Spill/Release Prevention and Response for Contractors

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Learning Objective

- Define common terms and phrases.
- Identify spill/release compliance requirements for reporting and recordkeeping.
- Differentiate emergency vs. non-emergency events.
- Identify prevention methods.
- Outline a practical, comprehensive response strategy based on work location, task and equipment.
- Examine transportation and disposal options.

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Hazardous Material, Substance, Pollutant, Contaminant

Any item or agent (biological, chemical, physical) which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors.

- ✓ **OSHA** **definition includes any substance or chemical which is a "health hazard" or "physical hazard".**
- ✓ **EPA** **incorporates the OSHA definition, and adds any item or chemical which can cause harm to people, plants, animals.**
- ✓ **DOT** **defines a hazardous material as any item or chemical which, when being transported or moved, is a risk to public safety or the environment.**

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"RELEASE" Includes Any Spilling, Leaking, Pumping, Pouring, Emitting, Emptying, Discharging, Injecting, Escaping, Leaching, Dumping, Intentional or Unintentional Disposing of Any Hazardous Substance, Pollutant or Contaminant Into The Environment.

- *EPA considers a "release" to be virtually all conceivable contacts with the environment.*

Includes Abandonment or Discarding of Barrels, Containers and Any Other Closed Receptacle Containing any Hazardous Substance/Pollutant/Contaminant EPA: CERCLA section 101(22)

"ENVIRONMENT" is any Land Surface, Surface Water, Ground Water, Drinking Water Supply, Navigable Water, Subsurface Strata or Ambient Air. EPA: CERCLA section 101(8)

Releases of Any Hazardous Substance, Pollutant or Contaminant Into a Storm Drain or Sewer, or Onto a Parking Lot or Roadway, Shall Be Considered to Be Releases to the Environment.

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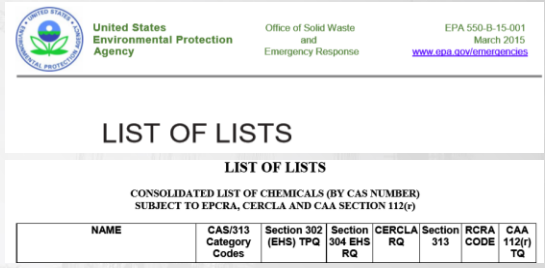
Reportable Quantities (RQ)

The Specified Quantity of a Hazardous Substance Spill/Release that Requires Official Notification of the Event.

- **Based on Weight or Volume of a Substance (LBS. or Gallons)**
- **Federal & State-specific RQ and Reporting Standards.**
- **Federal & State Emergency Response is Determined by Reportable Quantities.**

EPA Regulates Reportable Quantities



United States Environmental Protection Agency

Office of Solid Waste and Emergency Response

EPA 550-B-15-001
March 2015
www.epa.gov/emergencies

LIST OF LISTS

LIST OF LISTS

CONSOLIDATED LIST OF CHEMICALS (BY CAS NUMBER) SUBJECT TO EPCRA, CERCLA AND CAA SECTION 112(r)

NAME	CAS/313 Category Codes	Section 302 (EHS) TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA CODE	CAA 112(r) TQ

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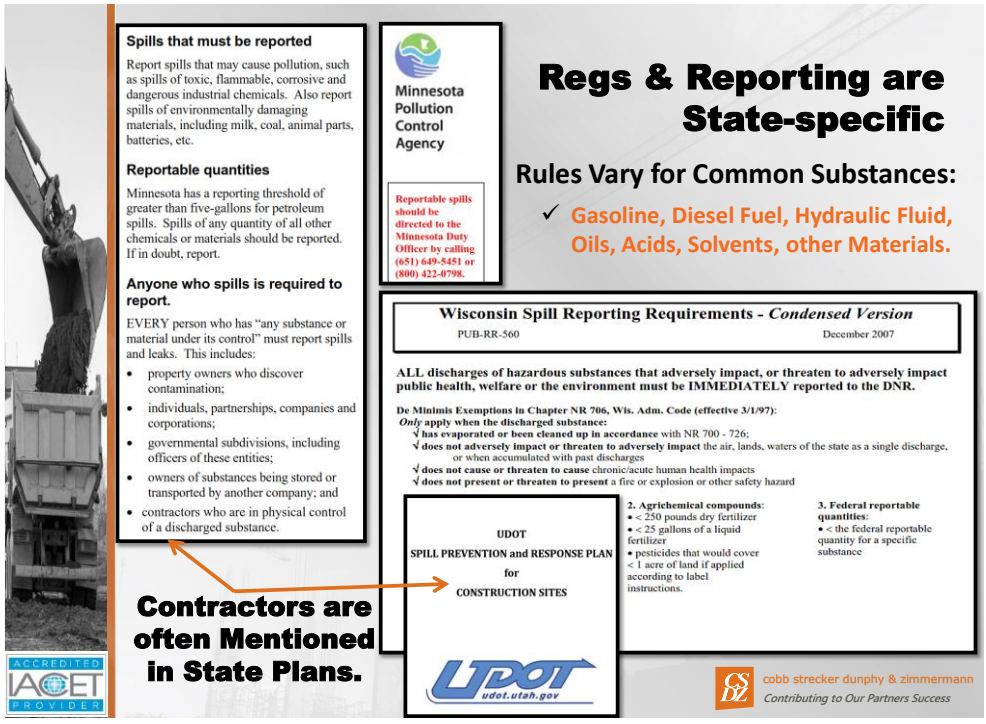
Spills that must be reported
Report spills that may cause pollution, such as spills of toxic, flammable, corrosive and dangerous industrial chemicals. Also report spills of environmentally damaging materials, including milk, coal, animal parts, batteries, etc.
Reportable quantities
Minnesota has a reporting threshold of greater than five-gallons for petroleum spills. Spills of any quantity of all other chemicals or materials should be reported. If in doubt, report.
Anyone who spills is required to report.
EVERY person who has "any substance or material under its control" must report spills and leaks. This includes:
property owners who discover contamination;
individuals, partnerships, companies and corporations;
governmental subdivisions, including officers of these entities;
owners of substances being stored or transported by another company; and
contractors who are in physical control of a discharged substance.
Minnesota Pollution Control Agency
Reportable spills should be directed to the Minnesota Duty Officer by calling (651) 649-5451 or (800) 422-0798.
Regs & Reporting are State-specific
Rules Vary for Common Substances:
✓ Gasoline, Diesel Fuel, Hydraulic Fluid, Oils, Acids, Solvents, other Materials.
Wisconsin Spill Reporting Requirements - Condensed Version
PUB-RR-560
December 2007
ALL discharges of hazardous substances that adversely impact, or threaten to adversely impact public health, welfare or the environment must be IMMEDIATELY reported to the DNR.
De Minimis Exemptions in Chapter NR 706, Wis. Adm. Code (effective 3/1/97):
Only apply when the discharged substance:
√ has evaporated or been cleaned up in accordance with NR 700 - 726;
√ does not adversely impact or threaten to adversely impact the air, lands, waters of the state as a single discharge, or when accumulated with past discharges
√ does not cause or threaten to cause chronic/acute human health impacts
√ does not present or threaten to present a fire or explosion or other safety hazard
2. Agrichemical compounds:
• < 250 pounds dry fertilizer
• < 25 gallons of a liquid fertilizer
• pesticides that would cover < 1 acre of land if applied according to label instructions.
3. Federal reportable quantities:
• < the federal reportable quantity for a specific substance
UDOT
SPILL PREVENTION and RESPONSE PLAN
for
CONSTRUCTION SITES
udot.utah.gov
Contractors are often Mentioned in State Plans.
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QUESTION 1

Incidental vs. Emergency Spill/Release Incident

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Incidental Release

- Hazardous substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel.
  - ✓ **Reportable Quantity & Clean-up Requirements still Apply.**

Emergency Release

- Release requires a response effort from a Federal or State agency or by other designated responders.
  - ✓ **Federal or State Agency, EMS, Fire Departments, Clean-up Contractors, Mutual-aid Groups.**

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Incidental Spill/Release

- Not Affected Any ***"WATERS of the STATE"***
- Not Infiltrated Any Sewer or Storm Drain
- Below the ***"REPORTABLE QUANTITY"***
- No Evacuation or Traffic Re-Route Required.
- No Imminent Fire/Explosion Hazard.
- Not Life Threatening.
- No Public Health Risk.

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QUESTION 2

Emergency Response is Necessary

- Pollutes any *Waters of the State.*
  - ✓ **Tributary, stream, river, lake, wetland, ground water……everything!**
- Infiltrates a sewer system or storm drain.
- *Reportable Quantity* according to Federal or State regulations.
- High concentrations of toxic substances.
- The size of the spill area.
- Situation that is/likely to become, life or injury threatening.
- Imminent Danger to Life and Health (IDLH) condition is created.
- Situation presents/creates an oxygen deficient atmosphere.
- Catches fire, explodes or presents fire or explosion hazard.
- Has potential to be life threatening.
- Situation requires an evacuation of the area.

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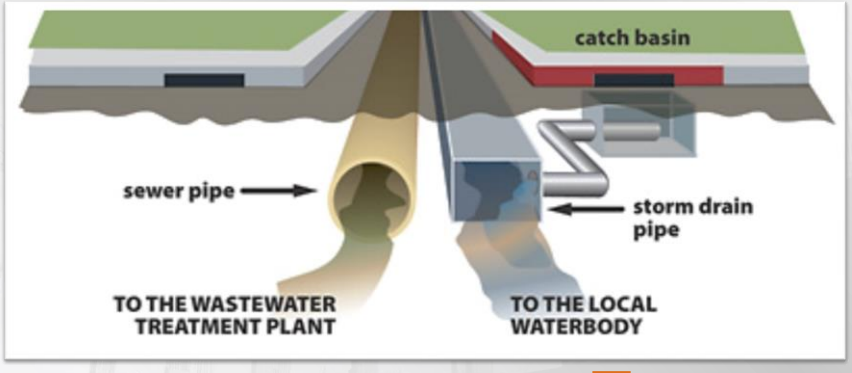
Storm Drains are Separate from Waste Water Systems

REMEMBER: Storm Drain Systems Drain to Rivers, Streams, Creeks and Gullies <u>without</u> any Treatment.



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QUESTION 3

Affecting Road Users, Pedestrians or other Members of the Public?

Do You Know What is on Your Site... and How Much is Stored?

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Do You Know How to Take Action?
BATTERY ACID SPILL KIT
CHEMSORB
Acid Neutralizer
JAN
ACCREDITED
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PROVIDER
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Define your strategy.
Assess the work environment.
Material management, housekeeping and storage.
Equipment inspections and maintenance.
Spill kits – sorbents – disposal barrels.
Identify local clean up contractors.
Containers and labeling.
Prevention & Preparation Methods
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Define Your Response Strategy

- Primary/Alternate Points of Contact.
- Reportable Quantities.
- State Reporting Hotline or Contact Number/Agency.
- Onsite Methods:
  - ✓ Containment
  - ✓ Removal
  - ✓ Transportation
  - ✓ Disposal
- Documents, Photos, Videos, Records.
- Clean-up Contractor.

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SPILL / RELEASE RECORD

Primary Point of Contact:
NAME: #:
Alternate Point of Contact:
NAME: #:

Date: _____ *City & State:* _____

LOCATION and CONTACT INFORMATION

Employee Name: _____ Phone Number: _____

Address of Spill / Release: _____ Time: _____

LIST OF MATERIALS SPILLED / RELEASED

1. _____ *Estimated Quantity:* _____ *Reportable Quantity* ***YES / NO***
2. _____ *Estimated Quantity:* _____ *Reportable Quantity* ***YES / NO***
3. _____ *Estimated Quantity:* _____ *Reportable Quantity* ***YES / NO***

Describe How the Spill / Release Occurred, Site Conditions & Environmental Impact:

_____

Reporting Hotline or Response Center Contacted? ***YES / NO*** **Time Contacted:** _____

Agency Name: _____ Phone Number: _____

Name of Person Taking Report: _____ Badge / ID Number: _____

Report Information: _____

RESPONSE and CLEAN-UP ACTIVITIES

PHOTOS SHALL BE TAKEN DURING EACH CLEAN-UP STAGE: ***Containment, Removal, Disposal***

Method of Containment: _____

Method of Removal: _____

Method of Disposal: _____

Name of Person Filling Out Report: _____ ***Date:*** _____

Signature: _____ ***Phone Number:*** _____

Please Return a Copy of this Record to the Safety Department within 24-hours of the Event

ADDRESS: Attn:

FAX: *EMAIL:*

QUESTION 4

Assess the Work Environment

- Waters of the state.
  - ✓ **Inlets, storm drains, streams, rivers, lakes, wetlands, etc.**
- Proximity to impaired or special waters - *up to 1 mile.*
- Environmentally sensitive areas.
- Pervious or impervious surfaces.
- Working on a slope or incline.
- Public or private property.
- Types of hazardous substances at the work location.
- State-specific reportable quantities.
- State-specific reporting or notification phone number.

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Material Mgt. - Housekeeping - Storage

- Storage Cabinets & Designated Areas
- Secondary Containment
- Containers and Labels

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Port-a-Potty

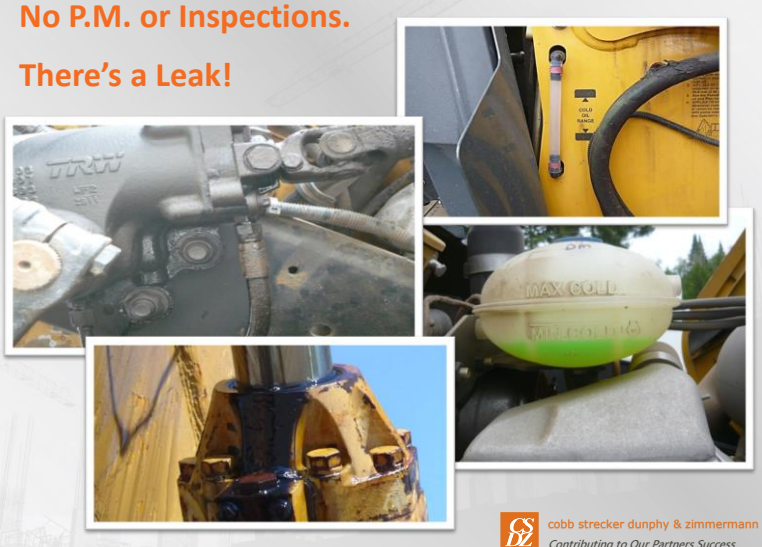
Stake or Secure in Place

Keep Away from Inlets & Drainages

Inspections & Preventative Maintenance

2 Possibilities Equipment Fluid is Low or Empty:

1. No P.M. or Inspections.
2. There's a Leak!



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Sorbents

Color of the sorbent is an indicator of its function.

- **White** and **Blue** absorbs hydrocarbons (Oil) only and may repel water.
- **Gray** is universal and used to absorb all liquids.
- **Yellow** and **Pink** is typically for HAZMAT or unknown liquids - *Absorbs chemicals, acids and bases.*

ADsorption occurs when a liquid, gas or dissolved solid is adhered to the surface of the adsorbent.

ABsorption occurs when the liquid or gas is being taken into the absorbent material uniformly.

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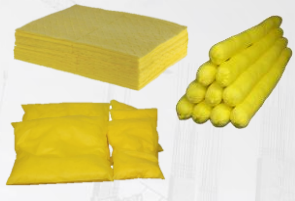
Absorbents

Universal

Oil-only

Spill Kits

HAZMAT



Loose Fill

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QUESTION 5

Spill Kits may not be Enough…

…What's You Next Move?

Socks vs. Booms

BOOMS tend to be used on water.

SOCKS tend to be used on land.

- ✓ Shorter in Length, Smaller in Diameter.

Both:

- Contain leaks and spills.
- Prevent spreading/entering sensitive areas.

Helpful Hints:

- Before using, give sock/boom a quick shake to evenly distribute the filler.
- When placing end-to-end, overlap by 3 to 5 inches to prevent pass-through.
- When you see liquids passing under or around a sock/boom, it is fully saturated and needs to be replaced.
- Do not stack socks/booms vertically.
  - ✓ If a sock or boom is saturated, replace it with a fresh one.

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Non-regulated Waste Drums
"HAZMAT Barrels"

- Keep 1 or 2 with each crew, at each yard.
- Predictable Costs - includes delivery and pickup!
  - ✓ Typically $200 to $300 per Barrel.
- One solution for several incidents:
  - ✓ Impacted Soils or Debris.
  - ✓ Pads/Pillows/Socks/Rags/PPE
  - ✓ Granular Absorbents.
  - ✓ Clay-based Absorbents.
  - ✓ Used Oils.

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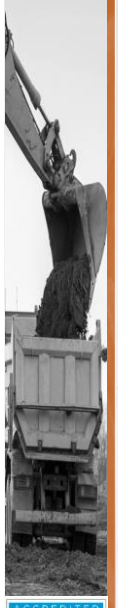

Identify a Local Clean-up Contractor

- Types of waste.
- Availability.
- Response time.
- Vacuum truck service.
- Transportation & disposal.
  - ✓ **Liquids – per Gallon.**
  - ✓ **Solids – per Gallon, Weight, Volume.**
- Pricing and surcharges:
  - ✓ **HM Profile, Number of Stops, Number of Personnel, Fuel, etc.**

Identify a Treatment, Storage, or Disposal Facility (TSDF) – aka Landfill

- Confirm Acceptable Types of Waste, Quantities and Form - **solid / liquid**
- Profile, Required Reports, Business Hours, Any Special Requirements.
- Nearest Location my be in another State.

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QUESTION 6

Immediate Response: Contain the Spill/Release

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Critical 1st Step: Contain the Release

- Attempt to Contain the Release by Damming, Digging a Trench, Building a Dyke or Berm.
- Protect all Inlets, Storm Drains, Conveyances, Waters of the State.

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Impervious Surfaces & Frozen Ground

Are the Necessary Precautions Readily Available?

- Loose Fill Absorbents – "*floor dry*".
- Pads, Pillows, Rolls, Socks.
- Spill Kits.

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Potential Impact to Wetland, Stream, River, Surface Water, Waters of the State

Capture, Contain, Minimize the Affected Area

- Deploy containment booms and absorbent socks.
  - ✓ **Small spill/release on water can contaminate a large area!**
- Stop the spill/release, if possible.
- Contain as much free liquids as possible.

Use Absorbents in Saturated Ground

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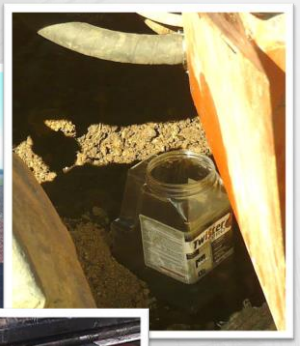
Be Creative for Small Leaks

- Kiddie Pools, Buckets, Pails, etc…



Use Your Spill Kits.

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QUESTION 7

Clean-up Methods

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Clean-up Method: Pervious Surfaces

Soil – Sand – Gravel – Silt

"White Line" the Affected Area.

- ✓ **This is the only Area that You are Responsible to Clean-up, Remove and Restore.**
- ✓ **Especially Critical on Public and Private Property.**
  - ✓ Eliminate Disputes, Reduce Costs.

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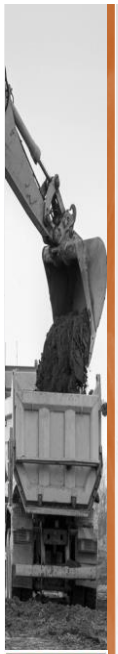
QUESTION 8



If at all Possible, You Don't Want any Materials in a "Free Flowing" Form.

- Solid Waste Disposal is Much Easier and Less Expensive than Liquid Hazardous Substance Disposal.
  - ✓ **Liquid Hazardous Disposal is Not Always Available in Your Area.**
  - ✓ **If available, typically Pay by the Gallon, think of Vac-Truck or Wagon Capacity!!**
- Capture the Spill/Release by Mixing or Absorbing it to Create a Solid Form.
  - ✓ **Mix with Surrounding Soils.**
  - ✓ **Use Sorbents, Soil, Sand, Floor Dry…**
  - ✓ **Materials Must Completely Encapsulate the Spill/Release.**
- For Solid Waste Disposal, Substances Must Not Run Out of the Material Used to Soak it Up.

If Necessary, Vacuum to Prevent Entering Inlet Or Storm Drain.

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Excavate All Contaminated Soil and other Materials Used

- Mechanical Method or Hand Digging.
- *Best Practice:* Excavate at Least 6" below all impacted soils.




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Clean Up Methods: Impervious Surfaces

Asphalt – Concrete – Solid Rock – Brick/Block – Caliche

Absorb and Remove All Spilled/Released Material

- Are Sorbents and Containers Readily Available?





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Some Residue May Remain on Concrete and Asphalt

After initial clean-up, try spraying the asphalt/concrete with water to *"LIFT"* more liquids off the surface. Then, reapply absorbent materials.

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QUESTION 9

Transportation & Disposal

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Are Absorbents Considered Solid Waste?

Used oil absorbents can be disposed of as **Solid Waste** if:

- ✓ **State Regulations Specifically allow Solid Wasted Disposal,**
- ✓ **No Visible Signs of "Free-flowing" Material remain In or On the Absorbent Materials, and**
- ✓ **Materials & Absorbents are Not Hazardous or "Special" Waste.**
  - ✓ Ignitable, Corrosive, Reactive, Toxic

Used Oil Absorbents for spilled /released oil, petroleum-derived or synthetic oil (e.g. hydraulic fluid).

- ✓ **Granular-type** *(Kitty Litter)* **Absorbents, Oil-dry Cloths, Rags, Wipes, Paper Toweling, Absorbent Pillows, Pads, Socks.**
- ✓ **Includes: Dirt, Sand, Silt, Clay, etc. that was Impacted or Used to Absorb any Spilled/Released Materials.**

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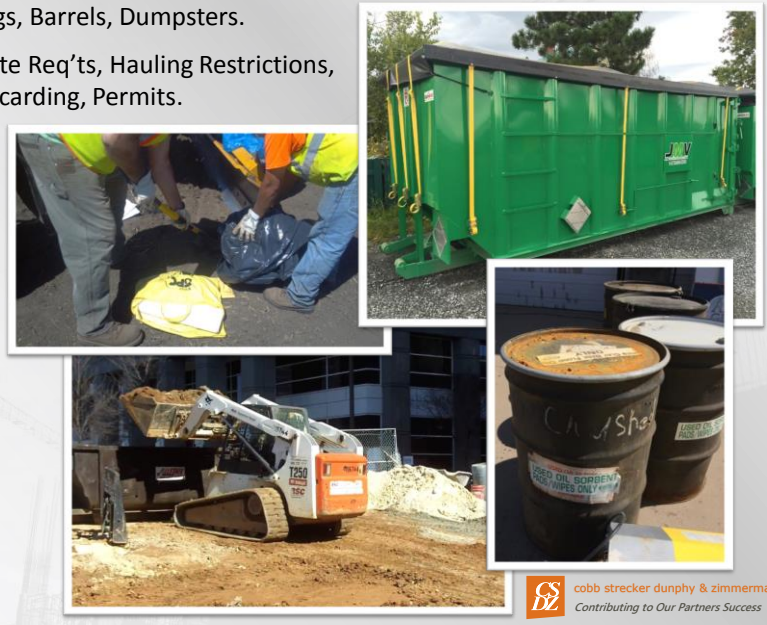
Transportation Hinges on State & Type of Waste

- Bags, Barrels, Dumpsters.
- State Req'ts, Hauling Restrictions, Placarding, Permits.



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Disposal Options are based on State & Type of Waste

- Fed/State law may require the waste to be characterized through the preparation of a Hazardous Waste Profile Sheet (HWPS).
  - ✓ **Testing, Chemical Analysis, and additional Documentation may be Necessary before a Disposal Facility will Accept and Dispose of Your Waste.**
- Solid Waste Landfill.
- Special Waste / HAZMAT Landfill.
- Treatment, Storage, or Disposal Facility (TSDF).
  - ✓ **Your Only Option may be to Transport to Another State.**
- Pay a Third Party/Contractor to take Possession.

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QUESTION 10

Requires the intervention of cleanup specialists to contain and remove spilled/released materials:

- ✓ Enters an Inlet, Storm Drain or Conveyance.
- ✓ Pollutes Waters of the State.
- ✓ Destruction of Pubic or Private Property.
- ✓ Potential to cause Harm to Humans, Animals, Environment.

Emergency Spill/Release

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Numerous Fed & State Regulations Govern Reporting and Response

IGNORANCE IS NO EXCUSE FOR COMPLIANCE: EPA considers a "release" to be virtually all conceivable contacts with the environment.

Federal Civil and Criminal Penalties for Not Reporting:

- Under the CWA, possible $10,000 fine and up to 1 year imprisonment for **failure to notify** $5,000 fine per each release or discharge in a 24-hour period exceeding an RQ [40 CFR 117.22(b)]; and an additional civil penalty of up to $50,000 or up to $250,000 if the discharge is the **result of willful negligence or willful misconduct.**
- Under CERCLA, possible fines according to Title 18 of the U.S. Criminal Code and up to 3 years imprisonment/first offense or 5 years imprisonment/subsequent offenses for **failure to notify, submitting false or misleading information, or destroying or falsifying evidence** [Sect. 103(b)(2)].
- Under EPCRA, civil penalties up to $25,000 fine for **failing to provide emergency notification**; criminal penalties of up to $25,000 and 2 years imprisonment/first offense or $50,000 and 5 years imprisonment/subsequent offenses for **willfully failing to provide emergency notification.** (40 CFR 355.50).
  - ✓ 40 CFR 117.22(a), 40 CFR 117.22(b)

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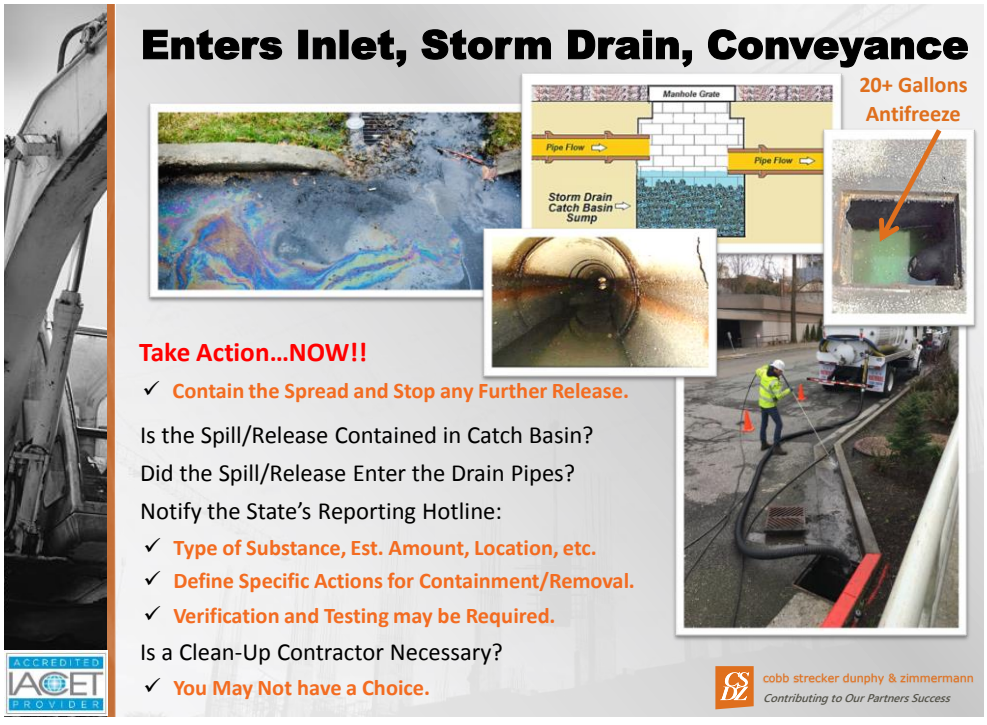
Enters Inlet, Storm Drain, Conveyance
20+ Gallons Antifreeze
Manhole Grate
Pipe Flow
Pipe Flow
Storm Drain Catch Basin Sump
Take Action…NOW!!
✓ Contain the Spread and Stop any Further Release.
Is the Spill/Release Contained in Catch Basin?
Did the Spill/Release Enter the Drain Pipes?
Notify the State's Reporting Hotline:
✓ Type of Substance, Est. Amount, Location, etc.
✓ Define Specific Actions for Containment/Removal.
✓ Verification and Testing may be Required.
Is a Clean-Up Contractor Necessary?
✓ You May Not have a Choice.
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Waters of the State

Take Action…NOW!!

- Can You Contain the Spill/Release?
- Can You Stop any Additional Spill/Release?
- Notify the State's Reporting Hotline:
  - ✓ **Type of Substance, Est. Amount, Location, etc.**
  - ✓ **Define Specific Actions for Containment/Removal.**
- Is a Clean-Up Contractor Necessary?
  - ✓ **You May Not have a Choice.**

Notice: Ground Water is Considered Waters of the State.





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Public or Private Property

Take Action Now!

- Contain the Spill/Release.
- Notify the Owner of the Event.
  - ✓ **Be Specific and Define How You are Going to Make Things Right.**
- Remove all Contaminated Soils, Materials, Absorbents, etc.
- Transport and Dispose of all Materials.

Property Restoration:

- ✓ **You Own It.**
- ✓ **Replacing Soil, Sod, Plants, Flowers, Trees, Shrubs, etc.**
- ✓ **Cleaning Brick, Block, Concrete, Asphalt, etc.**


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Private Property Incidents have the Potential to Spiral Out of Control.

Do Not Ignore Your Responsibility to Solve the Problems Created by Your Employees.

- ✓ **Prompt, Practical, Reasonable Solutions.**

Owners may Choose to Report the Incident Federal and State Agencies.

- ✓ **Is Your Response Strategy Ready for Review by a State and/or Federal Agency?**

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QUESTION 11

- Frac-Out.
- Concrete Washout.
- Refueling, Maintenance and Repair.
- Cleaning/Washing Equipment and Vehicles.

Spill/Release Considerations based on Task, Material & Equipment

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Frac-Out

HDD, Boring or Tunneling

Preference: Vac-Truck/Wagon Readily Available.

Land Release – Contain and Remove the Drill Fluids.

- Use straw bales, straw waddles, silt fences, sand bags, earth berms, trench or other sediment control BMPs to prevent fluid from migrating or flowing to every extent possible. Vac-truck the fluids.
- **Small Quantity Release:** allow to dry naturally, remove deposits.

Water, River, Stream, Wetland – Capture and Remove the Drill Fluids, if Possible.

- Release may be impractical/impossible to contain.
- **Shallow Water Releases**: may install staked sediment barriers or other BMPs. Removal by vacuum truck/wagon may be attempted.
  - ✓ **Report the Event, Confirm State-specific Requirements.**
- **Underwater Releases:** typically allowed to dissipate since, by design, responsible contractors would seek to avoid placing equipment within the water body, which would further disrupt the natural environment.
  - ✓ **Report the Event, Confirm State-specific Requirements.**

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Concrete Washout

NOTE: Some State Allow Up to "X" cubic Yards of Concrete Solids to be Managed/Buried Onsite.

Water for Concrete Washout, Dust Control

- Liquids and slurry are a caustic material due to a high pH and it contains hazardous metals such as chromium.
  - ✓ **Liquids can leach into the ground, contaminate groundwater.**
  - ✓ **High pH can inhibit plant growth and harm aquatic life if the runoff migrates to a lake or stream.**
  - ✓ **Solids from liquid waste that are improperly disposed of can clog storm drain pipes and cause flooding.**

- Necessary Precautions for Wash Water:
  - ✓ **Direct all Wash Water into a Leak-proof Container or Pit, which Must be Designed so that no Overflows can occur due to Inadequate Sizing or Precipitation.**
  - ✓ **Locate any Washout or Cleanout Activities as far as Possible from Surface Waters, Storm Water Inlets or Conveyances.**
    - ✓ Never Dump Liquid Wastes into a Storm Sewer or Surface Waters.

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Fueling, Maintenance & Repair

- Perform activities a designated areas
  - ✓ **Locate the Area(s) any as Far as Possible from Surface Water, Storm Water Inlet, Conveyances**
    - ✓ Never Dump Wastes into a Storm Sewer or Surface Waters.
- Drip pans and absorbents readily available.
  - ✓ **Onsite Disposal or Transport Materials Off Site.**
- Secondary containment.
  - ✓ **Motor Oil, Brake Fluid, Fuel, Radiator Fluid, Acid Batteries, etc.**

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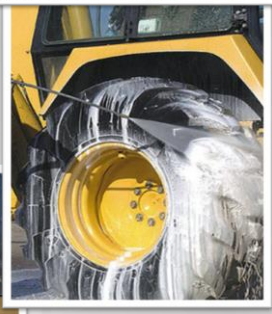
Washing Equipment and Vehicles

- Onsite washing permitted by SWPPP?
  - ✓ **Cleaning Agents or Only Water?**
- Erosion control and sediment BMP's to prevent/capture runoff.
  - ✓ **Eliminate potential discharge of pollutants into surface waters, inlets, storm drains, conveyances.**
- Municipal, county, state ordinance?



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QUESTION 12

In Closing...

- Defined emergency vs. incidental spill/release.
- Identified compliance and reporting requirements.
- Reviewed prevention methods.
- Defined response strategy elements based on work location, task, equipment and hazardous substances.
- Reviewed transportation and disposal options.

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Thank You!

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