2022 INDOT Construction Stormwater Training Update

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What is this?
Out with the old....

- INDOT specification requirements have been updated
- Previous training requirements:
  - Complete online modules then,
  - All day in-person training at TMC
  - Finally, one month to complete test
  - Training and test needed upgrading
In with the NEW and IMPROVED Stormwater Training

  - Any Level 1 and/or Level 2 individual conducting inspections/ or stormwater related work on-site must be certified
  - Active for 2 years (renewal required)
  - Provides 8 pdh (professional development hours)
  - Valuable training for construction industry (include on resume)
  - Certification held by INDOT personnel, Professional Engineers, Project Managers, Project Designers, Stormwater Specialists, Teachers, Environmental Managers, Inspectors, and others
In with the New Training - Student Perspective

- 18 self-paced modules
- 40 knowledge check questions which are carried over to the final exam
- Over 1,000 real experience images used in the training
- Incorporates a variety of interactive activities
- 75 question open book final exam
- Continued access to the materials
- Can complete the entire training in one sitting or less than 10 hours
Module Objectives

By the end of this module, learners will be able to:

- Explain how projects are funded.
- Describe the relationship between the Clean Water Act (CWA) Section 404 and 401 permits.
- Recognize when a project would fall under the jurisdiction of the Indiana Department of Natural Resources (DNR) and require a Construction in a Floodway (CIF) permit.
- Identify the steps of the Rule 5 permit and when one is needed.
- Determine when a project modification requires a permit review and potentially a new permit.
What is the Water Cycle?

Click the arrow or NEXT to continue
Real Life Examples

What is the Big Deal?

This is an example of the relationship between the power of water and the power of gravity as they work together. To set the stage:

The project in Southeastern Indiana had been completed the year before.

• It was an unusually intense rainfall over a short period of time.
• It rained, and rained some more.
• The upstream channel was stable.

Click the photo to continue
Real Life Examples

What is the Big Deal?

The erosion from the water did not stop until it hit bedrock.
Real Life Examples

What is the Big Deal?

The water moved the rock out of the culvert.

Click the photo to continue
A stream is a drainage feature that has water flowing in a linear manner, from one point to another. A stream channel can be as small as something a mouse would have a hard time canoeing in or it could be large enough to hold a ship.
Happened Here?

- Large cuts of land exposed and not properly secured therefore, creating areas with a high potential for sediment to escape off-site.

The Facts

- Exposed slopes lacking perimeter protection and erosion control Best Management Practices (BMPs).
- Off-site areas impacted by escaped sediment.
- Had to reinstall additional erosion control measures.
Problem Analysis

Off-Site Pollution

What Happened Here?
• The concrete washout has multiple issues; placement, design, and containment.

The Facts
• It is within 50 feet of a waterway, in this case the Tippecanoe River. Poor evaluation of risk management; downstream there is a water treatment facility. If there were to be any contamination there is a high possibility for fish kill, contaminated drinking water, and damaged treatment facility pumps.
• A 10 ml liner was not used and earthen berms were not constructed on all sides.
• Lacks signage and orange fencing.
Activities

Building the SWPPP Activity

Instructions: Click on each part of the SWPPP and read through the content. When the green check appears on an image, the activity has been completed. To get started, click on an image.
Storm Water BMP Types

Storm water best management practices (BMPs) can be looked at in several ways. There are six BMP activities. They should be implemented in this order: Communication, Work Management, Storm Water Management, Other Pollution Prevention, Sediment Control, Erosion Control. (Click the highlighted box to learn more)
There are seven components to the work management BMP:

1. Minimize soil disturbance
2. Save topsoil
3. Assembly line grading
4. Have a Plan "B"
5. Timing is everything
6. Install perimeter protection
7. Phasing

(Click the arrow or Continue to learn more)
Pre-Construction Meeting

The contract has been let and now it is time to get to work. This is the first of many meetings that will occur over the life of the contract. The purpose of the meeting is to ensure that all involved parties understand the contract, commitments and permit conditions.

This meeting can be held off-site in a large meeting room or virtually.

Click Pre-Construction to learn more
The Storm Water Pollution Prevention Plan (SWPPP) section on material handling and spill prevention provides general requirements that will be expanded in the Storm Water Quality Control Plan (SWQCP) developed by the contractor. The SWPPP includes a list of materials expected on the construction site, how the materials will be handled to minimize potential for storm water run-off and spill response procedures.
Multiple Learning Styles

Material Handling and Spill Prevention Plan

Disposal of Sediment Laden Water

Implement measures to prevent the discharge of sediment laden water into regulated waters or storm water facilities.

- Clean water to clean water
- Sediment laden water to treatment
- Treated clean water to clean water
- Treatment sized to amount of flow, non-erodible discharge, installed properly and maintained
Comprehensive

INDOT Construction Storm Water Training
1H Hotspots - Compliance

Expected Module Completion Time: 1-2 hours
Stormwater Team

- **Notify:** SWQM + PE/PS - Eyes and ears on a job site with full knowledge of what is going on.
- **Notify + Collaborate:**
  - District Environmental
  - Central Office Environmental
  - Central Office Storm Water Specialist - Content expert and liaison. Up to speed with protocols in their district.
- Each of these three contacts are content experts across the state. Pooling 'our' resources.

Communicating and collaborating in the field to solve and correctly repair issues while implementing and using contact resources is how INDOT stays on time and within budget.
No matter how much wishful thinking is done, plant growth will never occur on rock. Therefore, implementing a plan to have a top layer of soil ready for plant growth is the ideal way to save time and money. Or, as seen in the photo, large amounts of soil will continue escaping while forming large rills or gulleys along the embankment.
Compliance Considerations

Possibilities for all types of contracts

- INDOT Inspections
- Quality Adjustments
- IDEM Inspections
- Project Shut down
- Violations/fines from IDEM and EPA
- Pre-qualification
- Loss of FHWA Funding

Avoid compounding problems or expect significantly more costly impacts out on a job site. Routine INDOT inspections are frequent; however, less deficiencies noted means less cost problems out on site. More deficiencies leads to more quality adjustments to get the job done right. As more of these issues gain attention, the probability of a regulatory agency becoming involved significantly increases.
### Money Savings Ideas

#### Prioritizing the Budget

<table>
<thead>
<tr>
<th>Practice</th>
<th>Cost</th>
<th>Effectiveness</th>
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</thead>
<tbody>
<tr>
<td>Limiting disturbed areas through <strong>phasing</strong></td>
<td>$</td>
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</tr>
<tr>
<td>Protecting disturbed areas through <strong>mulching and revegetation</strong></td>
<td>$$</td>
<td>$</td>
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<tr>
<td>Installing diversions around disturbed areas</td>
<td>$$</td>
<td>$</td>
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<tr>
<td>Sediment removal through <strong>detention</strong> of all site drainage</td>
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<td>$</td>
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<tr>
<td>Other <strong>structural controls</strong> to treat sediment laden flow</td>
<td>$$$$</td>
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**Use the Pre-Disturbance meeting to walk the site and plot phasing sequence.**

**Implement these measures prior to disturbing the ground.**

**Assess the site frequently and adapt the site to prevent sediment escaping.**

**Once this pattern begins it is a downhill spiral. Determine the “cause” of the problem and fix it.**

**Proactive responses reduce reactive costs.**
Oh no! The Final Exam

- Open book
- 75 Questions
- 40 I’ve seen that before!
Fees and Registration

- Stormwater Initial Training Fee: $200
- Stormwater Retake Exam Fee: $100
- Stormwater Renewal Training Fee: $200

- Training registration is available 60 days prior to class launch
- **Initial Training registration** on the INDOT Stormwater Training and Renewal Events Calendar
- **Renewal Training registration** by contacting Rebecca Sumner at rsumner@indot.in.gov
# Training Schedule


<table>
<thead>
<tr>
<th>Training Launch</th>
<th>Modules and Exam Required Completion Date</th>
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<tbody>
<tr>
<td>JANUARY 20, 2022</td>
<td>April 20, 2022</td>
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<tr>
<td>MARCH 10, 2022</td>
<td>June 10, 2022</td>
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<td>APRIL 28, 2022</td>
<td>July 28, 2022</td>
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<td>JUNE 16, 2022</td>
<td>September 16, 2022</td>
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<td>AUGUST 4, 2022</td>
<td>November 4, 2022</td>
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<td>SEPTEMBER 22, 2022</td>
<td>December 22, 2022</td>
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<td>NOVEMBER 10, 2022</td>
<td>February 10, 2023</td>
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<tr>
<td>DECEMBER 22, 2022</td>
<td>March 22, 2023</td>
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Why INDOT Requires & Values Stormwater Training Certifications…

- The **Clean Water Act** must be followed on all construction sites
- The **Clean Water Act**
  - Compliance required by individuals, government entities, corporations, or others
  - Prevents pollutants from ending up in our waterways
  - Reduces environmental impacts and mitigation costs
- Construction industry needs individuals certified and ready to conduct inspections and compliance work.
Important Contacts - Please Write These Down!

- **Rebecca Sumner** - INDOT Stormwater Training Admin - who you contact to sign-up for training - rsumner@indot.in.gov

- **Clara Furst** - Stormwater Training Content Expert - cfurst@indot.in.gov

- **Sandra Bowman** - Ecology and Waterway Permitting Content Expert - sbowman@indot.in.gov
Current Updates

- December 2021 - Platform transitions
- Temporary removal of ‘the Football Game’
- 2022 CSGP driven updates
- Maintenance updates
Exciting Partnerships

• **Summer 2021** - INDOT partnered with Hamilton Heights HS (and additional area high schools) for the Civil Construction Heavy Highway Teacher Training
  • *Indiana High School Teachers* bringing opportunities to the classroom
  • High School students graduate with construction industry standard certifications

• **Stormwater Training** -
  • One of the areas of focus
  • Next training - June 2022
What is this?
Questions??