



Minnesota
Pollution
Control
Agency

Concrete Washout Guidance

NPDES/SDS Construction Stormwater Permit Requirements

wq-strm2-24 • February 2009

Use this guidance for managing concrete washouts on NPDES/SDS construction stormwater permitted sites. To protect water quality, the 2008 NPDES Construction Stormwater Permit requires best management practices (BMPs) for concrete washout onsite.

Background

Concrete washouts are used to contain concrete and liquids when the chutes of concrete mixers and hoppers of concrete pumps are rinsed out after delivery. Washout facilities consolidate solids for easier disposal and prevent runoff of liquids.

Installing concrete washout facilities not only prevents pollution but also is a matter of good housekeeping at a construction site. Wash water is alkaline and contains high levels of chromium, which can leach into the ground and contaminate groundwater. It can also migrate to a storm drain, which can increase the pH of area waters and harm aquatic life. While hardened concrete is relatively benign, liquid concrete waste may carry hydration by-products to receiving waters. Solids that are improperly disposed of can clog storm drain pipes and cause flooding.

MPCA approved the re-issuance of the NPDES/SDS General Stormwater Permit for Construction Activity MN R100001 (Construction Stormwater Permit), which went into effect in Minnesota on August 1, 2008. Owners and operators (Permittees) of a construction activity disturbing one or more acres of land need to obtain an NPDES/SDS Construction Stormwater Permit. If a project obtained Construction

Stormwater Permit coverage prior to August 1, 2008 it can continue to follow the requirements of the expired permit until February 1, 2010. If the project is still ongoing at that date, the Stormwater Pollution Prevention Plan (SWPPP) for the project must be amended to meet the requirements of the new permit including the new requirement for concrete washouts on site.

Concrete washout at construction sites

The U.S. Environmental Protection Agency (USEPA) forbids discharging into the nation's waterways untreated wash water used in concrete mixer rinse out operations regardless of the size of project. The 2008 Construction Stormwater Permit reflects the position of the USEPA that all concrete chute rinse water on NPDES/SDS construction stormwater permitted sites must not be discharged onto the ground and should be disposed of in an MPCA-approved manner. A concrete washout sign must be installed at each temporary washout facility to inform the concrete equipment operators to use the designated facilities.

While the Construction Stormwater Permit does not allow concrete-chute rinse water to come into contact with the ground, the permit does allow plastic structural concrete to come into contact with the ground. Excess plastic structural concrete from pumps, forms, and chutes may come into contact with the ground as long as

they are disposed of in accordance with MPCA regulations when in a hardened state.

Best management practices

The MPCA believes that ground water and surface water can be protected from all liquid concrete washout wastes, including washing of concrete tools, by using BMPs for all NPDES/SDS construction stormwater permitted sites.

One BMP option would involve all concrete-chute rinse water being self-contained and returned to an industrial site to be disposed of in an MPCA-approved manner. Another BMP option would involve hiring a service that delivers a prefabricated washout container to collect all concrete chute rinse water generated on site. Some services provide the containers alone without providing maintenance and disposal of materials, while other companies offer complete service that includes delivery of containers and regular pickups of solid and liquid waste materials. A third BMP option would be to self install a washout facility with an impermeable liner. An engineered clay liner is considered impermeable.

Concrete washouts are designed to promote evaporation where feasible. However, if stored liquids have not evaporated and the washout is nearing capacity, vacuum and dispose of them in an approved manner. Check with the local sanitary sewer authority to determine if there are special disposal requirements for concrete wash water. Remove liquids or cover the structures before predicted rainstorms to prevent overflows. Companies that offer prefabricated and watertight washout containers generally offer a vacuum service to remove the liquid material. In case of a spill, immediately contain the spread of the spill, recover spilled materials, clean the area and properly dispose of materials.

Hardened solids can be removed whole or broken up first depending on the type of equipment available on site. In accordance with Minn. R. 7035.2860, subp. 4, item I; the hardened concrete can be used as a substitute for conventional aggregate. If the material is not utilized in accordance with the standing beneficial use determination referenced above, up to 0.5 cubic yards of concrete washout solids may be managed on-site. If concrete washout solids are buried on site, they should be at least two feet below the surface and must not be buried in the groundwater table. Quantities larger than 0.5 cubic yards of concrete washout solids must either be managed with the rest of the sites solid wastes or obtain an approval from the MPCA's solid waste program for other beneficial use options.

Other operations on site such as saw cutting, coring, grinding and grooving or construction of exposed-aggregate concrete surfaces may generate a similar liquid wastewater. Process wastewater generated by these operations cannot be discharged into any of the nation's waterways. The MPCA recommends that liquid and solid wastes generated by these operations be handled in a similar manner as concrete-washout wastes.

Local requirements

In addition to state requirements, please note that there may be city, county or watershed management organization requirements that may be more stringent than those found in the NPDES/SDS Construction Stormwater Permit.

Definitions

Concrete-chute rinse-off water: Liquid wastes generated when a ready mix truck operator washes non-structural concrete materials off the chutes used to deliver concrete to a project.

Concrete equipment and tools rinse-off water: Liquid wastes generated when a concrete contractor or finisher washes non-structural concrete materials off tools or equipment used to place or finish concrete.

Plastic concrete is that freshly mixed structural concrete which is pliable and capable of being molded or shaped like a lump of modeling clay.

Hardened structural concrete is a strong, non-combustible, durable, abrasion-resistant and practically impermeable material.

Additional information

USEPA National Pollutant Discharge Elimination System (NPDES) Menu of BMPs – Construction Site Runoff Control – Concrete Washout.
<http://cfpub.epa.gov/npdes/stormwater/menuofbmps>

CASQA Concrete Waste Management Fact Sheet in the California BMP Handbook: Construction:
www.cabmphandbooks.com/Construction.asp

More information

For more information, call the MPCA Stormwater Hotline at 651-757-2119 or 800-657-3804.