

SECTION 02209
HISTORIC FILL EXCAVATION, GRADING AND HANDLING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The Work covered by this Section includes, but is not limited to, the furnishing of all labor, supervision, equipment, materials and supplies necessary to perform excavation, grading and handling of historic fills on the Kardon Park Site.
- B. Historic Fill materials can be visually distinguished from non-Historic Fill soils by its dark gray and brown to black appearance and presence of cinders, ash, and/or debris (glass, textile scraps and paper pulp). Historic fills are known to contain concentrations of various inorganic constituents (such as lead and arsenic) and other contaminants at concentrations exceeding the Pennsylvania Department of Environmental Protection(PADEP) Act 2 Statewide Health Standards for Residential exposure. Non-Historic Fill and native soils were typically tan to light brown to gray in color and did not contain cinders, ash and/or debris. The Contractor shall obtain assistance from the Environmental Consultant when trying to distinguish Historic Fill from other site soils.

1.2 RELATED SECTIONS

- A. Section 02110 - Site Clearing and Grubbing
- B. Section 02210 - Earthwork

1.5 QUALITY ASSURANCE

- A. The Contractor shall utilize the services of an environmental engineer experienced in soil remediation projects to review erosion and sediment control and access control measures protecting the areas surrounding the proposed and/or active areas of open/disturbed Historic Fill. Quality assurance monitoring shall be performed prior to disturbance of the area and periodically (2 to 3 times per week) during performance of the work. Results of the Quality Assurance evaluations shall be documented in the form of inspection reports and photos issued by the environmental engineer to the Contractor. A copy of those reports shall be included in the Completion Report(s) to be provided at the end of cleanup phases.

PART 2 - PRODUCTS

2.1 GENERAL

- A. If the Historic Fills are not incorporated under the cap immediately after excavation, the Contractor is required to establish a stockpile or placement area to temporarily store the excavated Historic Fill. The stockpile shall be covered with plastic when the pile is not in use (to protect against erosion by wind and rain) and protected using silt fence established around its perimeter. Stockpiles shall be located no closer than 100 feet to the property boundary, millrace or ponds.

2.2 TEMPORARY STOCKPILE AREA

- A. The Contractor shall construct a temporary stockpile area for the staging of Historic Fill
 - 1. Plastic – Plastic sheeting used to cover the stockpiles shall be 10 mil (minimum) in thickness.
 - 2. Silt Fence – Silt fence shall be in accordance with the requirements of the erosion and sediment control specifications.

PART 3 - EXECUTION

3.1 GENERAL

- A. The Contractor shall implement all of the erosion and sediment control measures contained in the Erosion and Sediment Control Plan approved by the Chester County Conservation District as part of the Land Development Plan approval process, as well as, installation of a reinforced silt fence along the edge of any Pond, millrace, wetland to be preserved, previously cleaned/capped areas, or drainage pathway subject to runoff from the active work zone.
- B. The Contractor shall take appropriate measures to control at all times dust and dirt, both wind blown and from machine operations. Such measures will include wetting the Historic Fill materials being excavated, graded, or managed and controlling the loading of trucks. The Contractor shall monitor air quality using a continuously recording aerosol monitor placed at the property boundary in the downwind direction of the active work zone. The monitor shall be checked at approximately 2 hour increments throughout the work day and the recorded data from the monitor shall be down-loaded and attached to the Contractor's daily log. Allowable dust readings for the aerosol monitors shall be established by the environmental engineer based on the concentration of the contaminants contained in the area of excavation and the appropriate National Ambient Air Quality Standards (NAAQS).

- C. Prior to intrusive activities, the Contractor and shall evaluate proposed excavation and removal areas with the Owner for protection and delineation pursuant to the Health and Safety, and Erosion and Sediment Control requirements of these Specifications. This shall include delineating the perimeter of proposed excavation and removal areas with exclusion zone (EZ) fence.

3.2 PERFORMANCE

- A. Following survey stakeout, the Contractor shall erect erosion and sediment control measures.
- B. Erosion and sediment control shall be installed in accordance with Erosion and Sediment Control Plan approved by the Chester County Soil Conservation District.
- C. The Contractor shall perform clearing and grubbing as required by Section 02110 of the Specifications.
- D. The Contractor shall review and clear the area for utilities as required by Land Development Plans and Pennsylvania Law.
- E. As part of the Historic Fill Excavation, Grading and Handling activities, the Contractor shall selectively remove Historic Fill soils necessary to provide a surface of the historic fill 24-inches below the finished grades shown on the approved Land development Plans (outside of wetland mitigation and restoration areas); and 12-inches below the proposed finished grade in the wetland habitat restoration areas (where tree protection is not being performed). If all Historic Fill is removed before the target depths listed above are achieved, the excavation will be deemed complete, except to the extent necessary to achieve proposed finished grading/subgrades. Historic Fill shall be segregated from non-historic fill soils during the excavation process.
- F. In those areas outside the proposed wetland mitigation areas but within the existing limits of Historic Fill that are below the required subgrade elevation for the proposed cap, the Contractor may use Historic Fill to fill the low area to the required elevation. Placement and compaction of the Historic Fill shall be performed to the satisfaction of the party responsible for geotechnical testing.
- G. Transportation
 - 1. The Contractor shall load excavated Historic Fill directly into dump trucks of appropriate size for the proposed work.
 - 2. The Contractor's trucks shall be in good working condition with locking tailgates to prevent the spillage of materials while in transit. The trucks shall be staged near the work area for loading.

3. When the Contractor's truck cannot be staged for loading within the exclusion zone, the Contractor shall establish a temporary loading area, which includes the use of plastic sheeting placed beneath the truck.
 4. When the Contractor's truck is full it will be inspected for loose materials on its sides, wheels and undercarriage. When such materials are found, the Contractor shall remove the materials before allowing the truck to depart the loading area.
- H. Large debris encounter during excavation and grading of historic fill shall be incorporated under the cap in an area approved by the party responsible for geotechnical testing. Materials, such as the large boulders along the Ponds may be reused as part of landscaping or other site restoration purposes if they have been cleaned to remove residual Historic Fill.
- I. If, as a result of sequencing, cut/fill balances or other reasons excess amounts of Historic Fill can not be incorporated under the proposed cap, the excess material shall be characterized and sent for off-site disposal as required by PADEP regulations.

3.3 CROSS-CONTAMINATION

- A. Specific to this project, cross-contamination is defined as the movement of Historic Fill Soils and associated sediment onto areas, which are currently clean or have already been remediated.
- B. If an area is suspected of cross-contamination based on visual observations, the Contractor will be required to remove Historic Fill until approved by Environmental Engineer.

3.4 DISPOSITION OF EXCAVATED HISTORIC FILL

- A. The Contractor shall transport excavated soil materials to the temporary stockpile area or to the active subgrade grading and capping work zone for incorporation under the proposed cap. Non-historic fill segregated from the Historic Fill may be utilized for general site grading and or as cap soil fills as approved by the party responsible for geotechnical construction monitoring.

3.5 WATER MANAGEMENT DURING CONSTRUCTION

- A. The Contractor shall be responsible for managing all precipitation, surface water and groundwater entering the work areas. The Contractor shall provide, maintain, and operate pumps and other equipment as necessary to prevent detrimental impact to surrounding areas.

END OF SECTION