

**Certified Storm Water Operator  
and  
Soil Erosion and Sedimentation Control  
Inspector/Comprehensive Training Manual**

**Department of Natural Resources and Environment  
State of Michigan**

# **Certified Storm Water Operator and Soil Erosion and Sedimentation Control Inspector/Comprehensive Training Manual**

**2010 Edition**

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# Manual Purpose, Training Requirements, and Definitions

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## Purpose

The information in this training manual provides the information necessary for individuals to complete the training requirements set forth in Part 31, Water Resources Protection and Part 91, Soil Erosion and Sedimentation Control (SESC), of the Natural Resources and Environmental Protection Act, 1994 PA 451 as amended, to become a Certified Storm Water Operator (CSWO), an SESC Inspector, or responsible for administering and enforcing a County or Municipal Enforcing Agency or Authorized Public Agency.

## Training Requirements

### Certified Storm Water Operator (CSWO) Training:

Individuals who are required to conduct weekly site inspections (and inspections within 24 hours of a rain or snowmelt event) as a certified storm water operator pursuant to Part 31 (Permit-by-Rule) must study **Units 1-5** and pass the CSWO/SESC Inspector exam. **Note:** Unit 5 references information in Unit 6; however, it is not necessary to review Unit 6 to pass the CSWO exam.

### Comprehensive Soil Erosion and Sedimentation Control (SESC) Training:

Individuals who are responsible for administering and enforcing Part 91 must study the entire manual including Appendix 1 (SESC Best Management Practices (BMPs) Guidance Sheets) and pass the SESC exam. **Note:** For exam purposes, you will not be expected to complete the engineering calculations associated with the BMPs in Appendix 1, but you must know the general information regarding where and how to install the BMPs. As an example, you will not be expected to calculate the riprap size or apron size of a Riprap-Stabilized Outlet; however, you will be expected to know things such as the stabilized outlets are used to control erosion in concentrated flow areas by reducing velocity and that the outlet apron shall be straight with no bends, that a filter blanket needs to be placed between the riprap and underlying soil, etc.

**Exception for SESC Inspectors:** Individuals who only have site inspection responsibilities for Part 91 may conduct those inspections by studying **Units 1-5 of this manual** and passing the CSWO/SESC Inspector exam. **Note:** Unit 5 references information in Unit 6. Although it would be beneficial, and encouraged, to review Unit 6 to gain further knowledge on Part 91, it is not necessary to review Unit 6 to pass the CSWO/SESC inspector exam.

When determining whether you or a member of your staff should complete the Comprehensive SESC training or the new CSWO/SESC Inspector training, please be aware that the duties of an SESC inspector are very limited. An SESC inspector is limited to ensuring that SESC measures are implemented and maintained per the SESC plan, specifications, and SESC procedures (if applicable), and that the prescribed measures are effective in minimizing soil erosion and preventing off-site sedimentation. The SESC inspector may order the contractor or owner to install or maintain any control measures that were identified on the approved SESC plan and/or procedures. However, if the prescribed SESC measures are not effective, the SESC inspector cannot order or suggest alternative measures that are not indicated on the plan; he/she must seek assistance from the person responsible for developing

or approving the plan or someone that has completed the Comprehensive SESC training. You should discuss with your supervisor if you should take the SESC Inspector or the Comprehensive SESC exam.

## **Definitions**

Following are definitions and acronyms of some basic or important terms used throughout the training manual. Additional definitions or acronyms are defined in the various Units.

**BMP:** Best Management Practices, a term applied to structural, vegetative, or managerial practices used to protect or improve surface waters, ground waters, or adjacent property.

**DNRE:** Michigan Department of Natural Resources and Environment

**Earth Change:** A human-made change in the natural cover or topography of land, such as grading, cut and fill activities, the placement of soil storage piles, or any other activity that may result in or contribute to soil erosion or off-site sedimentation.

**Runoff:** Water that does not infiltrate into the ground, but flows over the surface of land that is usually dry. Runoff is produced directly by rainfall or snowmelt events, or indirectly by discharges of captured rainfall from control structures.

**Sediment:** Solid mineral or organic particulate matter that has been removed from its site of origin by the action of water, wind, or gravity. When sediment comes to rest away from its site of origin, the result is sedimentation.

**Sedimentation:** The process whereby the detached particles generated by erosion are deposited elsewhere on the land or in our lakes, streams, and wetlands (Figure 1-14). Together, runoff, erosion, and sedimentation result in soil being detached, carried away, and eventually deposited elsewhere (Figure 1-15).

**SESC (Soil Erosion and Sediment Control):** Any particular practice or BMP used to control, minimize, or eliminate soil erosion or sedimentation, or a general term applied to all aspects of controlling erosion and sediment.

**Soil Erosion:** The process by which the land surface is worn away by the action of wind, water, ice, or gravity. In simple terms, it is the process where soil particles are dislodged or detached and put in motion.

**Stabilization:** The establishment of vegetation or the proper placement, grading, or covering of soil to ensure its resistance to soil erosion, sliding, or other earth movement

**Waters of the State:** Part 31 and Part 91 have different definitions for “waters of the state”. Part 31 includes “...ground waters, lakes, rivers, and streams and all other watercourses and waters within the jurisdiction of the state and also the Great Lakes bordering the state”. Part 91 includes “... the Great Lakes and their connecting waters, inland lakes and streams, and [regulated] wetlands ...”

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