Department of Design and Construction	SPECIFICATION BULLETIN	SB 24-016

Title:	HANDLING, TRANSPORTING, AND DISPOSAL OF POTENTIAL AND IDENTIFIED CONTAMINATED AND HAZARDOUS MATERIALS

Prepared:	Approved:
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APPLICABILITY:

- This Specification Bulletin (SB) is effective for projects advertised on or after 12/20/2024.

SUPERSEDENCE:

- This SB supersedes the following SBs: **None.**

ATTACHMENTS:

1. *Sections 8.01,* 8.01 C1, 8.01 C2, 8.01 H, 8.01 S, 8.01 W1, 8.01 W2 *(34 pages)*

REVISIONS TO THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION STANDARD HIGHWAY SPECIFICATIONS, DATED 5/16/2022:

All references contained below are to the New York City Department of Transportation Standard Highway Specifications, Dated May 16, 2022. Said Standard Highway Specifications are hereby revised as follows:

a) **Refer** to Section 8.01, 8.01 C1, 8.01 C2, 8.01 H, 8.01 S, 8.01 W1, 8.01 W2 – Handling, Transporting, and Disposal of Potential and Identified Contaminated and Hazardous Materials
Delete in its entirety Section;
Substitute the revised Section in Attachment 1 (34 pages)

For questions regarding this bulletin, please contact Richard Jones, jonesri@ddc.nyc.gov.

SECTION 8.01 Handling, Transporting, and Disposal of Potential and Identified Contaminated and Hazardous Materials

8.01.1. DESCRIPTION. This Section provides common references and requirements for **Sections 8.01 C1**, **8.01 C2**, **8.01H**, **8.01S**, **8.01W1**, and **8.01 W2**.

8.01.2. MATERIALS. None.

8.01.3. METHODS.

(A) NYCDEP Limitations for Discharge to Sewer

NYCDEP Bureau of Wastewater Treatment – Limitations for Effluent to Sanitary or Combined Sewers

Parameter[1]	Daily Limit	Units	Sample Type	Monthly Limit
Non-polar material[2]	50	mg/l	Instantaneous	---
pH	5-11	SU's	Instantaneous	---
Temperature	< 150	Degree F	Instantaneous	---
Flash Point	> 140	Degree F	Instantaneous	---
Cadmium	2 0.69	mg/l mg/l	Instantaneous Composite	--- ---
Chromium (VI)	5	mg/l	Instantaneous	---
Copper	5	mg/l	Instantaneous	---
Lead	2	mg/l	Instantaneous	---
Mercury	0.05	mg/l	Instantaneous	---
Nickel	3	mg/l	Instantaneous	---
Zinc	5	mg/l	Instantaneous	---
Benzene	134	ppb	Instantaneous	57
Carbontetrachloride	---	---	Composite	---
Chloroform	---	---	Composite	---
1,4 Dichlorobenzene	---	---	Composite	---
Ethylbenzene	380	ppb	Instantaneous	142
MTBE (Methyl-Tert-Butyl-Ether)	50	ppb	Instantaneous	---
Naphthalene	47	ppb	Composite	19
Phenol	---	---	Composite	---
Tetrachloroethylene (Perc)	20	ppb	Instantaneous	---
Toluene	74	ppb	Instantaneous	28
1,2,4 Trichlorobenzene	---	---	Composite	---
1,1,1 Trichloroethane	---	---	Composite	---
Xylenes (Total)	74	ppb	Instantaneous	28
PCB's (Total)[3]	1	ppb	Composite	---
Total Suspended Solids (TSS)	350[4]	mg/l	Instantaneous	---
CBOD[5]	---	---	Composite	---
Chloride[5]	---	---	Instantaneous	---
Total Nitrogen[5]	---	---	Composite	---
Total Solids[5]	---	---	Instantaneous	---

Notes for table above:

1. All handling and preservation of collected samples and laboratory analyses of samples must be performed in accordance with 40 C.F.R. pt. 136. If 40 C.F.R. pt. 136 does not cover the pollutant in question, the handling, preservation, and analysis must be performed in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater." All analyses must be performed using a detection level less than the lowest applicable regulatory discharge limit. If a

parameter does not have a limit, then the detection level is defined as the least of the Practical Quantitation Limits identified in NYSDEC's Analytical Detectability and Quantitation Guidelines for Selected Environmental Parameters, December 1988.

2. Analysis for ***non-polar materials*** must be done by USEPA method 1664 Rev. A. Non-Polar Material will mean that portion of the oil and grease that is not eliminated from a solution containing N–Hexane, or any other extraction solvent the USEPA will prescribe, by silica gel absorption.

3. Analysis for PCBs is required if ***both*** conditions listed below are met:

   a. if proposed discharge ≥ 10,000 gpd;
   b. if duration of a discharge > 10 Days.

   Analysis for PCBs must be done by USEPA method 608 with MDL=<65 ppt. PCB's (total) is the sum of PCB-1242 (Arochlor 1242), PCB-1254 (Arochlor 1254), PCB-1221 (Arochlor 1221), PCB-1232 (Arochlor 1232), PCB-1248 (Arochlor 1248), PCB-1260 (Arochlor 1260) and PCB-1016 (Arochlor 1016).

4. For discharge ≥ 10,000 gpd, the TSS limit is 350 mg/l. For discharge < 10,000 gpd, the limit is determined on a case-by-case basis.

5. Analysis for Carbonaceous Biochemical Oxygen Demand (CBOD), Chloride, Total Solids and Total Nitrogen are required if proposed discharge ≥ 10,000 gpd.

(B) Applicable Regulations

Applicable regulations include, but are not limited to:

1. 49 CFR 100 to 179 - DOT Hazardous Materials Transport and Manifest System Requirements
2. 6 NYCRR 375-6 - NYSDEC Remedial Program Soil Cleanup Objectives
3. 6 NYCRR 360-1 NYSDEC Solid Waste Management Facilities
4. 6 NYCRR 364- Waste Transporter permits
5. Local restrictions on transportation of waste/debris
6. 40 CFR 260 to 272 - Hazardous Waste Management (RCRA)
7. 6 NYCRR 371 - Identification and Listing of Hazardous Wastes
8. 6 NYCRR 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities
9. 6 NYCRR 373-1 - Hazardous Waste Treatment, Storage and Disposal Facility Permitting Requirements
10. 6 NYCRR 376 - Land Disposal Restrictions
11. Posted weight limitations on roads or bridges
12. Transportation Skills Programs, Inc. 1985 - Hazardous Materials and Waste Shipping Papers and Manifests
13. Other local restrictions on transportation of waste/debris
14. Occupational Safety and Health Administration (OSHA), Standards and Regulations, 29 CFR 1910 (General Industry)
15. OSHA 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response
16. OSHA Safety and Health Standards 29 CFR 1926 (Construction Industry)
17. OSHA 29 CFR 1910.146 Confined Space Entry Standard
18. Standard Operating Safety Guidelines, USEPA Office of Emergency and Remedial Response Publication, 9285.1-03
19. NIOSH / OSHA / USCG / USEPA Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (1986)
20. U.S. Department of Health and Human Services (DHHS) "NIOSH Sampling and Analytical Methods," DHHS (NIOSH) Publication 84-100
21. ANSI, Practice for Respiratory Protection, Z88.2 (1980)

22. ANSI, Emergency Eyewash and Shower Equipment, Z41.1 (1983)
23. ANSI, Protective Footwear, Z358.1 (1981)
24. ANSI, Physical Qualifications for Respirator Use, Z88.6 (1984)
25. ANSI, Practice for Occupational and Educational Eye and Face Protection, Z87.1 (1968)
26. Water Pollution Control Federation "Manual of Practice No. 1, Safety in Wastewater Works"
27. NFPA No. 327 "Standard Procedures for Cleaning and Safeguarding Small Tanks and Containers"
28. Occupational Safety and Health Act Confined Space Entry Standard 29 CFR 1910.146.87
29. Department of Transportation 49 CFR 100 through 179
30. Department of Transportation 49 CFR 387 (46 FR 30974, 47073)
31. Environmental Protection Agency 40 CFR 136 (41 FR 52779)
32. Environmental Protection Agency 40 CFR 262 and 761
33. Resource Conservation and Recovery Act (RCRA)
34. Any transporter of hazardous or non-hazardous materials must be licensed in the State of New York and all other states traversed in accordance with all applicable regulations.

(C) Definitions

Contaminated Groundwater and Decontamination Fluids: Groundwater within the excavation trench or decontamination water that contains regulated compounds above the NYCDEP Discharge to Sewer Effluent limits.

Disposal or Treatment Facility: A facility licensed to accept either non-hazardous regulated waste or hazardous waste for either treatment or disposal.

Exclusion Zone: Work area that will be limited to access by Contractor personnel specifically trained to enter the work area only. The exclusion zone will be set up to secure the area from the public and untrained personnel. The project health and safety program will apply to all construction personnel including persons entering the work area.

Hazard Assessment: An assessment of any physical hazards that may be encountered on a work site.

Hazardous Soils: Soils that exhibit any of the characteristics of a hazardous waste, namely ignitability, corrosivity, reactivity, and toxicity, as defined in 6 NYCRR Part 371, Section 371.3 and 40 CFR Section 261.

Hazardous Substance Evaluation: An evaluation of the possible or known presence of any hazardous substances that may be encountered on a job site. This evaluation is included in the Health and Safety Plan and will include the identification and description of any hazardous substances expected to be encountered. Material Safety Data Sheets (MSDS) will be included for each substance.

Health and Safety Plan: A plan employed at a work site that describes all the measures that will be taken to assure that all work is conducted in a safe manner, and that the health of the workers and the public will be insured.

Material Handling Plan: A plan outlining the methods that will be employed to handle, transport and dispose of contaminated materials.

Non-Hazardous Contaminated Soils: Soils which exhibit a distinct chemical or petroleum odor or exhibit elevated photoionization detector readings but are not classified as hazardous waste under 6 NYCRR Part 371, Section 371.3 and 40 CFR Section 261.

New York State Health Department's Environmental Laboratory Approval Program: A program by which the state of New York approves and accredits environmental testing laboratories.

PCBs: Polychlorinated biphenyls are a group of toxic compounds commonly used as a coolant in transformers and other electrical components.

Photoionization Detector: A handheld instrument used to measure volatile organic compounds in air. The instrument ionizes the organic molecules through the use of an ultraviolet lamp.

RCRA Hazardous Waste Characteristics: Characteristics of a material which may indicate the material is hazardous. These include ignitability corrosivity, reactivity, and toxicity.

Total Petroleum Hydrocarbons: An analytical procedure used to determine the total amount of petroleum compounds in a material.

(D) Phase I and Phase II Investigation Reports

If Phase I and / or Phase II investigation reports have been prepared for the Project, they will be included in the HAZ-Pages in Volume 3 of the Contract.

If there are no Phase I and / or Phase II investigation reports in the HAZ-Pages in Volume 3 of the Contract, but 8.01 bid items are included in the Bid Schedule, the Contractor is to assume the excavated soil is contaminated and bid on the quantities listed. The Contractor must use the Contractor's engineering judgement for pricing those items.

8.01.4. MEASUREMENT AND PAYMENT. No separate payment will be made for complying with the requirements of this Section.

ITEM 8.01 C1 HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL

8.01 C1.1 WORK TO INCLUDE

A. General

This work will consist of the handling, transportation, and disposal of non-hazardous contaminated soils. The materials covered by this specification are soils that are contaminated with petroleum or other chemicals (including but not limited to metals, pesticides, polychlorinated biphenyls [PCBs], volatile organic compounds [VOCs], semi-volatile organic compounds [SVOCs], etc.) but cannot be classified as hazardous waste. For the purpose of this specification, soil will be defined as any material excavated below the pavement (concrete and/or asphalt) and pavement base (concrete and/or asphalt). Soil will also be defined as any material excavated from wetlands and/or wetlands adjacent area, or any areas that are not covered with hard pavement (e.g., concrete, asphalt), such as grass or dirt areas.

Soil to be excavated can be classified as non-contaminated, non-hazardous contaminated, or hazardous soil. Non-contaminated soils are defined as soils not exhibiting any of the following characteristics:

- Exceedances of New York State Department of Environmental Conservation (NYSDEC) Part 375-6 Restricted Commercial Soil Cleanup Objectives (SCOs) for street work, with the exception of benzo(a)pyrene which will have a limit of 3 parts per million (ppm), Restricted Residential SCOs for work areas in parkland, Residential SCOs for work in housing project areas, and Protection of Ecological Resources SCOs for work in wetlands and/or wetlands adjacent area.
- Elevated Photo-Ionization Detector (PID) readings (readings of greater than 10 parts per million [ppm] on a calibrated PID), which is subsequently confirmed by laboratory analysis specified under 8.01 C2.1.B.3
- Visual evidence of contamination, such as the presence of staining, discoloration, which is subsequently confirmed by laboratory analysis and exhibits exceedances of applicable SCOs.
- Petroleum and/or chemical odors, which are subsequently confirmed by laboratory analysis and exhibits exceedances of applicable SCOs.
- Physical evidence of coal ash, municipal solid waste, dredged spoils, or greater than 50% of the material is construction and demolition debris.

Non-hazardous contaminated soils are defined as soils exhibiting one or more of the above characteristics. Non-hazardous contaminated soils must be handled, transported, and disposed of in accordance with the specifications for Item 8.01 C1 – Handling, Transporting and Disposal of Non-Hazardous Contaminated Soil.

Hazardous soils are defined as soils showing exceedances of Toxicity Characteristic Leaching Procedure (TCLP) Regulatory Levels for Hazardous Waste published in Resource Conservation and Recovery Act (RCRA), 6 New York Codes, Rules, and Regulations (NYCRR) Part 371, or 40 Code of Federal Regulations (CFR) Section 261. Hazardous soils must be handled, transported, and disposed of in accordance with the specifications of this section.

This entire specification 8.01 covers the handling, transportation, and disposal of non-hazardous contaminated soils and hazardous soils only. Non-contaminated soil can be reused at the Project site, provided it meets other Contract requirements. Non-hazardous contaminated soils and hazardous soils cannot be reused. Excess non-contaminated soil becomes the property and responsibility of the Contractor.

The Contractor must ensure that all operations associated with the handling, sampling, loading, transportation, and disposal of non-hazardous contaminated soils are in compliance with all applicable Federal, State, and City statutes and regulations.

The Contractor must supply all equipment, material and labor required to conduct the specified work of this Item. The Contractor must document the excavation, handling, transportation and disposal of non-hazardous contaminated soils with analytical reports, manifests, photos, and clean fill documentation.

B. Request for Approval of Subcontractors

In accordance with Article 17 of the Contract, a subcontractor/subconsultant, such as the Environmental Consultant and the waste hauler, is not permitted to start work until approved by the Engineer. If the Contractor performs work using a subcontractor/subconsultant prior to approval, the Contractor will not be paid for the work performed by that subcontractor/subconsultant and the Contractor may be subject to penalties including, but not limited to, initiation of default proceedings.

The Contractor must submit a completed original Request for Approval of Subcontractors (RFAS) form and all required documents, such as legal identity, project reference list, Corporate Health and Safety Plan (HASP), waste transporter permits, Occupational Safety and Health Administration (OSHA) 10 certification, Hazardous Waste and Emergency Response (HAZWOPER) certification, etc., to the Engineer at least 30 days prior to the scheduled subcontract work start date. The Engineer must then submit the original RFAS to DDC Safety and Site Support, Office of Environmental and Hazmat Services (OEHS) for review and approval. If the RFAS is denied by OEHS, OEHS will issue the final denial and return the original RFAS to the Engineer. If the RFAS is approved by OEHS, OEHS will forward the original RFAS package and an approval memo to the DDC Agency Chief Contracting Officer (ACCO) for further review and approval. The ACCO's Vendor Integrity Unit and Office of Contract Opportunity (OCO) will review the subcontractor/subconsultant's overall business integrity and compliance with the vendor integrity requirements in the PASSPort system, Executive Order 50, Local Law 1, and Minority- and Women-Owned Business Enterprise/ Disadvantaged Business Enterprise (MWBE/DBE) participation as per the Contract. ACCO will issue the final Approval or Denial. The original RFAS will be returned to the Engineer, who will subsequently notify and return the original RFAS to the Contractor.

C. Environmental Consultant

The Contractor must retain an independent Environmental Consultant to obtain all permits, prepare the plans required in the specification 8.01 and as per DDC issued templates, and perform all field screening, sampling, air monitoring, and other health and safety services. The Contractor is not permitted to self-perform this work. The Environmental Consultant must be approved under the RFAS process and must demonstrate the minimum requirements as set forth below:

1. The Environmental Consultant project supervisor on site and other designated key personnel must have a minimum of three (3) years of experience in the environmental field dealing with issues associated with contaminated/hazardous soils. Such experience must include oversight of environmental investigations, specifically including VOC and dust monitoring services as a routine part of daily operations.

2. The Environmental Consultant must be experienced in work of similar nature, size, and complexity and must have previous experience in working with DDC.

3. The Environmental Consultant must furnish a list of at least five (5) projects completed within the last 3 years, identifying the location, nature of services provided, owner, owner's contact, contact's working telephone number, project duration and value of the projects..

D. Sampling and Analysis

Prior to the performance of soil sampling, the Contractor will submit a Field Sampling Plan (FSP). Soil sampling must not be conducted until OEHS has approved the FSP. The Contractor must conduct sampling and analysis of the impacted soils as specified under Item 8.01 C2 – Sampling and Testing of Non-Hazardous Contaminated/Potentially Hazardous Soil for Disposal Purposes.

The laboratory results must be forwarded to OEHS for review to determine if the soils would be handled and disposed of as non-hazardous contaminated soils or hazardous soils.

E. Material Handling Plan

At least 45 days prior to the commencement of work, the Contractor must submit to the OEHS for review a Material Handling Plan (MHP). The MHP must be approved by the OEHS prior to the Contractor beginning any soil excavation work. The MHP must, at a minimum, consist of:

1. The Contractor's procedures for identifying non-hazardous contaminated soils during excavation, including the specific model and manufacturer of intended organic vapor monitoring equipment and calibration procedures to be used. It should also include the training and experience of the personnel who will operate the equipment.
2. The Contractor's procedures for safely handling non-hazardous contaminated soils. The procedures must include personnel safety and health as well as environmental protection considerations.
3. For the proposed laboratory for analysis of representative soil samples, provide the following: (a) name, (b) address, (c) telephone number, and (d) New York State Department of Health's (NYSDOH) Environmental Laboratories Accreditation Program (ELAP) status.
4. Identification of the Contractor's proposed waste transporter(s) (hauler). This information must include:
    a) Name and Waste Transporter Permit Number;
    b) Address;
    c) Name of responsible contact for the waste transporter;
    d) Telephone number for the contact;
    e) All necessary permit authorizations for each type of waste transported; and,
    f) Previous experience in performing the type of work specified herein.
5. The name and location of the facility where an off-site scale is located. The Contractor must outline the procedures for controlling trucks leaving the work site and enroute to the off-site scale.
6. All staging/stockpiling areas (if stockpiling areas are intended and available), or alternate procedures that will be used. Alternate procedures may include, but are not limited to, agreements from the intended disposal facilities to accept boring data and/or analytical data previously obtained during the site characterization so that materials may be directly loaded into vehicles for shipment to the disposal facility.
7. A backup facility must be provided, should the staging/stockpile areas become unavailable, insufficient in area, or presented by some other unforeseen difficulty.
8. Identification of the Contractor's two proposed Treatment Storage or Disposal (TSD) facilities for contaminated soils (primary and back-up) for final disposal of the soils. Both primary and backup TSD facilities must be currently state-licensed disposal facilities approved to receive contaminated soil. The information required for each facility must include:
    a. General Information
        i. Facility name and the State identification number;
        ii. Facility location;
        iii. Name of responsible contact for the facility;
        iv. Telephone number for contact;

v. Signed letter of agreement to accept waste as specified in this Specification. The letter must indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed necessary; and,

vi. Unit of measure utilized at disposal facility for costing purposes.

b. A listing of all permits, licenses, letters of approval, and other authorizations to operate, which are currently held and valid for the proposed facility.

c. A listing of all permits, licenses, letters of approval, and other authorizations to operate which have been applied for by the proposed facility but not yet granted or issued.

d. The Contractor must specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste. The Contractor must identify the capacity available in the units and the capacity reserved for the subject waste.

e. The Contractor must provide the date of the proposed facility's last compliance inspection.

f. A list of all active (unresolved) compliance orders (or agreements), enforcement notices, or notices of violations issued to the proposed facility must be provided. The source and nature of the cause of violation must be stated, if known.

9. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.

8.01 C1.2 MATERIALS

A. The Contractor must provide containers as specified in the United States Department of Transportation (USDOT) regulations.

B. The Contractor must provide polyethylene sheeting, which is to be placed under (20mil. thickness minimum) and over (10 mil. thickness minimum) soil piles.

C. The Contractor must assure that the waste transporter's appropriate choice of vehicles and operating practices are fitted to prevent spillage or leakage of non-hazardous contaminated material during transportation.

D. The Contractor must provide, install, and maintain any temporary stockpiling or loading facilities on site as required until completion of material handling activities. The location and design of any such facilities must be included in the MHP.

8.01 C1.3 CONSTRUCTION DETAILS

A. Material Handling

1. Immediately after excavation of non-hazardous contaminated soil, the Contractor must:

a. Load material directly onto trucks/tankers/roll offs for disposal off site; or,

b. If interim stockpiling is required, place non-hazardous contaminated soil on a minimum of 20 mil. polyethylene sheeting and cover it securely by minimum of 10 mil. polyethylene sheeting to protect against cross contamination, airborne dust, leaching or runoff of contaminants into the subsurface, groundwater, or stormwater. Weight or secure the sheeting by appropriate means and seal seams as approved by the DDC to prevent tearing or removal by wind or weather. Grade surrounding surface to provide for positive drainage away from pile. Each stockpile must not exceed 500 cubic yards. Non-hazardous contaminated soils must be stockpiled separately from non-contaminated and hazardous soil at an off-site location approved by DDC or secured on-site by the Contractor, meeting all required Federal, State and Local stipulations. Stockpiles must be at least 800 feet away from any sensitive receptors, such as schools, daycare center, hospitals, nursing homes, etc., and at least 100 feet away from any water body.

2. Institute appropriate procedures and security measures to ensure the protection of site personnel and the public from non-hazardous contaminated materials as described in the approved MHP, Environmental Health & Safety Plan (EHASP), and Item 8.01 S - Health and Safety.

3. Any soil encountered that appears to contain unknown contaminants (based on visual, odor, or other observation), or that vary substantially from the material originally identified must be segregated in stockpiles and the Environmental Consultant promptly notified to collect soil samples for analysis. Construct stockpiles to the same requirements as stated in subsection (A)(1)(b) above.

4. Provide any dewatering that is necessary to complete the work. Contaminated water must be disposed of in accordance with Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

5. Provide and operate field organic vapor test equipment, a PID or a flame ionization detector (FID), to detect general organic vapor levels at intervals of approximately 50 cubic yards of soil excavated, when visual or odor observations indicate the material may substantially differ from the soil previously excavated, and/or as directed by the Environmental Consultant.

B. Off-Site Transportation to Disposal Facility

1. General

   a. The Contractor must furnish all labor, equipment, supplies and incidental costs required to transport non-hazardous contaminated material from the work area to the off-site disposal facility, and any other items and services required for transporting non-hazardous contaminated material for disposal at an off-site facility.

   b. The Contractor will be responsible for tracking all materials and vehicles from the site to the off-site scale at the final TSD facility.

   c. The Contractor must submit to the Engineer the certified tare and gross weight slips for each load received at the accepted facility which must be attached to each returned manifest. These documents must be maintained and kept with project field records.

   d. Non-hazardous contaminated soils must be delivered to the disposal or treatment facility within 30 calendar days after excavation.

   e. The Contractor must coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule.

   f. The Contractor must inspect all vehicles leaving the project site to ensure that non-hazardous contaminated soils adhering to the wheels or undercarriage are removed prior to the vehicle leaving the site.

   g. The Contractor must obtain letters of commitment from the waste haulers and the TSD facility to haul and accept shipments when directed by the Engineer in consultation with OEHS.

   h. The Contractor must provide waste profile forms to OEHS for review and approval before transporting non-hazardous contaminated soil to the approved TSD facility.

2. Hauling

   a. The Contractor must coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities must be measured and recorded upon arrival at the disposal facility. If any deviation between the two (2) records occurs, the matter is to be reported immediately to the Engineer and to be resolved by the Contractor to the satisfaction of the Engineer.

   b. The Contractor will be held responsible, at its own cost, for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site.

c. The Contractor must ensure that trucks are protected against contamination by properly covering and lining them with polyethylene sheeting or by decontaminating them prior to and between acceptance of loads. Trucks with loaded non-hazardous contaminated soil must be covered securely with tarps before leaving the project site to prevent generation of airborne dust during hauling.

d. The Contractor will be responsible for inspecting the access routes for road conditions, overhead clearance, and weight restrictions.

e. The Contractor must only use the transporter(s) identified in the approved MHP for the performance of work. A revised MHP or an addendum to the original approved MHP must be submitted to OEHS for review and approval at no additional cost to the City for any use of substitute or additional transporters.

f. The Contractor must develop, document, and implement a policy for accident prevention.

g. The Contractor must not combine non-hazardous contaminated materials from other projects with material from this project.

h. No material will be transported until approval by the Engineer is obtained.

3. Off-Site Disposal

a. The Contractor must use only the disposal facility(ies) identified in the approved MHP for the performance of the work. A revised MHP or an addendum to the original approved MHP must be submitted to OEHS for review and approval at no additional cost to the City for any use of substitutions or additions of disposal facilities.

b. The Contractor must be responsible for acceptance of the materials at an approved facility, for ensuring that the facility is properly permitted to accept the stated materials, and for ensuring that the facility provides the stated treatment and/or disposal services.

c. The City reserves the right to contact and visit the TSD facility, and regulatory agencies to verify the agreement to accept the stated materials and to verify any other information provided.

d. In the event that the identified and approved facility ceases to accept the stated materials or the facility ceases operations, it is the Contractor's responsibility to locate an alternate approved and permitted facility(ies) for accepting materials. The alternate facility(ies) must be approved in writing by the Engineer in the same manner and with the same requirements as for the original facility(ies). This must be done at no extra cost or delay to the City.

e. The Contractor must obtain manifest forms and complete the shipment manifest records required by the appropriate regulatory agencies for verifying the material and quantity of each load in unit of volume and weight. Copies of each manifest must be submitted to the Engineer within four (4) business days following shipment, and within three (3) business days after notification of receipt of the facility. The signed manifests must be maintained and kept with the project field records. Any manifest discrepancies must be reported immediately to the Engineer and be resolved by the Contractor to the satisfaction of the Engineer.

4. Equipment and Vehicle Decontamination

a. The Contractor must design and construct a portable decontamination station to be used to decontaminate equipment and vehicles that have been used to handle contaminated soil. The cost for this work will be paid under Item 8.01 S - Health and Safety.

b. Water generated during the decontamination process must be disposed of in accordance with Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

8.01 C1.4 METHOD OF MEASUREMENT

A. Quantities for contaminated soils will be measured in tons. The tonnage will be determined by off-site truck scales, as per Subsection 8.01 C1(3)(B)(1), that are capable of generating load tickets.

B. Final disposal of hazardous soil will be paid for under Item 8.01 H – Handling, Transporting and Disposal of Hazardous Soil.

C. Disposal of contaminated water will be paid for under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water. Backfill will be paid for under its respective item as specified in the Contract Documents.

D. The Environmental Consultant will be paid under Item 8.01 S – Health and Safety.

8.01 C1.5 PRICE TO COVER

The unit bid price per ton for Item 8.01 C1 must include the cost of furnishing all labor, materials, equipment plan, and insurance for excavation, handling, transportation, disposal, documentation, fees, permits, loading, stockpiling, hauling, and any other incidentals necessary to complete all the work as specified herein for handling, transporting, and disposal of non-hazardous contaminated soil.

Payment will be made under:

ITEM NUMBER	DESCRIPTION	PAY UNIT
8.01 C1	Handling, Transporting and Disposal of Non-Hazardous Contaminated Soil	Tons

ITEM 8.01 C2 SAMPLING AND TESTING OF NON HAZARDOUS CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES

8.01 C2.1 WORK TO INCLUDE

A. Description

The work will consist of collecting and analyzing representative samples of soil to be excavated in-situ and/or ex-situ from stockpiles for parameters typically requested by the disposal facilities to determine if the soil to be excavated is suitable for reuse, or to be hauled off-site for disposal purposes as contaminated and/or hazardous soil.

B. Sampling and Laboratory Analysis

1. At least forty-five (45) days prior to the commencement of work, the Contractor's Environmental Consultant must submit an FSP and an Investigation Health and Safety Plan (Investigation HASP) to OEHS for review and approval, prior to conducting the field sampling. The FSP must include, at a minimum, the following information:

    a. Project information;

    b. Description of sample collection methodology for soil which appears to contain contaminants based on PID readings and field observation;

    c. Type of analyses;

    d. Sample preservation and handling;

    e. Training and experience of the personnel who will collect the samples;

    f. Equipment decontamination;

    g. Analytical laboratory's name, address, New York State Department of Health's ELAP certification number, and telephone number;

    h. Map of the project area;

    i. Sample location plan; and,

    j. Chain of Custody.

    The Investigation HASP must identify actual and potential hazards associated with planned sampling field activities and stipulate appropriate health and safety procedures, so as to minimize field personnel exposures to physical, biological, and chemical hazards that may be present in the sampling media. The Investigation HASP must include, at a minimum, the following information:

    a. Project information;

    b. Description of work to be performed;

    c. Names of responsible health and safety personnel;

    d. Worker training;

    e. Job hazard analysis;

    f. Confined Space Entry Plan (if applicable);

    g. Personal monitoring (if applicable);

    h. Community Air Monitoring Plan (CAMP, if applicable);

    i. Personnel Protection Equipment (PPE);

j. Decontamination;

k. Safety rules;

l. Spill prevention and control, dust control, vapor/odor suppression procedures;

m. Identification of nearest hospital and route; and,

n. Emergency Incident Reporting.

2. The Contractor's Environmental Consultant must collect one (1) grab sample and one (1) composite sample per 500 cubic yards of soil to be excavated in-situ and/or ex-situ from stockpiles. Sample locations must be placed A) throughout or along areas within the project limits, and B) within any portion of the project area that exhibits any of the characteristics described in Section 8.01 C1.1 A (evidence of potential contamination via elevated PID readings, olfactory or visual evidence). For in-situ sampling, each grab soil sample must be collected from either the 6-inch interval above the water table (when encountered), or the 6-inch interval above the bottom of the proposed excavation depth (where recovery allowed), or from the 6-inch interval showing the highest potential for contamination based on field observation. For composite soil sampling, grid sampling must be performed for projects with excavation depth deeper than six (6) feet below grade. Each composite sample must consist of five (5) grab samples and discrete aliquots collected from various intervals along the depth of excavation at each sampling boring location. For stockpiled soils, each composite sample must consist of five (5) grab samples collected from various depths within each soil stockpile, at least two feet below the soil surface. For drummed soil, one (1) composite sample per 10 drums must be collected. Each composite soil sample must consist of one (1) grab sample from each of the 10 drums.

3. Laboratory sampling should include analyses for VOCs, Polycyclic Aromatic Hydrocarbons (PAHs), PCBs, Toxicity Characteristic Leaching Procedure (TCLP) Metals (Resource Conservation and Recovery Act [RCRA] 8), the three RCRA Characteristics, ignitability, reactivity, and corrosivity, and Paint Filter Test. Additionally, should the disposal facility(ies) require specific analyses to accept material, the additional analyses should be included at no additional cost to the City.

4. Should the Contractor seek to remove non-contaminated excess soils from the site, the Contractor will be required to coordinate the Beneficial Use Determination (BUD) with NYSDEC prior to moving the soils in accordance with the 6 New York Code, Rules, and Regulations (NYCRR) Parts 360.12 and 360.13. The Contractor must keep the Engineer informed of the approval status and removal schedule of any and all soils being removed from the site which are not going to an approved disposal facility.

5. The quality of the data from the sampling program is the Contractor's responsibility. The Contractor must furnish all qualified personnel, materials, equipment and instruments necessary to carry out the sampling. Unless directed otherwise, all sampling procedures must follow the NYSDEC sampling guidelines and protocols. All sampling must be conducted by a qualified person trained in sampling protocols using standard accepted practices for obtaining representative samples.

6. Each grab and composite sample must be analyzed for all parameters required by disposal facilities accepting contaminated and hazardous soil, in addition to any specific criteria a sample is being analyzed for.

7. All sample containers must be marked and identified with legible sample labels, which must indicate the project name, sample location and/or container, the sample number, the date and time of sampling, preservatives utilized and other information that may be useful in determining the character of the sample. Chain-of-custody must be tracked from laboratory issuance of sample containers through laboratory receipt of the samples.

8. The Contractor must maintain a bound sample logbook. The Contractor must provide the Engineer access to it at all times and must turn it over to the Engineer in good condition at the completion of the work. The following information, at a minimum, must be recorded to the log:

    a. Sample identification number;

    b. Sample location;

    c. Field observation;

    d. Sample type;

    e. Analyses;

    f. Date/time of collection;

    g. Collector's name;

    h. Sample procedures and equipment utilized; and,

    i. Date sent to laboratory and name of laboratory.

9. The City reserves the right to direct the Contractor to conduct alternative sampling in lieu of the parameters described in subsection 8.01 C2(1)(B)(4) if the situation warrants. The substitute sampling parameters will be of equal or lesser monetary value than those described in subsection 8.01 C2(1)(B)(4), as determined by industry laboratory pricing standards.

10. Only dedicated sampling equipment may be used to collect these samples. All equipment involved in field sampling must be decontaminated before being brought to the sampling location and must be properly disposed after use.

11. The Contractor's Environmental Consultant must prepare a Field Sampling Result Report (FSSR), tabulate the analytical results, and compare the data to the applicable NYSDEC Part 375.6 SCOs and TCLP for Hazardous Waste published in RCRA and 6 NYCRR Part 371, or 40 CFR Section 261. If the soil is to be disposed of in a disposal facility outside of the State of New York, the soil sampling data must also be compared to the applicable regulatory criteria established by the state in which the disposal facility is located. The FSSR, with the tabulated tables and laboratory analytical data, must be submitted to OEHS for review and approval prior to any soil reuse or disposal activities.

12. Soils exceeding any of the hazardous characteristic criteria meet the legal definition of hazardous soils (rather than non-hazardous contaminated soils) and must be transported or disposed of under Item 8.01 H – Handling, Transporting and Disposal of Hazardous Soil. All analyses must be done by a laboratory that has received approval from the ELAP for the methods to be used. The Contractor must specify the laboratory in the MHP.

13. The Contractor must contact the disposal facility where the waste will be sent for permanent disposal, and arrange to collect any additional samples required by the facility. The cost associated with additional sampling and testing must be included in the bid price of this Item.

8.01 C2.2 METHOD OF MEASUREMENT

Quantities for samples must be measured as the number of sets of samples that are tested. A set will be defined as one (1) grab and one (1) composite samples per 500 cubic yards to be analyzed for the full range of parameters as specified in subsection 8.01 C2(1)(B)(3).

8.01 C2.3 PRICE TO COVER

The unit price bid per set for Item 8.01 C2 will include the cost of furnishing all labor, materials, equipment, plan, and insurance necessary for sampling, handling, transporting, testing, documentation, fees, permits, and any other incidentals necessary to complete the work as specified herein for in-situ and ex-situ soil sampling and analysis for waste disposal parameters.

Payment will be made under:

Item No.	Description	Pay Unit
8.01 C2	SAMPLING AND TESTING OF CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES	SETS

ITEM 8.01 H HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL

8.01 H.1 WORK TO INCLUDE

A. General

This work will consist of the handling, transportation, and disposal of hazardous soils, which are defined as soils showing exceedances of TCLP for Hazardous Waste published in RCRA, 6 NYCRR Part 371, or 40 CFR Section 261. Hazardous soil can also be contaminated soils, as defined in Item 8.01 C1, but must be handled, transported, and disposed of as hazardous soil under Item 8.01 H, in accordance with the specifications herein. For the purpose of this specification, soil will be defined as any materials excavated below the pavement and base for pavement. Soil will also be defined as any material excavated from wetlands and/or wetlands adjacent areas, or any areas that are not covered with hard pavement (e.g., concrete, asphalt), such as grass or dirt areas.

The Contractor must ensure that all operations associated with the handling, sampling, loading, transportation, and disposal of hazardous materials are in compliance with the applicable Federal, State, and Local statutes and regulations, including Local Law 72 which becomes effective upon discovery of a TCLP lead exceedance. A sampling report, along with the executive summary, must be transmitted to OEHS within 48 hours of discovery to post on DDC website, as required by Local Law 72.

The Contractor must supply all equipment, material and labor required to conduct the specified work under this section. The Contractor must document the excavation, handling, sampling, and testing, transportation, and disposal of hazardous soils. The City must be listed in the disposal documents as the waste generator.

The Contractor must decontaminate all equipment prior to its removal from the exclusion zone and/or following contact with hazardous materials, as detailed in Item 8.01 S - Health and Safety. Water generated during the decontamination process must be disposed of under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

The Contractor must retain an Environmental Consultant, meeting the requirements specified in Section 8.01 C1, and the Contractor is not permitted to self-perform this work. The Environmental Consultant must conduct sampling for laboratory analysis of soil to be excavated to determine whether the soil is contaminated and/or hazardous.

Hazardous soils are defined as soils showing exceedances of Toxicity Characteristic Leaching Procedure (TCLP) Regulatory Levels for Hazardous Waste published in Resource Conservation and Recovery Act (RCRA), 6 New York Codes, Rules, and Regulations (NYCRR) Part 371, or 40 Code of Federal Regulations (CFR) Section 261. Hazardous soils must be handled, transported, and disposed of in accordance with the specifications of this section.

All work under Item 8.01 H must be performed under the direct supervision of the Contractor's Environmental Consultant, as approved by the OEHS.

B. Material Handling Plan:

At least 45 days prior to the commencement of work, the Contractor must submit to the OEHS for review an MHP. The MHP must be approved by the OEHS prior to the Contractor beginning any soil excavation work. The MHP must, at a minimum, consist of:

1. The Contractor's procedures for identifying hazardous soils during excavation, including the specific model and manufacturer of intended organic vapor monitoring equipment and calibration procedures to be used. It should also include the training and experience of the personnel who will operate the equipment.
2. The Contractor's procedures for safely handling hazardous soils or soils which have not yet been tested but are believed to be potentially hazardous. The procedures must include personnel safety and health, as well as environmental protection considerations.
3. Name, address, NYSDOH ELAP status and telephone number of the proposed laboratory for analysis of representative soil samples.

4. Identification of the Contractor's proposed waste transporter(s).This information must include:

    1. Name and Waste Transporter Permit Number;
    2. Address;
    3. Name of responsible contact for the waste transporter;
    4. Telephone number for the contact;
    5. All necessary permit authorizations for each type of waste transported; and,
    6. Previous experience in performing the type of work specified herein.

5. The name and location of the facility where an off-site scale is located. The Contractor must outline the procedures on controlling trucks leaving the work site and enroute to the off-site scale.

6. All staging/stockpiling areas (if stockpiling areas are intended and available), or alternate procedures that will be used. Alternate procedures may include, but are not limited to, agreements from the intended disposal facilities to accept boring data and/or analytical data previously obtained during the site characterization so that materials may be directly loaded into vehicles for shipment to the disposal facility.

7. A backup facility must be provided, should the staging/stockpile areas become unavailable, insufficient in area or not be present by some other unforeseen difficulty.

8. Identification of the Contractor's two proposed Treatment Storage or Disposal (TSD) facilities for hazardous soils (primary and back-up) for final disposal of the hazardous soils. Both primary and backup TSD facilities must be currently USEPA or State-approved RCRA TSD facilities for hazardous soils. The information required for each facility must include:

    a. General Information

        i. Facility name and the USEPA identification number;
        ii. Facility location;
        iii. Name of responsible contact for the facility;
        iv. Telephone number for contact;
        v. Signed letter of agreement to accept waste as specified in this Specification. The letter must indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed necessary; and,
        vi. Unit of measure utilized at disposal facility for costing purposes.

    b. A listing of all permits, licenses, letters of approval, and other authorizations to operate, which are currently held and valid for the proposed facility.

    c. A listing of all permits, licenses, letters of approval, and other authorizations to operate which have been applied for by the proposed facility but not yet granted or issued.

    d. The Contractor must specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste. The Contractor must identify the capacity available in the units and the capacity reserved for the subject waste.

    e. The Contractor must provide the date of the proposed facility's last compliance inspection under RCRA.

f. A list of all active (unresolved) compliance orders (or agreements), enforcement notices, or notices of violations issued to the proposed facility must be provided. The source and nature of the cause of violation must be stated, if known.

9. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.

8.01 H.2 MATERIALS

A. The Contractor must provide containers as specified in the USDOT regulations.

B. The Contractor must provide polyethylene sheeting, which is to be placed under (20 mil. thickness minimum) and over (10 mil. thickness minimum) soil piles.

C. The Contractor must assure that the waste transporter's appropriate choice of vehicles and operating practices are fitted to prevent spillage or leakage of contaminated material during transportation.

D. The Contractor must provide, install, and maintain any temporary stockpiling or loading facilities on site as required until completion of material handling activities. The location and design of any such facilities must be included in the MHP.

8.01 H.3 CONSTRUCTION DETAILS

A. Material Handling

1. Immediately after excavation of hazardous soil, the Contractor must:

a. Load material directly onto drums/trucks/tankers/roll offs for disposal off site. Containers must be labeled as hazardous soil while being held for disposal; or

b. If interim stockpiling is required, place hazardous soil on a minimum of 20 mil. polyethylene sheeting and cover it securely with polyethylene sheeting a minimum of 10 mil. to protect against cross contamination, airborne dust, leaching or runoff of contaminants into the subsurface, groundwater, or stormwater. Weight or secure the sheeting by appropriate means and seal seams as approved by the Engineer to prevent tearing or removal by wind or weather. Grade surrounding surface to provide for positive drainage away from pile. Each stockpile must not exceed 500 cubic yards. Hazardous soils must be stockpiled separately from uncontaminated and contaminated soil at an off-site location approved by the Engineer or secured on-site by the Contractor, meeting all required Federal, State and Local stipulations. Stockpiles must be labelled as hazardous soil and situated at least 800 feet away from any sensitive receptors, such as schools, daycare center, hospitals, nursing homes, etc., and at least 100 feet away from any water body.

2. Institute appropriate procedures and security measures to ensure the protection of site personnel and the protection of the public from hazardous soils as described in the approved MHP, EHASP, and Item 8.01 S – Environmental Health and Safety.

3. Any soil encountered that appears to contain unknown contaminants (based on visual, odor, or other observation), or that vary substantially from the material originally identified must be segregated in stockpiles and the Environmental Consultant promptly notified to collect soil samples for analysis. Construct stockpiles to the same requirements as stated in subsection (A)(1)(b) above.

4. Provide any dewatering that is necessary to complete the work. Contaminated water must be disposed of in accordance with Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

5. Provide and operate field organic vapor test equipment, a PID or an FID, to detect general organic vapor levels at intervals of approximately 50 cubic yards of soil excavated, when visual or odor observations indicate the material may substantially differ from the soil previously excavated and/or as directed by the Environmental Consultant.

C. Off-Site Transportation to Disposal Facility

1. General

    a. The Contractor must furnish all labor, equipment, supplies and incidental costs required to transport hazardous material from the work area to the off-site disposal facility, and any other items and services required for transporting hazardous material for disposal at an off-site facility.

    b. The Contractor is responsible for obtaining the USEPA hazardous waste generator identification number for the City. The application must be submitted to OEHS for review and approval prior to submission to USEPA. The Contractor must prepare the annual hazardous waste report for the project and submit to the NYSDEC and USEPA.

    c. The Contractor will be responsible for tracking all material/vehicles from the site to the off-site scale and to the approved disposal facility.

    d. The Contractor must provide to the Engineer certified tare and gross weight slips for each load received at the accepted facility which must be attached to each returned manifest. These documents must be maintained and kept with project field records.

    e. Hazardous soils must be delivered to the disposal or treatment facility within 30 calendar days after excavation.

    f. The Contractor must coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule.

    g. The Contractor must inspect all vehicles leaving the project site to ensure that hazardous soils adhering to the wheels or undercarriage are removed prior to the vehicle leaving the site.

    h. The Contractor must obtain letters of commitment from the waste haulers and the TSD facility to haul and accept shipments.

    i. The Contractor must provide waste profile forms to OEHS for review and approval before transporting hazardous soil to the approved TSD facility.

2. Hauling

    a. The Contractor must coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities must be measured and recorded upon arrival at the disposal facility. If any deviation between the two records occurs, the matter is to be reported immediately to the Engineer and be resolved by the Contractor to the satisfaction of the Engineer.

    b. The Contractor will be responsible, at its own cost, for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site.

    c. The Contractor must ensure that trucks are protected against contamination by properly covering and lining them with polyethylene sheeting or by decontaminating them prior to and between acceptance of loads. Trucks with loaded hazardous soil must be covered securely with tarp before leaving the project site to prevent generation of airborne dust during hauling.

    d. The Contractor will be responsible for inspecting the access routes for road conditions, overhead clearance, and weight restrictions.

    e. The Contractor must only use the transporter(s) identified in the approved MHP for the performance of work. Only a transporter with a current Part 364 Waste Transporter Permit from NYSDEC may transport hazardous soil. A revised MHP or an addendum to the original approved MHP must be submitted to OEHS for review and approval at no additional cost to the City for any use of substitute or additional transporters.

    f. The Contractor must develop, document, and implement a policy for accident prevention.

g. The Contractor must not combine hazardous materials from other projects with material from this project.

h. No material will be transported until approval by the Engineer is obtained.

3. Off-Site Disposal

a. The Contractor must use only the disposal facility(ies) identified in the approved MPH for the performance of the work. A revised MHP or an addendum to the original approved MHP must be submitted to OEHS for review and approval at no additional cost to the City for any use of substitutions or additions of disposal facility.

b. The Contractor will be responsible for acceptance of the materials at an approved facility, for ensuring that the facility is properly permitted to accept the stated materials, and for ensuring that the facility provides the stated treatment and/or disposal services.

c. The City reserves the right to contact and visit the TSD facility and regulatory agencies to verify the agreement to accept the stated materials and to verify any other information provided.

d. In the event that the identified and approved facility ceases to accept the stated materials or the facility ceases operations, it is the Contractor's responsibility to locate an alternate approved and permitted facility(ies) for accepting materials. The alternate facility(ies) must be approved in writing by the Engineer in the same manner and with the same requirements as for the original facility(ies). This must be done at no extra cost or delay to the City.

e. The Contractor must obtain manifest forms, and complete the shipment manifest records required by the appropriate regulatory agencies for verifying the material and quantity of each load in unit of volume and weight. Copies of each manifest must be submitted to the Engineer within four (4) business days following shipment, and within three (3) business days after notification of receipt of the facility. The signed manifests must be maintained and kept with the project field records. Any manifest discrepancies must be reported immediately to the Engineer and be resolved by the Contractor to the satisfaction of the Engineer.

f. The Contractor must submit all results and weights to the Engineer.

g. The Contractor is responsible to pay all fees associated with the generation and disposal of all excavated hazardous waste. These fees include, but are not limited to, the New York State Department of Finance and Taxation (DFT) quarterly fees for hazardous waste and the NYSDEC annual hazardous waste regulatory fee program. The Contractor must submit a copy of proof of payment to the Engineer and OEHS.

4. Equipment and Vehicle Decontamination

a. The Contractor must design and construct a portable decontamination station to be used to decontaminate equipment and vehicles that have been used to handle hazardous soil. The cost for this work will be paid under Item 8.01 S - Health and Safety.

b. Water generated during the decontamination process must be disposed of in accordance with Item 8.01 W1 – Removal, Treatment, and Discharge/Disposal of Contaminated Water.

8.01 H.4 METHOD OF MEASUREMENT

A. Quantities for hazardous soils will be measured in tons. The tonnage will be determined by off-site truck scales, as per Subsection 8.01 H3(C)(1)(C), that are capable of generating load tickets.

B. Final disposal of non-contaminated soil will be paid for under Item 8.01 C1 – Handling, Transporting and Disposal of Non-Hazardous Contaminated Soil.

C. Disposal of decontamination water will be paid for under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

D. Backfill will be paid for under its respective item as specified in the contract document.

E. The Environmental Consultant will be paid under Item 8.01 S – Health and Safety.

8.01 H.5 PRICE TO COVER

The unit bid price bid per ton for Item 8.01 H will include the cost of furnishing all labor, materials, equipment, plan, and insurance for excavation, handling, transportation, disposal, documentation, fees, permits, loading, stockpiling, hauling, and any other incidentals necessary to complete all the work as specified herein for handling, transporting, and disposal of hazardous soil.

Payment will be made under:

Item No.	Description	Pay Unit
8.01 H	HANDLING, TRANSPORTING, AND DISPOSAL OF HAZARDOUS SOIL	TONS

ITEM 8.01 S HEALTH AND SAFETY

8.01 S.1 WORK TO INCLUDE

Health and Safety Requirements

A. Scope of Work

It is the Contractor's responsibility to stage and conduct the Contractor's work in a safe manner. The Contractor must implement an EHASP for non-hazardous contaminated or hazardous soil intrusive activities as set forth in OSHA Standards 1910.120 and 1926.650-652. The Contractor must ensure that all workers have at a minimum hazard awareness training. The Contractor must segregate contaminated work area in secured exclusion zones. These zones must limit access to Contractor personnel specifically trained to enter the work area. The exclusion zone must be set up to secure the area from the public and untrained personnel. The project health and safety program will apply to all construction personnel including persons entering the work area. In addition, the Contractor must protect the public from on-site hazards, including subsurface contaminants associated with on-site activities. The EHASP must be signed off by a Certified Industrial Hygienist and reviewed and approved by OEHS.

Work must include, but not be limited to:

1. Implementation of a baseline medical program.
2. Providing safety equipment and protective clothing for site personnel, including maintenance of equipment on a daily basis; replacement of disposable equipment as required; decontamination of clothing, equipment and personnel; and providing all other health and safety measures.
3. Providing, installing, operating and maintaining on-site emergency medical first aid equipment as specified in this section for which payment is not provided under other pay items in this Contract.
4. Providing, installing, operating, maintaining and decommissioning all equipment and personnel decontamination facilities specified within this section, including, but not limited to, the decontamination pad, decontamination water supply, decontamination water collection equipment and all other items and services required for the implementation of the health and safety requirements for which pay items are not provided elsewhere in this Contract.
5. Provide the minimum health and safety requirements for excavation activities within the limits of this Contract.
6. Implement and enforce an EHASP: The EHASP as presented in these specifications is dynamic with provisions for change to reflect new information, new practices or procedures, changing site environmental conditions or other situations which may affect site workers and the public. The EHASP will also address measures for community protection, accident prevention, personnel protection, emergency response/contingency planning, air monitoring, odor control and hazardous chemicals expected on site. Providing a Confined Space Entry Program as defined in the Occupational Safety and Health Act, Confined Space Entry Standard, 29 CFR 1910.146.

B. Environmental Consulting Services

The Contractor must retain an Environmental Consultant to obtain all permits and perform all field screening, air monitoring, community air monitoring, soil and water sampling, and health and safety services.

1. If conditions within the exclusion zone are deemed hazardous, then the Contractor and its Environmental Consultant must ensure that all personnel working within identified exclusion zones and/or involved (direct contact) with the handling, storage or transport of hazardous and contaminated materials must have completed a minimum of forty (40) hours of Health and

Safety Training on Hazardous Waste Sites in accordance with 29 CFR 1910.120(e). The training program must be conducted by a qualified safety instructor. If conditions in the exclusion zone are deemed to be non-hazardous, the Environmental Consultant must provide site specific training.

2. The Contractor must ensure that on-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations must receive the training specified in above and at least eight (8) additional hours of specialized training on managing such operations at the time of job assignment.

C. Submittals

1. The Contractor must submit a written EHASP, as specified herein, to OEHS for review and approval. The written EHASP must be submitted, within thirty (30) calendar days after the availability of analytical results of the soil and groundwater testing, as required under Section 8.01 C2 and Section 8.01 W2. The Contractor must make all necessary revisions required by OEHS and resubmit the EHASP to OEHS for acceptance. Start-up work for the project will not be permitted until written acceptance has been issued by OEHS.

2. Daily safety logs must be maintained by the Contractor and must be submitted to the Engineer either on request or on completion of the work. Training logs must be maintained by the Contractor and submitted to the Engineer either on request or on completion of the work. Daily logs on air monitoring during excavation activities must be prepared and maintained by the Contractor and submitted to the Engineer either on request or upon completion of the work.

3. A closeout report must be submitted by the Contractor to the Engineer upon completion of the work within the defined exclusion zones. This report must summarize the daily safety and monitoring logs and provides an overview of the Contractor's performance regarding environmental and safety issues. The report must carefully document all areas where contamination has been found including pictures, addresses of locations, and potential sources.

4. Medical Surveillance Examinations: The Contractor must submit to the Engineer the name, office address and telephone number of the medical consultant utilized. Evidence of baseline medical examinations together with the evidence of the ability to wear National Institute for Occupational Safety and Health (NIOSH) approved respirators (as specified in American National Standards Institute (ANSI) Z88.6) must be provided to the Engineer for all construction personnel who are to enter the exclusion zones.

5. Accident Reports: All accidents, spills, or other health and safety incidents must be reported to the Engineer.

D. Health and Safety Plan

The EHASP must comply with OSHA regulations 29 CFR 1910.120/1926.65. This document must at a minimum contain the following:

1. Description of work to be performed
2. Site description
3. Key personnel
4. Worker training procedures
5. Work practices and segregation of work area
6. Hazardous substance evaluation
7. Hazard assessment
8. Personal and community air monitoring procedures and action levels
9. Personal protective equipment

10. Decontamination procedures
11. Safety rules
12. Emergency procedures
13. Spill prevention and control, as well as spill reporting procedures
14. Dust control, vapor/odor suppression procedures
15. Identification of the nearest hospital and route
16. Confined space procedures
17. Excavation safety procedures

8.01 S.2 MEASUREMENT

Health and Safety Requirements

A. 25% of the lump sum price will be paid when the following items are implemented or mobilized:

Medical surveillance program

Health and safety training

Health and safety plan

Environmental and personnel monitoring

Instrumentation

Spill control

Dust control

Personnel and equipment decontamination facilities

Personnel protective clothing

Communications

Mobilization

B. 50% will be paid in proportional monthly amounts over the period of work.

C. 25% will be paid when the operation is demobilized and removed from the project site.

8.01 S.3 PRICE TO COVER

Health and Safety Requirements

The lump sum price bid for the health and safety requirements will include all labor, materials, equipment, and insurance necessary to complete the work in accordance with these specifications. The price bid will include, but not be limited to, the following:

A. Providing training, safety personnel, air monitoring and medical examinations as specified.

B. Providing safety equipment and protective clothing for site personnel, including maintenance of equipment on a daily basis; replacement of disposable equipment as required; decontamination of clothing, equipment and personnel; and all other health and safety activities or costs not paid for under other pay items in this Contract.

C. Providing, installing, operating and maintaining on-site emergency medical and first aid equipment. This includes all furnishings, equipment, supplies and maintenance of all medical equipment, and all other health and safety items and services for which payment is not provided under other pay items in this Contract.

D. Providing, installing, operating, maintaining, and decommissioning all personnel and equipment decontamination facilities, including decontamination pad, decontamination water supply, and all other items and services required for the implementation of the health and safety requirements for which pay items are not provided elsewhere in this Contract. Vehicle decontamination pads will be included in the price of this item. Disposal of decontamination fluid will be paid for under Item 8.01 W1 – Removal, Treatment, and Discharge/Disposal of Contaminated Water.

E. Spill Control

1. Payment will account for furnishing, installing, and maintaining all spill control equipment and facilities. Payment will include equipment and personnel to perform emergency measures required to contain any spillage and to remove spilled materials and soils or liquids that become contaminated due to spillage during work within the exclusion zones and handling of excavated soils and liquids from these areas. This collected spill material will be properly disposed of.

2. Payment under this item will not include testing, handling, transportation or disposal of petroleum-contaminated/potentially hazardous soils excavated during construction. The price for this work will be paid for under Items 8.01 C1 – Handling, Transporting and Disposal of Non-Hazardous Contaminated Soil, 8.01 C2 – Sampling and Testing of Contaminated/Potentially Hazardous Soil for Disposal Purposes or 8.01 H – Handling, Transporting and Disposal of Hazardous Soil, as appropriate.

F. Dust Control

Payment will account for furnishing, installing, and maintaining dust control equipment and facilities to be used whenever applicable dust levels are exceeded. Payment will include all necessary labor, equipment, clean water, foam, and all other materials required by the Dust Control Plan. The NYSDOH Community Air Monitoring Plan (CAMP) may be used as guidance.

G. Vapor/Odor Suppression

Payment will account for furnishing, installing and maintaining vapor/odor control equipment and facilities to be used whenever organic vapor monitoring or the presence of odors indicates that vapor suppression is required to protect workers or the public. Payment will include all necessary labor, equipment, clean water, foam and all other materials required by the Vapor/Odor Suppression Plan.

H. Mobilization/Demobilization

1. Mobilization

Payment will include the following, but not be limited to:

a. All work required to furnish, install and maintain all signs, fencing, support zone facilities, parking areas and all temporary utilities;

b. All work required to furnish, install, and maintain an office space with phone and utilities for health and safety personnel;

c. All work required for complete preparation of lay down area for roll-off containers, including sampling, and any required fencing;

d. All direct invoiced cost from bonding companies and government agencies for permits and costs of insurance; and

e. All other items and services required for mobilization and site preparation.

2. Demobilization

   Payment will include but not be limited to: All work required to sample the area; remove from the site all equipment, temporary utilities and supporting facilities; performance of necessary decontamination and repairs; disposal of disposable equipment and protective gear and other items and services required for complete demobilization.

Payment will be made under:

Item No.	Description	Pay Unit
8.01 S	HEALTH AND SAFETY	LUMP SUM

ITEM 8.01 W1 REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER

8.01 W1.1 WORK TO INCLUDE

General: This work must consist of the proper removal and disposal of all contaminated groundwater and decontamination water generated during construction operations. The Contractor must be solely responsible for the proper disposal or discharge of all contaminated water generated at the job site. The Contractor will have the option of treating water on-site for discharge to the sewer system or removing contaminated water for off-site disposal. The Contractor must be responsible to choose a method compatible to the construction work and will be compensated on a per day basis regardless of method employed. The Contractor will be compensated for only those days where the system is in full operation.

The Contractor must retain a dewatering/water treatment Specialist (hereinafter the "Specialist") and laboratory as specified under Item 8.01 W2 – Sampling and Testing of Contaminated Water, to conduct any testing that may be required for disposal of impacted water.

The dewatering/water treatment Specialist is responsible to obtain all permits; perform all water sampling, testing; and provide ancillary services related to dewatering and water treatment. The Specialist must at a minimum provide documentation to OEHS demonstrating the minimum requirements as set forth below:

1. The Specialist must demonstrate that it has, at a minimum, three (3) years' experience in the design of dewatering plans. The Specialist should demonstrate expertise dealing with issues associated with contaminated water. During that three (3) year period, the Specialist must demonstrate that it provided dewatering and water treatment systems as a routine part of its daily operations.
2. The Specialist must be experienced in work of this nature, size, and complexity and must have previous experience in working with the NYSDEC.
3. The Specialist must furnish a list of at least five (5) projects completed within the last (3) years, identifying the location, nature of services provided, owner, owner's contact, contact's telephone number, project duration and value of the projects.
4. If conditions within the exclusion zone are deemed hazardous, then the Contractor and its Environmental Consultant must ensure that all personnel working within identified exclusion zones and/or involved (direct contact) with the handling, storage or transport of hazardous and contaminated material must have completed a minimum of forty (40) hours of Health and Safety Training on Hazardous Waste Sites in accordance with 29 CFR 1910.120(e). The training program must be conducted by a qualified safety instructor. If conditions in the exclusion zone are deemed to be non-hazardous, the Specialist will be responsible to provide site-specific training to its employees and other affected personnel.
5. The Contractor must ensure that on-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations must receive the training specified in above and at least eight (8) additional hours of specialized training on managing such operations at the time of job assignment.

The Contractor must document all operations associated with the handling, sampling and disposal of contaminated water, and ensure that they are in compliance with applicable Federal, State and Local statutes and regulations.

The Contractor must supply all labor, equipment, transport, plant, material, treatment, and other incidentals required to conduct the specified work of this section.

If water will be disposed of into the sewer system, the Contractor must ensure the Specialist treats the water to comply with the New York City Department of Environmental Protection (NYCDEP) Sewer Effluent Limit concentrations prior to discharge. The Contractor is responsible for providing settling or

filtering tanks and any other apparatus required by NYCDEP. Alternatively, the Contractor can provide a plan for transport and disposal at an off-site waste disposal facility.

Within forty-five (45) calendar days after award of Contract, the Contractor must submit to OEHS for review and approval, a Water Handling Plan (WHP). The WHP must be approved by OEHS prior to the Contractor's commencement of work. The minimum requirements for the WHP are specified herein Item 8.01W 1.2, for each type of disposal (disposal into the sewer or off-site disposal). The Contractor must maintain a complete, up to date copy of the WHP on the job site at all times.

8.01 W1.2 CONSTRUCTION DETAILS

For each disposal method the Contractor proposes to utilize (disposal to sewer or off-site disposal), the WHP must include the information required in paragraphs A and B below, as appropriate.

A. <u>On-site treatment and discharge into New York City sewers.</u>

1. Regulations: The Contractor must comply with all applicable regulations. This includes but may not be limited to:

   Title 15-New NYCDEP Sewer Use Regulations.

2. Permits: The Contractor is solely responsible to obtain all necessary and appropriate Federal, State and Local permits and approvals. The Contractor will be responsible for performing all and any system pilot tests required for permit approval. This includes but may not be limited to:

   a. Industrial waste approval for the New York City sewer system.

   b. Groundwater discharge permit for the New York City sewer system (NYCDEP Division of Sewer Regulation and Control), if discharge to sewer exceeds 10,000 gallons per day.

   c. The Contractor must comply with NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Runoff from Construction Activity ~~(~~SPDES General Permit~~)~~ GP-0-20-001 or its successor.

   d. Long Island well permit for Brooklyn and Queens sites, if well points are used for dewatering.

   e. Wastewater quality control application, NYCDEP.

3. The WHP for this portion of the work must include the following at a minimum:

   a. Identification and design of Contractor's proposed treatment to assure that the water meets the NYCDEP sewer use guidelines prior to discharge to the sewer, including identification of all materials, procedures, settling or filtering tanks, filters and other appurtenances proposed for treatment and disposal of contaminated water.

   b. The name, address and telephone number of the contact for the Contractor's proposed chemical laboratory, as well as the laboratory's certifications under Federal, State or non-governmental bodies.

   c. The name, address and telephone number of the contact for the Contractor's proposed Environmental Consultant.

   d. Copies of all submitted permit applications and approved permits the Contractor have received.

4. Materials

   The Contractor must supply all settling or filtering tanks, pumps, filters, treatment devices and other appurtenances for treatment, temporary storage and disposal of contaminated water. All equipment must be suitable for the work described herein.

5. Execution

a. The Contractor is solely responsible for disposal of all water, in accordance with all Federal, State and Local regulations.

b. The Contractor is solely responsible for any treatment required to assure that water discharged into the sewer is in compliance with all permits and Federal, State and Local statutes and regulations.

c. The Contractor is solely responsible for the quality of the water disposed of into the sewers.

d. The Contractor is responsible for sampling and testing of water for the NYCDEP Sewer Effluent Limit concentrations. The quality of the data is the Contractor's responsibility. Any sampling and testing must be conducted and paid in accordance with Item 8.01 W2 – Sampling and Testing of Contaminated Water.

e. The Contractor will be responsible to maintain the discharge rate to the sewer such that all permit requirements are met, the capacity of the sewer is not exceeded and no surcharging occurs downstream due to the Contractor's actions. Dewatering by means of well points or deep wells will not be allowed in the Boroughs of Brooklyn or Queens where the rate of pumping exceeds forty-five (45) gallons per minute unless the appropriate permit has been secured from the NYSDEC.

f. Disposal of Treatment Media

(1) The Contractor will be responsible for disposal or recycling of treatment media in accordance with all Federal, State and Local regulations.

(2) The Contractor must provide the Engineer with all relevant documentation concerning the disposal of treatment media, including manifests, bills of lading, certificates of recycling or destruction and other applicable documentation.

(3) **Disposal of treatment media will not be considered a separate pay item; instead it will be considered as incidental work thereto and included in the unit price bid.**

B. Off-Site Disposal

1. Regulations: The Contractor must conform to all applicable Federal, State and Local regulations pertaining to the transportation, storage and disposal of any hazardous and/or non-hazardous materials as listed in Attachment 2.

2. The following must be submitted to the Engineer prior to initiating any off-site disposal:

a. (1) Name and waste transporter permit number

(2) Address

(3) Name of responsible contact for the waste transporter

(4) Any and all necessary permit authorizations for each type of waste transported

(5) Previous experience in performing the type of work specified herein

b. General information for each proposed treatment/disposal facility and at least one backup treatment/disposal facility

(1) Facility name and USEPA identification number

(2) Facility location

(3) Name of responsible contact for the facility

(4) Telephone number for contact

(5) Unit of measure utilized at facility for costing purposes

c. A listing of all permits, licenses, letters of approval and other authorizations to operate, which are currently held and valid for the proposed facility as they pertain to receipt and management of the wastes derived from this Contract.

d. A listing of all permits, licenses, letters of approval and other authorizations to operate which have been applied for by the proposed facility but not yet granted or issued. Provide dates of application(s) submitted. Planned submittals must also be noted.

e. The Contractor must specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste and provide dates of construction and beginning of use, if applicable. Drawings may be provided. The Contractor must identify the capacity available in the units and the capacity reserved for the subject waste.

f. The Contractor must provide the date of the proposed facility's last compliance inspection.

g. A list of all active (unresolved) compliance orders, agreements, enforcement notices or notices of violations issued to the proposed facility must be submitted. The source and nature of the cause of violation must be stated, if known. If groundwater contamination is noted, details of the facility's groundwater monitoring program must be provided.

h. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.

3. Materials

All vessels for temporary storage and transport to an off-site disposal facility must be as required in DOT regulations.

4. Execution

a. General

(1) The Contractor must organize and maintain the material shipment records/manifests required by Federal, State and Local laws. The Contractor must include all bills of lading, certificates of destruction, recycling or treatment and other applicable documents.

(2) The Contractor must coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule. The schedule must be compatible with the availability of equipment and personnel for material handling at the job site.

(3) The Contractor must inspect all vehicles leaving the project site to ensure that contaminated liquids are not spilling and are contained for transport.

(4) The Contractor must obtain letters of commitment from the waste haulers and the treatment, disposal or recovery facility to haul and accept shipment. The letter must indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed as necessary.

(5) The Contractor must verify the volume of each shipment of water from the site.

(6) The Contractor is responsible for sampling and testing of water for off-site disposal. The quality of the data is the Contractor's responsibility. Any sampling and testing must be conducted and paid in accordance with Item 8.01 W2 – Sampling and Testing of Contaminated Water.

(7) The Contractor is responsible for any additional analyses required by the TSD facility, and for the acceptance of the water at an approved TSD facility.

b. Hauling

(1) The Contractor must not deliver waste to any facility other than the TSD facility(ies) listed on the shipping manifest.

(2) The Contractor must coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities must also be measured and recorded upon arrival at the TSD facility(ies). If any deviation between the two records occurs, the matter is to be reported immediately to the Engineer and must be resolved by the Contractor to the satisfaction of the Engineer.

(3) The Contractor will be responsible for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site. This cleanup must be accomplished at the Contractor's expense.

(4) The Contractor will be responsible for inspecting the access routes for road conditions, overhead clearance and weight restrictions.

(5) The Contractor must only use the transporter(s) identified in the WHP for the performance of work. Only a transporter with a current Part 364 Waste Transporter Permit from NYSDEC may transport this material. Any use of substitute or additional transporters must have previous written approval from the Engineer at no additional cost to the City.

(6) The Contractor must develop, document, and implement a policy for accident prevention.

(7) The Contractor must not combine waste materials from other projects with material from this project.

(8) The Contractor must obtain for the City a hazardous waste generator identification number and will sign the manifest as the generator, if necessary.

(9) No material must be transported until approved by the Engineer.

c. Disposal Facilities

(1) The Contractor must use only the TSD facility(ies) identified in the WHP for the performance of the work. Substitutions or additions must not be permitted without prior written approval from OEHS, and, if approved, must be at no extra cost to the City.

(2) The Contractor will be responsible for acceptance of the material at an approved TSD facility, for ensuring that the facility is properly permitted to accept the stated material, and that the facility provides the stated storage and/or disposal services.

(3) The City reserves the right to contact and visit the disposal facility and regulatory agencies to verify the agreement to accept the stated material and to verify any other information provided. This does not in any way relieve the Contractor of the Contractor's responsibilities under this Contract.

(4) In the event that the identified and approved facility ceases to accept the stated materials or the facility ceases operations, it is the Contractor's responsibility to locate an alternate approved and permitted facility(ies) for accepting materials. The Contractor is responsible for making the necessary arrangements to utilize the facility(ies), and the alternate facility(ies) must be approved in writing by the Engineer in the same manner and with the same requirements as for the original facility(ies). This must be done with no extra cost or delay to the City.

d. Equipment and Vehicle Decontamination

(1) The Contractor must design and construct a portable decontamination station to be used to decontaminate equipment and vehicles exiting the exclusion zone. The cost for this work will be paid under Item 8.01 S – Health and Safety.

8.01 W1.3 METHOD OF MEASUREMENT

The quantity for on-site treatment and discharge or off-site disposal will be on a per day basis.

8.01 W1.4 PRICE TO COVER

A. The per day price bid for Item 8.01 W1 will include the cost of furnishing all labor, materials, equipment, plan, and insurance for handling, transportation, disposal, documentation, permits, hauling, mobilization and demobilization, and any other incidentals thereto to complete the work.

B. The Contractor will not be paid for water that is within the NYCDEP Sewer Discharge Limits.

Payment will be made under:

Item No.	Description	Pay Unit
8.01 W1	REMOVAL, TREATMENT AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER	DAY

ITEM 8.01 W2 SAMPLING AND TESTING OF CONTAMINATED WATER

8.01 W2.1 WORK TO INCLUDE

A. Description

The work will consist of sampling and testing of potentially contaminated groundwater, surface runoff within the excavated area and all contaminated water generated during the decontamination process.

B. Sampling and Testing

1. The Contractor is responsible, at a minimum, for sampling and testing of contaminated water for the NYCDEP Sewer Effluent Limit concentrations as listed in Attachment 1, and in accordance with the Engineer-approved FSP and the Investigation HASP, as specified in 8.01 C2. The quality of the data is the Contractor's responsibility. Any additional testing required by the Federal, State and/or disposal facilities must be included in the bid price of this Item.
2. All sampling and testing must be conducted by a person trained in sampling protocols using accepted standard practices and/or the NYSDEC sampling guidelines and protocols.
3. All sample containers must be marked with legible sample labels which must indicate the project name, sample location and/or container, the sample number, the date and time of sampling, preservatives utilized, how the sample was chilled to 4 degrees Celsius, and other information that may be useful in determining the character of the sample.
4. Chain-of-custody must be tracked from laboratory issuance of sample containers through receipt of the samples.
5. The Contractor must maintain a bound sample log book. The Contractor must provide the Engineer access to it at all times and must turn it over to the Engineer in good condition at the completion of the work. The following information, as a minimum, must be recorded to the log:
    a. Sample identification number
    b. Sample location
    c. Field observation
    d. Sample type
    e. Analyses
    f. Date/time of collection
    g. Collector's name
    h. Sample procedures and equipment used
    i. Date sent to laboratory/name of laboratory
6. Only dedicated sampling equipment may be used to collect these samples. All equipment involved in field sampling must be decontaminated before being brought to the site, and must be properly disposed of after use.
7. Samples must be submitted to the Contractor's laboratory within the holding times for the parameters analyzed.
8. All analyses must be done by a laboratory that has received approval from the NYSDOH's ELAP for the methods to be done. The Contractor must specify the laboratory in the WHP.
9. Analytical results for water discharged to the sewer and for off-site disposal must be submitted to the Engineer no later than five (5) days after sample collection.

10. The City reserves the right to direct the Contractor to conduct alternative sampling in lieu of the parameters described above, if the situation warrants. The substitute sampling parameters will be of equal or lesser monetary value than those described above, as determined by industry laboratory pricing standards.

8.01 W2.2 METHOD OF MEASUREMENT

Quantities for samples will be measured as the number of sets of samples that are tested for the NYCDEP Sewer Effluent Limit concentrations. A set will be defined as one (1) representative sample analyzed for the full range of NYCDEP parameters as specified in Attachment 1.

8.01 W2.3 PRICE TO COVER

The unit price bid per set for Item 8.01 W2 will include the cost of furnishing all labor, materials, equipment, plan, and insurance for handling, transport, sampling, testing, documentation, permits, other incidentals necessary to complete the work of sampling and testing of contaminated water. Any additional costs incurred by the Contractor for sampling and testing of contaminated water will be included in the bid price of this Item.

Payment will be made under:

Item No.	Description	Pay Unit
8.01 W2	SAMPLING AND TESTING OF CONTAMINATED WATER	SETS