MDOT'S Storm Water Management Program Findings – Soil Erosion and Sedimentation Control

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Over the last couple of years, the Michigan Department of Environmental Quality (MDEQ) has increased enforcement activity relating to soil erosion and sedimentation control (SESC) on construction sites. SESC activities help protect our precious water resources from becoming contaminated.

MDOT is committed to environmental stewardship and has a comprehensive SESC program which is audited by the MDEQ. To help raise awareness, the MDEQ is looking to MDOT to educate contractors as part of our Storm Water Permit requirements. This includes directing our field inspectors to review SESC practices more thoroughly. With that said, why should contractors be concerned about SESC?

IT'S THE LAW

First of all, SESC is the law. Under Public Act 451, the Natural Resources and Environmental Protection Act, landowners, including MDOT, are required to contain soil and sediment within the limits of the right-of-way and out of the waters of the state during earth change activities. There are two parts of Public Act 451 that must be complied with: Part 91, entitled Soil Erosion and Sedimentation Control, and Part 31, which covers the National Pollutant Discharge Elimination System (NPDES).

This means that any contractor working on an MDOT construction project must follow approved SESC installation and maintenance practices. Violations could result in costly fines, delays and lost production. Civil penalties can result in fines of up to $25,000 per day; criminal penalties could result in fines up to $1 Million and up to five years in prison. Therefore, you can save time and money by staying in compliance.

Here are some examples of enforcement action taken by the MDEQ:

- MDOT is currently negotiating an administrative consent order proposed by the MDEQ which includes a substantial fine along with several internal measures to improve SESC procedures.

- Last construction season a county road commission on the west side of the state was assessed $40,000 in fines for violations of erosion control laws.

- Last year in Kent County, a developer and their contractor were fined $95,000 for sediment discharge to a river.

- Several years ago the Michigan Department of Management and Budget was fined over a million dollars for violations of soil erosion laws during the construction of a prison.

As you can see, the fines can be significant. Even so, MDEQ fines are not the only possible negative impact on a contractor's bottom line for failing to maintain adequate SESC measures.

AUTHORIZED PUBLIC AGENCY STATUS

MDOT is recognized by the MDEQ as an authorized public agency (APA). This allows MDOT to be covered by a blanket SESC permit for all of its projects. MDOT maintains this status through an MDEQ audit of its erosion control program every five years. If MDOT fails to enforce SESC practices and this status was revoked, MDOT would be required to apply for a soil erosion permit for EVERY project involving an earth disturbance of one acre or more. This could impact the volume of projects let each year, which in turn affects our contractors' sources of revenue.

For this reason, it is critical that MDOT and its contractors work towards the same SESC goals. MDOT is required to follow a set of procedures approved by the MDEQ. These procedures are detailed in MDOT's *Soil Erosion Control Manual*. All contractors should be familiar with these procedures as they go hand in hand with the MDOT Standard Specifications for Construction. To help simplify this task, MDOT has prepared an SESC summary poster for its contractors. The poster contains photo examples and a detailed summary of good and bad practices complete with checklists. If you did not attend the SESC discussion at this year's SuperConferences and receive a poster, information on how to obtain one and other important materials is given at the end of this article.

SESC SPECIAL PROVISION PENALTIES

As a result of the MDEQ stepping up their enforcement activity and the risk of MDOT's APA status, MDOT created a new special provision to address non-compliance with SESC measures. This special provision will be piloted during the 2006 construction season on approximately 20 projects statewide. It is similar to the special provision that was developed two years ago for traffic control where monetary penalties are assessed based on non-compliance.

Penalties will be based on the level of non-compliance after a given period of time and depending on whether the situation is an emergency (requiring action within 24 hours) or a non-emergency (requiring action within 5 days). For instance, when deficiencies need to be corrected within 24 hours of notification, a penalty of $100 per hour will be assessed after that 24-hour window until the necessary corrective actions have been completed. Non-emergencies that remain uncorrected after five calendar days will be assessed a penalty of $500 per day until the necessary corrective actions have been completed.

Some examples of emergencies requiring corrective action within 24 hours include sedimentation of wetlands, water bodies or drainage structures which are in service; and erosion causing loss of support of a roadway with the potential to impact public safety. Non-emergencies are defined as all other deficiencies of SESC measures.

SESC BASICS

Here are some key items to be aware of during construction:

- By law, the contractor is required to maintain SESC Best Management Practices (BMPs) on a daily basis, as needed.

- Be sure to install temporary erosion control measures such as silt fence, inlet protection, turbidity curtains, etc., prior to the start of earth change activities.

- Install the controls in the field at the locations as detailed on the plan sheets unless directed otherwise. You may have to add, modify or delete controls as field conditions dictate.

- Permanent soil erosion controls such as seed and mulch should be installed in accordance with the time limitations detailed in subsection 208.03 of the standard specifications. These time limitations are within 5 calendar days of final grading or within 24 hours if the earth disturbance is within 150 feet of a lake, stream or wetland.

- Silt fence is the most commonly used and misused erosion control device found on MDOT projects. It must be properly installed and routinely maintained to function properly (see Silt Fence Tutorial sidebar). Anchoring the fabric in a 6-inch trench is critical for it to perform as designed. This is one item on which the MDEQ consistently cites us for noncompliance.

- Inlet protection is another common device found on MDOT projects. After each rainfall event these devices need to be inspected and cleaned out or replaced to function properly. Periodic street sweeping decreases the need for maintenance.

SILT FENCE TUTORIAL:

Proper Installation
- Install silt fence before clearing begins
- Anchor fabric in a 6-inch deep trench
- Do not install where concentrated flow is expected
- Stake posts on downhill side
- Space posts no more than 6.5 feet apart
- Install fence along the same elevation contour
- Turn ends of fence uphill

Inspection and Maintenance
- Inspect weekly and after precipitation
- Remove sediment and properly dispose before it reaches half the height of the fence
- Stabilize trapped sediment uphill of fence
- Remove fence once area is permanently stabilized and all trapped sediment is properly disposed of

Common Mistakes
- Not adhering to daily inspection/maintenance schedule
- Fabric not tucked into trench
- Posts on uphill side of fence
- Silt fence used in areas of concentrated flow

- MDOT's *Soil Erosion Control Manual* covers all earth change activities within the limits of earth disturbance of a given project. In most instances, these limits are defined as ten feet beyond the slope stake line except in areas adjacent to wetlands. Always refer to your project documents for these limits. If you intend to work outside of these limits but within MDOT right-of-way, you must prepare an earth change plan as required under PA 451. The earth change plan must be approved by the engineer

When it comes to SESC, an ounce of prevention is worth a pound of cure! Learn how to properly install and maintain your BMPs by reviewing MDOT's educational materials today. They are available on-line at www.michigan.gov/stormwatermgt - click on "Educational Materials." To purchase a copy of the *Soil Erosion Control Manual*, call the MDOT Engineering Prints office at 517.322.1676. As always, specific questions about SESC practices on your construction site should be directed to the appropriate Project Manager and the Part 91 Inspector for the project.