

Structure Construction and Water Pollution Control

For projects that have Storm Water Pollution Prevention Plans, the contractor is required to submit an annual construction activity certification to the Resident Engineer by the 15th of June. The RE is responsible for reviewing and approving the contractor's certification by July 1st. Appendix B of the Handbook contains the certification form.

Structure construction incorporates a variety of construction operations. This bulletin focuses on bridge and masonry block soundwall construction and the Best Management Practices (BMPs) associated with those operations.

Bridge Construction

Pile Driving: Equipment used for pile driving consists of a crane and a diesel powered hammer mounted on a stationary or swinging lead, collectively known as a pile driving rig. During normal use these rigs typically leak diesel, hydraulic fluid, oil and grease. Excess discharge of pollutants is possible during fueling or maintenance operations, changing hammers, or if a supply line ruptures. To prevent

these pollutants from entering storm drain systems, either directly or through contaminated sediment, *CD12 Spill Prevention and Control and CDs 19 & 20 Vehicle and Equipment Fueling and Maintenance* should be utilized. Depending on the extent of spills or leaks, *CD14 Hazardous Waste Management* may also be necessary.

Concrete Pours: Inspectors should review *CD16 Concrete Waste Management* before a concrete pour. A good practice is to review the key elements of the BMP with the truck drivers and emphasize their duty to wash out in designated areas. Ensure that there are an adequate number of designated washout areas. Recommend that the contractor situate washout areas at least 15 meters away from any drainage facility.

Bridge Deck Curing: Bridge deck curing by water method involves placing mats, rugs, or carpets on a newly poured deck and keeping it continuously wet for a minimum period of seven days. Excess water typically travels to the low spot on the bridge and can cause erosion on adjacent disturbed soil areas. There are a couple of options available to handle this concentrated flow. *CD31 Earth Dikes, Drainage Swales, and Lined Ditches* can be used to intercept, divert, and convey runoff in a manner that prevents erosion. *CD 32B Top and Toe of Slope Diversion Ditches/Berms* can also be used to direct water away from areas with the potential to erode. These same measures can be used to prevent erosion from bridge, column or slope drains.



Bridge deck at the end of the curing period

Masonry Block Soundwall Construction

Soundwall construction involves mixing cement mortar on-site and pouring cement grout inside masonry block voids. Cement bags should be stored in accordance with *CD10 Material Storage*. As with any concrete work, including mortar and grout, use *CD16* to ensure proper disposal. When working directly over a drainage inlet, block the inlet to prevent the intrusion of any material. Be sure to open the inlet at the end of the day to allow for proper drainage.

Be creative when implementing BMPs. One contractor, building a soundwall on a bridge over a creek, purchased several lengths of rain gutter from a home improvement store. They were placed at the bottom of the wall to catch excess mortar as it was being applied. As the contractor moved down the length of the wall, the gutters were also moved.



Soundwall construction site, with grout washouts and open bags of mortar adjacent to a drainage inlet.

