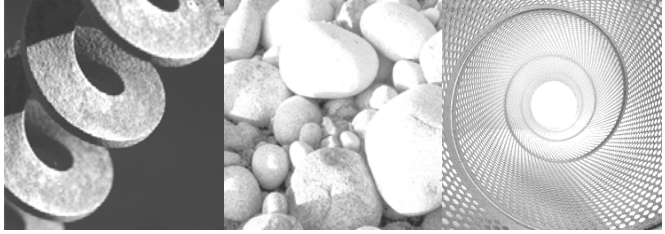


GEI Consultants

Consulting
Engineers and
Scientists

Interim Excavation Work Plan (Revision)

UniFirst Laundry Facility
113 7th North Street, Liverpool, New York
Site No. C734152

Submitted to:
UniFirst Corporation
68 Jonspin Road
Wilmington, MA 01881

Submitted by:
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801
781-721-4000

July 2022; Revised August 2022
Project 2001642

Table of Contents

1. Introduction

This Interim Excavation Work Plan (EWP) was prepared on behalf of Unifirst Corporation to provide plans and procedures for the proper handling of impacted media that may be disturbed during maintenance and/or redevelopment work on UniFirst's Property located at the corner of Old 7th North Street and Luther Avenue in Liverpool, Onondaga County, New York (Figures 1 and 2).

Due to the presence of chlorinated volatile organic compounds (CVOCs) in soil and groundwater within a portion of this Property (discussed in Section 1.1), it was registered with the New York State Department of Environmental Protection (NYSDEC) as Brownfield Cleanup Program (BCP) Site No. C734152 in October 2021, and UniFirst is a "Participant" in this program as defined by ECL 27 1405(1)(a) of the BCP.

A draft version of this plan was previously submitted to the NYSDEC and New York State Department of Health (NYSDOH) for review on July 29, 2022. Comments to that draft were received from the NYSDEC on August 24, 2022. This version of the Interim EWP addresses those comments and supersedes the version provided on July 29, 2022.

Site Description

Since being acquired by UniFirst in the mid-1960s, the original facility has been operated as an industrial laundry and is currently being redeveloped, a project that will ultimately result in a new, larger laundry facility.

The Property is currently made up of the original industrial laundry facility parcel and several additional adjacent parcels located along Luther Avenue that UniFirst acquired over the years. The Property is approximately 3.25 acres, currently improved with a new 31,000 square foot building located along Luther Avenue (completed in early 2022; referred to hereafter as the "Phase 1" of the new laundry facility), and is in a commercial / industrial-zoned area. Currently, Phase 2 of the new laundry facility is under construction in the area of the original laundry facility (the original facility was demolished in 2022 and Phase 2 is being constructed in its place). The other areas of the Property are currently reworked soil, covered by gravel, or paved. There is a fence along the southwestern property line, limiting access to the Property from the adjacent truck stop and gas station.

In support of this construction, environmental investigations conducted between April 2020 and present, to evaluate the nature and extent of potential release(s) to the environment due to dry cleaning previously performed in the industrial laundry facility and evaluate construction may be impacted by these potential releases. CVOCs were identified in soil and groundwater near and downgradient of a former wastewater pit, the source of which is likely PCE (which

was reportedly used as the dry cleaning solvent during historical operations) in wastewater historically processed through the former wastewater pit.

Applicability

This Interim EWP outlines the procedures required to be implemented in the event that intrusive activities occur within the Site limits (Figure 2). Work conducted pursuant to the Interim EWP must also be conducted in accordance with the procedures defined in the NYSDOH Community Air Monitoring Plan (CAMP) (Appendix A) and Site-specific Health and Safety Plan(s) (HASP[s]) prepared the entity(ies) working onsite for the specific work being conducted. Work is to be overseen by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

2. Notification

At least 15 days prior to the start of any activity that is anticipated to encounter Site impacts, the site owner or their representative will notify the NYSDEC. Table 1 includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix B.

Table 1: Notifications*

Michael Belveg NYSDEC Project Manager	315.426.7446 michael.belveg@dec.ny.gov NYSDEC Region 7 615 Erie Boulevard West Syracuse, New York 13204
Johnathan Robinson NYSDOH Project Manager	518.402.7881 Johnathan.Robinson@health.ny.gov Empire State Plaza Corning Tower Room #1787 Albany, New York 12237

* Note: Notifications are subject to change and will be updated, as necessary.

Notifications will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for site re-grading, intrusive elements or utilities and estimated volumes of impacted soil to be excavated, and modifications of truck routes (if applicable);
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this Interim EWP;
- A statement that the work will be performed in compliance with this Interim EWP and 29 CFR 1910.120, as well as DER-10, 6 NYCRR Part 375 and applicable local, State, and Federal regulations;
- A copy of the contractor's health and safety plan (HASP), in electronic format;
- Identification of disposal facilities for potential waste streams; and

- Identification of sources of any anticipated backfill, along with the required request to import form and all supporting documentation including, but not limited to, chemical testing results.

The NYSDEC project manager will review the notification and may impose additional requirements for the excavation that are not listed in this Interim EWP.

With respect to the Phase 2 Construction work, the majority of these notifications have already been made as part of prior document submittals, as follows:

- Description of work – The entirety of the Phase 2 Construction, including pre-construction injections, subslab soil vapor system, and the construction itself (including soil removal as part of foundation construction), was described in Sections 1, 3, and 5 of the draft version of the IRM Work Plan for Phase 2 Construction, dated February 2022 and submitted to NYSDEC and NYSDOH on March 3, 2022.
- Summary of environmental conditions – This summary is also included in Section 2 of the draft IRM Work Plan for Phase 2 Construction (all versions), first submitted to the NYSDEC and NYSDOH on March 3, 2022.
- Schedule of work – The schedule was also included in the draft IRM Work Plan for Phase 2 Construction (in the Schedule section in all versions of the plan), first submitted to the NYSDEC and NYSDOH on March 3, 2022.
- Summary of applicable EWP components – This Interim EWP was written specifically for the Phase 2 Construction work, so the entire Interim EWP is applicable to this work.
- Statement that work will be performed in compliance with applicable plans and regulations – This was included in Comment #5 of GEI's response to comments letter dated May 10, 2022, which was provided to the agencies with the revised draft IRM Work Plan for Phase 2 Construction.

Notifications regarding the contractor's HASP, backfill sources, and disposal details are pending as of the date of this submittal.

3. Soil Screen Methods

Visual, olfactory and instrument-based (e.g., photoionization detector) soil screening will be performed by a qualified environmental professional (as defined in 6 NYCRR Part 375) during all excavations into known or potentially impacted material. Currently, the area of known contaminated material is around and downgradient from (i.e., west of) the existing wastewater pit. Soil screening will be performed when invasive work is done and will include all excavation and intrusive work performed during development, such as excavations for foundations and utility work, prior to issuance of the Certificate of Completion (COC).

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover (building or pavement). Further discussion of off-site disposal of materials and on-site reuse is provided in Sections 7 and 8.

4. Soil Staging Methods

Temporary stockpiled soil (excavated soils stockpiled for less than 24-hours) will be loaded directly into trucks. When soil is stockpiled for longer than 24-hours, the methods detailed in this section will be followed and maintained.

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps unless it is actively being added to in volume or trucks are loading. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC.

5. Materials Excavation and Load-Out

A qualified environmental professional or person under their supervision will oversee the excavation and load-out of excavated material.

The owner of the property and its contractors are responsible for safe execution of all intrusive and other work performed under this Plan.

The presence of utilities and easements will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this Interim EWP is posed by utilities or easements on the site. Utilities will be pre-cleared prior to ground intrusive activities.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and New York State Department of Transportation (NYSDOT) requirements (and all other applicable transportation requirements).

A truck wash will be operated on-site, as appropriate. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials. Material accumulated from the street cleaning and egress cleaning activities will be disposed off-site at a permitted landfill facility in accordance with all applicable local, State, and Federal regulations.

6. Materials Transport Off-Site

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

Truck transport routes are to be submitted with Notification (Section 2) once disposal facilities are identified, but is expected to be directly to and from the I-81 on- and off-ramps via 7th North Street.

All trucks loaded with site materials will exit the vicinity of the site using only the approved truck routes. The most appropriate route will take into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited, unless directed by the Site supervisor or a qualified environmental professional.

7. Materials Disposal Off-Site

Material excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State and Federal regulations. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate (e.g., hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C&D debris recovery facility). Actual disposal quantities and associated documentation will be reported to the NYSDEC. This documentation will include but will not be limited to: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled consistent with 6 NYCRR Parts 360, 361, 362, 363, 364 and 365. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State C&D debris recovery facility (6 NYCRR Subpart 361-5 registered or permitted facility). However, NYSDEC is providing site-specific approvals for disposal at the Camillus C&D facility.

8. Materials Reuse On-Site

The qualified environmental professional will ensure that procedures defined for materials reuse in this Interim EWP are followed and that unacceptable material does not remain on-site. Impacted on-site material, including historic fill and soil, that is acceptable for reuse on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Proposed materials for reuse on-site must be sampled for full suite analytical parameters including per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. The sampling frequency will be in accordance with DER-10 Table 5.4(e)10 unless prior approval is obtained from the NYSDEC project manager for modification of the sampling frequency. The analytical results of soil/fill material testing must meet the site use criteria presented in NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil for all constituents listed, and the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (dated January 2021 or date of current version, whichever is later) guidance values. Approvals for modifications to the analytical parameters must be obtained from the NYSDEC project manager prior to the sampling event.

Soil/fill material for reuse on-site will be segregated and staged as described in this Interim EWP. The anticipated size and location of stockpiles will be provided in the 15-day notification to the NYSDEC project manager. Stockpile locations will be based on the location of site excavation activities and proximity to nearby site features. Material reuse on-site will comply with requirements of NYSDEC DER-10 Section 5.4(e)4. Any modifications to the requirements of DER-10 Section 5.4(e)4 must be approved by the NYSDEC project manager.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

9. Fluids Management

All liquids to be removed from the site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed off-site at a permitted facility in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, and will be managed off-site, unless prior approval is obtained from NYSDEC.

If discharge to the County sewer system is desired, dewatering will be conducted by the contractor in accordance with the Metropolitan Syracuse Wastewater Treatment Plant (Metro) issued permit which may include collection of groundwater samples for analyses prescribed by Metro, and pretreatment of effluent to comply with Metro discharge criteria. Dewatering engineering controls will be approved by the Metro.

Discharge of water generated during large-scale construction activities to surface waters (i.e., a local pond, stream or river) will be performed under a SPDES permit.

10. Backfill From Off-Site Sources

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this Interim EWP prior to receipt at the site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards consist of Industrial Soil Cleanup Objectives (SCOs). Soils that meet 'general' fill requirements under 6 NYCRR Part 360.13, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC project manager. Soil material will be sampled for the full suite of analytical parameters, including PFAS and 1, 4-dioxane. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

11. Stormwater Pollution Prevention

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

12. Excavation Contingency Plan

If underground tanks or other previously unidentified contaminant sources are found during subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition. The NYSDEC project manager will be promptly notified of the discovery.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles [including 1,4-dioxane], TCL pesticides, PCBs, and PFAS), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling. Any tanks will be closed as per NYSDEC regulations and guidance.

Identification of unknown or unexpected contaminated media identified by screening during intrusive site work will be promptly communicated by phone within two hours to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. Findings will be summarized in a report to the NYSDEC.

13. Community Air Monitoring Plan

The location of air sampling stations based on generally prevailing wind conditions are shown on Figure 2. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations.

The CAMP is in Appendix A. Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers on a weekly basis via email during active monitoring periods. Air monitoring action level exceedances will be addressed in real time, and the NYSDEC and NYSDOH Project Managers will be notified of an action level exceedance via email within 24 hours. Work will not continue until exceedances are successfully addressed.

14. Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used on a routine basis will include foaming, if necessary, to suppress vapors and odors that are generated during the excavations. Foam will be applied, if warranted, to stockpiled soil and excavation sidewalls to maintain work zone and perimeter air monitoring criteria established in the HASP and CAMP. Tarps will also be employed to suppress vapor and odors from stockpiled soil in the staging area, if necessary. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the remedial party, and any measures that are implemented will be included in completion reporting.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

15. Dust Control Plan

Particulate monitoring must be conducted according to the CAMP provided Appendix A. If particulate levels at the site exceed the thresholds listed in the CAMP or if airborne dust is observed on the site or leaving the site, the dust suppression techniques listed below will be employed. The remedial party will also take measures listed below to prevent dust production on the site.

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

16. Other Nuisances

If needed, a plan for rodent control will be developed and utilized by the contractor prior to and during site clearing and site grubbing, and during all remedial work.

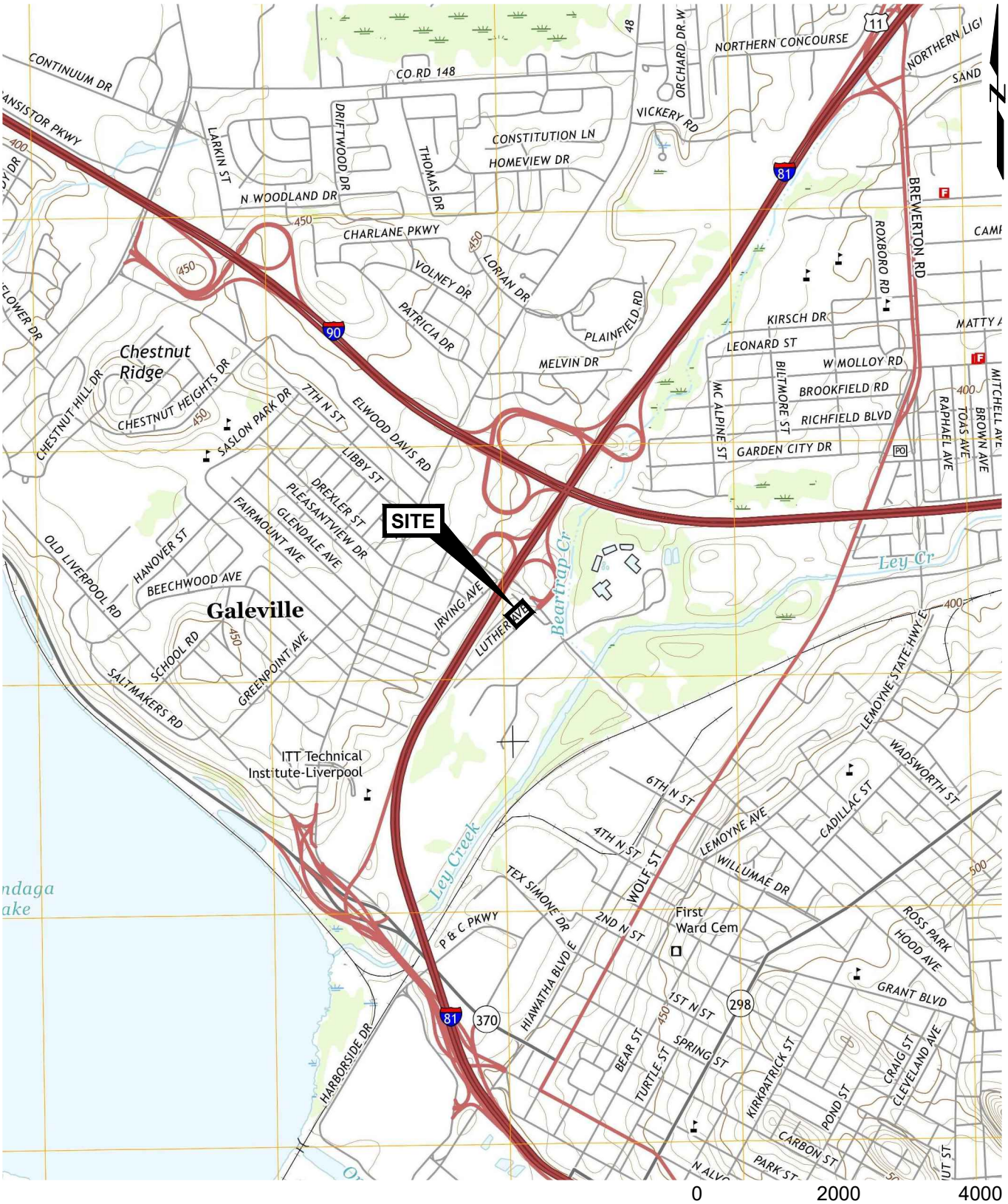
A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

17. Reporting

A summary letter or memorandum will be prepared for submittal to the NYSDEC and NYSDOH following the completion of the project involving intrusive activities. The report will include the following:

- A summary of the intrusive work
- Summary of CAMP monitoring (including copies of the weekly reports, all data generated from real time fixed station monitoring in electronic format, and a qualitative statement summarizing exceedances, if any)
- Summary of corrective actions, if any
- Figure(s) showing the work location(s)
- Tables of data and/or laboratory reports generated during and/or in support of the intrusive work
- Waste disposal records, including disposal facility approval(s), facility and transporter permits, and bills of lading/waste manifests, if any
- Imported fill records, including source, quantity, and laboratory data, if any
- Photo documentation of the work

Figures



SOURCE: USGS QUADRANGLE MAP OF SYRACUSE WEST, NY 2019
(www.ngmdb.gov/topoview)

Excavation Work Plan 113 7th North Street Liverpool, New York	GEI Consultants	SITE LOCATION MAP
Unifirst Liverpool Liverpool, New York	Project 2001642	July 2022 Fig. 1

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Excavation Work Plan
113 7th North Street
Liverpool, New York

Unifirst Liverpool
Liverpool, New York

GEI Consultants

SITE PLAN

Project 2001642 | July 2022 | Fig. 2

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Appendix A

NYSDOH Generic CAMP

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° C (14 to 122° 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.

Appendix B

Site Related Contact Information

Appendix B. Site Contact List
UniFirst Liverpool NY

Personnel	Investigation Role	Contact
Michael Belveg NYSDEC	NYSDEC Project Manager	315.426.7446 Michael.Belveg@dec.ny.gov
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