

Resource Control Consultants

Appendix E

Excavation and Disposal Plan

Former McCandless Fuels Site 2231 Delsea Drive, Route 47 Franklinville, Gloucester County New Jersey

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OVERVIEW

This section provides an overview of the approach to the remediation activities. The approach to the remediation activities described in this Work Plan has been developed based on the existing PCB data and current knowledge of site conditions.

In general terms, the project will involve the excavation, removal, and offsite transportation and disposal of soils containing PCBs at concentrations above the approved soil cleanup level of 500 mg/kg for the onsite soil. All offsite soils will be excavated to meet the NJDEP Residential Direct Contact Soil Remediation Standard of 0.2 mg/kg.

The remediation activities include the following tasks:

- mobilization and site preparation, including utility mark-outs, pre-remediation surveying and site control layout, installation of temporary access roads and fence crossings, and construction of temporary staging areas, as needed;
- excavation and off-site disposal of all soils exceeding the soil cleanup level of 500 mg/kg for onsite and excavation and management of all soils exceeding the soil cleanup level and 0.2 mg/kg for offsite soil;
- post-excavation verification sampling in soil removal areas to document that the appropriate cleanup level has been achieved. Additional soil excavation will be conducted, if necessary, to achieve the cleanup level, followed by additional verification sampling;
- off-site disposal of PCB remediation wastes at concentrations greater than 50 mg/kg will be at a facility that is a permitted and licensed Toxic Substances Control Act-(TSCA-) regulated disposal facility;
- if necessary, off-site disposal of PCB remediation wastes at an approved Title B landfill that is permitted and licensed to receive non-TSCA PCB waste;
- TSCA capping in conjunction with institutional controls (i.e. Deed Notice, Classification Exception Area, and Remedial Action Permits for Soil and Groundwater).
- restoration of remediated and disturbed areas; and
- site demobilization, including replacement of the property fence, equipment decontamination, restoration of disturbed areas, and demobilization of equipment and any unused materials.

Property Access, Permits, and Approvals

Property Access

This section presents the overall scope of work and general approach to the remediation activities. The work will be performed in accordance with the scope of work defined herein, the approval granted by EPA and the applicable requirements of 40 CFR 761, which specify the procedures for management and disposal of PCBs under TSCA. In addition, field work will be conducted in conformance with the Site-Specific Health and Safety Plan (HASP).

Mobilization and Site Preparation

Site mobilization will include mobilizing the necessary manpower, equipment, and materials to the site to implement the remediation project.



Equipment, trucks, and similar equipment will be located in designated equipment staging areas as illustrated on **Figure E-1**.

Once mobilization is complete, site preparation will be performed in accordance with the sections below to establish construction support areas and installations that will facilitate the safe and efficient performance of the work.

Identification of Utilities

Prior to any intrusive activities at the site, a utility mark-out will be performed. This effort will include contacting New Jersey One Call (811) to request a mark-out of utilities in the proposed work areas. In addition, property owners will be consulted regarding the locations of utilities on their respective properties (i.e., in areas where public utilities are not marked). Any drawings provided that illustrate utilities within the work area will be reviewed, and the locations of the utilities will be marked in the field.

In addition, a private utility locating company may be used to locate electric, gas, water, and sewer utilities within the work areas and verify utilities identified from drawings and the public utility service.

Surveying and Site Layout

To provide control for soil removal and verification sampling, surveying will be performed to stake out the construction stationing along the length of areas to be remediated, the lateral limits of soil excavation, and excavation cut depths. Surveying will either be performed with convention methods performed by a licensed surveyor or with survey-grade GPS equipment. GPS equipment will be maintained onsite during excavation activities to guide verification sampling. Site survey work will be referenced to the State Plane Coordinate System, North Zone.

Installation of Temporary Site Controls

Temporary site controls will be established prior to the performance of remediation activities. The entire work area will be enclosed to provide controlled access to the site. Additional access gates may be installed at locations along the existing chain-link fence to allow access for construction and hauling vehicles. The specific locations of the gates will be selected during the mobilization phase.

Warning tape or construction fence will be placed within the remediation area, as needed, to designate the work areas at locations, such as open excavations, equipment cleaning areas, and soil processing areas, to restrict access. Refer to Site Layout Plan **Figures E-1** for illustrations of the "Designated Work Areas". For the duration of the remediation activities, a log sheet will be maintained at the site trailer and all project personnel and site visitors will be required to sign in upon entering the site and to sign out upon leaving.

Temporary site controls will be removed, as appropriate, following completion of remediation or restoration activities within each area.

Erosion and Sedimentation Best Management Practices in the Excavation Areas

The specific erosion and sedimentation control measures and Best Management Practices for the remedial activities will depend on a number of considerations that include the scope of activities, site topography, type of ground cover, and operational and maintenance considerations. The types of erosion and sedimentation controls that are anticipated for this project include the following:



- silt fence or staked hay bales installed within the designated work areas;
- vacuum truck to collect potentially impacted water for off-site disposal that accumulates within the soil removal areas and
- stabilized construction entrances to prevent the tracking of clean soil from access roads onto public roads.

The specific locations of these controls will be determined during the excavation and will adjusted, as necessary, in the field, based on site-specific considerations related to drainage, topography, and work activities.

Temporary Haul Roads and Crossings

Access to the designated offsite work areas will be from the McCandless site property. In some instances, it may be necessary to provide equipment and vehicle access to the area and the temporary soil staging area(s), via haul roads that need to be constructed. The roads will be utilized for hauling excavated soils and for importing backfill and other restoration materials. Where possible, the haul roads will be installed in areas where soil removal is not anticipated. The haul roads will be constructed by clearing vegetation (if necessary), performing limited grading (if necessary), and placing gravel if needed based on site conditions. Turn-around or bypass areas will be provided, as necessary, based on the anticipated vehicular flow patterns (locations to be determined during mobilization). The width of the haul roads is expected to be approximately 16 feet wide to accommodate hauling vehicles. Following the completion of the soil removal, the haul road(s) will be removed.

Note that off-site transportation vehicles will not be allowed to drive on soils designated for remediation; these vehicles will remain on constructed access roads and staging areas. The off-site vehicle tires will not be in contact with PCB-containing soils.

When necessary, plastic sheeting will be draped over the truck sides and tires (loading side only) to control the spillage of PCB-containing material onto the trucks and tires. If needed, tires may be cleaned with brooms, shovels, and brushes to prevent tracking of clean soil onto public roadways. Cleaning of the public roadway will also be conducted if needed by shoveling, sweeping, or washing. Truck loading will be performed on plastic sheeting to further reduce the potential for tracking and plastic will be kept well swept.

Temporary Soil Staging and Loading Area(s)

Excavated materials will be transferred to temporary storage pile staging areas (expected storage duration, when needed, would be 1 to 3 months) located within the work area as illustrated on **Figure E-1**.

Short-term storage of excavated materials outside of the targeted remediation area will be required to support waste characterization sampling prior to off-site disposal. Separate staging areas will be constructed for materials containing greater than 1 mg/kg but less than 50 mg/kg (that may be targeted for non-TSCA facility disposal) and soils suspected of containing greater than or equal to 50 mg/kg (targeted for TSCA facility disposal). Specific requirements for construction of the temporary soil and sediment loading area(s) if constructed outside of anticipated soil removal areas are as follows:

• The area upon which the temporary storage/loading area(s) will be constructed is currently asphalt. A plastic liner or similar, 6 mils in thickness, will be placed to form the bottom of the staging area. The liner may be covered with clean sand or other appropriate material. The sand layer would provide a working surface for the soil



handling activities and would protect the underlying liner from puncture. The material used for this purpose will be free of any debris or sharp objects that may puncture or otherwise damage the liner.

- Temporary earthen berms or hay bales will be placed around the perimeter of the temporary storage/loading areas to control run-on and run-off to or from the storage/loading area.
- The storage/loading area(s) will be clearly marked in the field with signs indicating "PCB Remediation Waste."
- The storage/loading area(s) will be covered to minimize the possibility of material migration due to weather conditions,
- The storage/loading area(s) will be inspected periodically or after a significant weather event to ensure soils are properly contained and covered.
- Documentation of stockpile inspections will be kept including; date of inspection, weather conditions, observed stockpile conditions and photographs. Any needed repairs will be made immediately if possible, and noted.

Refer to **Figure E-2** for an illustration of a typical soil stockpile.

Soils removed will be transferred to the temporary soil storage/loading area(s) in haul vehicles traveling along the designated haul roads. Vehicles hauling the soil offsite for disposal will stay outside the bermed area during loading to minimize the potential for tracking impacted materials offsite. As an additional precaution, the area around the temporary storage/loading area(s) will be monitored, and any spillages or other observed impacts will be addressed promptly. Water that accumulates in the low points of the temporary loading area(s), if any, will be collected and managed in accordance with the procedures presented in below. Staged materials will be covered with plastic sheeting when the loading areas are not actively being used.

Following transfer of all materials from the temporary storage/loading area, area will be decommissioned. The temporary berm, sand layer, and liner materials resulting from the decommissioning will be removed and transported offsite for disposal.

Excavation of Soils

The soils will be excavated to site specific PCB standard of 500 mg/kg within site (OU1) and will achieve the NJDEP Residential Direct Contact Soil Remediation Standard (RDCSRS) of 0.2 mg/kg in offsite locations. Soils will be removed using conventional construction equipment (e.g., track-mounted excavators and dump trucks), box trenching, or large sized auger excavation techniques for onsite excavation to minimize excessive removal of non-contaminated soils and conventional construction equipment for offsite excavation. Dust control procedures (e.g., water misting) will be implemented, as necessary, based on field conditions (See below for Air Monitoring). If required, smaller machinery also may be used in areas where excavator access of maneuverability may be limited.

In OU1, the soil will be removed from surface to depth of 8.5' bgs around PMP-24 where elevated levels of PCBs are concentrated. Post excavation sampling and select test pit sampling to deeper soils will confirm residual soils meet the cleanup goals of 500 mg/kg for PCBs. The extent of this excavation is depicted on **Figure E-3**.

In OU2, soils will be removed from the surface interval 0-2.5' bgs (**Figure E-4**). Post excavation sampling will confirm residual soils meet the cleanup goals for RDCSRS. An excavation from the ground surface to a depth of 2' bgs will be completed along the property



line and will extend two linear feet from OU2 into OU1. The purpose of this excavation will be to create a buffer to eliminate potential runoff induced recontamination or other incidental movement.

In OU3, soils will be removed from both unsaturated and saturated depth intervals (**Figure E-5**). An excavation buffer from the ground surface to a depth of 8.5' bgs will be completed along the property line and extend two linear feet from OU3 into OU1. There will be staging of overlying surficial soils to access contaminated soils at depth. Post excavation sampling will confirm residual soils meet the cleanup goals for RDCSRS. Sampling of the overburden soil piles may be performed prior to re-use to backfill the excavation

Excavation Area	Depth Interval	Area (Sq ft)	Interval Thickness (ft)	Cu. Feet	Cu. Yard	Tons
OU1	0-2.5' bgs	290	2.5	725.00	26.85	40.28
OU1	2.5-8.5' bgs	117	6	702.00	26.00	39.00
OU2	0-2.5' bgs	1388.00	2.50	3470.00	128.52	192.78
OU2 Buffer	2' bgs	60.00	2.00	120.00	4.44	6.67
OU3	0-2.5' bgs	600	2.5	1500.00	55.56	83.33
OU3	2.5-6' bgs	330	3.75	1237.50	45.83	68.75
OU3	6-8.5' bgs	1600	2.5	4000.00	148.15	222.22
OU3 Buffer	8.5' bgs	100	8.5	850.00	31.48	47.22
Total Amount of Excavation in Tons						700.25

The estimated soil volumes to remove from excavation area OU1, OU2 and OU3 is provided in table below:

Soil will be loaded into haul vehicles (e.g., dump trucks or off-road dump trucks) and transferred to the designated temporary staging/loading area where the soils will subsequently be loaded into trucks for offsite transportation and disposal, based on waste classification sampling.

Materials Handling and Disposal

This section describes the various waste materials (soils, liquids, residual wastes, and general trash) that are expected to be generated during the remedial activities and the handling and disposal procedures associated with the remedial activities. The procedures have been developed to provide proper management of waste materials.

During the waste management activities, RCC or an assigned designee will be responsible for the following:

• reviewing waste manifests and their associated documents to confirm that they meet requirements for signature;



- tracking returned manifests and maintaining on file all shipping documents, including manifests, land disposal notifications, and related documents;
- providing regulatory compliance checks on potential transporters and treatment, storage, and disposal facilities

Waste Classification Sampling

The existing asphalt cap in OU1 will be utilized for temporarily staging the stockpiled materials. Separate staging areas will be constructed for materials containing greater than 1 mg/kg but less than 50 mg/kg (targeted for non-TSCA facility disposal) and soils containing greater than or equal to 50 mg/kg (targeted for TSCA facility disposal).

The soils will be sampled for potential reuse on-site and to obtain waste classification determination. The number of soil samples and type of analysis will be based on the approved disposal facility (TSCA or non-TCSA) requirements. All sampling and analysis were completed in accordance with the current NJDEP Field Sampling Procedures Manual and current Technical Regulations and Guidance.

Soil samples will be transported to an NJDEP Certified Laboratory for the appropriate analysis the based on the disposal facility requirements. Once sample analysis is received, RCC will provide the disposal facility with the required documentation needed for disposal approval.

Soil Management and Disposal

To minimize the potential for the release of PCBs to the environment during soil removal and handling activities, it is desirable to minimize the number of times that the materials are handled. Soils will be transferred in hauling vehicles along designated haul roads to a temporary loading area described above.

The temporary staging/loading area(s) will function as the soil loading area for waste transport vehicles upon their arrival at the site. The temporary loading area will be designed to accommodate an excavator that will be used to load the soil and load materials from the temporary loading area into the offsite transport vehicles.

If dewatering of soils to remove excess moisture (free standing water) is required prior to offsite transportation and disposal, it may be accomplished via a combination of techniques, including gravity drainage of water, and mixing of wetter soil materials with dryer soil materials. None of the liquids that may be managed in this fashion are expected to contain PCBs in concentrations that approach or exceed 50 ppm.

The appropriate TSCA notification of generation of PCB remediation waste will be filed with the USEPA, as required. Offsite transport of materials will be performed by licensed haulers in accordance with appropriate local, state, and federal regulations. Loaded vehicles leaving the work area will be covered, cleaned to remove any accumulated dirt as needed to prevent tracking (as necessary), manifested, and placarded in accordance with federal, TSCA, and Department of Transportation requirements, as well as any equivalent state requirements.

Soils characterized as compliant with the approved TSCA Risk Based Disposal Application for the McCandless Site will be considered for reuse as backfill for OU1 excavations and excess volume will be re-used onsite or disposed offsite. Materials containing less than 50 mg/kg total PCBs may be transported off-site for disposal at a permitted solid waste management facility meeting the requirements of 40 C.F.R. 761.61(a)(5)(i)(B)(2)(ii). Material containing



PCBs at or above 50 ppm will be transported off-site for disposal in accordance with 40 CFR 761.61(a)(5)(i)(B)(2)(iii).

Water and Storm Water Management and Disposal

During construction, it is possible that water from the adjacent properties or groundwater may enter excavation areas. Groundwater infiltration is also possible depending on final excavation depths in some areas.

The soil removal activities are weather dependent. Therefore, scheduling of daily remedial activities will be planned in accordance with anticipated weather conditions to minimize adverse impacts as a result of heavy rain. However, in the event that heavy rains occur, water will be managed as described below. Water encountered during the project may include storm water (including direct precipitation and overland runoff), surface water from the ditch, and groundwater.

Storm water diversion measures will be used as needed to prevent run-on to active work areas. Run-on from storms events will be limited to the extent possible limiting the extent of disturbed work areas. Significant overland flow from upland areas is not expected, however, soils berms, sand bags, hay bales, or diversion swales may be used to prevent excessive runon into excavation areas, if needed. The need for additional measures to manage surface water will be based on site conditions encountered throughout the project. If run-on prevents soil removal or loading then diversion measures above will be implemented using onsite personnel and equipment and locally obtained materials (clean fill for berms, sands bags, hay bales, etc.).

Water removed from the active excavation areas and temporary staging areas will be collected via vacuum truck and disposed of off-site.

Decontamination Wastes

Solid decontamination wastes, including used disposable equipment and personal protective equipment will be placed in appropriate containers, labeled, temporarily stored within the staging areas, and properly disposed by RCC.

Personnel and Equipment Decontamination

The purpose of this section is to provide the minimum procedures and guidelines for the proper decontamination of equipment, tools, and personnel that have come in contact with PCB-impacted materials. Decontamination activities will be an integral part of the remedial activities at the site.

Equipment Cleaning

Equipment cleaning will be performed to control offsite transport of PCBs on the equipment used for remediation activities. The cleaning activities will include:

- An equipment cleaning area will be constructed near the work area and will generally consist of an impermeable barrier that is sloped to a collection sump. Decontamination fluids (water) will be collected using temporary systems (e.g., drums, tanks, and pumps).
- Material handling equipment (e.g., excavators, off-road haul vehicles) that has been used to remove PCB-containing soils or sediments will be cleaned before it enters nonwork areas, handles "clean" materials (e.g., backfill), or leaves the site. Equipment cleaning will be performed by dry cleaning methods (shovels, brushes) to remove bulk



material, followed by high-pressure, low-volume, power washing (as needed) to remove residual material.

- Decontamination fluids will be collected and containerized for subsequent treatment and disposal in the on-site water treatment system.
- Wipe sampling of heavy equipment (e.g., excavators, loaders, water storage tanks) will be performed following final equipment cleaning for any equipment that has worked in PCB-impacted areas. If wipe sampling indicates PCB levels greater than 10 μ g/100 cm2, the equipment will be re-cleaned and re-sampled until a PCB level less than 10 μ g/100 cm2 is achieved. Wipe sampling will not be required for equipment that has only worked in non-PCB impacted areas.

Decontamination of Personnel

Decontamination of personnel will be performed as described in the Site-Specific Health and Safety Plan.

Air Monitoring

During all removal activities that involve the handling, movement or disturbance of soil and all excavation activities, it is anticipated that there is a potential for generation of airborne particulate (dust) that can potentially contain PCBs. An air emission status program will be implemented to determine that work practices and control measures maintain airborne emissions below the applicable air monitoring action thresholds. This plan will be implemented in conjunction with the air monitoring requirements as described in the HASP.

Air Monitoring Action Levels

Acute exposure to PCB Aroclors has been address through the Particle Matter (PM10) action level. The NAAQS for particulate matter less than 10 micrometers in diameter (PM10) is 150 ug/m3 for a 24-hour time-weighted average (TWA) concentration. An action level (AL) of 338 ug/m3 of PM10 has been established for an 8-hour period for a New Jersey annual ambient PM10 background concentrations. This value, when added to the Site-specific background, is to be used as the trigger for an action response.

Pre-determined action level thresholds as listed below, will provide for a system to trigger implementation of engineering and administrative controls to reduce the generation of dust. Implementation of controls will provide protection for both on-site workers and the local community.

To provide protection for potential off-site migration, this plan will measure, and control airborne PCBs associated with dust below a New Jersey annual ambient background concentration, an action level of 338 ug/m3 of PM10 based on an 8 hours workday length.

The following calculations and rationale were used to develop air monitoring Action Levels (AL).

 $(150 \ \mu g/m3 - 37.3 \ \mu g/m3) \times (24 \ hr/8 \ hr) = 338 \ \mu g/m3$

Where 150 μ g/m3 is the NAAQS 24-hr PM10 standard; 37.3 μ g/m3 is SRP's estimate of the generic New Jersey background PM10 concentration; and 8 hr is the default work day length corresponding to the off-site exposure period.



Action Level calculation with safety factor:

The prescribed Action Level (AL) of 338 ug/m3 of PM10 per cubic meter of air has been established for a New Jersey annual ambient PM10 background concentrations. This action level will provide a conservative value that allows for implementation of engineering controls to maintain exposure well below the PCB PEL.

Monitoring Locations

During the soil handling phases of site activities, an air emission monitoring program at the active excavation areas will be established to evaluate employee exposures and prevent impact to the community. The air emission monitoring program will consist of a tiered approach as outlined below:

Work Zone:

- Location area immediately around excavation area, approximately 10-foot buffer around edge of excavations
- Activity excavation and soil removal

Monitoring

Real-time Monitoring: continuously monitor for total airborne particulate (dust) which includes PM10 at the downwind area and perimeter of each excavation with a MIE DataRAM. Background dust levels will be collected upwind throughout the day at the discretion of the sampling specialist and prior to starting activities. All sample results will be data-logged and maintained for review and documentation of ambient air dust levels. The MIE DataRAM measures the total airborne particulate concentration including particles less than 10 micrometer in diameter, so this is a more conservative method.

Perimeter Monitoring:

• Location - area surrounding work zone Activity - support and logistics

Monitoring

Real-time Monitoring: MIE DataRAM for total dust, at least hourly at randomly selected downwind perimeter locations

Personal sampling:

• no samples required

Work will continue on the site as dictated by real-time monitoring results. If any TWA results indicate exposure above the applicable action levels, work will cease until additional control technologies and/or work procedures can be established to reduce the level of air emissions.



FIGURES









