Building 330D Loading Docks Area
Soil Characterization Work Plan

at

iPark 84
Former IBM East Fishkill Facility

January 2019

Prepared for:

Jessica LaClair
New York State Dept. of Environmental Conservation
Dept. of Environmental Remediation
625 Broadway
Albany, New York 12233-7013

WALDEN ENVIRONMENTAL ENGINEERING, PLLC

Industry Leader in Environmental Engineering Consulting

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Sent via email to jess.laclair@dec.ny.gov

January 29, 2019
iPARK0118.19

Jessica LaClair
Environmental Engineer
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7013

Re: iPark 84
Former IBM East Fishkill Facility
Building 330D Proposed Loading Docks Area
Soil Characterization Work Plan

Dear Ms. LaClair:

Walden Environmental Engineering, PLLC (Walden) is submitting this Soil Characterization Work Plan on behalf of National Resources (NR), the owner of Building 330D at the iPark 84 Former IBM East Fishkill Facility located in Hopewell Junction, New York. Please note that this submittal reflects the New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) comments on the original Soil Sampling Work Plan (dated December 14, 2018). The State's comments were provided in NYSDEC's letter dated January 16, 2019.

This Work Plan was prepared in support of NR's plans to install a loading docks area at Building 330D at iPark 84 (former IBM East Fishkill Facility, the "Facility") (refer to **Figure 1**). Building 330D is located within Operable Unit 8 (OU8) in the Core Area of the Facility, where the primary constituents of concern are perchloroethylene and its breakdown products and Freon TF (1,1,2-trichloro-1,2,2-trifluoroethane). The sampling presented herein will provide data needed to characterize and evaluate existing soil conditions in the area of the proposed loading docks to allow the appropriate arrangements for handling/disposal to be made prior to excavation activities. In addition, the data will document the nature of the soils and contaminants that will remain in place beneath any backfill, pavement or structures installed during construction of the proposed loading docks.

Pursuant to Section 9.0 and Appendix C of the Facility's Draft Interim Site Management Plan (ISMP), dated August 2017, Walden provided notice of this proposed project via email to the NYSDEC representative (Jessica LaClair) on Wednesday, December 5, 2018. As detailed below, this soil sampling program is being performed in step with the construction of two (2) loading docks and appurtenant paving, along the northern face of Building 330D. The excavation/grading required to install the pavement areas is not expected to exceed 40 feet in width or five (5) feet in depth for the main loading area, which will be approximately 80 feet long, nor exceed 20 feet in width and approximately three (3) feet in depth for the access drive, which will be approximately 40 feet long. The total volume of material to be removed during construction is expected to be approximately 350 cubic yards. The area will be paved with asphalt upon completion.

Pre-Construction Field Investigation

The following soil characterization activities will be conducted prior to construction within the proposed Building 330D loading docks area at the Facility upon NYSDEC approval of this Work Plan. It is expected that this soil investigation [anticipated to be completed in two (2) to three (3) days of field work] will be completed in February 2019. No excavation will begin until the pre-construction field investigation results have been evaluated, summarized and submitted to NYSDEC and NYSDOH.

Soil Sampling

Soil coring will be conducted at seventeen (17) locations (designated as C-1 through C-17) throughout the proposed area of excavation for the new loading docks, as shown on **Figure 2**. Note that the sampling locations will be modified in the field as needed to avoid interference with underground utilities and structures which will be marked out prior to the investigation. All sampling locations will be cleared by ground-penetrating radar before drilling commences.

The investigation will be conducted in general accordance with the NYSDEC Division of Environmental Resources (DER) Technical Guidance for Site Investigation and Remediation (DER-10), Appendix C [Intrusive Activities Work Plan (IAWP)] of the ISMP, and 29 CFR 1910.120. Field personnel will don the appropriate health and safety equipment, as outlined in the Health and Safety Plan (HASP), provided as **Appendix A**. Should grossly contaminated media be encountered during this process, all work activities will be suspended and the NYSDEC will be notified.

A Geoprobe with five (5) foot (ft) macrocores, or similar, will be utilized at each soil coring location to retrieve a continuous soil core to eleven (11) ft below grade (bg), approximately six (6) ft below the proposed maximum depth of excavation for the loading docks area

construction. The cores will be visually inspected, screened for volatile organic compound (VOC) concentrations using a photoionization detector (PID) that has been properly calibrated according to manufacturer's instructions each day prior to sampling, and logged in the field book by field personnel. Should the core not contain enough material for sufficient screening, a second core shall be collected immediately adjacent to the first. Groundwater is not anticipated to be encountered during this process. Excess soils removed from each soil core location shall be placed back into the borehole before moving on to the next location.

Note that the scope of the sampling may be modified in the field as needed to collect additional site characterization information based on observations and conditions encountered during the investigation. Field adjustments may include installing additional soil cores or extending coring depths below 11 ft bg depending on site conditions. All modifications to the sampling scope will be documented in the field book. Any additional samples shall be screened, logged and handled in the same manner as the other soil samples, as described herein.

Each of the soil cores will be split into three (3) screening intervals:

- 0-3 ft bg;
- 3-6 ft bg; and
- 6-11 ft bg.

Three (3) of the soil cores will be selected for laboratory sample analysis based on the cores exhibiting the greatest visual or olfactory evidence of contamination (odors/staining) and/or the highest PID screening measurement. If screening and observations show no evidence of contamination, samples from the cores closest (C-1) and farthest from the building (C-12) as well as along the proposed entry road (C-17) will be sent to the laboratory (see **Figure 2**).

From each of the three (3) selected soil cores, three (3) soil samples will be collected for laboratory analysis, one (1) from within the 0-3 ft bg, 3-6 ft bg, and 6-11 ft bg intervals, for a total of nine (9) soil samples to be analyzed. Discrete samples will be collected for VOC analysis from intervals selected based on the highest screening results or evidence of contamination within that interval (when applicable). Composite samples from each interval will be submitted for laboratory analysis of semi-volatile organic compounds (SVOCs), target analyte list (TAL) metals, pesticides, herbicides and polychlorinated biphenyls (PCBs).

A project logbook/field notebook will be maintained to record all field activities and observations during the screening. Soil boring logs will be prepared for the final summary report.

The Community Air Monitoring Plan (CAMP), presented in **Appendix B**, will be implemented during all ground intrusive activities (sampling and excavation). The CAMP reports will be submitted to NYSDEC and NYSDOH upon completion of the project.

Sample bottles, provided by the laboratory and appropriate for the analyses being performed, will be labeled in the field, placed into a sampling cooler and kept on ice for subsequent delivery to the laboratory. Each of the samples shall be sent under chain-of-custody protocol to a laboratory certified by the NYSDOH Environmental Laboratory Accreditation Program (ELAP) for analysis.

Laboratory Analysis

Soil samples will be sent under chain-of-custody protocol and on ice via overnight courier or hand delivery to Phoenix Environmental Laboratories, Inc., an ELAP certified laboratory (NYSDOH ELAP #11301) located in Manchester, CT. All analyses will be conducted on a standard turn-around time basis unless NR calls for expedited analysis. The laboratory results will be provided to Walden with NYSDEC ASP Category B deliverable packages.

The soil samples will be analyzed for NYCRR Part 375-6.8 VOCs, SVOCs, pesticides, herbicides, PCBs and target analyte list (TAL) metals, via USEPA Methods 8260, 8270, 8081B, 8151A, 8082A and 6010, respectively.

The laboratory analytical data for the soil samples will be compared to the NYCRR Part 375-6.8(b) restricted use Soil Cleanup Objectives (SCOs) for various categories ranging from residential to industrial use.

Decontamination Procedures

Non-disposable sampling equipment will be decontaminated between locations using the following procedures:

- Remove any large debris, such as clumps of soil, from the equipment by hand;
- Wash and scrub the equipment with a detergent solution, such as Alconox or equivalent, and potable water; and
- Rinse the equipment with potable water.

Waste Handling

Disposable sampling supplies will be bagged/containerized and properly disposed of as solid waste. Decontamination fluids will be containerized and discharged to the on-site industrial waste drainage system.

Post-Excavation Soil Sampling

In order to characterize the soils that will remain in place following the proposed loading docks area construction, post-excavation samples will be collected from the bottom and sidewalls of the excavation. The post-excavation samples will be collected from the top of the exposed soils to six (6) inches into the soil remaining in place.

- A total of four (4) sidewall samples will be collected, one (1) sample from the approximate midpoint along the north, south, east and west walls of the excavation.
    - The sidewall samples will be collected from a depth midway between the ground surface and the bottom of the excavation.
    - If the foundation of Building 330D prevents collection of the south sidewall sample, a soil sample will be collected from the base of the excavation next to the foundation.

- Three (3) samples will be collected from the bottom of the excavation, two (2) in the main loading area and one (1) in the access driveway.

The post-excavation sidewall and bottom samples will be screened, logged and submitted for laboratory analysis of VOCs, SVOCs, TAL metals, pesticides, herbicides and PCBs as described for the pre-construction field investigation.

Excavated Soil Handling and Backfilling

Soils excavated during loading docks construction will be stockpiled on plastic and covered with anchored tarps. The stockpiles will be surrounded with hay bales, silt fencing or other erosion and sedimentation control measures. The soil sampling results from the pre-construction field investigation will be compared to the NYCRR Part 375-6.8(b) restricted use SCOs to characterize the excavated soils for disposal. If the soil meets the SCOs for industrial use, it will be returned to the subsurface as backfill or taken to Lot 3 where it will be stockpiled for future re-use on-site.

Any soils that do not meet the SCOs for industrial use will be disposed of off-site in accordance with Sections 8.0 and 9.0 of the Intrusive Activities Work Plan (Materials Transport Off-site and Materials Disposal Off-site).

A geotextile fabric liner will be placed in the excavation as a demarcation layer prior to backfilling to provide a visual reference to the top of the "Remaining Impacted Media Zone" in accordance with Section 12.0 of the Intrusive Activities Work Plan (Cover System Restoration).

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Reporting

Upon completion of the Building 330D loading docks area site characterization activities, excavation work, construction and site restoration, Walden will prepare a report of findings that will document all of the fieldwork described herein, including tables of analytical results, field logs, photographs, figures and recommendations. This report will be submitted to NYSDEC and NYSDOH for review.

If you have any questions or require any additional information, please call (516) 624-7200.

Very truly yours,
Walden Environmental Engineering, PLLC

Joseph M. Heaney III, P.E.
Principal

cc: J. Kenney, NYSDOH
M. Buckley, National Resources
C. Monheit, National Resources

Figure 1 – Site Plan
Figure 2 – Proposed Sampling Plan Building 330D Loading Dock Area

Appendix A – Health and Safety Plan
Appendix B – Community Air Monitoring Plan

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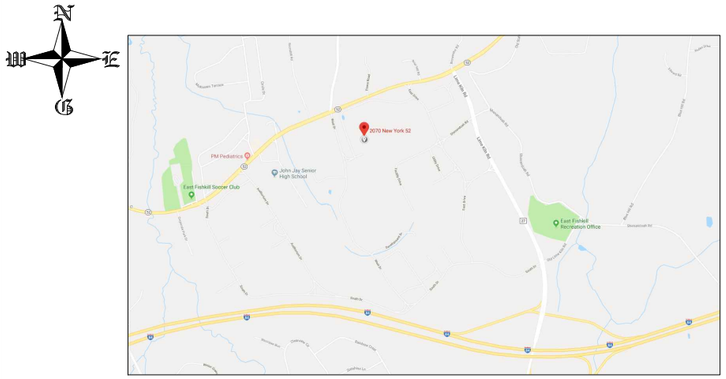

SITE LOCATION

NOT TO SCALE
SOURCE: GOOGLEMAPS.COM

LEGEND

PROPERTY LINE

PROPOSED WORK AREA

SITE PLAN

NOT TO SCALE
SOURCE: GOOGLEMAPS.COM

SITE BASEMAP: CHAZAN ENGINEERING, LAND SURVEYING & LANDSCAPE ARCHITECTURE CO. D.P.C. POUGHKEEPSIE, NY (XBASE-SVY_51421-00.DWG 8/10/15); PARCELS: XSUBD_51539-00.DWG.
OFFSITE BASEMAP: "GROUNDWATER MONITORING BASEMAP", IBM EAST FISHKILL FACILITY (9718NEW.DWG, ORIGINAL DATE 12/21/98).
TOPOGRAPHY: PHOTOGRAMMETRY BY GOLDEN AERIAL SURVEYS, INC., NEWTON, CT (3/3/1997).
CONTOUR INTERVAL: 1 FOOT (HORIZONTAL DATUM BASED UPON IBM EAST FISHKILL COORDINATE SYSTEM; VERTICAL DATUM BASED UPON NATIONAL GEODETIC VERTICAL DATUM OF 1929).
HORIZONTAL ACCURACY: 90% OF ALL DETAIL, FIELD CHECKED, WILL BE WITHIN +/- 1.0 FOOT, THE REMAINING 10% OF DETAIL, WILL BE WITHIN +/- 2.0 FEET OF ITS TRUE POSITION.
VERTICAL ACCURACY: 90% OF ALL CONTOURS, FIELD CHECKED, WILL BE WITHIN +/- 0.5 FOOT. THE REMAINING 10% OF CONTOURS, FIELD CHECKED, WILL BE WITHIN +/- 1.0 FEET.

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Walden Environmental Engineering

NO	DATE	REVISION COMMENTS
0	12/12/18	DEC SUBMISSION

FOR: BUILDING 330D, iPark Campus, 2070 Route 52, Hopewell Junction, New York

DRAWING TITLE: FIGURE 1- SITE PLAN, Building 330D Proposed Loading Docks

DRAWING NO: 1

ISSUED

REVISION NO: 0

DESIGNED BY: LL | DRAWN BY: EJK / LTG | JOB NO: iPARK0118.19 | DATE: 12/12/2018 | 11x17 | SHEET NO: 1 OF 2

APPROVED BY: | SCALE: AS NOTED | CAD FILE NAME: Z:\iPark0118\iPark0118.19 - Loading dock design at Bldg 330D - Crepini\Sampling plan\Draft - Site Plan.dwg

LEGEND

PROPOSED EXCAVATION AREA

PROPOSED SOIL CORING LOCATION

PROPOSED SOIL SAMPLING LOCATIONS

SCALE: 1"=20'-0"

0 10 20 40 60

SCALE: 1"=20'

NOTE:

SAMPLES FROM THREE (3) OF THE SEVENTEEN (17) SOIL CORES WILL BE SELECTED FOR LABORATORY ANALYSIS BASED ON THE CORES EXHIBITING THE GREATEST VISUAL OR OLFACTORY EVIDENCE OF CONTAMINATION (ODORS/STAINING) AND/OR THE HIGHEST PID SCREENING READINGS. IF NO EVIDENCE OF CONTAMINATION OR ELEVATED PID READINGS ARE OBSERVED, SAMPLES FROM CORING LOCATIONS C-1, C-12, AND C-17 WILL BE SUBMITTED FOR LABORATORY ANALYSIS.

SITE BASEMAP: CHAZAN ENGINEERING, LAND SURVEYING & LANDSCAPE ARCHITECTURE CO. D.P.C. POUGHKEEPSIE, NY (XBASE-SVY_51421-00.DWG 8/10/15); PARCELS: XSUBD_51539-00.DWG.
OFFSITE BASEMAP: "GROUNDWATER MONITORING BASEMAP", IBM EAST FISHKILL FACILITY (9718NEW.DWG, ORIGINAL DATE 12/21/98).
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HORIZONTAL ACCURACY: 90% OF ALL DETAIL, FIELD CHECKED, WILL BE WITHIN +/- 1.0 FOOT. THE REMAINING 10% OF DETAIL, WILL BE WITHIN +/- 2.0 FEET OF ITS TRUE POSITION.
VERTICAL ACCURACY: 90% OF ALL CONTOURS, FIELD CHECKED, WILL BE WITHIN +/- 0.5 FOOT. THE REMAINING 10% OF CONTOURS, FIELD CHECKED, WILL BE WITHIN +/- 1.0 FEET.

Walden Environmental Engineering

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NO	DATE	REVISION / COMMENTS
0	12/12/18	DEC SUBMISSION

FOR:
BUILDING 330D
IPARK CAMPUS
2070 ROUTE 52
HOPEWELL JUNCTION, NEW YORK

DRAWING TITLE:
FIGURE 2- PROPOSED SAMPLING PLAN
BUILDING 330D PROPOSED LOADING DOCK

DRAWING NO: 2

ISSUED

REVISION NO: 0

DESIGNED BY: LL | DRAWN BY: EJK / LTG | JOB NO: iPARK0118.19 | DATE: 12/12/2018 | 11x17 | SHEET NO: 2 OF 2

APPROVED BY: | SCALE: AS NOTED | CAD FILE NAME: Z:\iPark0118\iPark0118.19 - Loading dock design at Bldg 330D - Crepin\Sampling plan\Draft - Site Plan.dwg

APPENDIX A
HEALTH AND SAFETY PLAN

Health and Safety Plan

Prepared for:

National Resources
200 North Drive
Hopewell Junction, New York 12533

Prepared by:

Walden Environmental Engineering, PLLC
2070 Route 52
Hopewell Junction, New York 12533

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Attachments

Attachment A: iPark 84 Facility Site Map
Attachment B: Emergency Room Directions
Attachment C: Safety Data Sheets (none attached at the time of HASP production)
Attachment D: Heat Stress
Attachment E: Cold Stress

1.0 INTRODUCTION

Walden Environmental Engineering, PLLC (Walden) employees may be exposed to risks from site-related hazardous conditions while performing field activities at iPark 84 (former IBM East Fishkill Facility, the "Facility") located in Hopewell Junction, New York (refer to **Attachment A**). Walden's policy is to minimize the possibility of work-related injury through aware and qualified supervision, health and safety training, medical monitoring and the use of appropriate personal protective equipment (PPE). Walden has established a guidance program to implement this corporate policy in a manner that protects personnel to the maximum reasonable extent.

This health and safety plan (HASP) applies to all Walden personnel, subcontractors and the New York State Department of Environmental Conservation (NYSDEC) and/or its representatives on the job site where operations involve actual or potential physical and chemical hazards that have been identified by Walden or others during shallow soil, sediment and groundwater sampling activities conducted at the Facility. This HASP is also intended to inform and guide all personnel (Walden employees and/or owner representatives, the state representatives or subcontractors) entering the exclusion zone, ensuring that each person sign and acknowledge the site hazards on the Acknowledgement Form provided in Section 9.0. Walden and/or the owner's subcontractors are retained as independent contractors and, as such, are responsible for ensuring the safety of their employees.

Walden may require that its personnel take certain precautions in accordance with this HASP, and Walden requests that others protect their personnel in a manner that they deem necessary or sufficient.

This HASP is based on the best available information to date. Should a conflict occur between this document and any other related Health and Safety Plans, Operating Procedures, regulations, etc., workers shall follow the most stringent/protective requirements. HASP Supplements will be generated, as necessary, to address any new information, change in conditions or activities. While it is not possible to discover, evaluate, and protect in advance against all possible hazards which may be encountered throughout the course of this project, adherence to the requirements of this HASP will significantly reduce the potential for occupational injury.

2.0 SCOPE

This HASP is intended to be utilized during soil, sediment and groundwater sampling and investigations at the Facility, including:

- Collection of soil or sediment samples; and
- Collection of groundwater samples.

It is possible that soils, sediment and groundwater have been contaminated by site activities, including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and inorganics. The sampling/investigation work shall be performed by employees who are properly trained and experienced in dealing with the hazards which may arise from these types of tasks, which are defined as toxic effects, including threshold limit values (TLVs), immediately dangerous to life and health (IDLH), reactivity, stability, flammability, and operational hazards with sampling, decontaminating, etc.

2.1 Equipment

The following equipment may be utilized for anticipated soil, sediment and groundwater sampling tasks:

1. Hand auger
2. Shovel or trowel
3. Portable generator
4. Battery
5. Peristaltic pump
6. Bailer
7. Water quality meter
8. Water level indicator
9. Scrub brush

2.2 Site Access

The topography of the Facility varies, with flat areas covered by buildings and parking areas to wooded areas with few relatively flat open spaces, wetlands, little pavement, and some steep gradients. In the event of an emergency, personnel and subcontractors should assemble at a predetermined assembly area, designated by the Site Safety Officer for the task.

Access to areas of soil, sediment and groundwater sampling and investigations will be denied to the general public via the SSO or designated personnel, thus establishing the perimeter of controlled work areas, minimizing potential exposure of work/workers, protecting the public

from hazards and preventing vandalism. All equipment and materials will be secured during non-work hours. Continuous communication (via portable radios, hand signals, telephones, etc.) shall be maintained between the SSO and key personnel associated with this project at all times during field operations.

2.3 Controlled Work Areas

Controlled work areas will be established prior to and for each work area, depending on the task, and shall float (move around) depending on the tasks being performed on any given day. Each controlled work area will consist of three (3) zones: the exclusion zone, the contaminant reduction zone and the support zone based on the degree of danger present. To the extent possible, the support and contaminant reduction zones will be established outside of the exclusion zone.

2.3.1 Exclusion Zone

The exclusion zone consists of the primary activity area, as defined by the SSO. Only personnel directly involved with performance of a job task within that area and meeting the required qualifications (40 Hour HAZWOPER trained) may be allowed entry. Before entering the exclusion zone, all personnel must be familiar with emergency response procedures, Site safety locations, first aid and communication equipment, and the locations of the map to the hospital and the list of emergency telephone numbers. Attempts will be made so that equipment and site activities taking place in the exclusion zone are situated so that personnel are upwind of sources.

2.3.2 Contaminant Reduction Zone

The contaminant reduction zone shall be located between the exclusion zone and the support zone. In this area authorized personnel (those with 40 Hour HAZWOPER training) will don protective equipment, as needed in the exclusion zone. When exiting the restricted area, personnel will remove contaminated PPE.

2.3.3 Support Zone

The support zone shall extend beyond the exclusion and contaminant reduction zones, where other support activities shall occur, such as first aid, equipment supply, etc., and where vendors, subcontractors and inspectors, and the like, shall be allowed. The support zone shall be established prior to commencement of activities and shall serve as the entry point for controlling access.

Trespassers shall be immediately escorted outside of these established areas and all work within these areas shall halt until the trespasser has been removed.

3.0 ORGANIZATIONAL STRUCTURE

The following personnel are the main parties involved with the project at hand.

POSITION/TITLE	NAME/AFFILIATION	PHONE NUMBER/PAGER
Project Manager(s)	Joseph M. Heaney III, P.E.	516-624-7200 (Office)
	Larry LePere, P.E.	845-745-0888 (Mobile)
Site Safety Officer(s)	Greta White	518-698-3012 (Mobile)
	Erica Johnston	631-521-1266 (Mobile)
	Louis Goldstein	845-406-8242 (Mobile)

3.1 Project Manager

The Project Manager has the responsibility and authority to direct all operations related to this project. They are responsible to observe and provide guidance to employees, subcontractors and visitors with regard to safe work behavior and safety training, discuss deviations from the work plan and any safety issues that arise, assist the SSO with the development and implementation of corrective actions for Site safety deficiencies, the implementation of this HASP and ensuring compliance.

3.2 Site Safety Officer

A qualified SSO will be continuously on the jobsite during the period of work and will have the authority to receive and execute any directions given by the owner representative in the absence of the Project Manager. The SSO will establish the necessary controlled work areas. The SSO will ensure that task areas are kept in a clean condition, free of rubbish and all undue accumulations and surplus materials while the work progresses. The SSO and/or Project Manager shall guarantee that all employees are fit for duty and that material and equipment is protected to prevent damage to employees and visitors, as well as, at the end of each work day, all rubbish and unused materials are removed and any damage done is repaired. These individuals will enforce this HASP, ensuring required safety equipment is on-site, clean and operable.

The SSO will coordinate all relevant health and safety issues, and may conduct specialized training and compliance inspections, as required. It will be the duty of the SSO to provide emergency training to associated personnel and, in the event of an emergency situation, to inform the local authorities as to the nature of the incident. In case of an emergency incident, the SSO

will be contacted immediately. The SSO is to work with the Project Manager to develop and implement any corrective actions that may be necessary.

The Project Manager and the SSO are responsible for periodically reviewing the HASP and its Attachments and any Supplements and, as necessary, amending them to keep current with new or changing conditions.

3.3 Employees

Employees are responsible for understanding and abiding by the policies and procedures specified in this HASP and other applicable safety policies, and clarifying those areas where understanding is incomplete; providing feedback to health and safety management relating to omissions and modifications in the HASP or other safety policies; and, notifying the SSO, in writing, of unsafe conditions and acts. Each employee shall sign this HASP (Section 9.0) in acknowledgement of such.

The health and safety authority of each employee assigned to the Facility includes the right to refuse to work and/or stop work authority when the employee feels that the work is unsafe (including subcontractors), or where specified safety precautions are not adequate or fully understood; the right to refuse to work on any task where the safety procedures specified in this HASP or other safety policies are not being followed; the right to contact the SSO at any time to discuss potential concerns; the right and duty to stop work when conditions are unsafe, and to assist in correcting these conditions.

3.4 Subcontractors

Subcontractors shall submit to the SSO a copy of their own health and safety plan or shall review and sign this document acknowledging acceptance and understanding of the information contained herein (Section 9.0). Subcontractors are responsible for assigning specific work tasks to their employees. Subcontractors shall provide qualified employees equipped with the necessary PPE and training required for the task. Each subcontractor is responsible for compliance with the regulatory requirements that pertain to those services. Each subcontractor is expected to perform operations in accordance with their own unique safety policies and procedures, or those documented herein, in order to ensure that hazards associated with the performance of the work activities are properly controlled. Copies of any required safety documentation/certification for a subcontractor's work activities will be provided to Walden for review prior to the start of onsite activities, if required. Hazards not listed herein but known to any subcontractor must be identified to Walden prior to commencing any on-site activity. The Project Manager and SSO have the authority to halt any subcontractor operations, and to remove any subcontractor or subcontractor employee for failure to comply with established health and safety procedures or for operating in an unsafe manner.

3.5 Visitors

Authorized visitors requiring entry to any work location on-site shall be briefed by the SSO on the hazards present prior to entry and acknowledge receipt of this briefing by signing this HASP (Section 9.0). Visitors shall be escorted at all times within the controlled zones and shall be responsible for compliance with all health and safety policies. All visitors shall hold the appropriate qualifications, training and PPE which are required for entry to any controlled work area. Should a visitor require entry to an exclusion zone who does not meet the qualifications for that zone, all work activities within the exclusion zone shall halt while the visitor is within the controlled zone.

4.0 EMERGENCY RESPONSE

Site personnel must be prepared in the event of an emergency. Emergencies can take many forms including: illnesses, injuries, chemical exposure, fires, spills, leaks, releases of harmful contaminants, or sudden changes in the weather. Walden employees shall not participate in any emergency response where there are potential safety or health hazards (i.e., fire, explosion or chemical exposure); their actions will thus be limited to evacuation. Predetermined safe areas shall be determined and relayed by the SSO to all on-site personnel at the start of each shift and will be based on prevailing wind direction. Evacuation routes established by work area locations will be highlighted on a Site map and periodically reviewed. As the work areas change, the evacuation route and map will be altered accordingly, and the new route will be reviewed.

Emergency telephone numbers and a map to the nearest hospital shall be on-hand at the Facility. The hospital with an emergency room closest to the Facility is St. Luke's Cornwall Hospital at 70 Dubois Street, Newburgh, New York 12550. A map of the route to the St. Luke's Cornwall Hospital is provided herein as **Attachment B**. Personnel shall be familiar with the emergency procedures, and the locations of safety, first aid and communication equipment.

4.1 Emergency Facilities and Telephone Numbers

COMPANY	NAME	PHONE #
Project Manager(s)	Joseph M. Heaney III, P.E.	516-624-7200 (Office)
	Larry LePere, P.E.	845-745-0888 (Mobile)
Site Safety Officer(s)	Greta White	518-698-3012 (Mobile)
	Erica Johnston	631-521-1266 (Mobile)
	Louis Goldstein	845-406-8242 (Mobile)
Emergency Response	Police/Fire/Medical	911
St. Luke's Cornwall Hospital		845-568-2305
NYDEC Spill Hotline		518-457-7362
American Association of Poison Control Centers		800-222-1222

First Aid Kit Locations: Within work vehicles on-site; Walden office on Facility grounds

Fire Extinguishers: Walden office on Facility grounds

4.2 Response Procedures

A communication network shall be established prior to commencement of any on-site tasks. At least one on-site personnel shall have a phone accessible and in good working order at all times. Hand signals shall be used in instances when verbal communication is not feasible. The Project Manager, followed by the SSO, will immediately coordinate any and all emergency situations with the proper local medical/emergency organizations and personnel at the Facility. In the event of a fire, use of fire-fighting equipment available on-site may be administered, if appropriate; removing or isolating flammable or other hazardous materials that may contribute to the fire will be performed. The personnel on-site will coordinate evacuation procedures (if necessary) and remain a safe distance away from the area of health and safety concern. Personnel on-site may need to perform basic first aid as warranted by the emergency situation. Personnel with suspected neck or back injuries must not be moved. A detailed written report of the emergency situation will be provided within 24 hours to Walden by the Project Manager or SSO. Site security and control will be enforced by the SSO with consent for undertaken measures from the Project Manager. The SSO is responsible for pre-emergency planning, as well as emergency recognition and prevention.

4.3 First Aid Kit and Medical Emergencies

A basic first aid kit will be maintained and readily available (never locked up) at the Facility and within easy access to work areas (in personnel vehicles on-site). At a minimum, the first aid kit will include the following as per ANSI Z308.1-1978: aspirin, bandage compresses, adhesive/triangular bandages (to keep wounds clean), medical tape, gauze, scissors, tweezers, sterilization lotion/cream, eye dressing, and antibacterial lotion/soap or pads. Items are to be replaced as they are used. Sterile items must be wrapped, sealed and used only once. Reusable items, such as scissors and tape, shall be kept clean. Should plentiful amounts of clean water not be available, eye flush shall be utilized. The number of first aid kits on-site shall be:

Number of Persons Assigned to the Facility	Minimum First Aid Supplies
1-5	10 Package Kit
6-15	16 Package Kit
16-30+	24 Package Kit

Professional medical assistance is to be called in the event of a medical emergency. In the event of a medical emergency:

- Stay calm and seek help, do not delay in calling for more assistance;
- Do not provide medical assistance unless you are trained to do so;
- Do not move the injured party unnecessarily;
- Do not attempt to remove any object that may have impaled the victim;

- Check to ensure the victim has an open airway, is breathing and has a heartbeat (if not, immediate action is required prior to taking care of any additional injuries);
- Promptly control any bleeding;
- Treat the injured party gently and keep them calm and quiet, reassuring them that additional help is on the way;
- Do not administer any food or drink and never provide the injured party with alcohol;
- Gather as much information as you can about the accident/injury and the victim's condition and be prepared to report that to first responders, as well as any medical actions already taken; and
- Let emergency responders do their job and aid them in keeping others out of their way.

4.3.1 Burns

For minor burns (redness or blisters over a small area), flush the wound with cold water and apply a sterile dressing; do not use butter or similar on any burn and do not break open blisters.

For major burns (white or charred skin; redness or blisters over a large area; burns on face, hands or genital area), cover the wound with sterile dressing and seek immediate emergency medical attention.

In the event of a chemical burn (spilled liquid or dry chemical on skin), promptly seek medical attention. For a liquid chemical burn, flush the wound with large amounts of water immediately and keep the water at a gentle flow. For dry chemical burns, brush off as much as possible before flushing with water. In both instances, flush the wound for at least five (5) minutes before covering with sterile dressing. Never use anything but water on a burned area and do not break open blisters.

4.3.2 Eye Wounds

Should an individual find/feel they have a foreign object in their eye, do not rub the eye; have them pull their upper eyelid over their lower eyelid or run plain water over the eye. If the object persists, cover <u>both</u> eyes with a gauze dressing and aid them in seeking immediate emergency medical attention.

If the eye is wounded (eyelid or eyeball; pain; history of blow to eye area; discoloration), seek immediate emergency medical attention and apply loose sterile dressing over <u>both</u> eyes. For bruising, a cold compress or ice pack should be used to relieve pain and reduce swelling. Do not try to remove any imbedded object or apply any pressure to an injured eye.

If the eye has sustained a chemical burn, seek immediate emergency medical attention. Flush the open eye (it may be necessary to hold the patient's eyelid open) immediately with water for at

least ten (10) minutes, twenty (20) minutes if the substance was alkali. Cover both eyes with sterile dressing. Never put anything but water in the eye.

4.4 Fire: Hazards, Prevention, Protection and Extinguishers

Many ignition hazards exist on-site, including internal combustion engines, combustible materials and smoking. Combustible materials shall be kept well away from the exhaust of any internal combustion engine powered equipment. Smoking is prohibited save in designated areas, as determined by the SSO. Operations which constitute a fire hazard shall be identified as such, with signs conspicuously posted, stating: “No Smoking or Open Flame”. Flammable gases and liquids shall be stored and handled in approved containers, places and as per the requirements described on the applicable Safety Data Sheet (SDS).

All employees who will use a fire extinguisher shall be trained on the use and hazards involved with firefighting initially and annually thereafter. All fire extinguishers shall be visually inspected monthly for general condition and adequate charge and serviced, tested, and certified by qualified personnel at least annually. Records of the annual maintenance check must be maintained. Only those employees designated as capable of using fire extinguishers shall be allowed to do so. Extinguishers shall be located and identified for easy accessibility.

It is imperative to use the proper extinguisher for a fire, as using the wrong one can spread the fire. Portable extinguishers shall be suitable for ABC class fires. The following table provides further information on types of fire extinguishers and their use:

Class	**Distribution**	**Notes**
A ("A" on a green triangle)	75’ or less travel distance between the employee and the extinguisher	Use on wood, paper, trash
B ("B" on a red square)	50’ or less travel distance between hazard area and the employee	Use on flammable liquid, gas
C ("C" on a blue circle)	Based on the appropriate pattern for the existing Class A or Class B hazards	Use on electrical fires
D ("D" on a yellow star)	75’ or less travel distance between the combustible metal working area and the extinguisher or other containers of Class D extinguishing agent	Use on combustible metals

4.4.1 Fire Prevention

The best method of protection against fire is prevention. The following rules are to be adhered to in an effort to prevent fire:

- Smoking is prohibited save in designated areas, as determined by the SSO. All smoking materials are to be totally extinguished and placed in appropriate receptacles.
- SDS's shall be referred and adhered to prior to the moving, handling and storage of any chemical product.
- In order to prevent accidental ignition of combustible materials, heat producing equipment is to be properly maintained and operated as per the manufacturer's instructions.
- All chemicals and combustibles must be stored in approved containers.
- Materials that severely react or combust when mixed must not be stored near each other.
- Chemical spills must immediately be cleaned, particularly in the case of spilled combustible or reactive materials. Damaged containers and cleaning materials must be properly disposed.
- Combustible materials and refuse must be segregated and kept from sources of ignition.
- All employees shall be made aware of the locations of fire extinguishers and hydrants and access to those resources shall be kept clear.
- The SSO shall notify all employees of any unusual fire hazard condition.
- Good housekeeping practices are to be followed.

4.4.2 Fire Protection

All personnel shall be notified if a fire occurs; the local fire department shall also be notified. When notifying the local fire department: remain calm and speak clearly and slowly; give the exact location of the fire and describe the situation; give a phone number for the location you are calling from; and, do not hang up until you are told to do so.

4.5 Evacuation Procedures

In the event of an emergency which necessitates evacuation of the work area, personnel will notify other personnel verbally or otherwise. All personnel will immediately evacuate the work area, keeping upwind of smoke, vapors or spill location, to a predetermined safe area, without regard for equipment. The predetermined safe area will be specified to all personnel by the SSO prior to the start of field work. Personnel will not re-enter the area until all health and safety issues return to a satisfactory level. The SSO is responsible for selecting the most effective evacuation route, as well as designating safe distances and places of refuge. The SSO shall conduct a roll call to ensure that all personnel have been evacuated safely.

Evacuation procedures in case of personal injury of personnel will be conducted as follows:

- Another team member (buddy) should signal the SSO that the injury has occurred;
- A field team member trained in first aid can administer treatment to an injured worker;
- The victim should then be transported to the nearest emergency room (see **Attachment B**). If necessary, an ambulance should be called to transport the victim; and
- The SSO is responsible for making certain that an Accident Report Form is completed. This form is to be submitted to the Project Manager. Follow-up action should be taken to correct the situation that caused the accident.

If a member of the field crew demonstrates symptoms of chemical exposure, the procedures outlined below shall be followed:

- Another team member (buddy) is to remove the individual from the immediate area of contamination if it is safe for them to do so. The buddy shall communicate to the SSO (via voice/hand signals) about the chemical exposure. The SSO will then contact the appropriate emergency response agency;
- Precautions must be taken to avoid exposure of other individuals to the chemical;
- If the chemical is on the individual's clothing, the chemical shall be neutralized or removed if it is safe to do so;
- If the chemical has contacted the skin, the skin shall be washed with copious amounts of water; and
- In case of eye contact, an emergency eye wash is to be used. Eyes should be washed for at least 15 minutes.

All chemical exposure incidents must be reported in writing to the Project Manager. The SSO is responsible for completing the accident report.

4.6 Spill Containment

In an effort to prevent spills, all hazardous material will be stored in appropriate containers and the tops/lids will be placed back on the containers after use. Hazardous materials brought on-site shall come with the appropriate SDS (the SDS should be attached to this HASP in **Attachment C**), will be stored appropriately, with labels, and away from moving equipment. Containers will be lifted/moved utilizing equipment appropriate for the task and secured and handled in a manner which minimizes spillage and reduces the risk of personal injury. At least one spill response kit shall be available at the Facility.

All environmental spills or releases of hazardous materials are to be immediately reported to the SSO and dealt with according to the chemical manufacturers recommended procedures, which

can be found on the SDS. No hazardous materials are anticipated to be utilized during the soil, sediment and groundwater sampling and investigations covered under this HASP at the time it was prepared, thus no SDSs are attached; materials later brought on-site shall come with an SDS, which is to be included in **Attachment C**.

4.7 Incident Reporting

If an accident, fire, or release of toxic materials occurs during the course of work, the Project Manager shall be telephoned immediately and receive written notification within 24 hours. That notification shall include the following information:

- Name, organization, telephone number, and location of the Contractor;
- Name and title of the person(s) reporting;
- Date and time of the accident/incident;
- Location of the accident/incident (i.e. site location, facility name);
- Brief summary of the accident/incident giving pertinent details including type of operation ongoing at the time of the accident/incident;
- Cause of the accident/incident, if known;
- Casualties (fatalities, disabling injuries);
- Details of any existing chemical hazard or contamination;
- Estimated property damage and effect on contract schedule;
- Action taken by Contractor to ensure safety and security; and
- Other damage or injuries sustained, public, or private.

If any employee of a subcontractor is injured, documentation of the incident will be recorded in accordance with the subcontractor's procedures; however, copies of all documentation (which at a minimum must include the OSHA Form 301 or equivalent) must be provided to the SSO within 24 hours after the accident has occurred. All accidents/incidents will be investigated. Copies of all subcontractor accident investigations will be provided to the SSO within five (5) days of the accident/incident.

5.0 GENERAL HEALTH AND SAFETY REQUIREMENTS

All Site personnel shall conduct themselves in a safe manner and maintain a working environment that is free of additional hazards.

5.1 Qualifications and Training

All personnel performing work at the Facility must be qualified for their assigned project task, as determined by the Project Manager. They must meet the training and medical monitoring requirements necessary for the task and as described herein. If possible exposure above an OSHA permissible exposure limit (PEL) has or is expected to occur, employees must be required to receive supplemental medical testing to document any symptoms that may be specific to the particular materials present.

Training programs are to instruct employees on the intent of the OSHA standards, health and safety principles and procedures, proper operation of monitoring instruments, use of personal protective equipment, decontamination, and specific emergency plans. All personnel are required to remain current in all of their required training and evaluate their need for additional training when there is a change in work. In addition to the general health and safety training programs, personnel will be required to complete any supplemental task specific training (e.g. OSHA 40-Hour HAZWOPER training) developed for the tasks to be performed. Administration and compliance with the requirements for additional task-specific training will be the responsibility of the Project Manager. Any additional required training that is completed will be documented and tracked in the project files. Additional training will be provided to any employees responsible for responding to emergencies.

A copy of this HASP will also be made available to all personnel for review. All employees on-site will sign the Record of HASP Acknowledgement form (provided herein as Section 9.0) to verify they have reviewed this Plan. Any subcontractors involved in implementing the work plan will be required to acknowledge that their employees have received adequate training.

All on-site personnel involved with the project will attend a pre-entry briefing on the contents of this HASP, including chemical and physical hazards associated with the Facility. The initial health and safety briefing will consist of the following information:

a. Names of personnel and alternates responsible for worker safety and health;

b. Injury, illness, and other potential project hazards;

c. Safe use of engineering controls and equipment on-site;

d. Work practices by which the employee can minimize risks from hazards;

e. Selection, use, care, and maintenance of PPE; and

f. Standard operation safety procedures.

Documentation of all training, testing and medical monitoring certificates (if applicable) will be maintained by Walden.

5.1.1 Hazardous Communication Training (29 CFR 1910.1200)

Hazardous materials that may be encountered as existing on-site environmental or physical/health contaminants during the work activities are addressed in this HASP and their properties, hazards and associated required controls will be communicated to all affected employees and subcontractors, as per OSHA's Hazard Communication Standard. All personnel shall be briefed on the hazards of any chemical product they use and shall be aware of and have access to all SDS; these employees must be 40-Hour HAZWOPER trained.

All containers on-site shall be properly labeled in compliance with the Globally Harmonized System to indicate their contents. Labeling on any containers not intended for single day, individual use shall contain additional information indicating potential health and safety hazards (flammability, reactivity, etc.).

No hazardous materials are anticipated to be utilized during the soil, sediment and groundwater sampling and investigations covered under this HASP at the time it was prepared, thus no SDSs are attached; SDSs for materials later brought on-site shall come with an SDS, which is to be included in **Attachment C**.

5.1.2 Visitor Training

All visitors to work areas will be informed of the hazards and necessary personal protective equipment associated with those areas, should they require entry to controlled work areas. Visitors shall also be briefed on emergency procedures.

5.2 General Safety

The SSO shall inspect work areas prior to commencement of daily activities. The SSO will take all corrective measures necessary to perform safe work at the Facility. All inspections and corrective measures will be documented and communicated to Site workers at the initial safety meeting and subsequent safety meetings.

Contamination avoidance shall be practiced to include not walking through puddles or mud unnecessarily, avoiding kneeling on the ground or leaning on equipment whenever possible, or setting equipment on the ground. Weather conditions that may escalate potential hazards such as lightning, rain or extreme temperatures, will be recorded in the project files.

Employees will use extreme caution in inclined areas. Ground surfaces may be wet and slippery and may have hazardous objects protruding from the surface.

Dependent on the season in which the work will be performed, employees should exercise caution when encountering animals (e.g. snakes, spiders, bees, wasps, ticks, mosquitoes, ants, etc.) at the Facility. Employees who are known to be highly sensitive to insect stings should carry a "sting kit" and notify the SSO. All employees are encouraged to use permethrin (0.5%) clothing repellent and DEET (30%) skin repellent for protection against ticks and mosquitoes.

Hearing protection devices will be available to be worn by all field personnel in work areas where noise levels are at or above 85 dBA. The use of hearing protection devices when the noise levels exceed 85 dBA on an 8-hour average is a condition of employment.

5.2.1 Tailgate Safety Meetings

The SSO will conduct an informational safety meeting at the start of each workday to ensure that all on-site personnel (those entering the exclusion, contaminant reduction and support zones) understand changing conditions and daily operating procedures, and to address safety questions and concerns; these topics shall typically require ten (10) minutes to discuss and shall be recorded in the field notebook. Additional meetings may be conducted, as required. Attendance is mandatory and an attendance record shall be kept by the SSO. Any person who observes safety concerns or potential hazards that have not been addressed in the daily safety meeting should immediately report observations/concerns to the SSO. Meetings will include pertinent information regarding the day's work and include, but will not be limited to, the following:

a. The whereabouts of any hazardous chemicals near specific work areas;

b. Methods used to detect the presence or release of hazardous chemicals;

c. The physical and chemical health hazards of the Facility;

d. Protective measures such as safe work practices, emergency procedures, and PPE;

e. Details regarding the proper use of protective measures and SDS's;

f. Target activities for the day's work;

g. Changes in observed exposure levels; and

h. Staff changes (e.g., due to vacations, reassignments, etc.) and responsibilities.

5.2.2 Housekeeping

During project activities, work areas will be continuously policed for identification of excess trash and unnecessary debris. Excess trash and debris will be collected and stored in an appropriate container (e.g., plastic trash bags, garbage can, roll-off bin) prior to disposal. All electrical equipment must be grounded.

5.2.3 Hazardous, Solid or Municipal Waste

If hazardous, solid, and/or municipal wastes are generated, the waste shall be accumulated, labeled, and disposed of in accordance with all applicable Federal, State and/or local regulations. If equipment or materials that will be used (i.e., calibration gasses, lithium batteries, etc.) need to be shipped but fall under criteria that define them as hazardous materials under Department of Transportation (DOT) regulations 49 CFR Parts 171-177, then they must be shipped in accordance with those regulations by an individual who is certified as having been "function-specific" trained, as required under the DOT regulations.

5.2.4 Smoking, Eating and Drinking

Eating, drinking, or smoking is permitted only in designated areas in the support zone. An exception is made for the replacement of fluids as a preventive measure for heat stress. Workers will first wash hands and face immediately after leaving controlled work areas (and always prior to eating or drinking).

5.2.5 Personal Hygiene

The following personal hygiene requirements will be observed:

- No contact lenses shall be worn in the exclusion zone without the use of additional eye protection;
- Protective clothing that is loose fitting and covers arms and legs to protect against sunlight during times of high levels of ultraviolet exposure (May through September) shall be worn; hats, sunscreen that provides UVA and UVB protection and sunglasses shall also be donned, as appropriate;
- A water supply meeting the following requirements will be utilized:
    - *Potable Water* - An adequate supply of potable water will be available for personnel consumption. Potable water can be provided in the form of water

bottles, canteens, water coolers, or drinking fountains. Where drinking fountains are not available, individual-use cups will be provided as well as adequate disposal containers. Potable water containers will be properly identified in order to distinguish them from non-potable water sources; and

- *Non-Potable Water* - Non-potable water may be used for job tasks and cleaning activities only. Non-potable water will not be used for drinking purposes or for hand washing. All containers of non-potable water will be marked with a label stating: "***Non-Potable Water - Not Intended for Drinking Water Consumption"***.

- Access to nearby toilet facilities shall be maintained; and
- Employees will be provided washing facilities (e.g., buckets with water and soap). The use of water and hand soap (or similar substance) will be required by all employees following exit from the exclusion zone, prior to breaks, and at the end of daily work activities.

5.2.6 Stop Work Authority

All employees have the right and duty to stop work when conditions are unsafe and to assist in correcting these conditions. Whenever the SSO determines that workplace conditions present an uncontrolled risk of injury or illness to employees, immediate resolution shall be sought. Stop work shall be immediately binding on all affected employees and subcontractors. Upon issuing the stop work order, the SSO shall implement corrective actions so that operations may be safely resumed. Resumption of safe operations is the primary objective; however, operations shall not resume until the SSO and Project Manager concur that workplace conditions meet acceptable safety standards.

5.2.7 Severe Weather

Severe weather can occur with little warning. Employees will be vigilant for the potentials for storms, lightning, high winds, and flash flood events. The SSO will be attentive to daily weather forecasts for the project area each morning. For activities occurring outdoors, the following conditions will be observed:

Condition #1 – Storm threat within 24 hours: stow non-essential gear indoors and maintain a six (6) hour weather watch.

Condition #2 – Storm threat within 12 hours: securely lash down all moveable gear, drums, pipes, tools, etc. and maintain a three (3) hour weather watch.

5.3 Communication Procedures

a. Personnel will be informed of all known Facility hazards during an initial safety meeting and will be kept informed of hazards discovered during work activities.

b. Personnel within the exclusion zone will remain in constant communication or within sight of other personnel. Failure of communication requires evacuation of the exclusion zone until communication is reestablished.

c. The emergency signal will be one of the following:

- Any blast from a pressurized air horn or vehicle horn; and
- Verbal notification.

d. The following standard hand signals will be used:

- Hand gripping throat -- Out of air and cannot breathe;
- Grip buddy's wrist -- Leave area immediately;
- Both hands on buddy's waist -- Leave area immediately;
- Hands on top of head -- Need assistance;
- Thumb down -- No/negative; and
- Thumb up -- Yes/I'm OK/I am alright.

5.4 Hazard Communication

SDSs, along with a list of those materials covered by the SDSs, will be available to all personnel (including subcontractors) for all hazardous substances brought on-site; no hazardous materials are anticipated to be utilized during the soil, sediment and groundwater sampling and investigations covered under this HASP at the time it was prepared, thus no SDSs are attached; SDSs for materials later brought on-site shall come with an SDS, which is to be included in **Attachment C**. Any employee or subcontractor intending to bring a hazardous material onto the jobsite must first provide a copy of the SDS to the SSO for review and filing. Should an SDS be necessary but not available for the material in question, the material may not be brought onto the Facility.

All containers on-site shall be properly labeled to indicate their contents. Labeling on any containers not intended for single-day, individual use shall contain additional information indicating potential health and safety hazards (flammability, reactivity, etc.). Prior to starting work, personnel, including any subcontractors, will be briefed by the SSO regarding hazardous chemicals and their properties, hazards and associated required controls present at the work-site that personnel could use or be exposed to.

5.5 Medical Monitoring

OSHA has established requirements for a medical surveillance program designed to monitor and reduce health risks for employees who may potentially be exposed to hazardous materials. The medical surveillance program has been designed to provide baseline medical data for each employee involved in hazardous material operations. Each employee must undergo testing and training, and a determination of his/her ability to wear PPE and carry out certain tasks. Medical examinations must be administered during pre-employment, on an annual basis, upon employment termination, and as warranted for potential chemical exposure. These examinations shall be provided by employers without cost or loss of pay to the employee. In accordance with 29 CFR 1910.1020, medical surveillance records should be maintained for 30 years past employment and shall be available to the employee, owner, or regulatory agencies, as required.

5.5.1 Medical Surveillance Requirements

Due to potential exposure to hazardous materials, all contractors, employees, subcontractors and other prime contractors involved in Facility activities within the exclusion zone will be informed about the medical monitoring program meeting specifications of 29 CFR Part 1926.1153. Each contractor shall assume the responsibility of maintaining a medical surveillance program (if needed) as well as maintaining personnel medical records, as regulated by 29 CFR 1910.1020, for all personnel, including subcontractors, who will be on-site. Subcontractors working on the job must provide the SSO with documentation on their medical monitoring programs.

5.6 Logs, Reports and Record Keeping

Walden shall keep a permanently bound logbook containing as a minimum the following information:

1. Agency property number, facility name, address, location and project duration;
2. Contractor name, address, phone number;
3. A list of Contractor personnel assigned to the project; and
4. A day-to-day record of personnel entering the work area, short description of the day's work, and a record of any significant or unusual events occurring during the course of work, including but not limited to inspections, observations, unusual incidents, (e.g. damage, unexpected visitors, etc.). The project narrative is to be kept by the Project Manager.

The SSO and Project Manager will ensure that all records are kept up to date and maintained in accordance with applicable regulations. The following items will be recorded in the daily field log in waterproof, permanent ink:

1. Daily list of field personnel;
2. Record of all visitors;

3. Training logs;
4. Levels of PPE worn by workers and, as appropriate, visitors;
5. Exposure work-hours and a log of occupational injuries and illnesses;
6. Accident investigations;
7. Daily record of all first aid treatments not otherwise reportable; and
8. Daily health and safety inspection report.

6.0 HAZARD ASSESSMENT

This section identifies the general and activity-specific hazards associated with Facility operations and what should be implemented to reduce the hazards; identifies general physical hazards that can be expected; and presents a summary of documented or potential chemical hazards anticipated during soil, sediment and groundwater sampling and investigations, as well as biological hazards. Every effort must be made to reduce or eliminate these hazards. Those which cannot be eliminated must be guarded against by using engineering controls and/or personal protective equipment.

6.1 Physical Hazards

The following physical hazards are associated with the project at hand:

6.1.1 Site Mobilization/Demobilization

Mobilization and demobilization activities may cause health injuries during traffic accidents. Manual materials handling and manual site preparation may cause blisters, sore muscles and joints, and skeletal injuries. It may also present the potential for eye hazards, contusions and lacerations. Slippery work surfaces can increase the likelihood of back injuries, overexertion injuries, slips and falls.

6.1.2 General Work Activities

Tasks required for this project may involve exposure to slipping/tripping/falling, manual lifting, noise, heat/cold stress, electrical, hand and power tools, operation of motorized vehicles, and other physical hazards associated with soil, sediment and groundwater sampling and investigation activities. All work at this Facility will be conducted during daylight hours.

Slipping/Falling: Slips, trips and falls are the most common workplace incidents and can result in serious injuries, even death. General housekeeping of the Site, PPE, attention to your surroundings, minimizing distractions and warding off fatigue can all help to minimize risk of slips, trips and falls. Work areas shall be kept free of any materials, obstructions and substances that could cause a hazardous situation. Workers shall ensure clear footing and avoid obstructions, holes, protruding objects or other tripping hazards and look out for uneven, unstable and slippery terrain. Designated routes shall be taken, not shortcuts, and makeshift substitutes of equipment must not be used. Workers are prohibited from horse-play and shall ensure a clear path prior to carrying/moving equipment.

Manual Lifting: Lifting/carrying of equipment and materials may cause strains, particularly back injuries, fatigue and over exertion. Proper lifting techniques should be exercised; bend at the knees, let your legs do the lifting, do not twist while lifting, bring the load as close to you as

possible prior to lifting, be sure there is a clear walking path, use mechanical devices for heavier objects, team lift.

Noise: The operation of certain equipment (e.g., generator, nearby construction work, etc.) may result in momentary high noise levels which could result in temporary to permanent hearing loss and interference in communication. Hearing protection (e.g. ear plugs, ear muffs) will be used as necessary; as a rule of thumb, if it becomes necessary to shout at someone three (3) feet away, hearing protection should be worn.

Eye Protection: All Facility-related operations involving possible eye injury (chemical splash, etc.), must have approved eye wash units readily available. Protective eyewear shall be donned in Level D, when directed by the SSO.

Heat Stress: Monitoring of personnel wearing personal protective clothing should commence when the ambient temperature is 72°F or above. Monitoring frequency should increase as ambient temperature increases or as slow recovery rates are observed. Heat stress monitoring should be performed by the SSO, who shall be able to recognize symptoms of heat stress; refer to **Attachment D**.

Proper training and preventive measures will aid in averting loss of worker productivity and serious illness. Heat stress prevention is particularly important because once a person suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat-related illness. To avoid heat stress, the following steps should be taken:

- Adjust work schedules;
- Mandate work slowdowns as needed;
- Perform work during cooler hours of the day if possible or at night if adequate lighting can be provided;
- Provide shelter (air conditioned, if possible) or shaded areas to protect personnel during rest periods; and
- Maintain workers' body fluids at normal levels. This is necessary to ensure that the cardiovascular system functions adequately. Daily fluid intake must approximately equal the amount of water lost in sweat, i.e. eight fluid ounces (0.23 liters) of water must be ingested for approximately every eight ounces (0.23 kg) of weight lost. When heavy sweating occurs, encourage workers to drink more. The following strategies may be useful:
  - Maintain water temperature between 50° and 60°F (10° to 16.6°C);
  - Provide small disposal cups that hold about four ounces (0.1 liter);
  - Have workers drink 16 ounces (0.5 liter) of fluid (preferably water or dilute drinks) before beginning work;

- Urge workers to drink a cup or two every 15 to 20 minutes, or at each monitoring break. A total of 1 to 1.6 gallons (4 to 6 liters) of fluid per day are recommended, but more may be necessary to maintain body weight; and
- Train workers to recognize the symptoms of heat-related illness.

Should an employee display signs of heat exhaustion (fatigue, weakness, profuse sweating, normal temperature, pale clammy skin, headache, cramps, vomiting, fainting), they are to be immediately removed from the hot area and lay down with their feet raised. Their clothing should be loosened or removed and cool, wet clothes applied. If the victim is not vomiting, they should be encouraged to take small sips of water.

Should an employee display signs of heat stroke (dizziness, nausea, severe headache, hot and dry skin, confusion, collapse, delirium, coma and death), seek immediate emergency medical attention. Remove the victim from the hot area and remove clothing, lay them down and cool their body (shower, cool wet clothes); do not give stimulants to the victim. Refer to **Attachment D** for further instruction.

Cold Stress: Cold stress is a result of cold, wetness, and wind. A worker's susceptibility to cold stress can vary according to their physical fitness, degree of acclimatization to cold weather, age, and diet. If work on this project occurs during winter months, thermal injury due to cold exposure can become a problem for on-site personnel. A cold-stress monitoring program shall be implemented, as appropriate. Workers should be aware of the local cold exposure hazard (frostbite) and the overall cold exposure hazard (hypothermia). Refer to **Attachment E** for further information on Cold Stress.

To prevent cold-related illness:

- Educate workers to recognize the symptoms of frostbite and hypothermia;
- Identify and limit known risk factors;
- Assure the availability of enclosed, heated environments on or adjacent to the Site;
- Assure the availability of dry changes of clothing;
- Assure the availability of warm drinks; and
- Start oral temperature recording at the Site:
  - At the SSO or Project Manager's discretion when changes in a worker's performance or mental status are suspected;
  - At a worker's request;
  - As a screening measure, two times per shift, under unusually hazardous conditions (e.g. wind chill less than 20°F or wind chill less than 30°F with precipitation); and
  - As a screening measure whenever any worker at the Facility develops hypothermia.

Electrical: Hazards associated with electricity include shock, electrocution, burns, fires and explosions, as well as trip and fall hazards from power cords, and including electrical hazards and exposure to carbon monoxide from the use of portable generators. No work is to be performed on electrical equipment or near any part of an electrical circuit unless the worker is protected against shock by guarding or de-energizing and grounding the circuit. Ground Fault Circuit Interrupters (GFCIs) are required for portable tools. Extension cords shall be rated for hard or extra hard use and must be capable of grounding. All cords shall be inspected prior to use for wear and exposed wiring, strain, rips, tears, cuts or burns; defective cords shall be taken out of commission. Generators shall be fueled only after being shut down and allowed to cool, in addition, portable generators shall not be utilized indoors; the exhaust is to pointed downwind from workers.

Hand and Power Tools: The use of hand and power tools can present a variety of hazards, including physical harm from being struck by flying objects, being cut or struck by the tool, fire, abrasions, contusions and electrocution, or being exposed to harmful dusts, fumes, mists, vapors or gases. Ground Fault Circuit Interrupters (GFCIs) are required for portable tools. Workers shall confirm that all tools are in proper operating condition and that they are used in accordance with applicable manufacturers' recommendations. All appropriate PPE must be provided and utilized throughout the duration of applicable tasks.

Operation of motorized vehicles: Moving vehicles can be a danger whether one is within or outside of a vehicle. Distracted drivers, drivers under the influence of drugs/alcohol, tired drivers can all lead to injury, damage or death. Only authorized workers may operate motorized vehicles. Site conditions may include off-road surfaces and operation should be performed according to ground conditions. Authorized drivers must comply with all applicable state laws while operating the vehicle and possess the appropriate qualifications. Loads shall be secured and within the appropriate weight limit for the vehicle (including the number of passengers). Vehicles shall be inspected prior to use and taken out of commission if deemed unsafe. The vehicles shall be properly maintained. Operators are not to be distracted, should wear seatbelts anytime a vehicle is in motion and headlights shall be used during operation. Operation by an employee who has recently partaken in consumption of alcoholic beverages and/or illegal drugs is prohibited.

6.2 Chemical Hazards

Previously identified chemicals used at various locations throughout the Facility, thus potentially contained in soil and groundwater include:

- VOCs
- SVOCs
- Inorganics

The major route of exposure to these contaminants will be respiratory in nature, however dermal exposure is also possible. Inhalation of vapors and contaminated dusts would provide the mechanism for respiratory exposure. Skin contact with soils and groundwater would result in dermal exposure. Facility-related work will use engineering controls, work practices, air monitoring and personnel protective equipment to reduce the amount of potential exposure. The tasks to be performed covered under this HASP present a low health risk for inhalation and dermal exposure given the anticipated potential to encounter contaminated material. Restricting access to controlled work areas, staying upwind of potential sources, adhering to personal hygiene practices and wearing proper safety equipment will reduce risk of injuries.

6.3 Biological Hazards

Potential biological hazards include illnesses and/or injuries transmitted by plants, insects, animals, and pathogenic agents.

6.3.1 Animals

During operations at the Facility, animals such as dogs, pigeons, sea gulls, mice, and rats may be encountered. Contact with such animals can cause rabies (dog's or squirrel's bite); Hantavirus (rat and mice droppings); psittacosis, crytococcosis, and histoplasmosis (dried bird droppings). Workers will use discretion and avoid all contact with animals.

6.3.2 Insects

Bees, wasps, hornets, mosquitoes, ticks and spiders may be present at the Facility. Some individuals may have severe allergic reactions to an insect bite or sting that can result in a life-threatening condition. In addition, mosquito bites may lead to St. Louis encephalitis or West Nile encephalitis. Personnel that have been bitten or stung by an insect during work at the Facility should notify the SSO or Project Manager of such an incident immediately. Workers will wear protective clothing and footwear, apply insect repellent prior to work, and avoid contact with bushes, tall grass, or brush to the extent possible. Field personnel who may have insect allergies should provide this information to the SSO or Project Manager in advance and will have allergy medication on-hand.

6.3.3 Blood-borne Pathogens

Blood-borne pathogens (BBPs) include diseases that can be transmitted by contact with blood or other bodily fluids as well as contaminated items which may be encountered (e.g., used syringes, medical pads, etc.). Universal precautions shall be used when administering first aid. Good hygiene practices and proper decontamination of non-disposable PPE will minimize potential for transmission of BBPs.

7.0 EXPOSURE MONITORING

The following is a discussion of the hazards presented to worker personnel during work at this Facility from on-site physical and chemical hazards known, suspected or anticipated to be present on-site at the time this HASP was prepared.

7.1 Noise

Noise levels are measured in units of decibels (dBA), which matches the response of the human ear, and are measured on the A-scale of a standard sound level meter at slow response. Normal conversation produces a noise level of 60 dBA, while power tools often produce levels between 90-110 dBA. If two people standing an arm's length apart must raise their voices to talk, the noise level is over 85 dBA. Noise levels above 140 dBA cause pain immediately and produce hearing damage. Decibels are a logarithmic scale, meaning that 100 dBA is ten (10) times as loud as 90 dBA, 100 times as loud as 80 dBA, and 1,000 times as loud as 70 dBA.

Hearing protection (disposable or reusable type) will be utilized by any on-site personnel potentially exposed to either continuous or impact noise levels exceeding 90 dBA (slow response) for an 8-hour work shift. Should employees be exposed to such sound levels, all feasible administrative and engineering controls shall be utilized. If such controls fail to reduce sound levels within the specified sound levels provided in the table below, PPE shall be provided and used to reduce sound levels within the levels provided in the table. A sound is considered if the variations in noise level involve maxima intervals of one (1) second or less. Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

Table – Permissible Noise Exposure

Duration Per Day (Hours)	Sound Level (dBA)
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25	115

7.1.1 Hearing Conservation Program

In all cases where the sound levels exceed the values shown in the table above, a continuing, effective hearing conservation program shall be administered. The program shall equip employees with the knowledge and hearing protection devices necessary to safeguard themselves from occupational hearing loss. The program shall consist of the following elements:

- Monitoring of employee noise exposures;
- The institution of engineering, work practice, and administrative controls for excessive noise;
- The provision of each overexposed employee with an individually fitted hearing protector with an adequate noise reduction rating;
- Employee training and education regarding noise hazards and protection measures;
- Baseline and annual audiometry;
- Procedures for preventing further occupational hearing loss by an employee whenever such an event has been identified; and
- Record keeping.

7.2 Chemical Contaminants

OSHA Permissible Exposure Limits (PEL) and American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV) may be exceeded during soil and groundwater investigative activities. Even though the anticipated risk of exposure to chemical contaminants is considered to be low for the activities covered under this HASP, these activities will be closely monitored and evaluated to determine potential for exceeding standards and the need to implement control measures to protect personnel and the environment.

7.2.1 Air Monitoring

Direct reading instruments will be used in active work areas in order to enable rapid field decisions regarding levels of protection, as well as indicate the need for increased monitoring frequency at the edge of the exclusion zone. Walden staff will conduct air monitoring during all intrusive activities.

A MiniRae or equivalent photoionization detector (PID), which is calibrated daily and adjusted to give maximum sensitivity to the contaminants of concern will be used to monitor the air on a continuous basis while intrusive activities are performed. Should the meter read 0.5 parts per million (ppm) or greater above background in the breathing zone for more than one (1) minute and the source of the reading is unknown, work shall be discontinued until an addendum to this HASP for work performed in upgraded PPE has been prepared and implemented; the same holds

true if the meter reads greater than five (5) ppm above background levels in the breathing zone for more than thirty (30) continuous seconds.

7.3 Calibration

Any exposure monitoring instruments used will be calibrated at the beginning of each work shift, in accordance with the manufacturer's recommendations. If the owner's manual is not available, the personnel operating the equipment will contact the applicable office representative, rental agency or manufacturer for technical guidance for proper calibration. If equipment cannot be pre-calibrated to specifications, operations requiring monitoring for worker exposure will be postponed or temporarily ceased until this requirement is completed.

8.0 PERSONAL PROTECTIVE EQUIPMENT

The purpose of PPE is to provide a barrier, which will shield or isolate individuals from the chemical and/or physical hazards that may be encountered during work activities. The level of worker protection can be increased or reduced if determined by an employee exposure assessment. Until an employee exposure assessment is complete, the following procedures and PPE shall be made available:

1. Head protection;
2. Foot protection;
3. Hand protection;
4. Eye protection; and
5. Hearing protection.

By signing this HASP the employee agrees to having been trained in the use, limitations, care and maintenance of the PPE to be used by the employee at this project. If training has not been provided, request same of the SSO for the proper training before signing.

8.1 Head Protection

Workers and individuals within work areas where overhead work is being performed must wear protective helmets. The protective helmets will reduce the potential for permanent injury to the head from falling and/or sharp edged objects. The head protection shall comply with the ANSI and the International Safety Equipment Association (ISEA) latest standard ANSI/ISEA Z89.1-2014, “Industrial Head Protection”.

8.2 Foot Protection

All personnel and individuals in the work areas will wear steel-toed or equivalent protective footwear to help prevent foot injuries from falling or rolling objects, objects piercing the footwear sole, and/or exposure to electrical hazards. The footwear will be properly secured to the feet at all times. Protective footwear will comply with the American National Standard for Safety-Toe Footwear, Z41.1-1967.

8.3 Hand Protection

All workers entering the work areas will use hand protection to prevent injuries caused from exposure, abrasions, lacerations, and burns of any type. The performance characteristics of the hand protection will reflect the task(s) of the individual worker. If worn, protective disposable clothing will cover the hand protection as much as possible.

8.4 Eye Protection

All workers and individuals within the work areas will use appropriate eye protection to reduce the potential of damage caused by splashing, falling or flying objects/materials. The eye protection should fit securely on the face so the objects/materials will not enter from any side of the protection (goggles that seal to the face using an elastic headband are recommended). Eye protection will comply with ANSI/ISEA Z87.1-2015 Standards.

8.5 Hearing Protection

All workers and individuals within the work areas will use appropriate hearing protection if operations produce noise levels that exceed levels given in the permissible noise exposure table provided in Section 7.1. Exposure to impulsive or impact noise should not exceed 140 dBA peak sound pressure level. Hearing protection will be recommended if either continuous or impact noise levels exceed 90 dBA (slow response) for an 8-hour work shift. If unable to carry out conversation at an arm length or at three (3) feet distance, hearing protection such as ear plugs or muffs will be used. Hearing protection selected must control employee exposures to comply with OSHA permissible noise standards if noise levels exceed OSHA permissible noise levels. Where disposable earplugs are selected, sufficient supplies will be maintained on-site to allow for multiple changeovers per day, per worker. A non-"roll-down" type earplug, such as the E-A-R Pod Plug, should be considered to reduce the potential for ear canal contamination.

8.6 PPE Program

PPE will be required when work activities generate and/or involve known or suspected atmospheric vapors, gases, liquids, or particulates at or above satisfactory health and safety levels or regulatory action limits. Protective equipment shall be ANSI/ISEA/NIOSH-approved.

For the soil, sediment and groundwater sampling and investigations covered under this HASP, PPE should typically comprise of Level D protection. Should air monitoring indicate that Level D fails to meet protection requirements, work shall discontinue until an addendum to this HASP has been drafted, approved and attached. Level D PPE consists of:

- Standard work uniform with coveralls or tyvek, as needed;
- Steel-toe and steel shank work boots;
- Hard hat;
- Gloves, as needed;
- Safety glasses; and
- Hearing protection, as needed.

8.6.1 Inspections

Before use of protective clothing, all personnel shall determine that the clothing material is correct for the specified task at hand. The clothing is to be visually inspected for imperfect seams, non-uniform coatings, tears and malfunctioning closures.

Before using gloves, they are to be checked for pinhole leaks. It is imperative that any equipment found to be defective be replaced immediately.

8.6.2 Donning/Doffing of Personal Protective Equipment

The following information is to provide on-site personnel with helpful hints that, when applied, make donning and doffing of PPE a more safe and manageable task:

- Have a "buddy" check your ensemble to ensure proper donning before entering controlled work areas. Without mirrors, the most obvious discrepancies can go unnoticed and may result in a potential exposure situation;
- Never perform personal decontamination with a pressure washer;
- Decontamination of equipment with water and a detergent shall be performed while PPE is still worn; and
- PPE will be removed and personnel will thoroughly wash their hands prior to leaving the Facility.

All PPE is to be bagged and contained in the proper receptacle prior to proper off-site disposal.

9.0 RECORD OF HASP ACKNOWLEDGEMENT

I certify that I have thoroughly read and fully understand the information in this HASP for soil, sediment and groundwater sampling and investigations performed at the iPark 84 Facility. I understand the associated potential health and safety hazards and issues.

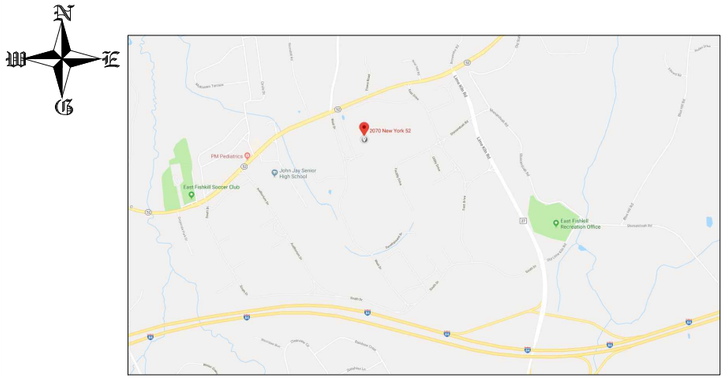
I certify that I have been trained in the use, care, and limitations of the PPE that could be used.

My signature below is official record that I comply with provisions of the HASP and federal, state, and local health and safety regulations and guidelines.

Printed Name	Signature	Representing	Date

ATTACHMENT A

SITE PLAN



SITE LOCATION

NOT TO SCALE
SOURCE: GOOGLEMAPS.COM

LEGEND

PROPERTY LINE

PROPOSED WORK AREA

SITE PLAN

NOT TO SCALE
SOURCE: GOOGLEMAPS.COM

SITE BASEMAP: CHAZAN ENGINEERING, LAND SURVEYING & LANDSCAPE ARCHITECTURE CO. D.P.C. POUGHKEEPSIE, NY (XBASE-SVY_51421-00.DWG 8/10/15); PARCELS: XSUBD_51539-00.DWG.
OFFSITE BASEMAP: "GROUNDWATER MONITORING BASEMAP", IBM EAST FISHKILL FACILITY (9718NEW.DWG, ORIGINAL DATE 12/21/98).
TOPOGRAPHY: PHOTOGRAMMETRY BY GOLDEN AERIAL SURVEYS, INC., NEWTON, CT (3/3/1997).
CONTOUR INTERVAL: 1 FOOT (HORIZONTAL DATUM BASED UPON IBM EAST FISHKILL COORDINATE SYSTEM; VERTICAL DATUM BASED UPON NATIONAL GEODETIC VERTICAL DATUM OF 1929).
HORIZONTAL ACCURACY: 90% OF ALL DETAIL, FIELD CHECKED, WILL BE WITHIN +/- 1.0 FOOT, THE REMAINING 10% OF DETAIL, WILL BE WITHIN +/- 2.0 FEET OF ITS TRUE POSITION.
VERTICAL ACCURACY: 90% OF ALL CONTOURS, FIELD CHECKED, WILL BE WITHIN +/- 0.5 FOOT. THE REMAINING 10% OF CONTOURS, FIELD CHECKED, WILL BE WITHIN +/- 1.0 FEET.

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Walden Environmental Engineering

NO	DATE	REVISION COMMENTS
0	12/12/18	DEC SUBMISSION

FOR: BUILDING 330D, iPark Campus, 2070 Route 52, Hopewell Junction, New York

DRAWING TITLE: FIGURE 1- SITE PLAN, Building 330D Proposed Loading Docks

DRAWING NO: 1

ISSUED

REVISION NO: 0

DESIGNED BY: LL | DRAWN BY: EJK / LTG | JOB NO: iPARK0118.19 | DATE: 12/12/2018 | 11x17 | SHEET NO: 1 OF 2

APPROVED BY: | SCALE: AS NOTED | CAD FILE NAME: Z:\iPark0118\iPark0118.19 - Loading dock design at Bldg 330D - Crepini\Sampling plan\Draft - Site Plan.dwg

ATTACHMENT B

HOSPITAL DIRECTIONS

Google Maps

2070 NY-52, Hopewell Junction, NY 12533 to St Luke's Cornwall Hospital

Drive 15.4 miles, 22 min

Map data ©2018 Google 2 mi

2070 NY-52

Hopewell Junction, NY 12533

Get on I-84 from NY-52 E and Lime Kiln Rd

5 min (2.4 mi)

1. Head southeast toward North Dr
   ⚠ Restricted usage road

443 ft

2. Slight left onto North Dr
   ⚠ Restricted usage road

52 ft

3. Turn right onto West Dr
   ⚠ Restricted usage road

0.2 mi

4. Turn right onto NY-52 E

0.5 mi

5. Turn right onto Lime Kiln Rd

1.1 mi

6. Use the right 2 lanes to take the I-84 W ramp

0.5 mi

Follow I-84 to NY-32 S/N Plank Rd in Balmville. Take exit 10S from I-84

11 min (11.3 mi)

7. Merge onto I-84

11.1 mi

8. Take exit 10S for NY-32 toward US-9W S/Newburgh

0.2 mi

Take Robinson Ave and Dubois St to your destination in Newburgh

6 min (1.7 mi)

9. Turn right onto NY-32 S/N Plank Rd (signs for Route 9w S)

0.2 mi

10. Use the right 2 lanes to turn right onto Robinson Ave

0.9 mi

11. Turn left onto South St

0.3 mi

12. Turn right onto Dubois St

0.3 mi

13. Turn left

246 ft

14. Turn left

Destination will be on the left

125 ft

St Luke's Cornwall Hospital

70 Dubois St, Newburgh, NY 12550

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

ATTACHMENT C

SAFETY DATA SHEETS

ATTACHMENT D

HEAT STRESS

HEAT STRESS

1. Heart rate (HR) should be monitored by the radial pulse for 30 seconds as soon as possible in the resting period.

   If at the beginning of the rest period a worker's radial pulse is measure and his heart rate exceeds 100 beats per minute, the worker's next work period should be reduced by 33%. Therefore, if the original work period was one hour, the following work cycle should be reduced to 40 minutes.

2. Heat Stroke is a true medical emergency. First aid should be directed toward immediate measures to cool the body quickly, as well as seeing that the victim receives medical attention as soon as possible.

   Prior to medical treatment, remove as much clothing as possible and proceed to cool the victim's body, taking care not to over chill the victim once his temperature falls below 102^0F. One of the following cooling measures should be taken: (a) sponge the bare skin with cool water; (b) apply cold packs continuously; (c) wrap the victim in a sheet soaked with water; or (d) immerse the victim in a tub of cold water, while closely monitoring the victim's level of consciousness.

3. Prior to site activity, the Site Safety Officer may make arrangements for heat stress monitoring (i.e., monitoring heart rate, body temperature and body water loss) during actual site work if conditions warrant these measures. In addition, the Site Safety Officer would want to ensure that the team members have been acclimatized to the particular environmental conditions and that personnel are aware of the signs and symptoms of heat sickness and have been adequately trained in first aid procedures. As Site Safety Officer, one could also make sure there is sufficient personnel on-site, so as to rotate work assignments, schedule work during hours of reduced temperatures and ensure personnel do not consume alcoholic or caffeinated beverages but rather drink moderate levels of an electrolyte solution and eat well prior to commencing site work.

4. The worker could be experiencing a condition of heat rash. Allow workers to rest and relieve the itching associated with heat rash rather than return to work too soon. Itching

workers may not follow stringent decontamination procedures or scratch where it itches on-site and risk cross contamination.

Keeping the skin clean and dry will reduce the incidence of heat rash. This can be accomplished by wearing cotton garments (or other materials that absorb perspiration) underneath protective clothing. Upon removal of the protective clothing, the worker should wash and dry his skin thoroughly.

5. The sense of thirst is not an adequate regulator of water replacement during heat exposure. Therefore, as a general rule, the amount of water administered should replace the amount of water lost, and it should be administered at regular intervals throughout the day. For every 1/2 pound of water loss, 8 ounces of water should be ingested. Water should be replaced by drinking 2-4 ounce servings during every rest period. A recommended alternative to water is an electrolyte drink spilt 50/50 with water.

6. Although there is no specific test given during a baseline physical that would identify a person's intolerance to heat, there are physical factors and personal habits which may indicate possible intolerance to heat, such as, whether or not an individual smokes, one's dietary habit, body weight, as well as predisposed physical conditions such as high blood pressure, heavier conditions, diabetes or one's medication, that may influence an individual's ability to tolerate excessive heat.

7. Heat cramps are caused by profuse perspiration with inadequate fluid intake and salt replacement. Heat cramps most often afflict people in good physical condition who overwork in conditions of high temperature and humidity. Heat cramps usually come on suddenly during vigorous activity. Untreated, heat cramps may progress directly to heat exhaustion or heat stroke. First aid treatment: remove victim to a cool place and give sips of salted water (1 teaspoon of salt to 1 quart of water) - 4 ounces every 15 minutes over a period of one hour. A commercial preparation, e.g., Gatorade, may be used if split 50/50 with water.

   The salted water or solution should mitigate the cramps. Manual pressure should not be applied to the cramped muscles.

TABLE C-1

REQUIRED FREQUENCY OF HEAT STRESS MONITORING
FOR WORKERS IN IMPERMEABLE CLOTHING

Adjusted (2) Temperature (^{0}F)	**Work Time Allowed Before Monitoring Break (min.)**
90 or above	15
87.5-90	30
82.5-87.5	60
77.5-82.5	90
72.5-77.5	120

(1) Adapted from Eastern Research Group and National Institute for Occupational Safety and Health, Occupational Safety and Health Guidance Manual for Super Activities. September 26, 1984, pp. 8-75.

(2) Calculate the adjusted air temperature (Ta adj) by using this equation:

$$\text{Ta adj } {}^0\text{F} = \text{Ta } {}^0\text{F} + (13 \times \% \text{ sunshine})$$

Measure air temperature (Ta) with a standard thermometer, with the bulb shielded from radiant heat. Then estimate percent sunshine (100 percent sunshine = no cloud cover an a sharp, distinct shadow; 0 percent sunshine = no shadows).

TABLE C-2

HEAT STRESS SIGNS AND SYMPTOMS

Heat Stress Indicator	**When to Measure**	**If Exceeds**	**Action**
heart rate (pulse)	beginning of rest period	110 beats per minute	shorten next work period by 33%
oral temperature	beginning of rest period	99 ^{0}F (after thermometer is under tongue for 3 minutes) 100.6 ^{0}F or greater	shorten next work period by 33% prohibit work in impermeable clothing and shorten next work period by 33%
body weight	1. before workday begins (a.m.) 2. after workday ends (p.m.)	Decreases more than 5%	increase fluid intake

ATTACHMENT E

COLD STRESS

COLD STRESS (Hypothermia)

Cold stress is a function of cold, wetness and wind. A worker's susceptibility to cold stress can vary according to his/her physical fitness, degree of acclimatization to cold weather, age and diet.

Prevention

Institute the following steps to prevent or overexposure of workers to cold:

1. Maintain body core temperature at 96.8^0 F or above by encouraging workers to drink warm liquids during breaks (preferably not coffee) and wear several layers of clothing. Wool is recommended since it can keep the body warm even when the wood is wet.
2. Avoid frostbite by adequately covering hands, feet and other extremities. Clothing such as insulated gloves or mittens, earmuffs and hat liners should be worn. To prevent contact frostbite (from touching metal and cold surfaces below 20^0 F) workers should wear anti-contact gloves. Tool handles and control bars should be covered with insulating material.
3. Adjust work schedules if necessary, providing adequate rest periods. When feasible, rotate personnel and perform work during the warmer hours of the day.
4. Provide a heated enclosure for workers close to their work area. Workers should remove their outer layer(s) of clothing while in the shelter to allow for sweat evaporation.
5. In the event that wind barriers are constructed around an intrusive operation (such as drilling), the enclosure must be properly vented to prevent the build-up of toxic or explosive gases or vapors. Care must be taken to keep any heat source away from flammable substances.
6. Using a wind chill chart such as the one in Table D-1, obtain the equivalent chill temperature (ECT) based on actual wind speed and temperature. Refer to the ECT when setting up work warm-up schedules, planning appropriate clothing, etc. Workers should use warming shelters at regular intervals at or below an ECT or 20^0 F For exposure skin, continuous exposure should not be permitted at or below an ECT of -35^0 F.
7. Workers who become immersed in water or whose clothing becomes wet (from perspiration, rain, etc) must immediately be provided a change of dry clothing whenever the air temperature is 25.6^0 F or below.

8. Maintain an optimal level of worker fitness by encouraging regular exercise, proper diet, etc. If possible, acclimatize workers to site conditions for several days before work begins.

Monitoring

Personnel should be aware of the symptoms of cold stress. If the following symptoms of systemic hypothermia are noticed in any worker, he/she should immediately go the warm shelter:

Heavy, uncontrollable shivering;
Excessive fatigue or drowsiness;
Loss of coordination;
Difficulty in speaking; and,
Frostbite (see below).

Frostbite is the generic term for local injury resulting from cold. The stages of frostbite and their symptoms are as follows:

1. Frostbite or incipient frostbite: sudden blanching or whitening of the skin.
2. Superficial frostbite: waxy or white skin, which is firm to the touch (tissue underneath is still resilient).
3. Deep frostbite: tissues are cold, pale and solid.

TABLE D-1

WINDCHILL CHART

Wind Speed (mph)	Actual thermometer Reading (^{0}F)									
	50	40	30	20	10	0	-10	-20	-30	-40
	Equivalent Temperature (^{0}F)									
Calm	50	40	30	20	10	0	-10	-20	-30	-40
5	48	37	27	16	6	-5	-15	-26	-36	-47
10	40	28	16	4	-9	-21	-33	-46	-58	-70
15	36	22	9	-5	-18	-36	-45	-58	-72	-85
20	32	18	4	-10	-25	-39	-53	-67	-82	-96
25	30	16	0	-15	-29	-44	-59	-74	-88	-104
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109
35	27	11	-4	-20	-35	-49	-67	-82	-98	-113
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116
>40 (Little added effect)	Little Danger (For properly clothed person)				Increasing Danger (Danger from freezing of exposed flesh)			Great Danger		

APPENDIX B
COMMUNITY AIR MONITORING PLAN

iPARK 84
(FORMER IBM EAST FISHKILL FACILITY)

BUILDING 330D PROPOSED LOADING DOCKS SOIL CHARACTERIZATION WORK PLAN COMMUNITY AIR MONITORING PLAN (CAMP)

The following Community Air Monitoring Plan (CAMP) is based on NYSDEC's DER-10 Technical Guidance for Site Investigation and Remediation (May 2010) Appendix 1A: New York State Department of Health Generic Community Air Monitoring Plan, with modifications as appropriate for the scope of work to be performed at the iPark 84 Former IBM East Fishkill facility.

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.

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

Qualified Environmental Monitor Responsibilities

The qualified environmental monitor (QEM) shall be Walden Environmental Engineering, PLLC, whose designated employees will be responsible for implementing the CAMP and performing the on-site air monitoring specified below. The QEM has the authority to stop work and shall be responsible for the air monitoring and daily calibration and maintenance of the equipment in accordance with the manufacturer's specifications. All instrumentation and equipment shall be maintained at all times in proper operating condition. Copies of manufacturers' monitoring equipment specifications shall be maintained on-site at all times during the work and shall be attached to the on-site copy of the CAMP.

The QEM or designated representative shall document in the dedicated CAMP project log book each calibration event, any equipment and instrument malfunctions, unusual conditions, air monitoring station locations, any exceedances of action levels and countermeasures implemented. Dates and times must be well documented.

Ambient air monitoring shall be conducted upwind and downwind of the work area at the property perimeters for fugitive dust emissions and organic vapors during periods of excavation, other ground intrusive activities, placement of excavated materials in storage piles, and loading of transporting vehicles. If readings above established threshold levels are detected, the Contractor shall institute measures to control dust and/or organic vapors at no additional cost to the Owner. The measures utilized shall be subject to the approval of the Owner and Owner's designated representatives.

Any exceedance of a CAMP threshold or action level shall be recorded on the project summary report which shall be submitted to NYSDEC and NYSDOH. The summary report shall include the instrument readings at the monitoring stations, location of the monitoring station where any exceedance was recorded, readings at upwind locations, duration of any elevated readings (i.e., number of 15-minute time-weighted exceedances), activities being performed at the time of any exceedances, and descriptions of countermeasures implemented to control the exceedance and prevent future occurrences.

The Contractor shall respond to exceedances of the CAMP action levels immediately.

Odor or dust complaints from any owner of an adjacent or nearby property shall be managed by the Contractor in a manner equivalent to an exceedance of an action level in the CAMP.

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

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while overturning soil 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 sampling at locations 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) shall 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. The monitoring work should be performed using equipment such as a MiniRAE 2000 PID Portable VOC Monitor or other appropriate instrument 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.

- 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.

- 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 must be identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can only 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.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown. Work methods and controls will be re-evaluated.

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

Particulate Monitoring, Response Levels, and Actions

Particulate (dust) 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 (such as a portable particulate monitor EPAM 5000 or equal) 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 and at any time, the Contractor will carry out dust and particulate control measures, such as water misting, to prevent generation of dust and particulate matter during the work activities.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

If the elevated levels of particulate matter are detected during the monitoring, corrective action is determined by the following levels:

- If the downwind PM-10 at a site perimeter location is 100 micrograms per cubic meter ($\mu g/m^3$) greater than background (upwind perimeter) for the 15-minute period of if airborne dust is observed leaving the perimeter of the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques if the downwind PM-10 particulate level does not exceed 150 $\mu g/m^3$ above the upwind level and if no visible dust is migrating from the work area.

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

Summary

As noted above, air monitoring activities for the iPark 84 Building 330D Proposed Loading Docks activities described in the *Soil Characterization Work Plan* (Walden, January 29, 2019) will be appropriate for the soil sampling and excavation activities to be conducted during the proposed Building 330D loading docks area. Therefore, the CAMP will encompass VOC and particulate monitoring during ground intrusive activities. CAMP reports will be submitted to NYSDEC and NYSDOH upon completion of the project.