# REVISED INTERIM REMEDIAL MEASURE WORK PLAN FOR BUILDING 1 AREA

**Prepared For:**

Taconic, Inc.
136 Coon Brook Road
Petersburgh, New York 12138

NYSDEC Site No. 442047

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# ACRONYMS AND ABBREVIATIONS

| Acronym | Definition |
|---|---|
| CAMP | Community Air Monitoring Plan |
| CCR | Construction Completion Report |
| COPC | constituents of potential concern |
| CSM | conceptual site model |
| ERM | Environmental Resource Mapper |
| ft | foot/feet |
| GAC | granular activated carbon |
| GCL | geosynthetic clay liner |
| HASP | Health and Safety Plan |
| HAZWOPER | Hazardous Waste Operations and Emergency Response |
| ICs/ECs | Institutional and Engineering Controls |
| IEC | institutional and engineering control |
| IID | Interim Investigation Deliverable |
| IRM | interim remedial measure |
| MW | monitoring well |
| NAD | North American Datum |
| NAVD88 | North American Vertical Datum of 1988 |
| NWI | National Wetlands Inventory |
| NYCRR | New York Codes, Rules and Regulations |
| NYNHP | New York Natural Heritage Program |
| NYSDEC | New York State Department of Environmental Conservation |
| NYSDOH | New York State Department of Health |
| OSHA | Occupational Safety and Health Administration |
| PCB | polychlorinated biphenyl |
| PFAS | poly- and perfluoroalkyl substance |
| PFOA | perfluorooctanoic acid |
| PLS | professional land surveyor |
| POET | point of entry treatment |
| ppm | part per million |
| PTFE | polytetrafluoroethylene |
| RCDOH | Rensselaer County Department of Health |
| RI | Remedial Investigation |
| RI/FS | Remedial Investigation/Feasibility Study |
| SEQRA | State Environmental Quality Review Act |
| Site | Taconic site |
| SMP | Site Management Plan |
| SVOC | semivolatile organic compound |
| SWPPP | Stormwater Pollution Prevention Plan |
| Taconic | Tonoga, Inc. d/b/a Taconic |
| TAL | Target Analyte List |
| TCL | Target Compound List |
| TOC | total organic carbon |
| Town | Town of Petersburgh |
| µg/m$^3$ | micrograms per cubic meter |
| USFWS | United States Fish and Wildlife Service |
| VOC | volatile organic compound |

# 1.0 INTRODUCTION

Parsons has prepared this Interim Remedial Measure (IRM) Work Plan on behalf of Tonoga, Inc. d/b/a Taconic (Taconic) for the Taconic Site (Site) located in the Town of Petersburgh (Town), Rensselaer County, New York (**Figure 1**). The IRM is being conducted voluntarily in companion with work being conducted in accordance with the requirements of the Administrative Settlement Agreement and Order on Consent (Index No. CO 4-20160519-01) (Settlement Agreement) executed between the New York State Department of Environmental Conservation (NYSDEC) and Taconic, with an effective date of November 20, 2016. The Site is listed on the New York State Registry of Inactive Hazardous Waste Disposal Sites as a Class 2 site (Site No. 442047).

The purpose of this document is to present the IRM design and provide a work plan for performance of IRM construction. Planned activities under this IRM Work Plan include site preparation, remedial excavation, and backfill and restoration for the drainage swale area located behind Building 1 at the Site.

## 1.1 Site Description

The Taconic facility manufactures polytetrafluoroethylene (PTFE) coated fabrics. The Site is located in a rural area, at the northernmost intersection of Coon Brook Road and State Route 22 (**Figure 1**). The Site is a 23.54-acre area that features nine structures related to manufacturing and three parking lots. There is an unnamed stream that runs through the Site. The Site is currently an operating manufacturing facility and employs over 200 people, most of whom reside in the Petersburgh community. The surrounding parcels (some of which are owned by Taconic) are residential or undeveloped. The Little Hoosic River runs south to north on the opposite side of Route 22 from the Site.

On February 13, 2016, NYSDEC and the New York State Department of Health (NYSDOH) began sampling and testing for perfluorooctanoic acid (PFOA). The tests confirmed the presence of PFOA at the Site and in the drinking water of the Town's public water supply. Since that time, Taconic has worked with the Town, Rensselaer County Department of Health (RCDOH) and NYSDOH to implement several interim measures, including:

- Provided residents of the Town with bottled water at multiple locations, free of charge, including home delivery to residents with special needs.
- Provided a climate-controlled bottled water headquarters at the Town Hall where Taconic continues to distribute free water to Town residents.
- Provided a recycling center for Town residents' empty water bottles.
- Installed over 100 point of entry treatment (POET) systems on private wells in the Town and is currently providing sampling and maintenance of the POET systems. At the time of this report, approximately 3,000 samples of residential water supplies have been collected and analyzed to ensure the POET systems continue to provide drinking water to residents in the Town without detectable traces of PFOA and other related poly- and perfluoroalkyl substance (PFAS) compounds.
- Collected samples of residential water supplies throughout the Area of Interest to ensure the raw water quality in wells that are not equipped with POET systems remain below the action levels established by the State. At the time of this report, over 650 samples of raw water supplies have been sampled and analyzed for PFOA and related compounds.
- Designed and installed a customized granular activated carbon (GAC) water treatment system and a building to house the water treatment system for the Town Public Water Supply. The GAC water treatment system has been in operation since the Spring of 2017, with PFOA and related compounds below detectable levels in the treated water. As of this writing, over 200 samples of the Town's water supply have been

collected and analyzed to ensure the GAC water treatment system continues to provide drinking water to residents in the Town without detectable traces of PFOA, and other related PFAS compounds.

- Designed and installed modifications to the GAC water treatment system in 2018 consisting of a recirculation loop and tank bypass line. The recirculation loop was installed to ensure the minimum flow requirements of the GAC water treatment system would be met during periods in which the Town was experiencing low well yields. The tank bypass line was installed to provide the make-up water for the recirculation loop and to facilitate future tank cleaning, inspection, and upgrade projects planned by the Town.

With approval from NYSDEC, and to expedite data collection associated with the Remedial Investigation (RI), the three production wells at the Site were sampled on September 1, 2016 for PFAS (including PFOA, PFOS and 15 other compounds). The production wells were also sampled for a full suite of constituents including volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), metals, and cyanide. Initial groundwater results showed that PFOA is a constituent of potential concern (COPC) in groundwater at the Site; VOCs, SVOCs, pesticides, PCBs, and cyanide were reported as not being present in the samples, and the concentrations of metals in the groundwater samples appear to be representative of background.

Taconic is currently conducting quarterly sampling of four production wells (raw water) and quarterly mid-GAC and post-GAC water sampling of the GAC water treatment system associated with each production well.

Building 1 is located on the north side of Coon Brook Road at the intersection with Russell Road and is the oldest building at the Site. The supply water for Building 1 comes from Unnamed Pond 1 located on Russell Road to the north. The water from Unnamed Pond 1, also referred to as the "Russell Road Pond," is used in Building 1 for sinks and toilets, which is treated with a GAC system that was installed in Building 1 in February 2016.

Wastewater from Building 1 was previously discharged into a former dry well currently located under an addition (an active laboratory area) on the south side of Building 1. This dry well was closed in place in September 2010 before the addition was constructed. There were also two outfalls (003 and 004, see **Figure 2**). The former outfalls and dry well represent potential historic sources of PFOA to soil, groundwater, surface water and/or sediment before discharges of process water were discontinued in 1999.

## 1.2 Previous Site Characterization Activities

A phased investigation approach was established in the Remedial Investigation/Feasibility Study (RI/FS) Work Plan (OBG 2018) and approved by the NYSDEC. To date, investigation Phases 1a, 1b, and 2a, as well as a focused supplemental investigation at the Building 1 area, have been completed by Taconic. Detailed presentations of analytical results are available in the Phase 1 Interim Investigation Deliverable (IID) (Parsons 2020), and the Phase 2A IID (Parsons 2022). A subset of analytical results from samples collected in the vicinity of Building 1 are shown in **Figure 2**.

### 1.2.1 Phase 1 Remedial Investigation

The objectives of the Phase 1 RI were to define the nature of COPCs, evaluate the extent of COPC impacts in environmental media (e.g., groundwater, surface water, and soil), and develop a preliminary conceptual site model (CSM).

Phase 1 involved sampling of relevant media (e.g., surface water, sediment, groundwater, surface soil, subsurface soil, wastewater and sludge) to define the nature of the COPCs and evaluate their extent. Phase 1 included the sampling of environmental media on the Site and nearby Taconic-owned properties, with laboratory analysis for PFAS, Target Compound List (TCL)/Target Analyte List (TAL) constituents, cyanide, total organic

carbon (TOC), major cations/anions, grain size, and pH. Phase 1 was broken into subtasks of Phase 1a and Phase 1b. Phase 1 activities are summarized below and described in detail in the Phase 1 IID (Parsons 2020).

#### 1.2.1.1 Phase 1a

The objective of Phase 1a was to begin to define the nature of the COPCs and evaluate their extent through the collection of environmental samples. The environmental media sampled included groundwater, surface water, sediment, surface soil, and subsurface soil. Wastewater and sludge in tanks were also sampled during Phase 1a for laboratory analysis. A primary objective of Phase 1a was also to collect preliminary groundwater data to inform the placement of groundwater monitoring wells to be installed in Phase 1b.

Phase 1a field activities were implemented from April 2018 through September 2018 and included:

- Subsurface utility location and mark-out;
- Collection and analysis of 26 surface water samples;
- Collection and analysis of 15 sediment samples;
- Collection and analysis of 80 surface soil samples;
- Collection and analysis of wastewater and sludge samples;
- Installation of two exploratory boreholes (with completion as open shallow bedrock monitoring wells);
- Borehole geophysical testing and concurrent depth-discrete groundwater profiling;
- Direct-push overburden investigation, including:
  - Direct sensing at four locations;
  - Collection and analysis of 33 discrete-interval groundwater samples; and
- Collection and analysis of 41 subsurface soil samples.

Phase 1a analytical results for surface water, sediment, subsurface soil, and overburden groundwater indicated a potential PFAS source area behind Building 1. A source area is defined in DER-10/Technical Guidance for Site Investigation and Remediation as “a portion of a site or area of concern at a site where the investigation has identified a discrete area of soil, sediment, surface water or groundwater containing contaminants in sufficient concentrations to migrate in that medium, or to release significant levels of contaminants to another environmental medium, which could result in a threat to public health and the environment” (NYSDEC 2010). Additional investigation during Phase 1b, Phase 2a and the Supplemental Building 1 RI was performed to further define the potential source area, investigate potential migration pathways, and support the development of an IRM if warranted. This additional investigation work is described below.

#### 1.2.1.2 Phase 1b

Based on the results of the Phase 1a RI, Taconic implemented Phase 1b of the RI. Phase 1b involved installation and sampling of groundwater monitoring wells to further define the nature of the COPCs and evaluate their extent. Groundwater monitoring well locations were chosen based on data from the direct-push overburden investigation, completed as part of Phase 1a.

Phase 1b field activities were implemented from April 2019 through October 2019 and included:

- Installation of 24 overburden monitoring wells;
- Collection of subsurface soil at 4 monitoring well locations;
- Well development;
- Hydraulic conductivity testing;
- Collection and analysis of groundwater samples (24 overburden monitoring wells, and two former residential wells, one at a Taconic-owned property on Coon Brook Road and another at the Taconic-owned campground adjacent to the Little Hoosic River);
- Site topographic surveying;

- Collection of two rounds of stormflow sampling from natural surface water features and stormwater conveyances, with three locations sampled during both events and one sampled only during the second event; and
- Performance of packer sampling, including collection of a total of four samples from four discrete intervals, from production well PW-4.

The results of the Phase 1a and 1b RI are summarized in the IID, which was submitted to NYSDEC on February 28, 2020 (Parsons 2020). The Phase 1a and 1b results served as the basis for the additional investigations for Building 1 and Phase 2 of the RI.

### 1.2.2 Phase 2a and Building 1 Remedial Investigation

Phase 2 is intended to complete the requirements of an RI as described in DER-10/Technical Guidance for Site Investigation and Remediation (NYSDEC 2010). The objective of the Phase 2 RI is to expand the sampling and analysis of environmental media within the Site and adjacent off-site areas to further define the potential source areas, migration pathways, and the nature and extent of the compounds at or emanating from the Site. Similarly, to Phase 1 of the RI, Phase 2 is being completed in iterative phases, whereby data gathered in the initial phases will be used to plan and implement subsequent phases, as needed, to identify and design potential IRMs and to ultimately complete the RI.

Phase 2a investigation activities involved collection of additional data and environmental samples to further delineate the extent of COPCs in environmental media and refine understanding of the geology and hydrogeology to assist with identification of primary migration pathways. In addition, as a result of detections of elevated concentrations of PFAS in the Building 1 area, particularly in the vicinity of Former Outfalls 003 and 004, a Supplemental Building 1 Remedial Investigation was performed. Activities performed during the Phase 2a and Building 1 RI work are summarized below and presented in detail in the Phase 2A IID (Parsons 2022).

Phase 2a field activities were implemented from November 2020 through March 2022 and included:

- Collection and analysis of 48 natural surface water samples during baseflow conditions, collected over two rounds of sampling;
- Collection and analysis of 37 stormwater and natural surface water samples during stormflow conditions, collected over two rounds of sampling;
- Collection and analysis of 12 sediment samples;
- Collection of 90 surface, near surface, and subsurface soil samples from 33 off-site sample locations;
- Collection of 13 surface, near surface, and subsurface soil samples from three on-site soil boring locations drilled for monitoring well installation;
- Collection of 17 subsurface soil samples from eight soil boring locations around Building 1;
- Installation, development, and sampling of two shallow/deep overburden monitoring well pairs (co-located with new bedrock well locations);
- Installation of three new overburden monitoring wells adjacent to Building 1;
- Development and sampling of two out of three new overburden wells adjacent to Building 1;
- Sampling of five existing overburden monitoring wells to assist with investigation of Building 1 groundwater;
- Surface geophysics to preliminarily characterize subsurface conditions, prior to installation of additional groundwater monitoring wells;
- Installation of seven bedrock groundwater monitoring wells;
- Sampling of mixed borehole groundwater from four new bedrock groundwater monitoring wells;
- Borehole geophysics to identify potential water-bearing fracture zones for discrete interval groundwater sampling;
- Discrete interval bedrock groundwater sampling using packer sampling methods in six new bedrock groundwater monitoring wells;

- Installation and two rounds of gauging of three staff gauges in local rivers and streams; and
- Three rounds of monitoring well gauging.

The investigation work conducted during the RI and the Supplemental Building 1 RI identified elevated PFAS concentrations in surface water, subsurface soils, and shallow groundwater along the swale behind Building 1.

## 1.3 Preliminary Conceptual Site Model

A preliminary CSM for the Building 1 area is presented below. Additional investigative results are available in the two IIDs (Parsons 2020 and Parsons 2022) and **Figure 2**.

The drainage swale behind Building 1 receives surface water runoff from upslope areas. The Building 1 foundation is assumed to be completed near the top of bedrock and may be causing ponding within the swale by blocking infiltration and downslope runoff. Elevated concentrations of PFAS compounds have been observed in surface water in the drainage swale behind Building 1, downstream in the drainage channel along Coon Brook Road, and Unnamed Pond 3 (**Figure 1**). Surface water from Unnamed Pond 3 flows under Route 22 and discharges to the Little Hoosic River. The Little Hoosic River has been sampled both upstream and downstream of where the drainage channel discharges to the Little Hoosic River during both base- and storm-flow conditions, and results indicate that PFAS within the on-site surface water drainage system are not measurably impacting the water quality in the Little Hoosic River.

Although isolated pockets of contaminated overburden groundwater have been detected in monitoring wells around Building 1 (monitoring wells (MW)-3 and MW-4 installed during Phase 1 and MW-25 and MW-26 installed during Phase 2) the geologic conditions around Building 1 do not seem to indicate overburden groundwater is a major migration pathway from Building 1. Building 1 is located on the up-sloping, terraced edge of the Little Hoosic River Valley. On this edge, the overburden is much thinner (i.e., zero to approximately six feet [ft] deep) as compared to an average overburden thickness of approximately 60 to 100 ft generally present throughout the site. Around Building 1, the thin overburden does not contain any significant water bearing zones. Most borings in this area did not encounter groundwater sufficient for the installation of monitoring wells. Phase 1 upgradient overburden boring MW-2S, attempted east of Building 1, was dry and no wells were installed as planned. Additional Phase 1 borings around Building 1 (MW-3 and MW-4) and downgradient of Building 1 (MW-5 and MW-6S) did not encounter significant water bearing zones. Although wells were installed at these locations, the wells frequently run dry during purging and sampling. Similar conditions were observed in the nine additional borings (SB-12 through SB-20) installed around Building 1 during Phase 2a. Three of these borings were converted to monitoring wells, however, only two of these wells produce enough groundwater volume for sampling. An overburden well was also planned at the MW-20 location just north of Building 1; however, overburden groundwater zones were not encountered in this area and therefore only a bedrock well (MW-20BR) was installed at this location.

The shallow bedrock and lack of the silt/clay aquitard (present throughout most of the site) in this area indicates a potential for the contaminated surface water to migrate to the bedrock aquifer. PFAS concentrations in MW-20BR, installed adjacent to Building 1, are slightly higher than PFAS concentrations in bedrock wells further downgradient to the northeast, such as MW-23BR and RW-159CBR. However, the overall impact of the Building 1 area on bedrock groundwater quality requires further evaluation under the RI.

## 1.4 IRM Objectives

The objectives of this IRM are as follows:

- Remove PFOA-contaminated sediment and soil in the swale area to eliminate the direct contact with surface water.
- Reconstruct the drainage swale area to eliminate the hydraulic gradient on contaminated subsurface soils.
- Reduce potential for off-site migration of contaminated surface water and suspended sediments.
- Reduce the discharge of contaminated surface water and sediment to the Little Hoosic River.
- Minimize the leaching of contamination from sediment and soil to the groundwater.

The proposed approach for the IRM consists of the following elements:

- Implementation of the community air monitoring plan for dust (PM10), including controls to address elevated dust levels;
- Site preparation activities, including establishing erosion and sedimentation controls, utility clearance, and decommissioning/abandonment of existing monitoring wells.
- Excavation of PFOA-contaminated sediment, surface soils, and subsurface soils.
- Placement of soil backfill material to 1 ft below final grade.
- Placement of a geosynthetic clay layer to provide an impermeable surface to eliminate the hydraulic gradient from surface waters to subsurface soils and groundwater.
- Placement of a 1 ft thick layer of gravel or crushed stone for the remaining final swale cover layer.
- Restoration of the remaining surfaces outside of the swale limits with a standard lawn seed mix and rolled erosion control matting.

Specific elements of the IRM are outlined in the sections below; these elements will be refined during IRM implementation based on the specific means and methods of the selected Contractor. An estimated construction schedule is presented in Section 6.

# 2.0 HEALTH AND SAFETY

## 2.1 Health and Safety Plan

The selected Contractor will prepare an amendment to the existing site-specific Health and Safety Plan (HASP, OBG 2016) in accordance with the requirements of 29 CFR 1910.120 and/or 29 CFR 1926.65, other applicable Occupational Safety and Health Administration (OSHA) regulations and published guidelines. The Contractor's HASP Amendment will be provided to NYSDEC prior to mobilization.

Contractor personnel will be required to have certification that they have completed OSHA 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training, annual eight-hour refresher training (as appropriate), and other training and medical monitoring as needed to meet OSHA requirements. The Contractor must have the HAZWOPER training certificates, including annual physicals for the individual workers on-site during all construction activities.

The Contractor's HASP will also provide for regular atmospheric monitoring at work zones to determine the Contractor's personnel level of protection (i.e., Level D, Modified Level D, or Level C). At a minimum, testing will be conducted for particulate matter (dust).

All spills will be reported to the NYSDEC spills hotline (1-800-457-7362). The Contractor will be required to maintain emergency response spill kits on-site. The Contractor will be responsible for addressing and reporting spills (e.g., due to equipment leaks). Spill response actions to be implemented by the Contractor will be detailed in the Contractor's Construction Work Plan.

## 2.2 Community Air Monitoring Plan

The NYSDOH generic Community Air Monitoring Plan (CAMP) (NYSDEC 2010) will be implemented for real-time monitoring of particulates (dust) and VOCs during intrusive remedial activities to confirm that the community is not adversely impacted (see **Appendix 1**).

As described in the CAMP, action levels and response actions for dust are as follows:

- If the downwind particulate level is 100 micrograms per cubic meter (µg/m$^3$) greater than background for a 15-minute average or if particulates are observed leaving the work area, then:
    - Particulate suppression techniques will be applied
    - Work activities can resume if the downwind particulate levels do not exceed 150 µg/m$^3$ over background.
- If the downwind particulate level is 150 µg/m$^3$ over background, then:
    - Work activities will be halted
    - Corrective actions will be taken to minimize particulate generation
    - Particulate suppression techniques will be applied
    - Work activities can resume if the downwind particulate levels do not exceed 150 µg/m$^3$ over background.

As described in the CAMP, action levels and response actions for VOCs are as follows:

- If total VOC levels at the downwind perimeter of the work zone are more than 5 parts per million (ppm) over background for a 15-minute average, then:
    - Work activities will be temporarily halted and monitoring continued

    - Work activities can resume if the VOC levels readily decrease (per instantaneous readings) below 5 ppm above background.
- If total VOC levels at the downwind perimeter of the work zone persist at levels greater than 5 ppm above background but less than 25 ppm, then:
    - Work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued.
    - Work activities can resume if total VOC levels 200 feet downwind of the work zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less – but in no case less than 20 feet, is less than 5 ppm above background for a 15-minute average.
- If total VOC levels are greater than 25 ppm at the perimeter of the work zone, activities will be shut down and will not resume until the source of vapors has been identified, corrective actions have been implemented, and VOC levels have decreased sufficiently, as described above.

Particulate and VOC levels recorded by the equipment will be documented to allow subsequent review.

# 3.0 IRM IMPLEMENTATION

Taconic is responsible for implementing the remediation activities. NYSDEC personnel are anticipated to be on-site periodically to observe work activities. Taconic will be responsible for all on-site operations during the project. The remediation activities performed by the Contractor will be observed for compliance with the IRM Work Plan. The Contractor will prepare a Construction Work Plan and submit to Taconic for approval prior to beginning IRM work. Communication with regulatory agencies and with members of the surrounding community will be managed by Taconic. The Contractor has not yet been selected by Taconic.

## 3.1 Site Preparation

Mobilization will be initiated by the Contractor after notification from Taconic to proceed. In general, mobilization consists of bringing personnel, equipment, and materials to the Site to support the remedial activities. Mobilization activities include, but are not limited to, the following:

- Mobilizing and establishing workspace to be utilized during implementation of the remedial activities by the following three entities: NYSDEC/NYSDOH, the Engineer/Taconic, and the Contractor.
- Coordinating with appropriate utilities to obtain electrical service and other utilities that may be needed for the remedial activities.
- Providing and maintaining first-aid facilities and portable sanitary services for use by on-site personnel engaged in the remedial activities.
- Preparing and providing submittals (in addition to the pre-mobilization submittals); select submittals may be provided to the NYSDEC for review and comment.
- The Contractor or Taconic will obtain any local permits (e.g., city building and/or construction permits) necessary to facilitate the remediation activities.

During mobilization activities, the Contractor will perform site preparation activities. The Contractor will inspect and confirm the condition of installed facilities prior to the start of construction.

Site preparation activities for all areas will generally consist of the following:

1. Verifying site conditions and identifying, marking, and verifying the locations of aboveground and underground utilities, equipment, and existing structures and site features (e.g., manholes, outfalls, buildings), as necessary, to implement the remedial activities. Current site conditions (i.e., a site plan) are shown on **Figure 3**.
2. Coordinating with utility owners, subcontracting with a private utility locator, and/or contacting UDig NY to initiate a subsurface utility clearance request, a minimum of three business days before the start of the remedial activities, to identify and mark the locations of underground utilities (e.g., electricity, telecommunications, water, natural gas, and storm and sanitary sewer) and associated structures at and near the work areas.
    a. If the Contractor damages existing utilities, equipment, or structures, the Contractor will be responsible for notifying the utility company/municipality and fully repairing all damages at no additional cost to Taconic.
    b. Repairs (if necessary) will be completed in accordance with all requirements of the utility company/ municipality.
3. Completing pre-construction surveys and establishing survey control and work limits as noted in Section 3.2.

4. Installing temporary erosion and sediment controls in accordance with *New York State Standards and Specifications for Erosion and Sediment Control* (Blue Book; NYSDEC 2016).
5. Installing work zone air monitoring equipment (to be relocated, as appropriate, based on wind direction) as required by the HASP.
6. Installing site control and safety measures, including temporary construction fencing, traffic controls, and project/warning signs.
7. Constructing support areas including, but not limited to:
   - Impacted material staging areas
   - On-site storage areas (for clean materials)
   - Equipment, material, and personnel decontamination areas
   - Access roads as necessary to provide safe and stable access to and egress from remediation work areas

The Contractor is responsible for locating staging/support areas in consultation with Taconic and the Engineer. The Contractor will be responsible for maintaining the construction support areas (including the integrity of the liner systems) as necessary during implementation of the IRM activities.

Site control measures will be established prior to the initiation of the IRM, including the establishment and maintenance of exclusion zones, controlling site access, traffic control measures and measures to protect existing structures and surfaces.

Exclusion zones will be established in accordance with the HASP and Construction Work Plan. The proposed locations for these exclusion zones will be located immediately adjacent to the excavation areas.

Access to the project area will be restricted by installing temporary perimeter fencing and gates. Additional measures will be taken by the Contractor to further limit site access and provide security during the remedial activities, as described below. Security around active work areas, staging, handling, decontamination, and storage areas will be maintained during both work and non-work hours. The level of security will be dependent on the activities being performed and location of activities. Security measures to be implemented include:

- Temporary perimeter fencing/barriers with visual barrier, warning tape, and signs
- Maintenance of sign-in/sign-out sheets
- Implementation of safe work practices

Temporary fencing/barriers will be installed and relocated, as needed, during the remedial activities to limit access to the active work area. Specific methods to be used by the Contractor for site security, control, and access will be specified in the Contractor's HASP Amendment.

Traffic control measures and temporary barriers will also be implemented as necessary, including provisions to prevent vehicular and pedestrian traffic from inadvertently entering the work areas. Temporary traffic barriers will be installed along perimeter of the active work areas as needed to divert vehicle and pedestrian traffic from the work areas. The Contractor's Construction Work Plan will include a traffic control plan or drawing.

The Contractor will be responsible for implementing the following:

- Worker breathing zone air monitoring (for the Contractor's employees)
- Noise monitoring, as necessary

The Contractor will also be responsible for implementing corrective actions in consultation with the Engineer and Taconic in the event of an exceedance.

### 3.1.1 Utility Clearance

Taconic will provide the Contractor with drawings showing locations of existing surveyed utilities. The Contractor will notify UDig NY a minimum of three working days prior to commencing field activities to identify public utility lines that are located within or near the proposed excavation areas in compliance with state regulations. In conjunction with UDig NY, the Contractor may also retain a private utility locating company to further evaluate the potential presence of underground utilities or other subsurface obstructions in and near the proposed excavation areas. The Contractor will positively identify (via air-knife, hydro excavation or other "soft" excavation method) and verify the locations of all identified utilities within the work area prior to excavation. As a conservative safety measure, any unknown utilities identified will be treated as in service/active until proven otherwise.

### 3.1.2 Soil and Sediment Erosion Control / Stormwater Management

A Stormwater Pollution Prevention Plan (SWPPP) is not required since the total area of disturbance is less than one acre. The Contractor will install silt fence to provide for soil and sediment erosion control. Silt fence, and any other required erosion and sediment controls, will be installed and maintained in accordance with manufacturer's instructions and with the *New York State Standards and Specifications for Erosion and Sediment Control* (NYSDEC 2016, or latest version). Silt fence installation will be one of the first steps of site preparation, occurring before any clearing and grubbing or earthwork.

The Contractor will conduct construction in such a manner as to minimize soil erosion and sedimentation including minimizing routing of stormwater over disturbed areas via diversion structures (e.g., straw bale or silt fence check dams). Polyethylene sheeting will be used to cover work areas, as necessary. All soil erosion and sediment controls will be inspected daily, and any required repairs will be made within one business day of identifying the required repairs. Roadways will be kept free of debris and soil from the site. Excavated material stockpiles will be lined and covered and include berms surrounding the stockpile. Stockpiles of clean backfill will be lined and covered as necessary to prevent migration of soil or dust from the stockpiles.

### 3.1.3 Monitoring Well Abandonment

Prior to beginning excavation work, monitoring wells MW-4, MW-25, and MW-26 located within the excavation area will be abandoned in accordance with NYSDEC guidance CP-43: Groundwater Monitoring Well Decommissioning Policy (NYSDEC 2009). Since the existing monitoring wells are shallow overburden wells, it is expected that well abandonment will consist of removing the well casing and grouting the boreholes in place. If field conditions or records from well installation indicate that the well seal may be compromised, then casing perforation may be required.

## 3.2 Excavation

The Contractor will photograph work and support areas prior to beginning work to develop a record of existing site conditions. The Contractor will retain a New York state licensed professional land surveyor (PLS) to conduct survey control during the remedial activities. The Contractor will supply the survey information (including an as-built survey, signed and sealed by the Contractor's New York state licensed PLS) to the Engineer for inclusion in the Construction Completion Report (CCR, see Section 5). The survey will be referenced horizontally to the North American Datum of 1983, 2011 adjustment (NAD 83/2011) and vertically to the North American Vertical Datum of 1988 (NAVD88), and will have data accuracy within + / - 0.1 ft.

The Contractor will conduct the following topographic and photographic surveys:

1. Pre-construction survey of the excavation areas prior to initiation of removal activities.
2. Post-removal survey of the excavation bottoms, prior to backfilling, to document horizontal and vertical limits of removal.
3. Post-construction survey of the restored areas, including the excavation areas (post-backfill) and support areas surveyed during the pre-construction survey. The post-construction survey of the removal areas will be completed at the same coordinates (x,y,z) as the pre-construction survey to confirm the areas have been restored to final grades, including grading to steepen the drainage swale and to promote drainage away from the base of Building 1. Post-construction survey of the restored areas will be conducted after completion of all site restoration activities and prior to demobilization.

Clearing and grubbing will be performed to the extent necessary to complete excavation and restoration prior to beginning excavation work. The Contractor will mark any trees requiring removal for approval by Taconic. Cleared vegetation will either be removed from the site and legally disposed or reused onsite by chipping material and using as mulch.

Excavation will be performed within the boundaries and limits shown on **Figure 4**. Excavation will generally occur to bedrock, with benching and sloping resulting in excavation to shallower depths along either side of the excavation. On the building (southern) side of the excavation, a one-ft wide bench along the building foundation will be excavated to a depth of one foot. Benching and sloping as shown on **Figure 4** will be used on either side of the excavation area until refusal is reached, with a maximum vertical face of 3.5 ft used for benching. Borings and field observations in this area identified shallow bedrock throughout the remediation area and large near-surface boulders (glacial drift) on the northern slope of the drainage swale. In consultation with NYSDEC, bedrock and/or large boulders will be considered refusal and consequently satisfy the limits of excavation.

All excavation work will comply with the requirements of Title 29 Code of Federal Regulations, Part 1926.650-652, (Subpart P – Excavations), OSHA Safety and Health Regulations for Construction. The Contractor will install and maintain sufficient barricades or signs around the excavation as necessary to ensure safety until the excavation has been backfilled and graded to a safe condition.

## 3.3 Waste Characterization, Management, and Disposal

Soil, debris, and miscellaneous wastes generated during the IRM activities will be handled, transported, and disposed of off-site in accordance with applicable federal, state, and local regulations.

The excavated material will be loaded directly into roll-offs and/or trailers to the extent possible based on available working area and moisture content of the material. If necessary, excavated material will be stockpiled within the excavation area for solidification with a drying agent (e.g., Portland cement, cement kiln dust), as necessary, to meet the required moisture content for over-the-road transport (i.e., achievement of the United States Environmental Protection Agency's "Paint Filter Test") and/or the requirements of the disposal facility. Attempts will be made to reduce the need for drying agents, such as blending drier material with other material that is more saturated. As a contingency, excavated material may be loaded from the excavation areas and transported to the material staging area for further handling as needed prior to off-site shipment. Any stockpiled material will be covered with polyethylene sheeting.

The disposal facilities will be selected and/or approved by Taconic. Waste characterization sampling, as needed, will be conducted by Taconic. Soil will be disposed of based on the waste characterization sample results as either hazardous or non-hazardous waste. Miscellaneous solid waste (e.g., disposable PPE, plastic sheeting, miscellaneous construction debris) will be disposed of as non-hazardous waste. Removed debris that is free of visible impacts (e.g., brick and concrete) will be disposed of at an appropriate facility selected by Taconic.

Boulders and large cobbles encountered during excavation activities may be cleaned and re-used elsewhere at the Site.

All trucks transporting excavated materials will be lined and equipped with a sealed tailgate. If excavated materials are stockpiled outside the excavation area, a material staging area consisting of a bermed stone area with an impermeable liner system will be required (i.e., 40-mil high-density polyethylene [HDPE]/linear low-density polyethylene [LLDPE] liner protected by top and bottom non-woven geotextile layers).

Transportation to the designated approved disposal facility will be conducted by a licensed hauler in accordance with applicable local, state, and federal regulations. Each waste transporter will have a valid waste transporter permit (6 NYCRR Part 364).

Wastes will be transported under a hazardous waste manifest, non-hazardous waste manifest, or bill-of-lading, as appropriate. The manifests/bills-of-lading will list Taconic as the waste generator. Completed copies of the manifests (facility confirmation of receipt and disposal) as well as weight tickets will be provided to Taconic as part of the project close out submittals. A running summary of off-site waste shipments will be maintained for each waste stream including sequential load number, manifest number, date of shipment, facility ticket number, and facility weight. This information will be required for each weekly construction meeting.

## 3.4 Swale Construction

### 3.4.1 Subgrade Preparation

The excavation area will be backfilled with clean soil as soon as possible following completion of excavation activities to facilitate stability, reduce the potential for surface water accumulation, and increase overall site safety. The Contractor will backfill the excavation to within approximately 12 inches of the finished grade and prepare this subgrade to facilitate placement of the site cover. Refer to **Figure 5** for backfill details.

All fill material will be sampled and analyzed in accordance with NYSDEC DER-10: Technical Guidance for Site Investigation and Remediation (NYSDEC 2010), “Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC’s Part 375 Remedial Programs” (NYSDEC 2022), and any additional requirements from NYSDEC.

### 3.4.2 Geosynthetic Clay Liner

Following completion, a geosynthetic clay liner (GCL; Cetco Bentomat ST, or equivalent material) will be installed over the prepared subgrade in accordance with the manufacturer's specifications. The GCL will be anchored immediately adjacent to the bench on the building side of the excavation and at the outer limit of where a 12-inch depth is obtained on the slope side of the excavation. Refer to **Figure 5** for GCL installation details.

### 3.4.3 Swale Restoration

Following placement of the GCL, a 12-inch thick layer of gravel or crushed stone will be placed over the GCL. Refer to **Figure 5** for excavation area restoration details.

## 3.5 Site Restoration

The Contractor will restore surface features disturbed, damaged, or removed for site access during remedial activities to pre-construction conditions including, but not limited to, guard rails, poles, light posts, sidewalks,

roadways, concrete sidewalks, granite curbs, and vegetated surfaces outside of the swale restoration area (i.e., areas adjacent to the swale).

Repairs to areas of Coon Brook Road that are damaged by the Contractor during the IRM activities will be approved by the Town of Petersburgh. The Contractor will be responsible for gaining Town of Petersburgh approval of any repairs to damaged surfaces and meeting all local, state, and federal laws.

## 3.6 Decontamination Procedures and Demobilization

The Contractor will decontaminate all personnel and equipment that comes into contact with excavated materials. The Contractor will conduct decontamination of personnel and equipment within the constructed decontamination area. An example decontamination area is shown on **Figure 6**. All construction vehicles leaving the project area will be decontaminated by the Contractor (as necessary) to prevent the tracking of soil off-site (including vehicles transporting clean fill to the project area).

At a minimum, the Contractor will decontaminate the Contractor's project equipment (including, but not limited to, excavation equipment, trucks, pumps, and hand tools) that come into contact with excavated materials prior to demobilizing and prior to handling clean material. The Contractor will perform decontamination activities until no visible soil, debris, or stains are present on the equipment surfaces.

Any equipment to be taken off-site by the Contractor will be cleaned within the constructed decontamination area. Precautions will be taken to limit contact between the equipment, personnel performing the cleaning activities and any cleaning liquids that may accumulate in the decontamination area. The extent and method of cleaning will be inspected by Taconic and/or the Engineer for any visible soils, staining, or other debris prior to demobilization. Any observed soils, staining, or other debris on equipment will be promptly removed by the Contractor prior to removal from the Site.

The Contractor will manage the solid and liquid waste streams generated by the decontamination activities for off-site disposal at facilities approved by Taconic.

Following completion of all IRM actions, the Contractor will conduct the following demobilization activities:

1. Completion of "punch list" items.
2. Dismantle the work area(s) and decontamination area.
3. Remove specified erosion and sediment control measures.
4. Stage residual wastes (e.g., disposable equipment; personal protective equipment [PPE]; cleaning residuals; sacrificial soil and liners from the material staging, and equipment decontamination areas) for off-site disposal in accordance with applicable rules and regulations.
5. Remove/dispose of project-related material, equipment, and support structures from the project area, as appropriate.
6. Prepare and provide required final field records and submittals.

# 4.0 IDENTIFICATION OF PERMITS AND NOTIFICATIONS

- The NYSDEC Environmental Resource Mapper (ERM) identifies several features mapped as National Wetlands Inventory (NWI) wetlands in the vicinity of the project, including a pond off Russell Road, the Little Hoosic River, and several tributaries to the Little Hoosic River located to the southwest and northeast of the project area. Since NWI wetlands do not have a buffer area requiring permitting and since the IRM will not result in encroachment on these features, there are no anticipated permits required for work near these features.
- The ERM shows that the project is located in the vicinity of bats listed as endangered or threatened, which may require an environmental review under New York's State Environmental Quality Review Act (SEQRA). Following approval of the IRM Work Plan, the New York Natural Heritage Program (NYNHP) and the US Fish and Wildlife (USFWS) IPaC system will be consulted to determine which species of bats may be present and to check that there are no additional threatened or endangered species, rare plants, or significant natural communities located within the project area. If any are present, an environmental review under SEQRA or incidental take permit may be required. NYSDEC encourages forest management activities, including tree clearing, to be performed during the bats' hibernation period (November 1 through March 31 throughout most of New York, including Rensselaer County). NYSDEC imposes no restrictions on tree cutting unless a project is located within 5 miles of a known hibernation site or 1.5 miles of a documented summer occurrence. Additional information on the occurrence of bats near the project site will be obtained via NYNHP and USFWS IPaC submittals.
- This IRM may require approval by the Town of Petersburgh Building Department and/or Highway Department. Coon Brook Road and Russell Road are local roads maintained and owned by the Town of Petersburgh, so any work requiring connection to these roads or otherwise involving cuts or repairs to the roads may require permitting or approval from the Town.

# 5.0 REPORTING

Following completion of the project's activities, a CCR will be prepared consistent with Section 5.8 of NYSDEC DER-10: *Technical Guidance for Site Investigation and Remediation*, including:

1. A description of the remedy, as constructed, pursuant to the IRM Work Plan.
2. A summary of all remedial actions completed, including:
    - A description of any problems encountered during construction and a description of their resolution.
    - A description of changes to the design documents and a description as to why the changes were made.
    - Quantities and concentrations of contaminants removed.
    - A listing of waste streams, quantity of materials disposed and facility where such materials were disposed.
    - Boundaries of the real property subject to the environmental easement or deed restriction or other institutional controls (ICs); and
    - Restoration actions.
3. A list of the remedial action objectives applied to the remedial action
4. "As-built" drawings bearing a New York state professional engineer's stamp and signature on each drawing, documenting the "as-built" conditions of any permanent structures including, without limitation, cover systems or other remedial structures that will remain in place after completion of the IRM, as well as to document areas of changed conditions or removals.
5. Identification of the applicable institutional controls employed along with a copy of the environmental easement or other institutional controls that apply.

After completion of the IRM activities for the site, a Site Management Plan (SMP) will be prepared and submitted to the NYSDEC for the portion of the site where the IRM was conducted. The SMP will include an institutional and engineering control (IEC) plan required to protect human health and the environment from remaining contamination. The SMP will describe the procedures for implementation and management of all institutional and engineering controls (ICs/ECs) at the site and will include:

- A description of all ICs/ECs.
- The basic implementation and intended role of each IC/EC.
- A description of the features to be evaluated during each required inspection and periodic review; and
- Any other provisions necessary to identify or establish methods for implementing the ICs/ECs required, as determined by the NYSDEC.

# 6.0 IRM IMPLEMENTATION SCHEDULE

The proposed project schedule is provided below in **Table 1**. This schedule is dependent upon timely review and approval of the applicable project permits and work plans.

**Table 1 Proposed Project Schedule**

| TASK | DURATION (WORKDAYS) |
|---|---|
| Permitting | 60 Days |
| Contractor Submittals | 10 Days |
| Mobilization/Site Preparation | 3 Days |
| Excavation, GCL Placement and Backfill | 15 Days |
| Restoration | 1 Day |
| Demobilization | 1 Day |
| **Total Project Construction Duration** | **20 Days** |

# 7.0 REFERENCES


NYSDEC. 2009. *CP-43 : Groundwater Monitoring Well Decommissioning Policy*. November 3.

NYSDEC. 2010. *DER-10, Technical Guidance for Site Investigation and Remediation.* May.

NYSDEC. 2016. *New York State Standards and Specifications for Erosion and Sediment Control.*

NYSDEC. 2022. *Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs*. November.

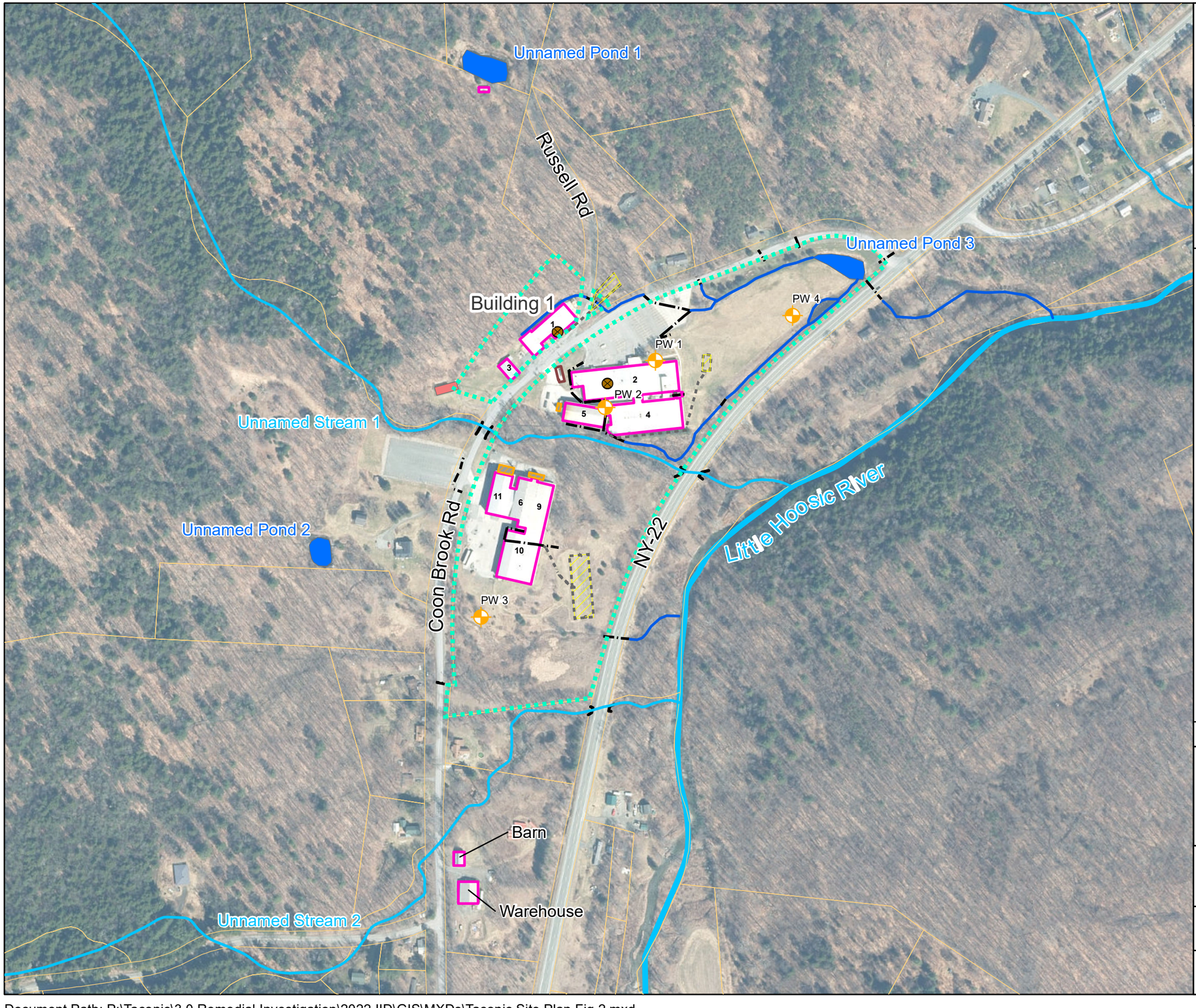
OBG. 2016. *Health and Safety Plan, Taconic Site, NYSDEC Site No. 442047.* December.

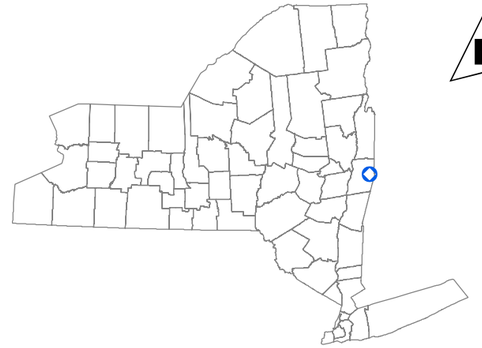
OBG. 2018. *Remedial Investigation/Feasibility Study Work Plan*, Taconic Site, NYSDEC Site No. 442047, April 9.

Parsons. 2020. *Interim Investigation Deliverable*, NYSDEC Site No. 442047. February.

Parsons. 2022. *Phase 2A Interim Investigation Deliverable,* NYSDEC Site No. 442047. June.

# FIGURES



Site Boundary
Inactive Drywell
Production Well Location

**Utilities**

Sanitary Sewer
Storm Ditch
Storm Sewer
Culvert
Natural Gas Tank
Pond
Leach Field
Fume Eliminators
Sludge Roll-off Storage Pad
Building Footprint
Tax Parcel Boundaries

0 250 500 1,000 Feet

**FIGURE 1**

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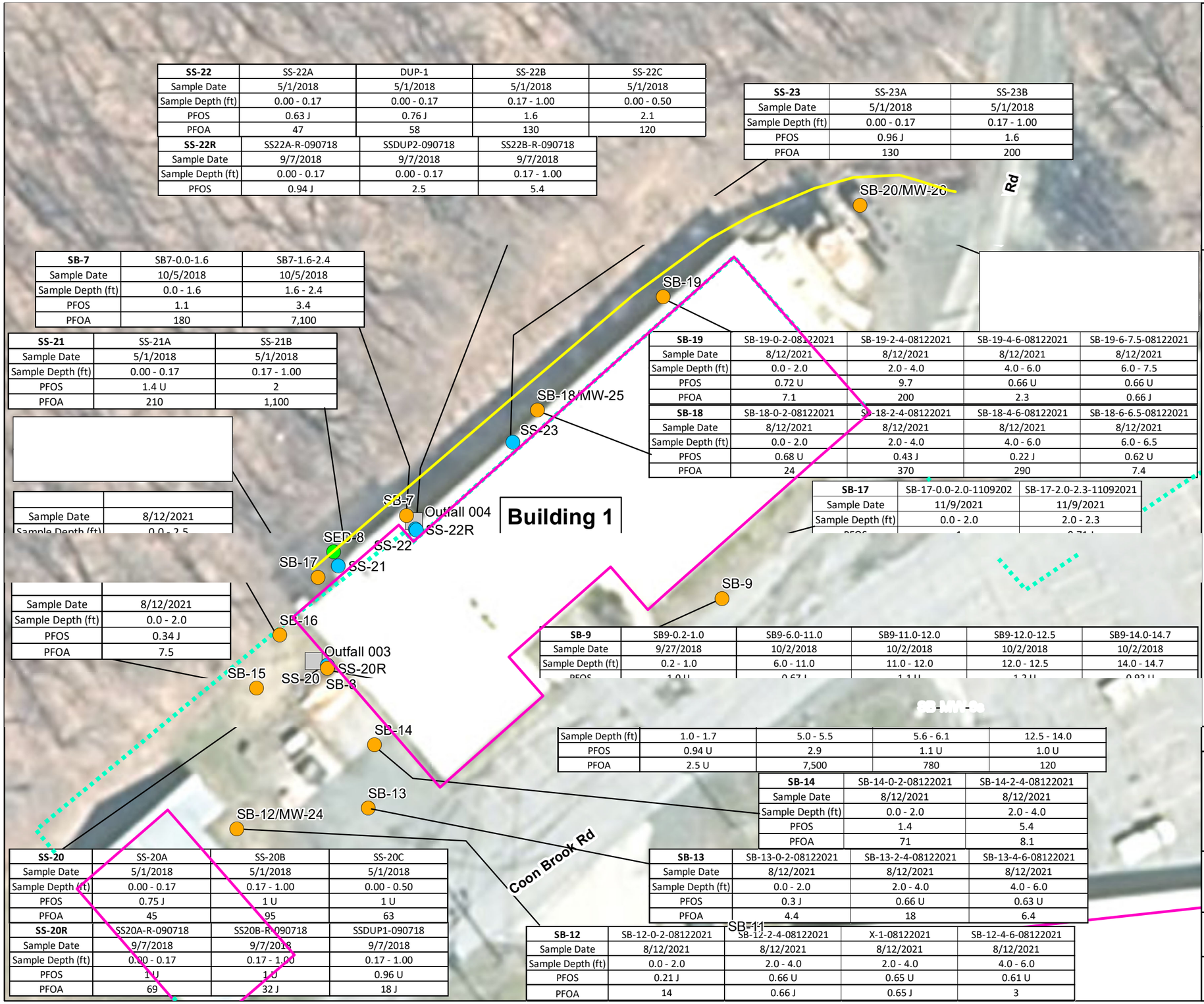
SITE LAYOUT AND FEATURES

PHASE 2A REMEDIAL INVESTIGATION

PARSONS
301 PLAINFIELD ROAD, SUITE 350, SYRACUSE, NY 13212 * 315-451-9560

Plot Date: 12/29/2022 Plotted By: Sisson, Evan

Document Path: P:\Taconic\3.0 Remedial Investigation\2022 IID\GIS\MXDs\Taconic Site Plan Fig 2.mxd




| SS-22 | SS-22A | DUP-1 | SS-22B | SS-22C |
|---|---|---|---|---|
| Sample Date | 5/1/2018 | 5/1/2018 | 5/1/2018 | 5/1/2018 |
| Sample Depth (ft) | 0.00 - 0.17 | 0.00 - 0.17 | 0.17 - 1.00 | 0.00 - 0.50 |
| PFOS | 0.63 J | 0.76 J | 1.6 | 2.1 |
| PFOA | 47 | 58 | 130 | 120 |

| SS-22R | SS22A-R-090718 | SSDUP2-090718 | SS22B-R-090718 |
|---|---|---|---|
| Sample Date | 9/7/2018 | 9/7/2018 | 9/7/2018 |
| Sample Depth (ft) | 0.00 - 0.17 | 0.00 - 0.17 | 0.17 - 1.00 |
| PFOS | 0.94 J | 2.5 | 5.4 |

| SS-23 | SS-23A | SS-23B |
|---|---|---|
| Sample Date | 5/1/2018 | 5/1/2018 |
| Sample Depth (ft) | 0.00 - 0.17 | 0.17 - 1.00 |
| PFOS | 0.96 J | 1.6 |
| PFOA | 130 | 200 |

| SB-7 | SB7-0.0-1.6 | SB7-1.6-2.4 |
|---|---|---|
| Sample Date | 10/5/2018 | 10/5/2018 |
| Sample Depth (ft) | 0.0 - 1.6 | 1.6 - 2.4 |
| PFOS | 1.1 | 3.4 |
| PFOA | 180 | 7,100 |

| SS-21 | SS-21A | SS-21B |
|---|---|---|
| Sample Date | 5/1/2018 | 5/1/2018 |
| Sample Depth (ft) | 0.00 - 0.17 | 0.17 - 1.00 |
| PFOS | 1.4 U | 2 |
| PFOA | 210 | 1,100 |

| | |
|---|---|
| Sample Date | 8/12/2021 |
| Sample Depth (ft) | 0.0 - 2.5 |

| | |
|---|---|
| Sample Date | 8/12/2021 |
| Sample Depth (ft) | 0.0 - 2.0 |
| PFOS | 0.34 J |
| PFOA | 7.5 |

| SB-19 | SB-19-0-2-08122021 | SB-19-2-4-08122021 | SB-19-4-6-08122021 | SB-19-6-7.5-08122021 |
|---|---|---|---|---|
| Sample Date | 8/12/2021 | 8/12/2021 | 8/12/2021 | 8/12/2021 |
| Sample Depth (ft) | 0.0 - 2.0 | 2.0 - 4.0 | 4.0 - 6.0 | 6.0 - 7.5 |
| PFOS | 0.72 U | 9.7 | 0.66 U | 0.66 U |
| PFOA | 7.1 | 200 | 2.3 | 0.66 J |

| SB-18 | SB-18-0-2-08122021 | SB-18-2-4-08122021 | SB-18-4-6-08122021 | SB-18-6-6.5-08122021 |
|---|---|---|---|---|
| Sample Date | 8/12/2021 | 8/12/2021 | 8/12/2021 | 8/12/2021 |
| Sample Depth (ft) | 0.0 - 2.0 | 2.0 - 4.0 | 4.0 - 6.0 | 6.0 - 6.5 |
| PFOS | 0.68 U | 0.43 J | 0.22 J | 0.62 U |
| PFOA | 24 | 370 | 290 | 7.4 |

| SB-17 | SB-17-0.0-2.0-1109202 | SB-17-2.0-2.3-11092021 |
|---|---|---|
| Sample Date | 11/9/2021 | 11/9/2021 |
| Sample Depth (ft) | 0.0 - 2.0 | 2.0 - 2.3 |

| SB-9 | SB9-0.2-1.0 | SB9-6.0-11.0 | SB9-11.0-12.0 | SB9-12.0-12.5 | SB9-14.0-14.7 |
|---|---|---|---|---|---|
| Sample Date | 9/27/2018 | 10/2/2018 | 10/2/2018 | 10/2/2018 | 10/2/2018 |
| Sample Depth (ft) | 0.2 - 1.0 | 6.0 - 11.0 | 11.0 - 12.0 | 12.0 - 12.5 | 14.0 - 14.7 |

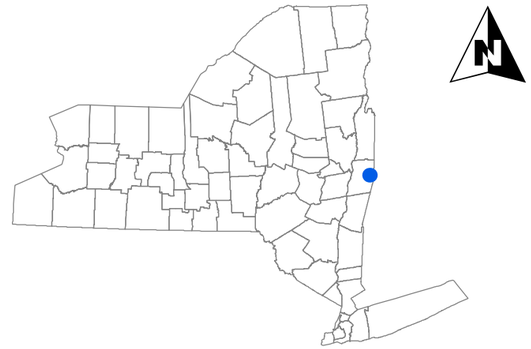
| | | | | |
|---|---|---|---|---|
| Sample Depth (ft) | 1.0 - 1.7 | 5.0 - 5.5 | 5.6 - 6.1 | 12.5 - 14.0 |
| PFOS | 0.94 U | 2.9 | 1.1 U | 1.0 U |
| PFOA | 2.5 U | 7,500 | 780 | 120 |

| SB-14 | SB-14-0-2-08122021 | SB-14-2-4-08122021 |
|---|---|---|
| Sample Date | 8/12/2021 | 8/12/2021 |
| Sample Depth (ft) | 0.0 - 2.0 | 2.0 - 4.0 |
| PFOS | 1.4 | 5.4 |
| PFOA | 71 | 8.1 |

| SB-13 | SB-13-0-2-08122021 | SB-13-2-4-08122021 | SB-13-4-6-08122021 |
|---|---|---|---|
| Sample Date | 8/12/2021 | 8/12/2021 | 8/12/2021 |
| Sample Depth (ft) | 0.0 - 2.0 | 2.0 - 4.0 | 4.0 - 6.0 |
| PFOS | 0.3 J | 0.66 U | 0.63 U |
| PFOA | 4.4 | 18 | 6.4 |

| SB-12 | SB-12-0-2-08122021 | SB-12-2-4-08122021 | X-1-08122021 | SB-12-4-6-08122021 |
|---|---|---|---|---|
| Sample Date | 8/12/2021 | 8/12/2021 | 8/12/2021 | 8/12/2021 |
| Sample Depth (ft) | 0.0 - 2.0 | 2.0 - 4.0 | 2.0 - 4.0 | 4.0 - 6.0 |
| PFOS | 0.21 J | 0.66 U | 0.65 U | 0.61 U |
| PFOA | 14 | 0.66 J | 0.65 J | 3 |

| SS-20 | SS-20A | SS-20B | SS-20C |
|---|---|---|---|
| Sample Date | 5/1/2018 | 5/1/2018 | 5/1/2018 |
| Sample Depth (ft) | 0.00 - 0.17 | 0.17 - 1.00 | 0.00 - 0.50 |
| PFOS | 0.75 J | 1 U | 1 U |
| PFOA | 45 | 95 | 63 |
| **SS-20R** | SS20A-R-090718 | SS20B-R-090718 | SSDUP1-090718 |
| Sample Date | 9/7/2018 | 9/7/2018 | 9/7/2018 |
| Sample Depth (ft) | 0.00 - 0.17 | 0.17 - 1.00 | 0.17 - 1.00 |
| PFOS | 1 U | 1 U | 0.96 U |
| PFOA | 69 | 32 J | 18 J |



- Sediment Sample Location
- Soil Boring Sample Locations
- Surface Soil Sample Location
- Outfalls
- Drainage Swale
- Site Boundary
- Building Footprint

Notes:
1) Results are reported in nanograms per gram (ng/g).
2) Sample depths for surface soil (SS) samples were: a = 0-2", b = 2-12", c = 0-6".
3) "J" indicates the reported value is estimated.
4) "U" indicates the compound was not detected at or above the Limit of Quantification (LOQ).
5) PFOA - perfluorooctanoic acid
6) PFOS - perfluorooctanesulfonic acid

0 25 50 100 Feet

**FIGURE 2**

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# BUILDING 1 SOIL AND SEDIMENT ANALYTICAL RESULTS

## BUILDING 1 IRM WORK PLAN

PARSONS
301 PLAINFIELD ROAD, SUITE 350, SYRACUSE, NY 13212 * 315-451-9560

Plotted By: Schneid, Chris
Plot Date: 2/10/2023

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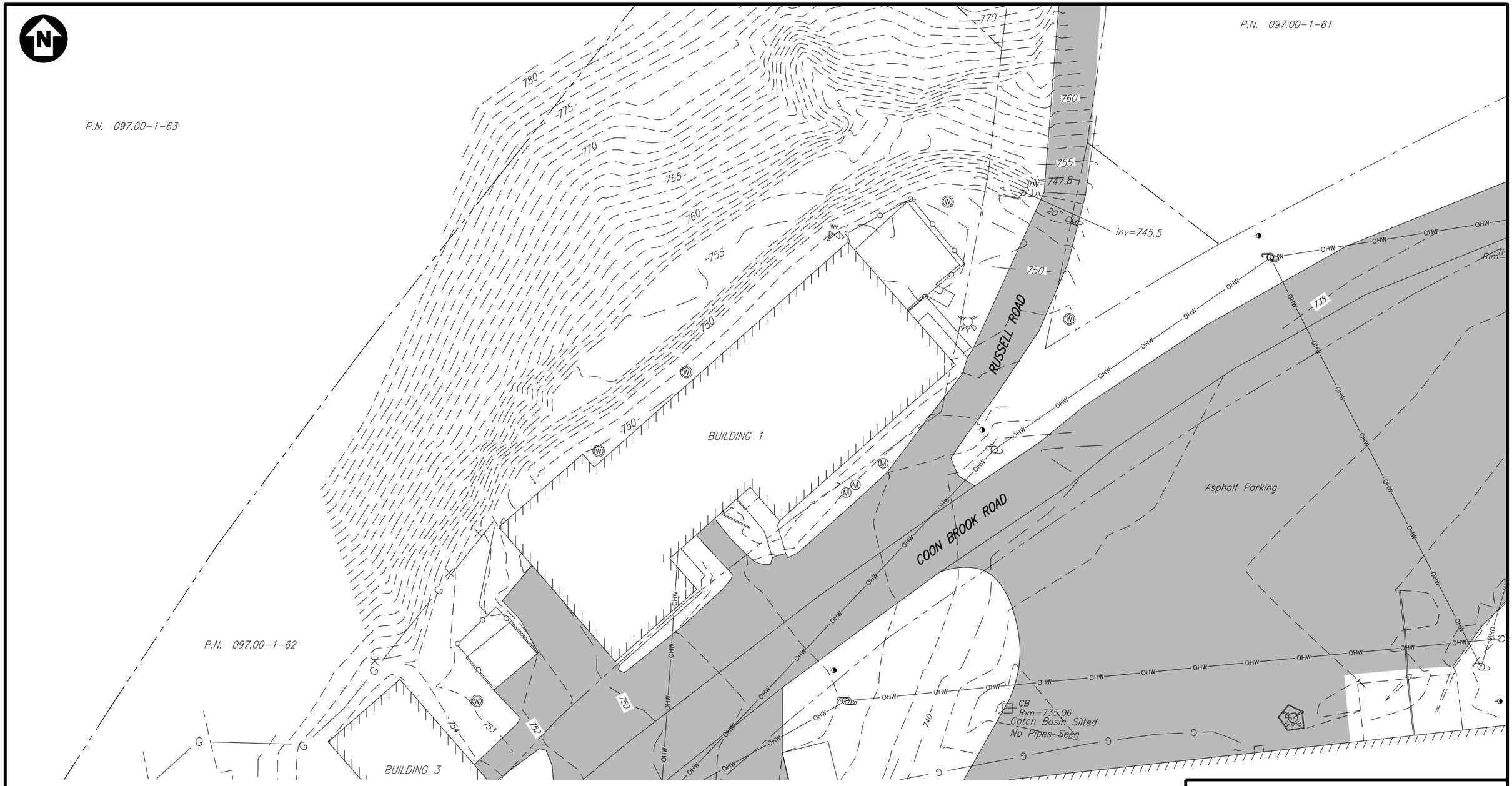



LEGEND:

- 770 — EXISTING MAJOR CONTOUR
- EXISTING MAJOR CONTOUR
- PARCEL BOUNDARY (NOTE 1)
- G — EXISTING GAS LINE
- OHW — EXISTING OVERHEAD WIRE
- EXISTING FENCELINE
- EXISTING WELL
- EXISTING MANHOLE
- EXISTING HYDRANT
- EXISTING UTILITY POLE
- EXISTING GUY WIRE ANCHOR
- EXISTING ASPHALT

NOTES:

1. PARCEL BOUNDARIES WERE DOWNLOADED FROM THE RENSSELAER COUNTY ONLINE GIS DATABASE (RENSCO.COM/GEOGRAPHIC INFORMATION SYSTEMS) AND ARE APPROXIMATE.
2. BASE MAPPING CONDUCTED BY GILBERT VAN GUILDER LAND SURVEYOR, LLC. SURVEY DATA COLLECTED THROUGH MAY 24, 2022.

**NOT FOR CONSTRUCTION**

40 20 0 40 80

SCALE: 1"=40'

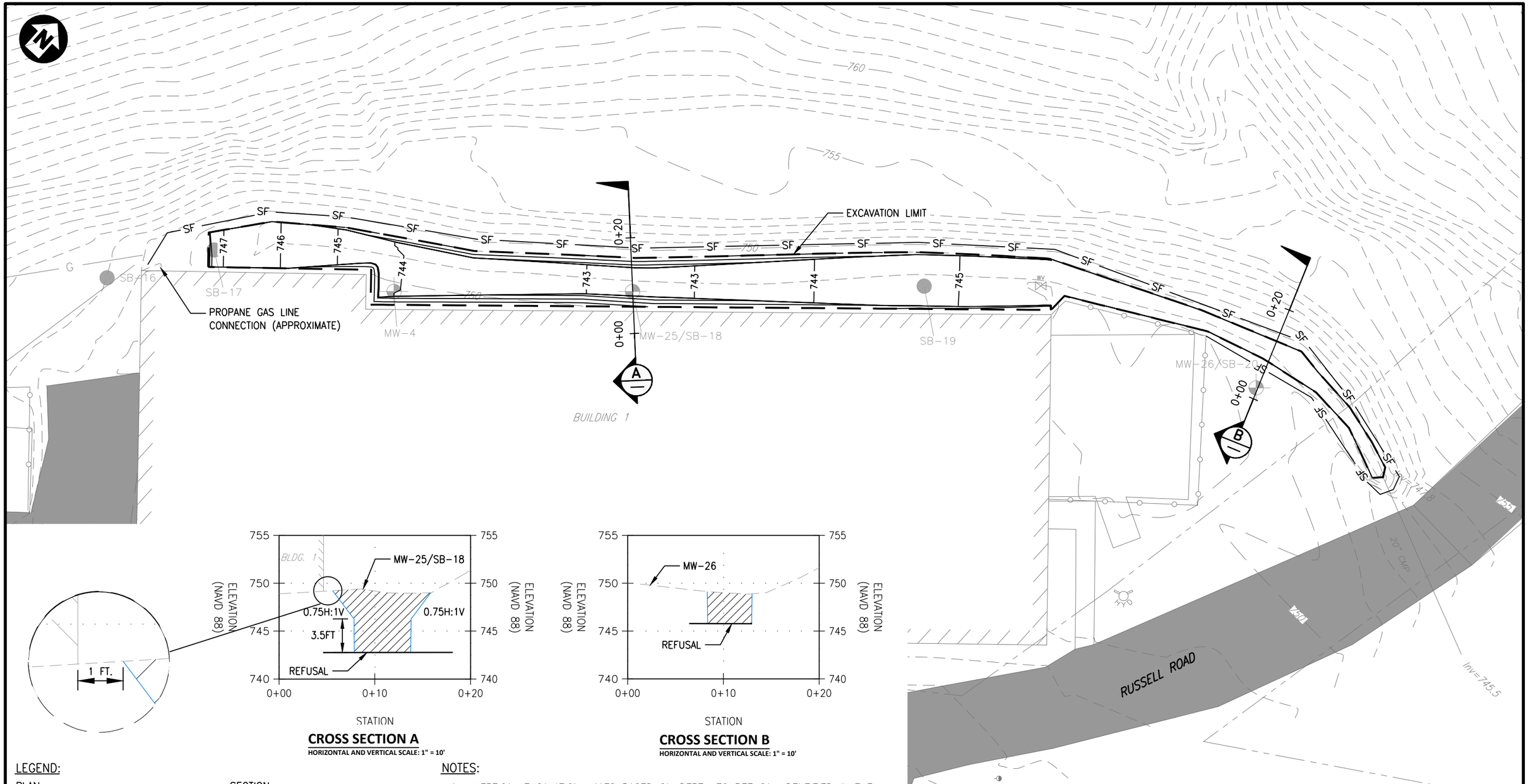
# FIGURE 3

TACONIC INC. INTERIM REMEDIAL MEASURE
136 COON BROOK ROAD
PETERSBURG, NY 12138

## EXISTING CONDITIONS AND SITE UTILITY PLAN

PARSONS
301 Plainfield Rd, Ste 350, Syracuse, NY, Ph: 315-451-9560

FILE NAME: P:\TACONIC\CAD\IRM WORK PLAN FIGURES\FIGURE 3 EXISTING CONDITIONS AND SITE UTILITY PLAN.DWG
PLOT DATE: 4/7/2023 12:07 PM PLOTTED BY: NASSIMOS, JEFFREY [US-US]







**CROSS SECTION A**
HORIZONTAL AND VERTICAL SCALE: 1" = 10'




**CROSS SECTION B**
HORIZONTAL AND VERTICAL SCALE: 1" = 10'

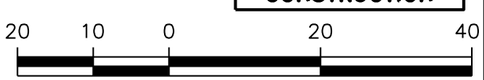
LEGEND:

| PLAN | | SECTION | |
|---|---|---|---|
| SB-17 | SOIL BORING | | EXISTING |
| MW-4 | MONITORING WELL | | DESIGN EXCAVATION |
| | PARCEL BOUNDARY (NOTE 1, FIGURE 3) | | REFUSAL (DEPTH VARIES, NOTE 1) |
| | EXCAVATION BOUNDARY | | VOLUME EXCAVATED |
| 743 | EXCAVATION CONTOUR | | |
| SF | EROSION AND SEDIMENT CONTROLS (SILT FENCE OR EQUIVALENT) | | |

NOTES:

1. VERTICAL EXCAVATION LIMITS BASED ON DEPTH TO REFUSAL IDENTIFIED IN THE SOIL BORINGS AND/OR MONITORING WELL LOCATIONS LISTED BELOW:
   - SB-17 2.5FT BGS
   - MW-4 6.0FT BGS
   - MW-25/SB-18 6.5FT BGS
   - SB-19 4.2FT BGS
   - MW-26/SB-20 4FT BGS
2. ALL EXCAVATION SHALL COMPLY WITH THE REQUIREMENTS OF TITLE 29 CODE OF FEDERAL REGULATIONS, PART 1926.650-652 (SUBPART P - EXCAVATIONS), OSHA SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION.
3. BENCHING AND SLOPING REQUIREMENTS SHOWN ARE BASED ON ASSUMED TYPE A SOILS, IF TYPE B OR TYPE C SOILS ARE ENCOUNTERED THEN THE CONTRACTOR SHALL MODIFY BENCHING AND SLOPING ACCORDINGLY.

PLAN:




SECTION:


**NOT FOR CONSTRUCTION**

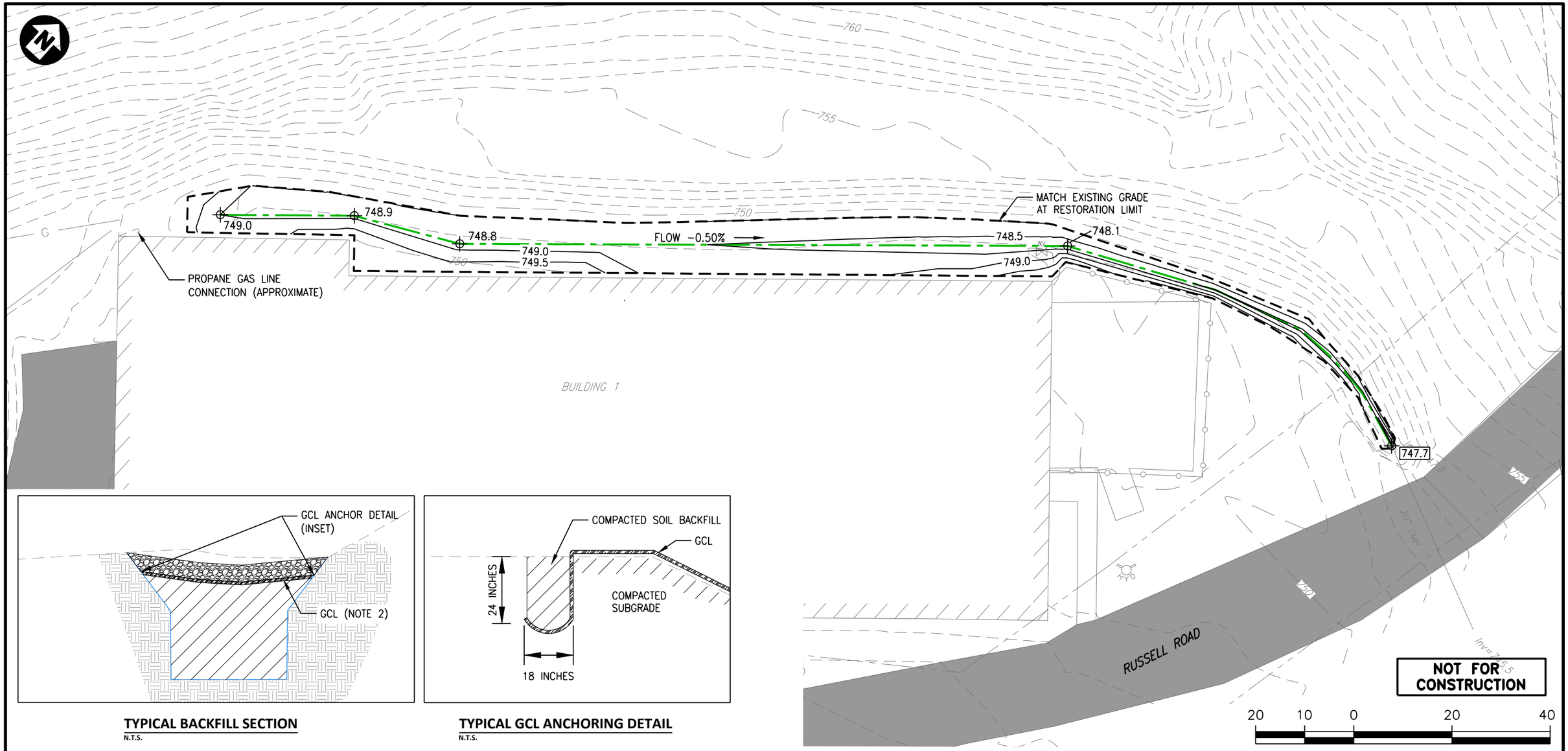
# FIGURE 4

TACONIC INC. INTERIM REMEDIAL MEASURE
136 COON BROOK ROAD
PETERSBURG, NY 12138

## EXCAVATION PLAN AND CROSS SECTIONS

PARSONS
301 Plainfield Rd, Ste 350, Syracuse, NY, Ph: 315-451-9560

FILE NAME: P:\TACONIC\CAD\IRM WORK PLAN FIGURES\FIGURE 4 BUILDING 1 EXCAVATION PLAN.DWG
PLOT DATE: 4/11/2023 3:48 PM PLOTTED BY: NASSIMOS, JEFFREY [US-US]







**TYPICAL BACKFILL SECTION**
N.T.S.




**TYPICAL GCL ANCHORING DETAIL**
N.T.S.

LEGEND:

PLAN

- PARCEL BOUNDARY (NOTE 1, FIGURE 3)
- RESTORATION BOUNDARY
- 749.0 RESTORATION CONTOUR
- DITCH CENTERLINE
- 749.0 DITCH CENTERLINE SPOT ELEVATION

SECTION

- EXISTING
- DESIGN EXCAVATION
- GENERAL BACKFILL (NOTE 1)
- GRAVEL OR CRUSHED STONE (NOTE 3)

NOTES:

1. BACKFILL EXCAVATED AREAS UP TO 12 INCHES BELOW GRADE. BACKFILL SHALL CONSIST OF WELL GRADED SOIL FREE OF FROZEN MATERIALS, PERISHABLE RUBBISH, PEAT, AND OTHER UNSATISFACTORY MATERIALS. IT SHALL BE OF SUCH A NATURE AND CHARACTER THAT IT CAN BE COMPACTED TO A FIRM UNYIELDING SURFACE. BACKFILL SHALL HAVE A MAXIMUM NOMINAL PARTICLE SIZE OF 0.5 INCHES OR LESS.
2. PREPARE SUBGRADE AND INSTALL GEOSYNTHETIC CLAY LINER (GCL; CETCO BENTOMAT ST, OR EQUIVALENT APPROVED BY THE ENGINEER) IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS. INSTALL GCL WITH WOVEN GEOSYNTHETIC SIDE FACING DOWN. INSTALL ANCHORING IMMEDIATELY ADJACENT TO BENCH ON THE BUILDING SIDE OF THE EXCAVATION AND WHERE A 12-INCH EXCAVATION DEPTH IS REACHED ON THE SLOPE SIDE OF THE EXCAVATION.
3. PLACE GRAVEL OR CRUSHED STONE (NYSDOT 703.01 TABLE 703-4 TYPE 1 STONE, OR EQUIVALENT APPROVED BY ENGINEER) ABOVE GCL TO FINAL GRADE.
4. ALL IMPORTED FILL SHALL MEET COMMERCIAL/INDUSTRIAL USE SOIL CLEANUP OBJECTIVES (SCOS) LISTED IN DER-10 (NYSDEC 2010) AND SHALL MEET THE REQUIREMENTS FOR IMPORTED FILL IN "SAMPLING, ANALYSIS, AND ASSESSMENT OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) UNDER NYSDEC'S PART 375 REMEDIAL PROGRAMS" (NYSDEC 2022).

# FIGURE 5

TACONIC INC. INTERIM REMEDIAL MEASURE
136 COON BROOK ROAD
PETERSBURG, NY 12138

## RESTORATION PLAN

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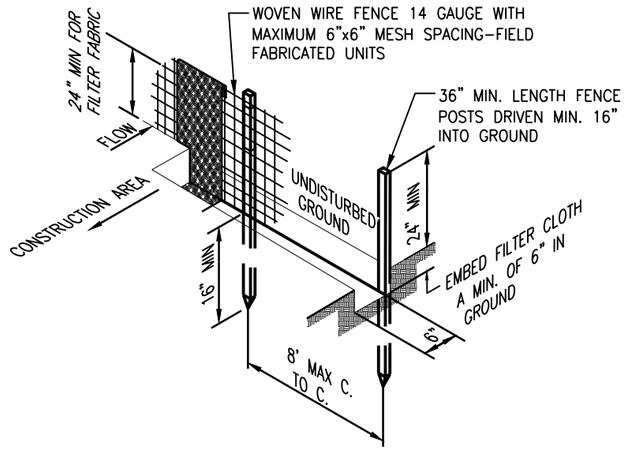
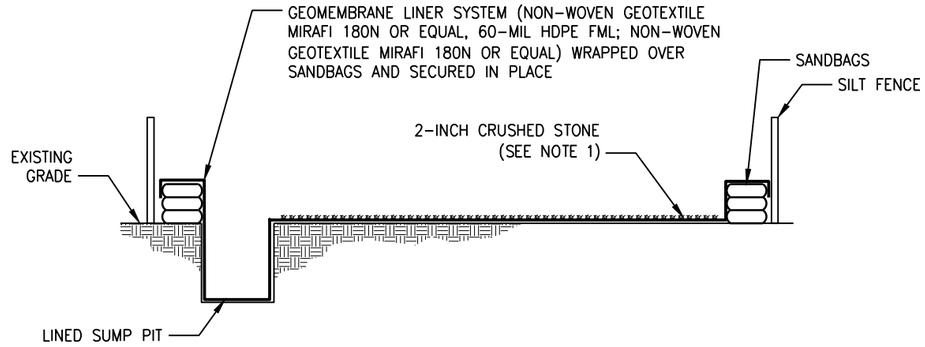
FILE NAME: P:\TACONIC\CAD\IRM WORK PLAN FIGURES\FIGURE 5 RESTORATION PLAN.DWG
PLOT DATE: 4/10/2023 2:20 PM PLOTTED BY: NASSIMOS, JEFFREY [US-US]




NOTES:

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER–LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.




NOTES:

1. THE CONTRACTOR SHALL DETERMINE AGGREGATE THICKNESS REQUIRED TO BE PROTECTIVE OF THE GEOMEMBRANE LINER SYSTEM. THE CONTRACTORS PROPOSED LINED STOCKPILE AND DECONTAMINATION AREA SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL IMPLEMENT BMPs (E.G., TARP STOCKPILES AND SUMPS, GRADE AREAS TO DIRECT WATER FLOW, ETC.) TO MINIMIZE COLLECTION OF STORMWATER IN DECONTAMINATION AND PROCESSING AREAS.

**NOT FOR CONSTRUCTION**

FIGURE 6

TACONIC INC. INTERIM REMEDIAL MEASURE
136 COON BROOK ROAD
PETERSBURG, NY 12138

DETAILS

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PLOT DATE: 4/11/2023 4:22 PM PLOTTED BY: NASSIMOS, JEFFREY [US–US]

# APPENDICES

## Appendix 1A
## New York State Department of Health
## Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

**Continuous monitoring** will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

**Periodic monitoring** for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/$m^3$) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/$m^3$ above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/$m^3$ above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/$m^3$ of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

## Appendix 1B
## Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50$^{o}$ C (14 to 122$^{o}$ F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.