

Section 33 – Standards for Capital Improvement Projects that Involve Construction Dewatering Activities

- A. Introduction – This Section was developed to assist FIRMs with developing approaches for evaluating, permitting and monitoring suspected groundwater discharges from contaminated soils. Well point dewatering systems are often used to lower the groundwater for deep and long trench construction. The likelihood of encountering contaminated hot spots is increasing as programs to replacement and rehabilitation of HRSD aging infrastructure continue to grow in heavy urban corridors.

The Master Specification 02710 – Contaminated Groundwater Management was developed in conjunction with this Section and is to be used in the Bid Documents for contractors if groundwater contamination is anticipated.

- B. Background - This Discharge Standard is designed to ensure that the discharge of groundwater from dewatering activities containing contaminants is undertaken in accordance with all applicable regulatory requirements to protect the waters of the state. The standard is also designed to ensure the requirements of the Municipal Separate Storm Sewer (MS4) are complied with where the discharge occurs.

The standard applies to construction dewatering activities managed by HRSD, and the selected FIRM and contractors. This standard shall be implemented by HRSD, the selected FIRM, and its contractor to ensure that proper characterization and treatment of groundwater occurs during construction prior to discharge. HRSD will typically let the contractor determine whether the discharge should be routed to a storm sewer, sanitary sewer or directly to a receiving water based on the availability of alternatives, ability to meet discharge criteria, and cost.

When groundwater dewatering is anticipated in an area that has a potential to have contaminated groundwater present due to the adjacent land use (ex. gasoline station, dry cleaner, industrial facility), the A/E firm shall conduct groundwater testing within the proposed limits of construction to determine the likelihood of encountering contaminated groundwater during construction. This information will normally be provided to the contractor during the bidding process.

If contaminated groundwater is likely to be encountered during construction, or known to exist within the footprint of the project, then the appropriate discharge permits shall be obtained by the contractor prior to commencement of dewatering activities. HRSD will require that the contractor be the permittee. As such, the contractor will be required to undertake all actions necessary to ensure that groundwater from dewatering is discharged in accordance with all applicable permit requirements. This will include securing the necessary permits, securing and operating all treatment equipment required to meet effluent requirements, monitoring the discharge for quality, and filing the necessary reports.

During dewatering the contractor is responsible for conducting all effluent testing required by the permit and meet the reporting requirements by filing within the required timeframe specified in the permit. HRSD shall be provided with copies of all reporting, to include Discharge Monitoring Reports (DMRs), if applicable.

If contaminated groundwater is encountered during construction dewatering activities and no discharge permits have been acquired and/or a groundwater treatment system is not operational, then dewatering activities shall cease immediately until appropriate action is taken.

Construction dewatering activities shall only be conducted in accordance with the applicable permit(s) to comply with the regulation under Sections 301(a) and 402 of the Clean Water Act (CWA), as well as the requirements of the MS4 Permit in the locality where the discharge will take place.

C. Requirements

Appropriate discharge permits must be secured by the selected contractor prior to discharging contaminated groundwater from dewatering sites. The permits available for the discharge of contaminated groundwater are as follows:

- VDEQ VPDES General Permit for discharges of contaminated groundwater into the storm sewer system or state waters (VAG83).
- VDEQ VPDES Individual Permit for discharges of contaminated groundwater into the storm sewer system or state waters.
- HRSD Industrial Wastewater Permit Letter of Authorization for discharges into the sanitary sewer system for treatment by HRSD.

VDEQ and HRSD will accept discharges of contaminated groundwater only after an assessment of groundwater quality has been performed, and only in accordance with permit conditions. A schedule of the approximate timelines from assessment to general permit acquisition and treatment is provided as **Attachment A**.

Chemical analyses shall be performed in accordance to EPA/VDEQ approved analytical methods by a laboratory accredited through the Virginia Environmental Laboratory Accreditation Program (1VAC30-45 or 1VAC30-46). Contaminant Identification Table for assistance in identifying parameters of concern is provided as **Attachment B**.

D. Receiving Sewer System

1. Storm Sewer System

Groundwater discharges into the storm sewer system or directly into a surface water body must be in accordance with VDEQ and any local MS4 requirements. VDEQ has issued a VPDES General Permit (VAG83) which governs the discharge of wastewaters from sites contaminated by petroleum products, chlorinated hydrocarbon solvents, the hydrostatic

testing of petroleum and natural gas storage tanks and pipelines, and the hydrostatic testing of water storage tanks and pipelines. Contaminated groundwater can only be discharged to state waters pursuant to this VPDES General Permit or an individual VPDES permit. The contractor must file a Registration Statement for coverage under VAG83 or file for an application for a VPDES Individual Permit.

Short-term discharges (14 days or less in duration) have immediate coverage under the VAG83 permit and are not required to submit a registration statement to the VDEQ to apply for permit coverage. However, written notification is required to be submitted to the VDEQ within 14 days of the completion of the discharge. This coverage may be used for emergency and planned short duration discharges. However, the contractor is still responsible for ensuring the discharge meets the criteria contained in the General Permit.

2. Sanitary Sewer System

When construction dewatering activities are discharged into the sanitary sewer, the discharge activities must be done in accordance with the HRSD Letter of Authorization. If the accepting sewage pump station is owned by a locality, the locality shall be contacted to confirm the volume of groundwater that can be discharged into its system.

For projects with high volume discharges or high concentrations of contaminants, the contractor may secure both the HRSD Letter of Authorization as well as the VDEQ General Permit to have the maximum flexibility during the discharge period. VDEQ constituent threshold levels in water discharged directly to state waters are more stringent than those that can be accepted by HRSD; however, the discharge of groundwater is not limited by volume. The HRSD Letter of Authorization contains a maximum allowable volume of groundwater discharge based on the capacity of the downstream sewage pump station.

Effluent from dewatering activities must be filtered to remove pollutants including sediment through an approved sediment trapping device, or both, prior to release to state waters, the storm sewer system, or sanitary sewer system as required by the Virginia erosion and sediment control regulations (9 VAC 25-850-10 et seq.), the Virginia stormwater management regulations (9 VAC 25-870-10 et seq.) and the Virginia Stormwater Management Program Construction General Permit regulations (9 VAC 25-880-10 et seq.) as applicable.

If treatment is necessary, the groundwater treatment system shall be designed to remove sediments from the discharge and have the capacity to fully treat groundwater to the applicable discharge standard at the maximum expected concentrations of the constituent(s) of concern and at maximum discharge rate of the pump(s) being used for the anticipated duration of dewatering. EPA recommended treatment for constituents of concern is contained in **Attachment B**.

E. Contacts

Permit Contacts:

HRSD: Pretreatment & Pollution Prevention Division

North Shore..... (757) 833-1750

South Shore..... (757) 460-7048

VDEQ: Tidewater Region

Remediation Specialist..... (757) 518-2117

Main Number..... (757) 518-2000

<http://www.deq.state.va.us/Locations/TidewaterRegionalOffice.aspx>

VDEQ: Piedmont Region

Remediation Specialist..... (804) 527-5057

Main Number..... (804) 527-5020

<http://www.deq.virginia.gov/Locations/PiedmontRegionalOffice.aspx>