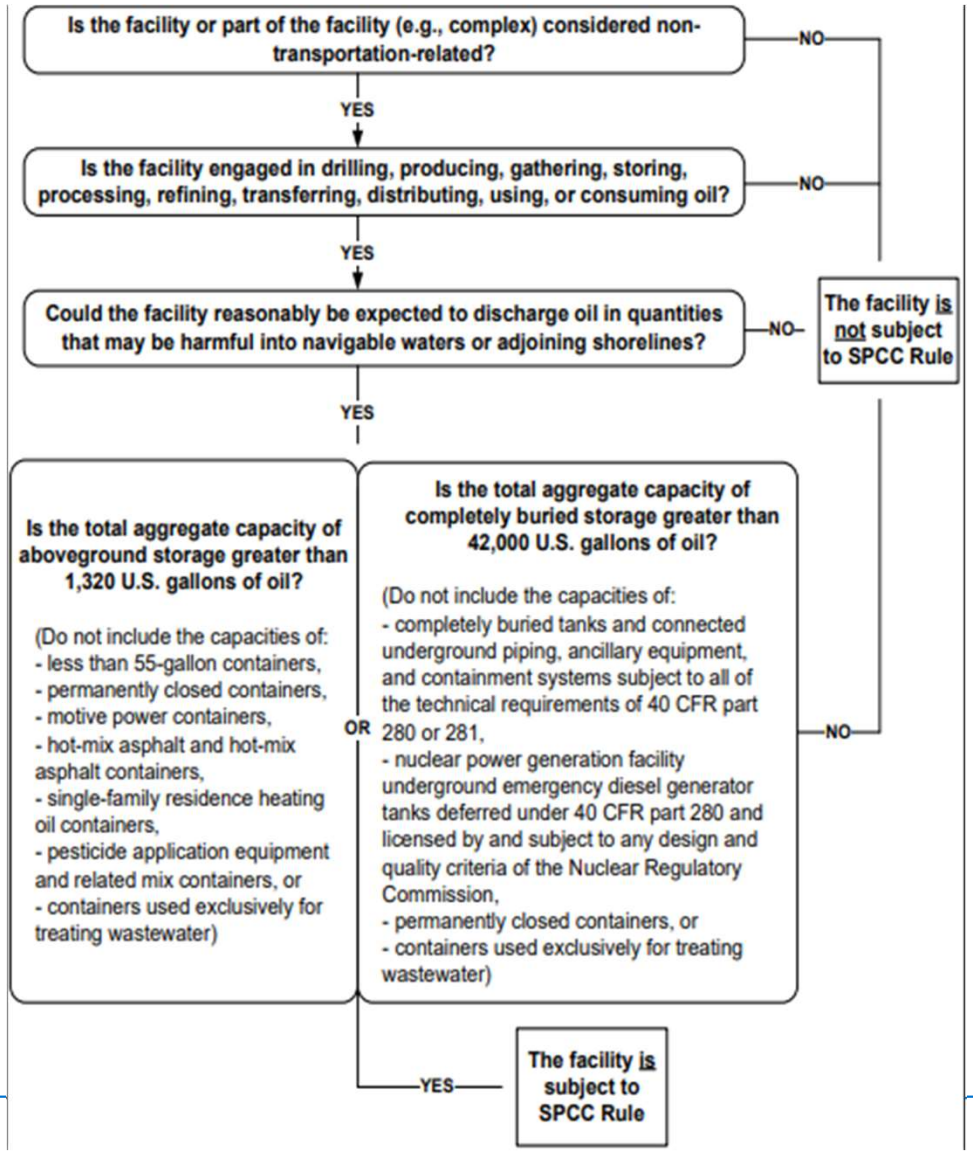

US EPA SPCC Rule Applicability Flowchart

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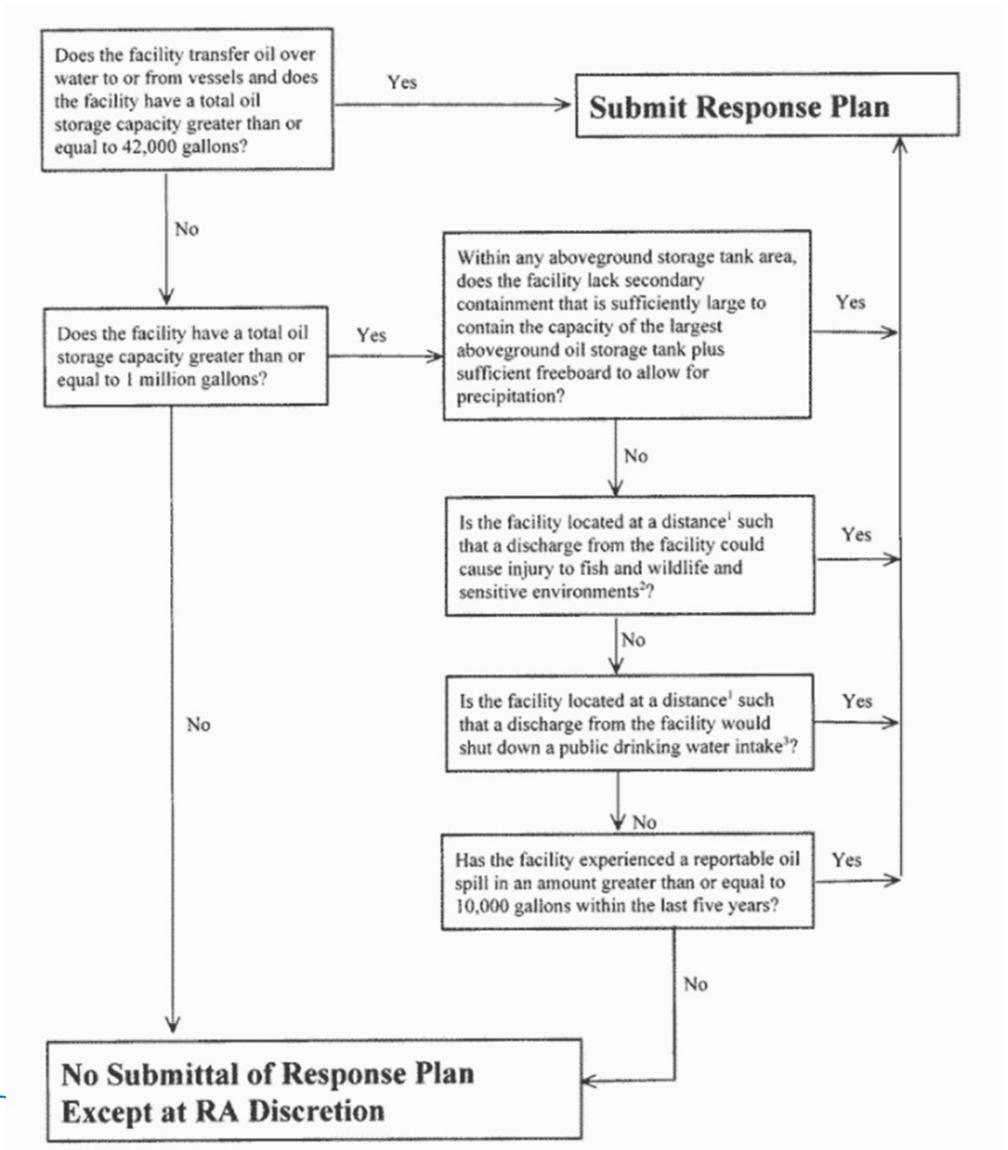

US EPA Flowchart for Substantial Harm

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SPCC “Reasonable Expectation” of Discharge

- Geography – Proximity of facility to nearby navigable waters
- Transport of “oil” offsite –
  - Ditches, creeks, streams
  - Sewers (onsite and offsite)
  - Precipitation runoff
  - Groundwater

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SPCC “Reasonable Expectation” of Discharge

What is an “Oil”?

- EPA definition (40 CFR 112.2): **oil of any kind or in any form**, including, but not limited to:
  - Fats, oils, or greases of animal, fish, or marine mammal origin
  - Vegetable oils, including oils from seeds, nuts, fruits, or kernels; and
  - Other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil
  - Typically, only provides determination AFTER spills
- Rule-of-thumb: if it causes a sheen on water, consider it an oil

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“Oil” Definition – EPA Guidance

- No EPA test method to demonstrate a material is SPCC regulated oil
- Facility is responsible for determining if a material is/is not oil
- List of oils and oil-like materials that EPA references now resides on the Department of Homeland Security website (same list as U.S. Coast Guard’s list)
- EPA can determine during inspection/investigation or after discharge/ incident that the material does have oil-like properties or acts like an oil
  - Site can be held accountable after the fact, was discharged material managed appropriately under SPCC regulations?
- Small amounts of “oil” in a mixture can require “oil” classification

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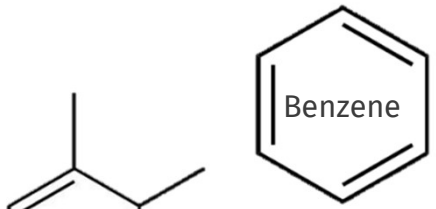
“Oil” Examples

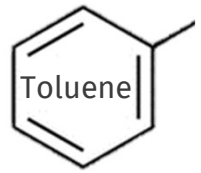
Oil Examples

- Petroleum Oils
  - Gasoline or diesel
  - Asphalt
- Synthetic Oils
  - Heat transfer oil
  - Dielectric oil (transformers)
- Wastes
  - Oil-water mixtures
    - e.g., Produced Water, Natural Gas Condensate
  - Used Oil covered under 40 CFR 279
  - Hazardous waste containing some oil
- Miscellaneous
  - Denatured Ethanol
  - Biodiesel
  - Mineral Spirits (C7-C12 hydrocarbons)
  - Vegetable Oils
  - Fatty Acids

Not an Oil

- Propane or Liquid Natural Gas
- Clean Water Act Hazardous Substances (40 CFR 116)
  - Benzene
  - Toluene
  - Xylenes





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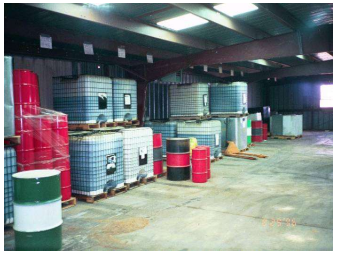
SPCC Applicability

Yes

55-gallons or greater



Totes

Drums

Tanks

Oil-filled equipment

No

5-gal pail

30-gal drum

Motive Power Containers

Wastewater treatment

Permanently Closed

Milk and Milk Products

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SPCC Plan – Example TOC

TABLE OF CONTENTS

SPCC Site Map Requirements

- 40 CFR 112.7(a)(3)
- Describe in your Plan the physical layout of the facility and include a facility diagram, which must:
  - Mark the **location and contents of each fixed oil storage container**, and
  - Mark the storage area where **mobile or portable containers** are located
  - Identify the location of and mark as “exempt” underground tanks
  - Include all **transfer stations and connecting pipes**, including intra-facility gathering lines that are otherwise exempted

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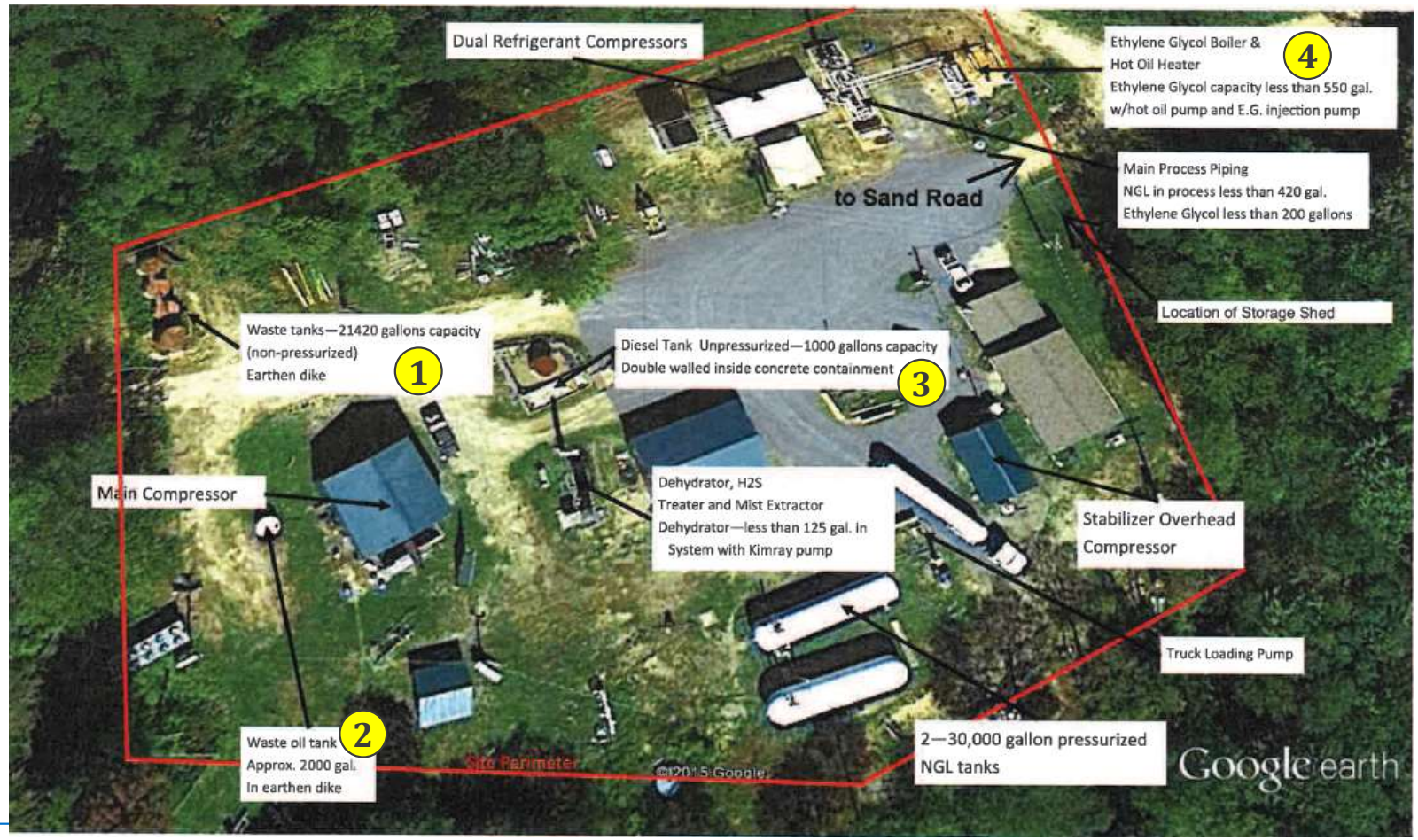
SPCC Site Map Example – Before



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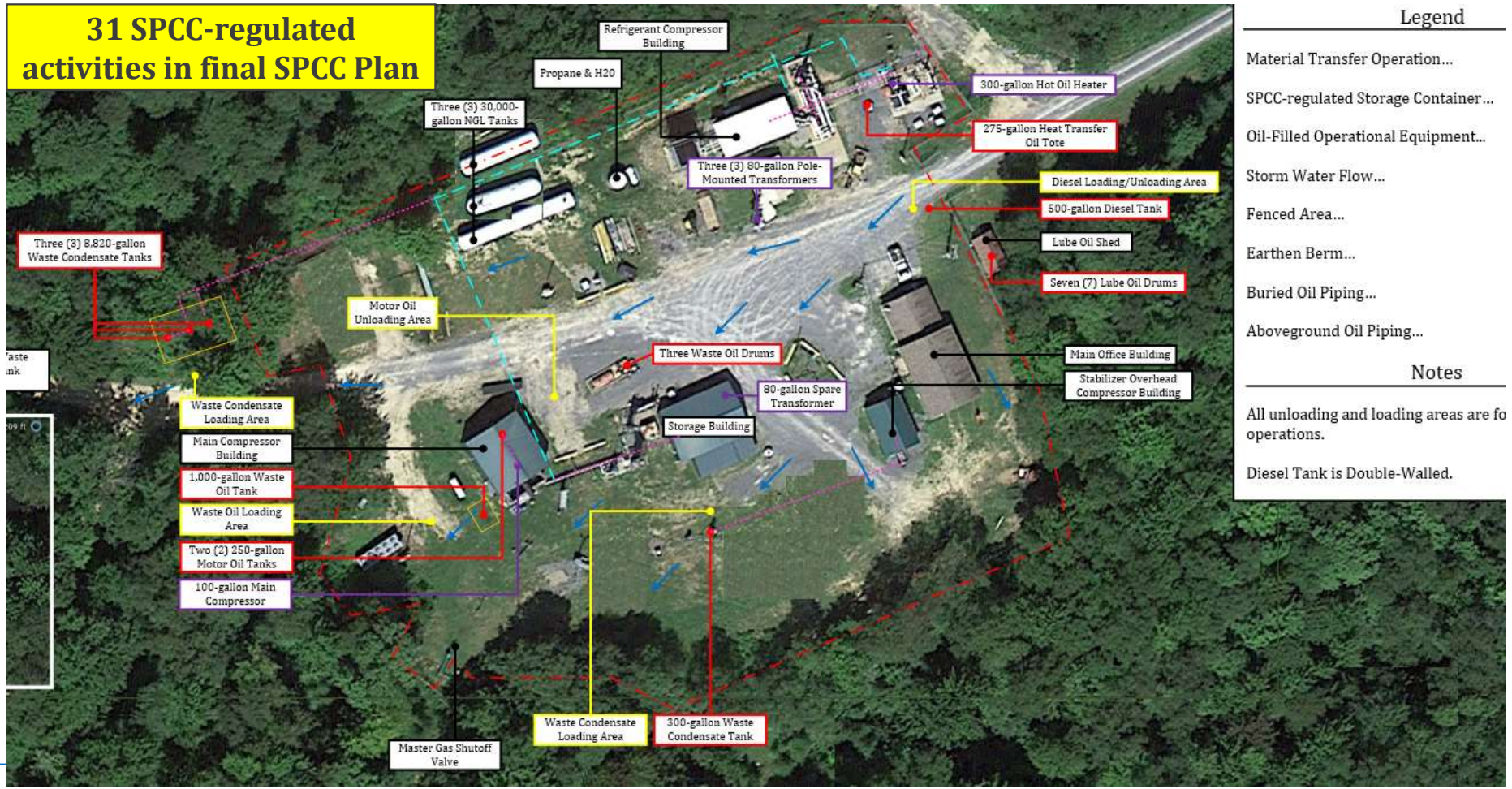
SPCC Site Map Example – After

31 SPCC-regulated activities in final SPCC Plan



SPCC – What is Secondary Containment?

- Your last line of physical defense in keeping oil spills from discharging off-site
- When inspections, maintenance, and primary containers have failed
- BIG part of SPCC compliance – don't wait until your five-year recertification to understand your requirements!

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SPCC Secondary Containment Requirement

- Secondary containment requirements are separated into two categories: **general** and **sized**
- "General" secondary containment must be designed to prevent an offsite discharge of oil – 40 CFR 112.7(c)
  - Applies to all SPCC-regulated containers and oil-handling areas (e.g., oil inventory list), except qualified OFOE
- "Sized" secondary containment must be designed to hold the **entire capacity of the largest single container and sufficient freeboard** to contain precipitation – 40 CFR 112.7(h)(1), 112.8(c)(2), 112.8/12(c)(11)
  - Applies only to loading/unloading racks, bulk storage containers, and mobile/portable containers

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GENERAL Secondary Containment

- Required for ALL activities and containers subject to SPCC, including:
  - Bulk storage tanks
  - Portable/mobile containers
  - Oil-filled operational equipment
  - Oil transfer areas
  - Loading racks
  - Piping
- Determine the best method using engineering judgement to contain the **most likely discharge of oil** until cleanup occurs
- When sized secondary containment is required, the sized secondary containment fulfills the general secondary containment requirements (ex: storage tanks, loading racks, etc.)

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SIZED Secondary Containment (1/2)

- Required for:
  - Bulk storage tanks
  - Portable and mobile containers
  - Loading racks
- Requirements for **Loading/Unloading Racks** [§112.7(h)]
  - Where drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system (device that drains oil away from area to some means of secondary containment)
  - Must be designed to hold the **max capacity of any single compartment** of a tank car or tank truck loaded or unloaded at the facility

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SIZED Secondary Containment (2/2)

- Requirements for **Bulk Storage** [§112.8(c)(2)] Containers:
  - Must be designed to hold the **entire capacity of the largest single container plus sufficient freeboard for precipitation**
  - Sufficient freeboard – Not defined in the rule
    - 110% of largest tank
    - 25-year, 24-hour precipitation event
  - Good engineering practice (PE certifying SPCC) makes determination
  - Important factors include
    - NOAA data
    - Height of dike wall
    - Volume of container
    - Footprint of containment area
    - Frequency of dike drainage/inspection

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Secondary Containment Methods

- Passive measures = fixed, permanent containment structure which requires no action

- Active measures = requires deployment or action to be taken

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SPCC Common Containment Issues

- Insufficient secondary containment
  - Not aware of requirements
  - Not understanding “General” vs. “Sized”
- No means of monitoring interstitial spaces of double-walled tanks
- Sufficient freeboard not adequately addressed
- Issues with containment area
  - Containment valves left open
  - Cracks in containment walls
  - Oil present in containment area
- **Documentation of containment capacity with freeboard**

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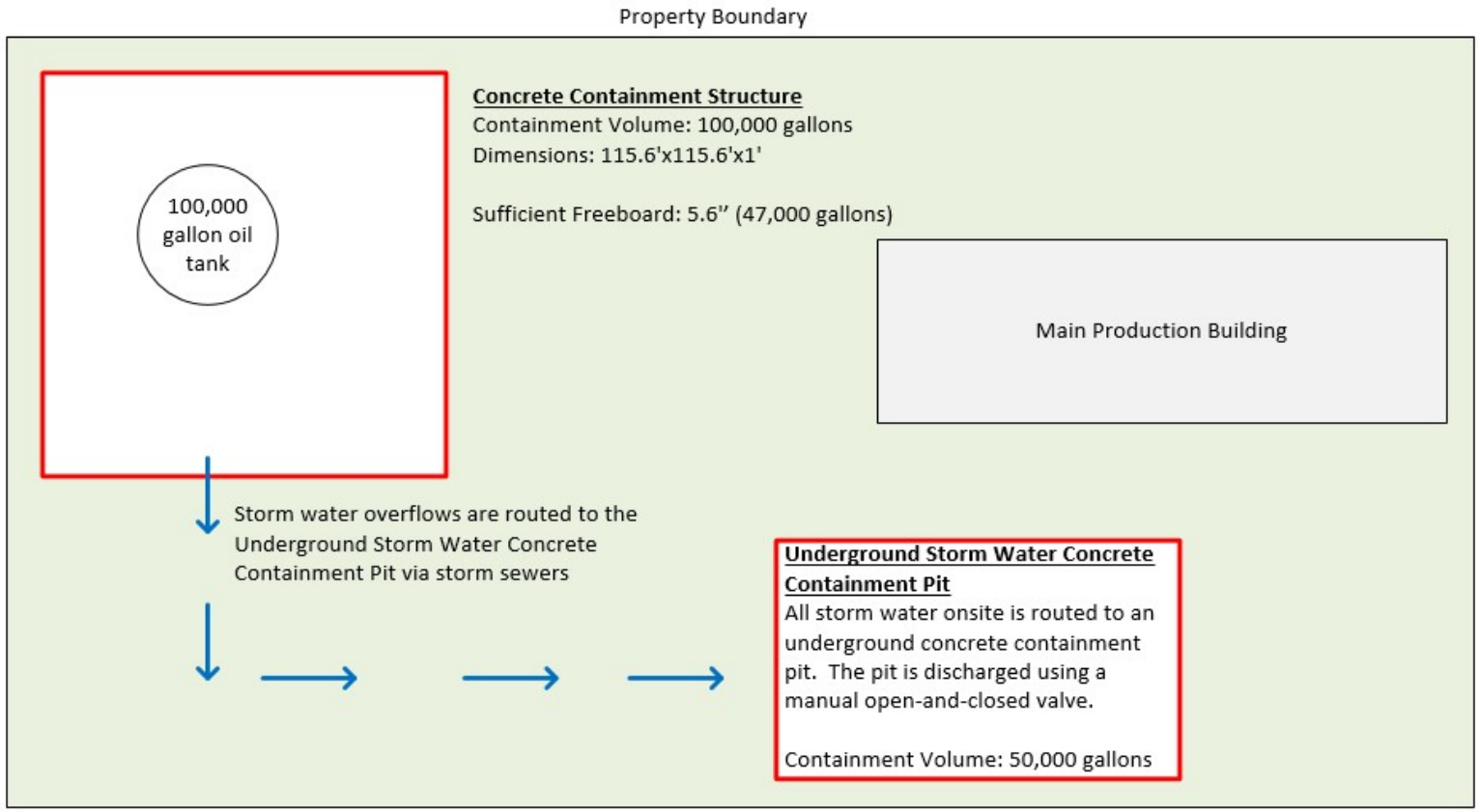
SPCC Containment Example



Does the 100,000 gallon tank have adequate secondary containment?

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SPCC Integrity Testing

- Common standards
  - Steel Tank Institute Standard SP001, *Standard for the Inspection of Aboveground Storage Tanks*
  - American Petroleum Institute Standard 653, *Tank Inspection, Repair, Alteration, and Reconstruction*
- Understand the inspection frequencies
  - "ACME Company follows the integrity testing requirements of STI SP001 for all ASTs"
    - STI requires **monthly and annual** visual inspections
- Don't assume the inspection requirements of 40 CFR 112.7(e) meets the integrity requirements
- Any divergence from industry standards requires PE review and approval

SPCC Inspection – Requirements and Tips

- Required for all containers, transfer areas/racks, containment areas, and piping
- Trained and knowledgeable employees perform and document inspection, typically monthly
  - Verify action items from previous inspection completed
  - Checklist/form with all items to inspect, such as –
    - Excess water in dike/containment areas
    - Valves are securely closed
    - Stocked spill kits
    - Exteriors for deterioration, leaks, instable supports
    - Gauges, overfill protection systems
    - Double walled tank interstitial space

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SPCC Training of Personnel

- Conduct annual training for all personnel that handle SPCC materials
- Can be combined with training for other facility plans
- Conduct spill kit deployment exercises if required
- MUST be documented

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SPCC Technical Amendments

- Technical – PE certification required
  - Any modification in design, construction, storage capacity, operation, or maintenance that makes existing SPCC inadequate
  - Commissioning or de-commissioning of container
  - Reconstruction, replacement, or movement of containers
  - Reconstruction, replacement, or installation of piping systems
  - Construction or demolition that might alter secondary containment structure
  - Changes of product or service
  - Revision of standard operation or maintenance procedures
- SPCC must be updated within 6 months

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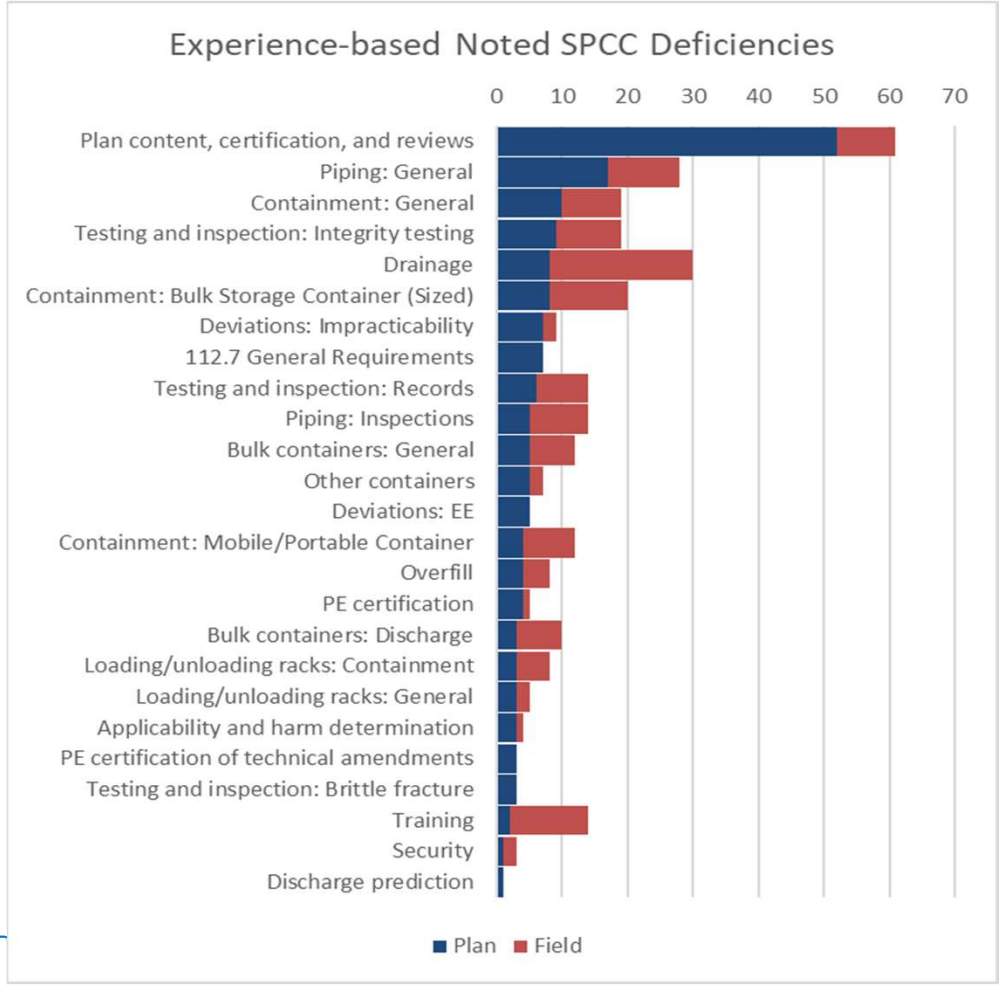
US EPA Fact Sheet Summary

- Internal quality and consistency review by Office of Emergency Management for SPCC and FRP
  - Factsheet April 2021
  - Webinar May 2021, recording available
- Most common SPCC deficiencies
  - Inadequate documentation of every 5-year review
  - No review/stamp by PE
  - Facility diagrams/map missing information
  - Secondary containment (general and sized) demonstration
  - Integrity testing not addressed thoroughly



SPCC Commonly Asked Questions

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Updating the SPCC Plan

- Q. When does my SPCC plan need to be updated?
- A. When there is a change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge.
  - An amendment must be prepared within six months, and implemented as soon as possible, but not later than six months following preparation of the amendment.

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Five-Year Review

- Q. Can I wait to update the plan until the five-year review cycle?
- A. No! The five-year review is not a catch-up for missed technical amendments. The five-year review is to determine if more effective prevention and control technology if the technology has been field-proven at the time of the review and will significantly reduce the likelihood of a discharge.
  - Amend the plan within six months of the review

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Double-Walled Tanks

- Q. Do double-walled tanks count as containment?
- A. Yes, if…
  - Container is shop-fabricated and meets industry standards
  - There is a means of monitoring the interstitial space (space between the internal and external walls). Could be sight glass or automated gauge
  - Overfill prevention measures are in place to contain overfill from tank vents
    - Either overfill alarm and automatic flow restrictor/shut-off OR
    - Equip container with active or passive secondary containment for most likely quantity from tank vents

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Tanks Inside Building

- Q. All of our oil tanks are located inside a building. Do they still need to be included in the SPCC plan?
- A. Yes. The tanks are subject to all secondary containment and inspection requirements regardless of location. The building may be able to qualify as secondary containment if…
  - Sufficiently impervious – Walls must be structurally sound and in contact with floor to establish a seal (so outdoor sheds may not cut it)
  - Floor drains – If any present, find out where they lead (to storm sewer? WWTP?) May need to move oil source away from drain, or use drain covers as active secondary containment

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Portable and Mobile Equipment

- Q. We have a designated storage area for 55 gallon drums. What secondary containment should be used?
- A. Options:
  - Spill pallets work well outdoors
    - Must inspect and promptly remove accumulated liquid
  - If indoors, building can be sufficient
  - If indoors near building opening, consider adding active measures, such as nearby spill kits

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Spot the Issue

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Spot the Issues?

Spot the Issues?

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Spot the Issues?

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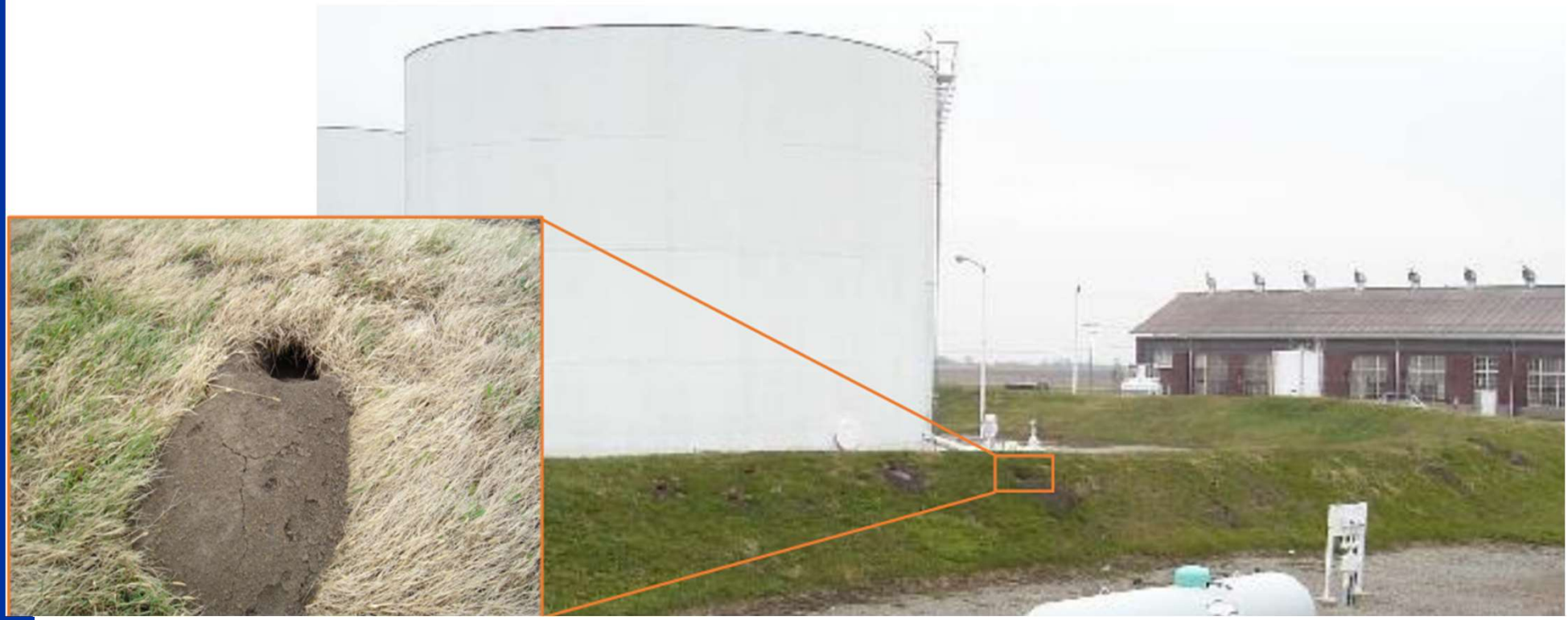

Spot the Issues?

Spot the Issues?

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Spot the Issues?

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EHS is a Dynamic, Changing Field

Always be certain to obtain the latest forms, policies, and regulations from the appropriate regulatory authority before determining permitting and compliance needs for your site. The information provided in this manual, while up-to-date when printed, is subject to change as regulatory authorities update forms, policies and regulations. You are encouraged to use this manual as an educational reference, but it is not a substitute for independent research and verification, and the application of sound professional judgment and analysis in real-time permitting and compliance situations.

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Questions?

Biographical Information

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Anita has worked as a regulator (short stint at US EPA in Cincinnati after college), consultant, and now in industry. She started her current role as the corporate environmental engineer for Anchor Glass Container Corporation in April 2022. She is managing the environmental compliance programs for six (6) Anchor facilities throughout the country. Prior to accepting a position in industry, she was an environmental engineering consultant with more than 15 years multi-media permitting and compliance expertise. This included project management and technical experience in permitting, emission inventories, regulatory compliance support, multi-media environmental assessments, and complex permitting compliance efforts surrounding several NSPS and NESHAPs, Title V renewals, synthetic minor permits (including NSR and PSD analysis), and other engineering projects. Routinely assisted clients in compliance with complex environmental regulations. Developed air emission inventories for plastics, resins, coating, steel mills, automotive, food and flavoring clients that involved site evaluations, process analysis, extensive records review, and detailed calculations of potential and actual emissions. Anita is a graduate of Rose-Hulman Institute of Technology with a B.S. in Chemical Engineering.

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Jason has been employed by Ohio EPA's Storm Water Program since 2001. His primary duties consist of developing and administering rules and permits associated with the NPDES Storm Water Program. Jason is a 2001 graduate of Shawnee State University with a Bachelor of Science in Environmental Engineering Technology.

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Elisabeth Martin is a Senior Consultant in Trinity's Covington, Kentucky office. She assists clients with local, state, and federal air quality permitting, as well emissions quantification, compliance reporting including Tier II and TRI, and SPCC/SWPPP/FRP compliance. Ms. Martin has experience serving a variety of industries, such as secondary aluminum, food/beverage, telecommunications, surface coating, pharmaceuticals, and printing. Ms. Martin graduated with a Bachelor of Science degree in Civil Engineering and Master of Science degree in Environmental Engineering from University of Cincinnati in Cincinnati, Ohio. She has been a consultant at Trinity since 2017.