Contact Environmental Coordinator. Use this as a template regardless of the type of contaminate in the soil.

1. Low Permeable Trench Plugs, Item SPV.0060.##

A Description

This special provision describes providing low-permeable trench plugs conforming to standard spec 205, parts of the Wisconsin Administration Code (Department of Natural Resources Environmental Investigation and Remediation of Environmental Contamination, Chapters NR 700-736), as the plans show, and in this special provision.

Construction of low permeable plugs consists of mixing, placement and compaction of low permeable material within utility trenches.

A.1 Notice to the Contractor

A Phase I Environmental Site Assessment (ESA) and Phase II Environmental Subsurface Investigation (SI), including testing for soil and groundwater contamination, were completed by the department for locations within this project where excavation is required. Information obtained by the department indicated that installation of low permeable plugs are necessary to substantially reduce the potential for migration of petroleum compounds within utility trenches entering and/or exiting the following soil management locations identified in section A.1 of SPV.0035.##:

1. Station 624+20 to 626+00 from south slope intercept to slope intercept. Low permeable plugs are proposed for:

a Mainline storm sewer trenches at approximate stations 624+20 and 626+00. Final plug locations will be located at the limits of the soil management area as determined by the engineer or environmental consultant during construction.

B West mini-storm sewer lateral trenches located at stations 624+25, 625+20, and 625+70.

C East mini-storm sewer lateral trenches located at stations 624+30, 625+30, and 625+65.

2. Station 628+20 to 629+20 from south slope intercept to slope intercept. Low permeable plugs are proposed for:

A Mainline storm sewer trenches at approximate stations 628+20 and 629+20. Final plug locations will be located at the limits of the soil and groundwater management area as determined by the engineer or environmental consultant during construction.

B West mini-storm sewer lateral trench located at station 628+30.

C East mini-storm sewer lateral trenches located at stations 628+50 and 629+10.

If petroleum odors are observed during excavation or dewatering activities elsewhere on the project, additional low permeable plugs may be required for utility trenches at those locations at the discretion of the engineer and environmental consultant.

For further information regarding investigation activities at these locations, contact Kathie Van Price, Wisconsin Department of Transportation, Environmental Coordinator, 944 Vanderperren Way, Green Bay, Wisconsin 54324, and (920) 492-7175.

A.2 Coordination

Coordinate work under this contract with the environmental consultant retained by the department:

Consultant: STS Consultants, Ltd.

Address: 1035 Kepler Drive, Green Bay, Wisconsin, 54311

Contact: Paul Garvey, Mike DeBraske or Roger Miller

Phone: (920) 468-1978

FAX: (920) 468-3312

The role of the environmental consultant will be limited to evaluation and approval of low permeable plug construction and determining the location and installation depths of low permeable plugs based on review of information from previous field investigations, visual observations, and field screening of soil and groundwater.

Provide a 14 calendar day advance notice of the pre-construction conference date to the environmental consultant. At the pre-construction conference, provide a proposed schedule for all excavation activities in the areas of contamination. Notify the project engineer and environmental consultant at least three (3) calendar days before commencement of low permeable plug construction. Coordinate with the environmental consultant to ensure that the consultant is present before and during construction of the low permeable plugs.

A.3 Health and Safety Requirements

Soil and groundwater contamination with gasoline or other petroleum related products may be encountered during construction of low permeable plugs. Prepare a site specific Health and Safety Plan complying with the Occupational Safety and Health Administration (OSHA) standard for Hazardous Waste Operation and Emergency Response (HAZWOPER), 29 CFR 1910.120.

All site workers taking part in low permeable plug construction activities or who will have the reasonable probability of exposure of safety or health hazards associated with the hazardous material shall have completed Health and Safety training that meets OSHA requirements. A site specific Health and Safety Plan, and written verification by the contractor that workers will have completed up to date OSHA training will be submitted to the project engineer before the start of remediation work.

Develop, delineate and enforce the health and safety exclusion zones for each contaminated site location pursuant to 29 CFR 1910.120.

B Materials

Furnish all materials required to mix, place, and compact the low permeable plug. Materials used for the low permeable plug mixture shall be acquired from the same source used for all Work. Low permeable plugs shall be constructed such that they are less permeable than existing soil adjacent to the utility trenches.

Use the following low permeable plug mixture, unless an alternative low permeable plug is approved by the department and environmental consultant:

1. Clay: Use native non-contaminated fine-grained (cohesive) soil excavated during the project.

2. Bentonite: Use high yield 200-mesh powdered sodium bentonite clay.

Construct the low permeable plugs with three 50-pound bags of bentonite for each cubic yard of native non-contaminated fine-grained soil.

C Construction

*Add the following to standard spec 205.3:*

Mix bentonite and native clay material within 1 hour of plug construction. Mix the bentonite and native clay thoroughly to provide a homogeneous dispersion of bentonite.

Low permeable plugs shall extend a minimum of 3 feet along the trench length. The height of each plug shall extend from the bottom of the design utility trench to 3 feet below the design surface grade. The low permeable plug shall completely encase the utility pipes and extend from trench sidewall to sidewall. The soil/bentonite mixture shall be placed such that materials do not segregate. The soil/bentonite mixture shall be placed in 12-inch maximum thickness loose lifts with a compaction effort consistent with project specifications.

The department will perform field inspection and testing, as necessary. Assist the department with obtaining material samples, if requested. If field inspections indicate work does not meet specified requirements, remove work and replace at no additional cost to the department.

D Measurement

The department will measure Low Permeable Trench Plugs in quantity of plugs placed and accepted.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

|  |  |  |
| --- | --- | --- |
| ITEM NUMBER | DESCRIPTION | UNIT |
| SPV.0060.## | Low Permeable Trench Plugs | EACH |

Payment is full compensation for furnishing all materials, preparing the low permeable plug, hauling materials to the construction site, and for placing and compacting the material.

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