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Guide Specifications Instructions:
Edit these specifications to tailor to Project, closely coordinating with City-assigned Project Manager. Insert Project Name and Number in headers. Insert Revision Date and Design Consultant's Firm Name, which edited the Section, in footers. Remove all instructions, this cover page and any Notes to Specifier at the end of this Section prior to publishing. Do not change the base date of this Section in the footer.

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Section 02120

OFF-SITE TRANSPORTATION AND DISPOSAL

PART 1 G E N E R A L

1.01 SECTION INCLUDES

A. Off-site disposal of non-hazardous and hazardous solid, liquid and resinous waste.

1.02 MEASUREMENT AND PAYMENT

A. Unit Prices

1. Payment for transportation and disposal of Category I (Class II) Soil at approved facility is on a cubic yard basis.

2. Payment for transportation and disposal of Category II (Class I) Soil at approved facility is on a cubic yard basis.

3. No separate payment will be made for soil reused as backfill material.

4. Payment for transportation and disposal of contaminated groundwater at approved facility is on a per gallon basis.

5. No separate payment for groundwater discharged into a sanitary sewer.

6. Refer to Section 01270 - Measurement and Payment for unit price procedures.

B. Stipulated Price (Lump Sum). If the Contract is a Stipulated Price Contract, payment for work in this Section is included in the total Stipulated Price.

1.03 REFERENCES

A. Code of Federal Regulations (CFR), Title 29, Section 1910.120 - Occupational Safety and Health Administration, Department of Labor.

B. Texas Administrative Code (TAC), Title 30, Chapter 335 - Industrial Solid Waste and Municipal Hazardous Waste.

C. TAC, Title 30, Chapter 334 - Underground and Aboveground Storage Tanks.

D. TAC, Title 30, Chapter 106.533 - Exemptions from Permitting, Subchapter X, Waste Processes and Remediation.

E. U.S. Environmental Protection Agency (EPA), (SW-846) Test Methods for Evaluating Solid Waste, Office of Solid Waste and Emergency Response, Washington, D.C. (P1388-239223, November 1986).

PART 2 P R O D U C T S (Not Used)

PART 3 E X E C U T I O N

3.01 HANDLING CATEGORY I AND II SOILS

A. Do not place Category II Soil back into excavation. Properly dispose of Category II Soil at the facility listed in Environmental Work Plan. Category I Soil (as demonstrated through laboratory testing) can be reused as backfill material, provided;

1. Soil is reused in the same area from which it originated at depths greater than 30 inches below top of pavement, finished grade or ditch flowline, whichever is lower.

2. Soil has suitable engineering properties for backfill material as specified in Section 02320 - Utility Backfill Material.

3. Does not have indications of impact by contaminants other than petroleum.

B. Do not spread Category I or II Soil on ground surface.

C. Place Category I or II Soil in covered roll-off box with a minimum 20-mil plastic liner or in a stockpile at temporary storage area, pending receipt of analytical results and receipt of authorization from Texas Commission on Environmental Quality (TCEQ) and the disposal facility for final disposal; or, in trucks for transport directly to the disposal facility.

1. Do not commingle Category I or II Soil from different locations or with different sources.

2. Temporary storage area to meet following criteria:

a. Within 2 miles of project site, to allow access by City personnel, unless otherwise approved by Project Manager.
b. Outside the 100-year floodplain.

c. Outside of, and not adjacent to, an area known or suspected to be a wetland.

d. Acceptable to Project Manager.

3. Secure using temporary fencing or other means of controlling access.

4. Place stockpiled soils on an impervious membrane. Surround with a berm to prevent migration of soils or moisture either into or out of the stockpile, other than evaporation.

5. Protect and cover the stockpile with minimum 20-mil plastic or other approved waterproof membrane covering. Replace damaged covers.

6. Do not place soil over monitoring wells or piezometers, utility line manholes, or any other potential route for water to migrate to subsurface.

7. Handle runoff from the temporary storage area in accordance with paragraph 3.02, Handling Water.

8. Do not stockpile soil for greater than 30 days.

9. Remove remaining material, including excavated soil from construction site, from temporary storage area prior to completion of Work.

D. Remove, handle, transport, stockpile, and dispose of Category II Soil under direction of Corrective Action Project Manager. Dispose waste classified (i.e., meets characteristics or other definitions of) a hazardous waste consistent with Resource Conservation and Recovery Act (RCRA) and 30 TAC Chapter 335.

E. Transport Category I or II Soil in accordance with Department of Transportation (DOT) and TCEQ rules and regulations.

F. Dispose Category I Soil, not reused as backfill, under direction of Corrective Action Project Manager, at a properly licensed facility with prior approval of Project Manager. The Project Manager or his/her representative shall sign the disposal documents as the generator of the waste.

G. Obtain signed manifests from the receiving facility and provide originals to Project Manager.

H. Decontaminate all equipment to prevent cross-contamination with clean material. Steam clean or pressure wash dump trucks, bulldozers, backhoes, and other large equipment prior to use in uncontaminated areas after being used in Potentially Petroleum Contaminated Area (PPCA).

3.02 HANDLING WATER

A. Prior to discharging contaminated groundwater, obtain an Industrial Wastewater Discharge Permit (no cost) from the City for disposal directly to a sanitary sewer which discharges to a City-owned Wastewater Treatment Plant.

B. Procedures.

1. Provide equipment sized to handle flows anticipated by dewatering operations.

2. Include commercially available oil/water separator unit as part of the treatment system for dewatering operation discharging to sanitary sewer.

3. Do not exceed limits listed in Table 02120-2 in Section 3.04, Potentially Contaminated Groundwater Discharge Limits for groundwater discharged to the sanitary sewer. Provide additional treatment systems as needed prior to discharge to sanitary sewers where groundwater contamination levels exceed those noted in Table 02120-2. Approval by Project Manager shall be obtained for proposed treatment system prior to initiation of treatment and discharge.

4. Comply with all applicable requirements of 30 TAC, Chapter 106.533, including submitting a PI-7 form to the TCEQ for a standard exemption of oil/water separator unit, and any additional treatment systems. Submit copy of PI-7 form to Project Manager.

5. Do not discharge treated water into sanitary sewer if water level is within one foot of the top of sanitary sewer manhole or would cause an overflow situation.

6. Recover free product collected in treatment equipment. Recycle for beneficial reuse or dispose of recovered contaminants in a manner acceptable to Corrective Action Project Manager and TCEQ.

7. Transport potentially contaminated groundwater and free product in accordance with DOT and TCEQ rules and regulations for flammable products. Use DOT-licensed carrier for transport.

8. Obtain signed manifests for potentially contaminated groundwater and free product from the receiving facility and provide originals to Project Manager.

9. Furnish laboratory reports to Project Manager within one week of sample date.

C. Install and operate groundwater control systems, as described in Section 01578 - Control of Groundwater and Surface Water. Design and operate groundwater control systems so water from PPCA is handled in a system separated and isolated from groundwater control systems outside PPCA.

D. Handle, test, treat, and discharge potentially contaminated groundwater to the sanitary sewer in accordance with the City of Houston, Industrial Wastewater Discharge Permit requirements, or have water evacuated and hauled for off-site treatment and disposal at a TCEQ-permitted facility. Perform discharge under direction of Corrective Action Project Manager.

3.03 AIR MONITORING REQUIREMENTS

A. Ensure health and safety of workers at the construction site. Maintain air quality within the construction zone to conform to exposure limits specified in Code of Federal Regulations (CFR) Title 29, Section 1910.120 enforceable by OSHA.

B. Provide adequate shoring and sufficient escape ladders in accordance with applicable trench safety regulatory requirements.

C. In the trench, continuously operate a combustible gas indicator (CGI) with LEL/O_2 meter to monitor vapor and oxygen levels. Properly calibrate CGI and provide an alarm that sounds if greater than or equal to 20 percent Lower Explosive Limit (LEL), less than or equal to 19.5 percent oxygen, or greater than or equal to 25 percent oxygen is reached. Record monitoring data from CGI every 15 minutes to ensure safe work conditions.

D. Take appropriate measures during construction to keep LEL levels below 20 percent in the trench. If vapor concentrations exceed 20 percent of LEL stop construction work, turn off equipment, and have workers immediately vacate the PPCA in an upwind direction.

E. Take readings with Photoionization Detector PID 50 feet downwind of area during excavation or work in contaminated excavation areas and until one hour after cessation of such work. Take readings within breathing zone at approximately 4 feet above ground level. Record readings, date, time, initials of person taking reading, PID serial number and last calibration date of PID in bound field book.

3.04 DISPOSAL OF MATERIAL

A. Non-categorized Material. Dispose of excess or unsuitable excavated materials, not Category I or II Soil, off-site in accordance with Section 01576 - Waste Material Disposal.

B. Category I or II Soil. Dispose of excess or unsuitable excavated materials off-site at a state registered Treatment, Storage, or Disposal (TSD) facility. Obtain signed manifests from the receiving facility and provide originals to Project Manager.

TABLE 02120-1
SOIL CRITERIA - PETROLEUM ONLY

Contaminant	Maximum[(a)] Concentration	Testing Method
TPH (mg/kg)	1500	EPA 418.1/TX 1005
Benzene (mg/L)	0.5	EPA SW 846
Toluene (mg/L)	1000	EPA SW 846
Ethylbenzene (mg/L)	400	EPA SW 846
Xylenes (mg/L)	7000	EPA SW 846

Notes: [(a)] If any parameters exceed the maximum Toxicity Characteristic Leaching Procedure (TCLP) concentrations, then the soil shall be considered Category II Soil.

Refer to 30 TAC 335.521(a)(1) for other contaminants not listed in the Table 02120-1.

TPH - Total Petroleum Hydrocarbons
mg/kg - milligrams per kilogram
mg/L - milligrams per liter

TABLE 02120-2
POTENTIALLY CONTAMINATED GROUNDWATER DISCHARGE LIMITS

Parameter[1]	Discharge to Sanitary Sewer	
	Limit[2]	Method
TPH (mg/L)	30.0	Note (3)
Total BTEX (mg/L)	0.75	Note (3)
LEL (%)	10	Note (3)

Notes:
(1) For parameters other than those listed in the table, the City of Houston, Wastewater Operations shall be consulted.

(2) The levels presented in the table shall be verified with the City of Houston, Wastewater Operations.

(3) For test methods, the City of Houston, Wastewater Operations shall be consulted.

Definitions: BTEX - Benzene, Toluene, Ethyl benzene, and Total Xylenes
LEL - Lower Explosive Limit

END OF SECTION