

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
MANAGING HYDRODEMOLITION RUNOFF WATER

STM:JAB

1 of 6

APPR:EMB:CP:03-24-20
FHWA APPR:03-30-20

a. Description. This work consists of sampling, testing, monitoring, managing, neutralizing, and discharging hydrodemolition runoff water from bridge decks. In addition, in areas with enclosed drainage systems or in areas where runoff discharge is otherwise not permitted, collect, haul and dispose of the runoff water as a regulated liquid industrial waste. The number of samples required to be collected and tested will vary depending on the volume of runoff water generated, pH range, consistency of the runoff water pH, and the area of bridge deck hydrodemolition.

The bridge owner (MDOT or Local Agency) will obtain the generator site identification number for the bridge prior to the start of the hydrodemolition work.

b. pH Control Plan. Provide a pH control plan electronically to the Engineer prior to beginning the hydrodemolition process. Ensure that the plan is administered by a qualified individual with authority to take all actions necessary, including work stoppage, to maintain the pH requirements for the hydrodemolition runoff. Include all of the following minimum details in the pH control plan:

1. Description of the method(s) used to manage the pH of the hydrodemolition runoff to prevent release of a hazardous waste.
2. Description of the method(s) used to monitor; sample and test, including specific sampling procedures and test methods; and maintain the pH of the hydrodemolition runoff water to ensure it is above 2.0 and below 12.5 prior to disposal or discharge; including minimum sampling frequencies and neutralization technique.
3. List of all personnel, equipment, and supplies provided to conduct pH sampling and testing of the hydrodemolition runoff. Certify that the testing equipment is properly calibrated and include the calibration data and correction information.
4. The name, location and contact person for the Michigan Department of Environment, Great Lakes, and Energy (EGLE)-certified laboratory to be used.
5. A statement of authority of the plan administrator to take all necessary actions as noted.
6. Description of the actions to be taken in order to ensure that the runoff water meets the pH requirements, including but not limited to, work stoppage. Include actions to be taken in the event that the split sample laboratory test results are not consistent with the field test results for the corresponding split.
7. Description of how all hydrodemolition work will be in accordance with subsection

715.03.A of the Standard Specifications for Construction for worker training, training program, contingency plan, recordkeeping, etc. The contingency plan must address how accidental spills or releases of hazardous waste will be contained, cleaned up and reported.

c. Construction. Perform hydrodemolition in accordance with subsection 712.03 of the Standard Specifications for Construction except as modified by this special provision. Conform to all requirements of the current Groundwater Discharge General Permit issued by the EGLE, Water Bureau. Obtain a certificate of coverage annually for performing hydrodemolition work by submitting EGLE Groundwater Discharge Permit application, Form EQP 5305.

Remove millings from the discharge location prior to hydrodemolition. Construct and maintain a minimum of three pea stone gravel filter dams upstream of discharge location.

Do not use millings or latex concrete surface materials removed from the project to construct pea stone gravel dams (filters). Filter hydrodemolition runoff, including all rinse water, through the gravel filters prior to discharge.

d. Runoff Management. Sample and test the hydrodemolition runoff water to determine if it is a corrosive hazardous waste as defined by a pH less than or equal to 2.0 or greater than or equal to 12.5. Furnish records of all pH tests conducted to the Engineer on a daily basis. The Hydrodemolition Runoff Water Log included in this special provision is an acceptable document for recording and submitting this information. Sample and test all runoff water that appears to be inconsistent with the prevalent runoff water being generated, as determined by the Engineer.

The Engineer reserves the right to sample and test the runoff water at any time.

1. **Field Sampling and Testing.** Use a pH meter, calibrated a minimum of once per day, to monitor the runoff water in the field.

2. **Laboratory Testing.** Collect and split a minimum of four separate representative samples throughout the day for laboratory testing. Field test one split of each sample with the calibrated pH meter. Deliver the second split of each sample to a EGLE-certified laboratory for testing. Upon receipt of the laboratory test results, document the laboratory test results on the Hydrodemolition Runoff Water Log for the corresponding field tested split.

3. **Data Analysis.** Evaluate the results using the "mean plus standard deviation approach" described in the EGLE guidance document titled "Verification of Soil Remediation", or another equally representative sampling strategy.

4. **pH Adjustment.** If the field tests indicate that the pH of the runoff water is less than or equal to 2.0 or greater than or equal to 12.5, then adjust the pH toward neutral (pH of 7.0) prior to discharge; otherwise collect, contain and manage the runoff water as hazardous waste. This pH adjustment may take place before, during or after runoff water generation, however, neutralization must take place in a container, tank or transport vehicle.

5. **Collecting and Hauling Runoff Water.** Requirements for transporting runoff water are dependent on the pH of the water at the time it is to be transported off site. A pH less than or equal to 2.0 or greater than or equal to 12.5 constitutes a hazardous waste. A pH that falls between these limits is a liquid industrial waste. Monitor, manage and neutralize all runoff water to ensure that it does not constitute a hazardous waste. Otherwise, ensure a licensed hazardous waste hauler is used to transport the runoff water for disposal at a licensed

hazardous waste facility. Comply with the EGLE Liquid Industrial By-Products Management Program for each load transported for disposal at a licensed hazardous waste facility. All costs associated with the transport and disposal of hazardous waste resulting from hydrodemolition will be borne by the Contractor.

If the runoff water is generated, collected and hauled as a non-hazardous liquid industrial waste ensure it is transported by either the hydrodemolition contractor with a EGLE transport identification number, or a licensed liquid industrial waste hauler. Comply with the EGLE Liquid Industrial By-Products Management Program for each load transported for disposal at a liquid industrial waste disposal facility.

e. Transporter Identification Number. Ensure runoff water that has been sampled, tested and found to be non-hazardous (pH greater than 2.0 and less than 12.5) is a regulated liquid industrial waste and is transported by either the hydrodemolition contractor with a EGLE transport identification number or by a licensed liquid industrial waste hauler. If relying on the hydrodemolition contractor to transport the runoff water, the hydrodemolition contractor must have the necessary transporter identification number prior to hauling any runoff water from the project.

The transporter identification number is obtained from the EGLE, Waste and Hazardous Materials Division Notification Unit, PO Box 30241, Lansing, MI, 48909-7741. The EGLE "Site Identification Form" (Form EQP 5150) and instructions are found on the EGLE Web site (www.michigan.gov/egle).

f. Discharge of Hydrodemolition Runoff Water (non-hazardous only). When the runoff water has been sampled, tested, and determined to be non-hazardous and the requirements for collecting and transporting for disposal do not apply, the runoff water may be discharged in accordance with this subsection.

Failure to maintain measures for managing the runoff water in good working order and/or to operate these measures as effectively as possible will result in the requirement to collect, haul and dispose of the runoff water as a liquid industrial waste as specified in section g. of this special provision. All additional costs associated with this requirement will be borne by the Contractor.

1. Do not allow the runoff water to enter any surface waters of the state, enclosed storm water drainage system, or area where discharge is otherwise not permitted.

2. Obtain the Engineer's approval for the discharge method and location prior to beginning any hydrodemolition operation. Discharge is allowed only within MDOT right-of-way in the vicinity of the bridge where hydrodemolition takes place.

3. Discharge directly to the ground near the bridge only if the area is suitable for this discharge, as determined by the Engineer. Discharge in a manner that will ensure there will be no release to surface waters. Minimize discharge via curbside culverts (downspouts) in the area of bridge deck hydrodemolition.

4. Distribute the discharge as evenly as possible along the shoulders or slopes of the roadway and as directed by the Engineer.

5. Record hours of hydrodemolition operation and the volume of runoff water produced. Use the Hydrodemolition Runoff Water Log to record the volume on a daily basis and make this log available for review upon request by the Department.

g. Disposal of Hydrodemolition Runoff Water.

1. Disposal of Non-Hazardous Hydrodemolition Runoff Water. Collect, handle, manifest, transport, manage, and dispose of non-hazardous hydrodemolition runoff water for projects where the runoff water cannot be directly discharged to MDOT right-of-way

A. Transport. Transport the hydrodemolition runoff water from the bridge to a licensed Type II municipal landfill for solidification or to a licensed liquid industrial waste disposal facility. Cover and contain the runoff water to prevent loss to the environment during transport and delivery to the licensed facility.

B. Manifests. Comply with the EGLE Liquid Industrial By-Products Management Program for each load. Furnish copies to the Engineer that contain information in the point of generation including roadway direction, structure location, and identification; volume of material transported; and the name of the licensed disposal facility.

C. Disposal at a Solid Waste Facility. Dispose of the hydrodemolition runoff water in a Type II municipal landfill licensed pursuant to 1994 PA 451, Part 115 Solid Waste Management, provided the disposal is consistent with the landfill's waste acceptance policies and the hydrodemolition runoff water is solidified sufficiently to pass the paint filter test.

D. Disposal at a Liquid Industrial Waste Facility. Process the hydrodemolition runoff water as a liquid industrial waste at a licensed liquid industrial waste facility pursuant to 1994 PA 451, Part 121, Liquid Industrial Waste, providing the disposal is consistent with the licensed liquid industrial waste disposal facility processor acceptance policies.

2. Disposal of Hazardous Hydrodemolition Runoff Water. Collect, handle, manifest, transport, manage, and dispose of hydrodemolition runoff water in accordance with the following in the event that the runoff water must be managed as a hazardous waste.

A. Transport. A licensed hazardous waste hauler must transport the hazardous hydrodemolition runoff water from the bridge to a licensed hazardous waste treatment, storage, or disposal facility. The runoff water must be contained so as to prevent loss to the environment during transport and delivery to the licensed facility.

B. Manifests. Comply with the EGLE Liquid Industrial By-Products Management Program for each load. Furnish copies to the Engineer that contain information in the point of generation including roadway direction, structure location, and identification; volume of material being transported; and the name of the licensed disposal facility.

C. Disposal at a Licensed Hazardous Waste Disposal Facility. Dispose of the hydrodemolition runoff water at a hazardous waste treatment, storage, or disposal facility in accordance with 1994 PA 451, Part 111, Hazardous Waste Management, providing the disposal is consistent with the licensed hazardous waste disposal facility processor acceptance policy.

h. Contractor Responsibility for Method of Operation. This special provision sets forth minimum steps to avoid violating environmental laws. It remains the responsibility of the Contractor to determine whether more than these minimum steps are required and to perform the

work required by this contract in whatever manner may be necessary to comply with applicable laws. The Contractor is liable to the Department for any fines, costs, or remediation expense incurred by the Department as a result of the Contractor's failure to be in compliance with this specification and all federal, state and local laws.

i. Documentation. In addition to the Hydrodemolition Runoff Water Log discussed in subsection f.5 of this special provision, maintain copies of all manifests for a period of 3 years and make them available to the EGLE upon request.

j. Measurement and Payment. All costs associated with the sampling, testing, monitoring, discharging, collecting, handling, manifesting, hauling, pH adjustment, managing and disposing of the hydrodemolition runoff water, will not be paid for separately but will be included in the payment for other items. All costs associated with full compliance with applicable laws regardless of whether or not all applicable laws are cited in this special provision or in the standard specifications will be borne by the Contractor.

Control Section/Job Number _____
Resident/Delivery Engineer _____
Project Description and Location

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|------------------------------|-----------------------|
| Source of Water Supply _____ | Testing _____ |
| Laboratory _____ | |
| Prime Contractor _____ | Hydrodemolition _____ |
| Contractor _____ | |

[illegible]