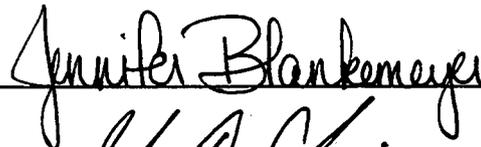


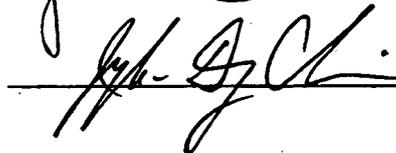
**FLUOR** GLOBAL SERVICES**Technical Specifications  
For  
Area 2, Phase I  
Non-Waste Unit  
Perimeter Area Remediation****Project No. 20430  
Document No. 20430-TS-0001****May 2001  
Revision 0**

PREPARED BY:



5/21/01

APPROVED BY:



5/21/01

**U.S. DEPARTMENT OF ENERGY  
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT**Fluor Fernald  
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U.S. DEPARTMENT OF ENERGY  
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

Project No. 20430  
Area 2, Phase I Non-Waste Unit Perimeter Area Remediation  
Technical Specifications

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END OF SECTION

**SECTION 02205  
IMPACTED MATERIAL EXCAVATION**

**PART 1 GENERAL**

**1.1 SCOPE**

This section includes the requirements for the excavation, loading, hauling, and unloading of impacted materials and related activities including, but not limited to:

- A. Excavation of impacted materials from the Southern Waste Units (SWU) area, Perimeter area and impacted material stockpiles designated on the Construction Drawings, including unclassified impacted material, Above Waste Acceptance Criteria (WAC) material, Special Materials, and sediment.
- B. Loading and hauling of the excavated impacted materials from the SWU area, Perimeter area and impacted material stockpiles and unloading of this material in the OSDF.
- C. Loading of the Special Materials excavated from the SWU area, Perimeter area and impacted material stockpiles and transferring to a Special Material Transfer Area.
- D. Loading and hauling of any excavated Above WAC material and unloading and placing in the SP-7 Stockpile Area.
- E. Dust control as specified in Part 6.
- F. Hand excavation around the existing wells within the SWU and Perimeter excavation areas and impacted material stockpile areas.

**1.2 RELATED SECTIONS AND PLANS**

- A. Section 02100 - Surveying.
- B. Section 02150 - Traffic Control.
- C. Section 02210 - Presumed Asbestos Containing Materials (PACM).
- D. Section 02270 - Surface Water Management and Erosion Control.
- E. Section 02850 - Equipment Wash Facility.
- F. Part 6 - Statement of Work.
- G. Part 8 - Environmental Health and Safety, and Training Requirements.
- H. Impacted Materials Placement Plan, On Site Disposal Facility, current revision.

**1.3 REFERENCES**

- A. Waste Acceptance Criteria Attainment Plan for the On Site Disposal Facility, current revision.

- B. Fernald Environmental Management Project (FEMP) Plan PL-2194, Spill Prevention Control and Countermeasure (SPCC) Plan, current revision.
- C. Fernald Environmental Management Project (FEMP) Procedure. RP-0026, Identification and Movement of Radioactive Material, current revision.
- D. State of Ohio, Department of Transportation (ODOT), Construction and Material Specifications, January 1997.

#### 1.4 SUBMITTALS

- A. Submit an Excavation Work Plan to the Construction Manager within fifteen (15) calendar days from the Notice to Proceed for review and approval. The Excavation Work Plan shall be integrated into the Safe Work Plan specified in Part 6. The Excavation Work Plan shall include, as a minimum, the following:
  - 1. Excavation, loading, hauling, and unloading methods and equipment, by size and type, for the impacted materials including unclassified impacted materials, stockpiles, and sediment, as well as contingency for encountered Above-WAC material. Include methods for segregating category 1, 2, 3, 4 and 5 impacted material specified in the Impacted Material Placement Plan for OSDF during excavation and size reduction methods to meet the WAC specified in the Impacted Materials Placement Plan for OSDF. Include method for removal of sand bags, sediment and geomembrane liner from Retention Basin 1 in order to protect underlying infiltration barrier.
  - 2. Technical approach for the coordination and implementation of the excavation related activities including submittals, surveying, fencing, erosion and sediment control, loading requirements, equipment wash, haul road management, material identification and documentation, stabilization of exposed excavated areas, dust control, and water management.
  - 3. Schedule for impacted material excavation with integrated Project Construction Schedule as specified in Part 6, for the excavation, including loading, hauling and unloading, and excavation related activities, showing sequence, duration, critical activities, resources for each activity, number of crews and crew size, and start and completion date for each activity.
  - 4. Environmental Health and Safety, and Training requirements for the excavation, loading, hauling and unloading, including a plan for coordinating personnel and equipment in the excavation areas.
  - 5. Methods for excavation, separation, and packaging of PACM in accordance with Section 02210.

6. Methods for the excavation, managing, loading, segregation, transferring and staging of Special Materials and Above WAC Material.
7. Loading, hauling and unloading methods for the Above WAC impacted materials to the SP-7 Stockpile Area, including:
  - a) Spreading, grading, and compaction.
  - b) Maintenance of surface conditions and drainage.
  - c) Methods to prevent haul equipment tires from coming in contact with Above WAC Material.
  - d) Plan and details showing the unloading of Above WAC impacted material at the SP-7 Stockpile area.
8. Location, sequencing, and construction of interim working stockpiles, if necessary.
9. Methods for complying with the FEMP Plan PL-2194, Spill Prevention and Control and Countermeasure (SPCC) Plan.

#### 1.5 EXISTING CONDITIONS

- A. Prior to start of excavation of the impacted materials, examine and verify the existing conditions as specified in Section 02100.

#### 1.6 HEALTH AND SAFETY REQUIREMENTS

- A. Environmental Health and Safety, and Training requirements shall be as specified in Part 8.

#### 1.7 DEFINITIONS

- A. **Impacted Material:** Impacted material is defined as material placed in the existing stockpiles, fill material (including flyash) in the former SWUs and Perimeter area, sediment accumulated in the retention basins, ditches, and at erosion and sediment control measures, and non-fill material with contaminant levels above established Final Remediation Levels (FRLs).
- B. **Unclassified Impacted Material:** Unclassified impacted material shall be impacted material encountered during excavation, regardless of type, character, composition, and condition thereof, unless otherwise specified in this Section. Unclassified impacted material also includes excavated material from the impacted material stockpiles, gravel roads and subgrade, sediment accumulated in the Retention Basins 1 and 2, erosion and sediment control measures, Equipment Wash Facility, Perimeter area and the SWUs, except Above WAC Material and Special Material.

Categories of unclassified impacted material shall be as specified in the Impacted Materials Placement Plan for the OSDF. Unclassified impacted material also includes debris encountered during excavation in the SWU, Perimeter area and the impacted

material stockpiles. Distribution of debris mixed with soil or soil like material in the excavation of the unclassified impacted material is not anticipated to be uniform throughout the SWU, Perimeter area and impacted material stockpiles. Debris may comprise up to 15 percent of the total volume of impacted material. Debris consists of impacted material such as construction materials, concrete, asphalt, steel rebar, non-friable PACM, dumped rock, geomembrane liner, silt fence, piping and other materials not defined as a Special Material. Criteria for debris shall be as specified in the Impacted Materials Placement Plan and Waste Acceptance Criteria Attainment Plan for OSDF.

- C. Above WAC Material: Soil, soil mixed with debris, debris, or soil-like impacted material with total uranium concentrations above the OSDF total uranium WAC 1030 mg/kg, any material that does not meet the OSDF WAC, material determined to have greater than 200,000 disintegrations per minute as read by a beta gamma frisker, or when alpha measurements are greater than beta/gamma frisker.
- D. Special Materials: Impacted material which requires special handling shall be as listed below:
1. Friable PACM, as specified in Section 02210;
  2. Nonpressurized containers, including drums, boxes, cans;
  3. Pressurized containers;
  4. Pumps and piping;
  5. Non-soil residues, including green salt, black oxide, orange oxide, and sump cake;
  6. Transformers and electrical equipment;
  7. Lead acid batteries;
  8. Uranium metal, including derbies, ingots and irregularly shaped scrap
  9. Medical/infectious waste;
  10. Tires;
  11. Miscellaneous debris, including oil and air filters, personal protective equipment (PPE), radiators, cables, wires, tools, heavy equipment, office materials and documents, and lead flashing.
  12. All bricks.
- E. Impacted Material Stockpiles – the following are impacted material stockpiles in the SWU and Perimeter Area:
1. Carolina Stockpiles
  2. Debris/Soil/Concrete Pile
  3. South Field Material Stockpile
- F. Non-Impacted Materials: material that is below the designated FRLs and does not require dispositioning to the OSDF or SP-7. Non-impacted material includes the riprap that makes up the existing channel protection for Paddys Run, existing brush piles, and other items that will be staged for reuse as shown on the Construction Drawings.

**PART 2 PRODUCTS****2.1 MATERIALS**

- A. Fluor Fernald shall furnish materials, equipment and personnel for radiological characterization and monitoring of the impacted material.
- B. Aggregate base shall meet the requirements of ODOT Item 304.

**2.2 EQUIPMENT**

- A. Provide equipment of size and type to excavate, load, haul, and unload impacted material to meet the Contract requirements.
- B. Provide equipment of size and type to load, haul, unload, place, manage, and compact material in the SP-7 Stockpile Area as necessary to meet the Contract requirements.
- C. Equipment to be operated over the existing Impacted Material Haul Road, including equipment to be used to haul impacted material, shall be equal to or less than the gross vehicle weight, and operating width for a Caterpillar CAT D300E truck (gross machine weight 120,000 pounds and operating width of 9 feet 8 inches).

Pavement width of the existing two-way Impacted Material Haul Road is 24 feet. Select equipment and equipment width to ensure safe operation on this two-way road.

- D. Equipment, including equipment to be used to haul impacted materials on the Impacted Material Haul Road, shall have enclosed cabs. Enclosed cab is defined as an equipment cab isolated from outside environment (intact windows, doors, panels and floors surrounding driver with all windows and doors shut) which provides a barrier from intrusion of outside airborne particles. Any HVAC (heating, ventilating or air conditioning) units associated with the equipment cab must not provide a direct path for outside air to enter (air conditioner on air recirculate mode), unless the air is passed first through a HEPA filter pulled directly from outside the cab.
- E. Provide water tank trucks, tank trucks for the suppressant agent (water or other) and crusting agent, portable tanks, pressure distributors, piping or other equipment designed to apply dust suppressant and crusting agent uniformly and in controlled quantities to variable surface widths to provide dust control as required in Part 6.

## **PART 3 EXECUTION**

### **3.1 GENERAL EXCAVATION REQUIREMENTS**

- A. Replace all existing radiological control fencing with yellow and magenta rope fence as specified on the construction drawings. Manage construction fence and radiological rope fence as specified in Part 6. Fluor Fernald shall furnish rope, signs and signposts for the radiological control areas.**
- B. Survey and layout excavation limits in accordance with Section 02100 and as shown on the Construction Drawings.**
- C. Install and manage erosion and sediment control measures in accordance with Section 02270 and the Construction Drawings.**
- D. Continuously observe all excavations for Special Materials and change in materials and immediately notify the Construction Manager of a change in impacted material and/or finding of Special Material.**
- E. Dust control shall be in accordance with Part 6 and the approved Dust Control Plan. Dust control shall be provided during excavation, segregation, size reduction, loading, hauling, transferring, unloading, and other related activities, and during off-hours as specified in Part 6.**
- F. Location of the interim working stockpiles shall be within the limits of the SWU or Perimeter area and as approved by the Construction Manager. Interim working stockpiles shall be removed within a maximum of thirty (30) calendar days.**
- G. Blasting, including use of explosives or explosive devices, is not permitted.**
- H. Water management shall be as specified in Section 02270.**
- I. Impacted material excavation and related activities shall be performed in accordance with the approved Excavation Work Plan.**
- J. Fluor Fernald and regulatory agencies may collect impacted material samples from the excavation, haul equipment and in the OSDF at any time during the project.**
- K. Unexpected discovery of cultural resources: Upon the unexpected discovery of any historic, prehistoric, or archeological site, feature or object, immediately cease ground disturbing activities at the find and contact the Construction Manager.**
- L. During excavation, segregate Category 2 material larger than 12-inches and maximize volume of Category 1 material. Size reduce segregated Category 2 material to meet physical WAC specified in Impacted Materials Placement Plan for OSDF.**

- M. Excavate and segregate material as required for placement, and impacted material required for placement of Category 2, 3, 4 and 5 materials as specified in the Impacted Materials Placement Plan for OSDF.
- N. The following additional requirements shall apply to equipment for excavation, loading, hauling, and unloading:
1. Equipment used for excavation, loading, hauling and unloading of the impacted material from the SWU, Perimeter area and the stockpiles shall be clearly and conspicuously marked by the Contractor as "Radioactive Material" in accordance with FEMP Procedure RP-0026.
  2. Equipment used for hauling of the impacted material from the SWU, Perimeter area and the stockpiles shall be equipped with a plastic tube for the transport of manifest documentation to the OSDF. The manifest tube shall be accessible to ground personnel, watertight, and have approximate dimensions of 18-inches in length and 3-inch opening (inside diameter). Equipment shall also be conspicuously marked by the Contractor indicating the Category of material being hauled (1, 2, 3, 4 or 5).
  3. Equipment used during excavation, loading, hauling, and unloading of the impacted material and during periods of non-use (evenings, weekends, holidays) shall be kept within the SWU or Perimeter area.
  4. Equipment used for hauling of the impacted material shall be equipped with an automatic cover unless other Best Available Technology (BAT) methods are employed for dust control during hauling. The cover shall be in place during all periods of equipment movement on-site, whether empty or full. If automatic covers are not used, additional dust control measures, such as the application of water and/or surfactant, must be applied to the material in the bed of the haul vehicle prior to accessing the Impacted Material Haul Road.
  5. Equipment used for excavation, loading, hauling, and unloading impacted material shall not be permitted to leave the radiological control areas until equipment decontamination activities are completed by the Contractor and radiological survey of the equipment is performed by Fluor Fernald.
  6. Equipment cab shall remain closed and operators shall not be allowed out of the equipment in any posted contamination area without appropriate PPE except in emergency situations.
  7. Equipment used during the excavation of Above WAC Material, and soil placement in the SP-7 Stockpile Area shall stay in the respective areas until completion of the excavation and placement.
  8. Haul equipment transferring material on the Impacted Material Haul Road shall remain on the road as much as practical while waiting to dump or be loaded.

Sequence equipment to minimize time spent within the excavation areas, OSDF cell and SP-7 Stockpile Area.

**O. Loading**

1. Haul equipment shall be loaded so as to minimize load shifting during transit and to prevent spillage of material from haul bed.
2. Visually check impacted material for free liquid prior to loading. Free liquid in the impacted material before loading shall be as specified in the Impacted Materials Placement Plan for OSDF and the WAC Attainment Plan for the OSDF.

**P. Hauling Requirements:**

1. Haul equipment shall be washed at the equipment wash facilities before entering the Impacted Material Haul Road at the SWU and OSDF. Requirements for equipment wash shall be as specified in Section 02850.
2. Maintain the Impacted Material Haul Road free of visible mud, soil, soil-like material, debris, or impacted material in accordance with Part 6.
3. Provide dust control for the haul roads on a continual basis in accordance with Part 6 and approved Dust Control Plan.
4. Haul equipment traffic shall remain on the haul roads designated in the Technical Reference Package. Equipment that enters the haul roads shall not be allowed to exit, except at the SWU area, stockpiles, OSDF Debris Transfer Area and/or the OSDF, without approval by the Construction Manager.
5. Tracked equipment shall be prohibited from hauling, operating, or tracking over or on the Impacted Material Haul Road.

**Q.** The Construction Manager can direct the contractor to move to an alternative excavation location within the SWU or Perimeter area in order to meet soil or debris ratio requirements. Movement between excavation areas shall be at the direction of the Construction Manager and at no additional cost to Fluor Fernald.

**R.** Temporary shutdown shall be as specified in Part 6.

**S.** Tolerances for the excavation grades shown on the Construction Drawings or as directed by the Construction Manager shall be from 0.0 to 6.0 inches below design grades and elevations.

**T.** Perform stabilization of the excavated areas using crusting agent in accordance with the Construction Drawing, unless otherwise directed by the Construction Manager.

- U. The Special Material Transfer Area shall be located as necessary to accommodate excavation. The Special Material Transfer Area shall be constructed with aggregate base stone. Aggregate material shall meet the requirements of ODOT Item 304. Compaction requirements for aggregate material shall meet or exceed ODOT Item 304 requirements. Special Material Transfer Area shall be as shown in the Technical Reference Package and described in this Section.
- V. Active excavations are to be kept free of standing water. Runoff from excavations shall be directed into existing water management system (ditches and retention basins) and not into Paddys Run.

### 3.2 UNCLASSIFIED IMPACTED MATERIAL EXCAVATION

- A. Ditches 2 through 7, Non-Impacted Material Stockpile (NIMS) No. 1 and the gravel road surrounding NIMS No. 1 must be removed prior to removal of liner from Retention Basin 1.
- B. Select equipment and excavation methods to minimize obstruction of continuous visual observation of the excavation.
- C. If Above WAC Material or Special Materials are encountered, stop excavation, immediately notify Construction Manager and move the excavation operation to another location as directed by the Construction Manager.
- D. Hand excavate within 5 feet of the existing monitoring wells as indicated on the Construction Drawings.
- E. The Contractor shall inform the Fluor Fernald Construction Manager at least 8 working days prior to removing sediment from the retention basins to allow Fluor Fernald time to characterize sediment to determine disposal requirements.
- F. Sand bags and sediment shall be removed from Retention Basin 1 prior to removal of liner in a manner which maintains the integrity of the liner.

### 3.3 CONTINGENCY FOR ABOVE-WAC MATERIAL EXCAVATION

- A. If Above WAC material is encountered, excavate material and haul to SP-7.
- B. Loading area for haul equipment shall be adjacent to the Above WAC Area. Care should be taken to avoid contact between tires of haul equipment and any Above WAC material.
- C. Following the removal of Above WAC material, Fluor Fernald will perform radiological monitoring of the surrounding soils. If monitoring results of the surrounding soils are

above WAC, the additional Above WAC material excavation area shall be excavated as directed by the Construction Manager.

D. Requirements for unloading and stockpiling the Above WAC material at the SP-7 Stockpile Area shall be:

1. Place material in the stockpile at a location designated by the Construction Manager.
2. Immediately repair damage to the stockpile structures to the original condition (i.e., silt fence, perimeter fence, etc.) caused by the Contractor, at no additional cost to Fluor Fernald.
3. Dust suppression shall be in accordance with Part 6 and approved Dust Control Plan.
4. Equipment and material used in the excavation of Above WAC material shall not be removed from the area without approval of the Construction Manager. This equipment shall not be used to excavate any other material before washing and without approval of the Construction Manager.
5. Prior to resuming the hauling of any other material (i.e., non-Above-WAC material), equipment used to haul Above-WAC material to the SP-7 shall have interior of hauling compartment washed at the SWU Equipment Wash Facility, as specified in Section 02850. Fluor Fernald shall visually verify the removal of all material from the interior of the hauling equipment and approve the compartment for use in hauling of non-Above WAC materials.

### 3.4 SPECIAL MATERIAL EXCAVATION

- A. Special Materials identified during excavation shall be excavated, segregated, managed, loaded, transferred and stored at the Special Material Transfer Area as directed by the Construction Manager.
- B. Fluor Fernald will be responsible for final disposition of the Special Materials.
- C. The Special Material Transfer Area shall be located within approximately twenty feet of an existing gravel road within the limits of the SWU or Perimeter area. Actual location shall vary as excavation progresses and shall be approved by the Construction Manager. Runoff from Special Material Transfer Area shall not drain into Paddys Run.
- D. PACM encountered during excavation shall be excavated and managed in accordance with Section 02210.
- E. Fluor Fernald will furnish containers necessary for handling, staging, transferring and disposal of Special Materials except for PACM.

### 3.5 EXCAVATION OF THE IMPACTED MATERIAL STOCKPILES

- A. After removal of the Carolina Area Impacted Material Stockpiles, excavate a minimum 6-inches below the stockpiles within the limits shown on the Construction Drawings. Notify the Construction Manager at completion of excavation of the Carolina Area Impacted Material Stockpiles and prior to start of 6-inch excavation. This material shall be considered as unclassified impacted material and shall be excavated, loaded, hauled, and unloaded in the OSDF.
- B. After removal of the concrete/soil/debris pile, perform additional excavation beneath footprint of stockpile to SWU design grade, as shown in Technical Reference drawings.
- C. After removal of South Field Material Stockpiles, excavate to existing grade as shown on the Existing Conditions Plan of the Construction Drawings.
- D. Install erosion and sediment controls before the excavation of the stockpiles and maintain until completion of stockpile excavation. Erosion and sediment control measures shall be as specified in Section 02270 and the Construction Drawings.
- E. After completion of stockpile excavation and underlying scrapes, grade into the surrounding area.

**END OF SECTION**

**SECTION 02210  
PRESUMED ASBESTOS CONTAINING MATERIALS (PACM)**

**PART 1 GENERAL**

**1.1 SCOPE**

This section includes the requirements for handling, packaging, loading, hauling and unloading of Presumed Asbestos Containing Materials (PACM) from the Southern Waste Units (SWU) and Perimeter areas.

As the terms are used in the referenced administrative code and federal regulations:

- A. the excavation, handling, packaging, loading and hauling activities at and from the SWU area are considered disturbance of an inactive asbestos waste disposal site and asbestos waste handling; and
- B. the unloading activities at the On-Site Disposal Facility (OSDF) are considered active asbestos waste disposal - rather than asbestos hazard abatement.

**1.2 RELATED SECTIONS AND PLANS**

- A. Section 02205 – Impacted Material Excavation.
- B. Section 11010 – HEPA Vacuum Cleaner Requirements
- C. Part 6 - Statement of Work.
- D. Part 8 - Environmental Health and Safety, and Training Requirements.
- E. Impacted Material Placement Plan, On-Site Disposal Facility, current revision.
- F. Waste Acceptance Criteria Attainment Plan for the On-Site Disposal Facility, current revision.

**1.3 REFERENCES**

- A. Ohio Administrative Code (OAC), Chapter 3745-20, Asbestos Emission Control.
- B. Title 29, Code of Federal Regulations (CFR) 1926.1101, Asbestos.

**1.4 HEALTH AND SAFETY REQUIREMENTS**

Environmental Health and Safety, and Training requirements shall be as specified in Part 8:

**1.5 SUBMITTALS**

- A. Submit in accordance with Part 8 an Asbestos Safe Work Plan, in compliance with all applicable federal (CFR) and state (OAC) requirements, within fifteen (15) calendar

days from the Notice to Proceed for approval by the Construction Manager. The plan shall describe or present the following as a minimum with additional requirements as presented in Part 8:

1. Method to be used to ensure Contractor's (inclusive of Subcontractors) employees are informed of the presence of PACM in the project work area.
  2. Method(s) to be used to establish a restricted area adequate to deter the entry of unauthorized personnel within 100 feet of the PACM work areas.
  3. Personal protective equipment to be worn by employees.
  4. Work practices to be observed by employees.
  5. Methods to be used to handle and package friable PACM and to ensure no visible asbestos emissions during handling, loading, hauling and unloading.
  6. Methods to handle non-friable PACM to minimize the potential for non-friable PACM to become friable and to ensure no visible asbestos emissions during handling, loading, hauling and unloading.
  7. Methods to be used if PACM must be size-reduced to meet size criteria described in the Impacted Material Placement Plan for OSDF.
  8. The encapsulant and surfactant agents to be used.
  9. Product data and technical information including application instructions and Material Safety Data Sheet (MSDS) for each material proposed for use.
  10. Labeling methods.
  11. Identification of the Contractor's asbestos competent person personnel.
- B. Product data on materials used in the handling or excavation of PACM material.

## **PART 2 PRODUCTS**

### **2.1 MATERIALS**

- A. Clear polyethylene sheeting and clear polyethylene disposal bags for segregated and bagged materials shall be a minimum of 6 mils thick. Polyethylene liner used for the lining of roll-off boxes and placement of soil/PACM shall be a minimum of 12 mils thick.
- B. Materials to be used as encapsulants and surfactants shall be in original, new, and unopened packages and containers bearing manufacturer's name, label, and the following information:

1. Name of material.
  2. Manufacturer's stock number and date of manufacture.
  3. Manufacturer's name.
  4. Thinning instructions.
  5. Application instructions.
- C. Surfactant (wetting agent) shall be as specified by the following:
1. Childers -CP-225 CHIL-SORB.
  2. Certech.
  3. Expert Environmental Products.
  4. International Protective Coatings Corp.
  5. Or approved equivalent.
- D. Encapsulants shall be as specified by the following:
1. Childers - CP-240 CHIL-LOCK.
  2. Certified Technologies - Certane 2050.
  3. Expert Environmental Products - EPPCO #1.
  4. International Protective Coatings - Serpiloc.
  5. Or approved equivalent.
- E. Other materials required by the Contractor for handling and packaging of friable PACM.

### **PART 3 EXECUTION**

#### **3.1 GENERAL**

- A. Fluor Fernald has provided the necessary notification of disturbance of an inactive asbestos disposal site required by OAC 3745-20-07(D). The OSDF is an active asbestos waste disposal site in accordance with OAC 3745-20-06.
- B. The Contractor shall be responsible for:
1. Adherence and compliance to work practices and procedures set forth in applicable federal regulations (CFR) and state codes (OAC).
  2. Ensuring Contractor's (inclusive of Subcontractor) employees are informed of the presence of PACM in the project work area(s) in accordance with 29 CFR 1926.1101(d) and OAC 3745-20-06(B)(4).
  3. Establishing a restricted area adequate to deter the entry of unauthorized personnel within 100 feet of the PACM work areas in accordance with OAC 3745-20-06(B)(4).
  4. Obtaining required training.
  5. Conforming to Part 8 for training requirements.

6. Dust control in accordance with Part 6 and the Dust Control Plan.
7. Using wet methods and other work practices and engineering controls to prevent creation of visible asbestos emissions during handling of PACM.
8. Personal air monitoring in accordance with 29 CFR 1926.1101(f), including sampling necessary to complete initial exposure assessment.

### 3.2 APPLICATION

The Construction Manager shall make the determination of whether PACM is to be handled such that it is segregated or excavated mixed with the soil.

- A. In cases where the material is either segregated or non-segregated, the following requirements shall apply:
  1. Prior to excavation and at least once a day during excavation and at the end of the day, the Contractor's asbestos competent person shall walk the work area and identify PACM visible at the surface.
  2. The Construction Manager will inspect the area at the completion of work for visible debris.
  3. The Contractor shall ensure an asbestos competent person is on-site anytime PACM is being disturbed, excavated, handled, loaded, hauled, or unloaded.
  4. Wet methods or wetting agents shall be used during handling, packaging, and loading of PACM or PACM/soil mixture.
  5. Care shall be taken so that the friable PACM does not break or crumble during handling and become friable. In the event that it breaks or crumbles during handling, encapsulate the exposed surfaces.
  6. Surfactants or encapsulants shall be applied during necessary sizing of any large pieces of friable PACM to meet the OSDF WAC physical size criteria.
  7. Friable PACM with sharp-edged components (e.g., nails, screws, metal lath, tin sheeting) capable of tearing the polyethylene bags or sheeting shall be handled in one of the following ways:
    - a) Pad or wrap and secure the sharp-edged components in a manner to prevent tearing of the polyethylene, then wrap or bag in accordance with the respective preceding entries.
    - b) Place into Contractor-supplied, polyethylene-lined containers (i.e., fiberboard boxes or drums). Metal containers are not allowed.

- c) Container size is subject to the Impacted Material Placement Plan for OSDF for Category 5.
  - d) The polyethylene liner shall be sealed prior to sealing the container. The container shall be labeled in accordance with OAC 3745-20-05(C) (1).
8. Wrapped, bagged, or containerized friable PACM shall be segregated from other excavated material and accumulated at the Special Materials Transfer Area. When a sufficient quantity for a segregated load is accumulated, it shall be loaded and hauled to the OSDF. Loads shall be prepared and secured to prevent any visible emissions, load loss, and spillage or leakage of liquid.
9. No PACM shall be left exposed at the surface of the excavation or the OSDF at the end of the workday.
10. Exposed PACM during excavation shall be covered with soil at the end of each workday. Exposed PACM during excavation may be locked down in lieu of covering with soil if work will resume in that area within 36 hours.
- B. When the segregation of friable PACM from the soil is reasonably feasible, the Contractor shall use the following project specific handling methods in accordance with the approved Asbestos Safe Work Plan:
- 1. Friable PACM components meeting the OSDF Waste Acceptance Criteria (WAC) for physical size and removed intact in large pieces shall be wrapped in two layers of polyethylene sheeting, secured with duct tape, and labeled in accordance with OAC 3745-20-05(C)(1). Multiple pieces may be grouped prior to wrapping, provided WAC physical size criteria are still met.
  - 2. Pieces of friable PACM not conducive to wrapping shall be bagged in a polyethylene bag, sealed, bagged in a second polyethylene bag, sealed, and labeled in accordance with OAC 3745-20-05(C)(1).
  - 3. Wrapped, bagged or containerized friable PACM which has been handled as such shall be unloaded in the OSDF as Category 5 material in accordance with Addendum 1 of the Impacted Materials Placement Plan for OSDF, which presents additional requirements.
- C. For friable PACM (or for non-friable that has the potential to become friable) that is not readily segregated from the surrounding soils, the Contractor shall use the following handling methods, in accordance with the approved Asbestos Safe Work Plan.
- 1. Excavate and load the friable soil/PACM, placing it into a durable, leak-proof container, such as a plastic lined roll-off box. The liner within the roll-off box shall be a minimum of 12-mils thick.

2. Wrapped, bagged, or containerized friable soil/PACM shall be unloaded in the OSDF as Category 5 material in accordance with the trenching method of Addendum 2 of the Impacted Material Placement Plan for OSDF, which presents additional requirements.
- D. Non-friable PACM, which is determined not to have the potential to become friable, shall be excavated, loaded, hauled and unloaded in accordance with the Impacted Material Placement Plan for OSDF and the following requirements:
1. Wet transite or other non-friable PACM with amended water to reduce the potential for release of fibers
  2. Manually (by hand) remove pieces of transite or other non-friable PACM larger than 1 foot in any direction
  3. Stack large, intact pieces of transite or other non-friable PACM on pallets and wrap the entire stack in 2 layers of sheeting
  4. Double bag smaller pieces of transite or other non-friable PACM not conducive to wrapping
  5. Incidental pieces of transite or other non-friable PACM less than 12 inches in maximum dimension contained in soil and soil-like material or debris can be placed without segregation in the OSDF as Category 1 (soil and soil-like) or Category 2 material.
  6. Avoid excessive breakage of the transite or other non-friable PACM during manual removal or during use of heavy equipment in the area
  7. Cover soil or debris containing non-friable PACM which is temporarily staged in a stockpile with 6 inches of soil that is visually free of PACM at the end of the work day

**END OF SECTION**

**SECTION 02850  
EQUIPMENT WASH FACILITY at SWU**

**PART1 GENERAL**

**1.1 SCOPE**

This Section includes, but is not limited to:

- A. Performance criteria for the Equipment Wash Facility.
- B. Equipment and material to be provided by the Contractor.
- C. Operation and maintenance of the Equipment Wash Facility.
- D. Equipment Wash Facility provided by FDF.

**1.2 RELATED SECTIONS AND PLANS**

- A. Section 02205 - Impacted Material Excavation.
- B. Part 8 - Environmental Health and Safety, and Training Requirements.

**1.3 REFERENCES**

- A. Area 2, Phase I, Site Preparation Technical Specifications and Construction Drawings.
- B. Reference Plan 614-OPTB-017A, "Automated Equipment Wash Plan", rev. 2.

**1.4 HEALTH AND SAFETY REQUIREMENTS**

Environmental Health and Safety, and Training requirements shall be as specified in Part 8.

**1.5 SUBMITTALS**

Within ten (10) calendar days from Notice to Proceed, submit the Equipment Wash Plan to the Construction Manager for review and approval. The Equipment Wash Plan shall include:

- A. Supplemental equipment wash methods and washing and maintenance equipment proposed to meet the performance criteria.

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- B. Operation and maintenance requirements and schedule, including removal of accumulated oil and sediment.

#### 1.6 FACILITIES PROVIDED BY FLUOR FERNALD

- A. Concrete wash pad is provided by Fluor Fernald at the existing Equipment Wash Facility as shown in the Technical Reference package. The wash pad is equipped with three (3) water yard hydrants limited to a maximum flow of 5 gallons per minute (gpm) each – these do not however, supply the automated Equipment Wash Facility. A drain collection system, with trenches & an oil/water separator, and piping discharging to the existing Basin 4 are provided.
- B. Existing automated Equipment Wash Facility, detailed in Reference Plan 614-OPTB-017A (Automated Equipment Wash Plan) and located on the concrete wash pad, will be provided by Fluor Fernald for the Contractor's use to meet the requirements of this section. The water supply for this automated system is the Back Pressure Control Building, as shown on the construction drawings. There is an existing holding tank at the Equipment Wash Facility.
- C. Existing Retention Basin 4 collects discharge from the Equipment Wash Facility, and is detailed Reference Drawing 92X-5900-G-01036. Contractor is responsible for maintaining and operating basin, including pump, the above-ground piping between Retention Basin 4 and the west chamber of the Stormwater Retention Basin (SWRB), and operating the pumps to ensure that Retention Basin 4 does not overflow. Pumping will may be restricted due to conditions at the SWRB and will be as directed by the Construction Manager.

#### PART 2 PRODUCTS

None.

#### PART 3 EXECUTION

##### 3.1 PERFORMANCE CRITERIA

- A. Provide equipment wash and maintenance equipment and materials as per the approved Equipment Wash Plan. All equipment must pass through the Equipment Wash Facility prior to hauling on Impacted Material Haul Road.
- B. Flow rate from automated Equipment Wash Facility is limited to a maximum of 24,500 gallons/day.
- C. Wheels, tires, undercarriage, and body of equipment shall be washed free of visible mud, dirt and debris before leaving the Equipment Wash Facility.

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- D. Keep Impacted Material Haul Road clean and free of visible mud, dirt, and debris.
- E. Wash pad, drain line and trenches shall be kept adequately clean to prevent flow blockage. Equipment wash shall be performed only within the wash pad area.
- F. Water overspray shall be controlled and confined to the wash pad area as much as possible. Wash water shall be controlled to the wash pad and ingress/egress and directed to Basin 4.
- G. Maintain existing spray shields and ingress/egress curbs.
- H. Clean and maintain oil/water separator as necessary and maintain wash pad and associated facilities.
- I. Remove sediment from wash pad, drain line, trenches, and oil/water separator as specified in Section 02205. Unless otherwise directed by the Construction Manager, sediment is to be spread to dry at an impacted material location as directed by Construction Manager. At a minimum, sediment shall be removed from the above features at the end of the project.
- J. For equipment used to haul Above WAC material to SP-7:
  - 1. Prior to washing of the interior of the hauling compartment of equipment used to haul Above WAC material to SP-7, remove existing sediment from wash pad and center trench as specified in Section 02205 and this Section.
  - 2. Haul equipment shall be positioned during the wash so that wash water from the interior of the hauling compartment is directed into center trench.
  - 3. Following the washing of the interior hauling compartment of equipment used to haul Above-WAC material to SP-7, and prior to pad cleanup, the Construction Manager shall evaluate if the amount of Above-WAC sediment on the pad and in the trench is sufficient enough to be removed from the pad and the trench and taken to SP-7 or if it may be flushed.
  - 4. If flushing is allowed, flush the pad and the center trench so that all water and sediment is removed.

**END OF SECTION**