Exhibit F

Hazardous Substance Abatement and Disposal-related Project Specifications prepared by LiRo Group

The following Specifications are included:

02-2235 Recycled Crushed Materials
02-5120 Hydraulic, Fuel Oil, and Waste Oil Systems Removal
02-6100 Excavation of Contaminated Soil
02-8100 Waste Characterization, Removal, and Disposal
02-8120 Removal of Chlorinated Fluorocarbons
02-8130 Removal and Disposal of Heavy Metals Containing Material
02-8213 Asbestos Abatement
02-8300 Lead Management
02-8400 Removal of PCB-Bearing Materials
02-8600 Removal of Drummed Waste and Decontamination Water

RECYCLED CRUSHED MATERIALS
02-2235

PART 1-GENERAL

1.01 SCOPE OF WORK

Decontaminated concrete and structural brick ("crushed material") shall be crushed onsite at a location acceptable to the Construction Manager. Decontaminated and cleaned crushed material shall be segregated and stockpiled, as described below, and in the flow chart at the end of this Section. Crushed materials meeting the re-use evaluation criteria shall be re-used on-site, as detailed in the flow chart. No asphalt or asphaltic products are to be crushed on-site at any time. All demolished asphalt shall be disposed of off-site in accordance with Federal, State, and local regulation. Crushed concrete shall be used as backfill as specified in Section 02-6110 – Earthwork, Backfilling and Drainage or stockpiled on-site.

1.02 DESCRIPTION OF WORK

A. This section pertains to work involving recycled crushed concrete and crushed structural brick materials produced on site during demolition operations. All concrete and structural brick shall be decontaminated in accordance with project decontamination requirements. Potential sources of recycled crushed materials on site include (but are not limited to) existing foundations, floor slabs, reinforced concrete walls, and brick walls. All reinforcing steel shall be removed from concrete elements prior to crushing, and exported from the site. No refractory brick from boilers or flues shall be crushed for re-use. All refractory brick shall be disposed of as an asbestos contaminated and metals contaminated waste.

B. Recycled crushed materials may be used on site as backfill in areas identified on the project plans, or as general backfill to fill depressions produced during demolition or within low areas. Recycled crushed concrete will also be stockpiled on site for use during future site work, as backfill in future excavation zones, or as general fill.

C. Concrete and structural brick that shows heavy oil staining and cannot be sufficiently decontaminated as detailed in the flow chart at the end of this section shall not be recycled and shall be disposed of at a facility approved to accept the waste. The Contract Drawings show potential source areas of concrete and brick that shall not be re-used. Areas of concrete and brick not suitable for re-use include transformer pads and the No. 2 fuel oil pump house. No transformer pads will be recycled. Additional areas may be designated by the Construction Manager during the project.

1.03 DESCRIPTION OF SITE CONDITIONS

A. Reuse, recycle and salvage as much material as possible.

B. Stockpile the various types of crushed recycled materials in separate, secure areas as directed by the Owner or Construction Manager.

C. Do not mix recycled materials with soil, and do not mix crushed recycled concrete with asphalt.

PART 2 - PRODUCTS

2.01 CRUSHED RECYCLED CONCRETE

A. Crushed recycled concrete materials shall conform to the following gradation specification:

Sieve Size	Percent Passing By Weight
100 mm (4 inch)	100
0.475 mm (No. 40) (0.02 inch)	0 – 70
0.075 mm (No. 200) (0.0029 inch)	0 - 12

B. Recycled concrete materials used or stockpiled on site shall be uniform in quality and free from wood, steel, roots, bark or other extraneous material.

C. Acceptance of the gradation will be based on visual inspection by Construction Manager.

2.02 MIXED CRUSHED CONCRETE/BRICK

A. Any mixed crushed concrete/brick shall conform to the gradation specified above in Section 2.01.

PART 3 - EXECUTION

The procedure described below is also detailed in the flow chart included at the end of this section.

3.01 SEQUENCE AND PROCEDURE

A. The Contractor shall conduct general decontamination of all interior brick and concrete surfaces in accordance with Section 02-5100 – Building Decontamination and identify known potential source areas where concrete and brick will be segregated for off-site disposal.

B. The Contractor and Construction Manager shall conduct a secondary inspection of concrete/brick for visual signs of contamination and the Contractor shall conduct further cleaning of areas that exhibit visual signs of contamination or crush the concrete/brick, which does not have visual signs of contamination, for use as backfill on site as detailed in the flow chart included at the end of this Section.

C. The Contractor and Construction Manager shall conduct a final inspection of concrete/brick for visual signs of contamination and the Contractor shall collect core samples from areas that exhibit visual signs of contamination or crush the concrete/brick, which does not have visual signs of contamination, for use as backfill. Based on the core sample results the remaining material will be segregated for waste characterization testing and off-site disposal at a permitted waste facility or crushed for use as backfill on site.

C. The Contractor shall transport concrete/brick suitable for recycling to the crushing area and will crush the material and haul and stockpile the crushed materials to a site location acceptable to the Construction Manager or incorporated into the Contractor's ongoing backfill operation.

D. The Contractor shall use stockpiled crushed materials for backfill.

E. The Contractor shall segregate concrete/brick from potential source areas and concrete/brick which does not meet site re-use criteria detailed in the flow chart included at the end of this section for characterization testing and off-site disposal.

F. Transportation and off-site disposal of contaminated concrete/brick shall be done on a unit cost basis. All other work included or described in this Section including but not limited to decontamination, sampling, analysis, management, segregation, excavation, stockpiling, loading, and backfilling of all materials, crushing of concrete and brick, and off-site transport and disposal of asphalt or asphaltic products shall be included in the lump sum bid price.

3.02 FLOWCHART

A. Figure 02-2235-1 is included in this Section by reference.

PART 4 - QUALITY CONTROL

4.01 DESCRIPTION

A. The Contractor is responsible for the quality of the work and for complying with the specifications.

B. Other tests may be performed as necessary based on field conditions, to verify the suitability of the crushed recycled materials for the intended purpose.

C. The Construction Manager may perform confirmation sampling of recycled crushed material at any time to confirm the suitability for re-use. The Construction Manager reserves the right to reject the on-site re-use of recycled crushed material.

END OF SECTION

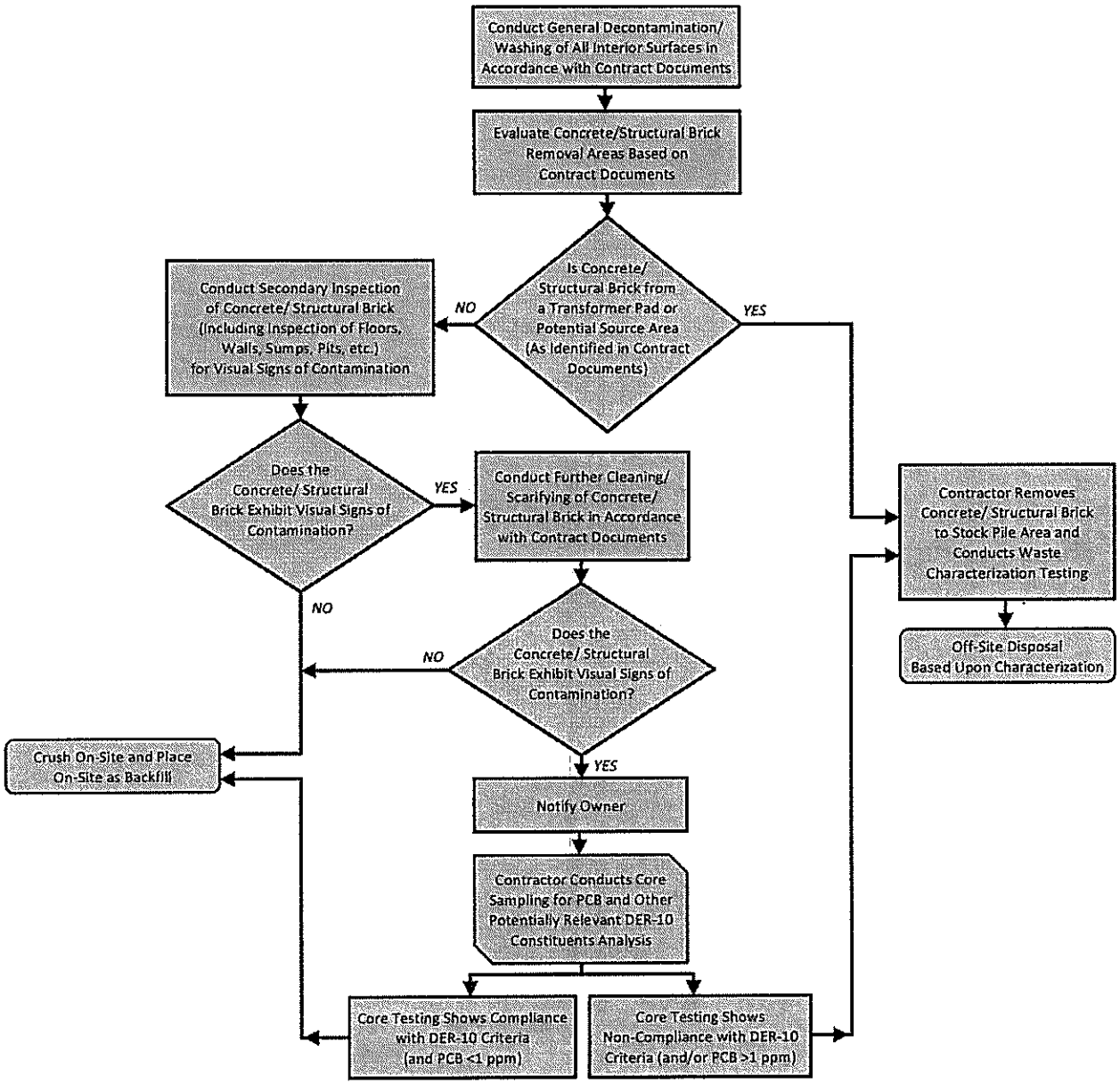


FIGURE 02-2235-1

HYDRAULIC, FUEL OIL AND WASTE OIL SYSTEMS REMOVAL
02-5120

PART 1 - GENERAL

1.01 SCOPE OF WORK:

A. This specification covers the requirements and procedures for decommissioning hydraulic systems and fuel oil/waste oil systems, and procedures for limiting occupational and environmental exposure to oils when closing these systems. The Contractor shall furnish all labor, equipment, and materials required to perform all operations necessary to drain, purge, clean, and remove all hydraulic oil, fuel oil and waste oil systems. The Contractor shall submit a work plan, as a component of the Contractor's Project Work Plan, for the Construction Manager's approval outlining their proposed plan for decommissioning all hydraulic, fuel oil and waste oil systems.

1.02 REGULATORY REQUIREMENTS:

A. All work must be performed in accordance with State, local, and Federal requirements including, without limitation, the NYSDEC regulations pertaining to petroleum and chemical bulk storage tank or fueling systems as well as the requirements of Section 01-4100, Regulatory Requirements and the Contract Drawings.

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION

3.01 PREPARATION OF HYDRAULIC LIFT SYSTEMS:

A. The Contractor shall be responsible for the shut-down, lockout, and tagging out of each hydraulic system prior to commencing work on the system. This work shall be conducted in accordance with 29 CFR Part 1910.333 (b)(2).

3.02 REMOVAL OF HYDRAULIC, FUEL OIL AND WASTE OIL:

A. Contractor shall be responsible for removing the hydraulic, fuel and waste oil from generators, boilers, heaters, reservoir tanks, casings, pits, or sumps and associated piping at each system in a safe and proper way so as not to release substance into or on the land surface, subsurface, waterway, or any other any portion of the environment. The Contractor shall comply with NYSDEC regulations and the Clean Air and Clean Water Acts. Residues on the interior of the tanks, sumps, pits and piping shall be removed and cleaned. Steam or detergent solutions may be used to aid in the decontamination provided they are disposed of the same as the system contents and do not introduce hazardous substances.

B. Oil recovery may be accomplished by vacuum extraction/pumping the oils from the reservoir tank, removing the piston and valves, and draining or air-purging the associated piping, being careful to avoid any spillage. It may be necessary to hand-pump the last few inches of product. Cap the inlet end of the piping connected to the reservoir tank, pit or sump after removing product.

3.03 REMOVAL OF ABOVE GROUND STORAGE TANKS:

The procedures for closing and removing the tanks shall include, but not be limited to the following:

B. Remove remaining liquid from the tanks and piping.

C. The interior of the tanks shall be cleaned with a high pressure rinse.

D. The tanks shall be disassembled and properly disposed of by the Contractor.

3.03 DISPOSAL OF OILS AND RESIDUE:

A. The Contractor shall be responsible for transport and disposal of all product, residue and cleaning fluids recovered as part of preparing these systems for closure in accordance with applicable Federal, State, and local regulations, and as specified in Section 02-8100.

3.04 SPILLS/SURFICIAL FREE PRODUCT:

A. The Contractor shall implement containment actions as necessary to minimize the effect of any spill or area having leakage associated with the hydraulic, fuel oil or waste oil systems. All Site areas already impacted by spillage and leakage of all oil systems shall be decontaminated in accordance with section 02-5100. Decontamination shall be in accordance with the applicable Federal, State, and local laws and regulations. Areas to be decontaminated include, but are not limited to, equipment, equipment structures, shafts/pits, floors and walls. Contractor-generated spills shall be addressed in conformance with Section 01-5715, Emergency Spill Control.

3.05 SITE WORK:

A. Site work shall include all pavement removal, excavation, trench work, backfill, dewatering, demolition, and restoration that is required for the complete removal all petroleum containing equipment/lines and hydraulic oil containing systems. The Contractor shall remove, segregate, and containerize all surplus excavation material and construction debris, hoists, piping, heaters, and any associated hydraulic and petroleum oils/fluids.

3.06 REMOVAL:

A. The Contractor shall remove all hydraulic and heating oil, waste oil and fuel oil components (i.e., boiler units, tanks, above ground piping, and below ground piping less than 3 feet below final design grade) from the Site. Piping deeper than 3 feet below final grade shall be drained, cleaned, cut and capped and closed in place.

3.07 EXCAVATION FOR REMOVAL:

A. The Contractor shall saw cut to full depth the existing paved areas to complete piping removal. All excavations shall be made to allow safe access to complete all phases of the work. The Contractor shall use methods and equipment for pavement removal that shall not damage the existing piping prior to their removal from the excavation. The Contractor shall be responsible for removing the piping in accordance with the following guidelines:

1. Secure the work area with barricade tape and warning signs supported with fencing and/or posts as necessary to preclude entry by unauthorized individuals. Barricades shall be either lighted or reflectorized to provide visibility during darkness.

2. Establish an exclusion zone (no smoking within).

3. Excavate or uncover the piping and any underground tanks.

4. Remove all liquids from the associated piping, tanks, and pits.

5. Excavate around the piping tanks to prepare for removal.

6. Equipment with sufficient lifting capacity shall be used to lift the hoist from the excavation, along with any associated piping and tanks.

7. Any hoist removed from the excavation zone shall be cleaned on-site the day of the removal.

3.08 CONTAMINATED SOIL AND LIQUIDS:

The Contractor may encounter contaminated soil and/or liquids during the removal of the fuel oil/waste oil piping. Should impacted materials be identified by visual, olfactory, field screening, or analytical test results, the Contractor shall make a waste determination, shall notify the Construction Manager immediately, or at the first available instance, and provide for the proper handling and disposal of the impacted materials. All required external notifications to regulatory agencies shall be made by the Contractor within the mandated timeframe unless the Construction Manager has advised the Contractor that the Owner intends to make such notifications.

3.09 BACKFILL:

Back fill materials will be either recycled crushed material or imported fill (Section 02-6110) as approved by the Construction Manager.

END OF SECTION

EXCAVATION OF CONTAMINATED SOIL
02-6100

PART 1 - GENERAL

This section describes the minimum requirements for handling, transportation, and disposal of contaminated soil materials. Other material handling, excavation, and backfill requirements are governed by the general Contract Documents. Anticipated contaminated soil excavation is required to remove foundations of demolished structures to a depth of at least 3 feet below final design grade. In addition, deeper excavations will be required for abandonment of utilities and structures identified in the Contract Documents. It is the program intent to re-use excavated soil as site backfill, to the extent possible, as described in the plans and specifications. Prior to the start of work, the Contractor shall prepare and submit for Construction Manager review, a Soil Management Plan which details the Contractor's proposed soil screening plan, stockpiling plans, proposed soil sampling plans and laboratory analytical plans (identifying the frequency of sampling, analytical schedule, and environmental analytical laboratory) and proposed disposal facilities for any contaminated soil.

1.01 SCOPE OF WORK:

A. The Contract work will require excavation of soil to facilitate removal of building foundations, to abandon below ground utilities and associated structures and to complete any other ancillary work required by the Contract Drawings. For the purpose of soil management, soil to be excavated from potential contaminant source areas including, but not limited to, the Snake Pit, surface soil removal areas, petroleum pump room building, AST areas, exterior transformer pads, and condensate storage USTs, is to be segregated and managed separately from general excavation area soils. Potential source areas which are currently known are shown on the Contract Drawings and a flow chart which illustrates the soil management requirements are included at the end of this Section. The Contractor is to submit a Soil Management Plan prior to the start of excavation work.

B. Soil excavated from potential source areas (identified on the Contract Drawings) will be segregated and stockpiled for characterization testing. No co-mingling of soil from different source areas will be permitted in the stockpiles. The Contractor is responsible for testing each stockpile for landfill disposal requirements as well as for the PCBs, VOCs, SVOCs and metals listed in 6 NYCRR Part 375 Table 375-6.8(b). PCB contaminated soil (with total PCB levels in excess of 1 mg/kg) shall be disposed of at an off-site facility permitted to receive the waste. VOC, SVOC or metals contaminated soil which is deemed re-usable by the Construction Manager shall be used as shallow backfill (i.e. placed at depths less than 5 feet below final grade) at locations acceptable to the Construction Manager. Soil which is not contaminated (i.e. for which no compounds exceed NYSDEC DER-10, Appendix 5, Allowable Constituent Levels (ACLs) for Commercial Use) can be used as backfill without restrictions on placement. Any excess excavated soil (i.e., soil in excess of backfill required to meet the site grading plan) shall be disposed of at an off-site facility permitted to receive the waste or placed on-site at a location identified by the Construction Manager.

C. Soil excavated from general excavation areas shall be screened by the Contractor and by the Construction Manager for evidence of potential contamination. Soil from areas where screening shows no evidence of contamination will be classified as a "Type 1" soil and stockpiled for characterization testing. The Contractor is responsible for testing each Type 1 soil stockpile for

landfill disposal requirements as well as for Part 375 Table 375-6.8(b) list PCBs, VOCs, SVOCs and metals. PCB contaminated soil (with total PCB levels in excess of 1 ppm) shall be disposed of at an off-site facility permitted to receive the waste. VOC, SVOC or metals contaminated soil (i.e., constituent levels exceed NYSDEC DER-10, Appendix 5, ACLs for Commercial Use) which is deemed re-usable by the Construction Manager can be used as shallow backfill (i.e. placed at depths less than 5 feet below final grade) at locations acceptable to the Construction Manager under a 6NYCRR Part 360 1.15(b) (6), (8) or (9) Beneficial Use Determination (BUD). Soil which is not contaminated (i.e., constituent levels do not exceed NYSDEC DER-10, Appendix 5, ACLs for Commercial Use) can be used as backfill without restrictions on placement. Any excess excavated soil (i.e., in excess of backfill required to meet the site grading plan) shall be disposed of at an off-site facility permitted to receive the waste or placed on-site at a location identified by the Construction Manager.

D. Soil excavated from general excavation areas where screening shows evidence (i.e., elevated PID readings, strong odor, free product/heavy staining) of contamination will be classified as a "Type 2" soil, segregated and stockpiled for characterization testing. No co-mingling of soil from different source areas will be permitted in the Type 2 stockpiles. The Contractor is responsible for testing each stockpile for landfill disposal requirements as well as for Part 375 Table 375-6.8(b) list PCBs, VOCs, SVOCs and metals. PCB contaminated soil (with total PCB levels in excess of 1 mg/Kg) shall be disposed of at an off-site facility permitted to receive the waste. VOC, SVOC or metals contaminated soil (i.e., constituent levels exceed NYSDEC DER-10, Appendix 5, ACLs for Commercial Use) which is deemed re-usable by the Construction Manager can be used as shallow backfill (i.e. placed at depths less than 5 feet below final grade) at locations acceptable to the Construction Manager under a 6NYCRR Part 360 beneficial use Determination (BUD). Soil which is not contaminated (i.e., constituent levels do not exceed NYSDEC DER-10, Appendix 5, ACLs for Commercial Use) can be used as backfill without restrictions on placement. Any excess excavated soil (i.e., in excess of backfill required to meet the site grading plan) shall be disposed of at an off-site facility permitted to receive the waste or placed on-site at a location identified by the Construction Manager.

E. Currently available analytical data (from Phase II Investigation Reports completed by Haley and Aldrich and LiRo Engineers which are provided with the Contract Documents) have reported that contamination exists in soils and other fill materials. The data show elevated concentrations of heavy metals and semivolatile organic compounds (SVOCs). Although not previously detected during the site investigation work, the Contractor may encounter non-hazardous petroleum-impacted soil, PCB contaminated soil or hazardous soil (as a result of failing TCLP testing or due to PCB concentrations greater than 50 ppm). The Contractor shall include provisions to manage hazardous and non-hazardous contaminated soils and materials.

F. The Contractor is responsible for all excavation, stockpiling, sampling and laboratory characterization of all soil resulting from excavation/grading activities. The Contractor shall coordinate characterization sampling with the Construction Manager who must observe and accept the Contractor's sample collection. The Construction Manager may request split sampling (at their discretion) as a QA/QC check. Sampling methods, sampling frequencies, analytical methods, and analytical parameter lists shall comply with the Contract Documents and the Contractor's planned disposal facility requirements.

G. The bid sheet includes unit cost line items for transport and off-site disposal of soil that is not re-used or retained at the site. This includes transport and disposing of non-hazardous contaminated soil, transport and disposing of non-hazardous petroleum impacted soil, transport and disposing of non-hazardous PCB contaminated soil and transport and disposing of hazardous soil.

H. The work covered by this specification includes the excavation, handling, staging, characterization, re-use, transport and disposal of soil excavated throughout the project area. The Contractor is also responsible for the proper disposal of all equipment decontamination rinse waters. All work will be conducted in accordance with all applicable Federal, State and local regulations and the provisions of this and accompanying specifications.

1.01.1 Definitions

A. Excavated Soil: Excavated earthen material (i.e., sand silt, clay gravel, weathered rock) that may include native soils, weathered rock and fill soils. Fill soils may include varying mixtures anthropogenic material including, but not limited to, debris, concrete and concrete products, reinforcing rods, asphalt pavement, brick, glass, rock, coal and ash. The Contractor will be responsible for separating from any fill slated for re-use at the Site, all concrete or other non-native material that are greater than six inches in size. All excavated or removed soils are scheduled to be characterized and re-used as onsite backfill (if the material meets site re-use criteria) or disposed of offsite at a permitted waste disposal facility.

B. Environmentally Clean Imported Fill and Backfill: Clean fill imported for backfill or cover that has been tested and found to contain levels of organic compounds or inorganic analytes that do not exceed NYSDEC 6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives (SCOs). Prior to importation, the soil will be certified clean by chemical analysis to meet the requirements of NYSDEC Part 375 Restricted Residential Use SCOs and will be approved by Owner's Project Manager (in writing) prior to placement at the Site. To demonstrate that the imported soil meets approval criteria, the Contractor will be responsible for providing proposed source sampling data at a frequency of one sample for every 500 cubic yards. The samples will be analyzed for Part 375 Table 375-6.8(b) list VOCs, SVOCs, pesticides, PCBs and metals by a NYSDOH ELAP-certified laboratory at no additional cost to Owner.

C. Petroleum-Contaminated Soil: Soil or sediment which contains a petroleum source such as a UST, AST or piping and which contains substantial quantities of mobile petroleum contamination (i.e., petroleum saturated) that is identifiable either visually, through strong odor, by elevated contaminant vapor or is otherwise readily detectable without laboratory analysis. This soil may be cross contaminated with other fill constituents such as metals or SVOCs. Petroleum contaminated soil was not observed during site investigations, however, petroleum was stored and used at the site and may be encountered at the site.

D. PCB-Contaminated Soil: Soil or sediment which contains PCBs at non-hazardous concentrations ranging from greater than 1 ppm to less than 50 ppm. PCB contaminated soil was not observed during site investigations, however, PCBs were present in electrical equipment used at the site and may be encountered at the site. This soil may be cross contaminated with other fill constituents such as petroleum, metals or SVOCs. Soil which is both petroleum contaminated and PCB contaminated will be disposed of as PCB contaminated soil.

E. Non-hazardous contaminated soil: soils with contaminant concentrations greater than NYSDEC DER-10/Technical Guidance for Site Investigation and Remediation, Appendix 5, ACLs for Commercial Use; and which are not defined as petroleum-contaminated soil or PCB-contaminated soil.

F. Hazardous Waste: Any material that: 1) possesses at least one of four characteristics (ignitability, reactivity, corrosivity, or toxicity); 2) is a F, P, K or U listed waste as regulated under either the

Federal Resource Conservation and Recovery Act (RCRA) or New York Environmental Conservation Law (ECL) 27-0903 and the implementing Federal and State regulations; or 3) appears on Federal or State hazardous waste lists.

1.02 REFERENCES:

The publications listed below are incorporated into this specification without limitation and shall be read as if printed herein. In the case of conflict between the referenced documents and the following text, the stricter requirements shall apply.

AMERICAN PETROLEUM INSTITUTE (ANSI)

Supplement Bulletin 1628	Underground Spill Cleanup Manual Protection Against Ignitions Arising out of Static, Lightning and Stray Currents

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) PUBLICATIONS

D 3587-85	Classification of Soils for Engineering Purposes

CODE OF FEDERAL REGULATIONS (CFR)

40 CFR 260 - 270	USEPA's Hazardous Waste Requirements
40 CFR 136	Guideline for Establishing Test Procedures for Analysis of Pollutants

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 30	Flammable and Combustible Liquids Codes
NFPA 327	Recommended Practice for Handling Underground Leakage of Flammable and Combustible Liquids

U.S. ENVIRONMENTAL PROTECTION AGENCY (USEPA)

USEPA-SW-846	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. Third Edition. November 1986
USEPA	Standard Operating Guide. July 1988
USEPA	Toxic Substance Control Act, 1976

MANIFESTING AND TRANSPORTING (DOT)

49 CFR	Hazardous Materials Transportation Regulations

NEW YORK STATE CODES RULES AND REGULATIONS

6 NYCRR Part 360	Solid Waste Management Facilities
6 NYCRR Part 371	Identification and Listing of Hazardous Wastes

1.03 CONTRACTOR SERVICES:

The Contractor shall furnish all materials, labor, tools, equipment, utilities, water and fuel supply, vehicular transportation, field log preparation, and necessary incidental services for excavation/removal or re-use of contaminated soil. The Contractor will also provide the following:

1. Prepare and submit for Construction Manager review, a Soil Management Plan which details the Contractor's proposed soil screening plan, stockpiling plans, proposed soil sampling plans and laboratory analytical plans (identifying the frequency of sampling, analytical schedule, and environmental analytical laboratory) and proposed disposal facilities for any contaminated soil.
2. Screen, Stockpile, Segregate, characterize, re-use or transport and dispose of all soils necessary for the completion of all project work including utility abandonment, foundation removal and site grading work.
3. Backfilling over-excavated areas with clean fill or approved on-site re-use material.
4. Transport and disposal of all cleaning/decontamination and PPE wastes.
5. All necessary incidental services not specifically noted but which are required for completion of the specified work.
6. Environmental reporting. This includes submittal of the following items and their subparts described herein in accordance with technical specification 01-3300 - Submittals:

    a. Proof of qualification credentials.
    b. Copies of transport manifests.
    c. Stockpiled soil sampling results.
    d. Logs, reports, and record keeping, as required by the Construction Manager.
    e. Bills of lading, Certified Weight Tickets.
    f. Landfill and disposal facility acceptance letters, permits and licenses.
    g. Transportation firm's permits and licenses.

1.04 REGULATORY REQUIREMENTS:

All work included in this contract shall be conducted in strict compliance with all applicable Federal, State and local regulations, statutes, codes and policies. If the Contractor creates a spill or discovers an existing spill, the spill must be reported to the Construction Manager and the appropriate regulatory agency (i.e., NYSDEC Spills hotline). Relevant provisions of 6 NYCRR Part 375 and NYSDEC guidance DER-10 should be a source for Best Management Practices.

1.05 CONTAMINANTS:

Available soil sampling results are furnished with the Contract Documents. Soils have been shown to be contaminated with heavy metals and SVOCs. In addition, petroleum and PCB impacted soil is anticipated to be encountered during the course of work. Hazardous levels of metals or PCBs may be found in soil. The Contractor shall be prepared to work with any

materials as necessary and at all levels of OSHA mandated personal protection and training requirements.

1.06 PERMITS AND CERTIFICATIONS:

The Contractor shall be responsible for performing waste determinations, proper on-site management, and obtaining all of the necessary Federal, State, and local permits required for contaminated soil excavation, removal, transport, and remediation. In the event that an USEPA Hazardous Waste Identification Number is required for soil transport and disposal, the Owner shall be responsible for providing the identification number and the Contractor shall be responsible for obtaining all other necessary licenses and permits. The Contractor shall also provide all associated transport and final manifests. The Contractor shall be considered the generator of all non-hazardous waste materials and sign all hazardous and non-hazardous manifests as Owner's agent. Prior to disposal, the Owner's Project Manager shall review the certifications of any facility proposed to be selected for disposal of waste.

1.07 SUPERVISION:

The Contractor shall assign a foreman to be directly responsible for coordinating and directing all work required for the operations. The foreman shall meet all OSHA supervisory training requirements for supervising work at sites where hazardous wastes are present.

1.08 MOBILIZATION AND DEMOBILIZATION:

A. The Contractor and other contractors shall mobilize all personnel, supplies, and equipment to the project site. Mobilization will consist of:

1. The delivery to the site of all labor, equipment and materials needed to the job site;
2. Complete assembly in satisfactory working order of all such equipment on the site.
3. All site equipment will be properly decontaminated prior to being delivered to the site.
4. All site equipment will be properly decontaminated prior to being removed from the site. All wastes generated from this decontamination process (i.e. rinse water and sediment) will be characterized and disposed of or treated on-site by the Contractor at no additional cost to the Owner.

B. Demobilization shall consist of the removal from the site of all equipment and surplus materials after completion of the work. Contractors shall not be reimbursed for costs associated with temporarily vacating the site before completion of work.

PART 2 - PRODUCTS

2.01 PHOTOIONIZATION DETECTOR:

A. The Contractor shall provide a Photoionization Detector (PID) for use in screening potentially contaminated soil. The Contractor shall provide operational detectors for the duration of the project. The PID shall be equipped with a 10.6 electron volt lamp with a detection limit of 1 ppm or less and shall be used to screen all excavated soil for the presence of organic vapors. The Contractor shall provide all repair, replacement parts, and batteries required for the duration of the project

PART 3 - EXECUTION

3.01 REMOVAL OR RE-USE OF CONTAMINATED SOIL:

Excavation, management and disposition of excavated soils shall be conducted in accordance with the procedures and requirements described below. A flow chart which illustrates the soil management requirements is included at the end of this specification section.

3.01.1 Soil Screening

Excavated material and excavations will be evaluated as the excavation work progresses based upon visual and olfactory evidence of impacts. VOC field screening will be performed if visual or olfactory evidence of contamination is suspected. VOC field screening methods will use a PID equipped with a standard 10.6 eV bulb capable of measuring relative concentrations of ionizable VOCs with ionization potentials up to 10.6 eV. Soil screening for visible, olfactory and PID evidence of contamination will be conducted by the Construction Manager and the Contractor as work progresses.

A. Soil from potential source excavation areas will be screened and transported to a soil staging area acceptable to the Construction Manager. Potential source area excavation soil will be segregated from general excavation area soil and further segregated into separate stockpiles based on excavation area and visual, olfactory or PID screening characteristics of the soil. No co-mingling of soil from different potential source areas will be permitted.

B. Soil from general excavation areas will be screened and transported to a soil staging area approved by the Construction Manager. Two separate stockpile types will be maintained within the staging area based on the screening results including: Type 1 Soil with no evidence of contamination; and, Type 2 soil with evidence of contamination. Type 2 Soil that shows evidence of impacts will be segregated from Type 1 soil and further segregated into separate stockpiles based on excavation area and visual, olfactory or PID screening characteristics of the soil.

C. All soil stockpiles will be characterized by the Contractor for landfill disposal requirements as well as for Part 375 Table 375-6.8(b) list PCBs (using USEPA Method 8082), VOCs (using USEPA Method 8260B), SVOCs (using USEPA Method 8270C) and metals (using USEPA 6000/7000 series methods). PCB contaminated soil (with total PCB levels in excess of 1 ppm) shall be disposed of at an off-site facility permitted to receive the waste. VOC, SVOC or metals contaminated soil which is deemed re-usable by the Construction Manager shall be used as backfill at locations specified by the Construction Manager. Soil which is not contaminated shall be used as backfill without restrictions on placement. Any excess excavated soil (i.e., in excess of backfill required to meet the site grading plan) shall be disposed of at an off-site facility permitted to receive the waste or placed on-site at a location identified by the Construction Manager.

D. Soil that is disposed of off-site will be characterized as non-hazardous contaminated soil, petroleum contaminated soil, PCB contaminated soil, or hazardous soil as defined in Section 1.01.1.

E. The soil stockpiles will be managed using two separate methods which are as follows.

1. Type 1 soil (with no screening evidence of impacts): Stockpiles of soil free of impacts or other known contaminants will be protected with a containment structure (i.e., hay bales) to prevent excessive spreading of sediment.

2. Type 2 soil (with screening evidence of contamination) and soil from potential source areas: Potential source area soil and general excavation area soil that shows evidence of impacts will

be segregated from Type 1 soil and further segregated based on source area and screening characteristics of the soil. Type 2 soil and potential source area soil shall be placed on and covered with minimum 20 mil HDPE sheeting. These stockpiles will include a containment structure (i.e., berm) around the perimeter. Contaminated water draining from the soils will be collected from inside the berm if significant quantities accumulate within the containment area. These liquids will be collected by the Contractor and either treated on-site or tested and disposed of off-site at a disposal facility. The poly sheeting associated with the contaminated piles will be inspected by the Contractor on a daily basis and following any storm event. The sheeting will be replaced if there is any evidence of damage.

3.01.2 General Excavation Requirements

A. The Contractor shall confine operations to the active work area portion of the site as much as practical. The Contractor will be responsible for the identification of all utilities. Most soils will be temporarily staged adjacent to the excavation areas or directly loaded into trucks and transported to a designated soil staging area for sampling. The Contractor shall reduce the potential for cross-contamination of uncontaminated soils with contaminated soils by using appropriate screening protocols during the excavation work.

B. The Contractor will be responsible for sloping, benching or otherwise shoring deeper excavation areas as necessary in accordance with applicable New York State and OSHA regulations (New York State Code Rule 753, OSHA Part 1926).

C. The Contractor will be responsible for determining if perched water is present within the proposed excavation depth and area. If free water is encountered, the Contractor will be responsible for dewatering prior to excavation in accordance with Section 31-2319.

D. All soils to be excavated for re-use or off-site disposal are to be properly characterized for re-use or disposal requirements by the Contractor at its own cost. All sampling will be conducted with the Construction Manager present.

E. Excavation in the project area will be conducted using conventional excavating equipment.

F. The Contractor shall keep contaminated materials classified for different types of disposal segregated. Excavation and stockpiling operations for the different materials must not be mixed, unless otherwise approved by the Construction Manager.

G. Groundwater or standing water in excavations must be removed and properly handled in accordance with Section 31-2319– Dewatering and 02-7100 – Water Treatment System. The Contractor shall be responsible for implementing any run-on controls necessary to minimize run-on from entering excavations. Standing water from precipitation events in excavations must be handled per approval of the Construction Manager.

H. The Contractor shall employ dust control methods during handling activities as necessary. The Contractor shall use water or water amended with an appropriate surfactant, used in accordance with the manufacturer's recommendations, or other means to control dust acceptable to the Construction Manager. No visible dust is permitted beyond the project work limits as a result of excavation activities, as determined by the Construction Manager.

I. The Contractor shall not load excavated soil into the vehicles/containers when it is raining

without prior approval from the Construction Manager.

J. The Contractor shall be responsible for providing adequate protection against erosion during all field activities.

3.02 SAMPLING OF EXCAVATION LIMITS:

A. The Construction Manager will conduct field screening of excavation sidewalls and bottom.

B. If apparent high levels of contamination are observed, the Construction Manager will sample excavation side walls and bottoms for characterization of residual contamination. Where present, samples shall be taken from any area that appears to be visually contaminated.

C. The Construction Manager will review the endpoint sample results and within 10 days of sampling, will either approve the area for backfilling or direct the Contractor to conduct additional excavation work. The Contractor will not be permitted to backfill any sampled areas until authorized by the Construction Manager.

3.03 DISPOSAL AND RE-USE CHARACTERIZATION:

The Contractor shall collect stockpiled soil samples for re-use (analyzing for Part 375 Table 375-6.8b list PCBs, VOCs, SVOCs and metals) and for disposal as required by Contractor's selected disposal facility(s) for disposal characterization. Minimum soil sample frequency for re-use shall be one sample per 1,000 cubic yards. Disposal characterization frequency shall be as required by the disposal facility. The Contractor shall package and ship soil samples to an approved independent laboratory. All expenses related to collection, packaging, shipping and analysis of soil samples shall be the responsibility of the Contractor and included in the Contractor's lump sum bid price.

3.04 EXCAVATION HOLE SECURITY:

The Contractor shall place barricades or fencing around the excavation holes any time the site is left unattended until such time as the excavation hole is backfilled to the original surface level.

3.05 BACKFILLING OF EXCAVATION:

A. The Contractor shall backfill and compact fill materials (including soil that is re-used at the site) in accordance with the general Contract Documents. The Contractor shall not backfill excavations without approval of the Construction Manager.

B. Uncontaminated soil may be used as needed backfill without restrictions on placement depth or location. Contaminated soil which is re-used, shall be placed only in areas/depths approved by the Construction Manager.

C. Imported Backfill materials shall be tested and certified to meet imported fill requirements.

3.06 DEWATERING OF EXCAVATIONS:

A. The Contractor shall protect excavations from cross-site surface runoff. The Contractor shall provide, install and maintain berms, ditches and other structures as required to protect excavations and existing stormwater structures.

B. The Contractor shall pump standing water from excavations prior to backfilling or conducting additional work. Collected water shall be containerized for off-site disposal at an approved waste receiver or treated in accordance with Section 02-7100. Contractor shall provide all labor, materials and equipment required for control, collection, containment, treatment, and disposal of accumulated surface water.

C. Dewatering treatment/disposal requirements are specified in Section 02-7100. All costs associated with the control, collection, containment, treatment and disposal of accumulated surface water and groundwater infiltration shall be included in the Contractor's lump sum bid price.

3.07 LOGS, REPORTS, AND RECORD KEEPING:

The following logs, reports, and records will be developed, retained, and submitted to the Owner, Construction Manager and/or entitled regulatory agencies upon request (unless otherwise noted in previous sections):

1. Training logs including employees' printed names and signatures in addition to training subject and date or copy of applicable training certificate;
2. Daily safety inspection logs;
3. Employee/visitor/register;
4. Medical opinions/certifications;
5. Environmental and personal exposure monitoring records;
6. Phaseout reports (final documentation verification certificates, summary of air monitoring data, final medical certificates, etc.); and
7. A copy of all State licensing certificates required to conduct all required activities.
8. Sampling logs and drawings showing sample ID's and locations.
9. All laboratory reports for waste characterization testing.
10. All landfill acceptances of each waste stream.
11. All waste transporter and final disposal manifests.

All personnel exposure and medical monitoring records shall be maintained in accordance with applicable OSHA standards, 29 CFR 1910 and 1926 (including OSHA 200 log and accident/first aid reports).

3.08 QUALIFICATIONS:

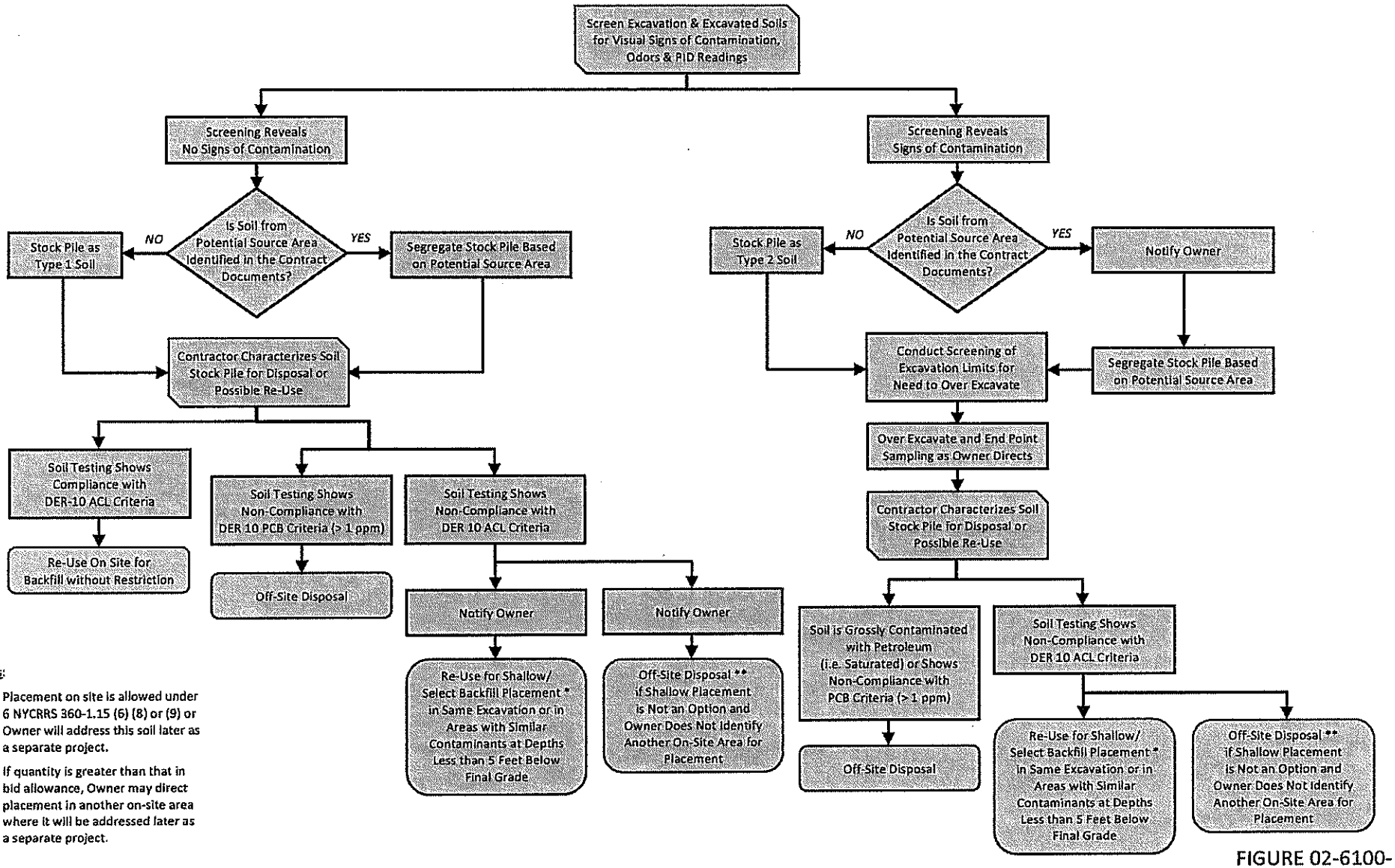
A. The Contractor and any environmental subconsultants involved in any activity associated with the management of contaminated soil/water must have at least three years of related experience.

B. The Contractor and all other site contractors shall provide demonstration that the minimum insurance criteria have been met.

3.09 FLOW CHART:

A. Figure 02-6100-1 is included in this Section by reference.

END OF SECTION



Notes:

* Placement on site is allowed under 6 NYCRRS 360-1.15 (6) (8) or (9) or Owner will address this soil later as a separate project.

** If quantity is greater than that in bid allowance, Owner may direct placement in another on-site area where it will be addressed later as a separate project.

FIGURE 02-6100- 1

WASTE CHARACTERIZATION, REMOVAL AND DISPOSAL
02-8100

1.01 SCOPE OF WORK:

A. The Contractor shall furnish all labor, materials, tools, equipment, utilities and other services necessary for the removal, staging, characterization, transportation, and disposal/recycling of all contaminated materials, hazardous wastes, and Universal Waste from the Russell Station Site.

B. The Contractor is responsible for selecting appropriate treatment/recycling/disposal facilities and identifying those facilities to the Construction Manager. Disposal of all waste streams must be at permitted TSDF's and disposal facilities in compliance with all regulatory requirements. In addition, the Contractor is responsible for making all waste determinations and for performing all sampling and analysis requirements specified by the receiving disposal or recycling facilities. The Owner has the right to reject any proposed facility, in which case, the Contractor shall not use that facility.

C. The handling, transportation and disposal of wastes shall be performed in strict accordance with USEPA, USDOT, State, and local regulations and RG&E's policies and procedures. Compliance with any obligation based upon Federal, State, or local environmental, public health, or safety laws, rules, regulations or requirements is required. Methods to address compliance shall be coordinated with Owner and Construction Manager.

D. The Contractor must supply the name and address of all facilities that shall receive the Waste and shall allow the Owner 10 business days to comment on or reject the facility. The Wastes include those associated with the decontamination, asbestos removal, demolition and equipment removal activities of the facility. Prior to disposal, the Construction Manager shall review the certifications of any facility proposed to be selected by the Contractor for disposal of waste. These wastes may include asbestos containing materials, metals contaminated materials, petroleum products, PCB-containing materials, materials such as scrap metal, steel, copper, tin, piping, electrical, wood, concrete and masonry items. The Owner has the right to reject any proposed facility, in which case, the Contractor shall not use that facility.

1.02 SUBMITTALS:

A. Name, address, and copies of all current USEPA and NYSDEC, other state and local permits or licenses (as appropriate) and documentation that the facility has the required insurance, of all proposed beneficial use, recovery, or recycling facility. No substitution will be allowed unless copies of the above documents have been provided to the Owner and Owner has been given 10 business days to comment on and/or reject the alternate facility. . Any facility subsequently rejected by the Owner shall not be used.

B. Name, address, and copies of all current USDOT, NYSDOT, USEPA, NYSDEC, NYSDOT, local and any other state permits or licenses (as appropriate), and documentation that the transporter/hauler has the required insurance of all waste transporters/haulers. No substitution will be allowed unless copies of the above documents have been provided to the Owner and Owner has been given 10 business days to comment on and/or reject the transporter/hauler. Any waste transporter/hauler subsequently rejected by the Owner shall not be used.

C. Name, address, and copies of all current USEPA and NYSDEC local and any other state permits or licenses (as appropriate), and documentation that the facility has the required insurance, of recipient landfill and incinerators. No substitution will be allowed unless copies of the above documents have been provided to the Owner and Owner has been given 10 business days to comment on and/or reject the alternate landfill and/or incinerator. . Any recipient landfill and incinerator subsequently rejected by the Owner shall not be used.

D. Following final removal, and disposal/recycling or destruction, the Owner and Construction Manager shall be provided with all Waste transport and disposal/recycling documents (e.g., manifests), as well as certificates of destruction as appropriate.

E. The Contractor shall be required to submit a Work Plan explaining the personal protective equipment, methods and procedures utilized for all waste-related handling and disposal/recycling. Submission shall be made at least 10 business days prior to the anticipated start of work for review by the Owner and Construction Manager prior to the commencement of activities. The plan shall include:

1. List of the employees scheduled to perform this work.

2. Schedule of start and finish times and dates for this work.

3. Name and address of disposal, incineration and recycling facilities where these waste materials are to be sent. Include contact person, facility address and telephone number. Plan must include a copy of each disposal/treatment facilities current operation permit that indicates both the type of materials allowed and not allowed for disposal/treatment/recycling. Any disposal, incineration and recycling facility subsequently rejected by the Owner shall not be used.

4. Name, address, phone number, responsible contact, and license/permit information (NYS and/or USEPA/USDOT Waste Transporter ID number) from all identified transporters. Any transporter subsequently rejected by the Owner shall not be used.

5. Material Safety Data Sheets (MSDS) for any chemical materials to be used to facilitate this work.

6. The Work Plan must include a Spill Contingency Plan for handling waste spills and releases and the emergency procedures to be followed by Contractor personnel. Contractor shall maintain appropriate spill cleanup equipment and supplies including absorbent pads, wipes and mini-booms. All temporary waste storage must be within a containment area constructed by the Contractor that meets USEPA Container Storage Regulation 40 CFR 264.175. Hazardous Waste-related preparedness and prevention features and contingency planning and emergency procedures shall be developed per 6 NYCRR 373-3.3 and 373-3.4, respectively.

7. A description of appropriate security measures that shall be provided for the protection of Waste while stored on-site.

8. Provide a description of the methods, procedures and materials to be used in performing the work, doing all Waste Characterizations, making Hazardous Waste Determinations and handling all Wastes.

9. Provide a description of any Waste-related samples to be taken and the parameters to be analyzed. Identify the laboratory providing the services.

10. List each type of material and Waste and whether it will be salvaged, recycled, or disposed of in an off-site disposal facility or incinerator.

F. The Contractor shall be required to submit a Site-Specific Health and Safety Plan either separately or as part of the Contractor's Project Work Plan that includes the Contractor's Respiratory Protection Program. Submission shall be made at least 10 business days prior to the anticipated start of work for review by Construction Manager prior to the commencement of activities. In addition, Contractor shall provide:

1. Certificates for all on-site supervisor(s) and workers that they have satisfactorily completed the OSHA 40 hour Health and Safety course for handling hazardous materials along with proof of current 8-hour annual refresher.

2. All documentation to show the Contractor and his personnel meet the qualifications as described under Section 1.2F.

3. Certification of medical examinations completed within the past 12 months.

4. Copy of their respiratory protection program.

5. Certificates of respiratory fit test completed within the past 12 months.

1.03 CODES AND REGULATIONS:

A. The following is a list of many of the relevant Federal and State laws, regulations, codes and guidelines that the Contractor shall follow and be familiar with. This list is by no means exhaustive and the Contractor shall be required to meet and comply with all applicable, relevant, and appropriate Federal, State and Local laws and codes.

1. Toxic Substances Control Act (TSCA), USEPA (1976).

2. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), USEPA (1980).

3. USEPA 40 CFR 170, Preparation of Hazardous Materials for Transportation.

4. USEPA 40 CFR Parts 260-272, Resource Conservation and Recovery Act (RCRA).

5. 40 CFR Part 273, Universal Waste Rule.

6. USEPA 40 CFR 761 (PCBs).

7. USDOT 49 CFR Parts 100-180, Hazardous Materials Regulations.

8. 6 NYCRR Part 361, Solid Waste Management Facilities.

9. 6 NYCRR Part 362, Solid Waste Combustion, Transfer and Processing Facilities.

10. 6 NYCRR Part 363, Solid Waste Landfills.

11. 6 NYCRR Part 364, Waste Transporters.

12. 6 NYCRR Part 365, Biohazard Waste Management Facilities.

13. 6 NYCRR Part 370, Hazardous Waste Management System.

14. 6 NYCRR Part 371, Identification and Listing of Hazardous Waste.

15. 6 NYCRR Part 372, Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities.

16. 6 NYCRR Parts 373-1 through 373-4, TSDF Facilities and Standards.

17. 6 NYCRR Subpart 374-3, Standards for Universal Wastes.

18. 6 NYCRR Part 375, Environmental Remediation Programs.

19. 6 NYCRR Part 376, Land Disposal and Treatment Standards.

20. OSHA 29CFR 1910, Occupational Safety and Health Standards.

21. OSHA 29CFR 1926, Safety and Health Regulations for Construction.

22. Universal Waste Rule as described in the Federal Register.

B. The Contractor is required to secure and maintain all required regulatory permits necessary to perform all aspects of the work. The Contractor shall containerize and store waste in accordance with all applicable regulations. The Contractor and Waste Haulers will be responsible for all required placards and labeling.

1.04 TEMPORARY WASTE MATERIALS STORAGE AREA:

All containerized Waste materials are to be placed in a Temporary Materials Storage Area approved by the Construction Manager. The Contractor shall install and maintain any containment structures (i.e., storage pads or berms), gates and fencing as necessary to secure the area.

1.05 WASTE STREAMS:

Demolition shall produce a wide range of materials, some of which have specific management requirements. Materials generated during demolition shall be separated by the Contractor or subcontractor according to their intended disposition (i.e., salvage, recycle, disposal) and the applicable regulatory requirements for the respective management method. Specific handling, transport and disposal requirements for the various materials are provided in the appropriate sections of the Technical Specifications. Requirements for Universal Waste are provided in 1.06 of this of this Section.

Materials generated during the process of demolition of the facility may include, but are not limited to, the following:

- Salvageable Building Components;
- Salvageable Equipment;
- Architectural "Soft" Building Debris (gypsum board, rubbish, etc.);
- Structural Building Components (ferrous or non-ferrous metals, including straight steel and pipe which may be salvaged for reuse, cinder block, and brick concrete);
- Petroleum Waste;
- Heavy Metals and Asbestos Contaminated Refractory Brick, Equipment and Materials;
- Heavy Metals and Asbestos Contaminated Debris, Ash, and Coal Dust;
- Contaminated Soil;
- Contaminated Water;
- Containerized Waste Materials;
- Structural Steel to be Recycled;
- ACM and PACM;
- PCB Containing Equipment and Fluids;
- PCB Containing Light Ballasts;
- PCB Contaminated Metal and Concrete;
- PCB Contaminated Caulk;
- Mercury Containing Equipment;
- Mercury in Drain Sediments;
- Potentially Contaminated Unknown Liquids in Sumps, Pipes, Drains, and Other Site Features;
- Equipment Containing Chlorinated Fluorocarbons;
- Decontamination Water Possibly Containing Petroleum Products, PCBs, Metals, Chlorinated Solvents, and/or Asbestos;
- Lead Based Paint Coated Materials;
- Lead Based Paint Chips and Residue from Removal Activities;
- Smoke Detectors;
- Fire Extinguishers;
- Bird Guano and Animal Feces; and
- Miscellaneous Cleaning Solvents and Paints.

The above identified Waste streams are combined in certain areas of the Site. As a result, the Contractor is responsible to ensure all handling, transport, and disposal of combined Waste streams is performed in accordance with all applicable regulations. Universal Waste quantities and locations are provided on the Contract Drawings.

1.05.1 Transportation and Containment Controls

The Contractor shall be responsible for transportation and containment controls utilized during the transport of materials associated with the remediation and demolition process. Refer to specific specification sections for transportation and disposal requirements. The Contractor shall provide the Construction Manager with proposed methods of transportation for the various waste streams prior to transport. The Owner may reject any proposed method of transportation or proposed transporter. Contractor shall not use a rejected method or transporter.

1.05.2 Waste Tracking

A. The Contractor shall establish a record system that accounts for all waste. The Contractor must be able to document custody of all waste from the time it is removed from the work area until it is disposed of, recycled or incinerated at an approved facility. All containers are to be appropriately marked/labeled.

B. All the original manifests, bills-of-ladings and any receipts or certifications generated during the handling and disposal processes shall be provided to the Construction Manager.

C. Final manifests and documents must be provided to the Construction Manager within 30 days of the removal of contaminated materials from the Site by the waste hauler or as required for the applicable regulations. No progress payments will be made if this is not accomplished.

1.06 GENERAL HAZARDOUS AND UNIVERSAL WASTE REMOVAL:

A. This section includes a listing of the types of wastes that the Contractor will be required to develop precautions and procedures to be followed to protect against the contamination of the building and Site; allow for the safety of his workers and the public; and, to identify proper means of treatment, storage and disposal. Contractor must also comply with the requirements of all Contract Technical Specifications. Waste includes, but is not limited to:

1. Mercury vapors contained within fluorescent light bulbs or tubes, metal halide, or high-intensity discharge (HID) lamps;

2. Mercury containing thermostats, thermometers and gauges;

3. Mercury from drain lines and sumps;

4. Lead acid and other batteries;

5. Fire extinguishers;

6. Compressed refrigerant gasses (ozone depleting substances as defined by the Clean Air Act – CFC, HFC, HCFC or virgin refrigerants);

7. Fluorescent or HID light fixture ballasts containing polychlorinated bi-phenyls (PCBs) or di-2-ethylhexyl phthalate (DEHP) liquids;

8. Miscellaneous paint products, oils, lubricants, fuels, cleaning supplies and other various unknown chemical products, etc., stored on-site in spray cans, quart or gallon containers, 5-gallon buckets and 30-gallon and 55-gallon drums;

9. Removal and disposal of lubricants and other hazardous liquids associated with various accessible mechanical equipment reservoirs including motors, pumps, boilers, and compressors;

10. Petroleum products present within the aboveground storage tanks used for Station operations. ASTs are to be properly drained cleaned and removed in accordance with specification section 02075;

11. PCB light Ballast. Given the age of the structure all ballasts are assumed to contain either poly chlorinated biphenyls (PCBs) or di-2-ethylhexyl phthalate (DEHP). PCBs were used in the manufacture of ballasts until 1979. ALL ballasts shall be handled and disposed of as PCB containing ballasts, unless the Contractor makes a formal written determination that certain ballast are not PCB containing waste.

12. Other wastes listed in 1.05 of this Section.

B. The Contractor shall be responsible for the disposal of all Wastes, including but not limited to materials collected during building demolition, Wastewater and cleaning chemicals collected during decontamination processes, ACM, lead-containing paint (LCP), PCBs, spent personal protection equipment (PPE), unsuitable soil, other construction-derived Wastes, and any other Wastes generated by the Work.

C. The Contractor shall develop all applicable waste manifests, shipping papers, profile sheets, land ban forms and any other documentation and coordinate with the Owner and the Construction Manager regarding proper signatures.

D.. The work area includes all areas where the above referenced materials slated for removal and subsequent disposal are present. For general locations and quantities, refer to Contract Drawings.

E. The Contractor will be required to perform any demolition required to locate and remove any Universal Wastes, identified wastes, transformer and tank carcasses, and other items identified in the Contract Specifications and Contract Drawings for removal.

1.07 WASTE MANAGEMENT:

This section describes the sources and classifications of Wastes that are anticipated to be generated throughout the project; the staging and characterization procedures that shall be used; the packaging and storage methods that shall be used once the Wastes are characterized; and, the transportation and disposal requirements and approved disposal facilities for Wastes. The Construction Manager is to be notified of any tank, equipment, or line damage prior to draining. Specific regulatory and project requirements are provided in the appropriate sections of the Technical Specifications.

1.07.1 Staging Procedures

The manner in which the materials are staged is dependent on the classification of the material (hazardous waste, non-hazardous waste or recyclable material), whether the material is solid or liquid, and the quantity that shall be generated. Materials shall be staged in accordance with applicable regulations within locations approved by the Construction Manager.

1.07.2 Packaging

The Contractor shall ensure that Wastes from the demolition process are stored and placed in appropriate and compliant containers for storage and shipping.

Waste materials that are to be sent off-site for disposal shall be loaded into appropriate DOT-approved containers and transported to the Waste storage area to await disposal. A unique container identification number shall be assigned to each container to allow proper tracking during on-site

management and off-site disposal. Each container shall be labeled with its unique container identification number, the date of generation, the type and approximate quantity of material, and the activity from which the Waste was generated. This information shall be recorded by the Contractor and reviewed on a weekly basis to ensure that no materials are stored on-site while awaiting disposal for a period longer than the applicable regulatory mandated period (i.e., 90 days for Hazardous Waste, 30 days for PCB containing Waste).

1.07.3 Waste Disposal

A. The Contractor shall be responsible for providing appropriate containers, transporting, and disposing of all Wastes including, but not limited to, asbestos containing materials, metals contaminated materials, petroleum products, petroleum contaminated soil/groundwater, solvents, construction and demolition debris. Construction and Demolition debris includes non-contaminated rubble, non-contaminated debris, and clean soil. All Wastes must be taken to an appropriate disposal or recycling facility which has not been previously rejected by the Owner.

B. The following summarizes the primary waste materials that shall be disposed of:

- Construction and Demolition Debris: Demolition debris that has been determined by the Contractor not to be a Hazardous Waste and that is free of asbestos, metals-contaminated brick and other contaminants may be hauled and disposed of at a construction and demolition disposal or recycling facility. The Contractor must perform the appropriate testing to ensure the materials meet the selected disposal facilities regulatory requirements.

- Asbestos Materials: The Contractor shall be responsible for the transportation and disposal of all asbestos materials. The Contractor must provide copies of weight tickets and manifests on a daily basis. ALL asbestos containing materials removed from the boilers must also be disposed of as a metals contaminated Waste unless the Contractor has specifically determined that it is not a metals-contaminated Waste.

- Heavy Metals Containing Materials: Heavy metals containing materials including ALL ash, refractory brick, mortar, and debris must be removed, handled, transported and disposed of as metals contaminated Wastes. All ash, dust, brick, mortar, and debris from within the Boiler Areas must also be disposed of as asbestos contaminated waste.

- Lead Based Paint Coated Steel: The structural steel can be recycled as scrap metal.

- Lead Based Paint Coated Materials: Lead based paint coated materials including concrete, wood, and brick shall be evaluated by the Contractor to make a formal Hazardous Waste determination to ensure the materials meet the Contractor's selected disposal facility's regulatory requirements.

- Fluorescent Light Ballasts: ALL fluorescent light ballasts shall be containerized and disposed of as PCB-containing waste unless the Contractor has specifically determined that it is not a PCB-contaminated waste.

- Mercury Vapor Lamps: ALL mercury vapor lamps shall require special cleaning techniques. Mercury wastes shall be disposed as Hazardous Waste.

- PCB containing electrical equipment: PCB containing electrical equipment shall be drained, cleaned, and containerized as PCB containing Waste. The Contractor must perform the appropriate testing to ensure the PCB materials meet the selected disposal facility's regulatory requirements.

- Drummed Wastes: All drummed Wastes shall be tested to ensure the materials meet the Contractor's selected disposal facility's regulatory requirements.

- Above Ground and Underground Tanks and Associated Wastes: All tank contents, residues, contaminated soils, and contaminated groundwater shall be disposed of at a facility permitted to accept the various petroleum products and petroleum impacted products. The Contractor must perform any testing required to ensure these Wastes comply with the selected disposal facility's regulatory requirements.

C. The Contractor shall manage all surplus materials and Waste generated in the performance of the Contract in accordance with applicable Federal, State, and local laws and regulations. No section herein is intended to prevent the Contractor from removing surplus material or Waste to appropriate off-site locations for beneficial reuse, recovery or recycling purposes, unless a specific location has been rejected by the Owner. The Contractor is encouraged to reuse, salvage or recycle materials to the maximum extent possible.

PART 2 – PRODUCTS

2.01 GENERAL:

A. Contractor shall be responsible for identifying the appropriate shipping containers. Some examples include 35 or 55 gallon metal or fiber drums, with lids that can be secured and sealed for ballasts; RC-4, RC U-Bent and RC-HID lamp recycling cartons; lab packs or over-packs for containerized liquids (paints, thinners, cleaning fluids, etc.). Drums or containers must meet the required OSHA, USEPA (40 CFR Parts 264-264 and 300), and DOT Regulations (49 CFR Parts 171-178).

B. Contractor shall provide the appropriate Waste labels identifying contents as regulated TSCA, Universal Waste, and RCRA hazardous Wastes as defined by USEPA, NYSDEC and all other applicable Federal and State regulations.

C. Contractor shall provide refrigerant recovery tanks and cylinders to hold and temporarily store compressed refrigerant gasses (ozone depleting substances as defined by the Clean Air Act – CFC, HFC, HCFC or virgin refrigerants).

PART 3 - EXECUTION

3.01 GENERAL:

A. Procedures and methods contained herein are to provide guidance to protect from the contamination of the environment and exposure to workers, while handling contaminated materials, Hazardous Wastes, and Universal Waste, and their respective components during disassembly for disposal/recycling/destruction.

B. Removal and disposal/recycling of all mercury fluorescent and HID lights, mercury gauges, and batteries and any other Universal Waste will follow all Universal Waste Rule requirements.

C. On-site recovery and recycling of refrigerants, if done, must be conducted in compliance with the Clean Air Act (CAA) and by authorized and certified personnel as defined in Section 608 of the CAA.

D. Removal and recycling/disposal of lubricants, petroleum based products, and other chemicals from mechanical equipment will be conducted in a manner to prevent releases to the environment and in compliance with all applicable laws and regulations.

3.02 PERSONAL PROTECTIVE EQUIPMENT:

A. Personal protective equipment (PPE) shall consist of (at a minimum) safety goggles or other protective eye-ware, work shoes with non-slip soles and steel toes, chemical resistant gloves that cover the hand (e.g., neoprene or nitrile gloves), an apron that covers the front of the worker's body from shoulder to calves or disposable Tyvek coverall, and respiratory protection.

B. Personal protective equipment contaminated by handling operations should be disposed of as contaminated waste.

3.03 WORK PROCEDURES:

A. The Contractor shall be the waste owner for the project.

B. The Owner is responsible to provide a EPA hazardous waste generator number and the Contractor shall act as agent to the Owner for the project. Non-hazardous materials shall be transported using non-hazardous waste manifests or appropriate bills of lading.

C. During the light bulb removal, the following procedures (or equivalent alternate but protective measures) are to be followed:

1. Carefully remove tubes from fixtures and repackage them in appropriate cartons for transportation for recycling and/or disposal.

2. Designate an area where the bulbs can be placed for storage.

3. In the event a bulb breaks, utilize a mercury capture vacuum to remove all debris generated.

D. Carefully remove light ballasts, and segregate for disposal in the following manner:

1. Given the age of the structure all ballasts are assumed to contain either poly chlorinated biphenyls (PCBs) or di-2-ethylhexyl phthalate (DEHP). PCBs were used in the manufacture of ballasts until 1979. All ballasts shall be assumed to contain PCBs unless specifically determined by the Contractor not to be a regulated PCB Waste.

2. Non-leaking ballasts shall be segregated and drummed for disposal as a hazardous and TSCA Waste. Disposal of PCB ballasts may be by:

   a. Landfilled at a properly permitted TSCA landfill facility; and,
   b. Whole ballast destruction via by high temperature incineration at an approved TSCA incinerator

E. Leaking ballasts shall be segregated and drummed. Punctures or damage to these ballasts exposes an oily or tar-like substance. These ballasts, and all materials it contacts, including PPE **MUST** be incinerated under the TSCA regulations as they cannot be landfilled or recycled.

F. Hammering or sudden impact methods for removing ballast's from the light fixture shall not be employed as such methods may cause leakage in an otherwise non-leaking ballast.

G. Care must be exercised when collecting other items – light bulbs, mercury thermostats and gauges, batteries, refrigerants, fuels, lubricants, and paints, so not to release or spill these products into the environment.

H. Throwing and tossing of ballast's into disposal drums shall not be conducted, as such activities may cause leakage in otherwise non-leaking ballast.

I. During removing/recycling of stored chemical products, cleaners, paints, etc., enclosed in their original container, the Contractor shall place chemicals into properly OSHA labeled, airtight 55-gallon drums or into lab packs. In turn these drums/lab packs shall be transported, under proper manifesting procedures, to a recycling/disposal facility. The facility shall forward a certificate of recycling or disposal/destruction to the Contractor, who shall incorporate this information into the close out package to be provided to the Construction Manager.

J. Any used oils and fuels associated with mechanical equipment in the building shall be recovered whenever possible. Upon recovery, these materials shall be characterized for subsequent disposal consistent with 3.02 (F) of this Section.

K. Drums of Hazardous Waste can be stored for up to ninety (90) days from the initial date of Waste generation, prior to disposal or destruction. All other removed materials shall be stored in the appropriate containers and promptly removed from the site. A secure storage site shall be designated, labeled in accordance with the applicable rules and regulations, and be maintained by the Contractor. The Waste storage area shall be inspected daily by the Contractor and the inspection shall be noted on a Waste Inspection Form developed by the Contractor.

L. The Contractor shall coordinate all shipments and arrivals at all waste disposal and scrap facilities to meet project schedule requirements. The Contractor shall complete any required shipping papers, manifests, placarding, and weighing or load measurements and provide copies of all documentation to the Construction Manager.

M. The Contractor shall ensure that the trucks used to transport any Waste materials during the project protect against contamination to the environment. This will be accomplished by using enclosed trucks, or by properly covering and, if applicable, lining the trucks with compatible material. The Contractor shall verify that any trucks used to transport liquids or solid materials are not leaking.

N. The Contractor shall provide written weekly reports documenting the progress made, summarizing the upcoming work, and identifying any coordination issues with other groups. The weekly reports are to be submitted no later than 3:00 pm the Monday following the week that just ended.

O. All removal and disposal activities shall be monitored by the Construction Manager for compliance.

3.04 WASTE DISPOSAL:

A. The Contractor shall provide hauling vehicles in a timely manner so that the Contractor's Work is not delayed, and excessive amounts of materials or Waste are not stored in the staging areas at the site. The Contractor shall be responsible for coordinating the number and type of hauling vehicles needed, and the time and date that the hauling vehicles shall be ready to receive materials or Waste at the site.

B. The Contractor shall not allow any hauling vehicles to leave the site if they are dripping or leaking. The Contractor shall perform all corrective measures necessary to stop all leaks and clean surfaces impacted by leaks.

C. The Contractor shall ensure that all vehicles that haul toxic or Hazardous Wastes are properly placarded in accordance with 40 CFR Parts 171-180 and 761, and other applicable NYSDEC, USDOT and NYSDOT regulations.

D. The Contractor shall follow the haul route represented on the Drawings or in accordance with the Contracots accepted traffic and hauling Plan.

E. The Contractor shall comply with all applicable regulations regarding the delivery of toxic and Hazardous Waste, including, but not limited to, 6 NYCRR Part 374 and 372, 40 CFR Parts 261 and 761. The Contractor shall track the transportation progress of all hauling vehicles, and ensure that all Waste transported by the Contractor are delivered to their intended destination within five days of their departure from the site, unless another time period is approved by the Owner. The Contractor shall report all delayed deliveries to Construction Manager in writing at the time the delay occurs.

F. The Contractor shall not utilize off-site properties or facilities for storage of materials or Waste originating from the Work under any circumstances, except for the direct transportation of these materials to their ultimate disposal or reuse destination in approved transportation vehicles. Owner's intent is that all materials and Waste leaving the site will be transported directly to the final receiving facility in the shortest possible time. The Contractor accepts sole responsibility for all liabilities, penalties, claims, subsequent disposal costs, and potential off-site remediation costs that may be associated with unauthorized off-site storage or unauthorized disposal of materials or

Waste that are generated from the Work.

G. Fluorescent fixtures are to be repackaged for recycling or disposed at an appropriate facility. Certificates of destruction are to be provided for lamps destroyed or recycled. Waste manifests are to be provided for lamps that are landfilled.

H. Non-leaking PCB ballasts are to be either landfilled or destroyed by high-temperature incineration. Landfilled ballasts are to be properly manifested. Certificates of destruction must be provided for destroyed ballasts. Waste shipment records are to be provided for all materials transported from the Site.

I. Leaking PCB ballasts (and any associated materials contaminated by such leakage) must be destroyed by high-temperature incineration. Certificates of destruction and waste transport/shipment records must be provided upon completion.

J. Batteries and mercury containing gauges/levels/thermostats shall be disposed of under the Universal Waste Rule.

K. PCB liquids at concentrations greater than 50 ppm shall be disposed of in an incinerator which complies with 40 CFR Section 761.70. If PCBs are present at a concentration of between 50 and 500 ppm, disposal via a high efficiency boiler may be substituted with the Owner's approval as an acceptable alternative. Liquids with a PCB concentration greater than 500ppm must be disposed of in an incinerator.

L. All recovered petroleum products shall be shipped off-site for liquid fuels blending or another acceptable alternative approved by the Owner for the treatment of these materials.

M. All refrigerants must be properly tested and characterized for recycling/disposal.

N. All other Wastes are to be disposed of in accordance with all applicable Federal, State and Local regulations.

3.05 QUALIFICATIONS:

A. The Contractor shall have the following qualifications:

1. Performance of at least five projects in the previous five years that are similar to the work required for this project.

2. Performance of hazardous materials removal work on a project where significant asbestos abatement and general demolition work was also present.

3. It has previously developed and implemented Work Plans, Contingency Plans, and Site-Specific Health and Safety Plans similar to that required for this project.

4. It has established a Quality Control Program that includes hazard communications and chemical hygiene plans; employee background checks and medical testing; and, waste determination procedures and guidelines.

5. It has a project manager available for this project with at least five years of experience performing similar Waster-related work; field experience in at least five similar projects; all required training certifications; fluent in the English language and capable of communicating with all the staff; and, is experienced in visual inspection, handling, cleaning, storage and field characterization of hazardous materials similar to those anticipated on this project.

6. For firm and persons specified above, submit documentation and resumes to demonstrate their capabilities and experience. Include a list of completed projects with project contact names, addresses, and phone numbers.

7. For all employees, completion of 40-hour OSHA HAZWOPER training, annual 8-hour OSHA HAZWOPER refresher training, and proof of annual medical physicals and respirator fit tests. Documentation of successfully completed training, testing, and medical monitoring must be provided to the Construction Manager for each Contractor and Subcontractor employee before those employees may work at the site.

END OF SECTION

REMOVAL OF CHLORINATED FLUOROCARBONS
02-8120

PART 1 - GENERAL

1.01 SCOPE OF WORK:

The Contractor shall furnish all labor, equipment, and materials required to perform all operations necessary to remove to remove chlorinated fluorocarbon (CFC) containing equipment. CFC equipment at the Site includes, but is not limited to, air conditioners, refrigerators, drinking fountains, and station equipment. The Contractor shall remove and dispose of all CFCs and compressor/equipment oils from CFC equipment. The Contractor's CFC removal protocols must be provided in a Work Plan, included as a component of the Contractor's Project Work Plan, and approved by the Construction Manager prior to initiating any CFC-related work.

1.02 REGULATORY REQUIREMENTS:

CFCs are to be removed and managed in accordance with the refrigerant recycling requirements of USEPA in Section 608 of the Clean Air Act (CAA), 1990, as amended, including final regulations published May 14, 1993 (58 FR 28660) and the prohibition on venting effective July 1, 1992. The CAA requirements include, but are not limited to:

1. Service practices that maximize recycling of ozone depleting compounds (CFCs and hydrochlorofluorocarbons) during the servicing and disposal of air-conditioning and refrigeration equipment.

2. Certification requirements for recycling and recovery equipment, technicians, and reclaimers.

3. Restrictions on the sale of refrigerant to certified technicians.

4. Persons servicing or disposing of air-conditioning and refrigeration equipment to certify to USEPA that they have acquired recycling or recovery equipment and are complying with the requirements of the rule.

5. The repair of substantial leaks in air-conditioning and refrigeration equipment with a charge of greater than 50 pounds.

6. Safe disposal requirements to ensure removal of refrigerants from goods that enter the waste stream with the charge intact (e.g., motor vehicle air conditioners, home refrigerators, and room air conditioners)

The Federal rules for the management of CFCs and other ozone depleting substances are effective in New York, although the State has not incorporated the rules into its own regulations. There are no State regulations pertaining to CFC management.

Contractor must comply with all current Federal rules and requirements in their entirety, even if they are not quoted in this Section.

1.02.1 The Prohibition on Venting

Effective July 1, 1992, Section 608 of the CAA prohibits individuals from knowingly venting ozone-depleting compounds used as refrigerants into the atmosphere while maintaining, servicing, repairing, or disposing of air-conditioning or refrigeration equipment. Only four types of releases are permitted under the prohibition:

1. "De minimis" quantities of refrigerant released in the course of making good faith attempts to recapture and recycle or safely dispose of refrigerant.

2. Refrigerants emitted in the course of normal operation of air-conditioning and refrigeration equipment (as opposed to during the maintenance, servicing, repair, or disposal of this equipment) such as from mechanical purging and leaks. However, USEPA is requiring the repair of substantial leaks.

3. Mixtures of nitrogen and R-22 that are used as holding charges or as leak test gases, because in these cases, the ozone-depleting compound is not used as a refrigerant. However, a technician may not avoid recovering refrigerant by adding nitrogen to a charged system; before nitrogen is added, the system must be evacuated to the appropriate level in Table 1 of 3.01.1 of this Section. Otherwise, the CFC or HCFC vented along with the nitrogen shall be considered a refrigerant. Similarly, pure CFCs or HCFCs released from appliances shall be presumed to be refrigerants, and their release shall be considered a violation of the prohibition on venting.

4. Small releases of refrigerant which result from purging hoses or from connecting or disconnecting hoses to charge or service appliances shall not be considered violations of the prohibition on venting. However, recovery and recycling equipment manufactured after November 15, 1993, must be equipped with low-loss fittings.

1.02.2 Equipment Certification

The USEPA has established a certification program for recovery and recycling equipment. Under the program, USEPA requires that equipment manufactured on or after November 15, 1993, be tested by an USEPA-approved testing organization to ensure that it meets USEPA requirements. Recycling and recovery equipment intended for use with air-conditioning and refrigeration equipment besides small appliances must be tested under the ARI 740-1993 test protocol, which is included in the final rule as Appendix B. Recovery equipment intended for use with small appliances must be tested under either the ARI 740-1993 protocol or Appendix C of the final rule. The Agency is requiring recovery efficiency standards that vary depending on the size and type of air-conditioning or refrigeration equipment being serviced. For recovery and recycling equipment intended for use with air-conditioning and refrigeration equipment besides small appliances, these standards are the same as those in the second column of Table 1 of 3.01.1 of this Section. Recovery equipment intended for use with small appliances must be able to recover 90 percent of the refrigerant in the small appliance when the small appliance compressor is operating and 80 percent of the refrigerant in the small appliance when the compressor is not operating.

Equipment manufactured before November 15, 1993, including homemade equipment, shall be grandfathered if it meets the standards in the first column of Table 1 of 3.01.1 of this Section. Third party testing is not required for equipment manufactured before November 15, 1993, but equipment manufactured on or after that date, including homemade equipment, must be tested by a third-party (see Equipment Certification above).

1.02.3 Certification of Recycling and Recovery Equipment

The Contractor or Subcontractor disposing of air-conditioning and refrigeration equipment must certify, or have certification on record, to the USEPA and to the Owner, that they have acquired (built, bought, or leased) recovery or recycling equipment, and that they are complying with the applicable requirements of the rules. This certification must be signed by the owner of the equipment or another responsible officer and sent to the appropriate USEPA Regional Office.

1.02.4 Safe Disposal Requirements

Under USEPA's rule, equipment dismantled on-site before disposal (e.g., retail food refrigeration, cold storage warehouse refrigeration, chillers, and industrial process refrigeration) has to have the refrigerant recovered in accordance with USEPA's requirements for servicing. The Contractor must provide documentation of the removal.

1.02.5 Major Recordkeeping Requirements

Reclaimers must maintain records of the names and addresses of persons sending them material reclamation and the quantity of materials sent to them for reclamation. This information must be maintained on a transactional basis. Within 30 days of the end of the calendar year, reclaimers must report to USEPA the total quantity of material sent to them that year for reclamation, the mass of refrigerant reclaimed that year, and the mass of waste products generated that year.

1.02.6 CFC/Refrigerant Waste Disposal

If refrigerants are recycled or reclaimed, they are not considered hazardous waste under Federal law. In addition, used oils contaminated with CFCs are not hazardous on the condition that:

1) they are not mixed with other hazardous waste;

2) they are not subjected to CFC recycling or reclamation;

3) they are not mixed with used oils from other sources.

Used oils that contain CFCs after the CFC reclamation procedure, however, are subject to specification limits for used oil fuels if these oils are destined for burning.

PART 2 - PRODUCT
Not Used

PART 3 - EXECUTION

3.01 SYSTEM EVACUATION:

3.01.1 Evacuation Requirements

The Contractor is required to evacuate air-conditioning and refrigeration equipment of refrigerants and oils contaminated with CFCs to establish vacuum levels. If the recovery or recycling equipment is manufactured any time before November 15, 1993, the air-conditioning and refrigeration equipment must be evacuated to the levels described in the first column of Table 1. If the recovery or recycling equipment is manufactured on or after November 15, 1993, the air-conditioning and refrigeration equipment must be

evacuated to the levels described in the second column of Table 1, and the recovery or recycling equipment must have been certified by an USEPA-approved equipment testing organization (see Equipment Certification).

TABLE 1

Type of Appliance	Inches of Mercury Vacuum* Using Equipment Manufactured	
	Before November 15, 1993	After November 15, 1993
HCFC-22 Appliance** Normally Containing Less Than 200 Pounds of Refrigerant	0	0
HCFC-22 Appliances** Normally Containing 200 Pounds or More of Refrigerant	4	10
Other High-Pressure Appliances** Normally Containing Less Than 200 Pounds of Refrigerant (CFC-12, -500, -114)	4	10
Other High-Pressure Appliances** Normally Containing 200 Pounds or More of Refrigerant (CFC-12, -500, -114)	4	15
Very High-Pressure Appliances (CFC-13, -503)	0	0
Low-High Pressure Appliances (CFC-11, HCFC-123)	25	25 mm Hg absolute

* Relative to Standard Atmospheric Pressure of 29.92" Hg
** Or Isolated Component of Such an Appliance

3.01.2 Reclamation Requirement

USEPA has also established that refrigerant recovered and/or recycled can be returned to the same system or other systems owned by the same person without restriction. If refrigerant changes ownership, however, that refrigerant must be reclaimed (i.e., cleaned to the ARI 700 standard of purity and chemically analyzed to verify that it meets this standard).

3.02 QUALIFICATIONS

A. The Contractor and Subcontractors involved in any activity associated with the removal or disposal of equipment containing CFCs shall have demonstrated two years of experience in CFC management, training and decommissioning of CFC-containing equipment.

END OF SECTION

REMOVAL AND DISPOSAL OF HEAVY METALS CONTAINING MATERIAL
02-8130

PART 1 - GENERAL

1.01 SCOPE:

A. Materials that are contaminated with heavy metals in include ash, coal dust, refractory brick, general dust, residues and debris that have come in contact with ash or coal dust. Decontamination water from interior demolition pre-cleaning may be contaminated with heavy metals. Boilers, turbines, precipitators, flues, duct work, and coal handling equipment contain ash, coal dust, refractory brick and residues that are contaminated with heavy metals. This Section includes requirements for work necessary to carry out the proper removal and disposal of heavy metals contaminated materials.

B. In some areas, ash, coal dust and refractory brick may also contain ACM and must be removed, managed and disposed in accordance with Section 02-8213 – Asbestos Abatement in addition to the requirements of this Section.

C. The contractor shall perform all work necessary to carry out the proper removal and disposal of all ash, residues and debris and (which is contaminated with various heavy metals) in accordance with all applicable laws, codes, rules and regulations and in accordance with the requirements set forth in this Section. Based on analytical results, ash, coal dust and refractory brick general dust, debris, and residue shall be handled and disposed of as a metals contaminated waste. Some ash, coal dust and refractory brick is mixed waste and must be handled and disposed of as metals contaminated waste and ACM, and disposed of at a facility that is permitted to accept both wastes. It is the Contractor's responsibility to determine the waste designation, coordinate with RG&E, and propose a disposal facility permitted to accept the waste pending review by the Construction Manager. In addition, any equipment and other miscellaneous materials removed from the work area that are not decontaminated to regulatory/specification required levels must be handled and disposed of as metals contaminated wastes.

D. Decontamination water from interior demolition pre-cleaning, which may be contaminated with heavy metals, shall be managed and disposed in accordance with Section 02-7100 – Water Treatment System and Section 02-8600 – Removal of Drummed Waste and Decontamination Water.

E. The Contractor's use of a subcontractor shall not relieve the Contractor of full responsibility for the work to be performed.

1.02 REGULATORY REQUIREMENTS:

A. Applicable guidelines and standards listed in this Scope of Work include, but are not limited to, the following:

1. New York State Department of Environmental Conservation

6 NYCRR Subparts 360-3 and 371-376

2. Code of Federal Regulations (CFR) Publications:

29 CFR, Part 1926.62, Lead Exposure in Construction; Interim Final Rule Vol. 58, No. 84

29 CFR, Part 1910.120, Hazardous Waste Operations and Emergency Response

40 CFR 61, Subpart A, General Provisions (Hazardous Air Pollutants Listing)

40 CFR 61.152, Standard for Waste Manufacturing, Demolition, Renovation, Spraying and Fabricating Operations

40 CFR 241, Guidelines for the Land Disposal of Solid Wastes

40 CFR 257, Criteria for Classification of Solid Waste

40 CFR 261, Identification and Listing of Hazardous Wastes

40 CFR 262, Standards Applicable to Generators of Hazardous Waste

3. Occupational Safety and Health Administration (OSHA) Publication:

OSHA 3644-04 2013, Firefighting Precautions at Facilities with Combustible Dust

4. American National Standards Institute (ANSI) Publications:

Z88.2-80, Practices for Respiratory Protection
Z87.1, Eye Protection

1.03 WORKER PROTECTION:

A. General

1. The boilers, turbines, precipitators, flues, duct work, and coal handling equipment in the Boiler Areas and other locations of the Site contain elevated levels of heavy metals and should be managed as metals contaminated waste.

2. The Contractor shall be responsible for maintaining a program in accordance with 29 CFR 1926.62 at minimum and shall be responsible for protecting and training his employees on worker safety, health hazards, etc. relating to metals contaminated wastes. The following sections must be addressed by the Contractor in a project health and safety program. This program shall be incorporated into the Contractor's written safety plan. These sections are not intended to constitute an exhaustive summary of all relevant obligations. The Contractor should consult the following publications and/or competent environmental counsel.

OSHA - 3079 Respiratory Protection and OSHA - 3142 Lead in Construction

3. Pursuant to Section 5(a)(1), the General Duty Clause of the Occupational Safety and Health Act, the Contractor must provide workers with a workplace free from recognized hazards likely to cause death or serious physical harm. Contractor is responsible for fully understanding the potential hazards of coal dust explosion and all other hazards and for providing a safe work environment. Ongoing dust monitoring shall be performed in areas where coal dust persist and the Contractor shall make all necessary provisions to ensure coal dust concentrations are substantially below any coal dust air concentration that would cause an explosion. Coal dust should be kept moist at all times.

B. Exposure Assessment

1. Exposure assessment is the primary means of determining to what airborne level of heavy metals that workers are being exposed to from ash, coal dust, residues, debris, and brick. The Contractor shall insure that workers are not exposed to heavy metals at concentrations greater than the Permissible Exposure Limit (PEL) of various metals known to be present. The Contractor must initially determine if any employee is exposed to these metals at or above the PEL. Until the findings of this initial exposure assessment indicate that the airborne concentrations do not exceed the PEL, the Contractor must provide respirator protection that shall adequately prevent worker exposure to airborne lead above the PEL. At a minimum, respirators must have a protection factor of at least ten. The Contractor must make this initial exposure assessment by personal air sampling representative of a full shift, including at least one sample for each job classification in each work area, either for each shift or for the shift with the highest exposure level.

2. Until project specific data becomes available, use exposure assessment data obtained within the last 12 months, if available, from previous jobs conducted under similar work conditions, control methods, work practices, and environmental conditions to be used in this contract or other objective data to demonstrate that work activities in this contract shall not exceed the PEL, provided that the assessment entailed comparable lead concentrations in coating materials, work practices, engineering controls, and rates of work.

3. Until the exposure assessment is performed, the Contractor must provide to his workers the following: respiratory protection with a protection factor of at least ten, personal protective clothing, change areas, shower facilities, biological monitoring and training.

C. Medical Surveillance

1. Provide medical surveillance to workers until exposure monitoring reveals that workers are not exposed on any day of the job to airborne heavy metals at or above the Action Levels establish by OSHA. This consists of a blood test measuring the level of heavy metals by a licensed physician. Further testing and medical exams may be necessary depending on the results of initial blood tests and/or the initial exposure assessment as stated in CFR 1926.62 and 29CFR 1926.1127.

D. Training

1. Before workers start work in a heavy metals contaminated environment, The Contractor must perform a job safety hazard analysis, which evaluates the work tasks according to OSHA requirements, determines the PPE and training required to perform the work tasks associated with heavy metals. This may include training as per OSHA requirements and 29 CFR 1910.120. This training must include a description of the OSHA exposure standards, the sources of exposure, the uses and limitations of respirators, the purpose of blood testing, the purpose of the initial exposure assessment, their rights to the results of the blood tests and air monitoring and the methods of controlling the level of exposure to a minimum.

E. Written Program

1. Have a written health and safety program which is to be imposed on all of his employees involved in operations that disturb or remove metals contaminated ash, coal dust, debris and residues for this contract. The program, at a minimum, shall address respirator protection that is in full compliance with all aspects of 29 CFR 1910.134, exposure assessment, signs to be posted in work areas, protective clothing, engineering and administrative controls, hygiene facilities and practices, decontamination, housekeeping, medical surveillance, training and other items to satisfy OSHA standards as required.

F. Respirator Protection

1. Have a respirator protection program in accordance with 29 CFR 1910.134. If respirators are necessary, the Contractor shall have his employees medically approved to wear respirators, establish and submit a written respirator program, select the proper respirator for the level of exposure to be encountered on the job, and have workers fit-tested to insure proper fit.

2. The minimum respiratory protection requirements for heavy metals clean-up operations and for the disturbance of any other heavy metals containing material for this contract shall be as per 29 CFR 1926.62 which includes job categories and functions where workers may be exposed to heavy metals.

3. All workers are required to don an appropriate level of protection commensurate with the airborne concentrations of heavy metals in which they are working. The level of protection shall be determined by the Contractor, based on objective air monitoring data.

G. Controlling Metals Exposure

1. Engineering and work practice controls are the primary means of maintaining exposures to metals below the PEL. Ash and coal dust cleaning/removal activities must keep dust level at a minimum. Power tools must be equipped with vacuum shrouds with high efficiency particulate air filters (HEPA). Eating and drinking must be prohibited in the work area. Hand washing facilities must be provided. All personal protective clothing shall be removed at the end of the day.

H. Metals Monitoring

1. Monitoring shall be conducted by the Contractor or the Contractor's air monitoring consultant at the perimeter at a minimum of three locations (one upwind and two downwind) for dust. Monitoring shall be conducted during cleaning, demolition, staging or waste removal activities.

2. Total nuisance dust shall be collected using real time aerosol monitors (TSI DustTack or equivalent).

3. Samples shall be collected at established perimeter locations. The four locations shall be chosen according to site activities and expected wind direction. At the end of the sampling period, meteorological data shall be reviewed and one upwind and two downwind samples shall be chosen to be analyzed.

4. The perimeter locations shall be established and marked with high visibility paint or flagging at approximately equidistant points around the Site. Samples shall be collected at a height of 6 feet above ground surface.

5. Samples shall be collected at regularly scheduled intervals in accordance with the project air monitoring plan. The air monitoring plan shall be developed by the Contractor's certified Industrial Hygienist. Samples shall be collected during the normal work hours when activities are occurring on-site.

1.04 ASH, COAL DUST, RESIDUE, DEBRIS AND BRICK CLEAN-UP:

A. General

Ensure that work plans and work methods utilized for ash, coal dust, residue, debris, and Brick clean-up conform to all applicable laws, codes, rules and regulations, including, without limitation New York State Department of Health regulations for Lead Exposure in Construction, federal statutes governing lead Exposure Reduction, 15 U.S.C.A. Section 2681 et. seq., and OSHA regulation 29 CFR, Part 1926.62; Lead Exposure in Construction, Interim Final Rule.

B. Work Plans

1. The Contractor shall be required to prepare task specific plans, as sections of a Heavy Metals Control Program component of the overall Contractor Project Work Plan, prior to starting Work, detailing how he shall accomplish each task of work related to the disturbance of any metals contaminated material. In each case the Contractor shall prepare the plan with the needs, logistics and constraints of the individual job in mind, taking into account such factors as ash and coal dust removal method, worker safety, proximity to the public, protection of the environment including containment and air monitoring requirements.

2. The Work Plans shall also include methods of minimizing and containing the generation of all dust, including dust generated while cleaning up construction and demolition debris. These methods may include such techniques as wet mopping and/or wiping, HEPA vacuuming or the use of a negative pressure ventilation system where heavy metal dust is generated. Once the Work has been complete and debris has been properly removed from the site, all surfaces shall be free and clear of visible ash and coal dust. All work areas shall be cleaned on a daily basis at the end of each shift.

3. At no time shall the Contractor be permitted to perform any Work which may impact upon heavy metals containing material until the work plan has been issued as final and notification is given to the Construction Manager.

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION

3.01 PROTECTION OF ADJACENT AREAS AND THE ENVIRONMENT:

A. General

1. In the event heavy metal materials are to be disturbed during any phase of the work, take all necessary actions to ensure that all ash, coal dust, residues and debris is contained within the work area and that the activities in no way results in the contamination with heavy metals of any adjacent areas, building, vehicles, or the environment. The Contractor's specific methods and activities for managing metals exposure must be documented in the Contractor's Heavy Metals Control Program. The Contractor shall note that removal and handling of heavy metals contaminated ash, cold dust, residues and debris will occur in most areas concurrent with asbestos abatement activities.

B. Containment

1. In the event a containment structure is required, ensure that such containment prevents ash, coal dust, residues, debris, and brick from contaminating adjacent areas, building, or the environment in any fashion. This shall include any water runoff from wet removal methods. If a containment structure is not specified, the Contractor shall specify removal tools and methodologies which are fitted HEPA filter vacuum shroud attachments or are otherwise designed to eliminate the possible release of ash and coal dust or other heavy metals emissions into the air.

C. Contamination

1. If it is determined by visual identification that adjacent areas, buildings, or the environment have been contaminated as a result of the Contractor's work, the Contractor agrees to clean the affected premises at no charge and be responsible for all costs incurred by this clean-up activity.

3.02 DISPOSAL REQUIREMENTS:

A. General

1. The Contractor shall perform sampling and analysis as may be required to assure the proper and legal handling of the waste. If any chemical analysis or sampling is performed by or on behalf of the Contractor, its Transporter, its Treatment Storage and Disposal Facility (TSD) or landfill permitted to accept the waste, a copy of such analysis must be provided to the Construction Manager at no additional cost.

2. Should any problems arise regarding the TSD facility chosen to accept the waste for treatment and disposal that would require the return of waste, or should such TSD facility have violated any environmental regulation which would result in regulatory enforcement action, ensure that the waste disposal Subcontractor immediately notifies the Contractor and Construction Manager in writing of such situation, identifies an alternative TSD and obtains written approval from the Construction Manager for disposal at such TSD.

3. Insure that the waste disposal Subcontractor provides completed shipping documents, hereinafter referred to as "Bills of Lading" for all nonhazardous "industrial" waste removed from the property. A Bill of Lading must accompany each waste shipment and must include information regarding the quantity and type of waste, the waste transporter name, and the date of removal from the property.

B. Transportation Requirements

1. Insure that the waste disposal Subcontractor providing waste transportation services possesses a valid Waste Hauler's permit issued pursuant to the New York State Department of Environmental Conservation (NYSDEC) regulations, 6 NYCRR Part 364. In addition, if the waste is to be transported and disposed of out of New York State, permits/registrations for those states through which the waste shall be transported and for where it shall be disposed may be required. It is the Contractor's responsibility to insure that the waste disposal Subcontractor correctly determines which permits/registrations are required and to provide such permits/registrations for review by the Construction Manager.

2. Packaging and transporting of all wastes shall be in accordance with the applicable sections of the Department of Transportation (DOT) regulations.

3.03 QUALIFICATIONS:

A. The Contractor and Subcontractors involved in any activity which may impact heavy metals containing materials shall have demonstrated two years of experience in metals hazard assessment and management, environmental and personal air monitoring, worker protection and training, and metals remediation specification writing.

END OF SECTION

ASBESTOS ABATEMENT
02-8213

PART 1 GENERAL

1.01 SCOPE OF WORK:

A. This asbestos abatement portion of this Project will consist of the removal and disposal of all asbestos containing materials from the Russell Station Site impacted by the facility demolition. Asbestos containing materials, along with approximate quantities, identified at the facility include, but are not limited to the following:

Main Plant Building:

- Boiler Insulation and Contaminated Refractory Brick: ~72,000 SF
- Duct/Breeching Insulation: ~ 19,500 SF
- Precipitator Insulation: ~13,000 SF
- Tank Insulation: ~4,400 SF
- Manifold Insulation: ~40 SF
- Insulating Coating on Condensers and Associated Piping (Base Bid): ~5,000 SF
- Insulating Coating on Condensers and Associated Piping (Bid Alternate): ~20,000 SF
- Flange Gasket at Exterior Breeching: ~1,750 SF
- Various Interior Caulks: ~85 SF
- Floor Tile and Mastic: ~11,200 SF
- Pipe Insulation and Mud Fittings: ~18,000 LF (<2' Diameter) / ~27,550 SF (≥2' Diameter)
- Turbine/Generator Components: ~7,000 SF
- Transite Pipe: ~32 LF
- Transite Wall/Ceiling Panels: ~8,500 SF
- Transite Electrical Panels/Switches: ~27,800 SF
- Pre-cast Pipe Insulation Surplus: ~150 Cubic Yards
- Light Fixtures with Explosion Proof Gaskets: ~1,350 Each
- Various Gaskets/Rope Packings: ~9,800 SF
- Vermiculite Plaster in Elevator Shafts: ~45,000 SF
- Window Glazing: ~8,000 SF
- Caulk at Windows/Louvers/Doors/Cast Stone Panels: ~2,000 SF
- Caulk at Parapet Capstones: ~1,500 SF
- Black Coating on Concrete Pads: ~3,000 SF
- Roofing (with associated flashing): ~106,200 SF
- Fire Doors: ~200 Each

Coal Conveyor:

- Transite Wall/Roof Panels: ~21,900 SF
- Window Caulk and Glazing: ~200 SF
- Light Fixtures with Explosion Proof Gaskets: ~100 Each
- Pipe Flange Gaskets: ~250 SF

Coal Handling Area Sump:

- Roofing: ~100 SF

Crusher House and Locker Room:

- Light Fixtures with Explosion Proof Light Gaskets: ~60 Each
- Mud Pipe Fittings: ~ 12 LF
- Roofing (with associated flashing): ~4,000 SF
- Caulk at Parapet Capstones: ~220 LF
- Window Glazing: ~500 LF
- Window Caulk: ~250 LF
- Fire Doors: ~5 Each

Fuel Oil ASTs:

- Flange Gaskets: ~20 SF

#2 Fuel Oil Pump House:

- Window Glazing: ~170 LF
- Window/Door Caulk: ~157 LF
- Caulk at Parapet Capstones: ~65 LF
- Pipe Flange Gaskets: ~10 SF

Gasoline AST Shed:

- Roofing (with associated flashing): ~144 SF
- Caulk at Parapet Capstones: ~32LF
- Window Glazing: ~70 LF
- Window/Door Caulk: ~45 LF

Hopper House:

- Interior Window Caulk: ~108 LF
- Exterior Window Caulk: ~175 LF
- Roofing (with associated flashing): ~4,000 SF
- Caulk at Parapet Capstones: ~175 LF
- Window Glazing: ~700 LF
- Fire Doors: ~3 Each

Pump Station #1:

- Pipe Flange Gaskets: ~11 SF

Pump Station #2:

- Pipe Flange Gaskets: ~8 SF

Scale House:

- Roofing: ~150 SF

B. A brief description of the Site is provided in Section 01-1100 – SUMMARY OF WORK.

C. The Contractor shall be aware of all conditions of the Project and is responsible for verifying quantities and locations of all Work to be performed. Failure to do so shall not relieve the Contractor of its obligation to furnish all labor and materials necessary to perform the Work.

D. All Work shall be performed in strict accordance with the Project Documents and all governing codes, rules, and regulations. Where conflicts occur between the Project Documents and applicable codes, rules, and regulations, the more stringent shall apply.

E. Working hours shall be as required and approved by the Owner. The Contractor shall coordinate all Work with the facility and Construction Manager regarding scheduling.

1.02 SPECIAL JOB CONDITIONS:

A. Any special job conditions are described below:
1. All asbestos abatement activities shall be conducted in accordance with specification section 02-8213, New York State Department of Labor Industrial Code Rule 12 NYCRR Part 56, effective 3/21/07 and any approved variances.
2. Walls, ceilings, soffits, and other building materials remaining after pre abatement demolition, that conceal or inhibit access to ACM, shall be removed during the asbestos phase in accordance with all applicable regulations. All non-porous debris generated during selective demolition to access ACM may, at the contractor's option, be cleaned and disposed of as construction debris with approval of the Owner and the third party project monitor retained by the Owner.
3. All ACM materials and asbestos contaminated materials must be completely removed/free of all residue, down to the substrate.
4. The Contractor shall note that significant interior demolition work is required to access ACM requiring removal (see Section 02-4119)

1.03 PERMITS AND COMPLIANCE:

A. The Contractor shall assume full responsibility and liability for compliance with all applicable Federal, State, and local laws, rules, and regulations pertaining to Work practices, protection of Workers, authorized visitors to the site, persons, and property adjacent to the Work.

B. Perform asbestos related Work in accordance with New York State Department of Labor Industrial Code Rule, 12 NYCRR Part 56, effective 3/21/07, as specified herein. Where more stringent requirements are specified, adhere to the more stringent requirements.

C. The Contractor must maintain current licenses pursuant to New York State Department of Labor and Department of Environmental Conservation for all Work related to this Project, including the removal, handling, transport, and disposal of asbestos containing materials.

D. The Contractor must have and submit proof upon request that all persons employed by the Contractor to engage in or supervise Work on any asbestos Project have a valid NYS asbestos handling certificate pursuant to Industrial Code Rule, 12 NYCRR Part 56, effective 3/21/07.

E. Should the Contractor choose to apply for any variance, approval of the Owner is first required.

1.04 SUBMITTALS:

A. Pre-Work Submittals: Within 7 days prior to the pre-construction conference, the Contractor shall submit 3 copies of the documents listed below:
   1. Contractor license issued by New York State Department of Labor.
   2. Progress Schedule:
      a. Show the complete sequence of abatement activities and the sequencing of Work within each building or building section.
      b. Show the dates for the beginning and completion of each major element of Work including substantial completion dates for each Work Area, building, or phase.
   3. Project Notifications: As required by Federal and State regulatory agencies together with proof of transmittal (i.e. certified mail return receipt).
   4. Building Occupant Notification: As required by regulatory agencies.
   5. Abatement Work Plan: Provide plans that clearly indicate the following:
      a. All Work Areas/containments numbered sequentially.
      b. Locations and types of all decontamination enclosures.
      c. Entrances and exits to the Work Areas/containments.
      d. Type of abatement activity/technique for each Work Area/containment.
      e. Number and location of negative air units and exhaust. Also provide calculations for determining number of negative air pressure units.
      f. Proposed location and construction of storage facilities and field office.
      g. Location of water and electrical connections to building services.
      h. Waste transport routes through the building to the waste storage container.
   6. Disposal Site/Landfill Permit from applicable regulatory agency.
   7. NYS Department of Environmental Conservation Waste Transporter Permit.

B. On-Site Submittals: Refer to Part 3.01.D for all submittals, documentation, and postings required to be maintained on-site during abatement activities.

C. Project Close-out Submittals: Within 30 days of completion of the asbestos abatement portion of the project, the Contractor shall submit 4 copies of the documents listed below. One set of the documents shall be forwarded to the Facility.
   1. **Originals** of all waste disposal manifests, seals, and disposal logs.
   2. OSHA compliance air monitoring records conducted during the Work.
   3. Daily progress log, including the entry/exit log.
   4. A list of all Workers used in the performance of the Project, including name, NYS Dept. of Motor Vehicle Photo Identification Card number, last four digits of social security number, and NYS DOL certification number.
   5. For each Worker used in the performance of the Project, submit the Worker's Acknowledgment Statement.
   6. Disposal Site/Landfill Permit from applicable regulatory agency.
   7. Final project notifications and variances.

1.05 PRE-CONSTRUCTION CONFERENCE:

A. Prior to start of preparatory Work under this Contract, the Contractor shall attend a pre-construction conference attended by Owner, Facility Personnel, and asbestos Project Monitor.

B. Agenda for this conference shall include but not necessarily be limited to:
   1. Contractor's scope of Work, Work plan, and schedule to include number of workers and shifts.
   2. Contractor's safety and health precautions including protective clothing and equipment and decontamination procedures.
   3. Environmental Consultant's duties, functions, and authority.
   4. Contractor's Work procedures including:
      a. Methods of job site preparation and removal methods.
      b. Respiratory protection.
      c. Disposal procedures.
      d. Cleanup procedures.
      e. Fire exits and emergency procedures.
   5. Contractor's required pre-work and on-site submittals, documentation, and postings.
   6. Contractor's plan for twenty-four (24) hour Project security both for prevention of theft and for barring entry of unauthorized personnel into Work Areas.
   7. Temporary utilities.
   8. Handling of furniture and other moveable objects.
   9. Storage of removed asbestos containing materials.
   10. Waste disposal requirements and procedures.

C. In conjunction with the conference, the Contractor shall accompany the Owner and Asbestos Project Monitor on a pre-construction walk-through documenting existing condition of finishes and furnishings, reviewing overall Work plan, location of fire exits, fire protection equipment, water supply and temporary electric tie-in.

1.06 APPLICABLE STANDARDS AND REGULATIONS:

A. The Contractor shall comply with the following codes and standards, except where more stringent requirements are shown or specified:

B. Federal Regulations:
   1. 29 CFR 1910.1001, "Asbestos" (OSHA)
   2. 29 CFR 1910.1200, "Hazard Communication" (OSHA)
   3. 29 CFR 1910.134, "Respiratory Protection" (OSHA)
   4. 29 CFR 1910.145, "Specification for Accident Prevention Signs and Tags" (OSHA)
   5. 29 CFR 1926, "Construction Industry" (OSHA)
   6. 29 CFR 1926.1101, "Asbestos, Tremolite, Anthophyllite, and Actinolite" (OSHA)
   7. 29 CFR 1926.500 "Guardrails, Handrails and Covers" (OSHA)
   8. 40 CFR 61, Subpart A, "General Provisions" (EPA)
   9. 40 CFR 61, Subpart M, "National Emission Standard for Asbestos" (EPA)
   10. 49 CFR 171-172, Transportation Standards (DOT)

C. New York State Regulations:
   1. 12 NYCRR Part 56, "Asbestos", Industrial Code Rule 56 (DOL) ("ICR56")
   2. 6 NYCRR, Parts 360, 364, Disposal and Transportation (DEC)
   3. 10 NYCRR, Part 73, "Asbestos Safety Program Requirements" (DOH)

D. Standards and Guidance Documents:
   1. American National Standard Institute (ANSI) Z88.2-80, Practices for Respiratory Protection
   2. ANSI Z9.2-79, Fundamentals Governing the Design and Operation of Local Exhaust Systems
   3. EPA 560/585-024, Guidance for Controlling Asbestos Containing Materials in Buildings (Purple Book)
   4. EPA 530-SW-85-007, Asbestos Waste Management Guidance

1.07 NOTICES:

A. The Contractor shall provide notification of intent to commence asbestos abatement activities as indicated below.
   1. At least ten (10) Working days prior to beginning abatement activities, send written notification to:
      U.S. Environmental Protection Agency
      National Emissions Standards for Hazardous Air Pollutants (NESHAPS) Coordinator
      26 Federal Plaza
      New York, NY 10007.
   2. At least ten (10) days prior to beginning abatement activities send written notification to:
      New York State Department of Labor
      Division of Safety and Health, Asbestos Control Program.
      State Office Campus
      Building 12 - Room 454
      Albany, NY 12240

B. The Contractor is required to send notifications to regulatory agencies via mail or package delivery service that will provide proof of delivery and receipt.

C. The Contractor shall post and/or provide Building Occupant Notification at least 10 days prior to beginning abatement activities as required by Industrial Code Rule, 12 NYCRR Part 56. The posting shall include the following information:
   1. The locations of the abatement Project.
   2. The amounts and types of asbestos containing materials being abated.
   3. The commencement and completion dates of the Project.
   4. The name, address, and asbestos license number of the Abatement Contractor.
   5. The name, address, and asbestos license number of the Asbestos Project Monitoring firm and laboratory.

1.08 PROJECT MONITORING AND AIR SAMPLING:

The Construction Manager shall be the initial point of contact for all Contract related work.

A. The Owner shall also engage the services of an Environmental Consultant (the Consultant) who shall serve as the Owner's NYSDOL licensed Project Monitoring Firm to oversee the performance of the asbestos abatement Project and provide direction as required throughout the entire abatement period.

B. The Contractor is required to ensure cooperation of its personnel with the Construction Manager and Environmental Consultant for the air sampling and Project monitoring functions described below. The Contractor shall comply with all direction given by the Construction Manager and Environmental Consultant during the course of the Project.

C. The Environmental Consultant shall provide the following administrative services:
   1. Review and approve or disapprove all submittals, shop drawings, schedules, and samples.
   2. Assure that all notifications to governmental agencies by the Contractor are submitted in a timely manner and are correct in content.
   3. Review and approve the Contractor's OSHA compliance testing laboratory.

D. The Environmental Consultant shall staff the Project with a trained and certified person(s) to act on the Owner's behalf at the job site. This individual(s) shall be designated as the Abatement Project Monitor (APM).
   1. The APM shall be on-site at all times the Contractor is on-site until the completion of the asbestos abatement portion of the project. The Contractor shall not be permitted to conduct any Work unless the APM is on-site.
   2. The APM shall have the authority to direct the actions of the Contractor verbally and in writing to ensure compliance with the Project documents and all regulations. The APM shall have the authority to Stop Work when gross Work practice deficiencies or unsafe practices are observed, or when ambient fiber concentrations outside the removal area exceed 0.01 f/cc or background level.
      a. Such Stop Work order shall be effective immediately and remain in effect until corrective measures have been taken and the situation has been corrected.
      b. Standby time required to resolve the situation shall be at the Contractor's expense.
   3. The APM shall provide the following services:
      a. Inspection of the Contractor's Work, practices, and procedures, including temporary protection requirements, for compliance with all regulations and Project specifications.
      b. Provide abatement Project air sampling as required by applicable regulations (NYS, AHERA) and the Owner. Sampling will include background, pre-abatement, during abatement and clearance sampling.
      c. Verify daily that all Workers used in the performance of the Project are certified by the appropriate regulatory agency.
      d. Monitor the progress of the Contractor's Work, and report any deviations from the schedule to the Owner.
      e. Monitor, verify, and document all waste load-out operations.
      f. Verify that the Contractor is performing personal air monitoring daily, and that results are being returned and posted at the site as required.
      g. The APM shall maintain a log on site that documents all project related and Environmental Consultant and Contractor actions, activities, and occurrences.

   4. The following minimum inspections shall be conducted by the APM. Additional inspections shall be conducted as required by Project conditions. Progression from one phase of Work to the next by the Contractor is only permitted with the written approval of the APM.
      a. Pre-Construction Inspection: The purpose of this inspection is to verify the existing conditions of the Work Areas and to document these conditions.
      b. Pre-Commencement Inspection: The purpose of this inspection is to verify the integrity of each containment system prior to disturbance of any asbestos

containing material. This inspection shall take place only after the Work Area is fully prepped for removal.

c. Work Inspections: The purpose of this inspection is to monitor the Work practices and procedures employed on the Project and to monitor the continued integrity of the containment system. Inspections within the regulated abatement work areas shall be conducted by the APM during all preparation, removal, and cleaning activities at least twice every work shift. Additional inspections shall be conducted as warranted.

d. Pre-Encapsulation Inspection: The purpose of this inspection is to ensure the complete removal of Asbestos Containing Material (ACM), from all surfaces in the Work Area prior to encapsulation.

e. Visual Clearance Inspection: The purpose of this inspection is to verify the Contractor's certification that all materials have been removed from the Work Area and the absence of all visible accumulations of debris in the Work Area. This inspection shall be conducted after encapsulation and removal of all surface plastic in the area, except for critical barriers, but before final air clearance testing.

f. Post-Clearance Inspection: The purpose of this inspection is to ensure the complete removal of ACM, including debris, from the Work Area after satisfactory final clearance sampling and removal of all critical barriers and equipment from the Work Area.

g. Punch List Inspection: The purpose of this inspection is to verify the Contractor's certification that all Work has been completed as contracted and the existing condition of the area prior to its release to the Owner.

E. The Environmental Consultant shall provide abatement Project air sampling and analysis as required by applicable regulations (New York State and/or AHERA). Sampling will include background, pre-abatement, during-abatement, and clearance sampling.

1. Unless otherwise required by applicable regulations, the Environmental Consultant shall have samples analyzed by Phase Contrast Microscopy (PCM). Results shall be available within 24 hours of completion of sampling.
2. For large and small Projects, samples shall be collected as required by applicable regulations (New York State and/or AHERA).
3. For tent removals, a minimum of at least one clearance sample shall be collected in each tent. Additional samples shall be collected in accordance with small or large Project requirements if cumulative Project quantities exceed those of a minor Project.
4. If the air sampling during abatement reveals airborne fiber levels at or above 0.01 fibers/cc or the pre-abatement/environmental level (whichever is greater) outside the Work Area, then the Environmental Consultant shall issue an immediate Stop Work order. The Contractor shall then inspect the barriers for leakage and HEPA vacuum and/or wet clean the surface outside the Work Area. The Contractor shall bear the burden of any and all costs incurred by this delay.
5. The Environmental Consultant shall submit copies of all final air clearance results to the NYS Department of Labor at the completion of the Project.

1.09 CONTRACTOR AIR SAMPLING:

A. In addition to the requirements of OSHA 1926.1101, the Contractor shall be required to perform personal air monitoring every Work shift in each Work Area during which abatement activities occur in order to determine that appropriate respiratory protection is being worn and utilized.

B. The Contractor shall conduct air sampling that is representative of both the 8-hour time weighted average and 30-minute short-term exposures to indicate compliance with the permissible exposure and excursion limits.

C. The Contractor's laboratory analysis of air samples shall be conducted by an NYS DOH ELAP approved laboratory, subject to approval of the Environmental Consultant.

D. Results of personnel air sample analyses shall be available, verbally, within twenty-four (24) hours of sampling and shall be posted upon receipt. Written laboratory reports shall be delivered and posted at the Work site within five (5) days. Failure to comply with these requirements may result in all work being stopped until compliance is achieved.

1.10 PROJECT SUPERVISOR:

A. The Contractor shall designate a full-time Project Supervisor who shall meet the following qualifications:
   1. The Project Supervisor shall hold New York State certification as an Asbestos Supervisor.
   2. The Project Supervisor shall meet the requirements of a "Competent Person" as defined by OSHA 1926.1101 and shall have a minimum of one year experience as a supervisor.
   3. The Project Supervisor must be able to read and write English fluently, as well as communicate in the primary language of the Workers.

B. If the Project Supervisor is not on-site at any time whatsoever, all work associated with the asbestos abatement project shall be stopped. The Project Supervisor shall remain on-site until the asbestos abatement portion of the project is complete. The Project Supervisor cannot be removed from the Project without the written consent of the Owner and the Environmental Consultant. The Project Supervisor shall be removed from the Project if so requested by the Owner.

C. The Project Supervisor shall maintain the Project Log Book required by New York State Department of Labor and section 2.03 of the specifications and the Waste Disposal Log required by section 4.04 of the specifications.

D. The Project Supervisor shall be responsible for the performance of the Work and shall represent the Contractor in all respects at the Project site. The Supervisor shall be the primary point of contact for the Asbestos Project Monitor.

1.11 MEDICAL REQUIREMENTS:

A. Before exposure to airborne asbestos fibers, provide Workers with a comprehensive medical examination as required by 29 CFR 1910.1001, and 29 CFR 1926.1101.
   1. This examination is not required if adequate records show the employee has been examined as required by 29 CFR 1910.1001, and 29 CFR 1926.1101 within the past year.
   2. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos fibers and within thirty (30) calendar days before or after the termination of employment in such occupations.

B. As required by 29 CFR 1910.1001, and 29 CFR 1926.1101 maintain complete and accurate records of employees' medical examinations for a period of thirty (30) years after termination of employment and make records of the required medical examinations available for inspection and copying to: The Assistant Secretary of Labor for Occupational Safety and Health, the Director of the National Institute for Occupational Safety and Health (NIOSH), authorized representatives of either of them, and each employee's physician upon the request of the employee or former employee.

C. The Contractor shall furnish the Owner evidence of its firm's medical surveillance program required under 29 CFR 1910.1001, and 29 CFR 1926.1101.

1.12 TRAINING:

A. As required by applicable regulations, prior to assignment to asbestos Work instruct each employee with regard to the hazards of asbestos, safety and health precautions, and the use and requirements of protective clothing and equipment.

B. Establish a respirator program as required by ANSI Z88.2 and 29 CFR 1910.134, and 29 CFR 1926.1101. Provide respirator training and fit testing.

1.13 RESPIRATORY PROTECTION:

A. Select respirators from those approved by the Mine Safety and Health Administration (MSHA), and the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services.

B. Where fiber levels permit, and in compliance with regulatory requirements, Powered Air Purifying Respirators (PAPR) are the minimum allowable respiratory protection permitted to be utilized during gross removal operations.

C. Respirators shall be individually fit-tested to personnel under the direction of an Industrial Hygienist on a yearly basis. Fit-tested respirators shall be permanently marked to identify the individual fitted, and use shall be limited to that individual. Fit-test records shall be maintained on site for each employee.

D. No respirators shall be issued to personnel without such personnel participating in a respirator training program.

E. A storage area for respirators shall be provided by the Contractor in the clean room side of the personnel decontamination enclosure where they will be kept in a clean environment.

F. High Efficiency Particulate Air (HEPA) respirator filters shall be approved by NIOSH and shall conform to the OSHA requirements in 29 CFR 1910.134 and 29 CFR 1926.1101.

G. The Contractor shall provide and make available a sufficient quantity of respirator filters so that filter changes can be made as necessary during the work day. Filters will be removed and discarded as ACM waste during the decontamination process. Filters cannot be reused. Filters must be changed if breathing becomes difficult.

H. Filters used with negative pressure air purifying respirators shall not be used any longer than one eight (8) hour work day.

I. Any authorized visitor, Worker, or supervisor found in the Work Area not wearing the required respiratory protection shall be removed from the Project site and may not be permitted to return.

J. The Contractor shall have at least two (2) Powered Air Purifying Respirators stored on site designated for authorized visitors use. Appropriate respirator filters for authorized visitors shall be made available by the Contractor.

1.14 DELIVERY AND STORAGE:

A. Deliver all materials to the job site in original packages with containers bearing manufacturer's name and label.

B. Store all materials at the job site in a suitable and designated area.
   1. Store materials subject to deterioration or damage away from wet or damp surfaces and under cover.
   1. Protect materials from unintended contamination and theft.
   2. Storage areas shall be kept clean and organized.

C. Remove damaged or deteriorated materials from the job site. Materials contaminated with asbestos shall be disposed of as asbestos debris as herein specified.

1.15 TEMPORARY UTILITIES:

A. Shut down and lock out all electrical power to the asbestos Work Areas.

B. Provide temporary 120-240 volt, single phase, three wire, 100 amp electric service with Ground Fault Circuit Interrupters (GFCI) for all electric requirements within the asbestos Work Area.
   1. All power to the Work Area shall be brought in from outside the area through GFCI's at the source.
   2. Where available, obtain from Owner's existing system. Otherwise provide power from other sources (i.e. generator).
   3. Provide temporary wiring and "weatherproof" receptacles in sufficient quantity and location to serve all HEPA equipment and tools.
   4. Provide wiring and receptacles as required by the Environmental Consultant for air sampling equipment.

C. Provide temporary lighting with "weatherproof" fixtures for all Work Areas including decontamination chambers.
   1. The entire Work Area shall be kept illuminated at all times.
   2. Provide lighting as required by the Environmental Consultant for the purposes of performing required inspections.

D. All temporary devices and wiring used in the Work Area shall be capable of decontamination procedures including HEPA vacuuming and wet-wiping.

E. Provide temporary water source to meet all applicable project water requirements (i.e. decontamination units, wetting materials, etc.). Utilize domestic water service, if available, from Owner's existing system. Provide hot water heaters with sufficient capacity to meet Project demands.

PART 2 PRODUCTS

2.01 PROTECTIVE CLOTHING:

A. Provide personnel utilized during the Project with disposable protective whole body clothing, head coverings, gloves and foot coverings. Provide disposable plastic or rubber gloves to protect hands. Cloth gloves may be worn inside the plastic or rubber for comfort, but shall not be used alone. Make sleeves secure at the wrists and make foot coverings secure at the ankles by the use of tape, or provide disposable coverings with elastic wrists or tops.

B. Provide sufficient quantities of protective clothing to assure a minimum of four (4) complete disposable outfits per day for each individual performing abatement Work.

C. Eye protection and hard hats shall be provided and made available for all personnel entering any Work Area.

D. Authorized visitors shall be provided with suitable protective clothing, headgear, eye protection, and footwear whenever they enter the Work Area.

2.02 SIGNS AND LABELS:

A. Provide warning signs and barrier tapes at all approaches to asbestos Work Areas. Locate signs at such distance that personnel may read the sign and take the necessary protective steps required before entering the area.

1. Provide danger signs in vertical format conforming to 29 CFR 1926.1101, minimum 20" x 14" displaying the following legend.

DANGER
ASBESTOS CANCER AND LUNG DISEASE
HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING
ARE REQUIRED IN THIS AREA

2. Provide 3" wide yellow barrier tape printed with black lettered, "DANGER ASBESTOS REMOVAL". Locate barrier tape across all corridors, entrances and access routes to asbestos Work Area. Install tape 3' to 4' above finish floor elevation.

B. Provide asbestos danger labels affixed to all asbestos materials, scrap, waste, debris and other products contaminated with asbestos.

1. Provide asbestos danger labels of sufficient size to be clearly legible, displaying the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST

2. Provide the following asbestos labels, of sufficient size to be clearly legible, for display on waste containers (bags or drums) which will be used to transport asbestos contaminated material in accordance with United States Department of Transportation 49 CFR Parts 171 and 172:

RQ HAZARDOUS
SUBSTANCE
SOLID, NOS
ORM-E, NA 9188
ASBESTOS

3. Generator identification information shall be affixed to each waste container indicating the following printed in indelible ink:
   Generator Name:
   Facility Name:
   Facility Address:

2.03 PROJECT LOG BOOK:

A. Provide a permanently bound Project log book. Log book shall contain on title page the Project name, name, address and phone number of Owner; name, address and phone number of Environmental Consultant; name, address and phone number of Abatement Contractor; emergency numbers including, but not limited to local Fire/Rescue department.

B. All entries into the log shall be made in non-washable, permanent ink and such pen shall be strung to or otherwise attached to the log to prevent removal from the log-in area. Under no circumstances shall pencil entries be permitted.

C. All persons entering and exiting the Work Area shall sign the log and include name, last 4 digits of social security number, and time.

D. The Project Supervisor shall document all Work performed daily and note all inspections required by NYS Industrial Code 12 NYCRR Part 56, i.e. testing and inspection of barriers and enclosures.

2.04 SCAFFOLDING AND LADDERS:

A. Provide all scaffolding and/or staging as necessary to accomplish the Work of this Contract. Scaffolding may be of suspension type or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of all scaffolding and ladders shall comply with all applicable OSHA construction industry standards.

B. Provide scaffolding and ladders as required by the Environmental Consultant for the purposes of performing required inspections.

2.05 SURFACTANT (AMENDED WATER):

A. Wet all asbestos-containing materials prior to removal with surfactant mixed and applied in accordance with manufacturer's printed instructions.

B. Approved Manufacturer:
   1. International Protective Coatings Corp.: Serpiflex Shield
   2. American Coatings Corp.: EPA 55 Asbestos Removal Agent
   3. Certified Technologies: CerTane 2075 Penetrating Surfactant
   4. Alternate Approved by the Environmental Consultant

2.06 ENCAPSULANT:

A. Encapsulant shall be tinted or pigmented so that application when dry is readily discernible.

B. Approved Manufacturer:
   1. International Protective Coatings Corp.: Serpiflex Shield
   2. American Coatings Corp.: FNE High Temperature Sealant
   3. Certified Technologies: CerTane 1000 Post Removal Encapsulant
   4. Alternate Approved by the Environmental Consultant

2.07 DISPOSAL BAGS, DRUMS, AND CONTAINERS:

A. Provide 6 mil polyethylene disposal bags printed with asbestos caution labels. Bags shall also be imprinted with U.S. Department of Transportation required markings.

B. Provide 30 or 55 gallon capacity fiber or metal drums capable of being sealed air and water tight if asbestos waste has the potential to damage or puncture disposal bags. Affix asbestos caution labels on lids and at one-third points around drum circumference to assure ready identification.

C. Containers and bags must be labeled with the names of the waste generator and the location at which the waste was generated in accordance with 40 CFR Part 61 NESHAPS.

D. Labeled ACM waste containers or bags shall not be used for non-ACM waste or trash. Any material placed in labeled containers or bags, whether turned inside out or not shall be handled and disposed of as ACM waste.

2.08 HEPA VACUUM EQUIPMENT:

A. All dry vacuuming performed under this contract shall be performed with High Efficiency Particulate Absolute (HEPA) filter equipped industrial vacuums conforming to ANSI Z9.2-79.

B. Provide tools and specialized equipment including scraping nozzles with integral vacuum hoods connected to a HEPA vacuum with flexible hose.

C. Approved Manufacturers:
   1. Hako Minuteman
   2. Micro-Trap Inc.
   3. Control Resource Systems, Inc.

2.09 POWER TOOLS:

A. Any power tools used to drill, cut into, or otherwise disturb asbestos material shall be equipped with HEPA filtered local exhaust ventilation.

2.10 POLYETHYLENE SHEETING:

A. All polyethylene (plastic) sheeting used on the Project (including but not limited to sheeting used for critical and isolation barriers, fixed objects, walls, floors, ceilings, waste container) shall be at least 6 mil fire retardant sheeting.

B. Decontamination enclosure systems shall utilize at least 6 mil opaque fire retardant plastic sheeting. At least 2 layers of 6 mil reinforced fire retardant plastic sheeting shall be used for the flooring.

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS:

A. Should the area beyond the Work Area(s) become contaminated with asbestos containing materials or elevated fiber levels, immediately stop Work and institute emergency procedures. Contaminated non-Work Areas shall be isolated and decontaminated in accordance with procedures established for asbestos removal. All costs incurred in decontaminating such non-Work Areas and the contents thereof shall be borne by the Contractor, at no additional cost to the Owner.

B. Medical approval, fit test reports, Worker Acknowledgments, and NYS DOL certificates shall be on site prior to admittance of any Contractor's employees to the asbestos Work Area.

C. Perform all asbestos removal Work using wet removal procedures. Mix and apply surfactant in accordance with manufacturer's written instructions. Dry removal procedures are not permitted.

D. The following submittals, documentation, and postings shall be maintained on-site during abatement activities at a location approved by the Asbestos Project Monitor:
   1. Contractor license issued by New York State Department of Labor.
   2. Certification, Worker Training, Medical Surveillance, Acknowledgments:
      a. New York State Asbestos Handler certification cards for each person employed in the removal, handling, or disturbance of asbestos.
      b. Evidence that Workers have received proper training required by the regulations and the medical examinations required by OSHA 29 CFR 1926.1101.
      c. Documentation that Workers have been fit tested specifically for respirators used on the Project.
      c. Worker's Acknowledgments: Statements signed by each employee that the employee has received training in the proper handling of asbestos containing materials; understands the health implications and risks involved; and understands the use and limitations of the respiratory equipment to be used.
   3. Daily OSHA personal air monitoring results.
   4. NYS Department of Health ELAP certification for the laboratory that will be analyzing the OSHA personnel air samples.
   5. NYS Department of Environmental Conservation Waste Transporter Permit.

6. Project documents (specifications and drawings.)
7. Notifications and variances (site specific). Ensure that the most up-to-date notifications and variances are on-site.
8. Applicable regulations.
9. Material Safety Data Sheets of supplies/chemicals used on the Project.
10. Approved Abatement Work Plan.
11. List of emergency telephone numbers.
12. Waste Disposal Log
13. Project Log Book

E. The Work Area must be vacated by building occupants prior to decontamination enclosure construction and Work Area preparation.

F. All demolition necessary to access asbestos containing materials for removal must be conducted within negative pressure enclosures by licensed asbestos handlers. Demolition debris may be disposed of as construction and demolition debris provided the Asbestos Project Monitor determines that it is not contaminated with asbestos. If the demolition debris is determined to be contaminated, it must be disposed of as asbestos waste.

3.02 PERSONNEL DECONTAMINATION ENCLOSURE:

A. Provide a personnel decontamination enclosure consistent with ICR 56. The decontamination enclosure shall not be located within a work area. If the decontamination chamber is accessible to the public it shall be fully framed and sheathed to prevent unauthorized entry.

B. Access to the Work Area will be from the clean room through an air-lock to the shower, through an air lock to the equipment room, through an air lock to the Work Area. Each airlock shall be a minimum of three feet from door to door.

C. The decontamination enclosure ceiling and walls shall be covered with two layers of opaque 6 mil polyethylene sheeting. Two layers of 6 mil reinforced polyethylene sheeting shall be used to cover the floor.

D. Establish a triple layer of six mil polyethylene at the decontamination chamber doorways, weighted to insure a tight seal of the enclosure. Prior to establishing doorway seals move all required tools, scaffolding, and equipment into the Work Area.

E. The entrance to the clean room shall have a lockable door. Provide suitable lockers for storage of Worker's street clothes. Storage for respirators along with replacement filters and disposable towels shall also be provided.

F. Provide a temporary shower with individual hot and cold water supplies and faucets. Provide a sufficient supply of soap and shampoo. There shall be one shower head for every six Workers. The shower room shall be constructed in such a way so that travel through the shower chamber shall be through the shower. The shower shall not be able to be bypassed.

G. Shower water shall be drained, collected and filtered through a system with at least a 5.0 micron particle size collection capability containing a series of several filters with progressively smaller pore sizes to avoid rapid clogging of the system. The filtered waste water shall then be discharged in accordance with applicable codes and the contaminated filters disposed of as asbestos waste.

H. The equipment room shall be used for the storage of tools and equipment. A walk-off pan filled with water shall be located in the Work Area outside the equipment room for Workers to clean foot coverings when leaving the Work Area. A labeled 6 mil plastic ACM waste bag for collection of contaminated clothing shall be located in this room.

I. The personal decontamination enclosure shall be cleaned and disinfected minimally at the end of each Work shift and as otherwise directed by the Asbestos Project Monitor.

3.03 WASTE DECONTAMINATION ENCLOSURE:

A. Provide a waste decontamination enclosure consistent with ICR 56. The decontamination enclosure shall not be located within a work area. If the decontamination chamber is accessible to the public, it shall be fully framed and sheathed to prevent unauthorized entry.

B. The waste decontamination enclosure system shall consist of a washroom/cleanup room with an airlock to the Work Area and another airlock doorway to the holding area. Each airlock shall be a minimum of three feet from door to door. The entrance to the holding area shall have a lockable door.

C. The decontamination enclosure ceiling and walls shall be covered with two layers of opaque 6 mil polyethylene sheeting. Two layers of 6 mil reinforced polyethylene sheeting shall be used to cover the floor.

D. Establish a triple layer of six mil polyethylene at the decontamination chamber doorways, weighted to insure a tight seal of the enclosure. Prior to establishing doorway seals move all required tools, scaffolding, and equipment into the Work Area.

E. Where there is only one egress from the Work Area, the holding area of the waste decontamination enclosure system may branch off from the personnel decontamination enclosure equipment room, which then serves as the waste wash room.

F. The waste wash room water shall be drained, collected, and filtered through a system with at least a 5.0 micron particle size collection capability containing a series of several filters with progressively smaller pore sizes to avoid rapid clogging of the system. The filtered waste water shall then be discharged in accordance with applicable codes and the contaminated filters disposed of as asbestos waste.

G. In small asbestos Projects where only one egress from the Work Area exists, the shower room may be used as a waste washroom. In this instance, the clean room shall not be used for waste storage, but shall be used for waste transfer to carts, which shall immediately be removed from this enclosure.

3.04 WORK AREA ENTRY AND EXIT PROCEDURES:

A. Access to and from the asbestos Work Area is permitted only through the personnel decontamination enclosure unless otherwise stipulated in a site specific variance.

B. Workers shall sign the entry/exit log upon every entry and exit.

C. The following procedures shall be followed when entering the Work Area:

1. Before entering the Work Area, Workers shall proceed to the clean room, remove all street clothes, and don protective clothing, equipment, and respirators.
2. Workers shall proceed from the clean room through the shower room and the equipment room and into the Work Area.

D. The following procedures shall be followed when exiting the Work Area:
1. Before leaving the Work Area, gross asbestos contamination will be removed by brushing, wet cleaning and/or HEPA vacuuming.
2. In the equipment room, Workers shall remove disposable clothing, but not respirators, and shall place clothing in plastic disposal bags for disposal as contaminated debris prior to entering the shower room.
3. Workers shall shower thoroughly while wearing respirators then wash respirator with soap and water prior to removal.
4. Upon exiting the shower, Workers shall don new disposable clothing if the Work shift is to continue or street clothes to exit area. Under no circumstances shall Workers enter public non-Work Areas in disposable protective clothing.

3.05 WORK AREA PREPARATION:

A. Asbestos danger signs shall be posted at all approaches to the asbestos Work Area. Post all emergency exits as "emergency exit only" on the Work Area side, post with asbestos caution signs on the non-Work Area side. Provide all non-Work Area stairs and corridors accessible to the asbestos Work Area with warning tapes at the base of stairs and beginning of corridors. Warning tapes shall be in addition to caution signs.

B. Shut down and lock out the building heating, ventilating, and air conditioning and electrical systems. Provide temporary electric power and lighting as specified herein.

C. All surfaces and objects within the Work Area shall be pre-cleaned using HEPA vacuuming and/or wet-wiping methods. Dry sweeping and any other methods that raise dust shall be prohibited. ACM shall not be disturbed during pre-cleaning.

D. Movable objects within the Work Area shall be HEPA vacuumed and/or wet-wiped and removed from the Work Area.

E. All non-movable equipment in the Work Area shall be completely covered with 2 layers of polyethylene sheeting, at least 6 mil in thickness, and secured in place with duct tape and/or spray adhesive.

F. Provide enclosure of the asbestos Work Area necessary to isolate it from unsealed areas of the building in accordance with the approved asbestos Work plan and as specified herein.

G. Seal off all openings including but not limited to windows, diffusers, grills, electrical outlets and boxes, doors, floor drains, and any other penetrations of the Work Area enclosure, using 2 layers of at least 6 mil polyethylene sheeting to form a critical barrier or as described in the site specific variance.

H. Provide temporary framing and sheathing at openings larger than 32 square feet forming the limits of the asbestos Work Area. Sheathing thickness must be a minimum of 3/8 inch and all sheathing shall be caulked and the Work Area side sealed with two layers of 6 mil polyethylene sheeting to form an isolation barrier, or as described in the site specific variance.

I. Isolation barriers shall be installed at all elevator openings in the Work Area. Elevator controls shall be modified so that elevators bypass the Work Area.

J. Provide two layers of 6 mil polyethylene sheeting over all floor, wall, and ceiling surfaces. Isolation barriers shall also be covered with two layers (for a total of four layers) or perform as modified by the site specific variance. Sheeting shall be secured with spray adhesive and then sealed with duct tape. All joints in polyethylene sheeting shall overlap 12" minimum.

K. Unless otherwise specified for removal, the Contractor shall either protect all fiberglass insulation on piping, ductwork, tanks, etc. in the Work Area using two layers of six mil polyethylene or remove the insulation as asbestos containing waste.

L. Frame out emergency exits. Provide double layer 6 mil polyethylene sheeting and tape seal opening. Post as emergency exits only. Within the Work Area, mark the locations and directions of emergency exits throughout the Work Area using exit signs and/or duct tape.

M. Remove all items attached to or in contact with ACM only after the Work Area enclosure is in place. HEPA vacuum and wet wipe with amended water all removed items prior to their removal from the Work Area and before the start of asbestos removal operations.

N. Suspended ceiling tiles shall only be removed after Work Area preparation is complete, or as specified in the site specific variance. Non-contaminated ceiling tiles shall be HEPA vacuumed and removed from the Work Area before asbestos removals begin. Contaminated ceiling tiles shall be disposed of as asbestos waste.

3.06 NEGATIVE AIR PRESSURE FILTRATION SYSTEM:

A. Provide a portable asbestos filtration system that develops a minimum pressure differential of negative 0.02 in. of water column within all full enclosure areas relative to adjacent unsealed areas and that provides a minimum of 4 air changes per hour in the Work Area during abatement.

B. Such filtration systems must be operated 24 hours per day during the entire Project until the final cleanup is completed and satisfactory results of the final air samples are received from the laboratory.

C. The system shall include a series of pre-filters and filters to provide High Efficiency Particulate Air (HEPA) filtration of particles down to 0.3 microns at 100% efficiency and below 0.3 microns at 99.9% efficiency. Provide sufficient replacement filters to replace pre-filters every 2 hours, secondary pre-filters every 24 hours, and primary HEPA filters every 600 hours of operation.

D. A minimum of one additional filtration unit of at least the same capacity as the primary unit(s) shall be installed and fully functional to be used during primary unit (s) filter changing and in case of primary failure. There shall be at least one back-up unit for every five primary units.

E. At no time will the unit exhaust indoors, within 50 feet of a receptor, including but not limited to windows and doors, or adversely affect the air intake of the building.

F. Upon electric power failure or shut-down of any filtration unit, all abatement activities shall stop immediately and only resume after power is restored and all filtration units are fully operating. For shut-downs longer than one hour, all openings into the Work Area, including the decontamination enclosures, shall be sealed.

G. During final air clearance sampling, negative air filtration shall be reduced to half the required air changes per hour.

H. The Contractor shall provide either a manometer or a photohelic style negative air pressure gauge with chart recorder to measure and record negative pressure differential across the Work Area barriers without interruption 24 hours per day as directed by the Environmental Consultant.

I. The contractor shall observe all applicable preparation phase, removal and cleaning phase, and settling/ drying waiting periods as described in ICR 56.

3.07 REMOVAL OF ASBESTOS CONTAINING MATERIALS:

A. Asbestos-containing materials shall be removed in accordance with the Contract Documents and the approved Asbestos Work Plan.

B. Sufficiently wet asbestos materials with a low pressure, airless fine spray of surfactant to ensure full penetration prior to material removal. Re-wet material that does not display evidence of saturation.

C. One Worker shall continuously apply amended water while ACM is being removed.

D. Perform cutting, drilling, abrading, or any penetration or disturbance of asbestos containing material in a manner to minimize the dispersal of asbestos fibers into the air. Use equipment and methods specifically designed to limit generation of airborne asbestos particles. All power operated tools used shall be provided with HEPA equipped filtered local exhaust ventilation.

E. Upon removal of ACM from the substrate, the newly exposed surfaces shall be HEPA vacuumed and/or wet cleaned. Surfaces must be thoroughly cleaned using necessary methods and any required solvents to completely remove any adhesive, mastic, etc, unless stated otherwise in the site specific variance.

F. All removed material shall be placed into 6 mil plastic disposal bags or other suitable container upon detachment from the substrate or whenever there is enough accumulation to fill a single bag or container. Maintain the surfaces of the Work Area free of accumulation of asbestos debris.

G. Dust-tight enclosed inclined chutes shall be used for materials dropped from distances greater than 10 ft.

H. Large components shall be wrapped in two layers of 6 mil polyethylene sheeting. Sharp components likely to tear disposal bags shall be placed in fiber drums or boxes and then wrapped with sheeting.

I. Power or pressure washers are not permitted for asbestos removal or clean-up procedures.

J. All open ends of pipe and duct insulation not scheduled for removal shall be encapsulated using lag cloth.

K. All construction and demolition debris determined by the Asbestos Project Monitor to be contaminated with asbestos shall be handled and disposed of as asbestos waste.

L. The use of metal shovels, metal dust pans, etc. are not permitted inside the work area.

3.08 EQUIPMENT AND WASTE CONTAINER DECONTAMINATION AND REMOVAL PROCEDURES:

A. External surfaces of contaminated containers and equipment shall be cleaned by wet cleaning and/or HEPA vacuuming in the Work Area before moving such items into the waste decontamination enclosure system airlock by persons assigned to this duty. The Work Area persons shall not enter the airlock.

B. The containers and equipment shall be removed from the airlock by persons stationed in the washroom during waste removal operations. The external surfaces of containers and equipment shall be cleaned a second time by wet cleaning.

C. The cleaned containers of asbestos material and equipment are to be dried of any excessive pooled or beaded liquid, placed in uncontaminated plastic bags or sheeting, as the item's physical characteristics demand, and sealed airtight.

D. The clean recontainerized items shall be moved into the airlock that leads to the holding area. Workers in the washroom shall not enter this airlock or the Work Area until waste removal is finished for that period.

E. Containers and equipment shall be moved from the airlock and into the holding area by persons dressed in clean personal protective equipment, who have entered from uncontaminated areas.

F. The cleaned containers of asbestos material and equipment shall be placed in water tight carts with doors or tops that shall be closed and secured. These carts shall be held in the holding area pending removal. The carts shall be wet cleaned and/or HEPA vacuumed at least once each day.

G. The exit from the decontamination enclosure system shall be secured to prevent unauthorized entry.

H. Where the waste removal enclosure is part of the personnel decontamination enclosure, waste removal shall not occur during shift changes or when the enclosure is otherwise occupied. Precautions shall be taken to prevent short circuiting and cycling of air outward through the shower and clean room.

3.09 APPLICATION OF ENCAPSULANT:

A. After first cleaning, prior to first sheeting removal, and after Work Area has been rendered free of visible residues, a thin coat of encapsulant shall be applied to any surfaces in the Work Area which were not the subject of removal.

B. In no event shall encapsulant be applied to any surface that was the subject of removal prior to obtaining satisfactory air monitoring results.

C. Encapsulants shall be pigmented or tinted to provide an indication for completeness of coverage. The Asbestos Project Monitor shall determine adequacy of coverage.

3.10 WORK AREA DECONTAMINATION:

A. Following completion of gross abatement and after all accumulations of asbestos waste materials have been containerized, the following decontamination procedures shall be followed unless modified by a site specific variance.

B. First Cleaning:
   1. All bagged asbestos waste and unnecessary equipment shall be decontaminated and removed from the Work Area.
   2. All surfaces in the Work Area shall be wet cleaned. A wet-purpose shop vacuum may be used to pick up excess liquid, and may either be decontaminated prior to removal from the Work Area or disposed of as asbestos waste.
   3. The Asbestos Project Monitor shall conduct a visual inspection of the Work Area for cleanliness and completion of abatement.
   4. The Contractor shall then apply a thin coat of encapsulant to all surfaces in the Work Area that were not the subject of removal. In no event shall encapsulant be applied to any surface that was the subject of removal prior to obtaining satisfactory air monitoring results.
   5. After the encapsulant has dried, the first layer of polyethylene sheeting shall then be removed and bagged, and the Work Area shall be vacated for a minimum of 12 hours.

C. Second Cleaning
   1. All surfaces in the Work Area shall be HEPA vacuumed and/or wet cleaned.
   2. The Asbestos Project Monitor shall conduct a second visual inspection of the Work Area for cleanliness.
   3. The second layer of polyethylene sheeting shall be removed and bagged and the Work Area shall be vacated for a minimum of 12 hours.

D. Third Cleaning
   1. All surfaces in the Work Area shall be HEPA vacuumed and/or wet cleaned.
   2. The Asbestos Project Monitor shall conduct a third visual inspection of the Work Area for cleanliness.
   3. The Work Area shall be vacated for a minimum of 12 hours regardless of the cleaning method (HEPA vacuuming or wet cleaning) utilized.
   4. Aggressive final clearance air sampling shall then be conducted by the Environmental Consultant.
   5. Upon receipt of satisfactory final clearance air sampling results, the negative air pressure equipment can then be shut down and decontamination areas and isolation and critical barriers removed.

E. After isolation and critical barriers are removed, the Asbestos Project Monitor shall inspect the Work Area for cleanliness. If necessary, additional cleaning shall be performed by the Contractor as directed by the Asbestos Project Monitor.

F. As a result of any visual inspection by the Asbestos Project Monitor or should air sampling results indicate high fiber levels, the Contractor will clean or reclean the affected areas at no additional expense to the Owner.

3.11 TENT ENCLOSURES:

A. Tent enclosures may only be used in areas specifically permitted by NYS Department of Labor Code 12 NYCRR Part 56 or a Project specific variance issued by the NYS Department of Labor.

B. The Contractor shall restrict access to the immediate area where tent removal procedures are taking place using barrier tape and/or construction barriers. Caution signs shall be posted.

C. Remote personnel and waste decontamination enclosures shall be constructed. Configuration shall be as required by Project size.

D. The Work Area shall be precleaned. All objects and equipment that will remain in the restricted area during abatement shall be sealed with two layers of six mil polyethylene and tape.

E. The tent shall be a single use barrier constructed with a rigid frame and at least two layers of six mil polyethylene unless one layer of six mil polyethylene is otherwise permitted by a site specific variance. All seams shall be sealed airtight using duct tape and/or spray adhesive.

F. The tent shall be constructed with at least one airlock for worker/waste egress.

G. During removals, a HEPA vacuum or small capacity negative pressure filtration unit shall be used to provide a negative air pressure inside the tent.

H. Workers shall wear two disposable suits for all phases of Work. Workers exiting the tent shall HEPA vacuum the outer suit, enter the airlock, remove the outer suit and then place it back into the Work Area. A clean second suit shall be donned before exiting the airlock and proceeding to the decontamination enclosure or another work area.

I. OSHA compliance air monitoring is required per section 1.09.

J. ACM removal shall follow procedures defined in section 3.07.

K. Waste material shall be placed in properly labeled 6 mil plastic bags or other appropriate containers. The outside of the bags or containers shall be wet wiped and/or HEPA vacuumed before being passed into the airlock for double- bagging. The bags or containers shall then be transported to the decontamination enclosure and then bagged for a third time and transported to the waste storage container. All transportation of waste bags and containers outside the Work Area shall be in watertight carts.

L. Following completion of gross abatement and after all accumulations of asbestos waste materials have been containerized, the following decontamination procedures shall be followed.

1. All bagged asbestos waste and unnecessary equipment shall be decontaminated and removed from the Work Area.

2. All surfaces in the Work Area shall be wet cleaned. A wet-purpose shop vacuum may be used to pick up excess liquid, and shall be decontaminated prior to removal from the Work Area.
3. The Asbestos Project Monitor shall conduct a visual inspection of the Work Area for cleanliness and completion of abatement.
4. The Contractor shall then apply a thin coat of encapsulant to all surfaces in the Work Area that were not the subject of removal. In no event shall encapsulant be applied to any surface that was the subject of removal prior to obtaining satisfactory air monitoring results.
5. After the encapsulant has dried, aggressive final clearance air sampling shall then be conducted by the Environmental Consultant.
6. Upon receipt of satisfactory final clearance air sampling results, the tent shall be collapsed into itself, placed in suitable disposal bags, and transported to the waste decontamination enclosure. Isolation and critical barriers shall then be removed.

3.12 GLOVEBAG REMOVAL:

A. Glovebag removals may only be used as specifically permitted by NYS Department of Labor Code 12 NYCRR Part 56, or a Project specific variance issued by the NYS Department of Labor. Glovebags may only be used on piping.

B. In addition to conformance with applicable regulations and variances, glovebag removals are only permitted to be conducted within tent enclosures complying with these specifications. Removal and disposals must also be conducted in conformance with all Project variance conditions.

C. The Contractor shall restrict access to the immediate area where tent/glovebag removal procedures are taking place using barrier tape and/or construction barriers. Caution signs shall be posted.

D. Remote personnel and waste decontamination enclosures shall be constructed. Configuration shall be as required by Project size.

E. The Work Area shall be precleaned. All objects and equipment which will remain in the restricted area during abatement shall be sealed with two layers of six mil polyethylene and tape.

F. Glovebag removals shall utilize commercially available glovebags of at least six mil thickness. Use shall be in accordance with the manufacturer's instructions and the following minimum requirements:
1. The sides of the glovebag shall be cut to fit the size pipe being removed. Tools shall be inserted into the attached tool pocket.
2. The glovebag shall be placed around the pipe and the open edges shall be folded and sealed with staples and duct tape. The glovebag shall also be sealed at the pipe to form a tight seal.
3. Openings shall be made in the glovebag for the wetting tube and HEPA vacuum hose. The opening shall be sealed to form a tight seal.
4. All glovebags shall be smoke tested by the Asbestos Project Monitor before removal operations commence. Glovebags that do not pass the smoke test shall be resealed and then retested.

5. After first wetting the materials to be removed, removal may commence. ACM shall be continuously wetted. After removal of the ACM, the piping shall be scrubbed or brushed so that no visible ACM remains. Open ends of pipe insulation shall be encapsulated.
6. After the piping is cleaned, the inside of the glovebag shall be washed down and the wetting tube removed. Using the HEPA vacuum, the glovebag shall be collapsed and then twisted and sealed with tape with the ACM at the bottom of the bag.
7. A disposal bag shall be placed around the glovebag that is then detached from the pipe. The disposal bag is then sealed and transported to the decontamination enclosure.

G. After glovebag removals are complete, tent decontamination procedures shall be followed.

3.13 ROOF REMOVALS:

A. Except as modified by this section, removal of roof flashings and built-up roofing shall conform to all provisions of this specification.

B. Unless Project specific variances have been otherwise obtained, roofing removals shall be conducted in accordance with the provisions of New York State Department of Labor (NYS DOL) 12 NYCRR Part 56.

C. The work area shall be the roof area from which ACM materials are being removed and shall extend 25 feet from the perimeter of the removal area, or as otherwise stated in the site specific variance.

D. Non-certified Workers are not allowed in the Work Area until the Work Area is cleared by the Asbestos Project Monitor.

E. Remote personnel and waste decontamination enclosures shall be constructed at a location in accordance with the approved Work Plan. Unless located outside the Work Area, decontamination enclosures are not permitted to be constructed on the roof. Decontamination enclosures shall be stationary and located in accordance with NYSDOL 12 NYCRR Part 56 requirements.

F. All openings (including but not limited to windows, doors, hatches, vents, ducts, and grilles) on the roof level and the floor below shall be sealed with two layers of six mil polyethylene. Alternately, a polyethylene drape may be used instead of sealing windows individually.

G. The removal of the ACM may require the use of scrapers, solvents, mastic removal chemicals, or other methods/procedures to ensure complete removal.

H. The Contractor is required to provide temporary protection of the roof at the end of each Work shift so as to maintain the roof in a watertight condition.

I. Dumpsters used for waste storage shall be lined with two layers of six mil polyethylene and shall have a hard top. Where open-top dumpsters are permitted, the top shall be closed with polyethylene flaps that are sealed at the end of each work shift.

J. Personal protective equipment, including respirators, shall be utilized and worn during all removal operations until the Work Area is cleared by the Asbestos Project Monitor.

K. The Owner may, at his discretion, choose to conduct air sampling. If air samples collected during abatement indicate any airborne asbestos fiber concentration(s) at or above 0.01 f/cc, Work shall be stopped immediately and Work methods shall be altered to reduce the airborne asbestos fiber concentration(s).

PART 4 DISPOSAL OF ASBESTOS WASTE

4.01 APPLICABLE REGULATIONS:

A. All asbestos waste shall be stored, transported and disposed of in accordance with the following regulations as a minimum:
   1. 12 NYCRR Part 56-10
   2. US EPA NESHAPS 40 CFR 61
   3. US EPA Asbestos Waste Management Guidance EPA/530-SW85

4.02 TRANSPORTATION AND DISPOSAL SITE:

A. The Contractor's Hauler and Disposal Site shall be approved by the Owner.

B. The Contractor shall give twenty-four (24) hour notification prior to removing any waste from the site. Waste shall be removed from the site only during normal working hours unless otherwise specified. No waste may be taken from the site unless the Contractor and Environmental Consultant are present and the Environmental Consultant authorizes the release of the waste as described herein.

C. The Contractor shall have the Hauler provide the estimated date and time of arrival at the Disposal Site.

D. Upon arrival at the Project Site, the Hauler must possess and present to the Environmental Consultant a valid New York State Department of Environmental Conservation Part 364 Asbestos Hauler's Permit. The Environmental Consultant may verify the authenticity of the hauler's permit with the proper authority.

E. The Hauler, with the Contractor and the Environmental Consultant, shall inspect all material in the transport container prior to taking possession and signing the Asbestos Waste Manifests.

F. Unless specifically approved by the Owner, the Contractor shall not permit any off-site transfers of the waste or allow the waste to be transported or combined with any other off-site asbestos material. The Hauler must travel directly to the disposal site as identified on the notifications with no unauthorized stops.

4.03 WASTE STORAGE CONTAINERS:

A. All waste containers shall be fully enclosed and lockable (i.e. enclosed dumpster, trailer, etc.). No open containers will be permitted on-site (i.e. open dumpster with canvas cover, etc.) unless specifically permitted by a site specific variance.

B. The Environmental Consultant shall verify that any vehicle transporting asbestos waste is listed on the New York State Department of Environmental Conservation Part 364 permit. Any vehicle not listed on the permit shall not be permitted to transport asbestos waste.

C. The container shall be plasticized and sealed with a minimum of one (1) layer of 6 mil polyethylene on the sides and two (2) layers of 6 mil polyethylene on the floor. Once on site, it shall be kept locked at all times, except during load out. The waste container shall not be used for storage of equipment or contractor supplies.

D. While on-site, the container shall be labeled with EPA Danger signage:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

E. The New York State Department of Environmental Conservation Asbestos Hauler's Permit number shall be stenciled on both sides and back of the container.

F. The container is not permitted to be loaded unless it is properly plasticized, has the appropriate danger signage affixed, and has the permit number appropriately stenciled on the container.

G. Before an enclosed container is removed from the Project Site for transportation to the Disposal Site, a seal will be placed on the door(s) of the container by the Environmental Consultant. The door(s) shall also be locked. The seals and locks shall be removed at the Disposal Site by the operator of the Disposal Facility and the seals shall be returned by the Disposal Facility to the Contractor.

H. If a lined and sealed open-top container is used pursuant to a site specific variance, a seal is not required.

I. The Owner may initiate random checks at the Disposal Site to insure that the procedures outlined herein are complied with.

4.04 ASBESTOS WASTE SHIPMENT RECORDS:

A. Asbestos Waste Shipment Records shall be completed by the Contractor and verified by the Construction Manager that all the information and amounts are accurate and the proper signatures are in place.

B. The Waste Shipment Records shall have the appropriate signatures of the Construction Manager, the Contractor, and the Hauler representatives prior to any waste being removed from the site.

C. Copies of the completed Waste Shipment Records shall be retained by the Construction Manager and the Contractor and shall remain on site for inspection.

D. Upon arrival at the Disposal Site, the Waste Shipment Record shall be signed by the Disposal Facility operator to certify receipt of ACM covered by the manifest.

E. The Disposal Facility operator shall return the original Waste Shipment Record to the Owner.

F. The Contractor shall forward copies of each Waste Shipment Record to the Construction Manager within 14 days of the waste container being removed from the site. Failure to do so may result in payment being withheld from the Contractor.

G. The Contractor shall create and utilize a Waste Disposal Log to track the disposal of all project generated waste. This log shall be maintained by the Project Supervisor and shall be kept on site at all times.

H. Originals of all Waste Shipment Records and disposal logs shall be submitted by the Contractor to the Construction Manager with the final close-out documentation and upon request.

END OF SECTION

LEAD MANAGEMENT
02-8300

PART 1 - GENERAL

1.01 SCOPE:

A. Perform all work necessary to carry out the proper management of all deteriorated and flaking or chipping lead based paint (LBP) from all walls, tanks, piping and equipment and lead-contaminated dust/debris in accordance with all applicable laws, codes, rules and regulations and in accordance with the requirements set forth in this Section. Provide all appropriate controls and protection for worker exposure to lead based paint in accordance with OSHA requirements.

1.02 REGULATORY REQUIREMENTS:

A. Applicable guidelines and standards include, but are not limited to, the following:

1. New York State Department of Environmental Conservation

   6 NYCRR Subparts 371-376

2. Code of Federal Regulations (CFR) Publications:

   29 CFR,, Part 1926.62;

   40 CFR 61, Subpart A General Provisions (Hazardous Air Pollutants Listing)

   40 CFR 61.152 Standard for Waste Manufacturing, Demolition, Renovation, Spraying and Fabricating Operations

   40 CFR 241 Guidelines for the Land Disposal of Solid Wastes

   40 CFR 257 Criteria for Classification of Solid Waste

   40 CFR 261 Identification and Listing of Hazardous Wastes

   40 CFR 262 Standards Applicable to Generators of Hazardous Waste

3. American National Standards Institute (ANSI) Publications:

   Z88.2-80 Practices for Respiratory Protection; Z87.1 Eye Protection

4. Steel Structure Painting Council (SSPC)

   SSPC Guide 6 (CON): Guide for Containing Debris Generated During Paint Removal Operations

1.03 WORKER PROTECTION:

A. General

1. Any surface coating and/or underlying substrate containing lead in any concentration that shall be disturbed shall be treated as a potential lead hazard to workers in accordance with 29 CFR 1926.62. This standard applies to all construction work in which lead in any concentration is present.

2. The Contractor shall be responsible for maintaining a program in accordance with 29 CFR 1926.62 at minimum and shall be responsible for protecting and training his employees on worker safety, health hazards, etc. relating to lead. The following sections must be addressed by the Contractor in a lead health and safety program. This program shall be incorporated into the Contractor's written Health and Safety plan. These sections are not intended to constitute an exhaustive summary of all relevant obligations. The Contractor should consult the following publications and/or competent environmental counsel.

   OSHA - 3079 Respiratory Protection

   OSHA - 3142 Lead in Construction

B. Exposure Assessment/Personal Air Monitoring

1. Exposure assessment is the primary means of determining to what airborne level of lead workers are being exposed. The Contractor shall insure that workers are not exposed to lead at concentrations greater than the Permissible Exposure Limit (PEL) of 50 micrograms per cubic meter (ug/m^3) over an eight-hour time weighted average (TWA). The Contractor must initially determine if any employee is exposed to lead at or above the PEL. Until the findings of this initial exposure assessment indicate that the airborne concentrations do not exceed the PEL, the Contractor must provide respirator protection that shall adequately prevent worker exposure to airborne lead above the PEL. At a minimum, respirators must have a protection factor of at least ten. The Contractor must make this initial exposure assessment by personal air sampling representative of a full shift, including at least one sample for each job classification in each work area, either for each shift or for the shift with the highest exposure level.

2. If available, use exposure assessment data obtained within the last 12 months from previous jobs conducted under similar work conditions, control methods, work practices, and environmental conditions to be used in this contract or other objective data to demonstrate that work activities in this contract shall not exceed the PEL, provided that the assessment entailed comparable lead concentrations in coating materials, work practices, engineering controls, and rates of work.

3. Until the exposure assessment is performed, the Contractor must provide to his workers the following: respiratory protection with a protection factor of at least ten, personal protective clothing, lead-free change areas, hand washing facilities, biological monitoring and training

C. Medical Surveillance

Provide medical surveillance to workers until exposure monitoring reveals that workers are not exposed on any day of the job to airborne lead at or above the Action Level of 30 ug/m^3. This consist of a blood test measuring the level of lead and zinc protoporphyrin by a licensed physician. Further testing and medical exams may be necessary depending on the results of initial blood tests and/or the initial exposure assessment as stated in CFR 1926.62.

D. Training

Before workers start a job in a leaded environment, they must receive training. This training must include a description of the OSHA lead standard, the sources of lead exposure, the uses and limitations of respirators, the purpose of getting a blood lead test, the purpose of the initial exposure assessment, their rights to the results of the blood tests and air monitoring and the methods of controlling the level of lead exposure to a minimum.

E. Written Program

Have a written lead health and safety program which is to be submitted to Construction Manager and imposed on all of his employees involved in operations that disturb or remove lead paint or lead dust or dirt for this contract. The program, at a minimum, shall address respirator protection that is in full compliance with all aspects of 29 CFR 1910.134, exposure assessment, signs to be posted in work areas, protective clothing, engineering and administrative controls, hygiene facilities and practices, decontamination, housekeeping, medical surveillance, training and other items to satisfy OSHA standards as required.

F. Respirator Protection

1. Have a respirator protection program in accordance with 29 CFR 1910.134. If respirators are necessary, the Contractor shall have his employees medically approved to wear respirators, establish and submit a written respirator program, select the proper respirator for the level of exposure to be encountered on the job, and have workers fit-tested to insure proper fit.

2. The minimum respiratory protection requirements for lead paint removal operations and lead-paint clean-up operations and for the disturbance of any other lead containing material for this contract shall be as per 29 CFR 1926.62 which includes job categories and functions where workers may be exposed to lead, including but not limited to, manual scraping, sanding, abrasive blasting, painting, clean-up operations and containment breakdown.

3. All workers are required to don an appropriate level of protection commensurate with the airborne concentrations of lead in which they are working. The level of protection shall be determined by the Contractor, based on objective air monitoring data.

G. Controlling Lead Exposure

Engineering and work practice controls are the primary means of maintaining exposures to lead below the PEL. Paint removal and surface preparation activities must keep dust level at a minimum. Torch cutting of surfaces with LBP shall require appropriate PPE and exposure controls. Power tools must be equipped with vacuum shrouds with high efficiency particulate air filters (HEPA). Eating and drinking must be prohibited in the work area. Hand washing facilities must be provided. All personal protective clothing shall be removed at the end of the day.

1.04 LEAD MANANGEMENT:

A. General

1. Ensure that work plans and work methods utilized for lead paint management conform to all applicable laws, codes, rules and regulations, including, without limitation, the federal statutes governing lead Exposure Reduction, 15 U.S.C.A. Section 2681 et. seq., and OSHA regulation 29 CFR, Part 1926.62.

B. Work Plans

1. The Contractor shall be required to prepare task specific Work Plans, as a component of the Contractor's Project Work Plan, prior to starting Work detailing how he shall accomplish each task of work related to the disturbance of any lead containing paint surface or material. In each case the Contractor shall prepare the work plan with the needs, logistics and constraints of the individual job in mind, taking into account such factors as paint removal method, worker safety, proximity to the public, and protection of the environment including containment and air monitoring requirements. Torch cutting of LBP surfaces should be avoided and shall require exposure control measures including exposure monitoring and respiratory protection.

2. The Work Plans shall also include methods of minimizing and containing the generation of all dust, including dust generated while cleaning up construction and demolition debris. These methods may include such techniques as wet mopping and/or wiping, HEPA vacuuming or the use of a negative pressure ventilation system where lead dust is generated. Once the Work has been complete and debris has been properly removed from the Site, all surfaces shall be free and clear of visible dust. All work areas shall be cleaned on a daily basis at the end of each shift and for the prevention of migration of lead dust from the Work Area.

3. At no time shall the Contractor be permitted to perform any Work which may impact upon lead containing material until the Work Plan has been approved.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 PROTECTION OF ADJACENT AREAS AND THE ENVIRONMENT:

A. General

1. Areas of deteriorated paint requiring abatement (removal) are present throughout the Station. In the event lead containing material is to be disturbed during any phase of the work, take all necessary actions to ensure that all dust and debris is contained within the work area and that activities in no way results in the contamination with lead dust of any adjacent areas, building, or the environment.

B. Containment

1. In the event a containment structure is required, ensure that such containment prevents lead containing materials (LCM) from contaminating adjacent areas, building, or the environment in any fashion. This shall include any water runoff from wet removal methods. Where a containment structure is not required, the Contractor shall specify paint removal tools and methodologies which are fitted with HEPA filter vacuum shroud attachments or are otherwise designed to eliminate the possible release of LCM emissions into the air (i.e., chemical strippers).

C. Contamination

1. If it is determined by visual identification that adjacent areas, buildings, or the environment have been contaminated as a result of the Contractor's work, the Contractor agrees to clean the affected premises at no charge and be responsible for all costs incurred by this clean-up activity.

3.02 DISPOSAL REQUIREMENTS:

A. General

1. Waste shall be disposed in accordance with Section 02-8100.

2. The Contractor shall perform sampling and analysis using Toxicity Characteristic Leaching Procedure (TCLP) required to assure the proper and legal handling of the waste. Wastes to be characterized include all materials coated with LBP including, but not limited to, concrete, brick, metal, and wood. All removed LBP material/residue shall also be characterized for proper disposal. If any chemical analysis or sampling is performed by or on behalf of the Contractor, its Transporter, or its Treatment Storage and Disposal Facility (TSD), a copy of such analysis must be provided to the Construction Manager at no additional cost. (Note: Painted metal may be designated as recyclable and disposed of at a scrap metal facility for reuse or resale.)

3. Ensure that the waste disposal Subcontractor warrants and represent possession of all permits and/or licenses required under the Resource Conservation's and Recovery Act (RCRA) as well as any state or local permits or licenses required for removal, repacking, transportation and disposal of hazardous waste.

4. All hazardous waste materials removed hereunder must be lawfully treated and disposed by the waste disposal Subcontractor at an Environmental Protection Agency (USEPA) permitted Treatment Storage and Disposal Facility.

5. All wastes, drums, and other items removed hereunder must be lawfully treated and disposed of by the Contractor's waste disposal Subcontractor within thirty (30) days after the removal from the Site. Ensure that the waste disposal Subcontractor provides completed shipping documents for all hazardous wastes removed, which contain the information required under 40 CFR Part 262 Subpart B (hereinafter the "Manifest Form") and 6 NYCRR Part 372 as well as all Certificates of Disposal which specify where each component of all wastes removed from the property is ultimately treated or disposed. Such Certificates shall include references to the Manifest Form for the shipment as well as address and USEPA identification numbers for the generator facility.

6. The Contractor is responsible for performing all sampling and analysis requirements specified by the receiving disposal facilities. The Owner has the right to reject any proposed facility, in which case, the Contractor shall not use that facility.

7. Should any problems arise regarding the TSD facility chosen to accept the waste for treatment and disposal that would require the return of waste or should such TSD facility have violated any environmental regulation which would result in regulatory enforcement action, ensure that the waste disposal Subcontractor immediately notifies the Contractor and Construction Manager in writing of such situation, identifies an alternative TSD and obtains written approval from the Construction Manager for disposal at such TSD.

8. Insure that the waste disposal Subcontractor provides completed shipping documents, hereinafter referred to as "Bills of Lading" for all nonhazardous "industrial" waste removed from the property. A Bill of Lading must accompany each waste shipment and must include information regarding the quantity and type of waste, the waste transporter name, and the date of removal from the property. The Owner has the right to reject any proposed waste transporter, in which case, the Contractor shall not use that transporter.

B. Transportation Requirements

1. Insure that the waste disposal Subcontractor providing waste transportation services possesses a valid Waste Hauler's permit issued pursuant to the New York State Department of Environmental Conservation (NYSDEC) regulations, 6 NYCRR Part 364. In addition, if the waste is to be transported and disposed of out of New York State, permits for those states through which the waste shall be transported and for where it shall be disposed may be required. It is the Contractor's responsibility to insure that the waste disposal Subcontractor correctly determines which permits are required and to provide such permits for

review and approval of the Construction Manager.

2. Packaging and transporting of all wastes shall be in accordance with the applicable sections of the Department of Transportation (DOT) regulations.

3.03 QUALIFICATIONS:

A. The Contractor and/or Subcontractors involved in any activity which may impact upon lead paint or other lead-containing materials (i.e., lead paint sampling, lead abatement, and abatement design) shall have demonstrated two years of experience in lead hazard assessment and management, environmental and personal air monitoring, worker protection and training, and lead remediation specification writing.

END OF SECTION

REMOVAL OF PCB-BEARING MATERIALS
02-8400

PART 1 - GENERAL

1.01 PCB-BEARING MATERIAL REMOVAL:

This Section covers the requirements for the removal and disposal of Polychlorinated Biphenyls (PCBs) and the handling of PCB containing materials per 40 CFR 761 - Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions of Polychlorinated Biphenyls (PCBs). This Section covers caulk, fluid filled electrical equipment, oil filled mechanical equipment, and hydraulic fluid that contains or potentially contains PCBs. PCBs in these materials were sampled in the following two investigations included in the Contract reference materials:

- *PCB Investigation Results Report, RG&E Russell Station, Rochester, New York*, Haley and Aldrich of New York, July 2008
- *Supplemental Phase II Environmental Site Investigation for Russell Station*, LiRo Engineers, September 2013

The Contractor is responsible for removal and disposal of PBC containing caulks identified on the reference reports and located on the Contract Drawings. Fluids were not adequately sampled by any investigation. The Contractor shall sample any fluid contained in electrical equipment, oil contained in mechanical equipment, and hydraulic fluid encountered during demolition for PCBs and containerize and dispose of the fluids off-site as PCB-containing or non PCB containing fluid at a permitted disposal facility in accordance with, Federal, State, and local regulations and requirements.

The Contractor's PCB-bearing material removal protocols must be provided in a Work Plan, included in the Contractor's Project Work Plan and approved by the Construction Manager prior to initiating PCB work. Reference Section 02-5100 - Building Decontamination and Section 02-2235 Recycled Crushed Materials for requirements for decontamination, sampling, and disposal of porous and non-porous surfaces potentially containing PCBs. Reference Section 02-8100 – Waste Characterization, Removal, and Disposal for requirements for removal and disposal of PCB containing light ballast and other universal waste.

1.02 REQUIREMENTS:

The work includes the removal and disposal of specified PCBs and PCB containing material. Perform work in accordance with 40 CFR Parts 750 and 761, 6 NYCRR 371.4, 376.4, and 376.5, and the requirements specified herein. Where there are differences between the requirements the most stringent shall apply.

1.03 PROTECTION:

1.03.1 PCB Control Area

Isolate PCB control area by physical boundaries to prevent unauthorized entry of personnel. Food, drink, and smoking materials shall not be permitted in areas where PCBs are handled or PCB items are stored.

1.03.2 Personnel Protection

Workers shall wear and use PPE, as stated in the Contractor's HASP, upon entering a PCB control area.

1.03.3 Footwear

Work footwear shall remain inside the work area until the completion of job.

1.03.4 Permissible Exposure Limits (PEL)

PEL for PCBs is 0.5 mg/m^3 on an 8-hour weighted average basis.

1.03.5 Special Hazards

PCBs shall not be exposed to open flames or other high temperature sources since toxic decomposition by-products may be produced. PCBs shall not be heated to temperatures of 55°C (135°F) or higher without the Construction Manager's approval.

1.03.6 PCB Caution Label

Affix labels to PCB waste containers and other PCB-contaminated items. Provide label with sufficient print size to be clearly legible, with bold print on a contrasting background, displaying the following:

CAUTION: Contains PCBs (Polychlorinated Biphenyls)

Affix labeling required by New York State regulations.

1.03.7 PCB Caution Sign

Provide signs at approaches to PCB control areas. Locate signs at such a distance that personnel may read the sign and take the necessary precautions before entering the area.

1.04 WORK PROCEDURE:

Furnish labor, materials, services, and equipment necessary for the complete removal of PCBs located at the Site as indicated or specified in accordance with local, State, or Federal regulations. Package and mark PCB as required by USEPA and DOT regulations.

1.04.1 No Smoking

Smoking is not permitted within 50 feet of the PCB control area. Provide "No Smoking" signs as directed by the Construction Manager.

1.04.2 Work Operations

Ensure that work operations or processes involving PCB or PCB-contaminated materials are conducted in accordance with 40 CFR 761 and the applicable requirements of this section, including but not limited to:

Obtaining advance approval of PCB storage sites.

Notifying the Construction Manager prior to commencing the operation.

Reporting leaks and spills to the Construction Manager.

Decontamination of spills.

Maintaining an access log of employees working in a PCB control area and providing a copy to the Construction Manager upon completion of the decontamination.

Inspecting PCB and PCB-contaminated items and waste containers for leaks and forwarding copies of inspection reports to the Construction Manager.

Maintaining inspection, inventory, and spill records.

1.05 PCB REMOVAL:

Select PCB removal procedure to prevent contamination of work areas with PCB or other PCB-contaminated debris/waste. Handle PCBs such that no skin contact occurs. PCB removal process should be described in the Contractor's approved Project Work Plan.

1.05.1 Confined Spaces

The Contractor shall adhere to all confined space procedures (29 CFR 1910.146) and ensure that workers are equipped with suitable PPE during PCB removal activities.

1.05.2 Control Area

Establish a PCB control area around the PCB item as specified in paragraph entitled "PCB Control Area". Only authorized personnel shall be allowed into the area.

1.05.3 Exhaust Ventilation

If used, exhaust ventilation for PCB operations shall discharge to the outside and away from personnel.

1.05.4 Temperatures

Handle PCBs at ambient temperatures and not at elevated temperatures.

1.05.5 Drip Pans

Drip pans are required under portable PCB transformers and rectifiers in use or stored for use. The pans shall have a containment volume of at least one and one-half times the internal volume of PCBs in the item.

1.05.6 Evacuation Procedures

Procedures shall be written for evacuation of injured workers. Aid for a seriously injured worker shall not be delayed for reasons of decontamination.

1.05.7 PCB Analysis

The Contractor shall be responsible to provide laboratory testing to determine the concentration of PCBs in all PCB oil-bearing equipment. The testing must be conducted by an NYSDOH ELAP accredited laboratory using USAPA Method 8080.

1.06 PCB CONTAINING FLUIDS:

1.06.2 Sampling

All fluid contained in electrical equipment, oil contained in mechanical equipment, and hydraulic fluid identified during dismantlement potentially contains PCBs and shall be sampled and tested according to 3.02 of this Section. The fluid and equipment shall be treated as PCB-containing unless analytical testing results indicate that it does not contain PCBs above regulatory limits.

1.06.1 Draining of Liquid

Perform work in accordance with applicable regulations and as specified herein. Drain the transformer, switches, and regulators of free flowing liquid prior to transportation. Place the drained liquids in DOT approved drums. The drums shall not contain more than 50 gallons of oil. If the equipment cannot be drained, then place it in applicable DOT approved drums.

1.06.2 Markings

Provide drums and drained PCB-contaminated electrical equipment with caution label markings as specified in paragraph entitled "PCB Caution Label". Affix labeling required by New York State regulations.

1.06.3 Drums

Stencil on the DOT approved 55-gallon drums containing PCB liquid the following:

PCB concentration (ppm)
date drum filled
serial number of transformer

Do not mix different concentrations (ppms) in the same drum. Drums must have a 2-inch head space from the top of the drum.

1.07 PCB-CONTAINING CAPACITORS AND LIGHT BALLASTS:

Reference Section 02-8100 – Waste Characterization, Removal, and Disposal for requirements for removal and disposal of PCB-containing light ballast and other universal waste.

1.08 PCB CAULK

The Contractor is responsible for removal and disposal of PBC containing caulks identified in the reference reports and located on the Contract Drawings. Size, location, and quantities of all caulk must be field verified. Information given on the drawings is for bidding purposes only. The identified caulks contain PCBs above 1 ppm but below 50 ppm. The caulks also may be considered ACM. Contractor shall provide notifications and controls for workers for handling PCB-containing materials when removing and disposing the caulk. The material shall be disposed at a facility that is permitted to accept the waste.

1.09 PCB SPILL DECONTAMINATION REQUIREMENTS:

1.09.1 PCB Spills

Immediately report to Construction Manager and appropriate agencies (NYSDEC,USEPA, and the National Response Center) any new PCB spills on the ground or in the water, PCB spills in drip pans, or PCB leaks.

1.09.2 PCB Spill Control Area

Rope off an area around the edges of a PCB leak or spill and post a "PCB Spill Authorized Personnel Only" caution sign. Immediately transfer leaking items to a drip pan or other container.

1.09.3 PCB Spill Decontamination

Initiate decontamination of spills as soon as possible, but no later than within 24 hours of its discovery. To decontaminate spills, personnel shall wear the appropriate PPE as specified in the Contractor's HASP. If misting, elevated temperatures or open flames are present, or if the spill is situated in a confined space, notify the Construction Manager. Mop up the liquid with rags or other conventional absorbent. The spent absorbent shall be properly contained and disposed of as solid PCB waste.

Spills and all contaminated materials used for clean up shall be disposed of according to Environmental Protection Agency (USEPA) requirements (Toxic Substance Control Act, 40 CFR, Part 761) and applicable New York State regulations.

1.09.4 Sampling Requirements

The Contractor shall perform post decontamination sampling as required by 40 CFR 761, Section 130, Sampling Requirements. Do not remove boundaries of the PCB control area until the Site is determined satisfactorily clean by the Construction Manager.

1.10 STORAGE FOR DISPOSAL:

All storage of waste shall be done in accordance with the approved Work Plan. All storage of waste PCBs shall be in accordance with 40 CFR 761.65. The handling and storage of waste PCBs shall be modified if state or local requirements are more stringent. In addition, PCB storage shall meet the following:

1.10.1 Storage Containers for PCBs

The collection of PCBs shall be in Department of Transportation approved containers. As a minimum, closed head containers shall be used for liquids.

1.10.2 Waste Containers

Label with the following:

"Solid [or Liquid] Waste Polychlorinated Biphenyls"
The PCB Caution Label, paragraph entitled "PCB Caution Label"
The date the item was placed in storage and the name of the cognizant activity/building.

Affix labeling required by New York State regulations.

1.10.3 Approval of Storage Site

Obtain approval in advance from the Construction Manager for use of either an existing hazardous waste storage area or an area which can be modified to meet the following requirements. As a minimum, all PCB storage areas shall meet 40 CFR 761.65 requirements, including:

Adequate roof and walls prevent rainwater from reaching the stored PCBs.

An adequate floor is in place which has continuous curbing with a minimum 6-inch high curb. Such floor and curbing shall provide a containment volume equal to at least two times the internal volume of the largest PCB article or PCB container stored therein or 25 percent of the total internal volume of all PCB equipment or containers stored therein, whichever is greater.

No drain valves, floor drains, expansion joints, sewer lines, or other openings that would permit liquids to flow from the curbed area.

Floors and curbing are constructed of continuous smooth and impervious materials such as portland cement, concrete or steel to prevent or minimize penetrations of PCBs.

Each storage site shall be posted with the PCB Caution Sign, in accordance with the paragraph entitled "PCB Caution Sign". No on-site storage of PCB wastes is allowed for a period of longer than 30 days without the approval of the Construction Manager.

The storage area shall be inspected weekly. Any signs of spills, leaks, or potential problems shall be corrected immediately. All inspections, corrections, and actions shall be documented in writing.

Drums are to be stored to allow adequate space on each side to allow inspection.

Drums shall be sealed and marked with an approved USEPA label, transported to an USEPA approved disposal site by a licensed hazardous waste transporter, and disposed of in accordance with 40 CFR Part 761. Complete paperwork shall be maintained by the Contractor to verify proper disposal.

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION

3.01 DRAINING & CAULK REMOVAL:

Drain, collect and remove all internal fluids from each equipment. Internal fluids from similar equipment shall be drained into one container provided that dilution does not occur. The use of torches or cutting equipment for disassembly shall only be allowed when mechanical disassembly of transformers is impractical, as determined by the Construction Manager.

When working with caulk, work practices shall be performed in a manner that minimizes or prevents airborne dust generation and release to adjacent areas. Aggressive removal techniques, such as power grinding or sanding, shall not be used to remove or dislodge caulk or adjacent materials. The use of hand prying and scraping techniques shall be used to control airborne dust generation. Windows shall be closed and ground covered with plastic from exterior face of building to 10'-0" away from exterior face or furthest point of gravity fall for material dislodged by removal techniques employed, whichever is further. Debris shall be collected and area shall be wiped down to collect dusts in accordance with all applicable regulations. For caulk that is also ACM, follow the controls specified by 02-8213 – Asbestos Abatement.

3.02 PCB ANALYSIS:

Fluid contained in electrical equipment, oil contained in mechanical equipment, and hydraulic fluid potentially contains PCBs and shall be sampled. Collect one sample from each equipment internal fluids. Collect one sample of internal fluids from similar equipment that were drained in one container. Analyze for PCBs using USEPA Method 8080. The Contractor shall review the analytical results and propose the disposal method for the internal fluids.

3.03 DISPOSAL OF WASTES:

Dispose of the collected internal fluids and rinsing agents in a TSCA-regulated licensed facility for PCB concentrations greater than or equal to 50 mg/kg. Dispose of the collected internal fluids and rinsing agents in a licensed facility for PCB concentrations less than 50 mg/kg.

It is the responsibility of the Contractor to determine current waste handling, transportation and disposal regulations for the work site and the waste disposal landfill. The contractor must comply fully with these regulations, all appropriate U.S. Department of Transportation, EPA and Federal, State and local regulations. The contractor shall bear responsibility for managing and handling the waste at each stage of operation and properly storing in approved containers.

3.04 QUALIFICATIONS:

A. The Contractor and Subcontractors involved in any activity which may impact upon PCB containing equipment or materials shall have demonstrated two years of experience in PCB assessment and management, environmental and personal monitoring, worker protection and training, and PCB remediation.

B. Laboratory testing shall be performed by a NYSDOH ELAP certified laboratory.

END OF SECTION

REMOVAL OF DRUMMED WASTE AND DECONTAMINATION WATER
02-8600

PART 1 - GENERAL

1.01 SCOPE:

The Contractor is responsible for collecting all water or liquid removed from excavations, pits, sumps, basins, basements, trenches and collected water/liquid (water) from building decontamination, asbestos abatement and other activities necessary to perform the decontamination, abatement and demolition work. The Contractor may treat collected water using an on-site treatment unit and discharge it to a Monroe County Pure Waters approved designated sanitary sewer manhole in accordance with Section 02-7100 – Water Treatment System or the Contractor may test, remove, and dispose of the collected water off-site.

The work covered by this Section includes the transport and off-site disposal of drummed waste located throughout the project area, drummed waste generated by the Contractor during execution of work, and water removed from excavations, pits, sumps, basins, basements, trenches and collected water from building decontamination, asbestos abatement and other activities necessary to perform the decontamination, abatement and demolition work. The work shall require the submittal of a Drummed Waste and Decontamination Water Management Work Plan as part of the Contractor's Project Work Plan specifying the material testing, removal, and disposal methods and requirements. All work shall be conducted in accordance with all applicable Federal, State and local regulations and the provisions of this Section.

1.02 REFERENCES:

The publications listed below are incorporated into this specification and shall be read as if printed herein. In the case of conflict between the referenced documents and this Section, the stricter requirements shall apply.

CODE OF FEDERAL REGULATIONS (CFR)

40 CFR 260 - 270 USEPA's Hazardous Waste Requirements

40 CFR 136 Guideline for Establishing Test Procedures for Analysis of Pollutants

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 30 Flammable and Combustible Liquids Codes

U.S. ENVIRONMENTAL PROTECTION AGENCY (USEPA)

USEPA-SW-846 Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. Third Edition, November 1986

USEPA Standard Operating Guide. July 1988

MANIFESTING AND TRANSPORTING (DOT)

49 CFR Hazardous Materials Transportation Regulations

6 NYCRR Part 364

WASTE AND WASTEWATER MANAGEMENT REGULATIONS

6 NYCRR Parts 370, 371, 372, 373, 374 and 376 (the Part 370 series)

Chapter X - Division of Water, Subchapter A.: General, Article 1: Miscellaneous Rules

1.03 CONTRACTOR SERVICES:

The Contractor shall furnish all materials, labor, tools, equipment, utilities, water, fuel, transportation, field log preparation, and necessary incidental services for:

1. Over-pack and/or pump and removal of hazardous wastes and petroleum wastes/products and water removed from excavations, pits, sumps, basins, basements, trenches and collected water from building decontamination, asbestos abatement and other activities necessary to perform the decontamination, abatement and demolition work;

2. Transport of all wastes/products;

3. Field sample and analyze for waste characterization;

4. Hazardous Waste Determination: evaluate testing data against applicable regulations to determine the waste designation. Propose a disposal facility permitted to accept the waste pending review of the Construction Manager.

4. Transport and disposal of all wastes;

5. All necessary incidental services not specifically noted but which are required for completion of the specified work; and,

6. Environmental reporting. This includes submittal of the following items and their subparts described herein:

    a. Proof of qualification credentials;
    b. Copies of transport and disposal manifests;
    c. Waste Record Field Report;
    d. Logs, reports and record keeping, as required by the Construction Manager
    e. Bills of Lading, Certified Weight Tickets.

1.04 REGULATORY REQUIREMENTS:

All work included in this contract shall be conducted in strict compliance with all applicable Federal, State and local regulations, statutes, codes and policies.

1.05 CONTAMINANTS:

Currently available drum sampling results shall be furnished to the Contractor. Decontamination wash waters may become contaminated with hazardous or dangerous wastes and/or petroleum products. Hazardous or dangerous contaminants which may be found include petroleum products, chlorinated solvents, PCBs, asbestos, and heavy metals. The Contractor shall be required to work with any materials as necessary and at all levels of OSHA mandated personal protection.

1.06 PERMITS AND CERTIFICATIONS:

The Contractor shall be responsible for obtaining all of the necessary Federal, State and local permits required for waste removal, transport, disposal, and management. The Contractor or Contractor's subconsultant/subcontractor must submit a Drummed Waste and Decontamination Water Management Work Plan. In the event that an USEPA/State Hazardous Waste Site Identification Number is required for soil transport and disposal, the Owner shall be responsible for obtaining the identification number, if not already available, and the Contractor shall be responsible for obtaining the transportation manifests.

1.07 SUPERVISION:

The Contractor shall assign a foreman to be directly responsible for coordinating and directing all work required for the operations required by this Section.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 REMOVAL OF CONTAMINATED WATER AND ALL DRUMMED PRODUCTS AND WASTES:

3.01.1 Removal and Transport of Contaminated Water and Drummed Products/Wastes

The Contractor shall test, remove and transport all such material as necessary.

3.01.2 Security of Materials During Transport

The Contractor shall ensure that all materials are secured during transport. The Contractor shall address this issue as part of the Drummed Waste and Decontamination Water Management Work Plan.

3.01.3 Transport Manifests, Bills of Lading, Certified Weight Tickets

The Contractor shall obtain and submit two (2) copies of all transport manifests, bills of lading, and certified weight tickets for recycling and/or disposal of all materials to the Construction Manager within 3 calendar days of transport of any material. All other materials shall be transported for recycling. Landfilling of any material is not an acceptable disposal method except as a last resort. Receipts shall indicate at a minimum the following information: date, time, driver, remediation or recycling facility, quantity and type of material delivered, remediation method, RCRA facility permit number, as appropriate, and roundtrip travel mileage from the work Site to the facility.

3.01.4 Disposal of Wastes and Water

The Contractor shall utilize either a RCRA permitted disposal facility or other permitted treatment facility to dispose of petroleum and water. If the water to be disposed is a Federal, State or local hazardous or dangerous waste, the Contractor shall coordinate with the Construction Manager for any special disposal and transportation requirements. Final water/waste deposition at a RCRA permitted facility must be documented and presented in the final Field Report. All chain of custody information, including quantity delivered, facility location and phone number, and the method of disposal must be included.

3.01.5 Staging of Drummed/Contained Water and Wastes during Construction

The Contractor shall ensure during all stages of field work that contaminated water and wastes are properly isolated from the surrounding environment to prevent contamination migration. The Contractor shall at no time leave drummed or contained materials unsecured or unattended. All drummed or containerized wastes shall be staged prior to disposal in accordance with all applicable regulations.

3.01.6 Plastic or Polyethylene Liner

All staged wastes shall be secured against contamination migration due to wind, rain, etc. through the use of polyethylene liners (10 mil minimum thickness). If more than one continuous piece of plastic is used for the liner or cover, it shall be sealed at the edges with an appropriate sealer (duct tape, etc.). The liner shall be sufficiently larger than the area of staged drums to cover the stored waste.

3.01.7 Removal, Transport and Disposal of Waste Containment Structures

The Contractor shall be responsible for all work associated with removal, transport and disposal and/or final deposition of waste containment structures.

3.02 REMOVAL, TREATMENT AND DISPOSAL OF MATERIALS:

Field sampling of contaminated water and drummed waste shall be performed by the Contractor prior to removal and disposal. The Contractor shall be responsible for transporting, treating, and disposing of any contaminated and uncontaminated water/wastes, as required in accordance with the technical specification described herein. The Contractor shall not dispose of water/wastes without the review of the Construction Manager.

3.02.1 Staging of Contaminated Materials

Long term staging of water and wastes prior to transport, treatment, and disposal shall not be permitted. The Contractor shall comply with all applicable local, State and Federal waste storage regulations. The Contractor shall transport water and wastes as removed or generated unless otherwise approved by the Construction Manager.

3.03 QUALIFICATIONS:

A. The Contractor and Subcontractors involved in any activity which is involved with the clean-up, handling, transport, or disposal of drummed waste, decontamination water shall have demonstrated two years of experience in waste hazard assessment and management, environmental and personal air monitoring, worker protection and training, and petroleum and hazardous materials remediation.

END OF SECTION