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Alternatives Analysis Report and Remedial Action Work Plan

1153-69 West Fayette Street
City of Syracuse, Onondaga County, New York
BCP Site No. C734164

Prepared for:
1153 Owner LLC
PO Box 515
Syracuse, New York 13205

June 2025
Revised September 2025

C&S Project No. AB2.002.002

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Syracuse, New York 13205

Prepared by:
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Syracuse, New York 13212

I, H. Nevin Bradford, certify that I am currently a NYS Registered Professional Engineer and that this Alternatives Analysis Report and Remedial Action Work Plan was prepared in accordance with applicable statutes and regulations and in substantial conformance with the Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10) and DER Green Remediation (DER-31).

H. Nevin Bradford
State of New York Professional Engineer No. 086008

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ACRONYMS

AAR – Alternatives Analysis Report

AMSL – Above Mean Sea Level

ASTM – American Society for Testing and Materials

AWQS – Ambient Water Quality Standards

BCA – Brownfield Cleanup Agreement

BCP – Brownfield cleanup Program

BGS – Below Ground Surface

BMP – Best Management Practice

CAMP – Community Air Monitoring Plan

CO_2 – Carbon Dioxide

COC – Certificate of Completion

CP – Commissioners Policy

CPP – Community Participation Plan

CQAP – Construction Quality Assurance Plan

CVA – Climate Change Vulnerability Assessment

DD – Decision Document

DER – Department of Environmental Remediation

DMM – Division of Materials Management

DNAPL – Dense Non-Aqueous Phase Liquid

DOB – Department of Buildings

EC – Engineering Control

ECL – Environmental Conservation Law

EE – Environmental Easement

ESA – Environmental Site Assessment

FEMA – Federal Emergency Management Agency

FER – Final Engineering Report

GHG – Greenhouse Gas

GPS – Global Positioning System

GRT – Green Remediation Technique

GSR – Green and Sustainable Remediation

HAP – Hazardous Air Pollutant

HASP – Health and Safety Plan

HFM – Historic Fill Material

IC – Institutional Control

IDA – Industrial Development Agency

IRM – Interim Remedial Measures

ISCO – In-Situ Chemical Oxidation

ISMP – Interim Site Management Plan

MMBtu – Metric Million British Thermal Unit

MS / MSD – Matrix Spike / Matrix Spike Duplicate

NAPL – Non-Aqueous Phase Liquid

NAVD – North American Vertical Datum

NIDIS – National Integrated Drought Information System

NOx – Nitrogen Oxides

NOAA – National Oceanic and Atmospheric Administration

NYCDEP – New York City Department of Environmental Protection

NYCRR – New York Codes, Riles, and Regulations

NYNHP – New York State Natural Heritage Program

NYS – New York State

NYSDEC – New York State Department of Environmental Conservation

NYSDOH – New York State Department of Health

NYSDOT – New York State Department of Transportation

NYSERDA – New York State Energy Research and Development Authority

OCWA – Onondaga County Water Authority

OSHA – Occupational Safety and Health Administration

PAH – Polycyclic Aromatic Hydrocarbons

PCB – Polychlorinated Biphenyl

PFAS – Per- and Polyfluoroalkyl Substances

PFOA – Perfluorooctanoic Acid

PFOS – Perfluorooctanesulfonic Acid

PID – Photo-ionization Detector

PM – Particulate Matter

PPB – Parts per Billion

PPM – Parts per Million

PPT – Parts per Trillion

PSB – Public Safety Building

PVC – Polyvinyl Chloride

QA / QC – Quality Assurance / Quality Control

QAPP – Quality Assurance Project Plan

RAO – Remedial Action Objective

RAWP – Remedial Action Work Plan

REC – Recognized Environmental Condition

RI – Remedial Investigation

RIWP – Remedial Investigation Work Plan

SCG – Standards, Criteria, Guidance

SCO – Soil Cleanup Objective

SEFA – Spreadsheets for Environmental Footprint Analysis

SEQRA – State Environmental Quality Review Act

Site – 1153-69 West Fayette Street, Syracuse, NY

SMMP – Soil / Material Management Plan

SMP – Site Management Plan

SMTC – Syracuse Metropolitan Transportation Council

SOx – Sulfur Oxides

SOP – Site Operations Plan

SPDES – State Pollutant Discharge Elimination System

SSDS – Sub-Slab Depressurization System

SURF – Sustainable Remediation Forum

SVE – Soil Vapor Extraction

SVI – Soil Vapor Intrusion

SVOC – Semi volatile Organic Compound

SWPPP – Storm Water Pollution Prevention Plan

TAL – Target Analyte List

TCL – Target Compound List

TOGS – Technical and Operational Guidance Series

TPH – Total Petroleum Hydrocarbon

USDA – United States Department of Agriculture

USEPA – United States Environmental Protection Agency

USGS – United States Geologic Service

UST – Underground Storage Tank

VOC – Volatile Organic Compound

µg/m^3 – Microgram per Cubic Meter

EXECUTIVE SUMMARY

This document presents the Alternative Analysis Report (AAR) / Remedial Action Work Plan (RAWP) for Brownfield Cleanup Program (BCP) Site No. C734164 located at 1153-69 West Fayette Street, Syracuse, Onondaga County, New York (the "Site"). This document reports on the data and findings from the New York State Department of Environmental Conservation (NYSDEC)-approved Remedial Investigation (RI), evaluates remedial alternatives to address the contamination at the Site, and provides details for all elements of the proposed Remedial Action.

Site Description / Physical Setting / Site History

1153 Owner LLC entered into a Brownfield Cleanup Agreement (BCA) with the NYSDEC in June 2024, to investigate and remediate a 2.65-acre property located at 1153-69 West Fayette Street in Syracuse, Onondaga County, New York. 1153 Owner LLC is a Volunteer in the BCP.

The Site is located in the County of Onondaga, Syracuse, New York and is identified as Block 099, Lot 03-02.1 on the Syracuse Tax Map. A United States Geological Survey (USGS) topographical quadrangle map (**Figure 1**) shows the Site location. The Site is situated on an approximately 2.65-acre area bounded by West Fayette Street to the north, commercial stores and George Fowler High School to the south, the Lofts at 1117 BCP Site (C734160) and commercial stores to the east, and the George Fowler High School baseball diamond to the west (see **Figure 2**).

The Site was once occupied by residential houses, a machine shop, and a lumber shed from at least 1892. Around 1911, the Site began operating as the Kemp & Burpee Manufacturing Company, a large manufacturing facility that produced manure spreaders. These operations included a machine shop, a forge shop, and several painting shops on and near the eastern side of the Site. Between 1916 and 1946, the Site operated as the Brown-Lipe Gear Company, manufacturer of bicycle and automobile gears. Around 1920, the six-story industrial building (Main Building) with a single-story addition (Barn) that exists today was constructed on the western portion of the Site. From 1943 to 1950, the Site was taken over by the United States government during World War II to manufacture trucks and tank clutches for the United States Army. Sometime between 1938 and 1951, all industrial buildings on the Site except for the existing buildings were demolished and replaced with a parking lot. Between 1956 and 1960, a single-story addition (Annex) was added to the western side of the buildings. The eastern portion of the Site operated as a parking lot. The industrial facility operated as the Morris Distributing Company (wholesale electrical supplies) between approximately 1951 and 1988. This operation was equipped with an oil house that was located on the west side of the original structure, in an area that is now occupied by the western addition. A coal silo was also present outside the south side of the building dating to at least 1951. The coal storage structure still remains on the Site. In the 1990s, the facility housed a variety of industrial and commercial companies including Command Services (computer sales and services), Tegmen (electronic circuit manufacturer), Selco Graphics (printing), and PEACE Inc (non-profit organization). Since the early 2000s, a variety of commercial tenants have occupied the facility. The buildings are currently vacant.

Summary of the Remedial Investigation

To characterize site conditions and identify the appropriate remedy for the Site, a RI was implemented. The RI included the collection and analysis of 60 soil samples, two rounds of groundwater sampling from seven wells (14 total samples), and two soil vapor intrusion (SVI) assessments (33 total samples).

Based on the RI, contaminants of concern are generally in the historic fill material (HFM) across the Site and include semi volatile organic compounds (SVOCs) and metals. The variation in analyte concentrations in the soils that contain HFM indicates that the source of contamination in soil samples containing HFM is the HFM itself and no apparent discrete source is located on-site or off-site, except as noted below:

- Visual and olfactory evidence of petroleum impacts were noted along the western perimeter of the Site. Concentrations of polycyclic aromatic hydrocarbons (PAHs) exceeded Commercial Use Soil Cleanup Objectives (SCOs) at SB-106 and SB-112, however, a soil delineation in this area confirmed that PAH exceedances in sub-surface soil were limited to the HFM at SB-106 and SB-112. The petroleum impacts appeared to be weathered / degraded.

SVOC concentrations in groundwater only slightly exceeded Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS) and were generally only detected during the first round of sampling. Six different PAHs were detected in excess of the TOGS limits. In each case, the concentrations were a fraction of a part per billion (ppb) (maximum of 0.23 ppb and majority below 0.1 ppb) and the corresponding TOGS limit is very low (either 0.002 ppb or non-detect). There were also sporadic exceedances of phenol, hexachlorobenzene, and bis(2-ethylhexyl)phthalate. Total copper, mercury, and lead exceeded the TOGS limit in one well during the first round of sampling but the respective dissolved concentrations did not exceed the TOGS limits. Similarly, dissolved antimony exceeded the TOGS limit in one well during the first round of sampling only. Groundwater per- and polyfluoroalkyl substances (PFAS) concentrations in the northwestern and southeastern portions of the Site exceeded applicable perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) standards. The likely reason for the presence PFAS is not currently understood. However, the Site is situated hydraulically downgradient of multiple former industrial complexes that were involved in machine manufacturing, car part manufacturing, and mill construction operations since the early 1900s throughout the 1960s / 70s. Existing groundwater gradient data indicates a northwesterly groundwater flow direction.

Soil vapor samples were collected from underneath the concrete floor in the northwestern portion of the Annex, which was a 1950s addition to the building. Sample results indicate that the carbon tetrachloride impacts are limited to an approximate 500 square foot area and that mitigation is required according to the New York State Department of Health (NYSDOH) Decision Matrix A. Carbon tetrachloride was not detected in nearby soil borings or groundwater monitoring wells, indicating that the impacts are limited to soil vapor. A soil vapor extraction (SVE) system was designed and installed as an Interim Remedial Measure (IRM) to reduce or eliminate the carbon

tetrachloride impacts in soil vapor. Although there were significant reductions in sub-slab carbon tetrachloride concentrations, they did not remain below 6 µg/m³ for three consecutive sampling events, as required by the IRM Work Plan. Due to building occupancy constraints and construction timelines, the IRM was terminated, and a long-term active sub-slab depressurization (SSD) system will be installed in the Annex as part of the final Site remedy.

The following green / sustainable elements may be considered during design and implementation of the remedy:

- Utilizing a cover system to isolate the HFM. This approach significantly reduces the use of fossil fuels that would be used to excavate and haul the HFM off-site for disposal, as well as bring replacement material to the Site. This option also limits the volume of soil to be managed in a landfill.

- Clean soil and aggregate needed to construct the cover system can be sourced from local pits / quarries, thus reducing emissions for transport vehicles.

- High efficiency and appropriately sized fans for the SSD system.

Qualitative Human Health Exposure Assessment

The human health exposure assessment identified the following exposure scenarios for the Site:

- Exposed soil / HFM during construction presents a potential route of exposure to construction or remediation workers via contact, fugitive dust and surface water. Upon completion of planned construction activities, the Site will be covered by buildings, paved parking lots, as well as a graded grass cover system. The proposed structures / features will prevent direct human exposure to any materials that may be left in-place.

- A potential route of exposure includes soil vapor to human receptors via inhalation inside the Annex. This will be addressed by:
    - Installation of an active SSD system in the Annex to mitigate soil vapor intrusion.
    - Indoor air sampling in the Annex and a soil vapor intrusion investigation in the adjoining Main Building and Barn following installation of the SSD system.

- Groundwater is not considered a relevant mechanism for exposure due to the municipal water servicing the Site and requirement for an Environmental Easement that will restrict the use of groundwater. Groundwater in the City of Syracuse is prohibited from being utilized as a source of drinking water. In addition, the depth of the groundwater (6 to 13 feet below ground surface [bgs]) reasonably precludes human contact.

Fish and Wildlife Assessment

There are no ecological resources present on or in the vicinity of the Site and, consequently, no

fish and wildlife resource impacts have been identified.

Summary of the Remedy

1. A remedial program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per Division of Environmental Remediation (DER)-31. The major green remediation components are as follows:

    - Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
    - Reducing direct and indirect greenhouse gases and other emissions;
    - Increasing energy efficiency and minimizing use of non-renewable energy;
    - Conserving and efficiently managing resources and materials;
    - Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
    - Maximizing habitat value and creating habitat when possible;
    - Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
    - Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
    - Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

    As part of the remedial program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWise™ (available in the Sustainable Remediation Forum [SURF] library) or similar Department accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for

minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial program, as appropriate. The project will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial program.

Additionally, the remedial program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

2. Screening for indications of contamination (by visual means, odor, and monitoring with a photo-ionization detector [PID]) of all excavated soil during any intrusive Site work;

3. Appropriate off-Site disposal of all material removed from the Site in accordance with all Federal, State and local rules and regulations for handling, transport, and disposal;

4. Import of materials to be used for backfill and cover in compliance with: (1) chemical limits and other specifications established in 6 NYCRR 375-6.7(d), NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil for Commercial Use, and NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances and (2) all Federal, State and local rules and regulations for handling and transport of material;

5. Construction and maintenance of a site cover consisting of either clean soil or hardscape to prevent human exposure to residual contaminated soil/fill remaining under the Site;

6. Installation and operation of an active SSD system in the Annex to mitigate carbon tetrachloride impacts in soil vapor and a pre-occupancy SVI investigation of on-site buildings;

7. Recording of an Environmental Easement, including Institutional Controls, to prevent future exposure to any residual contamination remaining at the Site (the Environmental Easement Package was submitted to NYSDEC on May 29, 2025 and is currently under review);

8. Publication of a Site Management Plan for long term management of residual contamination as required by the Environmental Easement, including plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting;

9. All responsibilities associated with the Remedial Action, including permitting requirements and pretreatment requirements, will be addressed in accordance with all applicable Federal, State and local rules and regulations.

1.0 INTRODUCTION

1153 Owner LLC entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) in June 2024, to investigate and remediate a 2.65-acre property located at 1153-69 West Fayette Street in Syracuse, Onondaga County, New York. 1153 Owner LLC is a Volunteer in the Brownfield Cleanup Program (BCP). Commercial use is proposed for the property. When completed, the Site will serve as the new Syracuse Public Safety Building (PSB) for the Syracuse Police Department and Syracuse Fire Department. Refer to the BCP application for additional details.

This Alternatives Analysis Report (AAR) and Remedial Action Work Plan (RAWP) summarizes the nature and extent of contamination as determined from data gathered during the Remedial Investigation (RI), performed between November 2024 and February 2025. It provides an evaluation of a Track 1 cleanup, Track 4 cleanup, and other applicable Remedial Action alternatives, their associated costs, and the recommended and preferred remedy. The remedy described in this document is consistent with the procedures defined in Division of Environmental Remediation (DER)-10, DER-31, and complies with all applicable standards, criteria and guidance. The remedy described in this document also complies with all applicable Federal, State and local laws, regulations and requirements. The NYSDEC and New York State Department of Health (NYSDOH) have not yet determined if the Site poses a significant threat to human health and the environment. The RI for this Site did not identify fish and wildlife resources.

A formal Remedial Design document will not be prepared.

1.1 Site Location Description

The Site is located in the County of Onondaga, Syracuse, New York and is identified as Block 099, Lot 03-02.1 on the Syracuse Tax Map. A United States Geological Survey (USGS) topographical quadrangle map (**Figure 1**) shows the Site location. The Site is situated on an approximately 2.65-acre area bounded by West Fayette Street to the north, commercial stores and George Fowler High School to the south, the Lofts at 1117 BCP Site (C734160) and commercial stores to the east, and the George Fowler High School baseball diamond to the west (see **Figure 2**). A boundary map is attached to the BCA as required by Environmental Conservation Law (ECL) Title 14 Section 27-1419. The 2.65-acre property is fully described in the metes and bounds description provided in **Appendix A**. A global positioning system coordinate for the starting point is included.

1.2 Contemplated Redevelopment Plan

The Remedial Action to be performed under the RAWP is intended to make the Site protective of human health and the environment consistent with the contemplated end use. The proposed redevelopment plan and end use is described here to provide the basis for this assessment. However, the Remedial Action contemplated under this RAWP may be implemented independent of the proposed redevelopment plan.

The anticipated post remediation use of the Site would be commercial in nature. The project will consist of the rehabilitation and reuse of the adjoining buildings on the 2.65-acre parcel. Upon completion, the building will serve as the new Syracuse PSB. The goal is to construct new, modern space that will allow the Syracuse Police Department and Syracuse Fire Department to hire new employees; using this space as a recruiting tool. The redeveloped Site will be a mix of office space, training space, storage space, and public engagement areas. The project will include the replacement of all windows (similar to their historic original style), demolition / abatement activities, replacement of all mechanical, plumbing, and fire suppression systems, and updated finishes / sitework. The project will provide over 100,000 square feet of space for the Syracuse Police Department and Syracuse Fire Department along with 147 parking stalls. The majority of the finished Site will be covered with buildings, asphalt parking, concrete ramps, and sidewalks and a much smaller portion will be green space.

The redevelopment plan is shown on **Figure C-101.**

1.3 Description of Surrounding Property

The Site is located on the west side of the City of Syracuse. Harbor Brook flows through the Site within a box culvert located beneath the eastern portion of the Site. Onondaga Creek is 0.76 miles east of the Site and Onondaga Lake is 1.25 miles northwest.

Properties to the north consist of forested land, the Syracuse City School District Supply Center, and a rail line. Properties to the south consist of commercial stores and George Fowler High School. Properties to the west consist of residences and the George Fowler High School baseball diamond. Properties to the east consist of the Lofts at 1117 BCP Site (C734160) and commercial stores. Properties surrounding the Site are a mix of residential, commercial, and industrial in nature.

2.0 DESCRIPTION OF REMEDIAL INVESTIGATION FINDINGS

The Site was investigated in accordance with the scope of work presented in the NYSDEC-approved Remedial Investigation (RI) Work Plan dated November 19, 2024. The investigation was conducted between November 22, 2024 and February 19, 2025. The RI was submitted to NYSDEC on April 30, 2025 and is currently under NYSDEC review.

2.1 Summary of Remedial Investigations Performed

The RI was conducted to assess the nature and extent of contamination at the Site and consisted of the following:

- A buried utilities evaluation;
- The collection and analysis of 12 surface soil samples;
- The advancement of 24 soil borings and collection and analysis of 48 subsurface soil samples;
- The installation of seven groundwater monitoring wells and performance of two rounds of groundwater sampling;
- The collection of 18 sub-slab soil vapor, 2 crawl space air, 5 indoor air, 7 soil vapor, and 1 outdoor air samples; and
- The collection of quality assurance / quality control (QA / QC) samples.

Soil and groundwater samples were analyzed for a combination of total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), pesticides, herbicides, polychlorinated biphenyls (PCBs), metals, and per- and polyfluoroalkyl substances (PFAS). Soil vapor samples were analyzed for VOCs.

2.1.1 Buried Utilities Evaluation

On November 22, 2024, TREC Environmental Inc. (TREC) conducted a geophysical survey across the Site. The survey included the use of various specialized equipment to locate and record the locations of utilities and anomalies including the Mala Easy Locator HDR and the SPX RD 7000. The survey line spacing used was determined based on the particular unit in use at the time. The purpose of the evaluation was to identify the locations of public / private utilities, as well as to identify buried features, such as dry wells, underground storage tanks (USTs), vaults, etc. The results of the survey are provided in **Figure 3**.

2.1.2 Surface Soil Characterization

Between November 22 and December 2, 2024, surface soil samples were collected across the Site. Twelve surface soil samples were collected from six locations spatially distributed across the Site in areas not currently or proposed to be "capped" by asphalt or buildings. Surface soil samples were collected at the locations shown on **Figure 4**.

Two samples were collected from each location using a decontaminated, stainless-steel spoon or spatula; from 0 to 2 inches below the vegetative cover and from 6 to 12 inches below ground surface (bgs). All non-disposable sampling equipment was decontaminated between sample locations to avoid potential cross contamination of samples.

Surface soils were screened in the field for visible impairment (e.g. staining), olfactory indications of impairment, and / or indication of detectable VOCs with a 10.6 eV photo-ionization detector (PID). Such evidence is collectively referred to as "evidence of impairment" and the results were recorded on a soil sample log.

2.1.3 Soil Borings

Between November 25 and 26, 2024, soil borings were advanced across the Site to facilitate the sampling of historic fill material (HFM) and native material. Soil borings were positioned to ensure complete coverage of the Site. Soil boring locations are shown on **Figure 4**, which includes 17 exterior soil borings and 7 soil borings beneath the existing Annex and Barn:

- 18 of the 24 soil borings were advanced to collect analytical data from the HFM and native material across the Site. The samples collected from these borings were analyzed for a comprehensive list of contaminants, described in further detail below.

- 6 of the 24 soil borings were advanced to delineate the petroleum impacts observed in the vicinity of the former oil house and coal silo during the Phase II Environmental Site Assessment (ESA) (i.e., Spill No. 23-00933). The samples collected from these borings were analyzed for a shorter list of petroleum contaminants, described in further detail below.

Each soil boring was advanced into native material, up to 20 feet bgs. Borings were advanced to assess the full depth of HFM or other contamination of impacted soils. Exploration locations were located with a hand-held global positioning system (GPS) device or tape measured from existing Site features.

From the borings, HFM and native soil samples were collected to document Site conditions. Soil sample collection was biased towards material horizons that exhibited gross characteristics, discoloration, and / or odors / vapors.

A direct-push drilling rig was used to advance the borings. Each boring location was continuously sampled in five-foot intervals using a two-inch by five-foot stainless steel sampling tube fitted

with a disposable acetate liner. All non-disposable sampling equipment was decontaminated between runs and between drill locations to avoid potential cross contamination of samples.

Soils from the acetate liners were screened in the field for visible impairment (e.g. staining), olfactory indications of impairment, evidence of non-aqueous phase liquids (NAPLs), and / or indication of detectable VOCs over 10 parts per million (ppm) with a 10.6 eV PID. Such evidence is collectively referred to as "evidence of impairment".

Soil boring logs were prepared and include soil description, PID readings, etc. The boring logs are provided in **Appendix B**.

2.1.4 Groundwater Monitoring Wells

To characterize groundwater conditions at the Site, seven groundwater monitoring wells were installed, as shown in **Figure 4**. MW-101 through MW-107 were installed between December 2 and 6, 2024 based on the locations in the approved Remedial Investigation Work Plan (RIWP).

A rotary drill was used to advance 4-1/4-inch hollow stem augers. The augers and drilling rods were decontaminated prior to use via high pressure sprayer. Between each well location, decontamination procedures were repeated.

The overburden wells were constructed to intersect the top of the water table. Each well was completed with 10 to 15 feet of 2-inch Schedule 40 0.010-slot well screen connected to an appropriate length of schedule 40 polyvinyl chloride (PVC) well riser to complete the well. The annulus was sand packed with quartz sand to approximately two feet above the screened section, and one to two feet of bentonite chips or pellets above the sand. The remaining annulus was grouted to ground surface. Each well was completed with a flush-mount protective casing. Well construction logs are provided in **Appendix B**.

At least 24 hours following installation, the monitoring wells were developed through the removal of up to ten well volumes using a peristaltic pump to document stabilization of water quality. The effluent was monitored for pH, temperature, dissolved oxygen, conductivity, oxidation / reduction potential, and turbidity.

Seven days following development, groundwater sampling was conducted using low-low purging and sampling techniques. Before purging the well, water levels were measured using an electric water level sounder capable of measuring to the 0.01-foot accuracy. Peristaltic pumps using manufacturer-specified tubing were used for purging and sampling groundwater. Sampling protocol and equipment complied with the most current version of NYSDEC's "Groundwater Sampling for Emerging Contaminants" guidance. In addition, calibration, purging and sampling procedures were performed as specified by the United States Environmental Protection Agency

(USEPA)[1] guidance for low-flow sampling. Decontamination was conducted after each well was sampled to reduce the likelihood of cross contamination. Calibration times, purging volumes, water levels and field measurements were recorded on field logs, provided in **Appendix B**.

The first round of groundwater sampling was completed between December 12 and 13, 2024. The second round of groundwater sampling was completed between February 11 and 12, 2025.

2.1.5 Soil Vapor / Air Sampling

Soil vapor / air sampling was performed to determine if there is potential soil vapor intrusion into the Site buildings and if there is potential for soil vapor to migrate off-site. The sampling was performed consistent with the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006. Soil vapor intrusion sampling was performed in the Main Building, Barn, Annex, and throughout the Site exterior. Two co-located crawl space air and indoor air samples were collected in the Main Building (four samples total) while three co-located sub-slab soil gas and indoor air samples were collected in the Barn and Annex (six samples total). Seven samples were collected from the soil vapor implants positioned near the periphery of the Site to assess the potential for on-site or off-site migration. One outdoor air sample was collected. Soil vapor implant construction logs are provided in **Appendix B**. Soil vapor intrusion sampling locations are shown on **Figure 4**.

Based on the results of the initial soil vapor intrusion (SVI) assessment, an additional assessment was conducted using passive soil gas samplers to identify the source of carbon tetrachloride in soil vapor and delineate the extent of impacts. Fifteen additional sub-slab soil vapor samples were collected as a part of this assessment. The additional passive soil gas sampling locations are shown on **Figure 4**.

2.1.6 Samples Collected

The following samples were collected throughout the RI:

- 12 surface soil samples;
- 48 subsurface soil samples;
- 14 groundwater samples;
- 33 air samples; and
- Appropriate QA / QC samples.

[1] USEPA Low Stress (low-flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, September 19, 2017.

2.1.7 Chemical Analytical Work Performed

Table 1 provides a summary of all chemical analytical work performed during the RI.

2.1.8 Best Management Practices

Best Management Practices (BMPs) were implemented throughout the RI to best achieve the green remediation concepts described within NYSDEC DER-31. The following BMPs were identified in the RIWP for implementation:

- **Minimize Mobilizations** – All of the RI drilling activities were completed within one mobilization to avoid transporting the GeoProbe / equipment trailer to and from Site multiple times.

- **No Idling of Equipment** – All equipment (GeoProbe, cars, trucks, etc.) was shut down when not in use.

- **On-site Waste Recycling** – Soil cuttings that did not exhibit evidence of contamination were put back in place. Soil cuttings generated during monitoring well installation were stockpiled on and covered with poly sheeting and will be re-used under the anticipated cover system, if waste characterization results allow. Approximately 1.5 tons of soil cuttings were generated from the monitoring well installation.

- **Soil Stockpiles** – Soil piles were covered with tarps or plastic sheeting in a manner that allows for the reuse of the covers in the future, if required.

- **Waste Storage Containers** – Cleaned, reclaimed 55-gallon drums were used for the collection and storage of purged groundwater. Approximately 100 gallons of purge water was generated during the RI. The water will be characterized and disposed of at an off-site facility.

- **Sustainable Laboratory Practices** – C&S utilized a lab shipping service, rather than shipping samples independently to the lab. C&S submitted samples to Pace, which implements the following sustainable practices:
    - Recycles paper products and shipping materials.
    - Uses energy-efficient lighting and other equipment.
    - Maintains a paperless reporting and invoicing program.
    - Minimizes waste through use of EPA-approved microscale methods.

- **Monitoring Equipment** – Rechargeable Battery-Powered Equipment such as Community Air Monitoring Plan (CAMP) equipment (PIDs, DusTraks, Tharmis Antenna), and any other battery-operated equipment was charged at the Site to avoid additional mobilizations back to the C&S facility each day.

2.1.9 Documentation

Tables 2 through **5** include summaries of the analytical data. Sample locations are presented on **Figures 5** through **8**.

2.2 Significant Threat

A significant threat determination to human health and the environment has not yet been made. Upon determination, notice will be provided for public review.

2.3 Site History

2.3.1 Past Uses and Ownership

The Site was once occupied by residential houses, a machine shop, and a lumber shed from at least 1892. Around 1911, the Site began operating as the Kemp & Burpee Manufacturing Company, a large manufacturing facility that produced manure spreaders. These operations included a machine shop, a forge shop, and several painting shops on and near the eastern side of the Site. Between 1916 and 1946, the Site operated as the Brown-Lipe Gear Company, manufacturer of bicycle and automobile gears. Around 1920, the six-story industrial building (Main Building) with a single-story addition (Barn) that exists today was constructed on the western portion of the Site. From 1943 to 1950, the Site was taken over by the United States government during World War II to manufacture trucks and tank clutches for the United States Army. Sometime between 1938 and 1951, all industrial buildings on the Site except for the existing buildings were demolished and replaced with a parking lot. Between 1956 and 1960, a single-story addition (Annex) was added to the western side of the buildings. The eastern portion of the Site operated as a parking lot. The industrial facility operated as the Morris Distributing Company (wholesale electrical supplies) between approximately 1951 and 1988. This operation was equipped with an oil house that was located on the west side of the original structure, in an area that is now occupied by the western addition. A coal silo was also present outside the south side of the building dating to at least 1951. The coal storage structure still remains on the Site. In the 1990s, the facility housed a variety of industrial and commercial companies including Command Services (computer sales and services), Tegmen (electronic circuit manufacturer), Selco Graphics (printing), and PEACE Inc (non-profit organization). Since the early 2000s, a variety of commercial tenants have occupied the facility. The buildings are currently vacant. The past site uses are portrayed on **Figure 9**.

Table 2-1 summarizes the historical and current owners and occupants of the Site based on city directories obtained during the April 2023 Phase I ESA and a title search obtained for the BCP Application.

Table 2-1: Historical Site Owners and Occupants

Years	Owner	Occupants
Prior to 1889	Morris Run Coal Company	
1889 – 1890	Straight Line Engine Company	
1890 – 1907	Charles E. Lipe	
1907	Brown-Lipe Gear Co.	
1907 – 1916	Kemp & Burpee Manufacturing Company of Syracuse	
1916 – 1930	Brown-Lipe Gear Co.	
1941 – 1943	W.C. Lipe Inc.	
1943 – 1946	Brown-Lipe Gear Company	
1946 – 1950	United States of America	
1950	Shelmar Company Inc.	
1952	Straight Line Foundry & Machine Corporation	
1954 – 1983	Martin Development Corp (1952 – 1967) Shelmar Company Inc. (1967 – 1989)	Morris Distributing Co. Morris Electronics of Syracuse Inc.
1988		Fayette Distributing Co. Green PJ Advertising Co.
1993	Magi Group Development (1989 – 2006)	Command Services Tegmen Corporation Selco Graphics Inc. PEACE Inc.
1998		Command Services Corporation New Justice Services PEACE Inc.
2003		Ikon Office Solutions Inc. Local Service Employees International MBM of Syracuse New Justice SVC PEACE Inc.
2008	Middle Neck Road LLC (2006 – 2013)	Big Brothers Big Sisters Head Start Program MBM of Syracuse Mopro Mobility & Health Products New Justice SVC Service Employees International Union Syracuse City School District Syracuse Teacher Center

Years	Owner	Occupants
2011		Big Brothers Big Sisters Command Services Corp Head Start Program MBM of Syracuse Mopro Mobility & Health Products New Justice SVC PEACE Inc. Service Employees International Union Syracuse Soapworks LLC Syracuse Teacher Center
2014	F&P Construction & Management LLC	
2016	John Noviasky and Cosmo Fanizzi III (2014 – 2021)	Environmental Solutions MBM Business Systems Inc. Mopro Mobility & Health Products New Justice SVC PEACE Inc. Stacey White Solutions Syracuse Soapworks LLC Syracuse Teacher Center
2020		Environmental Solutions Knitty Gritty Yarns MBM Business Systems Inc. Mopro Mobility & Health Products New Justice SVC PEACE Inc. Stacey White Solutions Syracuse City School District Syracuse Soapworks LLC Syracuse Teacher Center
2022	The Cosmopolitan 1153, LLC (2021-2023)	Big Awesome BBQ Environmental Solutions Knitty Gritty Yarns MBM Business Systems Inc. Mopro Mobility Healthcare New Justice SVC PEACE Inc. Stacey White Solutions Syracuse City School District Syracuse Soapworks LLC
2023 – Present	Owner 1153 LLC	Vacant

The Volunteer purchased the Site in June 2023.

2.3.2 Phase I and Phase II Reports

A Phase I ESA was conducted by C&S Engineers, Inc. (C&S) in April 2023. The Phase I ESA revealed the following Recognized Environmental Conditions (RECs) associated with the Site:

- Former manufacturing operations (including machine shop operation related to manure spreader manufacturing and electronics manufacturing); presence of an oil house near the southwest side of the building on historic maps from 1951 and 1953; rail spurs and rail activity across southern portion of the Site; and generation of hazardous waste between 1986 and 1994.

- Site reconnaissance identified two very large boilers on the south side of the barn. The boilers are not currently operational but used to run off coal which was potentially stored in the outdoor silo. Large-scale storage of coal and/or the on-site disposal of coal ash, which was historically a common practice at coal-burning facilities, could have contaminated the soil and groundwater on the Site.

- Multiple adjacent and adjoining sites:
    - 220 South Geddes Street – Former drycleaner
    - 1117 West Fayette Street – Former manufacturing facility
    - 1171 West Fayette Street – Former rail line round house
    - 200 South Geddes Street – Former and current manufacturing facility
    - 208 South Geddes Street – Former manufacturing facility and machine shop
    - 216 – 218 South Geddes Street – Former engine manufacturing facility
    - 300 South Geddes Street – Former manufacturing facility
    - 201, 209, 301 South Geddes Street – Former and current gasoline stations, auto repair shops, and auto sales shops

A Phase II ESA was conducted by C&S in June 2023 to obtain an overview of the environmental and subsurface conditions and resolve possible issues identified in the Phase I ESA. The investigation was performed consistent with American Society for Testing and Materials (ASTM) E1903-19 *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process*. It was not the intent of the investigation to delineate potential impacts from historical Site uses. Soil samples were distributed vertically and horizontally to gather a broad level of information from across the Site. The investigation included the following:

- A subsurface investigation, which included the advancement of eight soil borings and installation of three temporary groundwater monitoring wells.

- The collection of five subsurface soil samples for the analysis of Part 375 VOCs, Part 375 SVOCs, and total metals (including mercury, hexavalent chromium, and total cyanide).

- The collection of three groundwater samples for the analysis of Target Compound List (TCL) VOCs, TCL SVOCs, and Target Analyte List (TAL) metals (including mercury).

The principal contaminants at the Site are VOCs, SVOCs (primarily polycyclic aromatic hydrocarbons [PAHs]), and metals, as follows:

- Visual and olfactory evidence of petroleum impacts were observed at two soil borings (in proximity to the coal silo and former oil house). Based on these observations, a spill was reported to New York State Department of Environmental Conservation (NYSDEC) (Spill No. 23-00933). Numerous VOCs including many benzene derivatives, xylenes, and toluene were detected in four of the five soil samples, however, they did not exceed their respective Unrestricted Use or Commercial Use Soil Cleanup Objectives (SCOs). While VOCs were not detected in the groundwater sample collected from this area, many of the analyte detection limits exceeded their respective groundwater standard. These elevated detection limits may be due to matrix interferences resulting from the presence of other, non-target petroleum constituents related to degraded petroleum products in this area.

- Numerous SVOCs were detected at concentrations greater than laboratory detection limits in soil across the Site. SVOC concentrations in one of the five soil samples exceeded Unrestricted and Commercial Use SCOs (in close proximity to the former oil house). These compounds are typically associated with petroleum products (diesel, fuel oil, waste/motor oil), coal, and burned organic material (i.e., wood). The presence of historic fill material (HFM) encountered across the entire investigation area may be contributing to the presence of these SVOCs. Groundwater analytical results indicated the presence of numerous SVOCs across the Site, with concentrations exceeding New York Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS). These concentrations may be a result of elevated turbidity.

- Numerous heavy metals were detected at concentrations greater than Unrestricted Use SCOs in soil across the Site. Arsenic concentrations exceeded Commercial Use SCOs. The presence of HFM encountered across the entire investigation area may be contributing to the presence of these metals. Groundwater analytical results indicated the presence of numerous heavy metals across the Site, with concentrations exceeding TOGS 1.1.1 AWQS. These concentrations may be a result of elevated turbidity.

2.3.3 Sanborn Maps

All Sanborn Maps available for this Site were reviewed prior to preparation of the RAWP. The Sanborn Maps are provided in **Appendix C. Table 2-2** provides a summary of the Sanborn Map review.

Table 2-2: Sanborn Map Review

Year	Site Observations
1892	Harbor Brook is depicted running north / south through the center of the Site. There is one single-story structure west of Harbor Brook and three single-story structures on the east side of Harbor Brook, two of which are residences. There is a three-story wood working, machine, and paint shop and two-story lumber shed on the eastern edge of the Site.
1911	The Site has been redeveloped. The Kemp & Burpee Manufacturing Co. (manure spreader manufacturers) has been constructed on the entirety of the Site. The facility consists of two three-story structures and multiple lumber piles. A rail line runs through the southern portion of the Site. Harbor brook is no longer depicted.
1951	The Kemp & Burpee Manufacturing buildings have been demolished and replaced with a parking lot. A two-story warehouse building attached to a six-story factory building has been constructed on the western side of the Site. The building is owned by Morris Distributing Co. There is an oil house that located on the west side of the building. A coal silo is also present outside the south side of the building.
1953	The Site appears generally unchanged.
1962	Single-story expansions have been added to the east and west side of the Morris Distributing Co. warehouse. The oil house on the west side of the building has been demolished for the western addition.
1967	The Site appears generally unchanged.
1971	The Site appears generally unchanged.
1990	The warehouse and factory building remain on the parcel but Morris Distributing Co. is no longer depicted.

2.4 Geologic and Hydrogeologic Conditions

2.4.1 Geology

The Site contains HFM with observed thickness of approximately seven to 14 feet bgs. The observed HFM is shallowest on the west and south sides of the Site and deepest in the center and the northeast corner of the Site. Per 6 New York Codes, Rules, and Regulations (NYCRR) Part 375, HFM is defined as: *non-indigenous or non-native material, historically deposited or disposed in the general area of, or on, a site to create useable land by filling water bodies, wetlands or topographic depressions, which is in no way connected with the subsequent operations at the location of the emplacement, and which was contaminated prior to emplacement*. The HFM contains brick, coal, cinder, ash, wood, and slag. Native soil is located below the HFM and consists of dark brown fine to coarse sand and silty clay.

The locations and depths of HFM at the Site are shown on **Figure 10**. Geologic cross sections are shown in **Appendix D**.

2.4.2 Hydrogeology

During the RI, groundwater was encountered between 5.5 and 13 feet bgs at seven permanent groundwater monitoring wells. The Site is located at approximately 398 feet above mean sea level (AMSL) and slopes slightly toward the southwest. Harbor Brook flows through the Site within a box culvert located beneath the eastern portion of the Site. Onondaga Creek is 0.76 miles east of the Site and Onondaga Lake is 1.25 miles northwest.

The City of Syracuse is served by a municipal water supply. Water processed in the Onondaga County Water Authority (OCWA) potable water plants for the City of Syracuse undergoes varying levels of treatment to ensure that drinking water meets NYSDEC and USEPA standards. Groundwater in the City of Syracuse is prohibited from being used for public drinking water supply.

Table 2-3 presents water level measurements and groundwater flow maps are shown in **Figure 11a** and **Figure 11b**. Groundwater contours were generally the same across the two sampling events and indicate a generally northwesterly flow direction. On average, the groundwater table was approximately 0.64 feet higher in December as compared to February, due to February being a drier month than December. The average groundwater gradient was 0.012 feet per feet in December and 0.013 feet per feet in February.

Table 2-3: Groundwater Elevations

Well No.	Ground Elevation (ft AMSL)	Depth (ft BGS)	Elevation (ft AMSL)	Depth (ft BGS)	Elevation (ft AMSL)
Date	**--**	***December 12, 2024***		***February 11, 2025***	
MW-101	391.02	9.64	381.38	10.38	380.64
MW-102	388.91	5.70	383.21	6.11	382.80
MW-103	392.82	11.01	381.81	11.79	381.03
MW-104	392.38	8.19	384.19	8.80	383.58
MW-105	392.91	7.46	385.45	8.27	384.64
MW-106	392.49	12.17	380.32	12.53	379.96
MW-107	392.72	7.16	385.56	7.96	384.76

Notes:

- Level run survey performed by C&S on December 12, 2024 using a benchmark present at the Site. The benchmark was located on National Grid Pole 47 and was at an elevation of 394.81 ft AMSL.
- Elevations tied to North American Vertical Datum (NAVD) 88.
- All units in feet.
- BGS – Below ground surface
- AMSL – Above mean sea level

2.5 Contamination Conditions

2.5.1 Conceptual Model of Site Contamination

The Site, located on the west side of the City of Syracuse, is a former industrial property historically used for the manufacturing of manure spreaders, bicycle and automobile gears, trucks, and tank clutches. In more recent years, the Site was used as mixed office space, storage space, and commercial space. The buildings are currently vacant and undergoing renovations as the Site is redeveloped for use as the new Syracuse PSB.

2.5.1.1 Extent and Source of Contamination

Soil contamination is primarily limited to the HFM located across the Site. The HFM is located immediately below existing surfaces and is underlain by native soils. The Site contains HFM with observed thickness of seven to 14 feet bgs. The observed HFM is shallowest on the west and south sides of the Site and deepest in the center and the northeast corner of the Site. SVOC contamination is most prominent along the western perimeter of the Site. It is believed that the contaminant sources are related to the historical urban and commercial uses of the property, historical coal handling practices in the vicinity of the coal silo and former rail spur, and the unregulated deposition of HFM that occurred over time.

Groundwater is located across the Site at approximately 5.5 to 13 feet bgs. The groundwater across the Site contains various SVOCs (PAHs) at relatively low concentrations, but above corresponding groundwater standards and guidance values. Based on the data gathered during the RI, it appears that SVOCs in the groundwater are related to the presence of HFM across the Site. Low-level PFAS contaminated groundwater is located on the northwestern and southeastern portion of the Site. The likely reason for the presence of PFAS is not currently understood. Existing groundwater gradient data indicates a northwesterly flow direction. The groundwater gradient at the Site is moderate, averaging 0.0125 feet per foot.

Carbon tetrachloride contaminated soil vapor is present in the northwestern portion of the Annex. The impacted area is limited to approximately 500 square feet. Carbon tetrachloride was not identified in nearby sub-surface soil or groundwater.

2.5.1.2 Contaminant Fate and Transport

The PAHs detected in soil and groundwater are characterized by low water solubilities and, therefore, have a tendency to adsorb onto soil particles. Because of their low vapor pressures, compounds with five or more aromatic rings, which include a majority of the detected PAHs, will exist mainly adsorbed to airborne particulate matter, such as fly ash and soot. Those with four or fewer rings, such as benzo(a)anthracene, may occur both in the vapor phase and adsorbed to particles. The detected compounds have relatively low vapor pressures and are expected to remain in a solid or liquid state and undergo degradation via naturally occurring attenuation processes (i.e., microbial degradation). Due to the low solubility, these contaminants are not

expected to significantly impact groundwater quality or migrate substantially into the subsurface. This is supported by the low concentrations of these compounds in the on-site groundwater.

Metals, such antimony, arsenic, copper, lead, and mercury, are non-biodegradable pollutants that are generally transported through anthropogenic activities. In contaminated soils, they tend to persist for many years in the surface layers of soil. In aquatic systems, metals may become blocked as sinks in bottom sediments, where they may remain for many years. Metals can be remobilized in water if the pH falls increasing heavy metal solubility increases. Due to the low solubility, these contaminants are not expected to impact groundwater quality or migrate substantially into the subsurface. This is supported by the anomalous exceedances of these compounds in the on-site groundwater and the lack of these dissolved phase compounds in the on-site groundwater. Other metals were present in the groundwater that did exceed groundwater guidance values; these include naturally occurring metals such as iron, magnesium, manganese, and sodium. The metals detected at concentrations above the groundwater standards and guidance values appear to be representative of local groundwater quality. Metals do not readily break down and will persist in the environment.

PFAS includes a large group of compounds that vary in molecular weight, structures, and functional groups. They typically repel oil and water, resist extreme temperatures, and reduce friction. Most PFAS detected in the environment, including perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA), have a hydrophobic and lipophobic tail while the head is polar and hydrophilic. As a result, these compounds are relatively mobile in groundwater while also associating with the organic carbon fraction in soil or sediment. PFAS transport processes include advection, dispersion, diffusion, atmospheric deposition, and leaching. Many PFAS form films at the air-water interface which influences aerosol-based transport, deposition, vadose zone transport, and aqueous phase transport. At high concentrations, some PFAS can form micelles which could enhance or reduce adsorption in the environment. Most PFAS are resistant to biotic and abiotic degradation. PFOS and PFOA were detected in groundwater at concentrations that exceed applicable standards along the western portion of the Site. PFOS and PFOA are mobile, persistent, bioaccumulate, and are not known to degrade in the environment.

Carbon tetrachloride is present in sub-slab vapor and indoor air in a limited portion of the Annex. Carbon tetrachloride is not strongly sorbed to soil and can readily transport through soil into saturated zones. Due to its chemical properties, a portion of the carbon tetrachloride will dissolve in water, while the rest will continue to move downward through the water column until a low permeability layer is encountered. In the case of a long-term / continuous source, such as a continual release from a buried tank or piping system, carbon tetrachloride is likely to continue downward until it is restricted by a confining layer where it will accumulate to a measurable thickness (dense non-aqueous phase liquid [DNAPL]). The review of historical documentation and generation of analytical data from the RI does not support the likelihood of DNAPL within the groundwater underlying the Site. As discussed in previous sections, carbon tetrachloride was not detected in nearby sub-surface soil or groundwater. The presence of carbon tetrachloride in soil vapor may be associated with an isolated release / spill that occurred in the general vicinity of PSG-104.

2.5.1.3 Potential Receptors

The Site is located in a dense urban portion of the City of Syracuse that is utilized for a mix of industrial, commercial, and residential purposes. The Site and surrounding area is serviced by the municipal water supply system from OCWA. Groundwater is prohibited from being utilized for drinking water in the City of Syracuse. Local groundwater is not potable due to elevated concentrations of dissolved inorganics (salts, aluminum, iron, etc.).

The Site is developed with a 92,113 square foot six-story building (Main Building) with an adjoining 11,060 square foot single-story building (Barn and Annex), constructed in 1920. The Site is approximately 2.65 acres and includes the adjoining buildings, a large parking lot to the east, a small parking lot to the west, and limited green space along the western and southern boundaries. The buildings are currently vacant. The Main Building is in good condition and is constructed with a crawl space foundation. The crawl space is a non-habitable space. The Annex and Barn are in deteriorating condition and are constructed with separate slab-on-grade foundations. There are no basements in any of the buildings. The foundations of each building are depicted in **Figure 2**. Redevelopment of the industrial building into a commercial complex is ongoing. Access to the Site is currently restricted by perimeter fencing along the Site boundaries. However, access to trespassers is possible if they should climb the fence.

Under current conditions, potential human receptors include persons trespassing on the Site; persons living and working in the area surrounding the Site; and persons involved in utility and sitework on and adjacent to the Site. In addition, potential environmental receptors include wildlife living on and migrating through the Site (e.g., rodents, birds, etc.).

The planned future use of the Site is for a commercial development. The redevelopment of the Site will need to be controlled through the implementation of engineering and institutional controls due to Track 4 Commercial cleanup.

2.5.1.4 Potential Exposure Pathways

Under the current use, persons living and working in the vicinity of the Site and / or persons trespassing on the Site could be exposed to SVOCs and metals in the surface soil via inhalation of airborne particles, incidental ingestion of, or dermal contact with the contaminated media. However, there is very limited exposed surface soil on the Site as majority of the Site is covered by an asphalt parking lot. During excavation of the contaminated soil / HFM in connection with site redevelopment activities, environmental receptors, construction workers, site visitors and persons living, working and traveling through the project site could be exposed to SVOCs and metals in the subsurface soil / HFM. Potential exposure routes for these receptors include inhalation of contaminated dust and incidental ingestion of and / or dermal contact with the contaminated soil / HFM. However, the use of appropriate personal protective equipment, dust suppression techniques and personal / air monitoring, and the development of a Health and Safety Plan would minimize the risk of exposure during this stage of the project. Under current conditions an exposure pathway exists, however, this could be mitigated through engineering

controls (i.e., site cover system) and institutional controls (i.e., Site Management Plan, Deed Restrictions) under the post-remediation scenario.

Groundwater is not considered a relevant mechanism for exposure due to the municipal water servicing the Site and requirement for an Environmental Easement that will restrict the use of groundwater. In addition, groundwater in the City of Syracuse is prohibited from being used for public drinking water supply. Local groundwater is not potable due to elevated concentrations of dissolved inorganics (salts, aluminum, iron, etc.).

Soil vapor under the slab and in the indoor air of the northwestern portion of the Annex was identified to have carbon tetrachloride impacts. The observed concentrations require mitigation per NYSDOH. As such, the vapor intrusion pathway is relevant under current conditions and will be addressed through the installation of an active sub-slab depressurization (SSD) system for long-term mitigation.

2.5.2 Description of Areas of Concern

Three areas of concern have been identified at the Site and are summarized below:

1. Site-wide Historic Fill Material
    - Contaminant concentrations in surface and sub-surface soil exceeding the Commercial Use SCOs were generally associated with HFM at the Site. Constituents in the HFM at concentrations that exceed the Commercial Use SCOs include SVOCs and metals.

2. Single-Story Building Carbon Tetrachloride
    - Carbon tetrachloride impacts were identified in sub-slab soil vapor in the northwestern portion of the Annex. The impacts are limited to an approximate 500 square foot area and are limited to soil vapor (carbon tetrachloride was not detected in nearby soil boring or groundwater monitoring wells). An interim remedial measure (IRM) was implemented in this area to address soil vapor impacts. Although there were significant reductions in sub-slab carbon tetrachloride concentrations, they did not remain below 6 µg/m^3 for three consecutive sampling events, as required by the IRM Work Plan. Due to building occupancy constraints and construction timelines, the IRM was terminated, and a long-term active sub-slab depressurization (SSD) system will be installed in the Annex as part of the final Site remedy.

3. Former Petroleum Storage Area
    - Weathered sub-surface petroleum contamination was observed along the western Site perimeter in the vicinity of the former coal silo and oil house. A former UST was also discovered in this area during demolition of the former loading dock and coal silo. This area of concern is being managed under an IRM.

2.5.3 Identification of Standards, Criteria and Guidance

The following Standards, Criteria, and Guidance (SCG) are applicable to the Site.:

- New York Codes, Rules, and regulations, Title 6 (6 NYCRR), Chapter IV, Subpart 375-6: *Remedial Program Soil Cleanup Objectives*, and *DEC CP-51 Soil Cleanup Guidance*, issued October 21, 2010.
- Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs.
- NYSDEC Technical and Operational Guidance Series (TOGS), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998.
- 6 NYCRR Part 703, Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations.
- NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006.
- NYSDEC 6 NYCRR Part 371, Identification and Listing of Hazardous Wastes.
- NYSDEC DER-10, Technical Guidance for Site Investigation and Remediation, May 2010.
- NYSDEC DER-31, Green Remediation, January 20, 2011

2.5.4 Soil / Fill Contamination

During the RI, 12 surface soil samples and 48 sub-surface soil samples were collected across the Site. The sub-surface soil samples represented both the HFM and underlying native soil regimes. The following sections summarize the analytical data generated and provide a comparison to relevant standards, criteria, and guidelines (SCGs).

2.5.4.1 Summary of Soil / Fill Data

Table 2-4 summarizes the contaminants identified in surface soil, sub-surface HFM, and sub-surface native soil along with the range of concentrations observed.

Table 2-4: Summary of Contaminants in Soil / Fill

Analyte	Unrestricted Use SCO (ppm)	Commercial Use SCO (ppm)	Range of Exceedances (ppm)		
			Surface Soil	***Sub-Surface HFM***	***Sub-Surface Native Soil***
2-Butanone	0.12	500	--	0.19	--
Acetone	0.05	500	4.1	0.77	0.063 – 0.31
¾-Methylphenol	0.33	500	0.33 – 1.2	--	--
Benzo(a)anthracene	1	5.6	1.1 – 99	1.4 – 27	1.1
Benzo(a)pyrene	1	1	1.2 – 75	1.1 – 24	--
Benzo(b)fluoranthene	1	5.6	1.2 – 100	1.3 – 31	1.3
Benzo(k)fluoranthene	0.8	56	1.6 – 38	1.6 – 4.2	--

Analyte	Unrestricted Use SCO (ppm)	Commercial Use SCO (ppm)	Range of Exceedances (ppm)		
			Surface Soil	***Sub-Surface HFM***	***Sub-Surface Native Soil***
Chrysene	1	56	1.3 – 100	1.1 – 26	1.1
Dibenzo(a,h)anthracene	0.33	0.56	1.4 – 7.6	0.52 – 3.3	0.65
Dibenzofuran	7	350	8.9	--	--
Fluoranthene	100	500	140 – 190	--	--
Indeno(1,2,3-cd)pyrene	0.5	5.6	0.56 – 30	0.53 – 14	0.62 – 1.6
Naphthalene	12	500	12	--	--
Phenanthrene	100	500	160	--	--
Phenol	0.33	500	0.34	--	--
Pyrene	100	500	150	--	--
Total PCBs	0.1	1	0.139 – 0.713	0.112 – 0.303	0.161
4,4'-DDT	0.0033	47	0.00749 – 0.0325	0.00422	--
Arsenic	13	16	13.5 – 34.3	13.9 – 75.2	19.5 – 27.7
Barium	350	400	372	367	--
Cadmium	2.5	9.3	--	5.17	--
Copper	50	270	58.7 – 688	52.3 – 302	53.1 – 308
Lead	63	1000	67.5 – 860	70 – 2630	91.1 – 1500
Mercury	0.18	2.8	0.194 – 1.73	0.408 – 15.7	0.585 – 3.67
Nickel	30	310	34 – 34.9	32.8 – 55.2	30.1 – 64.6
Selenium	3.9	1500	4.81	--	4.44 – 9.31
Zinc	109	10000	116 – 799	117 – 450	149 – 173
PFOS	0.88	440	1.41 – 2.53	--	--

1. PFAS guidance values and concentrations are displayed in parts per billion (ppb).
2. "--" indicates that there were no exceedances of the respective analyte in the medium.

2.5.4.2 Comparison of Soil/Fill with SCGs

Based on the information presented in **Table 2-4**, contamination in soil / fill consists primarily of SVOCs and metals and is generally associated with HFM at the Site. Contaminant concentrations are generally higher in surface soils and sub-surface HFM in comparison to the concentrations observed in sub-surface native soil. Concentrations of two PAHs marginally exceeded Commercial Use SCOs in native soil whereas several PAHs significantly exceeded Commercial Use SCOs in surface soil and HFM. Concentrations of several metals exceeded Commercial Use SCOs in surface soil, HFM, and native soil, however, concentrations are generally highest in the surface soil / HFM rather than the native soil.

HFM is located across the Site, immediately below existing surfaces. Generally, the HFM thickness is eight to ten feet bgs. However, the HFM in the center and the northeast corner of the Site is as deep as 13 feet bgs. The variation in analyte concentrations in the soils across the Site that contain HFM indicates that the source of contamination in these soil samples is the HFM material itself and no apparent discrete source is located on-site or off-site. It is believed that the contaminant sources are related to the historical urban and commercial uses of the property, historical coal handling practices in the vicinity of the coal silo and former rail spur, and the unregulated deposition of HFM that occurred over time prior to the BCP Volunteer owning the Site. HFM

contamination appears to be most prominent along the western perimeter of the Site, in the vicinity of the former oil house, coal silo, and rail spurs.

Table 2 and **Table 3** show exceedances of Track 1 Unrestricted Use SCOs and Track 4 Commercial Use SCOs for surface soil and sub-surface soil at the Site, respectively. **Figure 5, Figure 6a,** and **Figure 6b** are spider maps that shows the location and summarizes exceedances of Track 4 Commercial Use SCOs for surface soil and sub-surface soil, respectively.

2.5.5 On-Site and Off-Site Groundwater Contamination

During the RI, 14 groundwater samples were collected across the Site over two sampling events. The following sections summarize the analytical data generated and provide a comparison to relevant SCGs.

2.5.5.1 Summary of Groundwater Data

Table 2-5 summarizes the contaminants identified in groundwater along with the range of concentrations observed.

Table 2-5: Summary of Contaminants in Groundwater

Analyte	TOGS 1.1.1 AWQS (ppb)	Range of Exceedances (ppb)	
		December 2024	***February 2025***
Bis(2-ethylhexyl)phthalate	5	--	8.6 – 22
Phenol	1	1.8	--
Benzo(a)anthracene	0.002	0.05 – 0.19	--
Benzo(a)pyrene	0	0.04 – 0.14	--
Benzo(b)fluoranthene	0.002	0.03 – 0.23	--
Benzo(k)fluoranthene	0.002	0.06 – 0.21	--
Chrysene	0.002	0.05 – 0.2	--
Hexachlorobenzene	0.04	0.07	--
Indeno(1,2,3-cd)pyrene	0.002	0.06 – 0.22	--
Antimony, Dissolved	3	4.51	--
Copper, Total	200	215.1	--
Iron, Total	300	2160 – 61200	321 – 31600
Iron, Dissolved	300	2690 – 8870	887 – 7040
Lead, Total	25	353.2	--
Magnesium, Total	35000	39500 – 79600	50500 – 78400
Magnesium, Dissolved	35000	43100 – 77300	47400 – 71500
Manganese, Total	300	307.6 – 1460	362.9 – 1283
Manganese, Dissolved	300	304 – 800.8	363 – 1200
Mercury, Total	0.7	0.75	--
Sodium, Total	20000	89600 – 2640000	95200 – 966000
Sodium, Dissolved	20000	91400 - 2560000	98200 – 1040000
PFOS	2.7	3.3	3.66

Analyte	TOGS 1.1.1 AWQS (ppb)	Range of Exceedances (ppb)	
		December 2024	***February 2025***
PFOA	6.7	7.78	6.9

1. PFAS guidance values and concentrations are displayed in parts per trillion (ppt).
2. "--" indicates that there were no exceedances of the respective analyte during the sampling event.

2.5.5.2 Comparison of Groundwater with SCGs

Based on the information presented in **Table 2-5**, low-level PAH groundwater contamination exists across the Site. Six different PAHs were detected in excess of the TOGS limits during the first round of sampling but not during the second round of sampling. In each case, the concentrations were a fraction of a ppb (maximum of 0.23 ppb and majority below 0.1 ppb) and the corresponding TOGS limit is very low (either 0.002 or non-detect). There were also sporadic exceedances of phenol, hexachlorobenzene, and bis(2-ethylhexyl)phthalate.

Total copper, mercury, and lead exceeded the TOGS limit in MW-105 during the first round of sampling only but the respective dissolved concentrations did not exceed the TOGS limits. Dissolved antimony exceeded the TOGS limit in one well during the first round of sampling only. Exceedances of iron, magnesium, manganese, and sodium are typically related to "hard water." These metals are naturally occurring and in this setting are likely unrelated to site activities.

During the first round of sampling, the concentration of PFOS was 3.3 parts-per-trillion (ppt) in MW-101 (exceeding the standard of 2.7 ppt) and the concentration of PFOA was 7.78 ppt in MW-107 (exceeding the standard of 6.7 ppt). During the second round of sampling, the concentration of PFOS was 3.66 ppt at MW-101 and the concentration of PFOA was 6.9 ppt at MW-107. MW-101 is located in the northwest corner of the Site and MW-107 is located in the southeast corner of the Site. The likely reason for the presence PFAS is not currently understood. However, the Site is situated hydraulically downgradient of multiple former industrial complexes that were involved in machine manufacturing, car part manufacturing, and mill construction operations since the early 1900s throughout the 1960s / 70s. Existing groundwater gradient data indicates a northwesterly groundwater flow direction.

Groundwater is not considered a relevant mechanism for exposure due to the municipal water servicing the Site and requirement for an Environmental Easement that will restrict the use of groundwater. In addition, groundwater in the City of Syracuse is prohibited from being used for public drinking water supply. Local groundwater is not potable due to elevated concentrations of dissolved inorganics (salts, aluminum, iron, etc.).

A table that indicates exceedances of Class GA AWQS in monitoring wells prior to the remedy is shown in **Table 4**. A spider map that indicates the locations of and summarizes exceedances of AWQS prior to the remedy is shown in **Figure 7**.

2.5.6 On-Site and Off-Site Soil Vapor Contamination

During the RI, three sub-slab soil vapor samples, two crawl space air samples, five indoor air

samples, seven soil vapor samples, and one outdoor air sample were collected. Based on the results of the initial SVI assessment, an additional assessment was conducted using passive soil gas samplers to identify the source of carbon tetrachloride in soil vapor and delineate the extent of impacts. Fifteen additional sub-slab soil vapor samples were collected as a part of this assessment. The following sections summarize the analytical data generated and provide a comparison to relevant SCGs.

2.5.6.1 Summary of Soil Vapor Data

Table 2-6 summarizes the contaminants identified in soil and sub-slab vapor along with the range of concentrations observed.

Table 2-6: Summary of Contaminants in Soil and Sub-Slab Vapor

Analyte	Result of NYSDOH Decision Matrix	Range of Exceedances (µg/m^3)		
		Sub-Slab / Crawl Space	Indoor Air	Exterior Soil Vapor
Carbon Tetrachloride	Mitigate	0.365 – 2230	0.409 – 0.472	0.226 – 0.321
1,1-Dichloroethene	No further action	ND	ND	ND
Cis-1,2-Dichloroethene	No further action	ND	ND	ND
Trichloroethene	No further action	ND – 0.828	ND	ND
Methylene Chloride	No further action	ND	ND	ND
Tetrachloroethene	No further action	ND – 14	ND – 7.46	ND – 4.29
1,1,1-Trichloroethane	No further action	ND	ND	ND
Vinyl Chloride	No further action	ND	ND	0.184 – 0.268
Benzene	No further action	ND – 25.3	ND	1.27 – 1.92
Ethylbenzene	No further action	ND – 1.3	ND	0.912 – 1.14
Cyclohexane	No further action	ND – 157	ND	1.16 – 1.85
2,2,4-Trimethylpentane	No further action	ND	ND – 0.99	3.24 – 4.61
1,2,4-Trimethylbenzene	No further action	ND	ND	ND – 1.2
1,3,5-Trimethylbenzene	No further action	ND	ND	ND
o-Xylene	No further action	ND – 1.27	ND	1.22 – 1.49
p/m-Xylene	No further action	ND – 4.52	ND	3 – 3.89
Heptane	No further action	ND – 240	ND	1.26 – 2.08
Hexane	No further action	2.79 – 835	ND – 0.708	2.88 – 5.92
Toluene	No further action	1.22 – 8.89	1.32 – 4.26	5.62 – 9.04

1. ND indicates the analyte was not detected above laboratory detection limits in the respective air medium.

2.5.6.2 Comparison of Soil Vapor with SCGs

According to NYSDOH Decision Matrix A, carbon tetrachloride in the vicinity of SSV-103 requires mitigation. The results of the initial and additional SVI assessment indicated that concentrations of carbon tetrachloride in sub-slab vapor in this area ranged from 82.6 to 2230 µg/m^3, with the highest concentration occurring at PSG-104. The accompanying indoor air sample from this area had a carbon tetrachloride concentration of 0.472 µg/m^3, which was comparable to other indoor

air locations and the ambient air sample. The impacts appear to be limited to an approximate 500 square foot area.

Carbon tetrachloride was not identified in nearby sub-surface soil or groundwater. SB-105 was advanced approximately four feet southwest of PSG-104 and carbon tetrachloride was not detected in the HFM or native soil sample. This indicates that the impacts are limited to soil vapor. A table of the initial and additional soil vapor data collected prior to the remedy is shown in **Table 6** and **Table 7**, respectively. A spider map that indicates the locations of and summarizes soil vapor data prior to the remedy is shown in **Figure 8a** and **Figure 8b**.

2.6 Environmental and Public Health Assessments

2.6.1 Qualitative Human Health Exposure Assessment

The human health exposure assessment identified the following exposure scenarios for the Site:

- Exposed soil / HFM during construction presents a potential route of exposure to construction or remediation workers via contact, fugitive dust and surface water. Upon completion of planned construction activities, the Site will be covered by buildings, paved parking lots, as well as a graded grass cover system. The proposed structures / features will prevent direct human exposure to any materials that may be left in-place.

- A potential route of exposure includes soil vapor to human receptors via inhalation inside the Annex. This will be addressed by:
    - Installation of an active SSD system in the Annex to mitigate soil vapor intrusion.
    - Indoor air sampling in the Annex and a soil vapor intrusion investigation in the adjoining Main Building and Barn following installation of the SSD system.

- Groundwater is not considered a relevant mechanism for exposure due to the municipal water servicing the Site and requirement for an Environmental Easement that will restrict the use of groundwater. Groundwater in the City of Syracuse is prohibited from being utilized as a source of drinking water. In addition, the depth of the groundwater (6 to 13 feet bgs) reasonably precludes human contact.

2.6.2 Fish & Wildlife Remedial Impact Analysis

Based upon the information presented in the RI Report, there are no ecological resources present on or in the vicinity of the Site and, consequently, no fish and wildlife resource impacts have been identified.

2.7 Interim Remedial Action

2.7.1 Single-Story Building Carbon Tetrachloride

During the RI, carbon tetrachloride impacts in soil vapor were identified in the northwest portion of the Annex, within an approximate 500-square-foot area. The indoor air in this area contained carbon tetrachloride concentrations similar to other indoor air locations and the ambient air. Furthermore, carbon tetrachloride was not identified in nearby sub-surface soil or groundwater, indicating that impacts were limited to soil vapor.

To address these impacts, an IRM was proposed to NYSDEC consisting of the installation and operation of a soil vapor extraction (SVE) system. The system design and installation activities were outlined in an IRM Work Plan submitted to NYSDEC and NYSDOH on May 16, 2025, and subsequently approved on July 10, 2025.

The SVE system was installed between July 10 and 11, 2025, and was designed to remediate soil vapor impacts beneath the northwestern portion of the Annex. The system included two sub-slab extraction wells, installed to 8 feet bgs and screened from 3 to 8 feet bgs (above the groundwater table). Each well was designed based on an approximate 15-foot radius of influence, overlapping to provide full coverage of the impacted area. The system was sized for three pore volume exchanges per day and operated by a 1-horsepower regenerative blower mounted inside the building. The wells were connected via a PVC manifold equipped with ball valves, vacuum gauges, and sampling ports to allow for operational monitoring. Extracted vapors were routed through PVC piping and discharged above the roofline at a location protective of building openings. The SVE system was constructed in general conformance with the design documents provided in the IRM Work Plan**.**

Following installation, pressure field extension (PFE) testing confirmed adequate vacuum beneath the slab and achievement of the design radius of influence. System monitoring was conducted hourly on the first day of operation and once on the second day to verify that key parameters (PID readings, airflow, and vacuum) remained steady. The SVE system startup results are presented in **Appendix E**.

In accordance with the IRM Work Plan, vacuum readings at each SVE well were recorded daily and full system monitoring and sampling was conducted weekly. Weekly monitoring included PID readings, airflow, and vacuum measurements. Following system monitoring, grab air samples were collected in Tedlar bags from each SVE well. Prior to sampling, each well was closed for one hour. Samples were submitted for analysis of carbon tetrachloride via United States Environmental Protection Agency (USEPA) Method TO-15 Select Ion Monitoring (SIM). Daily vacuum measurements and weekly SVE system monitoring results are presented in **Appendix E**.

Throughout the duration of the IRM, significant reductions in carbon tetrachloride concentrations were observed at both extraction wells. Prior to SVE system installation, concentrations measured 2,230 µg/m³ near SVE-101 and 618 µg/m³ near SVE-102. After seven weeks of operation,

concentrations decreased to non-detect (less than 5.24 µg/m³) at SVE-101 and 5.37 µg/m³ at SVE-102. Because greater and more consistent reductions were achieved at SVE-101, this well was temporarily shut down for one week to increase vacuum at SVE-102 and to evaluate potential rebound at SVE-101. Following shutdown, concentrations increased to 99.4 µg/m³ at SVE-101 and 17.1 µg/m³ at SVE-102. Due to the rebound observed, SVE-101 was restarted to suppress contaminant rebound and restore mass removal efficiency, resulting in concentrations decreasing to 6.67 µg/m³ and 6.28 µg/m³ in SVE-101 and SVE-102, respectively.

Weekly SVE system sampling was complicated by elevated reporting limits and high dilution factors due to high concentrations of acetone and tetrahydrofuran, both key ingredients in the PVC primer and cement used during system construction. As these compounds off-gassed, their concentrations gradually declined, which in turn lowered reporting limits and dilution factors. However, reporting limit and dilution factors remained higher than typical throughout the monitoring period.

Although there were significant reductions in sub-slab carbon tetrachloride concentrations, they did not remain below 6 µg/m³ for three consecutive sampling events, as required by the IRM Work Plan. Due to building occupancy constraints and construction timelines, the IRM was terminated, and a long-term active SSD system was installed in the Annex as part of the final Site remedy. The weekly sampling results from the SVE system are presented in **Table 8** and **Figure 12**.

The proposed SSD system that will be installed in the Annex is described in further detail in **Section 8.0**.

2.7.2 UST Area 1

During general Site redevelopment activities, a 5,000-gallon UST was discovered beneath the former loading dock adjacent to the Barn. The UST was not identified in historical documents; therefore, its age and former use are unknown. Due to its location beneath the loading dock, it is expected that the tank was installed prior to the construction of the loading dock (pre-1950s).

The UST was located approximately 3 feet bgs. The tank was approximately 24-feet long by six-feet in diameter and had an approximate 5,000-gallon capacity. The UST was a single walled steel tank with no catholic protection observed. Approximately 5 feet of 2-inch steel piping was observed on the west side of the tank, entering the adjoining Barn. Approximately 4.5 feet of standing liquid was present in the UST along with 2 to 4 inches of oily sludge at the bottom of the UST. The tank was observed to be in poor condition with moderate corrosion and several pinholes in the bottom of the tank. The tank was sitting on a concrete cradle.

The UST removal and associated remedial activities were conducted as an IRM. The planned IRM activities were communicated to NYSDEC and NYSDOH via email and were approved via email on April 4, 2025. The tank was emptied, cleaned, and removed from the ground. Following tank removal, the petroleum impacted concrete cradles and surrounding soil was removed. Confirmatory soil and groundwater samples were collected and analyzed for VOCs and SVOCs.

Soil analytical data revealed that a single SVOC exceeded the Commercial Use SCO at the southern sidewall. All other contaminants were below Commercial Use SCOs. Groundwater analytical data revealed that VOCs were not detected above TOGS 1.1.1 AWQS, however, several SVOCs exceeded the applicable standards. Based on the analytical data, the excavation was backfilled with soil from around the former UST that did not exhibit evidence of petroleum impacts, as well as virgin imported stone.

A total of 5,180 gallons of tank contents were disposed of at Industrial Oil Tank Services, Inc. A total of 65.74 tons of petroleum-impacted soil and concrete were disposed of at Seneca Meadows Inc. The cleaned tank (2.93 tons) was transported to Ben Weitsman of Syracuse for scrap metal recycling. A tank closure report was submitted to NYSDEC on May 27, 2025. The Site was assigned Petroleum Bulk Storage Number 7-991114 and Spill Number 25-00618 (closed May 28, 2025).

2.8 Remedial Action Objectives

Based on the results of the Remedial Investigation, the following Remedial Action Objectives (RAOs) have been identified for this Site.

2.8.1 Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater containing contaminant levels exceeding drinking water standards.

RAOs for Environmental Protection

- Restore ground water aquifer, to the extent practicable, to pre-disposal/pre-release conditions.

2.8.2 Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

2.8.3 Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at the Site.

3.0 ALTERNATIVES ANALYSIS REPORT

3.1 Objectives

The objectives of this portion of the document, the AAR, is to evaluate remedial alternatives to address the contamination presented in the RI Report and select remedial actions to be implemented. As defined in NYSDEC DER-10 (Section 4.0) and DER-31, remedial alternatives will be evaluated based on the following criteria:

- Overall Protection of Public Health and the Environment: This criterion evaluates exposure and residual risks to human health and the environment during or subsequent to implementation of the alternative.

- Compliance with SCGs: This criterion evaluates whether the remedial alternative will ultimately result in compliance with SCGs, to the extent practicable.

- Long-Term Effectiveness and Permanence: This criterion evaluates if the remedy is effective in the long-term after implementation (e.g., potential rebound). In the event that residual impacts will remain as part of the alternative, then the risks and adequacy / reliability of the controls are also evaluated.

- Reduction of Toxicity, Mobility, or Volume with Treatment: This criterion evaluates the reduction of contaminant toxicity, mobility or volume as a result of the remedial alternative. In addition, the reversibility of the contaminant destruction or treatment is evaluated.

- Short-Term Effectives: This criterion evaluates if the remedial alternative protects the community, workers and the environment during implementation.

- Implementability: This criterion evaluates the remedial alternative based on its suitability, implementability at the specific site, and availability of services and materials that will be required.

- Cost: This criterion evaluates the capital, operation, maintenance, and monitoring costs for the remedial alternative. The estimated costs are presented on a present worth basis.

- Land Use: This criterion evaluates the proposed remedial approach against the current, intended, and reasonably anticipated future use of the land and its surroundings.

- Community Acceptance: This criterion takes into account concerns of the community regarding the proposed remedy. Any public comments and overall public perception are addressed as part of the criterion.

- Green Remediation: This criterion considers all environmental effects of remedy implementation and incorporates alternatives that minimize the environmental footprint of cleanup actions.

3.2 Applicable Standards, Criteria, and Guidance

The remedial alternatives were developed in consideration of the SCGs listed in **Section 2.5.3.**

3.3 Remedial Action Objectives

The remedial alternatives were developed in consideration of the RAOs listed in **Section 2.8.**

3.4 Future Use Evaluation

When evaluating remedial alternatives, reasonableness of the anticipated future land use should be considered.

The anticipated post remediation use of the Site would be commercial in nature. The project will consist of the rehabilitation and reuse of the adjoining buildings on the 2.65-acre parcel. Upon completion, the building will serve as the new Syracuse Public Safety Building (PSB). The goal is to construct new, modern space that will allow the Syracuse Police Department and Syracuse Fire Department to hire new employees; using this space as a recruiting tool. The redeveloped Site will be a mix of office space, training space, storage space, and public engagement areas. The project will include the replacement of all windows (similar to their historic original style), demolition / abatement activities, replacement of all mechanical, plumbing, and fire suppression systems, and updated finishes / sitework. The project will provide over 100,000 square feet of space for the Syracuse Police Department and Syracuse Fire Department along with 147 parking stalls. The majority of the finished Site will be covered with buildings, asphalt parking, concrete ramps, and sidewalks and a much smaller portion will be green space.

3.5 Development of Alternatives

This section identifies potential remedial alternatives being considered to address the Site. Per DER-10 4.2(a)(i), each alternative considered must be protective of human health and the environment and conform to officially promulgated SCGs. These two criteria are considered threshold criteria.

The following alternatives are discussed in the subsections below:

1. No Action – Although this alternative does not meet the DER-10 threshold criteria, it is provided to demonstrate the need to undertake some level of remedial action.

2. Cover System and Vapor Mitigation (SSD System) – This alternative is a Track 4 cleanup

designed to meet Commercial Use SCOs and prepare the Site for a commercial development, subject to institutional controls (IC) and engineering controls (EC). The major elements of this alternative include a cover system and mitigation for soil vapor through an active SSD system.

3. Complete Fill Removal, Groundwater Treatment, and Vapor Mitigation – This alternative is a Track 1 cleanup designed to meet Unrestricted Use SCOs and prepare the Site for any type of development, and not subject to ECs / ICs. The major elements of this alternative include complete fill removal, groundwater treatment, and mitigation for soil vapor.

These remedial alternatives evaluated are summarized below:

3.5.1 No Action

The No Action Alternative is included as a procedural requirement and as a baseline to evaluate other alternatives. Under this alternative, no further remedial or monitoring activities would occur and no controls would be employed to prevent exposure to contaminated HFM / soil or groundwater, and soil vapor intrusion would not be controlled. No Action does not provide protection of human health or the environment and does not comply with SCGs.

3.5.2 Track 4 (Commercial) – Cover System and Vapor Mitigation (SSD System)

3.5.2.1 Description

In general, the types and concentrations of contaminants in the soil / HFM across the remainder of the Site are typical of an urban area and the RAOs can be achieved by a cover system. Therefore, complete removal of this soil / HFM is not warranted and the remainder of the Site will be remediated by installing a cover system. This will consist of impervious cover (asphalt or concrete surface) or the placement of a one-foot soil cover in areas without an impervious cover.

SVOC concentrations in groundwater only slightly exceeded TOGS 1.1.1 AWQS and were generally only detected during the first round of sampling. Six different PAHs were detected in excess of the TOGS limits. In each case, the concentrations were a fraction of a part per billion (ppb) (maximum of 0.23 ppb and majority below 0.1 ppb) and the corresponding TOGS limit is very low (either 0.002 ppb or non-detect). There were also sporadic exceedances of phenol, hexachlorobenzene, and bis(2-ethylhexyl)phthalate. Total copper, mercury, and lead exceeded the TOGS limit in one well during the first round of sampling but the respective dissolved concentrations did not exceed the TOGS limits. Similarly, dissolved antimony exceeded the TOGS limit in one well during the first round of sampling only. The remainder of the metals exceedances (iron, manganese, magnesium, and sodium) are prevalent in groundwater in the City of Syracuse and commonly associated with "hard water". PFOA slightly exceeded its guidance value at one wells and PFOS slightly exceeded its guidance value at one well. These contaminants are not present at concentrations that are indicative of a source area and are at low concentrations that

make treatment impractical. Based on the above, remediation of groundwater is not warranted and is not a part of this alternative.

Vapor mitigation is part of this alternative. Vapor mitigation will be addressed through installation of an active SSD system to provide long-term mitigation of vapor intrusion.

3.5.2.2 Assessment

Overall Protection of Human Health and the Environment

A portion of the excavated soil / HFM with contaminant concentrations above Commercial Use SCOs would be removed and disposed of off-site to meet final Site grades and to allow for the installation of new utility lines. Soil / HFM re-used onsite or otherwise remaining on-site will be isolated by the cover system.

Groundwater is not used for drinking water at the Site. This area is served by a municipal water supply, which is treated prior to use to ensure the water meets NYSDEC and USEPA standards. Due to water quality issues in the City of Syracuse, there is a prohibition from using groundwater as drinking water. In addition, the groundwater is not impacted by VOCs. However, an active SSD system will be installed to address carbon tetrachloride impacts in soil vapor. Following installation, a pre-occupancy SVI investigation of on-site buildings will be conducted.

Long term human health and environmental protection and control can be managed with a Site Management Plan (SMP), environmental easement, deed restrictions, monitoring and other such IC / EC. This alternative would be protective of human health and the environment.

Compliance with SCGs

The alternative complies with the SCGs, as on-site HFM / soil with contaminant concentrations above the SCOs would either be removed and disposed of off-site or left under impervious asphalt or concrete or beneath at least one foot of a clean soil cover.

Some SVOCs, metals, and PFAS in groundwater exceed TOGS on Site. However, there is no identifiable human exposure pathway given 1) the ban on use of City of Syracuse groundwater as a drinking water source and 2) an IC in the form of an environmental easement that restricts groundwater use from the Site as potable or process water without necessary water quality treatment as determined by the NYSDOH or County DOH, and 3) the depth to groundwater.

Indoor soil vapor intrusion from carbon tetrachloride impacts will be mitigated with an active SSD system in the Annex. Following installation, a pre-occupancy SVI investigation of on-site buildings will be conducted.

Short-term Impacts and Effectiveness

This alternative increases the short-term risks for the community and the workers implementing the alternative (i.e., through the disturbance of impacted HFM / soil) because the Site will undergo removal and grading of contaminated HFM / soil. However, these risks would be minimized through the implementation of appropriate HFM / soil handling procedures, air monitoring, and dust suppression techniques.

Long-term Effectiveness and Permanence

This alternative would be a permanent remedy to address the contaminant concentrations in the soil / HFM throughout the Site. The presence of a cover system will eliminate the potential for users of the Site to come into contact with the HFM. The installation and operation of an active SSD system in the Annex will mitigate soil vapor intrusion from carbon tetrachloride impacts in the long-term. Following installation, a pre-occupancy SVI investigation of on-site buildings will be conducted.

Reduction of Toxicity, Mobility and Volume

This alternative would result in the reduction of the mobility and volume of contaminants in the HFM / soil. Mobility would be controlled by the cover system and the volume would be reduced as a result of the removal of HFM for the soil cover system.

Implementability

This alternative is implementable using existing construction methods and equipment. The expected duration is less than one construction season. This alternative would result in a Site suitable for redevelopment for commercial use.

Cost Effectiveness

The estimated cost of this alternative is $1.37 million as detailed in the table below.

Table 3-1: Track 4 Summary of Remedial Costs

Category	Unit Rate	Number	Units	Estimated Cost
Site Mobilization	$29,334	1	LS	$29,334
Erosion, Sediment, Dust Control	$22,824	1	LS	$22,824
Site Demolition & Clearing	$59,830	1	LS	$59,830
Site Control & Security	$20,000	1	LS	$20,000
Soil Disposal Characterization Composite Sampling	$950	3	Sample	$2,850
Soil Disposal Characterization Discrete Sampling	$100	9	Sample	$900
Stone Base Characterization Composite Sampling	$950	3	Sample	$2,850

Category	Unit Rate	Number	Units	Estimated Cost
Stone Base Characterization Discrete Sampling	$100	9	Sample	$900
Topsoil Characterization Composite Sampling	$950	2	Sample	$1,900
Topsoil Characterization Discrete Sampling	$100	4	Sample	$400
Site Excavation	$15	1,400	CY	$21,000
Contaminated Soil Transport and Disposal	$120	1,400	CY	$168,000
Stone Base Procurement and Placement	$30	1,200	CY	$36,000
Fine Grade Procurement and Placement	$1	25,760	SF	$25,760
Demarcation Fabric	$1	25,760	SF	$25,760
Impervious Cover System Elements (Pavement)	$252,000	1	LS	$252,000
Impervious Cover System Elements (Sidewalks)	$137,000	1	LS	$137,000
Pervious Cover System Elements (Soil)	$73.50	350	CY	$25,725
Pervious Cover System Elements (Seeding)	$0.10	17,500	SF	$1,750
SVE System IRM	$50,000	1	LS	$50,000
SSD System	$50,000	1	LS	$50,000
Site Survey	$20,000	1	LS	$20,000
Inspections of Remedy	$15,000	1	LS	$15,000
C&S Construction Oversight	$20,000	3	Months	$60,000
C&S Reporting	$35,000	1	LS	$35,000
Subtotal				**$1,064,783**
Contingency	20%			$212,957
Construction Subtotal				**$1,277,740**
Annual Certification	$3,000	Year	30	$90,000
TOTAL				**$1,367,740**

Land Use

This alternative would allow for the use of the parcel as a commercial building, which conforms to the City of Syracuse development plans for the area (the parcel is currently zoned as MX3- Mixed Use Transition). Therefore, this alternative would allow for the highest and best use of the land.

Community Acceptance

Based on the findings of the studies performed to date, it is anticipated that the results of this alternative would be acceptable to the community.

Green Remediation

This alternative could utilize the following green remediation options:

- Utilizing a cover system to isolate the HFM. This approach significantly reduces the use of fossil fuels that would be used to excavate and haul the HFM off-site for disposal, as well as bring replacement material to the Site. This option also limits the volume of soil to be

managed in a landfill.

- Clean soil and aggregate needed to construct the cover system can be sourced from local pits / quarries, thus reducing emissions for transport vehicles.

- Natural degradation of low-level PAHs within the Sites groundwater. This remedial method reduces the amount of waste and products which would be used if an injection or source removal remedial method was implemented.

- High efficiency and appropriately sized fans for the SSD system.

A detailed narrative of the green remediation approach for the remedy is provided in **Section 4.1.2.**

3.5.2.3 Summary

The Track 4 (Commercial) – Cover System and Vapor Mitigation (SSD System) Alternative was designed to remediate the Site to a moderately restrictive level – Commercial Use SCOs and prepare the Site for redevelopment for commercial use.

3.5.3 Track 1 (Unrestricted Use) – Complete Fill Removal and Groundwater Treatment

3.5.3.1 Description

Under this Unrestricted Use Alternative, HFM and soil impacted at concentrations greater than the Unrestricted Use SCOs would be excavated and disposed of off-site in accordance with applicable regulations. Based on the results of the RI (average contaminated HFM / soil depth of 10 feet across 90% of the Site), the estimated volume of HFM / soil requiring removal is 38,500 cubic yards. Assuming a conversion rate of 1.5 tons per cubic yard, the weight of this HFM is estimated at 57,750 tons. This would require removal of soil adjacent to and under the building foundation and dewatering, treatment, and disposal of groundwater from excavations.

If contaminant concentrations in groundwater still exceed TOGS following HFM removal, the PAHs in groundwater could be addressed with an in-situ chemical oxidation (ISCO) product while the PFAS concentrations in groundwater could be remediated by a pump and treat granular activated carbon system or equivalent. The effectiveness of the ISCO would be verified by four rounds of groundwater sampling and analysis.

The removal of contaminated HFM / soil and possible groundwater treatment would eliminate the risk of soil vapor intrusion.

3.5.3.2 Assessment

Overall Protection of Human Health and the Environment

This alternative would be protective of human health and the environment, as: 1) all soil with contaminant concentrations above SCOs on-site would be removed and disposed of off-site; and 2) groundwater would be treated in-situ to meet TOGS Standards, if contamination remains following HFM removal.

Compliance with SCGs

The alternative complies with the SCGs, as: 1) on-site HFM / soil with contaminant concentrations above the SCOs would be removed and disposed of off-site; and 2) groundwater would be treated in-situ to meet TOGS Standards if contamination remains following HFM removal.

Short-term Impacts and Effectiveness

This alternative increases the short-term risks for the community and the workers implementing the alternative (i.e., through the disturbance of impacted HFM / soil), because the Site will undergo complete removal of contaminated HFM / soil. However, these risks would be minimized through the implementation of appropriate HFM / soil handling procedures, air monitoring, and dust suppression techniques.

Long-term Effectiveness and Permanence

The Unrestricted Use Alternative would be a permanent remedy to address the contaminant concentrations in the soil, groundwater, and soil vapor on the Site. However, if groundwater impacts are emanating from an offsite source, long-term groundwater treatment would be required.

Reduction of Toxicity, Mobility and Volume

This alternative would result in the reduction of the toxicity, mobility, and volume of contaminants on the Site since the remedy would include the removal of contaminated HFM / soil and treatment of groundwater. This will eliminate the source of soil vapor intrusion into the building.

Implementability

This alternative is implementable using existing construction methods and equipment. The expected duration for soil removal would be one to two construction seasons. The expected duration for groundwater treatment is unknown but could take several years. This alternative would result in a Site suitable for redevelopment for any use.

Cost Effectiveness

The estimated cost of this alternative is $11.48 million as detailed in the table below.

Table 3-2: Track 1 Summary of Remedial Costs

Category	Unit Rate	Number	Units	Estimated Cost
Site Mobilization	$50,000	1	LS	$50,000
Erosion, Sediment, Dust Control	$50,000	1	LS	$50,000
Site Demolition & Clearing	$100,000	1	LS	$100,000
Site Control & Security	$20,000	1	LS	$20,000
Building Structural Modifications and Shoring	$500,000	1	LS	$500,000
Confirmatory Soil Sampling	$500	388	Sample	$194,000
Soil Disposal Characterization Composite Sampling	$950	40	Sample	$38,000
Soil Disposal Characterization Discrete Sampling	$100	83	Sample	$8,300
Stone Base Characterization Composite Sampling	$950	40	Sample	$38,000
Stone Base Characterization Discrete Sampling	$100	83	Sample	$8,300
Topsoil Characterization Composite Sampling	$950	2	Sample	$1,900
Topsoil Characterization Discrete Sampling	$100	4	Sample	$400
Site Excavation	$15	38,500	CY	$577,500
Contaminated Soil Transport and Disposal	$120	38,500	CY	$4,620,000
Stone Base Procurement and Placement	$30	38,300	CY	$1,149,000
Fine Grade Procurement and Placement	$1	25,760	SF	$25,760
Pavement	$252,000	1	LS	$252,000
Sidewalks and Curbs	$137,000	1	LS	$137,000
Soil Procurement and Placement	$73.50	350	CY	$25,725
Seeding	$0.10	17,500	SF	$1,750
Groundwater Treatment Pilot Study	$200,000	1	LS	$200,000
Site Dewatering and Groundwater Treatment	$1,000,000	1	LS	$1,000,000
Groundwater Monitoring	$10,000	10	Round	$100,000
SSDS System (if needed)	$50,000	1	LS	$50,000
Site Survey	$20,000	1	LS	$20,000
Inspections of Remedy	$30,000	1	LS	$30,000
C&S Construction Oversight	$20,000	12	Months	$240,000
C&S Reporting	$50,000	1	LS	$50,000
Subtotal				**$9,487,635**
Contingency	20%			$1,897,527
Construction Subtotal				**$11,385,162**
Annual Certification	$3,000	Year	30	$90,000
TOTAL				**$11,475,162**

Land Use

This alternative would allow for the use of the parcel for any use, contingent on the requirements for zoning / land use in the City of Syracuse.

Community Acceptance

It is anticipated that this alternative would be acceptable to the community.

Green Remediation

Due to the magnitude of soil removal, backfilling, and landfill disposal required for this option, local resources may be affected. The remediation will require a significant expenditure of fossil fuels to fuel on-site construction equipment for several months of soil removal, the almost 3,000 trucks necessary to remove the HFM from the Site, as well as the almost 3,000 trucks that will provide backfill materials for the Site.

Furthermore, due to the low concentrations of contaminants in the groundwater and the potential for the conditions to be attributed to background concentrations or from off-site sources, the treatment of groundwater will be inefficient and lengthy. Groundwater remediation will require a large number of trips to the Site, expenditure or significant energy to operate a treatment system, and generation of site-specific chemicals that need to be delivered to the Site and injected.

Green remediation alternatives will be limited to local sourcing of material. However, the impacts related to soil management will far outweigh these benefits.

3.5.3.3 Summary

The Unrestricted Use Alternative was designed to remediate the Site to its least restrictive level – Unrestricted Use Soil SCOs and prepare the Site for redevelopment for any type of use. This alternative would not require ECs / ICs, and there would be no need for site management.

3.6 Comparative Evaluation of Alternatives and Recommended Actions

This section of the report compares the remedial alternatives proposed for each of the impacted media and presents the recommended action for each media group.

3.6.1 No Action Alternative

The No Action Alternative does not meet DER-10 threshold criteria and is therefore not protective of human health and the environment and would likely not be acceptable to the community in the long term. Therefore, this alternative is not the recommended remedy for the Site.

3.6.2 Track 4 (Commercial) – Cover System and Vapor Mitigation (SSD System)

The Track 4 – Cover System and Vapor Mitigation (SSD System) Alternative would be a long-term remedy and is anticipated to be acceptable to the community. This alternative reduces the toxicity, mobility, and volume of impacted media through; a) removal of impacted soil / HFM that will not remain beneath the cover system; b) installation of a cover system across the Site; c) installation of an active SSD system in the Annex to mitigate soil vapor intrusion from carbon tetrachloride impacts in the long-term; and d) a pre-occupancy SVI investigation of on-site buildings following SSD system installation. This alternative was designed to:

- Remediate the Site to a reasonable level that protects human health and the environment
- Provide a cost-effective effort that meets SCGs and the future land use of the Site
- Prepare the Site for redevelopment for commercial uses

3.6.3 Track 1 (Unrestricted Use) – Complete Fill Removal and Groundwater Treatment

The Unrestricted Use Alternative would be a long-term remedy and is anticipated to be acceptable to the community. This alternative effectively reduces the toxicity, mobility, and volume of impacted media through the removal of all impacted HFM / soil from the Site and replacement with clean material, as well as the treatment of groundwater. However, this alternative will negatively impact the redevelopment because of increased complexity of the remediation due to multiple actions to reestablish the Site, increased time-frame to conduct the remediation, and a significantly higher remedial cost.

3.7 Selection of the Preferred Remedy

Based on the alternative analysis evaluation, the Track 4 (Commercial) – Cover System and Vapor Mitigation (SSD System) remedy is the recommended final remedial approach for the Site. This alternative is fully protective of public health and the environment; significantly less disruptive to the community; consistent with current and future land use; and represents a more cost-effective approach than the Track 1 remedy, while fully satisfying the RAOs. The recommended remedial alternative is described in further detail below.

3.7.1 Zoning

The Site is currently zoned for Mixed-Use Transition (MX-3) under the City of Syracuse's City Zoning Ordinance (March 2023). The purpose of the MX-3 district is to provide pedestrian-friendly, transit-supportive areas of higher-density residential development and compatible nonresidential uses, such as offices and supporting commercial uses. The intent of the MX-3 district is to allow for greater vertical or horizontal mixing of uses and is appropriate near activity

centers and near major arterial and collector street. A range of residential housing types and live-work units is allowed. The use of the site as commercial is permitted and welcomed by the City of Syracuse. The Project will use the existing buildings at 1153-69 West Fayette Street for office space, training space, storage space, and public engagement areas. The completed project is expected to serve as the new Syracuse PSB. The project will provide over 100,000 square feet of space for the Syracuse Police Department and Syracuse Fire Department along with 147 parking stalls.

3.7.2 Applicable Comprehensive Community Master Plans or Land Use Plans

In 2012, the City of Syracuse compiled the "City of Syracuse Comprehensive Plan 2040," a city-wide plan pertaining to physical assets, government services, local business and institutions, and cultural resources. The "Syracuse Land Use & Development Plan 2040" is one component of the overall comprehensive plan. The Land Use & Development Plan defines Industrial Legacy sites as "previous sites of heavy industry located near major road and rail (and former canal) corridors…seen today along corridors such as W. Fayette Street." The plan dictates that new construction should mimic the surrounding residential forms or the larger industrial forms and that every effort should be made to make development pedestrian friendly, provide ample landscaping, and adequate screening around parking areas.

The plan goes on to give recommendations for future development in the Westside (neighborhood where the Site is located). The top recommendation is "encourage a mix of office, residential, commercial, and mixed uses, along with low-impact light-industry, along the West Fayette Street and Erie Boulevard West corridors."

The proposed redevelopment of the Site preserves the original industrial buildings, ensuring compatibility with the existing construction in surrounding areas, while implementing new landscaping and site finishes. The planned future use of the Site as office space, training space, storage space, and public engagement areas directly aligns with the City's Land Use & Development Plan, and in turn, the overall comprehensive plan.

3.7.3 Surrounding Property Uses

The anticipated future land use of the Site and its surrounding properties are compatible with the selected remedy. One of the primary goals of the City of Syracuse Land Use & Development Plan is to preserve and enhance Syracuse's existing land use patterns. The current land use pattern in the city expands outward from downtown into the various neighborhoods via a radial network of major transportation corridors. These corridors are lined with dense development including a mix of residential and commercial activities and see a high number of visitors daily. The development pattern is inherently sustainable as it encourages pedestrian activity and facilitates efficient provision of transit services.

The Site is located on one of the major transportation corridors described above, West Fayette Street. The proposed redevelopment of the Site would align with historical development patterns

in the area, a commercial site with a large number of visitors each day, especially with the intention of housing public engagement areas. The revitalization of the Site would make the local area more attractive, appealing to pedestrians.

3.7.4 Citizen Participation

Citizens will be kept informed on the status of the Site through fact sheets and document repositories. Citizens are encouraged to provide public comment throughout the implementation of the remedy. The Citizen Participation Plan is discussed further in **Section 4.1.10**.

3.7.5 Environmental Justice

The Syracuse Metropolitan Transportation Council has developed an Environmental Justice Mapper to indicate the presence of focus populations based on minority populations, low-income populations, and other variables which may be of interest. According to the Syracuse Metropolitan Transportation Council (SMTC) Environmental Justice Mapper, the Site is located in a non-priority area. The proposed future use is not expected to increase or cause a disproportionate burden on the community.

3.7.6 Proximity to Natural Resources

A review of information concerning endangered and threatened species in Onondaga County, available via the NYSDEC Environmental Resource Mapper, indicated that rare plants and rare animals are located approximately 0.15 miles from the Site (Silverjaw Minnow). Wildlife that could potentially be present at the Site was determined using the NYSDEC Nature Explorer. The information in New York Nature Explorer was prepared by NYSDEC using the data currently available. In addition, the species and locations reported by the online tool are not a definitive statement about the presence or absence of all plants and animals, including rare or state-listed species, and of all significant natural communities. According to the NYSDEC Nature Explorer, this generalized area may contain straight-leaved pondweed (Potamogeton strictifolius). According to the New York State Natural Heritage Program (NYNHP), straight-leaved pondweed is typically found in shallow water habitats in natural and artificial lakes, as well as alkaline waterbodies and slow-moving streams. As the Site does not contain suitable waterbodies, no impact is anticipated to occur to these species. The Site is not located in or substantially contiguous to a Critical Environmental Area designated pursuant to Article 8 or the ECL and 6 NYCRR 617, nor are any state or federally designated wetlands located on or adjacent to the project site.

Based upon the information summarized above, there are no natural resources present on or in the vicinity of the Site.

3.7.7 Off-Site Groundwater Impacts

Groundwater in the City of Syracuse is prohibited from being used for public drinking water supply. Local groundwater is not potable due to elevated concentrations of dissolved inorganics

(salts, aluminum, iron, etc.). Municipal water supply wells are not present in the City of Syracuse; therefore, groundwater from the Site does not affect municipal water supplies.

3.7.8 Proximity to Floodplains

The Site is located in Federal Emergency Management Agency (FEMA) Flood Zone X, an area with a 0.2% annual chance flood hazard.

3.7.9 Current Institutional Controls

There are currently no institutional controls being implemented at the Site.

3.8 Summary of Selected Remedial Actions

The Track 4 (Commercial) – Cover System and Vapor Mitigation (SSD System) remedy would include the following:

1. Screening for indications of contamination (by visual means, odor, and monitoring with PID) of all excavated soil during any intrusive Site work;

2. Appropriate off-Site disposal of all material removed from the Site in accordance with all Federal, State and local rules and regulations for handling, transport, and disposal;

3. Import of materials to be used for backfill and cover in compliance with: (1) chemical limits and other specifications established in 6 NYCRR 375-6.7(d), NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil for Commercial Use, and NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances and (2) all Federal, State and local rules and regulations for handling and transport of material;

4. Construction and maintenance of a site cover consisting of either clean soil or hardscape to prevent human exposure to residual contaminated soil / fill remaining under the Site;

5. Installation and operation of an active SSD system in the Annex to mitigate carbon tetrachloride impacts in soil vapor and a pre-occupancy SVI investigation of on-site buildings;

6. Recording of an Environmental Easement, including Institutional Controls, to prevent future exposure to any residual contamination remaining at the Site (the Environmental Easement Package was submitted to NYSDEC on May 29, 2025 and is currently under review);

7. Publication of a Site Management Plan for long term management of residual contamination as required by the Environmental Easement, including plans for: (1)

Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting;

8. All responsibilities associated with the Remedial Action, including permitting requirements and pretreatment requirements, will be addressed in accordance with all applicable Federal, State and local rules and regulations.

Remedial activities will be performed at the Site in accordance with this NYSDEC-approved RAWP, the NYSDEC-issued DD, and the NYSDEC-approved IRM Work Plan. All deviations from the RAWP and / or DD will be promptly reported to NYSDEC for approval and fully explained in the FER.

The SSD System Design Documents were provided to NYSDEC and NYSDOH on September 19, 2025 under a separate cover. The Site Management Plan provides comprehensive guidance for the required pre-occupancy SVI investigation of on-site buildings following installation of the SSD system.

4.0 REMEDIAL ACTION PROGRAM

4.1 Governing Documents

The primary documents governing the remedial action program are summarized below.

4.1.1 Standards, Criteria and Guidance (SCGs)

The following standards, criteria, and guidance are typically applicable to Remedial Action projects in New York State, and will be consulted and adhered to as applicable:

- 6 NYCRR Part 364 – NYS Waste Transporter Permits
- 6 NYCRR Part 360 – NYS Solid Waste Management Requirements
- 6 NYCRR Part 371 – Identification and Listing of Hazardous Wastes
- 6 NYCRR Part 372 – Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities
- 6 NYCRR Subpart 374-2 – Standards for the Management of Used Oil
- 6 NYCRR Part 375 – Environmental Remediation Programs
- 6 NYCRR Part 376 – Land Disposal Restrictions
- 6 NYCRR Part 613 – Petroleum Bulk Storage
- 6 NYCRR Parts 700-706 – Classes and Standards of Quality and Purity
- 6 NYCRR Part 750 – State Pollutant Discharge Elimination System (SPDES) Permits
- 29 CFR Part 1910.120 – Hazardous Waste Operations and Emergency Response
- CP-43 – Commissioner Policy on Groundwater Monitoring Well Decommissioning (December 2009)
- CP-49 – Climate Change and DEC Action (2022)
- CP-51 – Soil Cleanup Guidance (2010)
- DER-2 – Making Changes to Selected Remedies (April 2008)
- DER-10 – Technical Guidance for Site Investigation and Remediation (2010)
- DER-13 – Strategy for Evaluating Soil Vapor Intrusion at Remedial Sites in New York (2006)
- DER-23 – Citizen Participation Handbook for Remedial Programs (2010)
- DER-31 – Green Remediation (2010)
- DER-32 – Brownfield Cleanup Program Applications and Agreements (2017)
- DER-33 – Guide to Drafting and Recording Institutional Controls (2010)
- TAGM 3028 – "Contained In" Criteria for Environmental Media: Soil Action Levels (August 1997)
- TOGS 1.1.1 – Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations (1998, Addenda 2000, 2004 and 2023)
- New York State Standards and Specifications for Erosion and Sediment Control (2016)
- New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan
- NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (2006)
- New York State Climate Act (2019)
- NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (2023)

4.1.2 Green and Sustainable Remediation and Climate Resiliency

NYSDEC's Program Policy DER-31 / Green Remediation and DER-31 Green and Sustainable Remediation Initiative Memorandum require that green remediation concepts and techniques be considered during all stages of the remedial program including remediation, with the goal of improving the sustainability of the cleanup and documenting the net environmental benefit of any implemented green technology. Green Remediation is defined as "the practice of considering all environmental effects of remedy implementation and incorporating options to minimize the environmental footprint of cleanup actions." The use of these practices and technologies during remediation should be less disruptive to the environment, generate less waste, increase reuse and recycling, and emit fewer pollutants, including greenhouse gases (GHGs), to the atmosphere.

4.1.2.1 Green Remediation Components

This RAWP identifies the green remediation components of the remedial design program, which will be implemented for the construction, operation, optimization, maintenance, and monitoring of the remedial program, and which also meet the requirements for the intended use of the Site for Restricted Residential Use. The purpose of this section is to identify concepts and develop a plan to best achieve a "Green Remediation" goal for each of the Sites selected remedies. The Green Remediation concepts considered during the development of the remedial alternatives include:

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term when choosing a site remedy;
- Reducing direct and indirect GHG and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and

- Designing buildings to meet the 2020 Energy Conservation Construction Code of New York.

Based on the type of remediation required for the Site, the principal green remediation goals for the Site are focused around the reduction of waste and the reuse of materials to extent feasible throughout the remediation process. The reduction in wastes indirectly reduces the consumption of fossil fuels and generation of greenhouse gases.

4.1.2.2 Environmental Footprint Analysis

As a part of the Green Remediation, the use of an environmental footprint analysis was completed to further evaluate the impact of the planned remedies for the Site. For the purpose of analyzing the overall impact and sustainability of the planned remediation activities, C&S developed a Green Remediation Calculator that contains pertinent content of the DER-31 referenced calculators [(e.g. SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA) and SiteWiseTM (developed by the US military)]. In addition to that content, C&S' Green Remediation calculator is based upon content previously created by engineers and scientists in C&S' air resources and aviation practices for use at industrial facilities to calculate emissions of GHGs, hazardous air pollutants (HAPs) and criteria pollutants for permitting, tracking, and reporting purposes; as well as for large airport construction projects to calculate potential and actual emissions from construction of terminals, taxiways, runways, etc.

Based on the anticipated elements of the implementation of the remedy, the Green Remediation Calculator was used to develop estimated values for:

- Water consumption
  - Wetting of the site during construction to comply with the CAMP

- GHGs
  - Emissions related to the transportation of personnel to and from the Site
  - Emissions related to export of contaminated soil
  - Emissions related to the mining and import of clean soil / aggregate
  - Emissions related to the manufacture and import of asphalt and concrete
  - Emissions related to the operation of site work equipment (excavators, loaders, etc.)
  - Emissions related to the laboratory analysis of characterization samples

- Renewable and non-renewable energy usage
  - Charging of environmental monitoring equipment

- Waste reduction and material usage
  - Reuse of materials on and off site

The analysis presented in this report includes an estimate of emissions from the mining and import of clean soil and aggregate, as well as for the production and import of asphalt and concrete. These upstream sources are not required by DER-31 but have been included for consistency with USEPA's SEFA.

Building envelope related construction is not part of the remedy. However, the Volunteer has performed an energy audit to identify areas for efficiency in the future operation of the building. The building renovations will meet or exceed the 2020 Energy Conservation Construction Code of New York.

Narratives regarding the various elements of the remedy, their potential impact on the environment, and strategies employed to reduce their footprint (BMPs) are provided in the following subsections.

4.1.2.3 Green Remediation Techniques

To further reduce the environmental footprint of the remediation, Green Remediation Techniques (GRTs) were identified and will be implemented.

NYSDEC DER-31 identifies a list of specific techniques which were considered during the development of this RAWP. This section further describes the techniques which were identified as being feasible to be implemented during the site redevelopment and remediation to best achieve a green remediation goal for the Site.

4.1.2.4 Best Management Practices

The section describes the BMPs which will be implemented throughout the implementation of the remedy to support green remediation goals. The following BMPs were identified for implementation:

- **Minimize Mobilizations** – C&S will coordinate with the site contractor(s) to best schedule site activities in conjunction to minimize the number of trips to the Site for field staff, workers, and mobilizing equipment.

- **Excavation Equipment** – Site contractor(s) will use equipment that is suitably sized to complete the anticipated sitework. The use of equipment which is undersized or oversized can decrease the efficiency of the equipment considerably. When possible, equipment will be used which can perform multiple types of tasks without mobilizing a single piece of equipment for each task. Contractors will be encouraged to utilize Clean Fuel Fleet vehicles and Tier 2 or higher Equipment and will burn ultra low sulfur diesel fuel.

- **Idling of Motorized Equipment** – Equipment and trucks will be shut down if left idling longer than 5-minutes.

- **Stormwater and Erosion Controls** – Where possible, the use of compost socks will be used for controlling sediment run-off, in leu of synthetic non-decomposable sediment fencing. Soil piles will be covered with tarps or plastic sheeting in a manner to allow for the reuse of the covers each day to minimize the generation of waste.

- **Soil Stockpiles** – Soil will be stockpiled within the planned areas needing additional soil to meet the final grading. This will reduce additional handling of waste soil and minimize mobilization to new sections of the Site.

- **C&S Battery-Powered Sampling Equipment** – CAMP equipment (PIDs, Dustraks, Thiamis Antenna), Geopump Peri groundwater Pump, Horiba Water Quality Meter, Data Loggers, and any other battery-operated equipment will be charged at the C&S facility. C&S estimated in 2024 that 28% of the electricity used at their facility is generated on-site through use of solar panels. This practice will reduce the load on the electrical grid and allow for the use of renewable energy source, and indirectly minimizing the use of fossil fuels and reducing the generation of greenhouse gas emissions.

- **Waste Storage Containers** – C&S uses cleaned reclaimed 5-gallon buckets and 55-gallon drums for the collection, transport, and storage of sampling wastes. The re-use of containers decreases the generation of waste.

- **Cover-System** – The selected geotextile fabric used for the demarcation barrier will be composed of recycled materials. The geotextile fabric will allow for the percolation of water through the cover system to control erosion and/or pooling of water.

- **Sustainable Laboratory Practices** – C&S will submit samples to a laboratory, which implements the following sustainable practices:
    - Recycles paper products and shipping materials.
    - Uses energy-efficient lighting and other equipment.
    - Maintains a paperless reporting and invoicing program.
    - Minimizes waste through use of USEPA-approved microscale methods.

4.1.2.5 Climate Change Vulnerability Assessment

The proposed remedy was assessed to identify its potential vulnerability to the changing climate and if needed develop measures to ensure an increase in the remedy's resiliency. C&S conducted a climate screening to evaluate individual climate risks which might impact the Site's planned remedy. The completed NYSDEC Climate Screening Checklist is provided as **Appendix F**.

The climate screening was completed by reviewing data provided in the following:

- New York State Energy Research and Development Authority (NYSERDA) ClimAID Report (the Site is located in Region 6)

- National Oceanic and Atmospheric Administration (NOAA) Sea Level Rise Viewer
- NOAA National Hurricane Center Storm Surge Risk Maps
- NOAA National Integrated Drought Information System (NIDIS)
- FEMA National Risk Index
- United States Department of Agriculture (USDA) Forest Service Wildfire Risk to Communities
- USGS Landslide Inventory and Susceptibility Map

The following provides a summary of the hazards identified for the Site:

- **Precipitation** – The NYSERDA ClimAID Report indicated that Region 6 received an average of 51 inches of precipitation between 1971 and 2000. The precipitation for the region is projected to increase by 0-5% in the 2020s, 0-10% in the 2050s, and 5-15% in the 2080s. This equates to an approximate 2.5-inch increase in the 2020s, 5-inch increase in the 2050s, and 7.5-inch increase in the 2080s. The proposed Site redevelopment includes the upgrade of stormwater systems, designed to handle 100-year storm events.

- **Temperature** – The NYSERDA ClimAID Report indicated that Region 6 had a baseline of 3 days per year with the maximum temperature exceeding 90°F. This number is projected to increase to a central range of 4-7 in the 2020s, 8-17 in the 2050s, and 12-36 in the 2080s. Similarly, the NYSERDA ClimAID Report indicated that Region 6 had a baseline of 147 days per year with the minimum temperature at or below 32°F. This number is projected to decrease to a central range of 120-130 in the 2020s, 108-121 in the 2050s, and 91-114 in the 2080s. It is not expected that extreme heat or cold will impact the proposed remedy.

- **Sea Level Rise** – According to the NOAA Sea Level Rise Viewer, the Site is not likely to be influenced by sea level rise due to its location inland.

- **Flooding** – According to the FEMA National Flood Hazard Layer, the Site is located in an area determined to be outside the 0.2% annual chance floodplain.

- **Storm Surge** – According to the NOAA Storm Surge Risk Map, the Site is not likely to be influenced by storm surges due to its location inland.

- **Wildfires** – According to the USDA Forest Service Wildfire Risk to Communities, the likelihood of a wildfire in Syracuse, New York is low. Syracuse is in the lowest 8% of communities nationwide in terms of wildfire risk. Similarly, according to the FEMA National Wildfire Hazard Layer, the Site is located in an area with Very Low Wildfire risk. The area is in the lowest 1.55% of nationwide census tracts and the lowest 5.4% of statewide census tracts.

- **Drought** – According to the NOAA NIDIS, Onondaga County is not affected by drought and had 0.14-inch increase in precipitation in 2025 from normal values. Furthermore, both the short-term and long-term Multi-Indicator Drought Index estimate wet conditions for Onondaga County. According to the NYSERDA ClimAID Report, the number of droughts is likely to increase by the end of the century, however, drought projections are marked by relatively large uncertainty.

- **Storm Severity** – The NYSERDA ClimAID Report indicated that Region 6 had a baseline of 5 days per year with the amount of rainfall exceeding 1 inch. This number is projected to increase to a central range of 6-8 in the 2020s and 2050s and 7-10 in the 2080s. Similarly, the NYSERDA ClimAID Report indicated that Region 6 had a baseline of 0.8 days per year with the amount of rainfall exceeding 2 inches. This number is projected to increase to a central range of 0.6-0.9 in the 2020s and 0.6-1 in the 2050s and 2080s. The proposed Site redevelopment includes the upgrade of stormwater systems, designed to handle 100-year storm events.

- **Landslides** – According to the USGS Landslide Inventory and Susceptibility Map, the Site is located in an area with very low landslide potential.

Based on the above assessment of potential climate hazards, precipitation, temperature, and storm severity are relevant to the Site and precipitation and storm severity can have a potential impact to the Site remedy. However, the proposed Site redevelopment includes the upgrade of stormwater systems, designed to handle 100-year storm events, making the Site and remedy resilient to the climate hazards.

4.1.2.6 Summary

The elements of the remedy with a significant environmental footprint will be tracked to document metrics and identify reductions of the environmental footprint throughout the remediation planning and implementation. The expectation of the environmental footprint from these significant elements are shown in **Table 4-1, Table 4-2,** and **Table 4-3**. The inputs and outputs from C&S' Green Remediation Calculator are provided in **Appendix G.** The actual environmental footprint results will be summarized in the Final Engineering Report (FER).

Table 4-1: Material Removal Metrics

Item / Activity	Volume / Unit	Note
Diesel Use	8139.3 gallons	Operation of on-site equipment and transportation of materials, equipment, waste, workers
Gasoline Use	42.075 gallons	Operation of on-site equipment and transportation of workers
Grid Electricity Usage	0.16 MWh	Charging of CAMP stations each day
Public Water Use	10,000 gallons	Wetting of the Site for CAMP implementation

Item / Activity	Volume / Unit	Note
Import of Construction Materials	500 pounds	Polyethylene sheeting and other miscellaneous material for soil stockpiles
Solid waste to off-site non-hazardous waste landfill	2,100 tons	Export of excess contaminated soil generated during sitework
Solid waste recycled / reused off-site	2,100 tons	Export of clean concrete / asphalt generated during sitework
Solid waste recycled / reused on-site	2,250 tons	Reuse of soil beneath the cover system during sitework and regrading
Off-site laboratory analyses	39 samples	Waste characterization sampling for export of contaminated soil

Table 4-2: Cover System Construction Metrics

Item / Activity	Volume / Unit	Note
Diesel Use	6211.308 gallons	Operation of on-site equipment and transportation of materials, equipment, waste, workers
Gasoline Use	21.0375 gallons	Operation of on-site equipment and transportation of workers
Grid Electricity Usage	0.08 MWh	Charging of CAMP stations each day
Public Water Use	10,000 gallons	Wetting of the Site for CAMP implementation
Import of Construction Materials	1,445 tons	Asphalt for the cover system
	75 tons	Concrete for the cover system
	1,800 tons	Stone base for the cover system
	525 tons	Topsoil for the cover system
	600 pounds	Geotextile demarcation barrier for the cover system
Off-site laboratory analyses	63 samples	Characterization sampling for import of material (stone and topsoil)

Table 4-3: Environmental Footprint Summary

Activity	Total Energy (MMBtu)	lbs CO_2	lbs NOx	lbs SOx	lbs PM	lbs HAPs
On-Site Investigation	1,307	211,488	1,598	51	32	0
Grid Electricity Generation	1.663	208	0	1	0	0
Transportation	696	112,648	843	27	17	0
Off-Site Components	617,571	10,986,392	37,972	120,084	12,246	16,403
Total	**619,576**	**11,310,736**	**40,414**	**120,162**	**12,295**	**16,403**

MMBtu – Metric Million British Thermal Unit
CO_2 – Carbon Dioxide
lbs – Pounds
NOx – Nitrogen Oxides
SOx – Sulfur Oxides
PM – Particulate Matter
HAP – Hazardous Air Pollutants

4.1.3 Site Specific Health & Safety Plan (HASP)

All remedial work performed under this plan will be in full compliance with governmental requirements, including Site and worker safety requirements mandated by Federal Occupational Safety and Health Administration (OSHA).

The Volunteer and associated parties preparing the remedial documents submitted to the State and those performing the construction work, are completely responsible for the preparation of an appropriate HASP and for the appropriate performance of work according to that plan and applicable laws.

The HASP and requirements defined in this RAWP pertain to all remedial and invasive work performed at the Site until the issuance of a Certificate of Completion (COC). A HASP was prepared that details procedures for maintaining safe working conditions and minimizing the potential for exposure to hazardous material. The HASP is provided in **Appendix H**.

The Site Safety Coordinator will be Josh Zona. A resume is provided in **Appendix I**.

Though not anticipated, confined space entry will comply with all OSHA requirements to address the potential risk posed by combustible and toxic gases.

4.1.4 Quality Assurance Project Plan (QAPP)

To ensure that suitable and verifiable data results are obtained from the information collected at the Site, a project Quality Assurance Project Plan (QAPP) has been prepared and outlines the following:

- Quality control objectives including sampling procedures, laboratory certifications, analytical methodologies, and data usability;
- Field sampling techniques including procedures, preparation, measurement, and decontamination; and
- Sample management and handling.

The QAPP is provided in **Appendix J**.

4.1.5 Construction Quality Assurance Plan (CQAP)

The Construction Quality Assurance Plan (CQAP) provides a detailed description of the observation and testing activities that will be used to monitor construction quality and confirm that remedy construction is in conformance with the remediation objectives and specifications. Since the remedial elements will be constructed in concurrence with general site construction, the Property Developer (Hueber-Breuer Construction) and their personnel will have the primary

responsibility for overall project execution, regulatory compliance, and construction quality. The Environmental Consultant (C&S) and their personnel will provide oversight of remedial construction, support regulatory reporting, and confirm adherence to this RAWP. A CQAP has been developed that pertains directly to the remediation objectives and specifications. The CQAP is included below:

- The quality assurance program will be managed by C&S personnel under the direction of the Volunteer and in coordination with the Property Developer. C&S personnel have full authority to halt construction, request corrective measures, or require additional verification testing if work is found to be noncompliant with remedial project requirements.

- All personnel involved in quality assurance activities will be trained in applicable ASTM field procedures and regulatory requirements and will maintain current certifications such as OSHA 40-Hour HAZWOPER.

- C&S personnel will be on-Site during implementation of the RAWP to monitor particulates and organic vapor in accordance with the CAMP, discussed further in **Section 4.1.8**. C&S personnel will meet with the Construction Superintendent daily to discuss the plans for that day and schedule upcoming activities. Field personnel will document remedial activities. Field activities will be forwarded to the C&S Project Manager daily and to the Remedial Engineer on a weekly basis.

- Prior to placement of the final cover system, the prepared sub-grade will be surveyed by a licensed surveyor. The pre-cover survey and the post-cover survey will be compared to document that the Site cover is of adequate thickness.

- C&S personnel will conduct observation and testing throughout the duration of the remedial construction. Continuous visual inspections will be used to confirm that demarcation fabric is placed without gaps, tears, or misalignment, and that the clean soil layer is free from debris or unsuitable material. The thickness of the clean soil cover will be pre-planned using grade stakes.

- Field personnel will screen excavations with a PID during ground-intrusive work. PID readings, including specifically elevated readings, will be recorded in the project field book (or on separate logs) and reported to the NYSDEC and NYSDOH. Field personnel under the direct supervision of the Remedial Engineer will collect documentation samples in accordance with this RAWP.

- Field observations will be recorded on appropriate project logs. Recorded field observations may take the form of notes, charts, sketches, and / or photographs. A photo log will be kept to document construction activities during remediation.

- Upon completion of the cover system installation, a licensed surveyor will conduct a detailed topographic and as-built survey to document the final extent of the cover system. The survey will confirm that cover elements have been placed as specified, final site grades are consistent with the design, and that the delineation between pervious and impervious cover areas is properly established. Survey results will be reviewed by the remedial engineer and incorporated into the FER.

- Throughout construction, regular project coordination meetings will be held to facilitate communication among key project participants, including the Volunteer's representatives, Property Developer, Environmental Consultant, excavation and environmental contractors, and other relevant stakeholders. These meetings will cover progress updates, quality concerns, schedule adjustments, and any required corrective actions.

- Daily reports documenting field activities, weather conditions, personnel and equipment, community air monitoring results, and any observed deviations from the plans will be submitted to the NYSDEC and NYSDOH project managers by noon the following business day.

- C&S personnel will maintain original field paperwork during performance of the remedy. Remedial activities will be documented in the monthly BCP progress reports. The Project Manager will maintain the field paperwork after completion and will maintain submittal document files.

- Supporting data such as visual inspection logs, soil thickness verification, and survey data will be compiled and reviewed by the Remedial Engineer. Nonconformance reports and corrective action documentation will be generated as needed and retained in the project record. Upon completion of remedial construction, a summary of observations and testing, as-built documentation, and certifications by the Remedial Engineer confirming compliance with project specifications will be included in the FER.

4.1.6 Soil / Materials Management Plan (SMMP)

A Soil / Materials Management Plan (SMMP) has been prepared and includes detailed plans for managing all soils / materials that are disturbed at the Site, including excavation, handling, storage, transport and disposal. The SMMP also includes all controls that will be applied to these efforts to assure effective, nuisance-free performance in compliance with all applicable Federal, State and local laws and regulations. The SMMP is provided in **Section 5.4**.

4.1.7 Storm-Water Pollution Prevention Plan (SWPPP)

Since the Site is greater than 1 acre in size, a Storm Water Pollution Prevention Plan (SWPPP) has been prepared to address the requirements of New York State Storm-Water Management Regulations including physical methods to control and / or divert surface water flows and to limit

the potential for erosion and migration of Site soils, via wind or water. The SWPPP was prepared by the Site civil engineering firm, CHA Consulting, Inc.

The erosion and sediment controls will be in conformance with requirements presented in the New York State Standards and Specifications for Erosion and Sediment Control.

The SWPPP is provided in **Appendix K.**

4.1.8 Community Air Monitoring Plan (CAMP)

Air monitoring during ground-intrusive activities will be conducted using PIDs and real-time aerosol particle meters. Air monitoring will be conducted in the work zone for on-site health and safety. Details on air monitoring are provided in **Section 5.4.12**. The CAMP is provided in **Appendix L**.

4.1.9 Contractors Site Operations Plan (SOP)

The Remedial Engineer will review all plans and submittals for this remedial project (including those listed above and contractor / sub-contractor document submittals) and will confirm that they comply with this RAWP. The Remedial Engineer is responsible to ensure that all later document submittals for this remedial project, including contractor / sub-contractor document submittals, comply with this RAWP. All remedial documents will be submitted to NYSDEC and NYSDOH in a timely manner and prior to the start of work.

4.1.10 Citizen Participation Plan

A certification of mailing will be sent by the Volunteer to the NYSDEC project manager following the distribution of all Fact Sheets and notices that includes: (1) certification that the Fact Sheets were mailed, (2) the date they were mailed; (3) a copy of the Fact Sheet, (4) a list of recipients (contact list); and (5) a statement that the repository was inspected and that it contained all of applicable project documents.

No changes will be made to approved Fact Sheets authorized for release by NYSDEC without written consent of the NYSDEC. No other information, such as brochures and flyers, will be included with the Fact Sheet mailing.

The approved Citizen Participation Plan for this project is attached in **Appendix M**.

Document repositories have been established at the following locations and contain all applicable project documents:

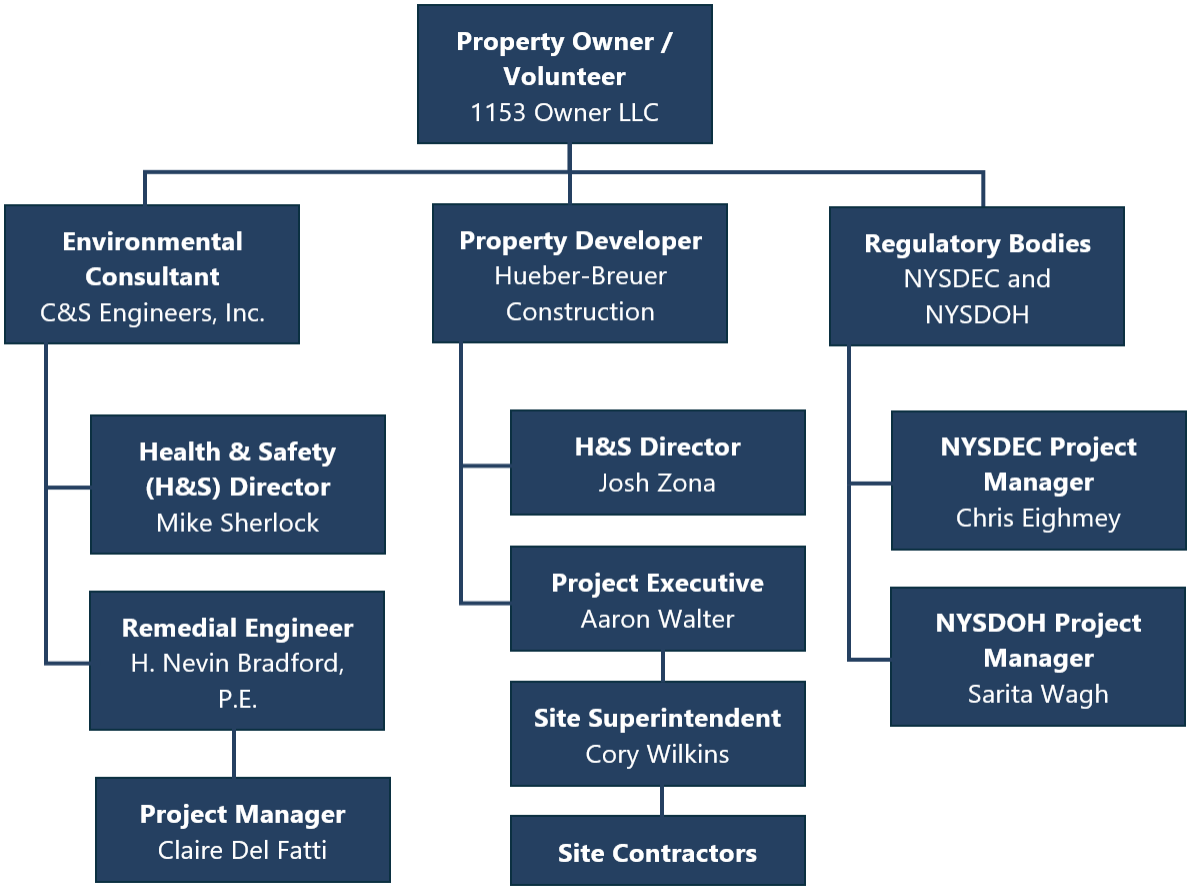
Mundy Branch Library
1204 South Geddes Street, Syracuse, NY 13204
(315) 435-3797
Mon / Tue / Thu / Fri / Sat: 9AM – 5PM
Wed: 9AM – 7:30PM
Sun: Closed

In addition, an electronic repository can be accessed via DECInfo Locator at the following link: https://extapps.dec.ny.gov/data/DecDocs/C734164/.

4.2 General Remedial Construction Information

4.2.1 Project Organization

An organization chart is included below:



Resumes of key personnel involved in the Remedial Action are included in **Appendix I**.

4.2.2 Remedial Engineer

The Remedial Engineer for this project will be H. Nevin Bradford, III. The Remedial Engineer is a registered professional engineer licensed by the State of New York. The Remedial Engineer will have primary direct responsibility for implementation of the remedial program for the 1153-69 West Fayette Street Site (NYSDEC BCA Index No. C734164-04-24 Site No. C734164). The Remedial Engineer will certify in the Final Engineering Report that the remedial activities were observed by qualified environmental professionals under his supervision and that the remediation requirements set forth in the Remedial Action Work Plan and any other relevant provisions of ECL 27-1419 have been achieved in full conformance with that Plan. Other Remedial Engineer certification requirements are listed later in this RAWP.

The Remedial Engineer will coordinate the work of other contractors and subcontractors involved in all aspects of remedial construction, including soil excavation, stockpiling, characterization, removal and disposal, air monitoring, emergency spill response services, import of back fill material, and management of waste transport and disposal. The Remedial Engineer will be responsible for all appropriate communication with NYSDEC and NYSDOH.
The Remedial Engineer will review all pre-remedial plans submitted by contractors for compliance with this RAWP and will certify compliance in the Final Engineering Report.

The Remedial Engineer will provide the certifications listed in **Section 11.1** in the FER.

4.2.3 Remedial Action Construction Schedule

A remedial action construction schedule is provided below:

Table 4-4: Remedial Action Construction Schedule

Date	Task
Monthly by 10th day	Progress reports
May 16, 2025	IRM Work Plan submitted to NYSDEC
May 29, 2025	Draft Environmental Easement (EE) Package Submitted to NYSDEC
June 2025	AAR and RAWP Report submitted to NYSDEC
Summer 2025	IRM Work Plan and AAR / RAWP Approved by NYSDEC and DD Issued
July 1, 2025	IRM and Remedial Action Commences (Performed Under Approved Interim Site Management Plan (ISMP) if DD has not yet been issued)
August 1, 2025	Draft Site Management Plan (SMP) submitted to NYSDEC
October 1, 2025	Remedial system construction complete, including installation / construction of cover system and IRM Completion
October 1, 2025	EE Executed and Final SMP submitted to NYSDEC
October 1, 2025	Draft FER submitted to NYSDEC
November 1, 2025	EE recorded and Notices provided
November 15, 2025	Final FER submitted in final form to NYSDEC

4.2.4 Work Hours

The hours for operation of remedial construction will conform to the City of Syracuse Department of Buildings (DOB) construction code requirements or according to specific variances issued by that agency. NYSDEC will be notified by the Volunteer of any variances issued by DOB. NYSDEC reserves the right to deny alternate remedial construction hours.

4.2.5 Site Security

Site control is an important aspect of this remedial program. In order to safeguard the health and safety of site workers and the general public, access to all remedial work areas will be restricted. Perimeter fencing will be installed to facilitate site control. Additionally, temporary construction fencing will be erected around accessible excavations and staging areas to prevent unauthorized personnel from entering these areas. Following the completion of remedial efforts, the occupied portion of the Site will be controlled with a perimeter chain-link fence and electronically controlled gate.

4.2.6 Traffic Control

Traffic control will include one clearly marked entry and exit point along West Fayette Street, designated haul routes, and restricted zones to ensure the safe movement of vehicles and equipment. Traffic flow will be managed through signage, barricades, and flaggers as needed, particularly in high-risk areas. Vehicle access will be scheduled to minimize congestion and designated parking / staging areas will be established for equipment and personnel to prevent obstruction of active work zones. Emergency access routes will remain clear at all times, and dust suppression measures will be implemented to reduce airborne contaminants. Regular monitoring and adjustments will be made as site conditions change to maintain safety and efficiency.

4.2.7 Contingency Plan

It is not uncommon to encounter unforeseen conditions during remediation or construction at former industrial sites. This could include buried tanks, unknown utilities, fill materials that differ from those observed during the RI, and other similar issues. The discovery of such conditions will be communicated with NYSDEC to determine the appropriate course to address or document the concern.

4.2.8 Worker Training and Monitoring

Worker training and monitoring will be conducted in accordance with the HASP.

4.2.9 Agency Approvals

The Volunteer has addressed all State Environmental Quality Review Act (SEQRA) requirements for this Site. All permits or government approvals required for remedial construction have been, or will be, obtained prior to the start of remedial construction.

The planned end use for the Site is in conformance with the current zoning for the property as demonstrated on the redevelopment plan (**Figure C-101**). A COC will not be issued for the project unless conformance with zoning designation is demonstrated.

A complete list of all federal, state and local governmental permits, certificates or other approvals or authorizations required to perform the remedial and development work is provided in **Table 4-5**. This list includes a citation of the law, statute or code to be complied with, the originating agency, and a contact name and phone number in that agency. This list will be updated in the Final Engineering Report.

Table 4-5: Approvals and Authorizations for Remedial Work / Development

Authorization	Originating Agency	Contact Name	Phone Number
Re-Subdivision	City of Syracuse Office of Zoning Administration	Jacob Dishaw	315-448-8640
Site Plan Approval	City of Syracuse Planning Commission	Steven Kulick	315-448-8640
SEQRA Negative Declaration	City of Syracuse Planning Commission	Steven Kulick	315-448-8640
Industrial Development Agency (IDA) Approval	City of Syracuse IDA	Eric Ennis	315-448-8100
SWPPP Approval as MS4	City of Syracuse Engineering Department	John Kivlehan	315-448-8205
Building Permit	City of Syracuse Central Permit Office	Jacob Dishaw	315-448-8600
Community Participation Plan (CPP) Approval	NYSDEC DER Region 7	Christopher Eighmey	315-426-7558
RIWP Approval	NYSDEC DER Region 7	Christopher Eighmey	315-426-7558
ISMP Approval	NYSDEC DER Region 7	Christopher Eighmey	315-426-7558
RI Report Approval	NYSDEC DER Region 7	Christopher Eighmey	315-426-7558
IRM Work Plan Approval	NYSDEC DER Region 7	Christopher Eighmey	315-426-7558
AAR / RAWP Approval	NYSDEC DER Region 7	Christopher Eighmey	315-426-7558

All planned remedial or construction work in regulated wetlands and adjacent areas will be specifically approved by the NYSDEC Division of Natural Resources to ensure that it meets the requirements for substantive compliance with those regulations prior to the start of construction. Nothing in the approved RAWP or its approval by NYSDEC should be construed as an approval for this purpose.

4.2.10 Pre-Construction Meeting with NYSDEC

A pre-construction meeting will be held between NYSDEC, the Volunteer, the Remedial Engineer, the Construction Manager, and the remediation contractor to discuss roles, responsibilities, and expectations associated with this RAWP.

4.2.11 Emergency Contact Information

An emergency contact sheet with names and phone numbers is included in the HASP. That document will define the specific project contacts for use by NYSDEC and NYSDOH in the case of a day or night emergency.

4.2.12 Remedial Action Costs

The total estimated cost of the Remedial Action is $1.37 million. An itemized and detailed summary of estimated costs for all remedial activity is attached as **Appendix N**. This will be revised based on actual costs and submitted as an Appendix to the Final Engineering Report.

4.3 Site Preparation

4.3.1 Mobilization

Before beginning remedial activities, the remediation contractor will make necessary preparations. Mobilization tasks may include the following:

- Setting up temporary facilities such as offices, storage areas, and decontamination pads;
- Constructing a stabilized construction entrance to control sediment tracking;
- Installing perimeter controls such as silt fences or barriers for erosion control;
- Delivering and staging equipment and materials in designated areas;
- Establishing utility connections, if needed; and
- Implementing safety protocols, including signage and traffic control measures, to regulate site access.

4.3.2 Monitoring Well / Vapor Probe Decommissioning

Existing groundwater monitoring wells will either be protected during remediation and development for use in post-remedial monitoring or will be properly decommissioned in accordance with NYSDEC Commissioners Policy (CP)-43. The only exception to this is if the full length of the well is to be excavated during remediation.

Similarly, existing soil vapor implants installed during the RI will be properly decommissioned unless they are to be fully removed during remediation or used for post-remedial monitoring.

4.3.3 Erosion and Sedimentation Controls

As part of the remedial actions to be performed at the Site, measures will be needed to limit erosion and dust generation. Erosion control and dust suppression techniques will be employed as necessary to limit erosion and fugitive dust generated in disturbed areas during remediation and redevelopment activities. Such techniques may be employed even if the community air monitoring results indicate that particulate levels are below action levels. Techniques may include but are not limited to:

- Using silt fencing, hay bales, and / or mulching
- Applying water on haul roads and ingress / egress points
- Wetting equipment and excavation surfaces
- Hauling materials in properly tarped or watertight containers
- Limiting vehicle speed on the Site
- Limiting the size of excavations
- Covering excavated areas and materials following excavation

Effectiveness of the dust suppression measures will be evaluated based on the results of the air monitoring that will be conducted under the CAMP.

4.3.4 Stabilized Construction Entrance

A stabilized construction entrance for controlling tracking of sediment will be installed at the West Fayette access point and will be properly operated. The entrance will be graded to ensure proper drainage. A geotextile fabric will be placed on the entrance to prevent soil migration and improve stability and a layer of coarse aggregate will be placed on top of the fabric (typically 2- to 3-inch crushed stone to a minimum thickness of 6 inches). The entrance will be wide enough for vehicles and extend at least 50 feet into the Site to reduce mud tracking. Regular maintenance, including adding fresh stone and removing accumulated sediment, will be performed to keep the entrance effective throughout the project.

4.3.5 Utility Marker and Easements Layout

The Volunteer and its contractors are solely responsible for the identification of utilities that might be affected by work under the RAWP and implementation of all required, appropriate, or necessary health and safety measures during performance of work under this RAWP. The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under this RAWP. Volunteer and its contractors must obtain any local, State or Federal permits or approvals pertinent to such work that may be required to perform work under this RAWP. Approval of this RAWP by NYSDEC does not constitute satisfaction of these requirements.

The presence of utilities and easements on the Site has been investigated by the Remedial Engineer. It has been determined that no risk or impediment to the planned work under this Remedial Action Work Plan is posed by utilities or easements on the Site.

4.3.6 Sheeting and Shoring

Appropriate management of structural stability of on-Site or off-Site structures during on-Site activities include excavation is the sole responsibility of the Volunteer and its contractors. The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under this RAWP. The Volunteer and its contractors must obtain any local, State or Federal permits or approvals that may be required to perform work under this RAWP. Further, the Volunteer and its contractors are solely responsible for the implementation of all required, appropriate, or necessary health and safety measures during performance of work under the approved RAWP.

4.3.7 Equipment and Material Staging

Equipment and materials will be staged in designated areas to ensure organized storage and easy access for construction activities. These staging areas will be strategically located to minimize congestion, improve workflow, and enhance site safety. The remediation contractor will notify the Volunteer and Remedial Engineer in advance of site mobilization.

4.3.8 Decontamination Area

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

4.3.9 Site Fencing

Site fencing will be installed around the perimeter to restrict unauthorized pedestrian access and enhance safety. The fencing will be secure, clearly marked with signs, and regularly inspected to maintain its effectiveness throughout the project.

4.3.10 Demobilization

Following the completion of remedial activities, the remediation contractor will demobilize equipment and materials not designated for off-site disposal. The Remedial Engineer will document the demobilization activities and confirm that the following has been completed:

- Restoration of areas that may have been disturbed to accommodate support areas (e.g., staging areas, decontamination areas, storage areas, temporary water management areas, and access area);

- Removal of temporary access areas (whether on-Site or off-Site) and restoration of disturbed access areas to pre-remediation conditions;
- Removal of sediment and erosion control measures and disposal of materials in accordance with acceptable rules and regulations;
- Equipment decontamination; and
- General refuse disposal.

4.4 Reporting

All daily and monthly Reports will be included in the Final Engineering Report.

4.4.1 Daily Reports

Daily reports will be submitted to NYSDEC and NYSDOH Project Managers by noon of each day following the reporting period and will include:

- An update of progress made during the reporting day;
- Locations of work and quantities of material imported and exported from the Site;
- References to alpha-numeric map for Site activities;
- A summary of any and all complaints with relevant details (names, phone numbers);
- A summary of CAMP finding, including excursions;
- Photographs of site activities;
- An explanation of notable Site conditions.

Daily reports are not intended to be the mode of communication for notification to the NYSDEC of emergencies (accident, spill), requests for changes to the RAWP or other sensitive or time critical information. However, such conditions must also be included in the daily reports. Emergency conditions and changes to the RAWP will be addressed directly to NYSDEC Project Manager via personal communication.

Daily Reports will include a description of daily activities keyed to an alpha-numeric map for the Site that identifies work areas. These reports will include a summary of CAMP results, odor and dust excursions and corrective actions, and all complaints received from the public.

A Site map that shows a predefined alpha-numeric grid for use in identifying locations described in reports submitted to NYSDEC is attached in **Figure 2**.

The NYSDEC assigned project number will appear on all reports.

4.4.2 Monthly Reports

Monthly reports will be submitted to NYSDEC and NYSDOH Project Managers by the 10th day of each month following the reporting period and will include:

- Activities relative to the Site during the previous reporting period and those anticipated for the next reporting period, including a quantitative presentation of work performed (e.g., tons / cubic yards of material exported and imported, etc.);
- Description of approved activity modifications, including changes of work scope and / or schedule;
- Sampling results received following internal data review and validation, as applicable;
- An update of the remedial schedule including the percentage of project completion, unresolved delays encountered or anticipated that may affect the future schedule, and efforts made to mitigate such delays; and
- Tracking of Green and Sustainable Remediation (GSR) metrics determined during the design process.

4.4.3 Other Reporting

Photographs will be taken of all remedial activities and submitted to NYSDEC in digital (JPEG) format. Photos will illustrate all remedial program elements and will be of acceptable quality. Representative photos of the Site prior to any Remedial Actions will be provided. Representative photos will be provided of each contaminant source, source area and Site structures before, during and after remediation. Photos will be included in the daily reports as needed, and a comprehensive collection of photos will be included in the FER.

Progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the FER, including a comparison to the goals established during the remedial program. Regular updates to the metrics used (SEFA, SiteWise™ or otherwise approved method) should be included.

The Climate Screening process and results will be documented in the form of a completed checklist and brief letter report. If the Climate Screening results indicate that a Climate Change Vulnerability Assessment (CVA) is necessary, a complete CVA Report will be developed. The CVA Report will be included as an Appendix or Attachment in relevant documents and / or submitted as a standalone report.

Job-site record keeping for all remedial work will be appropriately documented. These records will be maintained on-Site at all times during the project and be available for inspection by NYSDEC and NYSDOH staff.

4.4.4 Complaint Management Plan

To address public complaints regarding nuisances such as noise, dust, or traffic disruptions, a structured complaint management process will be implemented. Each complaint will be logged with details such as the nature of the issue, time, and location. Upon receipt, the complaint will be investigated promptly, and appropriate corrective actions, such as dust suppression, noise reduction, or adjusted work hours, will be taken as necessary. The complainant will be informed

of the resolution steps, and follow-ups will be conducted if required. All complaints and responses will be recorded to ensure accountability and reported to NYSDEC.

4.4.5 Deviations from the Remedial Action Work Plan

Any deviations from the RAWP will be communicated to NYSDEC via telephone or email. All deviations will be documented and will include:

- Reasons for deviating from the approved RAWP;
- Approval process to be followed for changes / editions to the RAWP;
- Effect of the deviations on overall remedy.

5.0 REMEDIAL ACTION: MATERIAL REMOVAL FROM SITE

The remediation will include the excavation, stockpiling, and disposal of approximately 1,400 cubic yards of contaminated fill / soil as a result of Site regrading. The quantity of fill / soil to be disposed of off-site will be reduced through re-use of the contaminated fill / soil below the cover system.

5.1 Soil Cleanup Objectives

The Soil Cleanup Objectives for this Site are established in 6 NYCRR 375-6 for Commercial Use and NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances.

Soil and materials management on-Site and off-Site will be conducted in accordance with the Soil / Materials Management Plan as described below.

Table 2 and **Table 3** summarize all soil samples that exceed the SCOs proposed for this Remedial Action. Spider maps that show all soil samples that exceed the SCOs proposed for this Remedial Action are shown in **Figure 5**, **Figure 6a**, and **Figure 6b**.

Although no USTs have been identified thus far, any unanticipated UST closures will, at a minimum, conform to criteria defined in DER-10.

5.2 Remedial Performance Evaluation (Post Excavation End-Point Sampling)

Post-excavation end-point sampling is not anticipated as part of this Remedial Action.

5.3 Estimated Material Removal Quantities

The estimated quantity of soil / fill to be removed from the Site is 1,400 cubic yards. The estimated quantity of soil to be imported into the Site for backfill and cover soil is 1,200 cubic yards of stone base and 350 cubic yards of topsoil. The estimated quantity of soil / fill expected to be reused / relocated on Site is 1,500 cubic yards. The proposed grading plan is provided in **Figure C-201**.

5.4 Soil / Materials Management Plan

This SMMP outlines the procedures for handling, segregating, storing, transporting, reusing, and disposing of contaminated soil and materials at the Site. The plan establishes methods to be employed for successful soil and material management while minimizing potential risks such as cross-contamination, airborne dust, and runoff. The Remedial Engineer and field personnel working under his supervision, will be responsible for monitoring and documenting the handling and transport of material. The Remedial Engineer and appropriate field personnel will also be responsible for identifying materials to be transported off-site versus temporary on-site stockpiling, selection of samples for characterization, and determining appropriate off-site disposal facilities, if necessary.

5.4.1 Soil Screening Methods

Visual, olfactory and PID soil screening and assessment will be performed by a qualified environmental professional or experienced field geologist under the direction of the Remedial Engineer during all remedial and development excavations into known or potentially contaminated material. Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during the remedy and during development phase, such as excavations for foundations and utility work, prior to issuance of the COC.

Screening will be completed using a portable PID, to document whether volatile organic compounds (VOCs) are released from the soil. The PID screening will be performed using headspace analysis methods, by placing a representative portion of the soil sample into a re-sealable plastic bag and monitoring the airspace surrounding the soil within the bag as the soil is agitated to promote the release of VOCs. The PID will be calibrated daily with a 100-ppm isobutylene / air calibration gas mixture.

As needed, soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil.

Although it is not anticipated, any primary contaminant sources (including but not limited to tanks and hotspots) identified during Site Characterization, Remedial Investigation, and Remedial Action will be surveyed by a surveyor licensed to practice in the State of New York. This information will be provided on maps in the FER.

Screening will be performed by qualified environmental professionals. Resumes are provided in **Appendix I** for all personnel responsible for field screening (e.g., those representing the Remedial Engineer) of invasive work for unknown contaminant sources during remediation and development work.

5.4.2 Stockpile Methods

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by NYSDEC. At a minimum, a storm event should be considered a rainfall of three inches or greater in 12 hours. Judgement should be used to evaluate water infiltration, nearby waterbodies where runoff is likely, and engineering controls that may be affected.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.
Soil stockpiles will be continuously encircled with silt fences. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Water will be available on-site at suitable supply and pressure for use in dust control.

5.4.3 Materials Excavation and Load Out

The Remedial Engineer or a qualified environmental professional under his supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the Site has been investigated by the Remedial Engineer. It has been determined that no risk or impediment to the planned work under this Remedial Action Work Plan is posed by utilities or easements on the Site. A Site utility stakeout will be completed for all utilities prior to any ground intrusive activities at the Site.

Loaded vehicles leaving the Site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and New York State Department of Transportation (NYSDOT) requirements (and all other applicable transportation requirements). Trucks transporting contaminated soil must have either tight-fitting opaque covers that are secured on the sides and / or back, or opaque covers that are locked on all sides.

Vehicles leaving the Site will not be overloaded. The Remedial Engineer's representative will make reasonable efforts to ensure that vehicles are not loaded beyond their NYSDOT weight rating and that all material is secured beneath the truck bed cover.

A truck wash will be operated on-Site. The Remedial Engineer will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the Site until the remedial construction is complete.

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

The Remedial Engineer will be responsible for ensuring that all egress points for truck and equipment transport from the Site will be clean of dirt and other materials derived from the Site during Site remediation and development. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site -derived materials.

The Volunteer and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all invasive work, the structural integrity of excavations, and for structures that may be affected by excavations (such as building foundations and bridge footings).
The Remedial Engineer will ensure that Site development activities will not interfere with, or otherwise impair or compromise, remedial activities proposed in this Remedial Action Work Plan.

Although it is not anticipated, any hotspots or structures to be remediated will be removed and end-point remedial performance sampling completed before excavations related to Site development commence proximal to the hotspot or structure.

Development-related grading cuts and fills will not be performed without NYSDEC approval and will not interfere with, or otherwise impair or compromise, the performance of remediation required by this plan.

Mechanical processing of historical fill and contaminated soil on-Site is prohibited.

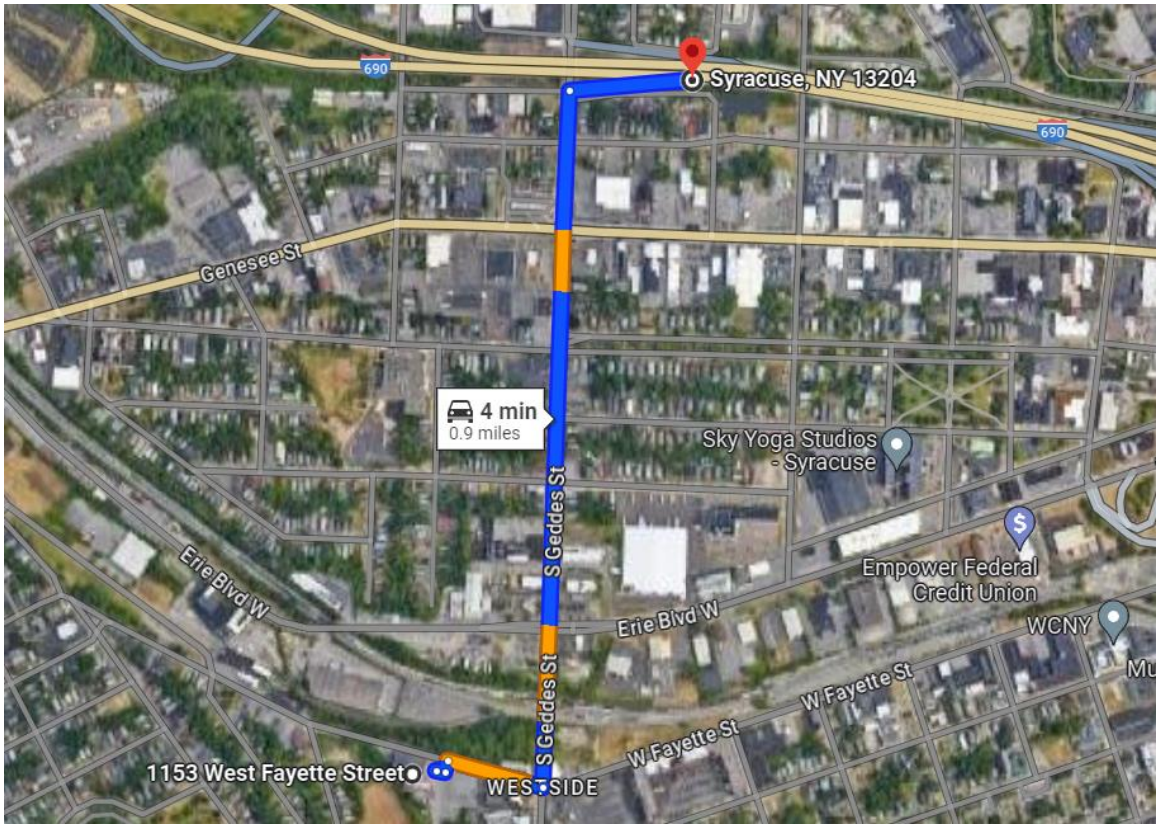
Although it is not anticipated, any primary contaminant sources identified during Site Characterization, Remedial Investigation, and Remedial Action will be surveyed by a surveyor licensed to practice in the State of New York. The survey information will be shown on maps to be reported in the FER.

5.4.4 Materials Transport Off-Site

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

Truck transport routes connect the Site to I-690 eastbound and westbound via West Fayette Street or South Geddes Street, major transportation corridors. All trucks loaded with Site materials will exit the vicinity of the Site using only these approved truck routes.

Proposed in-bound and out-bound truck routes to the Site are shown below. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off- Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport. Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site.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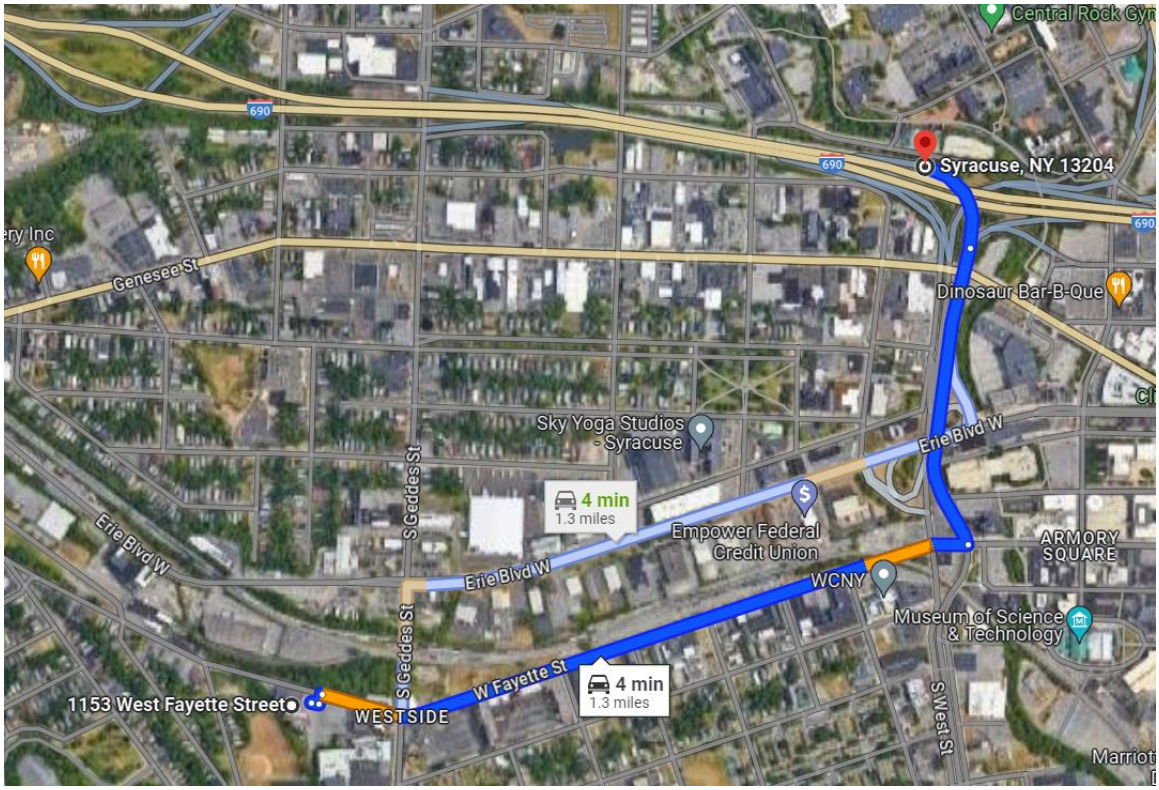
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Empower Federal Credit Union
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WCNY
Museum of Science & Technology
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Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development.

Queuing of trucks will be performed on-Site in order to minimize off-Site disturbance. Off-Site queuing will be prohibited.

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

All trucks will be washed prior to leaving the Site. Truck wash waters will be collected and disposed of off-Site in an appropriate manner.

5.4.5 Materials Disposal Off-Site

Disposal locations have not yet been established. Disposal location established at a later date will be reported to the NYSDEC Project Manager.

The total quantity of material expected to be disposed off-Site is 1,400 cubic yards of soil to a solid waste landfill.

All soil / fill / solid waste excavated and removed from the Site will be treated as contaminated and regulated material and will be disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil / fill from this Site is proposed for unregulated disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to NYSDEC's Project Manager. Unregulated off-Site management of materials from this Site is prohibited without formal NYSDEC approval.

Material that does not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360.15 Registration Facility).

The following documentation will be obtained and reported by the Remedial Engineer for each disposal location used in this project to fully demonstrate and document that the disposal of material derived from the Site conforms with all applicable laws: (1) a letter from the Remedial Engineer or BCP Volunteer to the receiving facility describing the material to be disposed and requesting formal written acceptance of the material. This letter will state that material to be disposed is contaminated material generated at an environmental remediation Site in New York State. The letter will provide the project identity and the name and phone number of the Remedial Engineer. The letter will include as an attachment a summary of all chemical data for the material being transported (including Site Characterization data); and (2) a letter from all receiving facilities stating it is in receipt of the correspondence (above) and is approved to accept the material. These documents will be included in the FER.

Non-hazardous historic fill and contaminated soils taken off-Site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360.2. The Remedial Engineer is responsible for assuring material is properly characterized and determining the appropriate disposal methods based on the characterization results.

Historical fill and contaminated soils from the Site are prohibited from being disposed at Part 360.15 Registration Facilities (also known as Soil Recycling Facilities).

Soils that are contaminated but non-hazardous and are being removed from the Site are considered by the NYSDEC Division of Materials Management (DMM) to be Construction and Demolition (C/D) materials with contamination not typical of virgin soils. These soils may be sent to a permitted Part 360 landfill. They may be sent to a permitted C/D processing facility without permit modifications only upon prior notification of NYSDEC DMM. This material is prohibited from being sent or redirected to a Part 360-15 Registration Facility. In this case, as dictated by DMM, special procedures will include, at a minimum, a letter to the C/D facility that provides a detailed explanation that the material is derived from a DER remediation Site, that the soil material is contaminated and that it must not be redirected to on-Site or off-Site Soil Recycling Facilities. The letter will provide the project identity and the name and phone number of the Remedial Engineer. The letter will include as an attachment a summary of all chemical data for the material being transported.

The FER will include an accounting of the destination of all material removed from the Site during this Remedial Action, including excavated soil, contaminated soil, historic fill, solid waste, and hazardous waste, non-regulated material, and fluids. Documentation associated with disposal of all material must also include records and approvals for receipt of the material. This information will also be presented in a tabular form in the FER.

Bill of Lading system or equivalent will be used for off-Site movement of non-hazardous wastes and contaminated soils. This information will be reported in the FER.

Hazardous wastes derived from on-Site will be stored, transported, and disposed of in full compliance with applicable local, State, and Federal regulations.

Appropriately licensed haulers will be used for material removed from this Site and will be in full compliance with all applicable local, State and Federal regulations.

Waste characterization sampling will be performed exclusively for the purposes of off-Site soil disposal in a manner suitable to receiving facilities and in conformance with applicable federal, state and local laws rules and regulations and facility-specific permits. Sampling and analytical methods, sampling frequency, analytical results and QA/QC associated with waste characterization activities will be reported in the FER. All data available for soil/material to be disposed at a given facility must be submitted to the disposal facility with suitable explanation prior to shipment and receipt. Waste characterization data will be used solely for complying with requirements for off-site disposal. Waste Characterization sampling cannot be utilized for:

- Delineating the extent of contamination required for remediation at a Site.
- Replacing or substituting data collected as part of Site Characterization and/or Remedial Investigation.
- Replacing or substituting confirmation or documentation sampling as described in NYSDEC DER-10, Section 5.4.
- To modify remedial decisions as formalized in a NYSDEC approved DD or Record of Decision.

5.4.6 Materials Reuse On-Site

Proposed materials for reuse on-site must be sampled for full suite analytical parameters including per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. The sampling frequency will be in accordance with DER-10 Table 5.4(e)10 unless prior approval is obtained from the NYSDEC project manager for modification of the sampling frequency.

Chemical criteria for on-Site reuse of material have been approved by NYSDEC. These criteria are listed in NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil for Commercial Use, and NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances. The Remedial Engineer will ensure that procedures defined for materials reuse in this RAWP are followed and that unacceptable material will not remain on-Site. Approvals for modifications to the analytical parameters must be obtained from the NYSDEC project manager prior to the sampling event.

Soil / fill material for reuse on-site will be segregated and staged as described in **Section 5.4.1** and **Section 5.4.2**. The anticipated size and location of stockpiles will be provided in the 15-day notification to the NYSDEC project manager. Stockpile locations will be based on the location of Site excavation activities and proximity to nearby Site features. Material reuse on-site will comply with requirements of NYSDEC DER-10 Section 5.4(e)4. Any modifications to the requirements of DER-10 Section 5.4(e)4 must be approved by the NYSDEC project manager.

Sampling conducted to determine acceptable reuse must include collection of all necessary QA / QC samples, including, matrix spike / matrix spike duplicate (MS / MSD) samples, duplicate samples, equipment blanks for applicable parameters, etc. Laboratory deliverables will be Category B deliverables. Laboratory reporting limits will be sufficient to determine compliance with the soil cleanup objectives (SCOs). VOC samples will be collected in accordance with USEPA Method 5035.

A "Request to Import/Reuse Fill Material" form will be filed with the NYSDEC project manager for review and approval prior to material reuse on the site. A copy of the form is presented in **Appendix O**. Acceptable demolition material proposed for reuse on-Site, if any, will be sampled for asbestos.

Concrete crushing or processing on-Site is prohibited, unless NYSDEC has specifically approved on-site processing and reuse of acceptable demolition material.

Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the Site is prohibited for reuse on-Site.

Contaminated on-Site material, including historic fill and contaminated soil, removed for grading or other purposes will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines. This will be expressed in the Site Management Plan (SMP).

5.4.7 Fluids Management

All liquids to be removed from the Site, including dewatering fluids, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Liquids discharged into the New York City sewer system will be addressed through approval by New York City Department of Environmental Protection (NYCDEP).

Dewatered fluids will not be recharged back to the land surface or subsurface of the Site. Dewatering fluids will be managed off-Site.

Discharge of water generated during remedial construction to surface waters (i.e. a local pond, stream, river and/or storm sewer) is prohibited without a SPDES permit.

5.4.8 Demarcation

After the completion of soil removal, site grading, sub-grade preparation, and any other invasive remedial activities and prior to backfilling, a land survey will be performed by a New York State licensed surveyor. The survey will define the top elevation of residual contaminated soils. A physical demarcation layer, consisting of orange snow fencing material, high visibility geotextile, or equivalent material will be placed on this surface to provide a visual reference. This demarcation layer will constitute the top of the 'Residuals Management Zone', the zone that requires adherence to special conditions for disturbance of contaminated residual soils defined in the SMP. The survey will measure the grade covered by the demarcation layer before the placement of cover soils, pavement and sub-soils, structures, or other materials. This survey and the demarcation layer placed on this grade surface will constitute the physical and written record of the upper surface of the 'Residuals Management Zone' in the SMP. A map showing the survey results will be included in the FER and the SMP.

5.4.9 Backfill from Off-Site Sources

All materials proposed for import onto the Site will be approved by the Remedial Engineer and will be in compliance with provisions in this RAWP prior to receipt at the Site.

Material from industrial sites, spill sites, other environmental remediation sites or other potentially contaminated sites will not be imported to the Site. Solid waste will not be imported onto the Site. The FER will include the following certification by the Remedial Engineer: "I certify that all import of soils from off-Site, including source evaluation, approval and sampling, has been performed in a manner that is consistent with the methodology defined in the Remedial Action Work Plan".

All imported soils will meet NYSDEC approved backfill or cover soil quality objectives for this Site as established in 6 NYCRR 375-6.7(d), NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil for Commercial Use, and NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances. Non-compliant soils will not be imported onto the Site without prior approval by NYSDEC. Nothing in the approved RAWP or its approval by NYSDEC should be construed as an approval for this purpose.

Soils that meet 'general fill' requirements under 6 NYCRR Part 360.13, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC. Nothing in this RAWP should be construed as an approval for this purpose.

A "Request to Import/Reuse Fill Material" form will be filed with the NYSDEC project manager for review and approval prior to import to the site. A copy of the form is presented in **Appendix O**.

5.4.10 Stormwater Pollution Prevention

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

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

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

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

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

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

A complete SWPPP is included in **Appendix K**.

5.4.11 Contingency Plan

If underground tanks or other previously unidentified contaminant sources are found during on-Site remedial excavation or development related construction, sampling will be performed on product, sediment and surrounding soils, etc. in accordance with DER-10. Chemical analytical work will be for full scan parameters (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides, PCBs and PFAS). Analyses will not be otherwise limited without NYSDEC approval.

Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone to NYSDEC's Project Manager. These findings will be also included in daily and periodic electronic media reports.

5.4.11.1 Extreme Storm Preparedness and Response Contingency Plan

Damage from flooding or storm surge can include dislocation of soil and stockpiled materials, dislocation of site structures and construction materials and equipment, and dislocation of support of excavation structures. Damage from wind during an extreme storm event can create unsafe or unstable structures, damage safety structures and cause downed power lines creating dangerous site conditions and loss of power. In the event of emergency conditions caused by an extreme storm event, the Volunteer will undertake the following steps for site preparedness prior to the event and response after the event.

Storm Preparedness

Preparations in advance of an extreme storm event will include the following: containerized hazardous materials and fuels will be removed from the property; loose materials will be secured to prevent dislocation and blowing by wind or water; heavy equipment such as excavators and generators will be removed from excavated areas, trenches and depressions on the property to high ground or removed from the property; an inventory of the property with photographs will be performed to establish conditions for the site and equipment prior to the event; stockpile covers for soil and fill will be secured by adding weights such as sandbags for added security and worn or ripped stockpile covers will be replaced with competent covers; stockpiled hazardous wastes will be removed from the property; stormwater management systems will be inspected and fortified, including, as necessary: clean and reposition silt fences, hay bales; clean storm sewer filters and traps; and secure and protect pumps and hosing.

Storm Response

At the conclusion of an extreme storm event, as soon as it is safe to access the property, a complete inspection of the property will be performed. A site inspection report will be submitted to NYSDEC at the completion of site inspection and after the site security is assessed. Site conditions will be compared to the inventory of site conditions and material performed prior to the storm event and significant differences will be noted. Damage from storm conditions that result in acute public safety threats, such as downed power lines or imminent collapse of buildings, structures or equipment will be reported to public safety authorities via appropriate means such as calling 911.

Petroleum spills will be reported to NYSDEC within 2 hours of identification and consistent with State regulations. Public safety structures, such as construction security fences will be repaired promptly to eliminate public safety threats. Debris will be collected and removed.

Dewatering will be performed in compliance with existing laws and regulations and consistent with emergency notifications, if any, from proper authorities. Eroded areas of soil including unsafe slopes will be stabilized and fortified. Dislocated materials will be collected and appropriately managed. Support of excavation structure will be inspected and fortified as necessary. Impacted stockpiles will be contained and damaged stockpile covers will be replaced. Stormwater control systems and structures will be inspected and maintained as necessary.

If soil or fill materials are discharged off site to adjacent properties, property owners and NYSDEC will be notified, and corrective measure plan designed to remove and clean dislocated material will be submitted to NYSDEC and implemented following approval by NYSDEC and granting of site access by the property owner. Impacted offsite areas may require characterization based on site conditions, at the discretion of NYSDEC.

If onsite petroleum spills are identified, a qualified environmental professional will determine the nature and extent of the spill and report to NYSDEC's spill hotline at (800) 457-7362 within statutory defined timelines. If the source of the spill is ongoing and can be identified, it should be stopped if this can be done safely. Potential hazards will be addressed immediately, consistent with guidance issued by NYSDEC.

Storm Response Reporting

A site inspection report will be submitted to NYSDEC at the completion of site inspection. An inspection report will be used for this purpose. Site conditions will be compared to the inventory of site conditions and material performed prior to the storm event and significant differences will be noted. The site inspection report will be sent to the NYSDEC project manager and will include the site name, address, tax block and lot, site primary and alternate contact name and phone number.

Damage and soil release assessment will include: whether the project had stockpiles; whether stockpiles were damaged; photographs of damage and notice of plan for repair; report of whether soil from the site was dislocated and whether any of the soil left the site; estimates of the volume of soil that left the site, nature of impact, and photographs; description of erosion damage; description of equipment damage; description of damage to the remedial program or the construction program, such as damage to the support of excavation; presence of onsite or offsite exposure pathways caused by the storm; presence of petroleum or other spills and status of spill reporting to NYSDEC; description of corrective actions; schedule for corrective actions.

This report should be completed and submitted to NYSDEC project manager with photographs within 24 hours of the time of safe entry to the property after the storm event.

5.4.12 Community Air Monitoring Plan

Air sampling locations are to be determined and adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and downwind monitoring station. Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

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

Exceedances observed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers and included in the Daily Report.

5.4.13 Odor, Dust and Nuisance Control Plan

The FER will include the following certification by the Remedial Engineer: "I certify that all invasive work during the remediation and all invasive development work were conducted in accordance with dust and odor suppression methodology defined in the Remedial Action Work Plan."

5.4.13.1 Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors off-Site. Specific odor control methods to be used on a routine basis is not anticipated to be necessary due to lack of petroleum or chemical impacts. If nuisance odors are identified, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of all other complaints about the project. Implementation of all odor controls, including the halt of work, will be the responsibility of the Volunteer's Remedial Engineer, who is responsible for certifying the FER.

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

Where odor nuisances have developed during remedial work and cannot be corrected, or where the release of nuisance odors cannot otherwise be avoided due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering excavation and handling areas under tented containment structures equipped with appropriate air venting / filtering systems.

5.4.13.2 Dust Control Plan

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

- Water will be available on-site at suitable supply and pressure for use in dust control.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-Site roads will be limited in total area to minimize the area required for water spraying.

5.4.13.3 Other Nuisances

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

If necessary, a plan will be developed and utilized by the contractor for all remedial work and will conform, at a minimum, to NYCDEP noise control standards.

6.0 RESIDUAL CONTAMINATION TO REMAIN ON-SITE

Since residual contaminated soil will exist beneath the Site after the remedy is complete, Engineering and Institutional Controls (ECs and ICs) are required to protect human health and the environment. These ECs and ICs are described hereafter. Long-term management of EC / ICs and of residual contamination will be executed under a Site-specific Site Management Plan (SMP) that will be developed and included in the FER.

ECs will be implemented to protect public health and the environment by appropriately managing residual contamination. The Controlled Property (the Site) will have two primary EC systems:

- A composite cover system consisting of asphalt covered roads, concrete covered sidewalks, concrete building slabs, and clean soil cover.

- An active SSD system in the Annex to mitigate carbon tetrachloride impacts in soil vapor.

The FER will report residual contamination on the Site in tabular and map form. This will include presentation of exceedances of both Track 1 and Track 4 sites.

7.0 ENGINEERING CONTROLS: SITE COVER SYSTEM

Exposure to residual contaminated soils will be prevented by an engineered site cover system that will be built on the Site. This site cover system will be comprised of asphalt covered roads, concrete covered sidewalks, concrete building slabs, and clean soil cover.

Green remediation BMPs for designing and installing a conventional cover system include:

- Design in ways that mimic rather than alter the site's natural setting, to improve the cover's long-term performance and protect ecosystem services such as potable water, wildlife habitat, and carbon storage;
- Design a cover accounting for potential effects of climate change, which could involve changes in onsite soil development or increased vulnerability to flooding;
- Use uncontaminated soil or sediment from onsite excavation instead of imported soil / sediment for the cover's frost prevention and erosion control layers; similarly, uncontaminated sand, gravel, and rocks from onsite instead of offsite areas may be used for drainage;
- Apply low impact development strategies such as installing earthen berms to manage stormwater;
- Choose geotextile fabric or drainage tubing composed of 100% recycled materials rather than virgin materials for lining, erosion control, and drainage;
- Select materials with biobased content for daily activities during cover construction;
- Use clean fuel and emission control technologies for routine field vehicles and machinery such as backhoes and bulldozers to reduce fuel consumption and emission of air pollutants such as GHGs and particulate matter; and
- Investigate onsite solar and wind resources to power equipment such as leachate pumps and flare units.

For alternative cover designs:

- Consider using asphalt rubber (containing recycled tires) where the cover system includes a layer of asphalt;
- Substitute concrete with high albedo pavement, which reflects sunlight and heat away from the cover surface and may aid growth of nearby vegetation; and

- Consider using concrete containing a high percentage of industrial waste by-products as a substitute for cement, if tests show no contaminant leaching.

In addition to BMPs that apply to conventional covers, BMPs for designing and installing an evapotranspiration cover include:

- Choose recycled (crushed) concrete for biobarriers or capillary breaks instead of natural rock;
- Select native drought-resistant plants for the upper vegetative layer to reduce maintenance needs;
- Preserve biodiversity and related ecosystem services by installing a suitable mix of native shrubs, grasses, and forbs; and
- Use non-synthetic amendments such as compost instead of chemical fertilizers if the soil or vegetation is found to need supplementation over time.

7.1 Soil Cover System

The following criteria apply to the construction of the soil cover system:

- The soil cover will be a minimum of one foot of clean soil placed over a fabric demarcation layer and will be installed in areas that will be landscaped.
- Soil cover material, including any fill material brought to the site, will meet the requirements in 6 NYCRR Part 375-6.7(d) and approved by NYSDEC prior to import.
- Existing surfaces and grades will be adjusted (excavated or filled) to accommodate a minimum of one foot of soil cover system to meet proposed final grades. The locations required to receive the soil cover system are shown as "landscape – soil cover required" in **Figure 13**.
- The upper six inches of soil will be of sufficient quality to maintain a vegetative cover. The soil cover will be planted with grasses, shrubs, trees, and other vegetation suited for growing in the Northeast.
- Each excavation will be surveyed prior and subsequent to soil placement to confirm that a minimum of one foot of soil cover has been placed over the demarcation layer.
- The soil cover will extend to the hardscape cover system (buildings, asphalt pavement or concrete pavement as detailed below) and / or property boundaries.

- Onsite HFM which needs to be excavated to accommodate the soil cover system may be beneficially reused onsite by being placed below the demarcation layer and soil cover system. HFM that cannot be beneficially used below the soil cover system or hardscape cover system will be transported off-site for proper disposal.

7.2 Hardscape Cover System

The hardscape cover system will be installed in areas of the Site not protected by the soil cover system. The hardscape cover system will consist of either building foundations and floor slabs or asphalt pavement or concrete pavement. Asphalt pavement will be used in vehicle circulation and parking areas and will consist of a minimum of four inches of compacted asphaltic concrete. Concrete sidewalks, pads, and ramps will consist of Portland cement-based concrete.

A diagram showing the design detail for the soil cover is shown in **Figure 13** and the design details for each type of hardscape cover type is shown in **Figure C-601**. A map showing the aerial distribution of each of the cover types to be built at the Site is included in **Figure 13**.

An Excavation Plan will be included in the Site Management Plan and will outline the procedures to be followed if the site cover system and underlying residual contamination are disturbed after the Remedial Action is complete.

The components of the site cover system will be documented in the FER. Maintenance of this site cover system will be described in the SMP.

8.0 ENGINEERING CONTROLS: SSD SYSTEM

Since contaminated soil vapor exists beneath the site, Engineering Controls (EC) are required to protect human health and the environment. The Site's primary Engineering Control is an SSD system in the Annex. A description of the SSD system is as follows:

- The system is designed to maintain adequate negative pressure beneath all areas of the Annex to prevent soil vapor intrusion.

- Two sub-slab perforated pipe networks will be installed across the Annex. Each network will be installed by excavating trenches, placing perforated piping within the trenches, and backfilling the trenches with coarse stone to enhance communication across the slab. The top of the trenches will be sealed with concrete.

- Each sub-slab perforated piping network will be connected to a riser that penetrates the exterior Annex wall. Appropriately sized fans will be mounted on the outside of the Annex wall and will discharge air vertically above the roof line.

- Discharge points will be located at least 20 feet away from air intakes or other openings to the building (e.g. doors and windows).

- All foundation and exterior wall penetrations will be sealed in an air-tight manner.

- Manometers and alarms will be installed on each riser to monitor pressure differential and system status.

The SSD System Design Documents were provided to NYSDEC and NYSDOH on September 19, 2025 under a separate cover. All as-built drawings will be presented in the FER. Procedures for monitoring, operating and maintaining the SSD system will be provided in the SMP.

Following installation and activation of the SSD system, a pre-occupancy SVI investigation of on-site buildings will be conducted. The SVI investigation will include the following:

- Collection of indoor air samples from the Annex.

- Collection of collocated crawl space air samples and indoor air samples from the Main Budling.

- Collection of collocated sub-slab vapor samples and indoor air samples from the Barn.

- This pre-occupancy sampling will be performed consistent with NYSDOH guidelines; during the heating season, when HVAC systems are fully functional, and when the building envelope is complete.

The Site Management Plan provides comprehensive guidance for the required pre-occupancy SVI investigation of on-site buildings following installation of the SSD system. The sampling will be conducted as part of Site Management and the results of the sampling will be provided under separate cover.

9.0 CRITERIA FOR COMPLETION OF REMEDIATION / TERMINATION OF REMEDIAL SYSTEMS

9.1 Composite Cover System

The composite cover system is a permanent control, and the quality and integrity of this system will be inspected at defined, regular intervals in perpetuity.

9.2 Soil Vapor Extraction (SVE) System

The active SSD system will not be discontinued without written approval by NYSDEC and NYSDOH. A proposal to discontinue the active SSD system may be submitted by the property owner based on confirmatory data that justifies such request. Systems will remain in place and operational until permission to discontinue use is granted in writing by NYSDEC and NYSDOH.

10.0 INSTITUTIONAL CONTROLS

After the remedy is complete, the Site will have residual contamination remaining in place. Engineering Controls (ECs) for the residual contamination have been incorporated into the remedy to render the overall Site remedy protective of public health and the environment. Two elements have been designed to ensure continual and proper management of residual contamination in perpetuity: an Environmental Easement and a Site Management Plan (SMP).

All as-built drawings, diagrams, calculation and manufacturer documentation for treatment systems will be presented in the FER. A Site-specific Environmental Easement will be recorded with Onondaga County to provide an enforceable means of ensuring the continual and proper management of residual contamination and protection of public health and the environment in perpetuity or until released in writing by NYSDEC. It requires that the grantor of the Environmental Easement and the grantor's successors and assigns adhere to all Engineering and Institutional Controls (ECs / ICs) placed on this Site by this NYSDEC-approved remedy. ICs provide restrictions on Site usage and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. The SMP describes appropriate methods and procedures to ensure compliance with all ECs and ICs that are required by the Environmental Easement. Once the SMP has been approved by the NYSDEC, compliance with the SMP is required by the grantor of the Environmental Easement and grantor's successors and assigns.

10.1 Environmental Easement

An Environmental Easement, as defined in Article 71 Title 36 of the Environmental Conservation Law, is required when residual contamination is left on-Site after the Remedial Action is complete. As part of this remedy, an Environmental Easement approved by NYSDEC will be filed and recorded with the Onondaga County Office of the City Register. The Environmental Easement will be submitted as part of the Final Engineering Report.

The Environmental Easement renders the Site a Controlled Property. The Environmental Easement must be recorded with Onondaga County before the COC can be issued by NYSDEC. A series of Institutional Controls are required under this remedy to implement, maintain and monitor these Engineering Control systems, prevent future exposure to residual contamination by controlling disturbances of the subsurface soil and restricting the use of the Site to Commercial Use only. These Institutional Controls are requirements or restrictions placed on the Site that are listed in, and required by, the Environmental Easement. Institutional Controls can, generally, be subdivided between controls that support Engineering Controls, and those that place general restrictions on Site usage or other requirements. Institutional Controls in both of these groups are closely integrated with the SMP, which provides all of the methods and procedures to be followed to comply with this remedy.

The Institutional Controls that support Engineering Controls are:

- Compliance with the Environmental Easement by the Grantee and the Grantee's successors and adherence of all elements of the SMP is required;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- A site cover system consisting of asphalt covered roads, concrete covered sidewalks, and concrete building slabs must be inspected, certified and maintained as required in the SMP;
- All Engineering Controls on the Controlled Property must be inspected and certified at a frequency and in a manner defined in the SMP;
- Data and information pertinent to Site Management for the Controlled Property must be reported at the frequency and in a manner defined in the SMP; and
- Engineering Controls may not be discontinued without an amendment or extinguishment of the Environmental Easement.

Adherence to these Institutional Controls for the Site is mandated by the Environmental Easement and will be implemented under the SMP (discussed in the next section). The Controlled Property (Site) will also have a series of Institutional Controls in the form of Site restrictions and requirements. The Site restrictions that apply to the Controlled Property are:

- Vegetable gardens and farming on the Controlled Property are prohibited;
- Use of groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for intended purpose;
- All future activities on the Controlled Property that will disturb residual contaminated material are prohibited unless they are conducted in accordance with the soil management provisions in the SMP;
- The Controlled Property may be used for commercial use only, provided the long-term Engineering and Institutional Controls included in the SMP are employed;
- The Controlled Property may not be used for a higher level of use, such as restricted residential use without an amendment or extinguishment of this Environmental Easement;
- Grantor agrees to submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to

evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow. This annual statement must be certified by an expert that the NYSDEC finds acceptable.

10.2 Site Management Plan

Site Management is the last phase of remediation and begins with the approval of the FER and issuance of the COC for the Remedial Action. The SMP is submitted as part of the FER but will be written in a manner that allows its removal and use as a complete and independent document. Site Management continues in perpetuity or until released in writing by NYSDEC. The property owner is responsible to ensure that all Site Management responsibilities defined in the Environmental Easement and the SMP are performed.

The SMP should include methods to incorporate and track GSR. Measures should be taken to maintain a cost-effective, protective remedy that remains conscientious of the Site's environmental footprint. At a minimum, the following should be assessed: waste generation, energy usage, emissions, and water usage.

The SMP is intended to provide a detailed description of the procedures required to manage residual contamination left in place at the Site following completion of the Remedial Action in accordance with the BCA with the NYSDEC. This includes: (1) development, implementation, and management of all Engineering and Institutional Controls; (2) development and implementation of monitoring systems and a Monitoring Plan; (3) development of a plan to operate and maintain any treatment, collection, containment, or recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual); (4) submittal of Site Management Reports, performance of inspections and certification of results, and demonstration of proper communication of Site information to NYSDEC; and (5) defining criteria for termination of treatment system operation.

To address these needs, this SMP will include four plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; (3) an Operation and Maintenance Plan for implementation of remedial collection, containment, treatment, and recovery systems; and (4) a Site Management Reporting Plan for submittal of data, information, recommendations, and certifications to NYSDEC. The SMP will be prepared in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation and the guidelines provided by NYSDEC.

Site management activities, reporting, and EC/IC certification will be scheduled on a certification period basis. The certification period will be annually. The SMP will be based on the certifying period relative to the date of issuance of the COC. The first submission will be due16 months after the issuance of the COC, and annually (or at another frequency as approved by NYSDEC) thereafter.

No exclusions for handling of residual contaminated soils will be provided in the SMP. All handling of residual contaminated material will be subject to provisions contained in the SMP.

11.0 FINAL ENGINEERING REPORT

A Final Engineering Report (FER) will be submitted to NYSDEC following implementation of the Remedial Action defined in this RAWP. The FER provides the documentation that the remedial work required under this RAWP has been completed and has been performed in compliance with this plan. The FER will provide a comprehensive account of the locations and characteristics of all material removed from the Site including the surveyed map(s) of all sources. The Final Engineering Report will include as-built drawings for all constructed elements, calculation and manufacturer documentation for treatment systems, certifications, manifests, bills of lading as well as the complete SMP. The FER will provide a description of the changes in the Remedial Action from the elements provided in the RAWP and associated design documents. The FER will provide a tabular summary of all performance evaluation sampling results and all material characterization results and other sampling, and chemical analysis performed as part of the Remedial Action. The FER will provide test results demonstrating that all mitigation and remedial systems are functioning properly. The FER will be prepared in conformance with DER-10.

Where determined to be necessary by NYSDEC, a Financial Assurance Plan will be required to ensure the sufficiency of revenue to perform long-term operations, maintenance and monitoring tasks defined in the Site Management Plan and Environmental Easement. This determination will be made by NYSDEC in the context of the FER review.

The FER will include written and photographic documentation of all remedial work performed under this remedy.

The FER will include an itemized tabular description of actual costs incurred during all aspects of the Remedial Action.

The FER will provide a thorough summary of all residual contamination left on the Site after the remedy is complete. Residual contamination includes all contamination that exceeds the Track 1 Unrestricted Use SCO in 6NYCRR Part 375-6. A table that shows exceedances from Track 1 Unrestricted SCOs for all soil / fill remaining at the Site after the Remedial Action and a map that shows the location and summarizes exceedances from Track 1 Unrestricted SCOs for all soil / fill remaining at the Site after the Remedial Action will be included in the FER.

The FER will provide a thorough summary of all residual contamination that exceeds the SCOs defined for the Site in the RAWP and must provide an explanation for why the material was not removed as part of the Remedial Action. A table that shows residual contamination in excess of Site SCOs and a map that shows residual contamination in excess of Site SCOs will be included in the FER.

The FER will include an accounting of the destination of all material removed from the Site, including excavated contaminated soil, historic fill, solid waste, hazardous waste, non-regulated material, and fluids. Documentation associated with disposal of all material must also include

records and approvals for receipt of the material. It will provide an accounting of the origin and chemical quality of all material imported onto the Site.

The FER must include a discussion of the green remediation practices / technologies employed throughout the remedial program. A final footprint analysis using a DER accepted model, and any tracking methods used through the construction including restoration activities. Before approval of a FER and issuance of a COC, all project reports must be submitted in digital form on electronic media (PDF).

11.1 Certifications

The following certification will appear in front of the Executive Summary of the Final Engineering Report. The FER will be prepared, stamped and the following certification signed by an individual licensed or otherwise authorized in accordance with article 145 of the education law to practice the profession of engineering. The certification will include the following statements:

I, H. Nevin Bradford, III, am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Remedial Action Work Plan was implemented and that all construction activities were completed in substantial conformance with the Department-approved Remedial Action Work Plan.

I certify that the data submitted to the Department with this Final Engineering Report demonstrates that the remediation requirements set forth in the Remedial Action Work Plan and in all applicable statutes and regulations have been or will be achieved in accordance with the time frames, if any, established for the remedy.

I certify that all use restrictions, Institutional Controls, Engineering Controls, and/or any operation and maintenance requirements applicable to the Site are contained in an environmental easement created and recorded pursuant ECL 71-3605 and that all affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded.

I certify that a Site Management Plan has been submitted for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, and that such plan has been approved by Department.

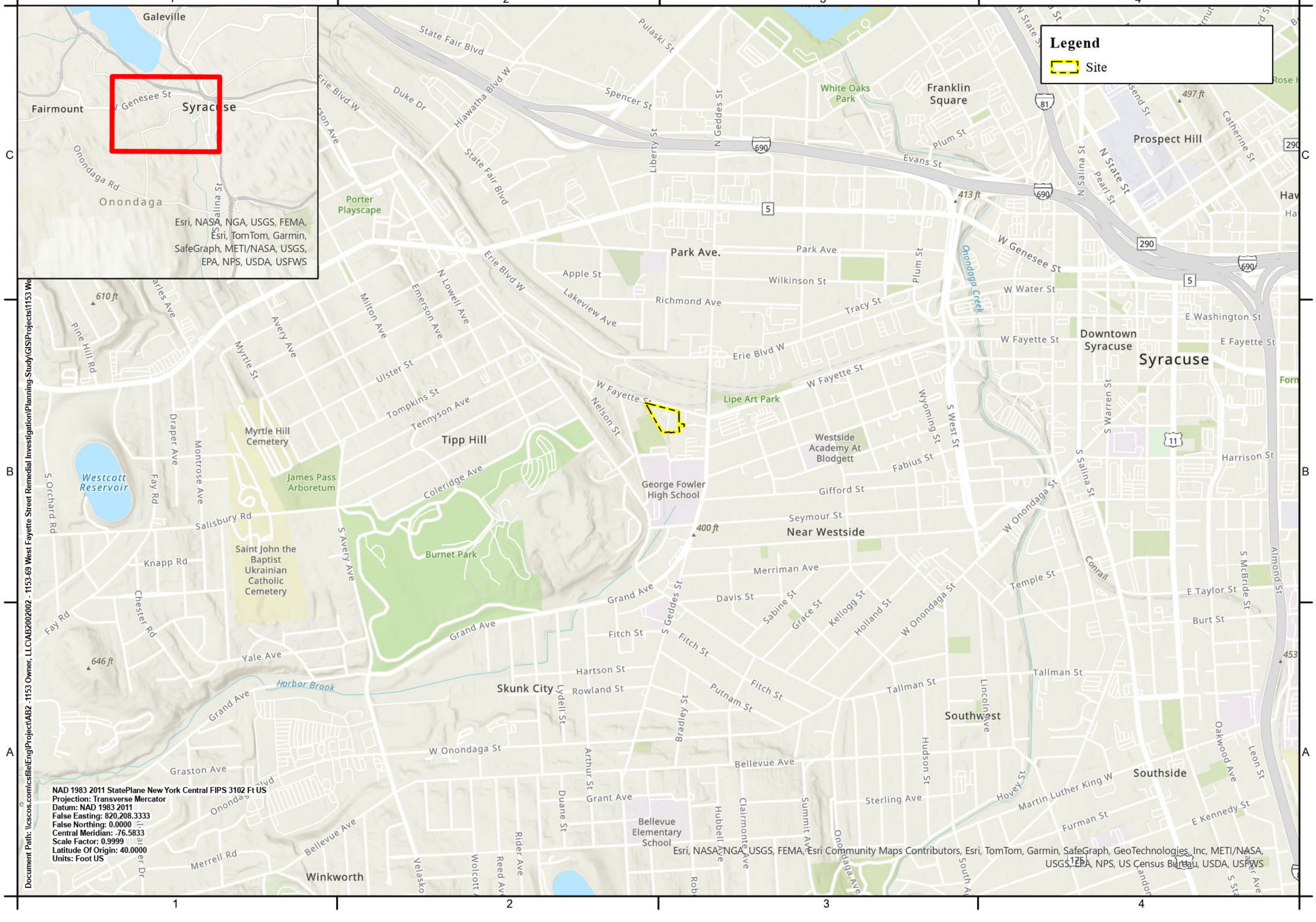
12.0 SCHEDULE

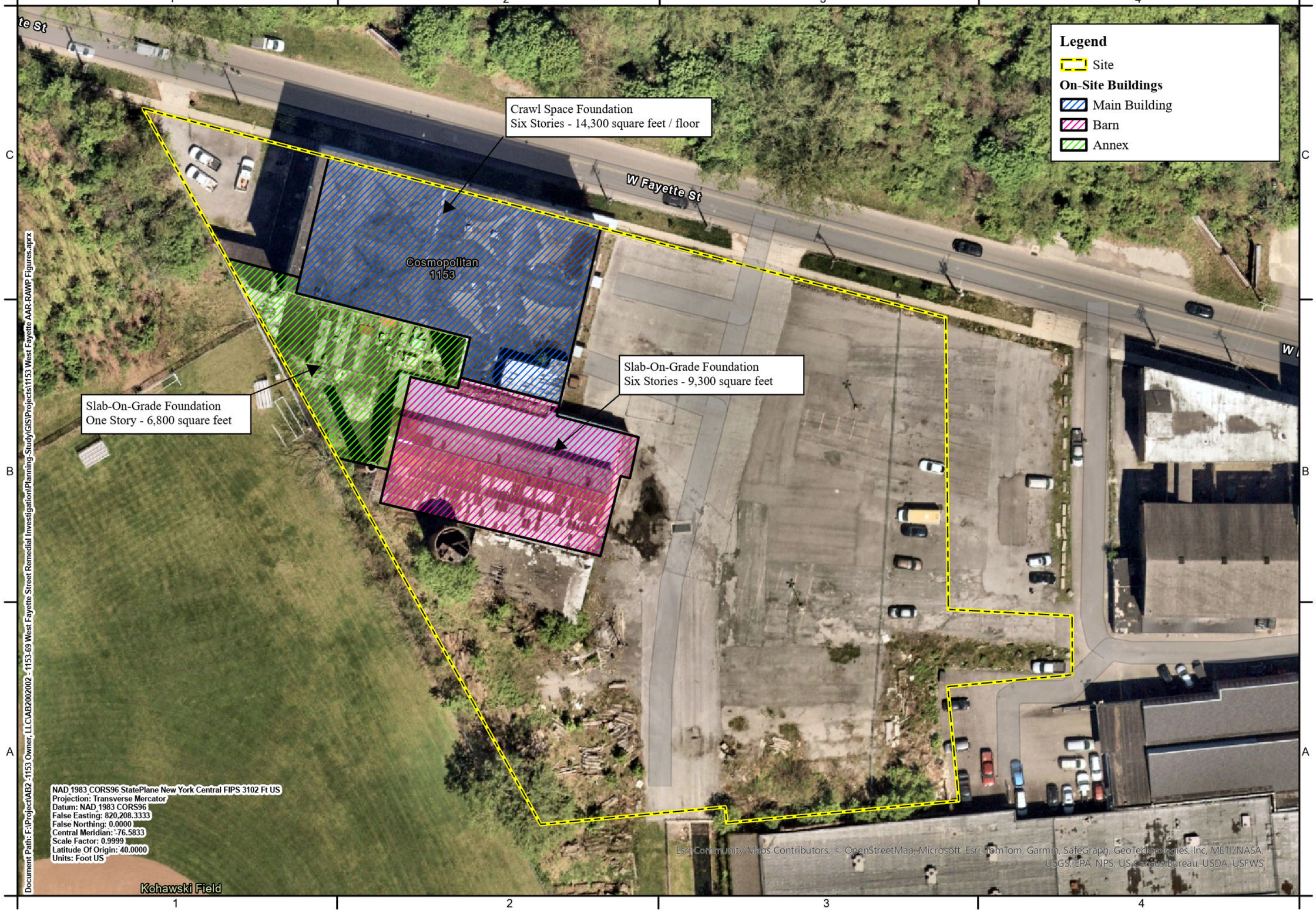
The following is the schedule to implement the remedy and achieve a COC:

Table 12-1: Certificate of Completion Schedule

Date	Task
Monthly by 10th day	Progress reports
May 16, 2025	IRM Work Plan submitted to NYSDEC
May 29, 2025	Draft Environmental Easement (EE) Package Submitted to NYSDEC
June 2025	AAR and RAWP Report submitted to NYSDEC
Summer 2025	IRM Work Plan and AAR / RAWP Approved by NYSDEC and DD Issued
July 1, 2025	IRM and Remedial Action Commences (Performed Under Approved ISMP if DD has not yet been issued)
August 1, 2025	Draft Site Management Plan (SMP) submitted to NYSDEC
October 1, 2025	Remedial system construction complete, including installation / construction of cover system and IRM Completion
October 1, 2025	EE Executed and Final SMP submitted to NYSDEC
October 1, 2025	Draft FER submitted to NYSDEC
November 1, 2025	EE recorded and Notices provided
November 15, 2025	Final FER submitted in final form to NYSDEC
End of 2025	COC Issued

Figures


Legend
Site
Galeville
Fairmount
Syracuse
Onondaga
Onondaga Rd
W Genesee St
Esri, NASA, NGA, USGS, FEMA, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, USFWS
State Fair Blvd
Pulaski St
Duke Dr
Hiawatha Blvd W
Spencer St
Liberty St
N Geddes St
White Oaks Park
Franklin Square
Plum St
Evans St
497 ft
Prospect Hill
Catherine St
N Salina St
N State St
Pearl St
413 ft
Porter Playscape
Erie Blvd W
Park Ave.
Park Ave
Apple St
Wilkinson St
Lakeview Ave
Richmond Ave
Tracy St
Onondaga Creek
W Genesee St
W Water St
E Washington St
E Fayette St
Downtown Syracuse
Syracuse
W Fayette St
Erie Blvd W
Lipe Art Park
W Fayette St
Nelson St
Wyoming St
S West St
Tipp Hill
Myrtle Hill Cemetery
James Pass Arboretum
Westcott Reservoir
Coleridge Ave
George Fowler High School
Westside Academy At Blodgett
Fabius St
Gifford St
Seymour St
400 ft
Near Westside
W Onondaga St
S Salina St
Harrison St
Burnet Park
Merriman Ave
Grand Ave
Davis St
Sabine St
Grace St
Kellogg St
Holland St
Temple St
Conrail
E Taylor St
Burt St
S McBride St
Almond St
Saint John the Baptist Ukrainian Catholic Cemetery
Knapp Rd
Salisbury Rd
Fay Rd
Chester Rd
646 ft
Yale Ave
Harbor Brook
Skunk City
Hartson St
Rowland St
Fitch St
S Geddes St
Putnam St
Tallman St
Southwest
Lincoln Ave
Hudson St
Bradley St
Lydell St
Arthur St
Duane St
W Onondaga St
Graston Ave
Bellevue Ave
Grant Ave
Sterling Ave
Hovey St
Martin Luther King W
Southside
Oakwood Ave
Leon St
Furman St
E Kennedy St
Bellevue Elementary School
Hubbell Ave
Clairmont Ave
Summit Ave
Onondaga Ave
Merrell Rd
Winkworth
Velasko
Wolcott
Reed Ave
Rider Ave
Robin
Esri, NASA, NGA, USGS, FEMA, Esri Community Maps Contributors, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS
175
453
610 ft
Draper Ave
Montrose Ave
Fay Rd
S Orchard Rd
Myrtle St
Avery Ave
Milton Ave
Emerson Ave
N Lowell Ave
Ulster St
Tompkins St
Tennyson Ave
Pine Hill Rd
Charles Ave
S Avery Ave
Erie Blvd W
Duke Dr
Hiawatha Blvd W
Spencer St
Liberty St
N Geddes St
Plum St
Evans St
Onondaga Creek
W Genesee St
W Water St
Tracy St
Wilkinson St
Apple St
Lakeview Ave
Richmond Ave
Park Ave
Park Ave.
Erie Blvd W
W Fayette St
Lipe Art Park
Nelson St
Wyoming St
S West St
Fabius St
Gifford St
Seymour St
Near Westside
W Onondaga St
S Salina St
Harrison St
Merriman Ave
Grand Ave
Davis St
Sabine St
Grace St
Kellogg St
Holland St
Temple St
Conrail
E Taylor St
Burt St
S McBride St
Almond St
Tallman St
Southwest
Lincoln Ave
Hudson St
Bradley St
Lydell St
Arthur St
Duane St
W Onondaga St



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N

0 50 Feet
1 inch equals 50 feet

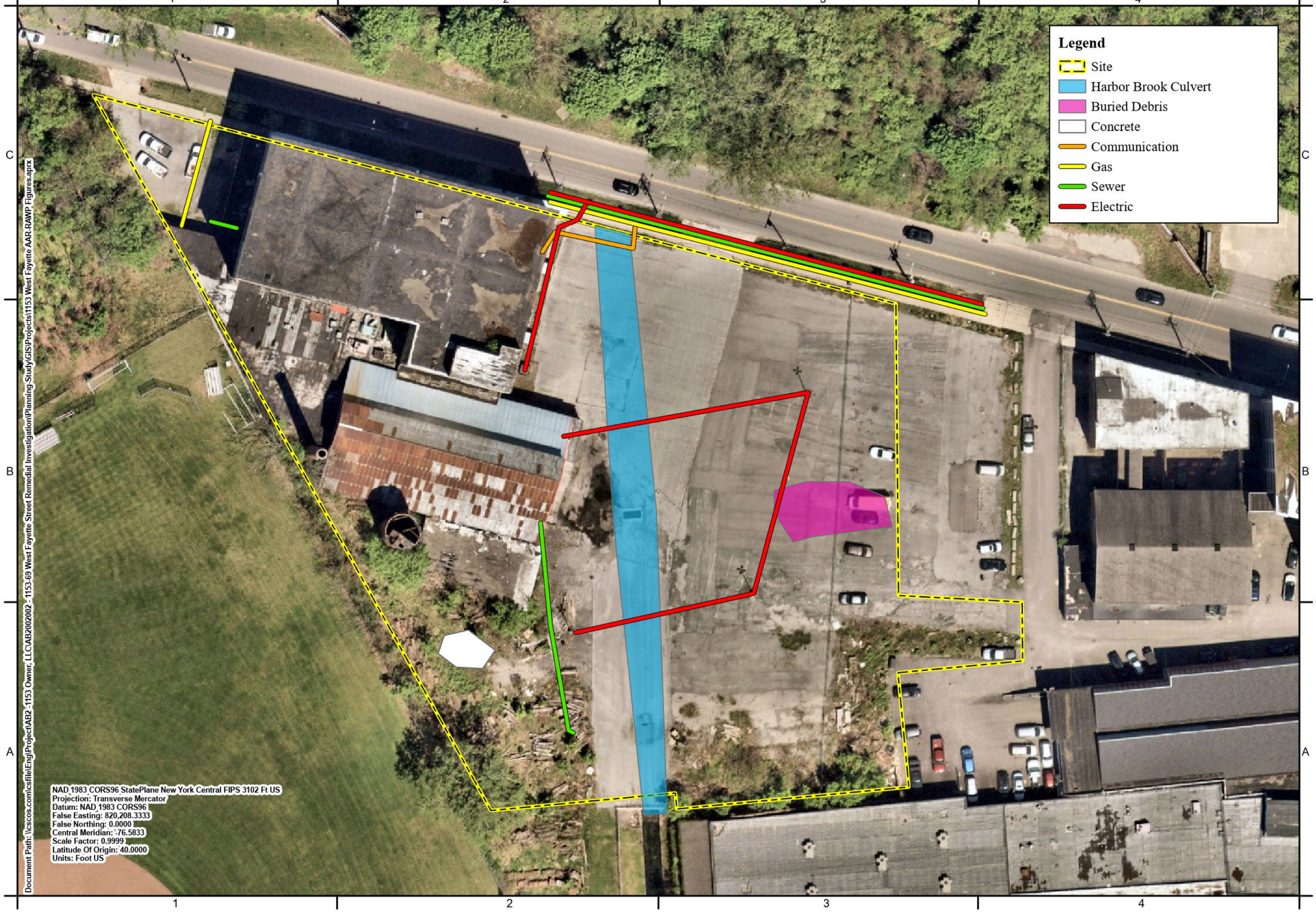
Alternatives Analysis Report /
Remedial Action Work Plan
1153-69 West Fayette Street (BCP Site No. 734164)
City of Syracuse, Onondaga County, New York

PROJECT NO:	AB2.002.002
DATE:	September 2025
SCALE:	AS SHOWN
DRAWN BY:	CND
DESIGNED BY:	CND
CHECKED BY:	HNB

Modified: 9/26/2025 @ 5:54 PM

SITE BOUNDARY

FIGURE 2



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N

0 50 Feet

1 inch equals 50 feet

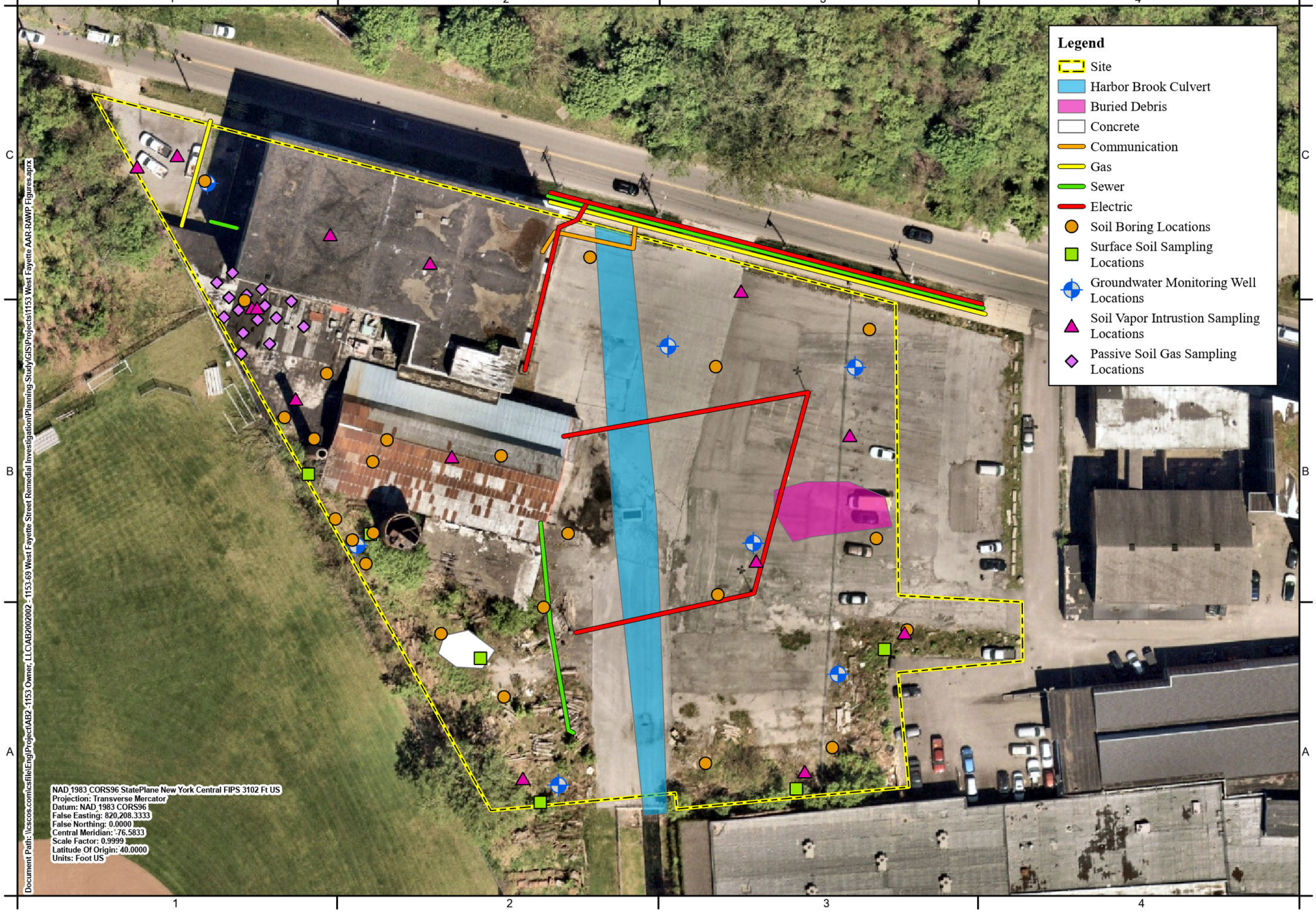
Alternatives Analysis Report / Remedial Action Work Plan
1153-69 West Fayette Street (BCP Site No. 734164)
City of Syracuse, Onondaga County, New York

PROJECT NO:	AB2.002.002
DATE:	June 2025
SCALE:	AS SHOWN
DRAWN BY:	CND
DESIGNED BY:	CND
CHECKED BY:	HNB

Modified: 6/19/2025 @ 2:09 PM

GEOPHYSICAL SURVEY RESULTS

FIGURE 3



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N

0 50 Feet

1 inch equals 50 feet

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City of Syracuse, Onondaga County, New York

PROJECT NO:	AB2.002.002
DATE:	June 2025
SCALE:	AS SHOWN
DRAWN BY:	CND
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CHECKED BY:	HNB

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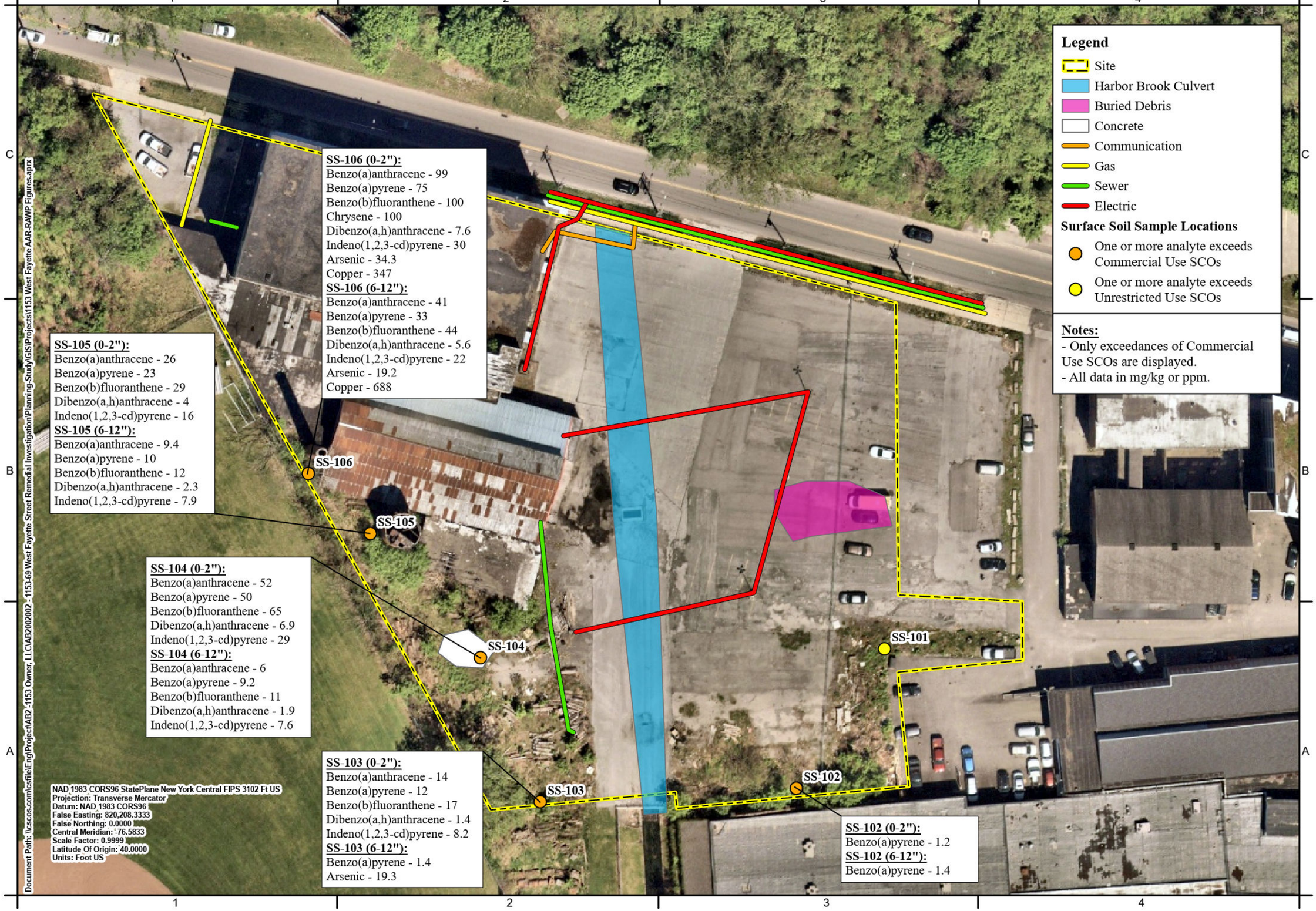
REMEDIAL INVESTIGATION SAMPLING LOCATIONS

FIGURE 4



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0 50 Feet
1 inch equals 50 feet

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PROJECT NO:	AB2.002.002
DATE:	June 2025
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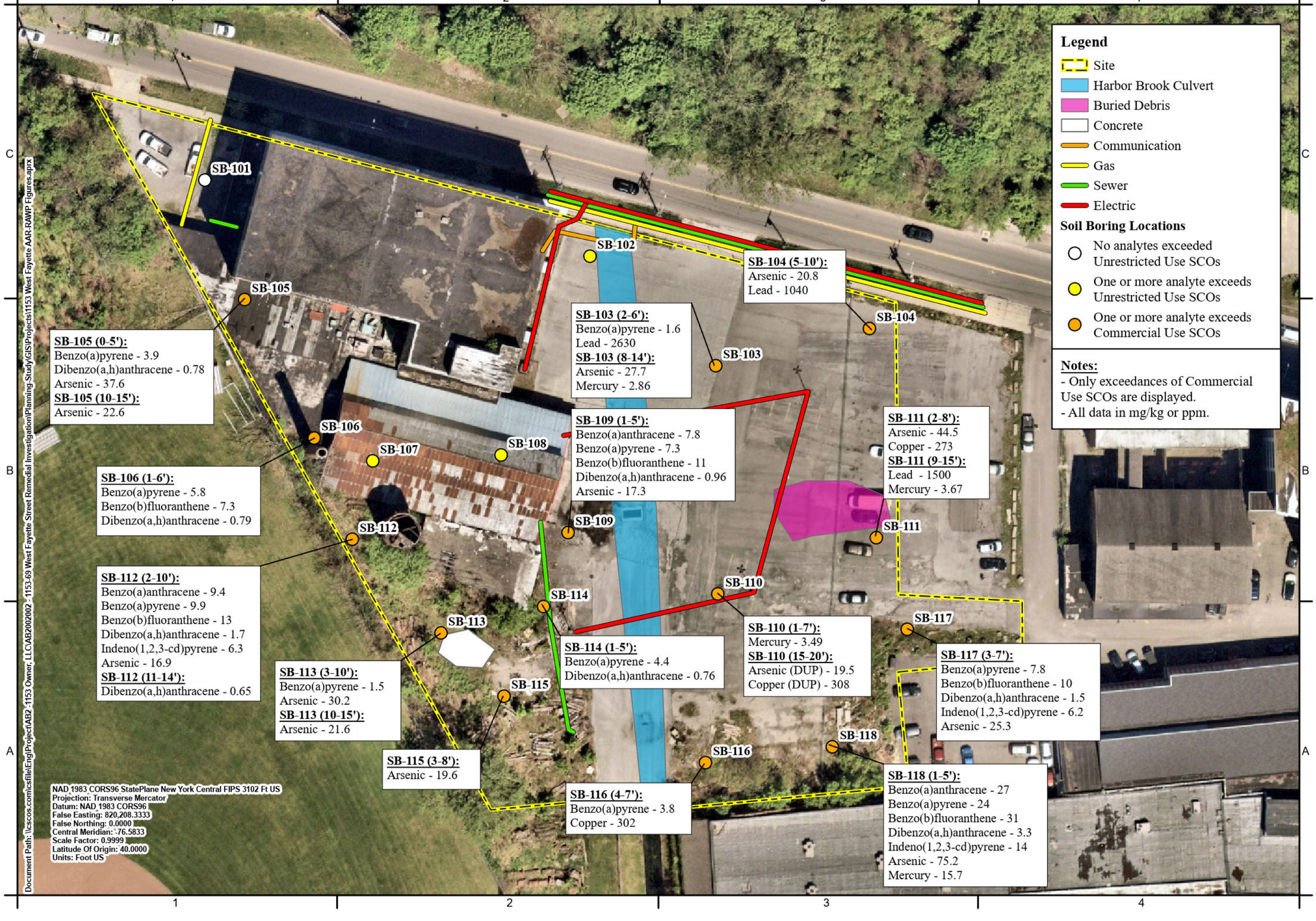
SURFACE SOIL SAMPLING RESULTS

FIGURE 5



Legend

- Site
- Harbor Brook Culvert
- Buried Debris
- Concrete
- Communication
- Gas
- Sewer
- Electric

Soil Boring Locations

- No analytes exceeded Unrestricted Use SCOs
- One or more analyte exceeds Unrestricted Use SCOs
- One or more analyte exceeds Commercial Use SCOs

Notes:

- Only exceedances of Commercial Use SCOs are displayed.
- All data in mg/kg or ppm.

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0 50 Feet
1 inch equals 50 feet

Alternatives Analysis Report / Remedial Action Work Plan
1153-69 West Fayette Street (BCP Site No. 734164)
City of Syracuse, Onondaga County, New York

PROJECT NO:	AB2.002.002
DATE:	June 2025
SCALE:	AS SHOWN
DRAWN BY:	CND
DESIGNED BY:	CND
CHECKED BY:	HNB

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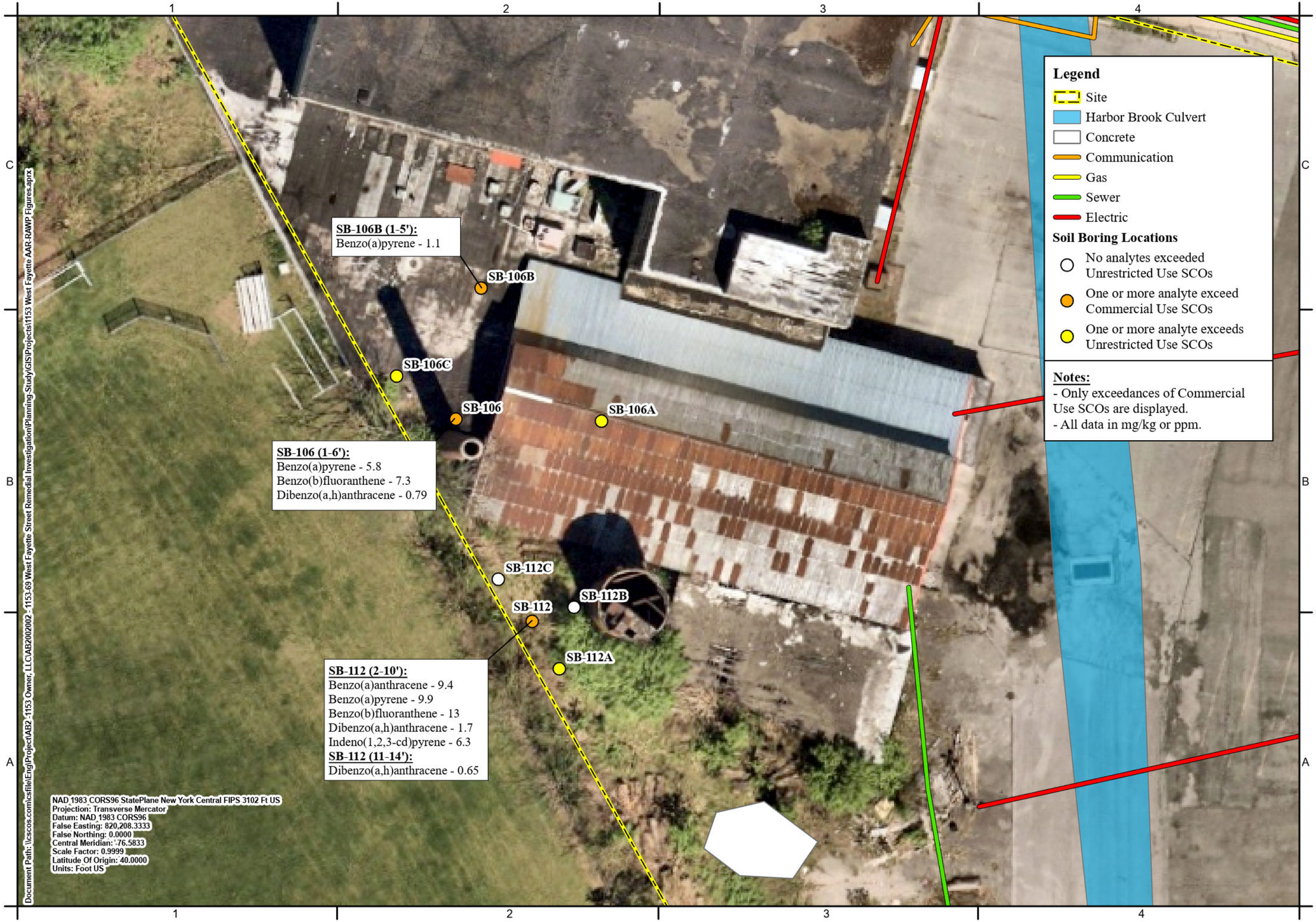
SITE-WIDE SOIL BORING RESULTS

FIGURE 6a



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0 25 Feet
1 inch equals 25 feet

Alternatives Analysis Report / Remedial Action Work Plan
1153-69 West Fayette Street (BCP Site No. 734164)
City of Syracuse, Onondaga County, New York

PROJECT NO:	AB2.002.002
DATE:	June 2025
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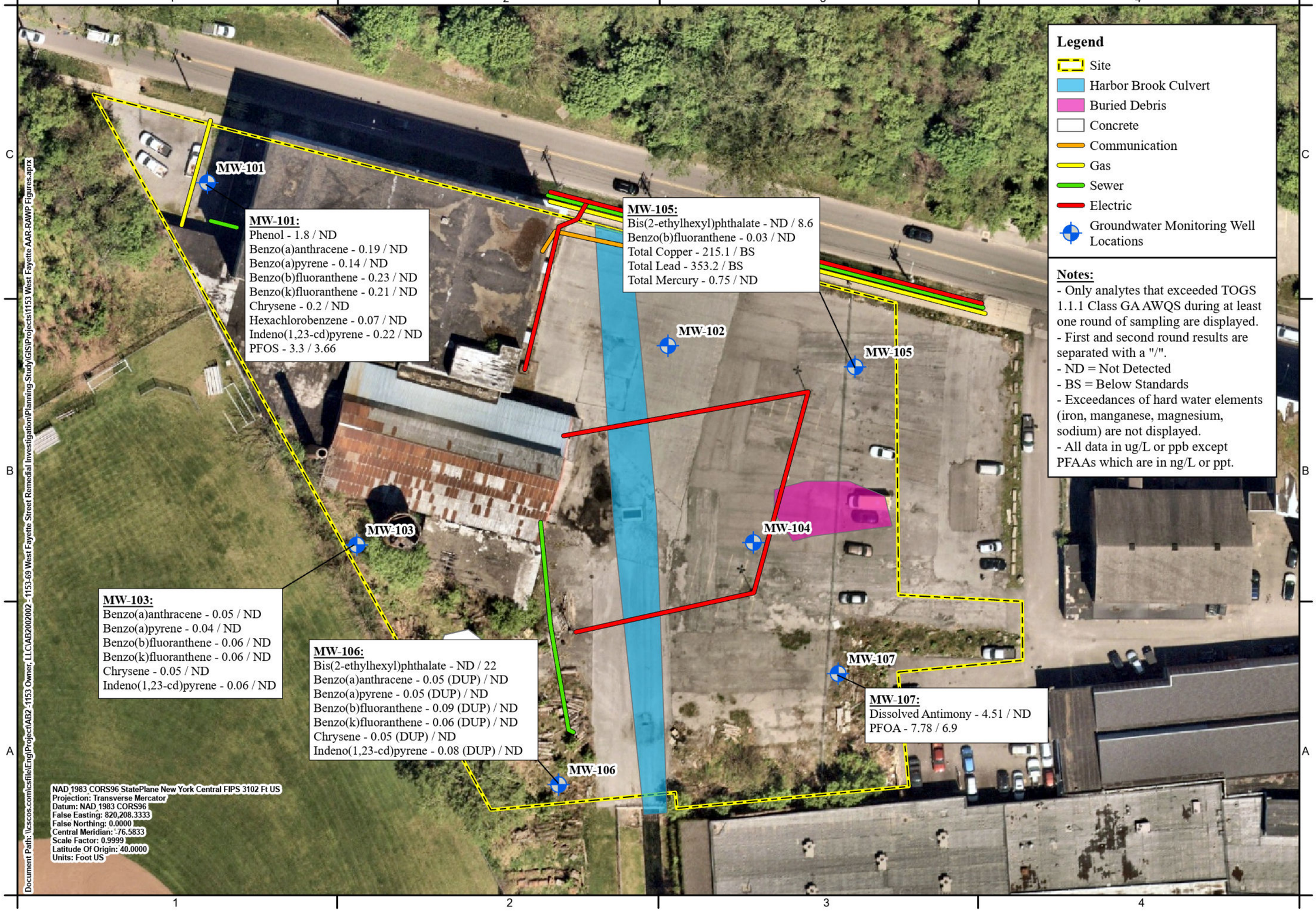
PETROLEUM DELINEATION SOIL BORING RESULTS

FIGURE 6b



Legend

- Site
- Harbor Brook Culvert
- Buried Debris
- Concrete
- Communication
- Gas
- Sewer
- Electric
- Groundwater Monitoring Well Locations

Notes:

- Only analytes that exceeded TOGS 1.1.1 Class GA AWQS during at least one round of sampling are displayed.
- First and second round results are separated with a "/".
- ND = Not Detected
- BS = Below Standards
- Exceedances of hard water elements (iron, manganese, magnesium, sodium) are not displayed.
- All data in ug/L or ppb except PFAAs which are in ng/L or ppt.

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0 50 Feet

1 inch equals 50 feet

Alternatives Analysis Report / Remedial Action Work Plan
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City of Syracuse, Onondaga County, New York

PROJECT NO:	AB2.002.002
DATE:	June 2025
SCALE:	AS SHOWN
DRAWN BY:	CND
DESIGNED BY:	CND
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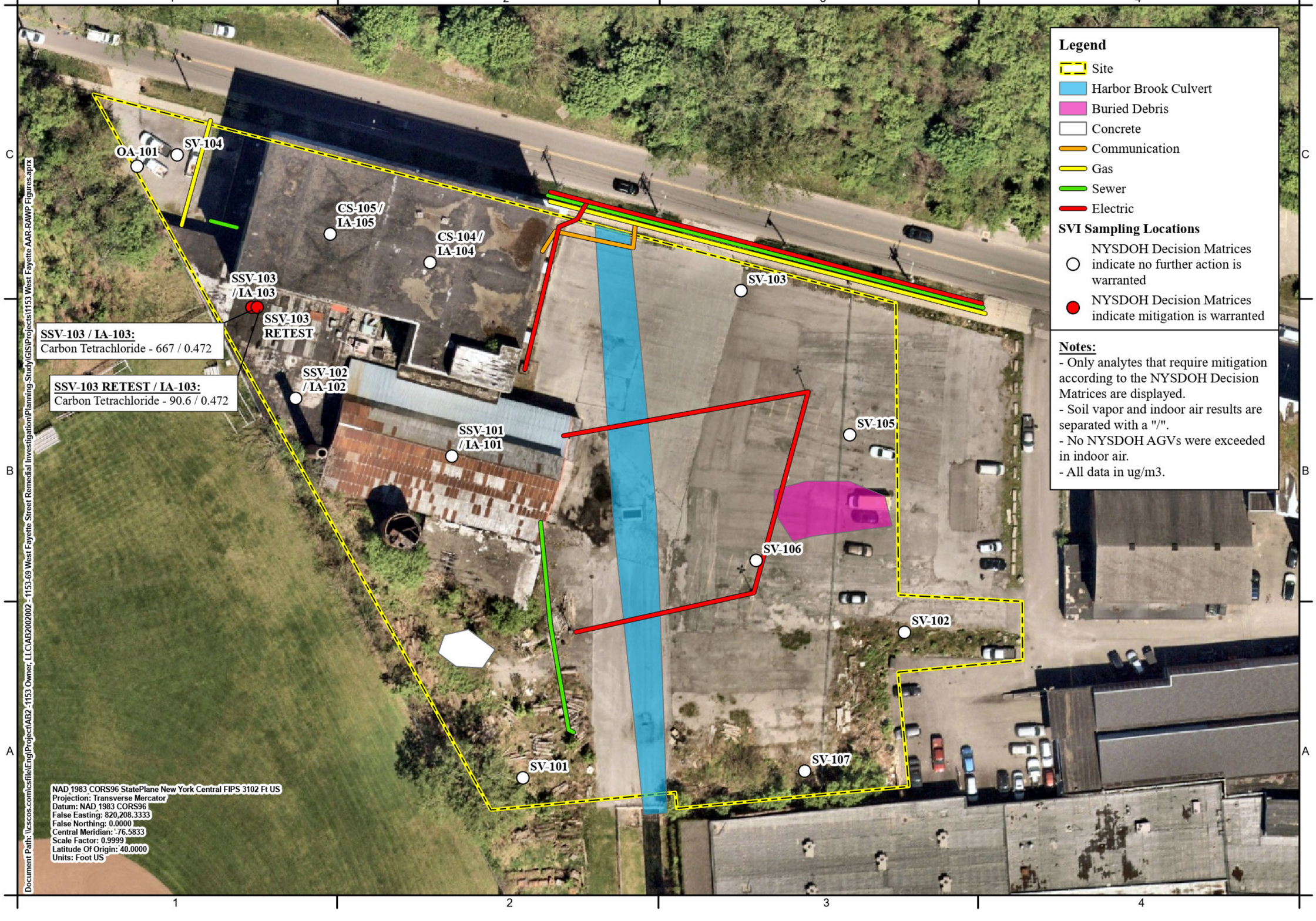
GROUNDWATER SAMPLING RESULTS

FIGURE 7



Legend

- Site
- Harbor Brook Culvert
- Buried Debris
- Concrete
- Communication
- Gas
- Sewer
- Electric

SVI Sampling Locations

- NYSDOH Decision Matrices indicate no further action is warranted
- NYSDOH Decision Matrices indicate mitigation is warranted

Notes:

- Only analytes that require mitigation according to the NYSDOH Decision Matrices are displayed.
- Soil vapor and indoor air results are separated with a "/".
- No NYSDOH AGVs were exceeded in indoor air.
- All data in ug/m3.

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Alternatives Analysis Report / Remedial Action Work Plan
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City of Syracuse, Onondaga County, New York

PROJECT NO:	AB2.002.002
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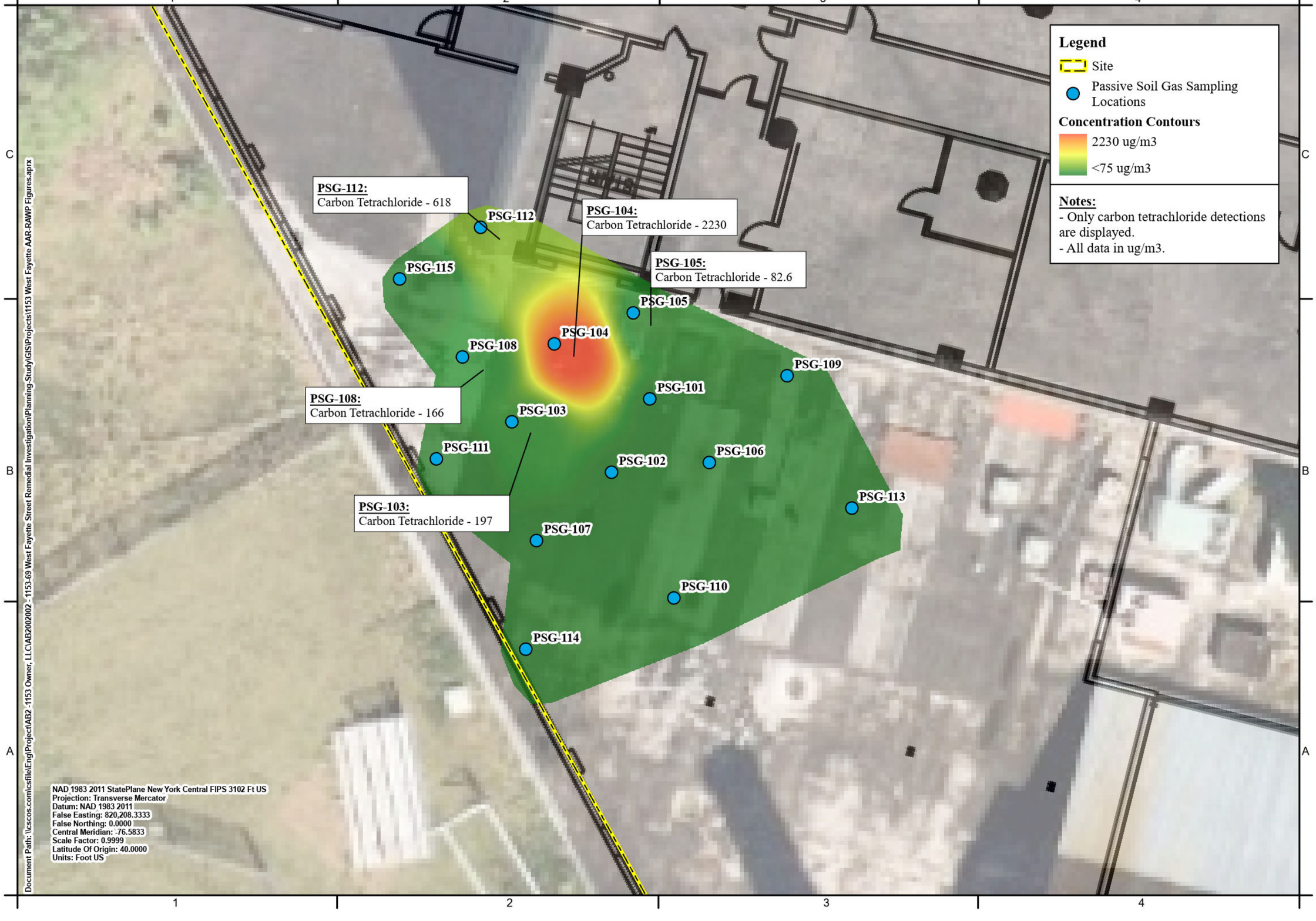
SVI SAMPLING RESULTS

FIGURE 8a



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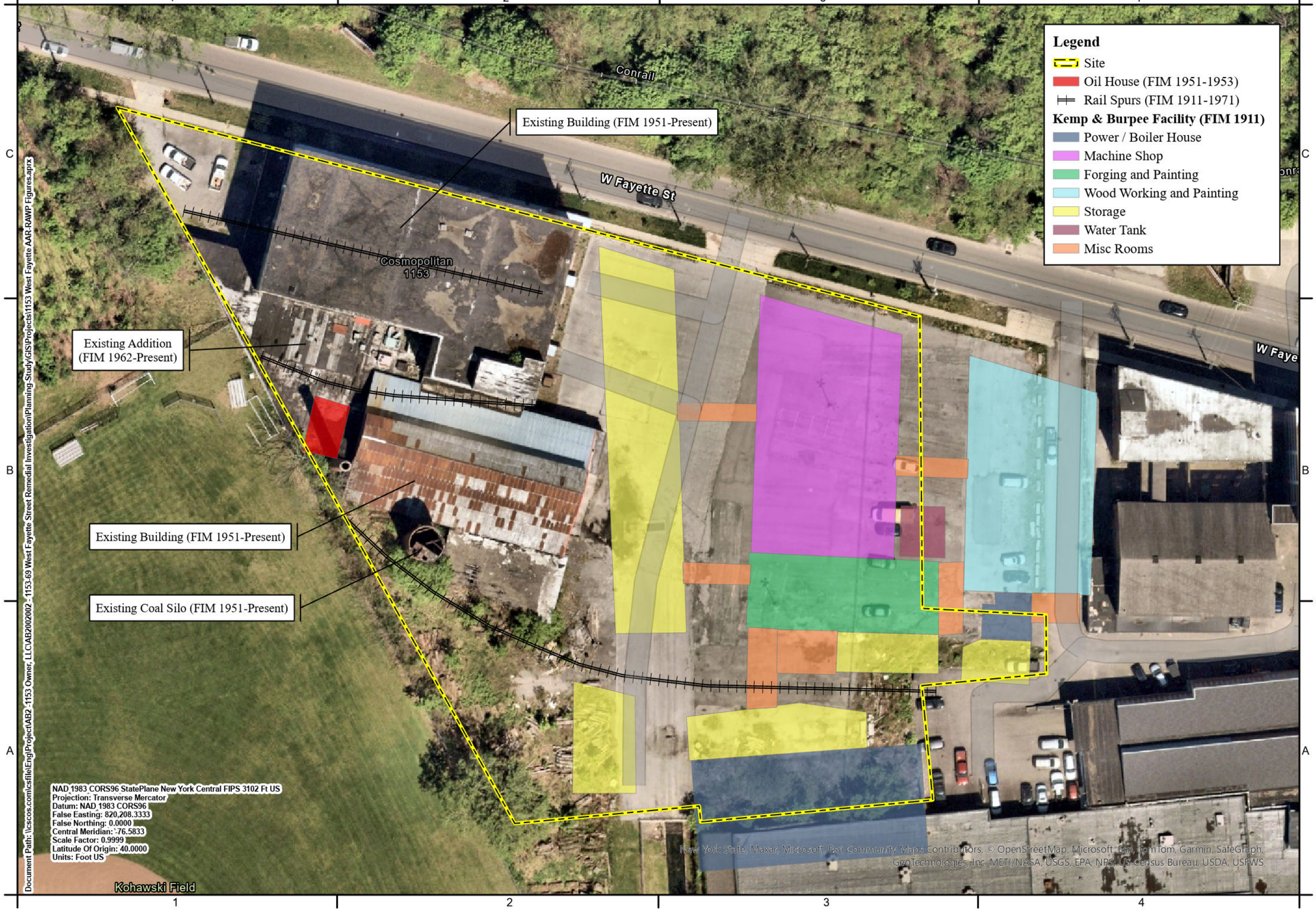
PASSIVE SOIL GAS SAMPLING RESULTS

FIGURE 8b



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SCALE:	AS SHOWN
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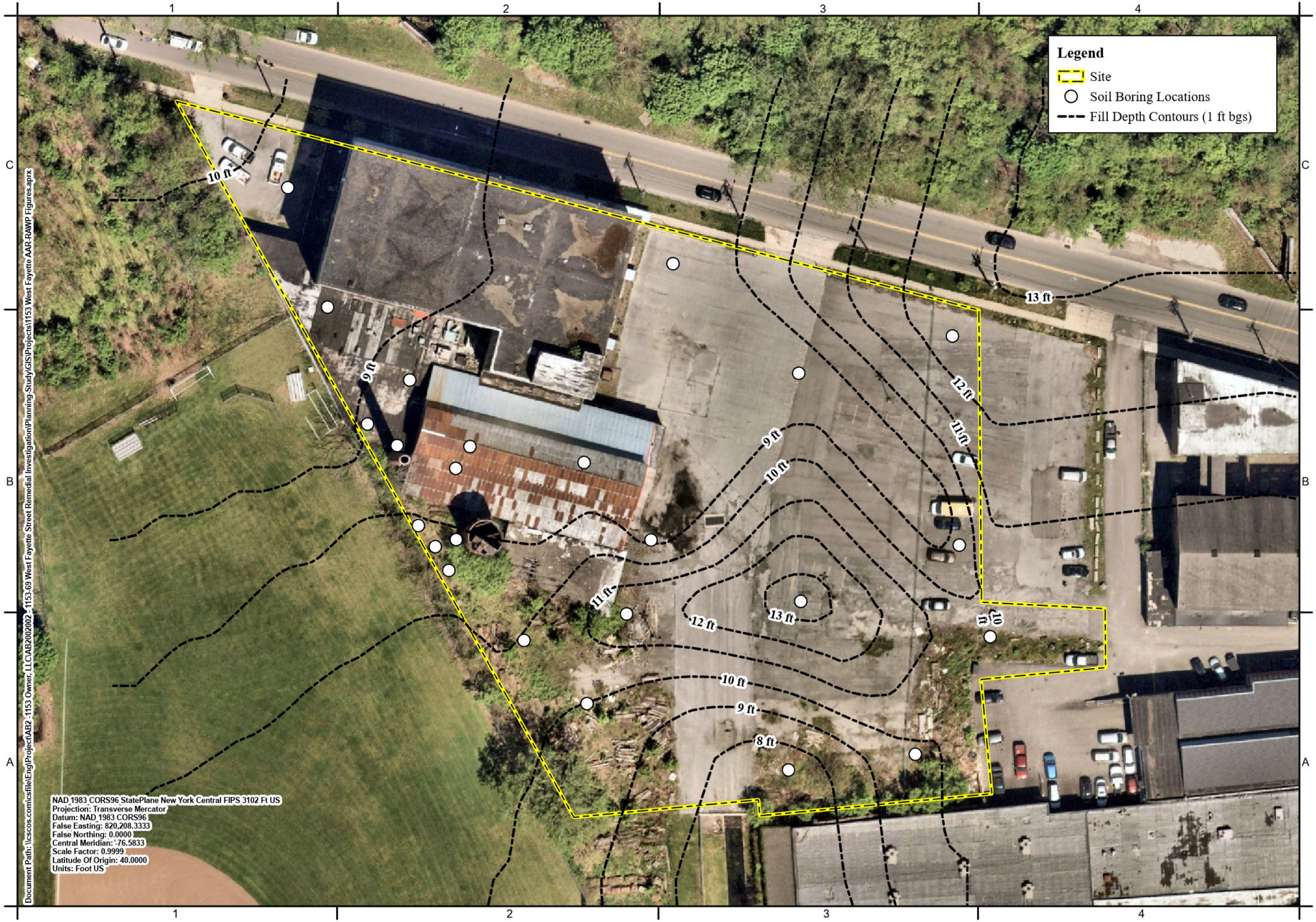
Modified: 6/19/2025 @ 2:11 PM

PAST SITE USES MAP

FIGURE 9



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SCALE:	AS SHOWN
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CHECKED BY:	HNB

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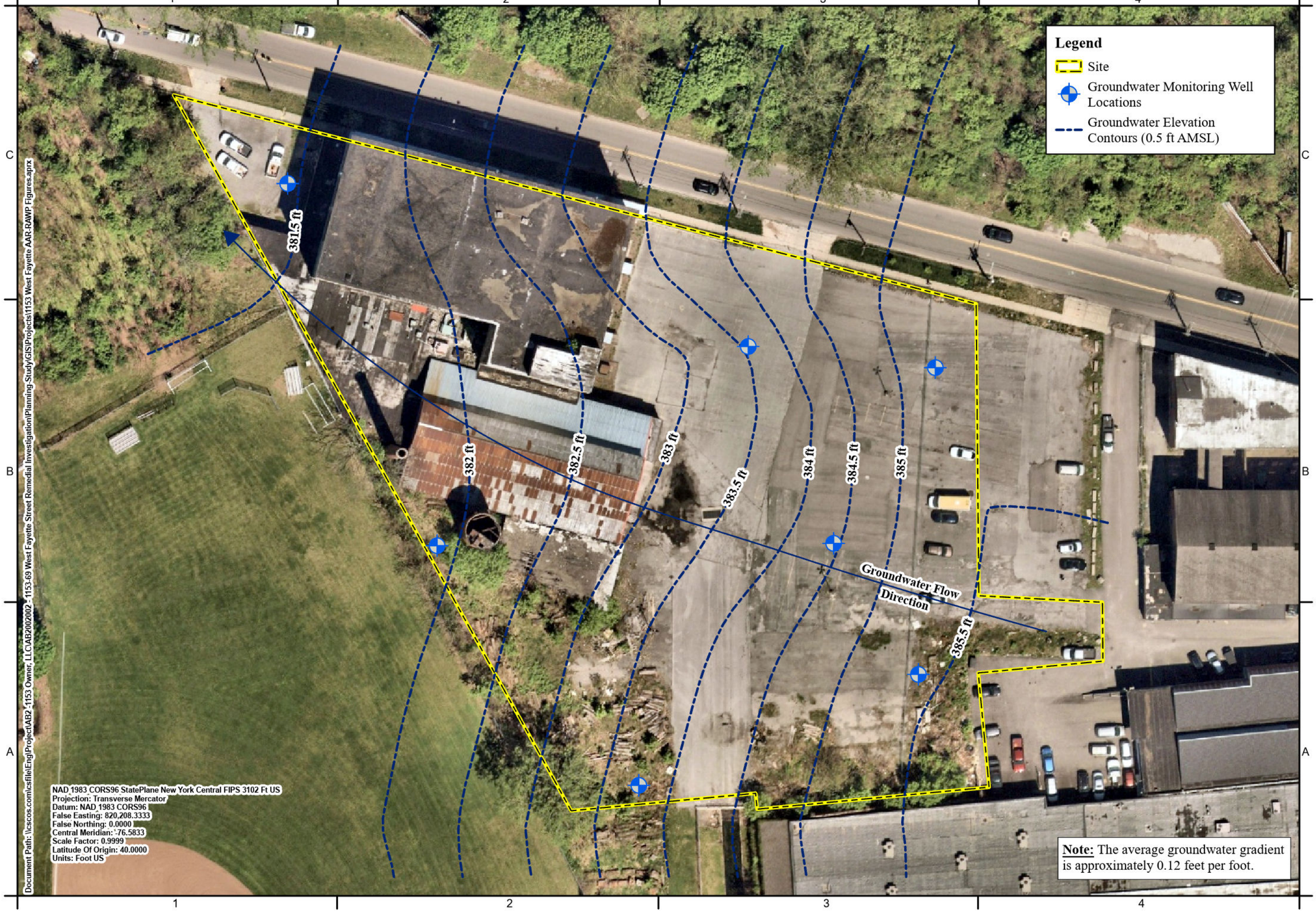
FILL DEPTHS

FIGURE 10



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PROJECT NO:	AB2.002.002
DATE:	June 2025
SCALE:	AS SHOWN
DRAWN BY:	CND
DESIGNED BY:	CND
CHECKED BY:	HNB

Modified: 6/19/2025 @ 2:11 PM

GROUNDWATER FLOW CONTOURS - DECEMBER 2024

FIGURE 11a

Legend

- Site
- Groundwater Monitoring Well Locations
- Groundwater Elevation Contours (0.5 ft AMSL)

381 ft
381.5 ft
382 ft
382.5 ft
383 ft
383.5 ft
384 ft
384.5 ft

Groundwater Flow Direction

Note: The average groundwater gradient is approximately 0.13 feet per foot.

NAD 1983 CORS96 StatePlane New York Central FIPS 3102 Ft US
Projection: Transverse Mercator
Datum: NAD 1983 CORS96
False Easting: 820,208.3333
False Northing: 0.0000
Central Meridian: -76.5833
Scale Factor: 0.9999
Latitude Of Origin: 40.0000
Units: Foot US

Document Path: \\cscos.com\cs\file\Eng\Project\AB2_1153 Owner, LLC\AB2002002_1153-69 West Fayette Street Remedial Investigation\Planning-Study\GIS\Projects\1153 West Fayette AAR-RAWP Figures.aprx

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City of Syracuse, Onondaga County, New York

PROJECT NO:	AB2.002.002
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Modified: 6/19/2025 @ 2:12 PM

GROUNDWATER FLOW CONTOURS - FEBRUARY 2025

FIGURE 11b

Sampling Date	7/14/2025	7/21/2025	7/28/2025	8/4/2025	8/11/2025	8/18/2025	8/26/2025 (Tedlar)	8/26/2025 (Summa)	9/2/2025	9/9/2025
Carbon tetrachloride	ND (667)	24.6	11.6 J	11.8	ND (15)	10.8	5.37	7.36	17.1	6.28
Heptane	ND (434)	158 J	166	211	179	165	75.8	ND (20.9)	85.7	82.4
n-Hexane	ND (374)	115 J	31.5 J	58.2	ND (83.9)	31.2	ND (18.3)	ND (17.9)	895	ND (16)

SVE-102

SVE-101

Legend

- Site
- SVE Well Locations
- RI SVI Sampling Locations
- RI Passive Soil Gas Sampling Locations

Notes:

- Only analytes that exceeded the lowest tier of the respective NYSDOH Decision Matrix are displayed.
- SVE-101 was shut down for one week from 8/26/25 to 9/2/25.
- All data in ug/m3.
- ND (XX) = Not detected (reporting limit)

Sampling Date	7/14/2025	7/21/2025	7/28/2025	8/4/2025	8/11/2025	8/18/2025	8/26/2025 (Tedlar)	8/26/2025 (Summa)	9/2/2025	9/9/2025
Carbon tetrachloride	ND (786)	ND (32.1)	ND (19.3)	ND (8.93)	ND (29.9)	5.46	ND (5.24)	42.8	99.4	6.67
Heptane	ND (512)	216	242	251	215	235	90.6	ND (52.5)	95.1	144
n-Hexane	ND (441)	59.2 J	61 J	94.1	ND (168)	56.7	61.7	142	260	ND (13.5)
Trichloroethene	ND (672)	ND (27.4)	ND (16.5)	ND (7.63)	ND (25.6)	ND (4.44)	ND (4.48)	15.9	4.41	2.99

NAD 1983 2011 StatePlane New York Central FIPS 3102 Ft US
Projection: Transverse Mercator
Datum: NAD 1983 2011
False Easting: 820,208.3333
False Northing: 0.0000
Central Meridian: -76.5833
Scale Factor: 0.9999
Latitude Of Origin: 40.0000
Units: Foot US

Document Path: F:\Project\AB2 -1153 Owner, LLC\AB2002002 - 1153-69 West Fayette Street Remedial Investigation\Planning-Study\GIS\Projects\1153 West Fayette AAR-RAWP Figures.aprx

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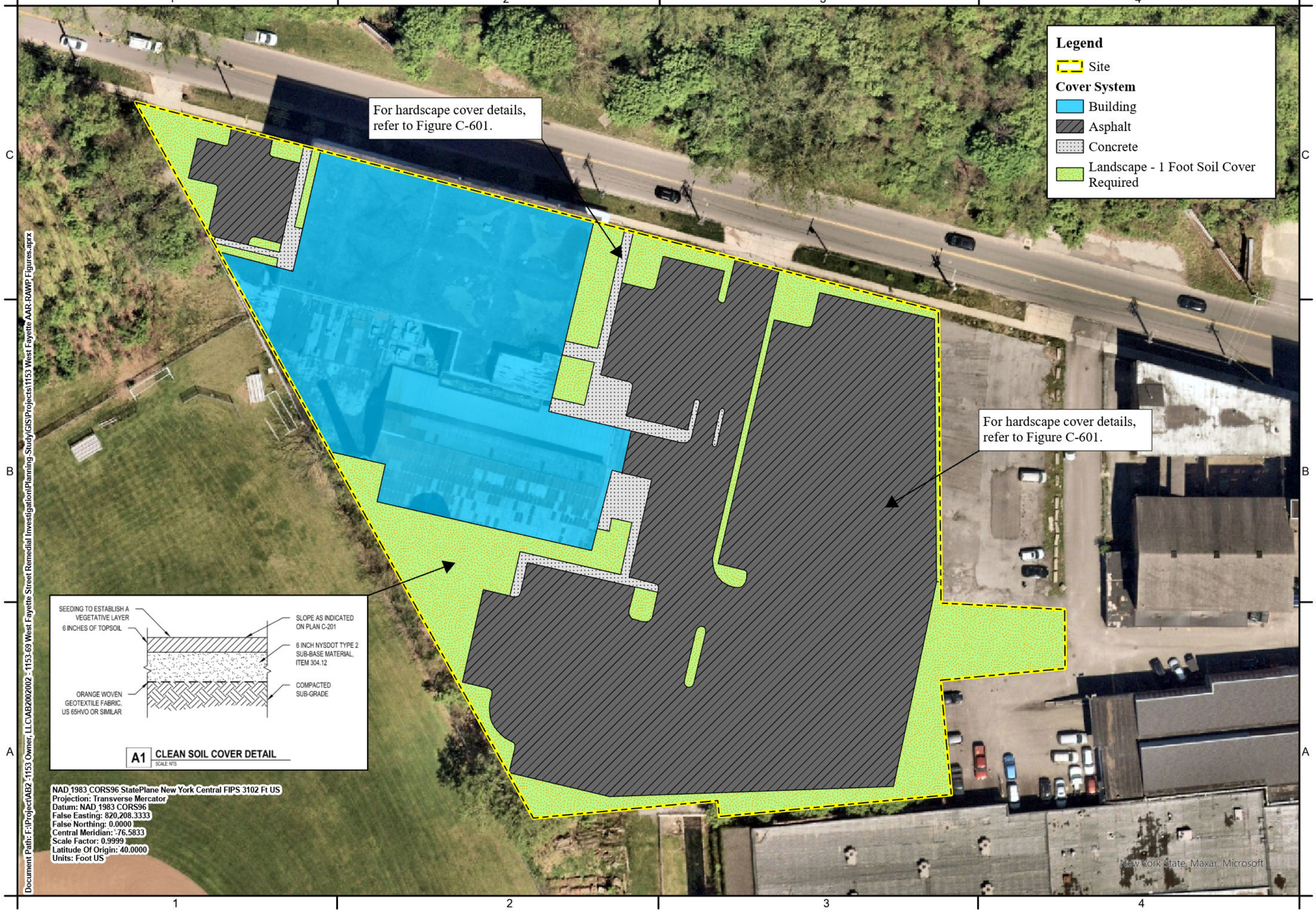
Alternatives Analysis Report / Remedial Action Work Plan
1153-69 West Fayette Street (BCP Site No. 734164)
City of Syracuse, Onondaga County, New York

PROJECT NO:	AB2.002.002
DATE:	September 2025
SCALE:	AS SHOWN
DRAWN BY:	CND
DESIGNED BY:	CND
CHECKED BY:	HNB

Modified: 9/26/2025 @ 5:55 PM

SVE SYSTEM LOCATION AND SAMPLING RESULTS

FIGURE 12



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0 50 Feet

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Alternatives Analysis Report / Remedial Action Work Plan
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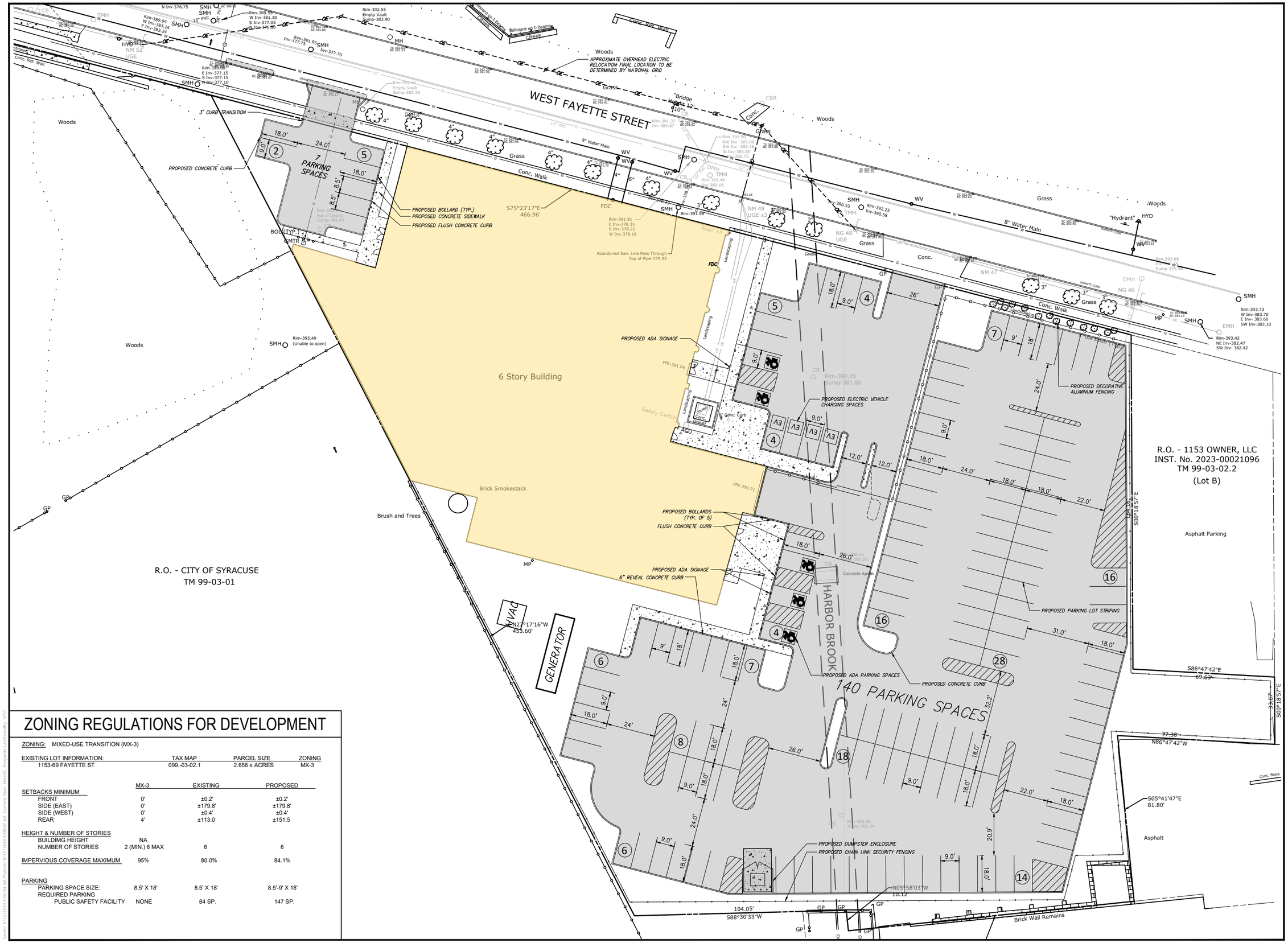
City of Syracuse, Onondaga County, New York

PROJECT NO:	AB2.002.002
DATE:	September 2025
SCALE:	AS SHOWN
DRAWN BY:	CND
DESIGNED BY:	CND
CHECKED BY:	HNB

Modified: 9/26/2025 @ 5:55 PM

ENGINEERING CONTROLS

FIGURE 13



ZONING REGULATIONS FOR DEVELOPMENT

ZONING: MIXED-USE TRANSITION (MX-3)

EXISTING LOT INFORMATION:	TAX MAP	PARCEL SIZE	ZONING
1153-69 FAYETTE ST	099.-03-02.1	2.656 ± ACRES	MX-3

	MX-3	EXISTING	PROPOSED
SETBACKS MINIMUM			
FRONT	0'	±0.2'	±0.2'
SIDE (EAST)	0'	±179.8'	±179.8'
SIDE (WEST)	0'	±0.4'	±0.4'
REAR	4'	±113.0	±151.5
HEIGHT & NUMBER OF STORIES			
BUILDIMG HEIGHT	NA		
NUMBER OF STORIES	2 (MIN.) 6 MAX	6	6
IMPERVIOUS COVERAGE MAXIMUM	95%	80.0%	84.1%
PARKING			
PARKING SPACE SIZE:	8.5' X 18'	8.5' X 18'	8.5'-9' X 18'
REQUIRED PARKING			
PUBLIC SAFETY FACILITY	NONE	84 SP.	147 SP.

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One Park Place, 300 South State Street, Suite 600
Syracuse, NY 13202
315.471.3920 . www.chasolutions.com

0 20 40
Scale in feet

APPLICANT:
1153 OWNER, LLC
PO BOX 515
SYRACUSE, NY 13205

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PROJECT:
SYRACUSE PUBLIC SAFETY BUILDING
1153 WEST FAYETTE STREET
SYRACUSE NY 13204

No.	Submittal / Revision	Apv	By	Date

SITE LAYOUT PLAN

Designed By:	Drawn By:	Checked By:
BFB	BGH	BFB
Issue Date:	Project No.:	Scale:
8/6/24	088543	AS SHOWN

Drawing No.:
C-101

File: V:\PROJECTS\ANY\K\70885\43.000\09_DESIGN\DRAWINGS\01_SHEETS\088543_C-100-LAYT.DWG
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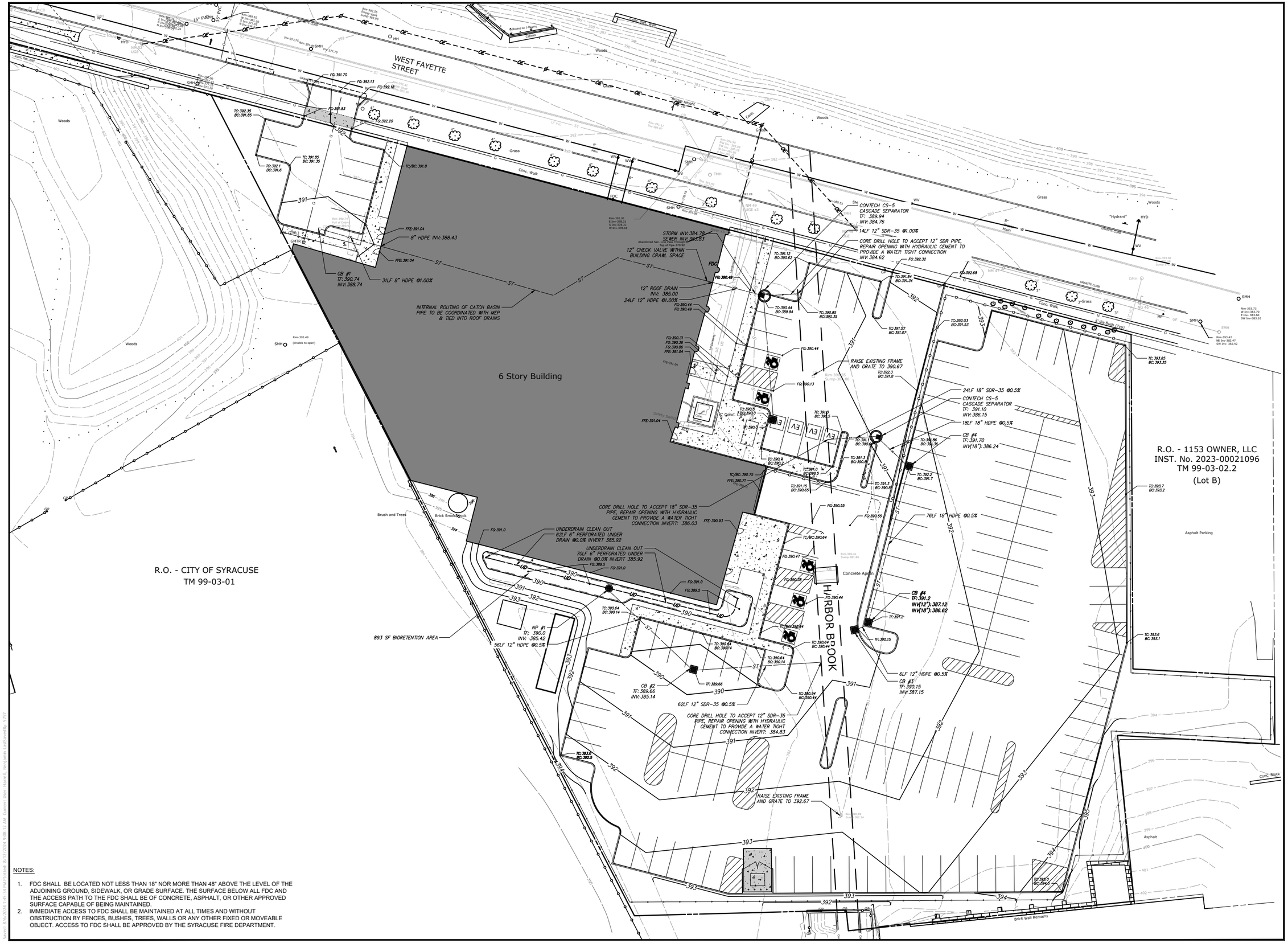

NOTES:

1. FDC SHALL BE LOCATED NOT LESS THAN 18" NOR MORE THAN 48" ABOVE THE LEVEL OF THE ADJOINING GROUND, SIDEWALK, OR GRADE SURFACE. THE SURFACE BELOW ALL FDC AND THE ACCESS PATH TO THE FDC SHALL BE OF CONCRETE, ASPHALT, OR OTHER APPROVED SURFACE CAPABLE OF BEING MAINTAINED.
2. IMMEDIATE ACCESS TO FDC SHALL BE MAINTAINED AT ALL TIMES AND WITHOUT OBSTRUCTION BY FENCES, BUSHES, TREES, WALLS OR ANY OTHER FIXED OR MOVEABLE OBJECT. ACCESS TO FDC SHALL BE APPROVED BY THE SYRACUSE FIRE DEPARTMENT.

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Syracuse, NY 13202
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PROJECT:
SYRACUSE PUBLIC SAFETY BUILDING
1153 WEST FAYETTE STREET
SYRACUSE NY 13204

No.	Submittal / Revision	Apv	By	Date

GRADING & DRAINAGE PLAN

Designed By:	Drawn By:	Checked By:
BFB	BGH	BFB
Issue Date:	Project No.:	Scale:
8/6/24	088543	AS SHOWN

Drawing No.:
C-201

File: V:\PROJECTS\ANY%20BIS-01\00\05_DESIGN\DRAWINGS\01_SHEETS\088543_C-201 GRAD.DWG
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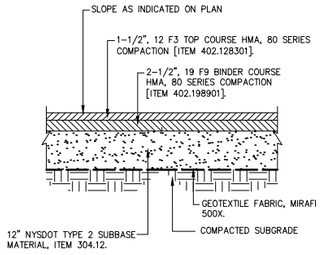
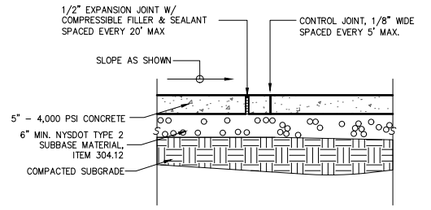


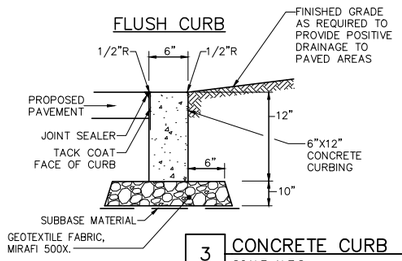
NOTE: USE ASPHALT JOINT SEALER ALONG TRANSITION TO EXISTING PAVEMENT

1 ASPHALT PAVEMENT
SCALE: N.T.S.

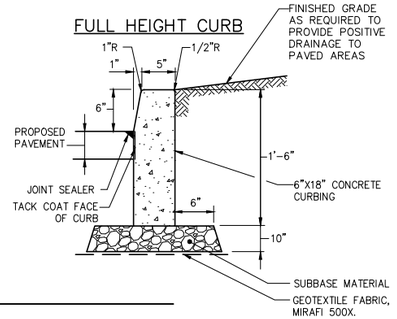


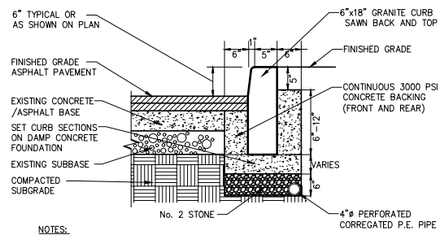
NOTES:
1. EXPANSION JOINTS TO BE PLACED BETWEEN ADJACENT SLABS, AT BUILDING LINE, AT CURBS, AT PENETRATING STRUCTURES, OR EXISTING JOINTS.

2 CONCRETE SIDEWALK (SITE)
SCALE: N.T.S.



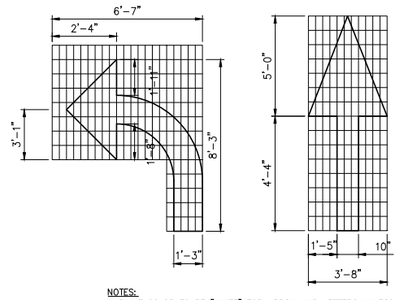
3 CONCRETE CURB
SCALE: N.T.S.





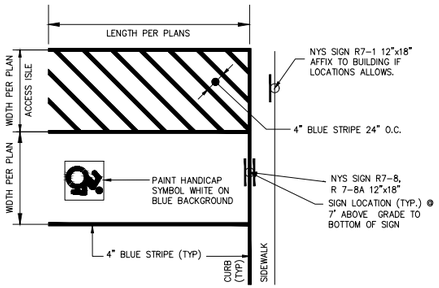
NOTES:
1. CURB JOINTS TO BE POINTED WITH MORTAR.
2. 1" REVEAL CURB WHERE DRIVEWAYS MEET ROADWAYS.
3. UNDERDRAIN MAY BE OMITTED FOR CURBING WITHIN SITE.

4 GRANITE CURB DETAIL
SCALE: N.T.S.



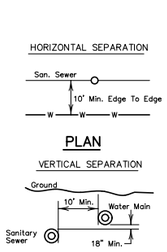
NOTES:
1. PAINT COLOR TO BE "WHITE" FOR ARROW AND LETTERS UNLESS OTHERWISE SPECIFIED ON PLANS. 4" WIDE STROKES.
2. STRIPPING COLOR TO BE "YELLOW" WITH 4" WIDE STROKES.
3. ALL MARKINGS TO RECEIVE TWO COATS OF PAINT.

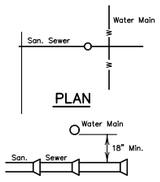
4 PAVEMENT PAINTING DETAIL
SCALE: N.T.S.



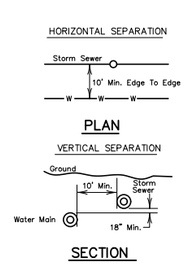
NOTE:
ALL DIMENSIONS TO CENTER OF 4" PAVEMENT STRIPING.

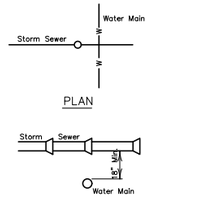
5 ACCESSIBLE PARKING SPACE
SCALE: N.T.S.





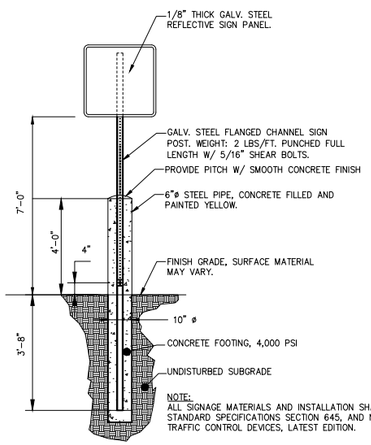
NOTE:
Wherever the required vertical and/or horizontal clearances can not be obtained, the requirements as outlined in Part 8.6 in the "Recommended Standards for Water Works" and Section 38 in the "Recommended Standards For Wastewater Facilities" shall be followed.





NOTE:
Clearance requirements shall be as outlined in Part 8.6 in the "Recommended Standards For Water Works".

6 UTILITY SEPERATION
SCALE: N.T.S.



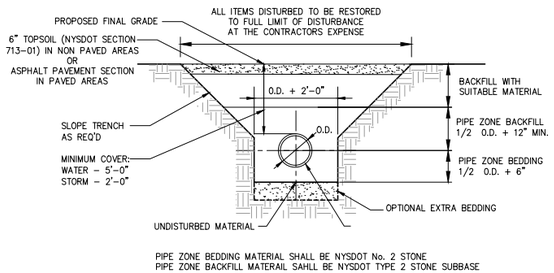
NOTE:
ALL SIGNAGE MATERIALS AND INSTALLATION SHALL CONFORM TO NYSDOT STANDARD SPECIFICATIONS SECTION 645, AND NYSDOT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

7 ROADWAY SIGNAGE W/ BOLLARD
SCALE: N.T.S.

SITE SIGN TABLE

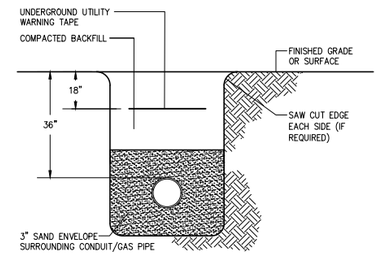
SIGN NO.	DESCRIPTION	M.U.T.C.D. NO./SIZE
2	RESERVED PARKING	R7-8 12"x18"
3	VAN ACCESSIBLE	R7-8A (12"x18")
5	NO PARKING ANY TIME	R7-1 (12"x18")

8 SITE SIGN TABLE
SCALE: N.T.S.



PIPE ZONE BEDDING MATERIAL SHALL BE NYSDOT No. 2 STONE
PIPE ZONE BACKFILL MATERAIL SAHLL BE NYSDOT TYPE 2 STONE SUBBASE

9 TYPICAL STORM, SANITARY, WATER TRENCH DETAIL
SCALE: N.T.S.



10 UNDERGROUND CONDUIT/GAS TRENCH
SCALE: N.T.S.

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CHA
One Park Place, 300 South State Street, Suite 600
Syracuse, NY 13202
315.471.3920 . www.chasolutions.com

APPLICANT:
1153 OWNER, LLC
PO BOX 515
SYRACUSE, NY 13205

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS OR HER SEAL, THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PROJECT:
SYRACUSE PUBLIC SAFETY BUILDING
1153 WEST FAYETTE STREET
SYRACUSE NY 13204

No.	Submittal / Revision	Apv	By	Date

DETAILS

Designed By:	Drawn By:	Checked By:
BFB	BGH	BFB
Issue Date:	Project No.:	Scale:
8/6/24	088543	AS SHOWN

Drawing No.:
C-601

File: V:\PROJECTS\JAN\K\088543.0009.09_DESIGN\DRAWINGS\01_SHEETS\088543_C-601-DETAILS.DWG
Date & Time Plotted: 8/7/2024 8:09:59 AM Current User Name: Brittney Fletcher Plotted By: BFB

Tables

Table 1
Alternatives Analysis Report / Remedial Action Work Plan
Chemical Analysis of Sampled Media

Lab Report Number	Sample ID	Date	Time	Matrix	Sample Type	Depth (ft)	Total Solids	TCL Volatile Organic Compounds + 10 TICs	TCL Semi Volatile Organic Compounds + 20 TICs	TCL Pesticides	Herbicides	TCL Polychlorinated Biphenyls	TAL Total Metals (incl. Mercury)	TAL Dissolved Metals (incl. Mercury)	Total Cyanide	Dissolved Cyanide	Total Hexavalent Chromium	Dissolved Hexavalent Chromium	Per- and Polyfluoroalkyl Substances	1,4-Dioxane	Total Petroleum Hydrocarbons	TO-15 / TO-15 SIM Volatile Organic Compounds	Carbon Tetrachloride	MS	MSD	DUP
L2469246	SS-102 0-2"	11/22/2024	11:30	SOIL	SS	0-2"	X	X	X	X	X	X	X		X		X		X	X						
	SS-102 6-12"	11/22/2024	11:45	SOIL	SS	6-12"	X	X	X	X	X	X	X		X		X		X	X						
	SS-104 0-2"	11/22/2024	12:15	SOIL	SS	0-2"	X	X	X	X	X	X	X		X		X		X	X						
	SS-104 6-12"	11/22/2024	12:45	SOIL	SS	6-12"	X	X	X	X	X	X	X		X		X		X	X						X
	SS-103 0-2"	11/22/2024	13:30	SOIL	SS	0-2"	X	X	X	X	X	X	X		X		X		X	X						
	SS-103 6-12"	11/22/2024	14:00	SOIL	SS	6-12"	X	X	X	X	X	X	X		X		X		X	X					X	X	
L2469590	SB-108 FILL	11/25/2024	09:50	SOIL	SB	0.5-8	X	X	X	X	X	X	X		X		X		X	X	X						
	SB-108 NATIVE	11/25/2024	09:55	SOIL	SB	8-15	X	X	X	X	X	X	X		X		X		X	X							
	SB-107 FILL	11/25/2024	10:30	SOIL	SB	1-6	X	X	X	X	X	X	X		X		X		X	X	X						
	SB-107 NATIVE	11/25/2024	10:50	SOIL	SB	8-10	X	X	X	X	X	X	X		X		X		X	X							
	SB-106A FILL	11/25/2024	11:00	SOIL	SB	1-5	X	X	X																		
	SB-106A NATIVE	11/25/2024	11:10	SOIL	SB	8-10	X	X	X																		
	SB-106 FILL	11/25/2024	11:25	SOIL	SB	1-6	X	X	X	X	X	X	X		X		X		X	X	X						
	SB-106 NATIVE	11/25/2024	11:30	SOIL	SB	9-15	X	X	X	X	X	X	X		X		X		X	X							
	SB-106C FILL	11/25/2024	11:45	SOIL	SB	1-5	X	X	X																		
	SB-106C NATIVE	11/25/2024	11:50	SOIL	SB	10-12	X	X	X																		
	SB-106B FILL	11/25/2024	12:10	SOIL	SB	1-5	X	X	X																		
	SB-106B NATIVE	11/25/2024	12:15	SOIL	SB	10-12	X	X	X																		
	SB-105 FILL	11/25/2024	12:25	SOIL	SB	0-5	X	X	X	X	X	X	X		X		X		X	X	X						
	SB-105 NATIVE	11/25/2024	12:30	SOIL	SB	10-15	X	X	X	X	X	X	X		X		X		X	X							
	SB-102 FILL	11/25/2024	13:10	SOIL	SB	3-8	X	X	X	X	X	X	X		X		X		X	X	X						
	SB-102 NATIVE	11/25/2024	13:20	SOIL	SB	10-20	X	X	X	X	X	X	X		X		X		X	X							
	SB-103 FILL	11/25/2024	13:45	SOIL	SB	2-6	X	X	X	X	X	X	X		X		X		X	X	X						
	SB-103 NATIVE	11/25/2024	13:35	SOIL	SB	8-14	X	X	X	X	X	X	X		X		X		X	X							
	SB-109 FILL	11/25/2024	13:55	SOIL	SB	1-5	X	X	X	X	X	X	X		X		X		X	X	X						
	SB-109 NATIVE	11/25/2024	14:05	SOIL	SB	7-10	X	X	X	X	X	X	X		X		X		X	X							
	SB-110 FILL	11/25/2024	14:10	SOIL	SB	1-7	X	X	X	X	X	X	X		X		X		X	X	X						
	SB-110 NATIVE	11/25/2024	14:30	SOIL	SB	15-20	X	X	X	X	X	X	X		X		X		X	X							X
	SB-114 FILL	11/25/2024	14:50	SOIL	SB	1-5	X	X	X	X	X	X	X		X		X		X	X	X						
	SB-114 NATIVE	11/25/2024	14:55	SOIL	SB	12-20	X	X	X	X	X	X	X		X		X		X	X							
L2332896	SB-115 FILL	11/26/2024	08:05	SOIL	SB	3-8	X	X	X	X	X	X	X		X		X		X	X	X						
	SB-115 NATIVE	11/26/2024	08:15	SOIL	SB	13-20	X	X	X	X	X	X	X		X		X		X	X					X	X	
	SB-113 FILL	11/26/2024	08:40	SOIL	SB	3-10	X	X	X	X	X	X	X		X		X		X	X	X						
	SB-113 NATIVE	11/26/2024	09:10	SOIL	SB	10-15	X	X	X	X	X	X	X		X		X		X	X							
	SB-112 FILL	11/26/2024	09:30	SOIL	SB	2-10	X	X	X	X	X	X	X		X		X		X	X	X				X	X	
	SB-112 NATIVE	11/26/2024	09:35	SOIL	SB	11-14	X	X	X	X	X	X	X		X		X		X	X							
	SB-112A FILL	11/26/2024	10:10	SOIL	SB	6-8	X	X	X																		
	SB-112A NATIVE	11/26/2024	10:15	SOIL	SB	10-13	X	X	X																		
	SB-112B FILL	11/26/2024	10:35	SOIL	SB	7-9	X	X	X																		
	SB-112B NATIVE	11/26/2024	10:40	SOIL	SB	11-13	X	X	X																		
	SB-112C FILL	11/26/2024	11:05	SOIL	SB	7-9	X	X	X																		
	SB-112C NATIVE	11/26/2024	11:00	SOIL	SB	11-15	X	X	X																		
	SB-116 FILL	11/26/2024	11:25	SOIL	SB	4-7	X	X	X	X	X	X	X		X		X		X	X	X						
	SB-116 NATIVE	11/26/2024	11:30	SOIL	SB	7-10	X	X	X	X	X	X	X		X		X		X	X							
	SB-104 FILL	11/26/2024	12:00	SOIL	SB	5-10	X	X	X	X	X	X	X		X		X		X	X	X						
	SB-104 NATIVE	11/26/2024	12:05	SOIL	SB	15-20	X	X	X	X	X	X	X		X		X		X	X							
	SB-111 FILL	11/26/2024	12:30	SOIL	SB	2-8	X	X	X	X	X	X	X		X		X		X	X	X						X
	SB-111 NATIVE	11/26/2024	12:35	SOIL	SB	9-15	X	X	X	X	X	X	X		X		X		X	X							
	SB-117 FILL	11/26/2024	12:50	SOIL	SB	3-7	X	X	X	X	X	X	X		X		X		X	X	X						
	SB-117 NATIVE	11/26/2024	12:55	SOIL	SB	12-15	X	X	X	X	X	X	X		X		X		X	X							
	SB-118 FILL	11/26/2024	13:15	SOIL	SB	1-5	X	X	X	X	X	X	X		X		X		X	X	X						
	SB-118 NATIVE	11/26/2024	13:25	SOIL	SB	10-14	X	X	X	X	X	X	X		X		X		X	X							
	SB-101 FILL	11/26/2024	14:25	SOIL	SB	4-10	X	X	X	X	X	X	X		X		X		X	X	X						
	SB-101 NATIVE	11/26/2024	14:35	SOIL	SB	12-15	X	X	X	X	X	X	X		X		X		X	X							
L2470407	SS-105 0-2"	12/2/2024	09:30	SOIL	SS	0-2"	X	X	X	X	X	X	X		X		X		X	X							
	SS-105 6-12"	12/2/2024	09:45	SOIL	SS	6-12"	X	X	X	X	X	X	X		X		X		X	X							
	SS-106 0-2"	12/2/2024	10:00	SOIL	SS	0-2"	X	X	X	X	X	X	X		X		X		X	X							
	SS-106 6-12"	12/2/2024	10:15	SOIL	SS	6-12"	X	X	X	X	X	X	X		X		X		X	X							
	SS-101 0-2"	12/2/2024	11:15	SOIL	SS	0-2"	X	X	X	X	X	X	X		X		X		X	X							
	SS-101 6-12"	12/2/2024	11:30	SOIL	SS	6-12"	X	X	X	X	X	X	X		X		X		X	X							

Table 1
Alternatives Analysis Report / Remedial Action Work Plan
Chemical Analysis of Sampled Media

Lab Report Number	Sample ID	Date	Time	Matrix	Sample Type	Depth (ft)	Total Solids	TCL Volatile Organic Compounds + 10 TICs	TCL Semi Volatile Organic Compounds + 20 TICs	TCL Pesticides	Herbicides	TCL Polychlorinated Biphenyls	TAL Total Metals (incl. Mercury)	TAL Dissolved Metals (incl. Mercury)	Total Cyanide	Dissolved Cyanide	Total Hexavalent Chromium	Dissolved Hexavalent Chromium	Per- and Polyfluoroalkyl Substances	1,4-Dioxane	Total Petroleum Hydrocarbons	TO-15 / TO-15 SIM Volatile Organic Compounds	Carbon Tetrachloride	MS	MSD	DUP
L2471075	SSV-101	12/4/2024	09:00	SOIL VAPOR	SSV	8"																X				
	IA-101	12/4/2024	09:00	INDOOR AIR	IA	-																X				
	SSV-102	12/4/2024	09:10	SOIL VAPOR	SSV	8"																X				
	IA-102	12/4/2024	09:10	INDOOR AIR	IA	-																X				
	SSV-103	12/4/2024	09:20	SOIL VAPOR	SSV	8"																X				
	IA-103	12/4/2024	09:20	INDOOR AIR	IA	-																X				
	CS-104	12/4/2024	10:05	INDOOR AIR	CS	2																X				
	IA-104	12/4/2024	10:05	INDOOR AIR	IA	-																X				
	CS-105	12/4/2024	10:15	INDOOR AIR	CS	2																X				
	IA-105	12/4/2024	10:15	INDOOR AIR	IA	-																X				
	SV-101	12/4/2024	11:20	SOIL VAPOR	SV	5																X				
	SV-102	12/4/2024	11:40	SOIL VAPOR	SV	5																X				
	SV-103	12/4/2024	11:05	SOIL VAPOR	SV	5																X				
	SV-104	12/4/2024	11:50	SOIL VAPOR	SV	5																X				
	SV-105	12/4/2024	11:30	SOIL VAPOR	SV	5																X				
	SV-106	12/4/2024	10:55	SOIL VAPOR	SV	5																X				
	SV-107	12/4/2024	11:10	SOIL VAPOR	SV	5																X				
	OA-101	12/4/2024	11:55	OUTDOOR AIR	OA	-																X				
L2473175	MW-104 ROUND 1	12/12/2024	12:10	WATER	W	20		X	X	X	X	X	X	X	X	X	X	X	X	X						
	MW-102 ROUND 1	12/12/2024	14:11	WATER	W	20		X	X			X	X	X					X	X						
	EQUIPMENT BLANK	12/12/2024	13:45	WATER	W	-													X							
	TRIP BLANK	12/12/2024	-	WATER	W	-		X																		
L2473569	MW-106 ROUND 1	12/13/2024	08:25	WATER	W	20		X	X			X	X	X					X	X				X	X	X
	MW-103 ROUND 1	12/13/2024	10:40	WATER	W	20		X	X			X	X	X					X	X						
	MW-107 ROUND 1	12/13/2024	12:15	WATER	W	20		X	X			X	X	X					X	X						
	MW-105 ROUND 1	12/13/2024	13:08	WATER	W	20		X	X			X	X	X					X	X						
	MW-101 ROUND 1	12/13/2024	14:10	WATER	W	14		X	X			X	X	X					X	X						
	TRIP BLANK	12/13/2024	-	WATER	W	-		X																		
L2502298	SSV-103 RETEST	1/14/2025	12:15	SOIL VAPOR	SSV	8"																X				
L2507633	MW-105 ROUND 2	2/11/2025	12:45	WATER	W	20		X	X			X	X	X										X	X	X
	MW-104 ROUND 2	2/11/2025	14:20	WATER	W	20		X	X			X	X	X												
	MW-106 ROUND 2	2/11/2025	15:25	WATER	W	20		X	X			X	X	X												
	MW-102 ROUND 2	2/11/2025	16:15	WATER	W	20		X	X			X	X	X												
	TRIP BLANK	2/11/2025	-	WATER	W	-		X																		
L2507955	MW-107 ROUND 2	2/12/2025	13:30	WATER	W	20		X	X			X	X	X					X							
	MW-103 ROUND 2	2/12/2025	14:45	WATER	W	20		X	X	X	X	X	X	X	X	X	X									
	MW-101 ROUND 2	2/12/2025	16:20	WATER	W	14		X	X			X	X	X					X							
	EQUIPMENT BLANK	2/12/2025	-	WATER	W	-													X							
	TRIP BLANK	2/12/2025	-	WATER	W	-		X																		
ENV T02529	PSG-113	2/19/2025	8:20	SOIL VAPOR	SSV	3																X				
	PSG-114	2/19/2025	8:25	SOIL VAPOR	SSV	3																X				
	PSG-115	2/19/2025	8:30	SOIL VAPOR	SSV	3																X				
	PSG-109	2/19/2025	8:33	SOIL VAPOR	SSV	3																X				
	PSG-110	2/19/2025	8:36	SOIL VAPOR	SSV	3																X				
	PSG-111	2/19/2025	8:40	SOIL VAPOR	SSV	3																X				
	PSG-112	2/19/2025	8:45	SOIL VAPOR	SSV	3																X				
	PSG-106	2/19/2025	8:48	SOIL VAPOR	SSV	3																X				
	PSG-107	2/19/2025	8:52	SOIL VAPOR	SSV	3																X				
	PSG-104	2/19/2025	8:55	SOIL VAPOR	SSV	3																X				
	PSG-108	2/19/2025	8:58	SOIL VAPOR	SSV	3																X				
	PSG-105	2/19/2025	9:00	SOIL VAPOR	SSV	3																X				
	PSG-101	2/19/2025	9:03	SOIL VAPOR	SSV	3																X				
	PSG-102	2/19/2025	9:05	SOIL VAPOR	SSV	3																X				
	PSG-103	2/19/2025	9:08	SOIL VAPOR	SSV	3																X				
	TRIP BLANK	2/19/2025	-	SOIL VAPOR	SSV	3																X				

Notes:
- Pace Analytical performed the analysis for all lab reports with the exception of ENV T02529 which was performed by Amplified Geochemical Imaging, LLC (AGI).
- Sample type is surface soil (SS), soil boring (SB), sub-slab vapor (SSV), indoor air (IA), crawl space air (CS), soil vapor (SV), or water (W).
- TCL = Target Compound List
- TICs = Tentatively Identified Compounds
- TAL = Target Analyte List
- SIM = Select Ion Monitoring
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- DUP = Field Duplicate

Table 2
Alternatives Analysis Report / Remedial Action Work Plan
Surface Soil Data Summary

LOCATION				SS-101		SS-101		SS-102		SS-102		SS-103		SS-103		SS-104		SS-104		SS-105		SS-105		SS-106		SS-106		DUP-01 (SS-104)	
SAMPLING DATE				12/2/2024		12/2/2024		11/22/2024		11/22/2024		11/22/2024		11/22/2024		11/22/2024		11/22/2024		12/2/2024		12/2/2024		12/2/2024		12/2/2024		11/22/2024	
LAB SAMPLE ID				L2470407-05		L2470407-06		L2469246-01		L2469246-02		L2469246-03		L2469246-04		L2469246-05		L2469246-06		L2470407-01		L2470407-02		L2470407-03		L2470407-04		L2469246-07	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (in.)				0-2		6-12		0-2		6-12		0-2		6-12		0-2		6-12		0-2		6-12		0-2		6-12		6-12	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Volatile Organics by EPA 5035																													
1,1,1-Trichloroethane	0.68	500	0.68	0.00065	U	0.00061	U	0.00087	U	0.00071	U	0.001	U	0.0008	U	0.00077	U	0.00077	U	0.00089	U	0.00072	U	0.001	U	0.00085	U	0.00054	U
1,1,2,2-Tetrachloroethane				0.00065	U	0.00061	U	0.00087	U	0.00071	U	0.001	U	0.0008	U	0.00077	U	0.00077	U	0.00089	U	0.00072	U	0.001	U	0.00085	U	0.00054	U
1,1,2-Trichloroethane				0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	U	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	U
1,1-Dichloroethane	0.27	240	0.27	0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	U	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	U
1,1-Dichloroethene	0.33	500	0.33	0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	U	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	U
1,2,4-Trichlorobenzene				0.0026	U	0.0024	U	0.0035	U	0.0028	U	0.0042	U	0.0032	U	0.0031	U	0.0031	U	0.0036	U	0.0029	U	0.004	U	0.0034	U	0.0021	U
1,2,4-Trimethylbenzene	3.6	190	3.6	0.0026	U	0.0024	U	0.0035	U	0.0028	U	0.0042	U	0.0032	U	0.0031	U	0.0031	R	0.0036	U	0.0029	U	0.004	U	0.0034	U	0.0021	R
1,2-Dibromo-3-chloropropane				0.0039	U	0.0036	U	0.0052	U	0.0043	U	0.0062	U	0.0048	U	0.0046	U	0.0046	U	0.0054	U	0.0043	U	0.006	U	0.0051	U	0.0032	U
1,2-Dibromoethane				0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	U	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	U
1,2-Dichlorobenzene	1.1	500	1.1	0.0026	U	0.0024	U	0.0035	U	0.0028	U	0.0042	U	0.0032	U	0.0031	U	0.0031	U	0.0036	U	0.0029	U	0.004	U	0.0034	U	0.0021	U
1,2-Dichloroethane	0.02	30	0.02	0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	U	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	U
1,2-Dichloropropane				0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	U	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	U
1,3,5-Trimethylbenzene	8.4	190	8.4	0.0026	U	0.0024	U	0.0035	U	0.0028	U	0.0042	U	0.0032	U	0.0031	U	0.0031	R	0.0036	U	0.0029	U	0.004	U	0.0034	U	0.0021	R
1,3-Dichlorobenzene	2.4	280	2.4	0.0026	U	0.0024	U	0.0035	U	0.0028	U	0.0042	U	0.0032	U	0.0031	U	0.0031	U	0.0036	U	0.0029	U	0.004	U	0.0034	U	0.0021	U
1,4-Dichlorobenzene	1.8	130	1.8	0.0026	U	0.0024	U	0.0035	U	0.0028	U	0.0042	U	0.0032	U	0.0031	U	0.0031	U	0.0036	U	0.0029	U	0.004	U	0.0034	U	0.0021	U
2-Butanone	0.12	500	0.12	0.013	U	0.012	U	0.017	U	0.014	U	0.021	U	0.016	U	0.015	U	0.015	U	0.018	U	0.014	U	0.02	U	0.017	U	0.011	U
2-Hexanone				0.013	U	0.012	U	0.017	U	0.014	U	0.021	U	0.016	U	0.015	U	0.015	U	0.018	U	0.014	U	0.02	U	0.017	U	0.011	U
4-Methyl-2-pentanone				0.013	U	0.012	U	0.017	U	0.014	U	0.021	U	0.016	U	0.015	U	0.015	U	0.018	U	0.014	U	0.02	U	0.017	U	0.011	U
Acetone	0.05	500	0.05	0.013	U	**0.017**		0.017	U	0.014	U	0.021	U	0.016	U	**1.9**	**E**	**0.04**		**0.016**	**J**	0.014	U	0.02	U	0.017	U	0.011	U
Benzene	0.06	44	0.06	0.00065	U	0.00061	U	0.00087	U	0.00071	U	0.001	U	0.0008	U	0.00077	U	0.00077	R	0.00089	U	0.00072	U	0.001	U	0.00085	U	0.00054	R
Bromodichloromethane				0.00065	U	0.00061	U	0.00087	U	0.00071	U	0.001	U	0.0008	U	0.00077	U	0.00077	U	0.00089	U	0.00072	U	0.001	U	0.00085	U	0.00054	U
Bromoform				0.0052	U	0.0048	U	0.007	U	0.0057	U	0.0083	U	0.0064	U	0.0061	U	0.0062	U	0.0072	U	0.0057	U	0.008	U	0.0068	U	0.0043	U
Bromomethane				0.0026	U	0.0024	U	0.0035	U	0.0028	U	0.0042	U	0.0032	U	0.0031	U	0.0031	U	0.0036	U	0.0029	U	0.004	U	0.0034	U	0.0021	U
Carbon disulfide				0.013	U	0.012	U	0.017	U	0.014	U	0.021	U	0.016	U	0.015	U	0.015	U	0.018	U	0.014	U	0.02	U	0.017	U	0.011	U
Carbon tetrachloride	0.76	22	0.76	0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	U	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	U
Chlorobenzene	1.1	500	1.1	0.00065	U	0.00061	U	0.00087	U	0.00071	U	0.001	U	0.0008	U	0.00077	U	0.00077	U	0.00089	U	0.00072	U	0.001	U	0.00085	U	0.00054	U
Chloroethane				0.0026	U	0.0024	U	0.0035	U	0.0028	U	0.0042	U	0.0032	U	0.0031	U	0.0031	U	0.0036	U	0.0029	U	0.004	U	0.0034	U	0.0021	U
Chloroform	0.37	350	0.37	0.0019	U	0.0018	U	0.0026	U	0.0021	U	0.0031	U	0.0024	U	0.0023	U	0.0023	U	0.0027	U	0.0021	U	0.003	U	0.0026	U	0.0016	U
Chloromethane				0.0052	U	0.0048	U	0.007	U	0.0057	U	0.0083	U	0.0064	U	0.0061	U	0.0062	U	0.0072	U	0.0057	U	0.008	U	0.0068	U	0.0043	U
cis-1,2-Dichloroethene	0.25	500	0.25	0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	U	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	U
cis-1,3-Dichloropropene				0.00065	U	0.00061	U	0.00087	U	0.00071	U	0.001	U	0.0008	U	0.00077	U	0.00077	U	0.00089	U	0.00072	U	0.001	U	0.00085	U	0.00054	U
Cyclohexane				0.013	U	0.012	U	0.017	U	0.014	U	0.021	U	0.016	U	0.015	U	0.015	R	0.018	U	0.014	U	0.02	U	0.017	U	0.011	R
Dibromochloromethane				0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	U	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	U
Dichlorodifluoromethane				0.013	U	0.012	U	0.017	U	0.014	U	0.021	U	0.016	U	0.015	U	0.015	U	0.018	U	0.014	U	0.02	U	0.017	U	0.011	U
Ethylbenzene	1	390	1	0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	R	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	R
Freon-113				0.0052	U	0.0048	U	0.007	U	0.0057	U	0.0083	U	0.0064	U	0.0061	U	0.0062	U	0.0072	U	0.0057	U	0.008	U	0.0068	U	0.0043	U
Isopropylbenzene				0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	R	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	R
Methyl Acetate				0.0052	U	0.0048	U	0.007	U	0.0057	U	0.0083	U	0.0064	U	0.0061	U	0.0062	U	0.0072	U	0.0057	U	0.008	U	0.0068	U	0.0043	U
Methyl cyclohexane				0.0052	U	0.0048	U	0.007	U	0.0057	U	0.0083	U	0.0064	U	0.0061	U	0.0062	R	0.0072	U	0.0057	U	0.008	U	0.0068	U	0.0043	R
Methyl tert butyl ether	0.93	500	0.93	0.0026	U	0.0024	U	0.0035	U	0.0028	U	0.0042	U	0.0032	U	0.0031	U	0.0031	U	0.0036	U	0.0029	U	0.004	U	0.0034	U	0.0021	U
Methylene chloride	0.05	500	0.05	0.0065	U	0.0061	U	0.0087	U	0.0071	U	0.01	U	0.008	U	0.0077	U	0.0077	U	0.0089	U	0.0072	U	0.01	U	0.0085	U	0.0054	U
n-Butylbenzene	12	500	12	0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	U	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	U
n-Propylbenzene	3.9	500	3.9	0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	U	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	U
Naphthalene	12	500	12	0.0052	U	0.0048	U	0.007	U	0.0057	U	0.0083	U	0.0064	U	0.0061	U	0.0062	R	**0.0023**	**J**	0.0057	U	0.008	U	0.0068	U	0.0043	R
o-Xylene	0.26	500	1.6	0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	R	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	R
p-Isopropyltoluene				0.0013	U	0.0012	U	**0.0023**		0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	U	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	U
p/m-Xylene	0.26	500	1.6	0.0026	U	0.0024	U	0.0035	U	0.0028	U	0.0042	U	0.0032	U	0.0031	U	0.0031	R	0.0036	U	0.0029	U	0.004	U	0.0034	U	0.0021	R
sec-Butylbenzene	11	500	11	0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	R	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	R
Styrene				0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	U	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	U
tert-Butylbenzene	5.9	500	5.9	0.0026	U	0.0024	U	0.0035	U	0.0028	U	0.0042	U	0.0032	U	0.0031	U	0.0031	U	0.0036	U	0.0029	U	0.004	U	0.0034	U	0.0021	U
Tetrachloroethene	1.3	150	1.3	0.00065	U	0.00061	U	0.00087	U	0.00071	U	0.001	U	0.0008	U	0.00077	U	0.00077	U	0.00089	U	0.00072	U	0.001	U	0.00085	U	0.00054	U
Toluene	0.7	500	0.7	0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	**0.0014**	**J**	0.0015	R	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	R
trans-1,2-Dichloroethene	0.19	500	0.19	0.0019	U	0.0018	U	0.0026	U	0.0021	U	0.0031	U	0.0024	U	0.0023	U	0.0023	U	0.0027	U	0.0021	U	0.003	U	0.0026	U	0.0016	U
trans-1,3-Dichloropropene				0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	U	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	U
Trichloroethene	0.47	200	0.47	0.00065	U	0.00061	U	0.00087	U	0.00071	U	0.001	U	0.0008	U	0.00077	U	0.00077	U	0.00089	U	0.00072	U	0.001	U	0.00085	U	0.00054	U
Trichlorofluoromethane				0.0052	U	0.0048	U	0.007	U	0.0057	U	0.0083	U	0.0064	U	0.0061	U	0.0062	U	0.0072	U	0.0057	U	0.008	U	0.0068	U	0.0043	U
Vinyl chloride	0.02	13	0.02	0.0013	U	0.0012	U	0.0017	U	0.0014	U	0.0021	U	0.0016	U	0.0015	U	0.0015	U	0.0018	U	0.0014	U	0.002	U	0.0017	U	0.0011	U
Total TIC Compounds				**0.0146**	**J**	**0.0143**	**J**	**1.19**	**J**	0	U	**0.112**	**J**	0	U	0	U	0	U	0	U	**0.00298**	**J**	0	U	0	U	0	U

Table 2
Alternatives Analysis Report / Remedial Action Work Plan
Surface Soil Data Summary

LOCATION				SS-101		SS-101		SS-102		SS-102		SS-103		SS-103		SS-104		SS-104		SS-105		SS-105		SS-106		SS-106		DUP-01 (SS-104)	
SAMPLING DATE				12/2/2024		12/2/2024		11/22/2024		11/22/2024		11/22/2024		11/22/2024		11/22/2024		11/22/2024		12/2/2024		12/2/2024		12/2/2024		12/2/2024		11/22/2024	
LAB SAMPLE ID				L2470407-05		L2470407-06		L2469246-01		L2469246-02		L2469246-03		L2469246-04		L2469246-05		L2469246-06		L2470407-01		L2470407-02		L2470407-03		L2470407-04		L2469246-07	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (in.)				0-2		6-12		0-2		6-12		0-2		6-12		0-2		6-12		0-2		6-12		0-2		6-12		6-12	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Volatile Organics by EPA 5035 High																													
1,1,1-Trichloroethane	0.68	500	0.68	-	-	-	-	-	-	-	-	-	-	-	-	0.028	U	-	-	-	-	-	-	-	-	-	-	0.022	U
1,1,2,2-Tetrachloroethane				-	-	-	-	-	-	-	-	-	-	-	-	0.028	U	-	-	-	-	-	-	-	-	-	-	0.022	U
1,1,2-Trichloroethane				-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	0.045	U
1,1-Dichloroethane	0.27	240	0.27	-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	0.045	U
1,1-Dichloroethene	0.33	500	0.33	-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	0.045	U
1,2,4-Trichlorobenzene				-	-	-	-	-	-	-	-	-	-	-	-	0.11	U	-	-	-	-	-	-	-	-	-	-	0.089	U
1,2,4-Trimethylbenzene	3.6	190	3.6	-	-	-	-	-	-	-	-	-	-	-	-	0.11	U	-	-	-	-	-	-	-	-	-	-	**0.067**	R
1,2-Dibromo-3-chloropropane				-	-	-	-	-	-	-	-	-	-	-	-	0.17	U	-	-	-	-	-	-	-	-	-	-	0.13	U
1,2-Dibromoethane				-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	0.045	U
1,2-Dichlorobenzene	1.1	500	1.1	-	-	-	-	-	-	-	-	-	-	-	-	0.11	U	-	-	-	-	-	-	-	-	-	-	0.089	U
1,2-Dichloroethane	0.02	30	0.02	-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	0.045	U
1,2-Dichloropropane				-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	0.045	U
1,3,5-Trimethylbenzene	8.4	190	8.4	-	-	-	-	-	-	-	-	-	-	-	-	0.11	U	-	-	-	-	-	-	-	-	-	-	**0.024**	R
1,3-Dichlorobenzene	2.4	280	2.4	-	-	-	-	-	-	-	-	-	-	-	-	0.11	U	-	-	-	-	-	-	-	-	-	-	0.089	U
1,4-Dichlorobenzene	1.8	130	1.8	-	-	-	-	-	-	-	-	-	-	-	-	0.11	U	-	-	-	-	-	-	-	-	-	-	0.089	U
2-Butanone	0.12	500	0.12	-	-	-	-	-	-	-	-	-	-	-	-	0.56	U	-	-	-	-	-	-	-	-	-	-	0.45	U
2-Hexanone				-	-	-	-	-	-	-	-	-	-	-	-	0.56	U	-	-	-	-	-	-	-	-	-	-	0.45	U
4-Methyl-2-pentanone				-	-	-	-	-	-	-	-	-	-	-	-	0.56	U	-	-	-	-	-	-	-	-	-	-	0.45	U
Acetone	0.05	500	0.05	-	-	-	-	-	-	-	-	-	-	-	-	**4.1**		-	-	-	-	-	-	-	-	-	-	0.45	U
Benzene	0.06	44	0.06	-	-	-	-	-	-	-	-	-	-	-	-	0.028	U	-	-	-	-	-	-	-	-	-	-	**0.017**	R
Bromodichloromethane				-	-	-	-	-	-	-	-	-	-	-	-	0.028	U	-	-	-	-	-	-	-	-	-	-	0.022	U
Bromoform				-	-	-	-	-	-	-	-	-	-	-	-	0.22	U	-	-	-	-	-	-	-	-	-	-	0.18	UJ
Bromomethane				-	-	-	-	-	-	-	-	-	-	-	-	0.11	U	-	-	-	-	-	-	-	-	-	-	0.089	U
Carbon disulfide				-	-	-	-	-	-	-	-	-	-	-	-	0.56	U	-	-	-	-	-	-	-	-	-	-	0.45	U
Carbon tetrachloride	0.76	22	0.76	-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	0.045	U
Chlorobenzene	1.1	500	1.1	-	-	-	-	-	-	-	-	-	-	-	-	0.028	U	-	-	-	-	-	-	-	-	-	-	0.022	U
Chloroethane				-	-	-	-	-	-	-	-	-	-	-	-	0.11	U	-	-	-	-	-	-	-	-	-	-	0.089	U
Chloroform	0.37	350	0.37	-	-	-	-	-	-	-	-	-	-	-	-	0.083	U	-	-	-	-	-	-	-	-	-	-	0.067	U
Chloromethane				-	-	-	-	-	-	-	-	-	-	-	-	0.22	U	-	-	-	-	-	-	-	-	-	-	0.18	U
cis-1,2-Dichloroethene	0.25	500	0.25	-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	0.045	U
cis-1,3-Dichloropropene				-	-	-	-	-	-	-	-	-	-	-	-	0.028	U	-	-	-	-	-	-	-	-	-	-	0.022	U
Cyclohexane				-	-	-	-	-	-	-	-	-	-	-	-	0.56	U	-	-	-	-	-	-	-	-	-	-	**0.075**	R
Dibromochloromethane				-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	0.045	U
Dichlorodifluoromethane				-	-	-	-	-	-	-	-	-	-	-	-	0.56	U	-	-	-	-	-	-	-	-	-	-	0.45	U
Ethylbenzene	1	390	1	-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	**0.022**	R
Freon-113				-	-	-	-	-	-	-	-	-	-	-	-	0.22	U	-	-	-	-	-	-	-	-	-	-	0.18	U
Isopropylbenzene				-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	**0.0087**	R
Methyl Acetate				-	-	-	-	-	-	-	-	-	-	-	-	**0.54**		-	-	-	-	-	-	-	-	-	-	0.18	U
Methyl cyclohexane				-	-	-	-	-	-	-	-	-	-	-	-	**0.091**	J	-	-	-	-	-	-	-	-	-	-	**0.21**	R
Methyl tert butyl ether	0.93	500	0.93	-	-	-	-	-	-	-	-	-	-	-	-	0.11	U	-	-	-	-	-	-	-	-	-	-	0.089	U
Methylene chloride	0.05	500	0.05	-	-	-	-	-	-	-	-	-	-	-	-	0.28	U	-	-	-	-	-	-	-	-	-	-	0.22	U
n-Butylbenzene	12	500	12	-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	0.045	U
n-Propylbenzene	3.9	500	3.9	-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	0.045	U
Naphthalene	12	500	12	-	-	-	-	-	-	-	-	-	-	-	-	**0.14**	J	-	-	-	-	-	-	-	-	-	-	**0.75**	R
o-Xylene	0.26	500	1.6	-	-	-	-	-	-	-	-	-	-	-	-	**0.016**	J	-	-	-	-	-	-	-	-	-	-	**0.068**	R
p-Isopropyltoluene				-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	0.045	U
p/m-Xylene	0.26	500	1.6	-	-	-	-	-	-	-	-	-	-	-	-	0.11	U	-	-	-	-	-	-	-	-	-	-	**0.12**	R
sec-Butylbenzene	11	500	11	-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	**0.0072**	R
Styrene				-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	0.045	U
tert-Butylbenzene	5.9	500	5.9	-	-	-	-	-	-	-	-	-	-	-	-	0.11	U	-	-	-	-	-	-	-	-	-	-	0.089	U
Tetrachloroethene	1.3	150	1.3	-	-	-	-	-	-	-	-	-	-	-	-	0.028	U	-	-	-	-	-	-	-	-	-	-	0.022	U
Toluene	0.7	500	0.7	-	-	-	-	-	-	-	-	-	-	-	-	**0.082**		-	-	-	-	-	-	-	-	-	-	**0.12**	R
trans-1,2-Dichloroethene	0.19	500	0.19	-	-	-	-	-	-	-	-	-	-	-	-	0.083	U	-	-	-	-	-	-	-	-	-	-	0.067	U
trans-1,3-Dichloropropene				-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	0.045	U
Trichloroethene	0.47	200	0.47	-	-	-	-	-	-	-	-	-	-	-	-	0.028	U	-	-	-	-	-	-	-	-	-	-	0.022	U
Trichlorofluoromethane				-	-	-	-	-	-	-	-	-	-	-	-	0.22	U	-	-	-	-	-	-	-	-	-	-	0.18	U
Vinyl chloride	0.02	13	0.02	-	-	-	-	-	-	-	-	-	-	-	-	0.056	U	-	-	-	-	-	-	-	-	-	-	0.045	U
Total TIC Compounds				-	-	-	-	-	-	-	-	-	-	-	-	0	U	-	-	-	-	-	-	-	-	-	-	**0.17**	J

Table 2
Alternatives Analysis Report / Remedial Action Work Plan
Surface Soil Data Summary

LOCATION				SS-101		SS-101		SS-102		SS-102		SS-103		SS-103		SS-104		SS-104		SS-105		SS-105		SS-106		SS-106		DUP-01 (SS-104)	
SAMPLING DATE				12/2/2024		12/2/2024		11/22/2024		11/22/2024		11/22/2024		11/22/2024		11/22/2024		11/22/2024		12/2/2024		12/2/2024		12/2/2024		12/2/2024		11/22/2024	
LAB SAMPLE ID				L2470407-05		L2470407-06		L2469246-01		L2469246-02		L2469246-03		L2469246-04		L2469246-05		L2469246-06		L2470407-01		L2470407-02		L2470407-03		L2470407-04		L2469246-07	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (in.)				0-2		6-12		0-2		6-12		0-2		6-12		0-2		6-12		0-2		6-12		0-2		6-12		6-12	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Semivolatile Organics by GC/MS																													
1,2,4,5-Tetrachlorobenzene				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
1,4-Dioxane	0.1	130	0.1	0.028	U	0.028	U	0.33	U	0.3	U	0.033	U	0.032	U	0.3	U	0.031	U	0.29	U	0.29	U	0.15	U	0.28	U	0.029	U
2,3,4,6-Tetrachlorophenol				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
2,4,5-Trichlorophenol				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
2,4,6-Trichlorophenol				0.11	U	0.11	U	1.3	U	1.2	U	0.13	U	0.13	U	1.2	U	0.12	U	1.2	U	1.2	U	0.61	U	1.1	U	0.12	U
2,4-Dichlorophenol				0.16	U	0.16	U	2	U	1.8	U	0.2	U	0.19	U	1.8	U	0.18	U	1.7	U	1.7	U	0.91	U	1.7	U	0.17	U
2,4-Dimethylphenol				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	**0.12**	**J**	1.9	U	1.9	U	1	U	1.9	U	**0.13**	**J**
2,4-Dinitrophenol				0.88	U	0.88	U	10	U	9.7	U	1	U	1	U	9.6	U	0.99	U	9.3	U	9.3	U	4.9	U	9	U	0.92	U
2,4-Dinitrotoluene				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
2,6-Dinitrotoluene				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
2-Chloronaphthalene				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
2-Chlorophenol				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
2-Methylnaphthalene				**0.048**	**J**	**0.022**	**J**	2.6	U	2.4	U	**1**		**0.46**		**2.2**	**J**	**5.8**		**2.3**		**1.7**	**J**	**4.3**		**3.5**		**5.5**	
2-Methylphenol	0.33	500	0.33	0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	**0.11**	**J**	1.9	U	1.9	U	1	U	1.9	U	**0.14**	**J**
2-Nitroaniline				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
2-Nitrophenol				0.4	U	0.4	U	4.8	U	4.4	U	0.48	U	0.46	U	4.3	U	0.44	U	4.2	U	4.2	U	2.2	U	4.1	U	0.42	U
3,3'-Dichlorobenzidine				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	R	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
3-Methylphenol/4-Methylphenol	0.33	500	0.33	0.26	U	0.26	U	3.2	U	2.9	U	**0.096**	**J**	**0.036**	**J**	2.9	U	**0.33**		2.8	U	**0.3**	**J**	**0.54**	**J**	**1.2**	**J**	**0.46**	
3-Nitroaniline				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
4,6-Dinitro-o-cresol				0.48	U	0.48	U	5.7	U	5.2	U	0.57	U	0.56	U	5.2	U	0.54	U	5	U	5	U	2.6	U	4.9	U	0.5	U
4-Bromophenyl phenyl ether				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
4-Chloroaniline				0.18	U	0.18	U	2.2	UJ	2	UJ	0.22	UJ	0.21	R	2	UJ	0.21	UJ	1.9	U	1.9	U	1	U	1.9	U	0.19	UJ
4-Chlorophenyl phenyl ether				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
4-Nitroaniline				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
4-Nitrophenol				0.26	U	0.26	U	3.1	U	2.8	U	0.31	U	0.3	U	2.8	U	0.29	U	2.7	U	2.7	U	1.4	U	2.6	U	0.27	U
Acenaphthene	20	500	98	**0.029**	**J**	**0.03**	**J**	1.8	U	1.6	U	**2.8**		**0.052**	**J**	**7.2**		**0.63**		**4**		**1.1**	**J**	**16**		**9.4**		**0.6**	
Acenaphthylene	100	500	107	**0.16**		**0.072**	**J**	1.8	U	1.6	U	**0.58**		**0.46**		**4.3**		**9.4**	J	**3.7**		**13**		**2.6**		**4**		**16**	J
Acetophenone				0.18	U	0.18	U	2.2	U	2	U	**0.069**	**J**	**0.1**	**J**	2	U	**1.3**		**0.31**	**J**	**0.67**	**J**	**0.14**	**J**	1.9	U	**1.4**	
Anthracene	100	500	1000	**0.16**		**0.12**		1.3	U	1.2	U	**6**		**0.32**		**21**		**5.9**		**10**		**5.4**		**22**		**17**		**7.4**	
Atrazine				0.15	U	0.15	U	1.8	U	1.6	U	0.18	U	0.17	U	1.6	U	0.16	U	1.5	U	1.5	U	0.81	U	1.5	U	0.15	U
Benzaldehyde				0.24	U	0.24	U	2.9	U	2.7	U	0.29	U	0.28	U	2.6	U	0.27	U	2.6	U	**0.65**	**J**	1.3	U	2.5	U	0.25	U
Benzo(a)anthracene	1	5.6	1	**0.66**		**0.5**		**1.1**	**J**	**1.3**		**14**		**1.5**		**52**		**6**		**26**		**9.4**		**99**		**41**		**6.3**	
Benzo(a)pyrene	1	1	22	**0.79**		**0.53**		**1.2**	**J**	**1.4**	**J**	**12**		**1.4**		**50**		**9.2**	**E**	**23**		**10**		**75**		**33**		**9.6**	
Benzo(b)fluoranthene	1	5.6	1.7	**1.2**		**0.7**		**1.8**		**1.8**		**17**		**1.9**	J	**65**		**11**		**29**		**12**		**100**		**44**		**13**	
Benzo(ghi)perylene	100	500	1000	**0.62**		**0.41**		**1.1**	**J**	**1.1**	**J**	**8.6**		**0.87**		**30**		**7.4**	J	**17**		**9.4**		**31**		**22**		**11**	J
Benzo(k)fluoranthene	0.8	56	1.7	**0.33**		**0.24**		**0.55**	**J**	**0.64**	**J**	**2.5**		**0.58**		**18**		**1.9**		**12**		**4.5**		**38**		**16**		**1.6**	
Biphenyl				0.42	U	0.42	U	5	U	4.6	U	**0.27**	**J**	**0.06**	**J**	**0.45**	**J**	**0.66**		**0.42**	**J**	**0.26**	**J**	**1.2**	**J**	**0.9**	**J**	**0.64**	
Bis(2-chloroethoxy)methane				0.2	U	0.2	U	2.4	U	2.2	U	0.24	U	0.23	U	2.2	U	0.22	U	2.1	U	2.1	U	1.1	U	2	U	0.21	U
Bis(2-chloroethyl)ether				0.16	U	0.16	U	2	U	1.8	U	0.2	U	0.19	U	1.8	U	0.18	U	1.7	U	1.7	U	0.91	U	1.7	U	0.17	U
Bis(2-chloroisopropyl)ether				0.22	U	0.22	U	2.6	U	2.4	U	0.26	U	0.26	U	2.4	U	0.25	U	2.3	U	2.3	U	1.2	U	2.2	U	0.23	U
Bis(2-ethylhexyl)phthalate				0.18	U	0.18	U	2.2	U	**11**		0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
Butyl benzyl phthalate				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
Caprolactam				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
Carbazole				**0.076**	**J**	**0.06**	**J**	2.2	U	2	U	**3.2**		**0.085**	**J**	**8.5**		**0.78**		**5.8**		**1.3**	**J**	**15**		**11**		**0.82**	
Chrysene	1	56	1	**0.75**		**0.53**		**1.3**		**1.4**		**13**		**1.4**		**52**		**6.4**		**27**		**9.5**		**100**		**41**		**6**	
Di-n-butylphthalate				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
Di-n-octylphthalate				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
Dibenzo(a,h)anthracene	0.33	0.56	1000	**0.13**		**0.092**	**J**	1.3	U	**0.3**	**J**	**1.4**		**0.23**		**6.9**		**1.9**		**4**		**2.3**		**7.6**		**5.6**		**1.8**	
Dibenzofuran	7	350	210	**0.029**	**J**	**0.021**	**J**	2.2	U	2	U	**1.9**		**0.15**	**J**	**3.8**		**1.2**		**2.6**		**0.79**	**J**	**8.9**		**5.9**		**0.96**	
Diethyl phthalate				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
Dimethyl phthalate				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
Fluoranthene	100	500	1000	**1.1**		**0.9**		**1.9**		**2.2**		**32**		**2**		**140**		**7.7**		**43**		**13**		**190**		**65**		**6.3**	
Fluorene	30	500	386	**0.037**	**J**	**0.032**	**J**	2.2	U	2	U	**2.9**		**0.087**	**J**	**7.2**		**1.3**		**3.7**		**1.8**	**J**	**13**		**8.5**		**1.6**	
Hexachlorobenzene	0.33	6	3.2	0.11	U	0.11	U	1.3	U	1.2	U	0.13	U	0.13	U	1.2	U	0.12	U	1.2	U	1.2	U	0.61	U	1.1	U	0.12	U
Hexachlorobutadiene				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
Hexachlorocyclopentadiene				0.53	U	0.52	U	6.3	U	5.8	U	0.63	UJ	0.61	UJ	5.7	UJ	0.59	UJ	5.5	U	5.5	U	2.9	U	5.4	U	0.55	U
Hexachloroethane				0.15	U	0.15	U	1.8	U	1.6	U	0.18	U	0.17	U	1.6	U	0.16	U	1.5	U	1.5	U	0.81	U	1.5	U	0.15	U
Indeno(1,2,3-cd)pyrene	0.5	5.6	8.2	**0.56**		**0.38**		**0.85**	**J**	**0.96**	**J**	**8.2**		**0.92**		**29**		**7.6**		**16**		**7.9**		**30**		**22**		**8.7**	
Isophorone				0.16	U	0.16	U	2	U	1.8	U	0.2	U	0.19	U	1.8	U	0.18	U	1.7	U	1.7	U	0.91	U	1.7	U	0.17	U
n-Nitrosodi-n-propylamine				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
Naphthalene	12	500	12	**0.064**	**J**	**0.04**	**J**	2.2	U	2	U	**1.9**		**0.45**		**2.7**		**9**		**3.2**		**2.5**		**7.6**		**5.4**		**12**	
NDPA/DPA				0.15	U	0.15	U	1.8	U	1.6	U	0.18	U	0.17	U	1.6	U	0.16	U	1.5	U	1.5	U	0.81	U	1.5	U	0.15	U
Nitrobenzene				0.16	U	0.16	U	2	U	1.8	U	0.2	U	0.19	U	1.8	U	0.18	U	1.7	U	1.7	U	0.91	U	1.7	U	0.17	U
p-Chloro-m-cresol				0.18	U	0.18	U	2.2	U	2	U	0.22	U	0.21	U	2	U	0.21	U	1.9	U	1.9	U	1	U	1.9	U	0.19	U
Pentachlorophenol	0.8	6.7	0.8	0.15	U	0.15	U	1.8	U	1.6	U	0.18	U	0.17	U	1.6	U	0.16	U	1.5	U	1.5	U	0.81	U	1.5	U	0.15	U
Phenanthrene	100	500	1000	**0.46**		**0.47**		**0.75**	**J**	**1.1**	**J**	**24**		**1**		**66**		**5.9**		**36**		**8.5**		**160**		**57**		**4.7**	
Phenol	0.33	500	0.33	0.18	U	0.18	U	2.2	U	2	U	**0.06**	**J**	0.21	U	2	U	**0.25**		1.9	U	1.9	U	**0.18**	**J**	1.9	U	**0.34**	
Pyrene	100	500	1000	**0.94**		**0.78**		**1.7**		**1.9**		**25**		**1.8**		**75**		**8**		**36**		**13**		**150**		**55**		**7.6**	
Total TIC Compounds				**0.902**	**J**	**0.563**	**J**	0	U	0	U	**48.4**	**J**	**6.73**	**J**	**185**	**J**	**30.5**	**J**	**102**	**J**	**56.6**	**J**	**196**	**J**	**168**	**J**	**34.9**	**J**
Polychlorinated Biphenyls by GC																													

Table 2
Alternatives Analysis Report / Remedial Action Work Plan
Surface Soil Data Summary

LOCATION				SS-101		SS-101		SS-102		SS-102		SS-103		SS-103		SS-104		SS-104		SS-105		SS-105		SS-106		SS-106		DUP-01 (SS-104)	
SAMPLING DATE				12/2/2024		12/2/2024		11/22/2024		11/22/2024		11/22/2024		11/22/2024		11/22/2024		11/22/2024		12/2/2024		12/2/2024		12/2/2024		12/2/2024		11/22/2024	
LAB SAMPLE ID				L2470407-05		L2470407-06		L2469246-01		L2469246-02		L2469246-03		L2469246-04		L2469246-05		L2469246-06		L2470407-01		L2470407-02		L2470407-03		L2470407-04		L2469246-07	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (in.)				0-2		6-12		0-2		6-12		0-2		6-12		0-2		6-12		0-2		6-12		0-2		6-12		6-12	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Aroclor 1016	0.1	1	3.2	0.0538	U	0.0523	U	0.0642	U	0.0594	U	0.065	U	0.0647	U	0.0602	U	0.0623	U	0.0585	U	0.0543	U	0.0612	U	0.0554	U	0.0546	U
Aroclor 1221	0.1	1	3.2	0.0538	U	0.0523	U	0.0642	U	0.0594	U	0.065	U	0.0647	U	0.0602	U	0.0623	U	0.0585	U	0.0543	U	0.0612	U	0.0554	U	0.0546	U
Aroclor 1232	0.1	1	3.2	0.0538	U	0.0523	U	0.0642	U	0.0594	U	0.065	U	0.0647	U	0.0602	U	0.0623	U	0.0585	U	0.0543	U	0.0612	U	0.0554	U	0.0546	U
Aroclor 1242	0.1	1	3.2	0.0538	U	0.0523	U	0.0642	U	0.0594	U	0.065	U	0.0647	U	0.0602	U	0.0623	U	0.0585	U	0.0543	U	0.0612	U	0.0554	U	0.0546	U
Aroclor 1248	0.1	1	3.2	0.0538	U	0.0523	U	0.0642	U	0.0594	U	0.065	U	0.0647	U	0.0602	U	0.0623	U	0.0585	U	0.0543	U	0.0612	U	0.0554	U	0.0546	U
Aroclor 1254	0.1	1	3.2	0.0538	U	0.0523	U	0.0642	U	0.0594	U	0.065	U	0.0647	U	0.0602	U	0.0623	U	0.0585	U	0.0543	U	0.0612	U	0.0554	U	0.0546	U
Aroclor 1260	0.1	1	3.2	**0.027**	**J**	**0.0175**	**J**	**0.0586**	**J**	**0.0628**		**0.244**		**0.198**	**J**	**0.241**		**0.271**		**0.347**		**0.0714**		**0.151**		**0.133**		**0.255**	
Aroclor 1262	0.1	1	3.2	0.0538	U	0.0523	U	0.0642	U	0.0594	U	0.065	U	0.0647	U	0.0602	U	0.0623	U	0.0585	U	0.0543	U	0.0612	U	0.0554	U	0.0546	U
Aroclor 1268	0.1	1	3.2	**0.0221**	**J**	**0.0126**	**J**	**0.0288**	**J**	**0.0308**	**J**	0.065	U	0.0647	U	**0.225**		0.0623	U	**0.366**		**0.0677**		**0.147**		**0.126**		0.0546	U
PCBs, Total	0.1	1	3.2	**0.0491**	**J**	**0.0301**	**J**	**0.0874**	**J**	**0.0936**	**J**	**0.244**		**0.198**		**0.466**		**0.271**		**0.713**		**0.139**		**0.298**		**0.259**		**0.255**	
Chlorinated Herbicides by GC																													
2,4,5-T				0.187	U	0.184	U	0.218	U	0.201	U	0.225	U	0.214	U	0.203	U	0.206	U	0.192	U	0.192	U	0.207	U	0.187	U	0.188	U
2,4,5-TP (Silvex)	3.8	500	3.8	0.187	U	0.184	U	0.218	U	0.201	U	0.225	U	0.214	U	0.203	U	0.206	U	0.192	U	0.192	U	0.207	U	0.187	U	0.188	U
2,4-D				0.187	U	0.184	U	0.218	U	0.201	U	0.225	U	0.214	U	0.203	U	0.206	U	0.192	U	0.192	U	0.207	U	0.187	U	0.188	U
Organochlorine Pesticides by GC																													
4,4'-DDD	0.0033	92	14	0.0018	U	0.00179	U	0.00211	U	0.00184	U	0.0021	U	0.00198	U	0.00184	U	0.00196	U	0.00181	U	0.00183	U	0.00193	U	0.00177	U	0.00184	U
4,4'-DDE	0.0033	62	17	0.0018	U	0.00179	U	**0.00102**	**J**	0.00184	U	0.0021	U	0.00198	U	0.00184	U	0.00196	U	0.00181	U	0.00183	U	0.00193	U	0.00177	U	0.00184	U
4,4'-DDT	0.0033	47	136	0.0018	U	0.00179	U	**0.0176**	**J**	0.00184	U	0.00749	U	**0.00262**	**NJ**	0.00184	U	0.00196	U	**0.0325**		**0.00795**	**J**	0.00193	U	0.00177	U	0.00184	U
Aldrin	0.005	0.68	0.19	0.0018	U	0.00179	U	0.00211	U	0.00184	U	0.0021	U	0.00198	U	0.00184	U	0.00196	U	0.00181	U	0.00183	U	0.00193	U	0.00177	U	0.00184	U
Alpha-BHC	0.02	3.4	0.02	0.000748	U	0.000744	U	0.000879	U	0.000765	U	0.000874	U	0.000825	U	0.000767	U	0.000818	U	0.000753	U	0.000762	U	0.000804	U	0.000739	U	0.000767	U
Beta-BHC	0.036	3	0.09	0.0018	U	0.00179	U	0.00211	U	0.00184	U	0.0021	U	0.00198	U	0.00184	U	0.00196	U	0.00181	U	0.00183	U	0.00193	U	0.00177	U	0.00184	U
Chlordane				0.015	U	0.0149	U	0.0176	U	0.0153	U	0.0175	U	0.0165	U	0.0153	U	0.0164	U	0.015	U	0.0152	U	0.0161	U	0.0148	U	0.0153	U
cis-Chlordane	0.094	24	2.9	0.00224	U	0.00223	U	0.00264	U	0.00229	U	0.00262	U	0.00248	U	0.0023	U	0.00245	U	0.00226	U	0.00229	U	0.00241	U	0.00222	U	0.0023	U
Delta-BHC	0.04	500	0.25	0.0018	U	0.00179	U	0.00211	U	0.00184	U	0.0021	U	0.00198	U	0.00184	U	0.00196	U	0.00181	U	0.00183	U	0.00193	U	0.00177	U	0.00184	U
Dieldrin	0.005	1.4	0.1	0.00112	U	0.00112	U	0.00132	U	0.00115	U	0.00131	U	0.00124	U	0.00115	U	0.00123	U	0.00113	U	0.00114	U	0.0012	U	0.00111	U	0.00115	U
Endosulfan I	2.4	200	102	0.0018	U	0.00179	U	0.00211	U	0.00184	U	0.0021	U	0.00198	U	0.00184	U	0.00196	U	0.00181	U	0.00183	U	0.00193	U	0.00177	U	0.00184	U
Endosulfan II	2.4	200	102	0.0018	U	0.00179	U	0.00211	U	0.00184	U	0.0021	U	0.00198	U	0.00184	U	0.00196	U	0.00181	U	0.00183	U	0.00193	U	0.00177	U	0.00184	U
Endosulfan sulfate	2.4	200	1000	0.000748	U	0.000744	U	0.000879	U	0.000765	U	0.000874	U	0.000825	U	0.000767	U	0.000818	U	0.000753	U	0.000762	U	0.000804	U	0.000739	U	0.000767	U
Endrin	0.014	89	0.06	0.000748	U	0.000744	U	0.000879	U	0.000765	U	0.000874	U	0.000825	U	0.000767	U	0.000818	U	0.000753	U	0.000762	U	0.000804	U	0.000739	U	0.000767	U
Endrin aldehyde				0.00224	U	0.00223	U	0.00264	U	0.00229	U	0.00262	U	0.00248	U	0.0023	U	0.00245	U	0.00226	U	0.00229	U	0.00241	U	0.00222	U	0.0023	U
Endrin ketone				0.0018	U	0.00179	U	0.00211	U	0.00184	U	0.0021	U	0.00198	U	0.00184	U	0.00196	U	0.00181	U	0.00183	U	0.00193	U	0.00177	U	0.00184	U
Heptachlor	0.042	15	0.38	0.000898	U	0.000893	U	0.00105	U	0.000918	U	0.00105	U	0.00099	U	0.00092	U	0.000981	U	0.000903	U	0.000914	U	0.000965	U	0.000887	U	0.00092	U
Heptachlor epoxide				0.00337	U	0.00335	U	0.00396	U	0.00344	U	0.00393	U	0.00371	U	0.00345	U	0.00368	U	0.00339	U	0.00343	U	0.00362	U	0.00332	U	0.00345	U
Lindane	0.1	9.2	0.1	0.000748	U	0.000744	U	0.000879	U	0.000765	U	0.000874	U	0.000825	U	0.000767	U	0.000818	U	0.000753	U	0.000762	U	0.000804	U	0.000739	U	0.000767	U
Methoxychlor				0.00337	U	0.00335	U	0.00396	U	0.00344	U	0.00393	U	0.00371	U	0.00345	U	0.00368	U	0.00339	U	0.00343	U	0.00362	U	0.00332	U	0.00345	U
Toxaphene				0.0337	U	0.0335	U	0.0396	U	0.0344	U	0.0393	U	0.0371	U	0.0345	U	0.0368	U	0.0339	U	0.0343	U	0.0362	U	0.0332	U	0.0345	U
trans-Chlordane				0.00224	U	0.00223	U	0.00264	U	0.00229	U	0.00262	U	0.00248	U	0.0023	U	0.00245	U	0.00226	U	0.00229	U	0.00241	U	0.00222	U	0.0023	U
Total Metals																													
Aluminum, Total				**3450**		**6060**		**1390**		**1270**		**5780**		**4340**		**2460**		**1570**		**4480**		**3020**		**16200**		**5100**		**2130**	
Antimony, Total				21.5	U	11.2	U	10.4	U	**1.05**	**J**	5.35	U	**1.5**	**J**	**1.68**	**J**	12.4	U	**1.4**	**J**	**3.24**	**J**	**2.7**	**J**	**3.44**	**J**	**0.93**	**J**
Arsenic, Total	13	16	16	**4.03**	**J**	**4.28**		**4.16**		**3.59**		**9.36**		19.3	J	**13.5**		**10.7**		**13.8**		**9.57**		34.3		19.2		**9.65**	
Barium, Total	350	400	820	**63.1**		**103**		**33.9**		**32.6**		**152**		**209**	J	**101**		**70.3**		**118**		**76.9**		**281**		**372**		**79.9**	
Beryllium, Total	7.2	590	47	**0.203**	**J**	**0.283**	**J**	**0.154**	**J**	**0.111**	**J**	**0.7**		**0.718**		**0.301**	**J**	**0.23**	**J**	**0.557**		**0.398**	**J**	**2.29**		**0.492**		**0.279**	**J**
Cadmium, Total	2.5	9.3	7.5	4.3	U	2.24	U	2.08	U	1.91	U	1.07	U	**0.214**	**J**	1.94	U	2.49	U	**1.06**		**0.54**	**J**	**1.75**		**1.65**		0.919	U
Calcium, Total				**168000**		**124000**		**180000**		**143000**		**69500**		**28500**		**128000**		**210000**	R	**86300**		**18200**		**39800**		**32600**		**22400**	R
Chromium, Hexavalent	1	400	19	0.904	UJ	0.901	UJ	1.07	U	0.974	U	**0.271**	**J**	1.04	U	0.98	U	1.02	U	0.941	UJ	0.939	UJ	0.996	UJ	0.913	UJ	0.929	U
Chromium, Total				**12.5**		**13.4**		**11.5**		**9.35**		**12.4**		**16.1**	J	**22.1**		**10.1**		**22.8**		**13.4**		**22.3**		**26.8**		**11.4**	
Cobalt, Total				**5.42**	**J**	**6.92**		**3.43**	**J**	**2.14**	**J**	**5.37**		**5.57**		**5.15**		**3**	**J**	**6.66**		**7.16**		**5.94**		**7.74**		**4.09**	
Copper, Total	50	270	1720	**24.2**		**35.6**		**21**		**18.3**		**137**		**111**		**58.7**		**77.9**		**117**		**121**		**347**		**688**		**69.5**	
Cyanide, Total	27	27	40	1	U	1	U	**0.3**	**J**	**0.42**	**J**	1.3	U	**0.82**	**J**	1.2	U	**4**	R	**0.66**	**J**	**0.43**	**J**	**2.7**		**11**		**22**	R
Iron, Total				**9330**		**13900**		**6970**		**6140**		**8830**		**21700**		**19700**		**16700**		**19600**		**16800**		**31400**		**32300**		**17900**	
Lead, Total	63	1000	450	**75.7**		**55**		**50.9**		**92.3**		**67.5**		**145**	J	**153**		**74.3**		**150**		**89**		607		860		**67.6**	
Magnesium, Total				**12900**		**21800**		**13500**		**34300**		**6400**		**5370**		**47500**		**4590**	J	**4890**		**5890**		**6440**		**5710**		**2260**	J
Manganese, Total	1600	10000	2000	**257**		**360**		**196**		**150**		**119**		**151**	J	**222**		**126**		**226**		**195**		**406**		**387**		**114**	
Mercury, Total	0.18	2.8	0.73	**0.069**	**J**	**0.09**		**0.159**		**0.114**		**0.136**		**0.16**		**0.266**		**0.194**		**0.388**		**0.309**		1.73		**0.528**		**0.128**	
Nickel, Total	30	310	130	**19.1**		**34**		**8.94**		**7.22**		**12.8**		**20.8**		**13.6**		**14**		**16.8**		**15.8**		**20.9**		**34.9**		**14.4**	
Potassium, Total				**414**	**J**	**566**		**316**	**J**	**299**	**J**	**560**		**511**		**334**	**J**	**168**	**J**	**467**		**330**		**935**		**535**		**192**	**J**
Selenium, Total	3.9	1500	4	8.59	U	4.47	U	4.17	U	3.83	U	**1.71**	**J**	**0.926**	**J**	**0.639**	**J**	**1.03**	**J**	**1.21**	**J**	**0.85**	**J**	4.81		**2.07**		**0.378**	**J**
Silver, Total	2	1500	8.3	2.15	U	1.12	U	1.04	U	0.957	U	0.535	U	0.502	U	0.97	U	1.24	U	**0.268**	**J**	**0.311**	**J**	**0.517**		**0.452**	**J**	0.459	U
Sodium, Total				**121**	**J**	**113**	**J**	**123**	**J**	**137**	**J**	**231**		**113**	**J**	**135**	**J**	**108**	**J**	**134**	**J**	**50.7**	**J**	**190**	**J**	**216**		**60.3**	**J**
Thallium, Total				8.59	U	4.47	U	4.17	U	3.83	U	**0.559**	**J**	**0.661**	**J**	**0.66**	**J**	4.97	U	1.84	U	1.81	U	1.96	U	1.82	U	1.84	U
Vanadium, Total				**17.3**		**14.2**		**23.4**		**9.68**		**22.3**		**20**		**17.4**		**8.74**		**17.1**		**13**		**17.5**		**21.7**		**9.1**	
Zinc, Total	109	10000	2480	**92.3**		**126**		**95.3**		**97.8**		**116**		**158**	J	**228**		**80.2**		**609**		**472**		**799**		**711**		**72.8**	

Table 2
Alternatives Analysis Report / Remedial Action Work Plan
Surface Soil Data Summary

LOCATION				SS-101		SS-101		SS-102		SS-102		SS-103		SS-103		SS-104		SS-104		SS-105		SS-105		SS-106		SS-106		DUP-01 (SS-104)	
SAMPLING DATE				12/2/2024		12/2/2024		11/22/2024		11/22/2024		11/22/2024		11/22/2024		11/22/2024		11/22/2024		12/2/2024		12/2/2024		12/2/2024		12/2/2024		11/22/2024	
LAB SAMPLE ID				L2470407-05		L2470407-06		L2469246-01		L2469246-02		L2469246-03		L2469246-04		L2469246-05		L2469246-06		L2470407-01		L2470407-02		L2470407-03		L2470407-04		L2469246-07	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (in.)				0-2		6-12		0-2		6-12		0-2		6-12		0-2		6-12		0-2		6-12		0-2		6-12		6-12	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Perfluorinated Alkyl Acids by EPA 1633																													
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)				0.778	U	0.782	U	0.796	U	0.787	U	0.79	U	0.787	U	0.793	U	0.785	U	0.798	U	0.793	U	0.798	U	0.791	U	0.789	U
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)				0.778	U	0.782	U	0.796	U	0.787	U	0.79	U	0.787	U	0.793	U	0.785	U	0.798	U	0.793	U	0.798	U	0.791	U	0.789	U
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)				0.778	U	0.782	U	0.796	U	0.787	U	0.79	U	0.787	U	0.793	U	0.785	U	0.798	U	0.793	U	0.798	U	0.791	U	0.789	U
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)				0.778	U	0.782	U	0.796	U	0.787	U	0.79	U	0.787	U	0.793	U	0.785	U	0.798	U	0.793	U	0.798	U	0.791	U	0.789	U
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)				4.86	U	4.89	U	4.97	U	4.92	U	4.94	U	4.92	U	4.96	U	4.91	U	4.98	U	4.96	U	4.99	U	4.95	U	4.93	U
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)				4.86	U	4.89	U	4.97	U	4.92	U	4.94	U	4.92	U	4.96	U	4.91	U	4.98	U	4.96	U	4.99	U	4.95	U	4.93	U
3-Perfluoropropyl Propanoic Acid (3:3FTCA)				0.972	U	0.978	U	0.994	U	0.984	U	0.988	U	0.984	U	0.991	U	0.982	U	0.997	U	0.991	U	0.998	U	0.989	U	0.986	U
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)				0.778	U	0.782	U	0.796	U	0.787	U	0.79	U	0.787	U	0.793	U	0.785	U	0.798	U	0.793	U	0.798	U	0.791	U	0.789	U
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)				0.778	U	0.782	U	0.796	U	0.787	U	0.79	U	0.787	U	0.793	U	0.785	U	0.798	U	0.793	U	0.798	U	0.791	U	0.789	U
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)				0.778	U	0.782	U	0.796	U	0.787	U	0.79	U	0.787	U	0.793	U	0.785	U	0.798	U	0.793	U	0.798	U	0.791	U	0.789	U
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)				0.194	U	0.196	U	0.199	U	0.197	U	0.198	U	0.197	U	0.198	U	0.196	U	0.199	U	0.198	U	0.2	U	0.198	U	0.197	U
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)				1.94	U	1.96	U	1.99	U	1.97	U	1.98	U	1.97	U	1.98	U	1.96	U	1.99	U	1.98	U	2	U	1.98	U	1.97	U
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)				0.194	U	0.196	U	**0.33**		**0.073**	**J**	0.198	U	0.197	U	0.198	U	0.196	U	0.199	U	0.198	U	**0.136**	**J**	0.198	U	0.197	U
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)				0.194	U	0.196	U	0.199	U	0.197	U	0.198	U	0.197	U	0.198	U	0.196	U	0.199	U	0.198	U	0.2	U	0.198	U	0.197	U
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)				1.94	U	1.96	U	1.99	U	1.97	U	1.98	U	1.97	U	1.98	U	1.96	U	1.99	U	1.98	U	2	U	1.98	U	1.97	U
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)				0.194	U	0.196	U	0.199	U	0.197	U	0.198	U	0.197	U	0.198	U	0.196	U	0.199	U	0.198	U	0.2	U	0.198	U	0.197	U
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)				0.389	U	0.391	U	0.398	U	0.394	U	0.395	U	0.393	U	0.396	U	0.393	U	0.399	U	0.396	U	0.399	U	0.396	U	0.394	U
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)				0.389	U	0.391	U	0.398	U	0.394	U	0.395	U	0.393	U	0.396	U	0.393	U	0.399	U	0.396	U	0.399	U	0.396	U	0.394	U
Perfluoro-3-Methoxypropanoic Acid (PFMPA)				0.389	U	0.391	U	0.398	U	0.394	U	0.395	U	0.393	U	0.396	U	0.393	U	0.399	U	0.396	U	0.399	U	0.396	U	0.394	U
Perfluoro-4-Methoxybutanoic Acid (PFMBA)				0.389	U	0.391	U	0.398	U	0.394	U	0.395	U	0.393	U	0.396	U	0.393	U	0.399	U	0.396	U	0.399	U	0.396	U	0.394	U
Perfluorobutanesulfonic Acid (PFBS)				0.194	U	0.196	U	0.199	U	0.197	U	0.198	U	0.197	U	0.198	U	0.196	U	0.199	U	0.198	U	0.2	U	**0.034**	**J**	0.197	U
Perfluorobutanoic Acid (PFBA)				**0.045**	**J**	**0.108**	**J**	**0.332**	**J**	**0.378**	**J**	**0.177**	**J**	**0.12**	**J**	**0.114**	**J**	**0.072**	**J**	**0.141**	**J**	**0.116**	**J**	**0.255**	**J**	**0.195**	**J**	**0.058**	**J**
Perfluorodecanesulfonic Acid (PFDS)				0.194	U	0.196	U	**0.044**	**J**	**0.104**	**J**	0.198	U	0.197	U	0.198	U	0.196	U	0.199	U	0.198	U	**0.045**	**J**	0.198	U	0.197	U
Perfluorodecanoic Acid (PFDA)				**0.047**	**J**	**0.109**	**J**	**0.243**		**0.26**		**0.063**	**J**	0.197	U	**0.161**	**J**	**0.037**	**J**	**0.082**	**J**	**0.048**	**J**	**0.315**		**0.091**	**J**	0.197	U
Perfluorododecanesulfonic Acid (PFDoS)				0.194	U	0.196	U	0.199	U	0.197	U	0.198	U	0.197	U	0.198	U	0.196	U	0.199	U	0.198	U	0.2	U	0.198	U	0.197	U
Perfluorododecanoic Acid (PFDoA)				**0.051**	**J**	**0.07**	**J**	**0.176**	**J**	**0.143**	**J**	**0.026**	**J**	0.197	U	**0.072**	**J**	0.196	U	**0.032**	**J**	0.198	U	**0.156**	**J**	**0.047**	**J**	0.197	U
Perfluoroheptanesulfonic Acid (PFHpS)				0.194	U	0.196	U	0.199	U	0.197	U	0.198	U	0.197	U	0.198	U	0.196	U	0.199	U	0.198	U	0.2	U	0.198	U	0.197	U
Perfluoroheptanoic Acid (PFHpA)				**0.025**	**J**	**0.12**	**J**	**0.069**	**J**	**0.135**	**J**	**0.054**	**J**	**0.059**	**J**	**0.056**	**J**	**0.056**	**J**	**0.034**	**J**	**0.05**	**J**	**0.1**	**J**	**0.146**	**J**	**0.055**	**J**
Perfluorohexanesulfonic Acid (PFHxS)				0.194	U	0.196	U	0.199	U	0.197	U	0.198	U	0.197	U	0.198	U	0.196	U	**0.052**	**J**	**0.047**	**J**	**0.029**	**J**	**0.025**	**J**	0.197	U
Perfluorohexanoic Acid (PFHxA)				**0.03**	EMPC	**0.101**	**J**	**0.086**	**J**	**0.15**	**J**	**0.047**	**J**	**0.046**	**J**	**0.04**	**J**	**0.041**	EMPC	**0.043**	**J**	**0.057**	**J**	**0.083**	**J**	**0.154**	**J**	**0.053**	**J**
Perfluorononanesulfonic Acid (PFNS)				0.194	U	0.196	U	0.199	U	0.197	U	0.198	U	0.197	U	0.198	U	0.196	U	0.199	U	0.198	U	0.2	U	0.198	U	0.197	U
Perfluorononanoic Acid (PFNA)				**0.032**	**J**	**0.067**	**J**	**0.172**	**J**	**0.25**		**0.075**	**J**	**0.057**	**J**	**0.152**	**J**	**0.133**	**J**	**0.093**	**J**	**0.087**	**J**	**0.315**		**0.152**	**J**	**0.084**	**J**
Perfluorooctanesulfonamide (PFOSA)				0.194	U	0.196	U	0.199	U	0.197	U	0.198	U	0.197	U	0.198	U	0.196	U	0.199	U	0.198	U	**0.026**	EMPC	0.198	U	0.197	U
Perfluorooctanesulfonic Acid (PFOS)	0.88	440	1	**0.143**	**J**	**0.78**		**1.41**		**1.91**		**0.425**		**0.246**		**1.89**		**2.53**		**1.93**		**1.75**		**2.06**		**0.877**		**1.93**	
Perfluorooctanoic Acid (PFOA)	0.66	500	0.8	**0.031**	**J**	**0.104**	**J**	**0.195**	**J**	**0.448**		**0.057**	**J**	**0.16**	**J**	**0.109**	**J**	**0.199**		**0.077**	**J**	**0.116**	**J**	**0.383**		**0.41**		**0.162**	**J**
Perfluoropentanesulfonic Acid (PFPeS)				0.194	U	0.196	U	0.199	U	0.197	U	0.198	U	0.197	U	0.198	U	0.196	U	0.199	U	0.198	U	0.2	U	0.198	U	0.197	U
Perfluoropentanoic Acid (PFPeA)				0.389	U	**0.174**	**J**	**0.098**	**J**	**0.167**	**J**	0.395	U	**0.046**	**J**	**0.051**	**J**	**0.056**	**J**	**0.046**	**J**	**0.041**	**J**	**0.108**	**J**	**0.119**	**J**	**0.046**	**J**
Perfluorotetradecanoic Acid (PFTeDA)				**0.025**	**J**	**0.035**	**J**	**0.076**	**J**	**0.065**	**J**	0.198	U	0.197	U	**0.026**	EMPC	0.196	U	0.199	U	0.198	U	**0.069**	**J**	0.198	U	0.197	U
Perfluorotridecanoic Acid (PFTrDA)				**0.019**	**J**	**0.024**	**J**	**0.095**	**J**	**0.091**	**J**	0.198	U	0.197	U	**0.039**	**J**	0.196	U	**0.022**	**J**	0.198	U	**0.085**	**J**	**0.027**	**J**	0.197	U
Perfluoroundecanoic Acid (PFUnA)				**0.03**	**J**	**0.068**	**J**	**0.211**		**0.243**		**0.042**	**J**	0.197	U	**0.116**	**J**	0.196	U	**0.059**	**J**	**0.019**	**J**	**0.223**		**0.061**	**J**	0.197	U

Notes:
- All values are reported in milligrams per kilogram (mg/kg) / parts per million (ppm) except PFAAs which are reported in micrograms per kilogram (µg/kg) / parts per billion (ppb).
- Analytical results compared to New York 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs).
- **Bolded text** indicates analyte detected at concentrations greater than laboratory detection limits.
- Highlighted cell Indicates analyte exceeds the respective standard/guideline value.
- **Red text** indicates analyte exceeds the Protection of Groundwater SCO.
- **Blue qualifiers** were applied based on a third party data usability review.
- Grey highlighted cell indicates the laboratory detection limit exceeds the respective standard/guideline value.
- "U" indicates the analyte was not detected at the reported detection limit for the sample.
- "UJ" indicates the analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
- "NJ" indicates the detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.
- "J" indicates estimated value.
- "E" indicates the concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- "EMPC" indicates the results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.
- "R" indicates The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-101 FILL		SB-101 NATIVE		SB-102 FILL		SB-102 NATIVE		SB-103 FILL		SB-103 NATIVE		SB-104 FILL		SB-104 NATIVE		SB-105 FILL		SB-105 NATIVE		SB-106 FILL		SB-106 NATIVE		SB-106A FILL		SB-106A NATIVE	
SAMPLING DATE				11/26/2024		11/26/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/26/2024		11/26/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024	
LAB SAMPLE ID				L2469906-01		L2469906-02		L2469590-01		L2469590-02		L2469590-03		L2469590-04		L2469906-03		L2469906-04		L2469590-05		L2469590-06		L2469590-07		L2469590-08		L2469590-09		L2469590-10	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				4-10		12-15		3-8		10-20		2-6		8-14		5-10		15-20		0-5		10-15		1-6		9-15		1-5		8-10	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Volatile Organics by EPA 5035																															
1,1,1-Trichloroethane	0.68	500	0.68	0.0012	U	0.0012	U	0.00061	U	0.00091	U	0.00058	U	0.00051	U	0.00098	U	0.00058	U	0.00085	U	0.0033	U	0.001	U	0.00077	U	0.0012	U	0.00055	U
1,1,2,2-Tetrachloroethane				0.0012	U	0.0012	U	0.00061	U	0.00091	U	0.00058	U	0.00051	U	0.00098	U	0.00058	U	0.00085	U	0.0033	U	0.001	U	0.00077	U	0.0012	U	0.00055	U
1,1,2-Trichloroethane				0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
1,1-Dichloroethane	0.27	240	0.27	0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
1,1-Dichloroethene	0.33	500	0.33	0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
1,2,4-Trichlorobenzene				0.0047	U	0.005	U	0.0024	U	0.0036	U	0.0023	U	0.002	U	0.0039	U	0.0023	U	0.0034	U	0.013	U	0.0042	U	0.0031	U	0.0048	U	0.0022	U
1,2,4-Trimethylbenzene	3.6	190	3.6	0.0047	U	0.005	U	0.0024	U	0.0036	U	0.0023	U	0.002	U	0.0039	U	0.0023	U	0.0034	U	0.013	U	0.0042	U	0.0031	U	0.0048	R	0.0022	U
1,2-Dibromo-3-chloropropane				0.007	U	0.0075	U	0.0037	U	0.0054	U	0.0034	U	0.003	U	0.0059	U	0.0035	U	0.0051	U	0.02	U	0.0063	U	0.0046	U	0.0071	U	0.0033	U
1,2-Dibromoethane				0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
1,2-Dichlorobenzene	1.1	500	1.1	0.0047	U	0.005	U	0.0024	U	0.0036	U	0.0023	U	0.002	U	0.0039	U	0.0023	U	0.0034	U	0.013	U	0.0042	U	0.0031	U	0.0048	U	0.0022	U
1,2-Dichloroethane	0.02	30	0.02	0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
1,2-Dichloropropane				0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
1,3,5-Trimethylbenzene	8.4	190	8.4	0.0047	U	0.005	U	0.0024	U	0.0036	U	0.0023	U	0.002	U	0.0039	U	0.0023	U	0.0034	U	0.013	U	0.0042	U	0.0031	U	0.0048	R	0.0022	U
1,3-Dichlorobenzene	2.4	280	2.4	0.0047	U	0.005	U	0.0024	U	0.0036	U	0.0023	U	0.002	U	0.0039	U	0.0023	U	0.0034	U	0.013	U	0.0042	U	0.0031	U	0.0048	U	0.0022	U
1,4-Dichlorobenzene	1.8	130	1.8	0.0047	U	0.005	U	0.0024	U	0.0036	U	0.0023	U	0.002	U	0.0039	U	0.0023	U	0.0034	U	0.013	U	0.0042	U	0.0031	U	0.0048	U	0.0022	U
2-Butanone	0.12	500	0.12	0.023	U	**0.008**	**J**	0.012	U	0.018	U	0.012	U	0.01	U	0.02	U	0.012	U	0.017	U	0.066	U	0.021	U	0.015	U	0.024	U	0.011	U
2-Hexanone				0.023	U	0.025	U	0.012	U	0.018	U	0.012	U	0.01	U	0.02	U	0.012	U	0.017	U	0.066	U	0.021	U	0.015	U	0.024	U	0.011	U
4-Methyl-2-pentanone				0.023	U	0.025	U	0.012	U	0.018	U	0.012	U	0.01	U	0.02	U	0.012	U	0.017	U	0.066	U	0.021	U	0.015	U	0.024	U	0.011	U
Acetone	0.05	500	0.05	0.023	U	**0.048**		0.012	U	0.018	U	0.012	U	**0.01**		0.02	U	**0.0062**	**J**	0.017	U	0.066	U	0.021	U	**0.039**		0.024	U	0.011	U
Benzene	0.06	44	0.06	0.0012	U	0.0012	U	0.00061	U	0.00091	U	0.00058	U	**0.0041**		0.00098	U	0.00058	U	0.00085	U	0.0033	U	0.001	U	0.00077	U	0.0012	U	0.00055	U
Bromodichloromethane				0.0012	U	0.0012	U	0.00061	U	0.00091	U	0.00058	U	0.00051	U	0.00098	U	0.00058	U	0.00085	U	0.0033	U	0.001	U	0.00077	U	0.0012	U	0.00055	U
Bromoform				0.0094	U	0.01	U	0.0049	U	0.0073	U	0.0046	U	0.004	U	0.0079	U	0.0046	U	0.0068	U	0.026	UJ	0.0084	U	0.0061	U	0.0095	U	0.0044	U
Bromomethane				0.0047	U	0.005	U	0.0024	U	0.0036	U	0.0023	U	0.002	U	0.0039	U	0.0023	U	0.0034	U	0.013	U	0.0042	U	0.0031	U	0.0048	U	0.0022	U
Carbon disulfide				0.023	U	**0.016**	**J**	0.012	U	0.018	U	0.012	U	0.01	U	0.02	U	0.012	U	0.017	U	0.066	U	0.021	U	**0.0085**	**J**	0.024	U	0.011	U
Carbon tetrachloride	0.76	22	0.76	0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
Chlorobenzene	1.1	500	1.1	0.0012	U	0.0012	U	0.00061	U	0.00091	U	0.00058	U	0.00051	U	0.00098	U	0.00058	U	0.00085	U	0.0033	U	0.001	U	0.00077	U	0.0012	U	0.00055	U
Chloroethane				0.0047	U	0.005	U	0.0024	U	0.0036	U	0.0023	U	0.002	U	0.0039	U	0.0023	U	0.0034	U	0.013	U	0.0042	U	0.0031	U	0.0048	U	0.0022	U
Chloroform	0.37	350	0.37	0.0035	U	0.0038	U	0.0018	U	0.0027	U	0.0017	U	0.0015	U	0.003	U	0.0017	U	0.0025	U	0.01	U	0.0032	U	0.0023	U	0.0036	U	0.0016	U
Chloromethane				0.0094	U	0.01	U	0.0049	U	0.0073	U	0.0046	U	0.004	U	0.0079	U	0.0046	U	0.0068	U	0.026	U	0.0084	U	0.0061	U	0.0095	U	0.0044	U
cis-1,2-Dichloroethene	0.25	500	0.25	0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
cis-1,3-Dichloropropene				0.0012	U	0.0012	U	0.00061	U	0.00091	U	0.00058	U	0.00051	U	0.00098	U	0.00058	U	0.00085	U	0.0033	U	0.001	U	0.00077	U	0.0012	U	0.00055	U
Cyclohexane				0.023	U	0.025	U	0.012	U	0.018	U	0.012	U	0.01	U	0.02	U	0.012	U	0.017	U	0.066	U	0.021	U	0.015	U	0.024	R	**0.00069**	**J**
Dibromochloromethane				0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
Dichlorodifluoromethane				0.023	U	0.025	U	0.012	U	0.018	U	0.012	U	0.01	U	0.02	U	0.012	U	0.017	U	0.066	U	0.021	U	0.015	U	0.024	U	0.011	U
Ethylbenzene	1	390	1	0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	R	0.0011	U
Freon-113				0.0094	U	0.01	U	0.0049	U	0.0073	U	0.0046	U	0.004	U	0.0079	U	0.0046	U	0.0068	U	0.026	U	0.0084	U	0.0061	U	0.0095	U	0.0044	U
Isopropylbenzene				0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
Methyl Acetate				0.0094	U	0.01	U	0.0049	U	0.0073	U	0.0046	U	0.004	U	0.0079	U	0.0046	U	0.0068	U	0.026	U	0.0084	U	0.0061	U	0.0095	U	0.0044	U
Methyl cyclohexane				0.0094	U	0.01	U	0.0049	U	0.0073	U	0.0046	U	0.004	U	0.0079	U	0.0046	U	0.0068	U	0.026	U	0.0084	U	0.0061	U	0.0095	R	0.0044	U
Methyl tert butyl ether	0.93	500	0.93	0.0047	U	0.005	U	0.0024	U	0.0036	U	0.0023	U	0.002	U	0.0039	U	0.0023	U	0.0034	U	0.013	U	0.0042	U	0.0031	U	0.0048	U	0.0022	U
Methylene chloride	0.05	500	0.05	0.012	U	0.012	U	0.0061	U	0.0091	U	0.0058	U	0.0051	U	0.0098	U	0.0058	U	0.0085	U	0.033	U	0.01	U	0.0077	U	0.012	U	0.0055	U
n-Butylbenzene	12	500	12	0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
n-Propylbenzene	3.9	500	3.9	0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
Naphthalene	12	500	12	0.0094	U	0.01	U	0.0049	U	0.0073	U	0.0046	U	0.004	U	0.0079	U	0.0046	U	0.0068	U	0.026	U	0.0084	U	0.0061	U	0.0095	R	0.0044	U
o-Xylene	0.26	500	1.6	0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	R	0.0011	U
p-Isopropyltoluene				0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
p/m-Xylene	0.26	500	1.6	0.0047	U	0.005	U	0.0024	U	0.0036	U	0.0023	U	0.002	U	0.0039	U	0.0023	U	0.0034	U	0.013	U	0.0042	U	0.0031	U	0.0048	R	0.0022	U
sec-Butylbenzene	11	500	11	0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
Styrene				0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
tert-Butylbenzene	5.9	500	5.9	0.0047	U	0.005	U	0.0024	U	0.0036	U	0.0023	U	0.002	U	0.0039	U	0.0023	U	0.0034	U	0.013	U	0.0042	U	0.0031	U	0.0048	U	0.0022	U
Tetrachloroethene	1.3	150	1.3	0.0012	U	0.0012	U	0.00061	U	0.00091	U	0.00058	U	0.00051	U	0.00098	U	0.00058	U	0.00085	U	0.0033	U	0.001	U	0.00077	U	0.0012	U	0.00055	U
Toluene	0.7	500	0.7	0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
trans-1,2-Dichloroethene	0.19	500	0.19	0.0035	U	0.0038	U	0.0018	U	0.0027	U	0.0017	U	0.0015	U	0.003	U	0.0017	U	0.0025	U	0.01	U	0.0032	U	0.0023	U	0.0036	U	0.0016	U
trans-1,3-Dichloropropene				0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
Trichloroethene	0.47	200	0.47	0.0012	U	0.0012	U	0.00061	U	0.00091	U	0.00058	U	0.00051	U	0.00098	U	0.00058	U	0.00085	U	0.0033	U	0.001	U	0.00077	U	0.0012	U	0.00055	U
Trichlorofluoromethane				0.0094	U	0.01	U	0.0049	U	0.0073	U	0.0046	U	0.004	U	0.0079	U	0.0046	U	0.0068	U	0.026	U	0.0084	U	0.0061	U	0.0095	U	0.0044	U
Vinyl chloride	0.02	13	0.02	0.0023	U	0.0025	U	0.0012	U	0.0018	U	0.0012	U	0.001	U	0.002	U	0.0012	U	0.0017	U	0.0066	U	0.0021	U	0.0015	U	0.0024	U	0.0011	U
Total TIC Compounds				0	U	**0.00615**	**J**	0	U	0	U	0	U	0	U	**0.0108**	**J**	0	U	0	U	0	U	0	U	**0.0146**	**J**	**0.0326**	**J**	**0.0167**	**J**

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-101 FILL		SB-101 NATIVE		SB-102 FILL		SB-102 NATIVE		SB-103 FILL		SB-103 NATIVE		SB-104 FILL		SB-104 NATIVE		SB-105 FILL		SB-105 NATIVE		SB-106 FILL		SB-106 NATIVE		SB-106A FILL		SB-106A NATIVE	
SAMPLING DATE				11/26/2024		11/26/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/26/2024		11/26/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024	
LAB SAMPLE ID				L2469906-01		L2469906-02		L2469590-01		L2469590-02		L2469590-03		L2469590-04		L2469906-03		L2469906-04		L2469590-05		L2469590-06		L2469590-07		L2469590-08		L2469590-09		L2469590-10	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				4-10		12-15		3-8		10-20		2-6		8-14		5-10		15-20		0-5		10-15		1-6		9-15		1-5		8-10	
Analyte	Unrestricted Use SCO	Commercial Use SCO	Protection of Groundwater	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics by EPA 5035 High																															
1,1,1-Trichloroethane	0.68	500	0.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.036	U	-	-
1,1,2,2-Tetrachloroethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.036	U	-	-
1,1,2-Trichloroethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
1,1-Dichloroethane	0.27	240	0.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
1,1-Dichloroethene	0.33	500	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
1,2,4-Trichlorobenzene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15	U	-	-
1,2,4-Trimethylbenzene	3.6	190	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.062**	R	-	-
1,2-Dibromo-3-chloropropane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.22	U	-	-
1,2-Dibromoethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
1,2-Dichlorobenzene	1.1	500	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15	U	-	-
1,2-Dichloroethane	0.02	30	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
1,2-Dichloropropane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
1,3,5-Trimethylbenzene	8.4	190	8.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.029**	R	-	-
1,3-Dichlorobenzene	2.4	280	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15	U	-	-
1,4-Dichlorobenzene	1.8	130	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15	U	-	-
2-Butanone	0.12	500	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.73	U	-	-
2-Hexanone				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.73	U	-	-
4-Methyl-2-pentanone				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.73	U	-	-
Acetone	0.05	500	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.73	U	-	-
Benzene	0.06	44	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.036	U	-	-
Bromodichloromethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.036	U	-	-
Bromoform				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.29	U	-	-
Bromomethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15	U	-	-
Carbon disulfide				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.73	U	-	-
Carbon tetrachloride	0.76	22	0.76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
Chlorobenzene	1.1	500	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.036	U	-	-
Chloroethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15	U	-	-
Chloroform	0.37	350	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.11	U	-	-
Chloromethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.29	U	-	-
cis-1,2-Dichloroethene	0.25	500	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
cis-1,3-Dichloropropene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.036	U	-	-
Cyclohexane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.17**	R	-	-
Dibromochloromethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
Dichlorodifluoromethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.73	U	-	-
Ethylbenzene	1	390	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	R	-	-
Freon-113				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.29	U	-	-
Isopropylbenzene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
Methyl Acetate				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.29	U	-	-
Methyl cyclohexane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.66**	R	-	-
Methyl tert butyl ether	0.93	500	0.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15	U	-	-
Methylene chloride	0.05	500	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.36	U	-	-
n-Butylbenzene	12	500	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
n-Propylbenzene	3.9	500	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
Naphthalene	12	500	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.055**	R	-	-
o-Xylene	0.26	500	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.053**	R	-	-
p-Isopropyltoluene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
p/m-Xylene	0.26	500	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.047**	R	-	-
sec-Butylbenzene	11	500	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
Styrene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
tert-Butylbenzene	5.9	500	5.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15	U	-	-
Tetrachloroethene	1.3	150	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.036	U	-	-
Toluene	0.7	500	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
trans-1,2-Dichloroethene	0.19	500	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.11	U	-	-
trans-1,3-Dichloropropene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
Trichloroethene	0.47	200	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.036	U	-	-
Trichlorofluoromethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.29	U	-	-
Vinyl chloride	0.02	13	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.073	U	-	-
Total TIC Compounds				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	U	-	-

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-101 FILL		SB-101 NATIVE		SB-102 FILL		SB-102 NATIVE		SB-103 FILL		SB-103 NATIVE		SB-104 FILL		SB-104 NATIVE		SB-105 FILL		SB-105 NATIVE		SB-106 FILL		SB-106 NATIVE		SB-106A FILL		SB-106A NATIVE	
SAMPLING DATE				11/26/2024		11/26/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/26/2024		11/26/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024	
LAB SAMPLE ID				L2469906-01		L2469906-02		L2469590-01		L2469590-02		L2469590-03		L2469590-04		L2469906-03		L2469906-04		L2469590-05		L2469590-06		L2469590-07		L2469590-08		L2469590-09		L2469590-10	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				4-10		12-15		3-8		10-20		2-6		8-14		5-10		15-20		0-5		10-15		1-6		9-15		1-5		8-10	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Semivolatile Organics by GC/MS																															
1,2,4,5-Tetrachlorobenzene				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
1,4-Dioxane	0.1	130	0.1	0.029	U	0.048	U	0.03	U	0.039	U	0.031	U	0.028	U	0.039	U	0.032	U	0.028	U	0.093	U	0.028	U	0.035	U	0.027	U	0.027	U
2,3,4,6-Tetrachlorophenol				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
2,4,5-Trichlorophenol				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
2,4,6-Trichlorophenol				0.12	U	0.19	U	0.12	U	0.16	U	0.12	U	0.11	U	0.16	U	0.13	U	0.11	U	0.37	U	0.11	U	0.14	U	0.11	U	0.11	U
2,4-Dichlorophenol				0.17	U	0.29	U	0.18	U	0.24	U	0.18	U	0.17	U	0.23	U	0.19	U	0.17	U	0.56	U	0.17	U	0.21	U	0.16	U	0.16	U
2,4-Dimethylphenol				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
2,4-Dinitrophenol				0.93	U	1.6	U	0.98	U	1.2	U	0.99	U	0.9	U	1.2	U	1	U	0.9	U	3	U	0.89	U	1.1	U	0.87	U	0.88	U
2,4-Dinitrotoluene				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
2,6-Dinitrotoluene				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
2-Chloronaphthalene				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
2-Chlorophenol				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
2-Methylnaphthalene				**0.034**	**J**	0.39	U	**0.046**	**J**	0.31	U	**0.027**	**J**	**0.096**	**J**	0.31	U	0.26	U	**0.11**	**J**	0.75	U	**0.17**	**J**	0.28	U	**0.44**		**0.092**	**J**
2-Methylphenol	0.33	500	0.33	0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
2-Nitroaniline				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
2-Nitrophenol				0.42	U	0.7	U	0.44	U	0.56	U	0.44	U	0.4	U	0.56	U	0.46	U	0.4	U	1.3	U	0.4	U	0.5	U	0.39	U	0.4	U
3,3'-Dichlorobenzidine				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
3-Methylphenol/4-Methylphenol	0.33	500	0.33	0.28	U	0.46	U	0.29	U	0.38	U	**0.054**	**J**	**0.11**	**J**	0.37	U	0.31	U	0.27	U	0.9	U	0.27	U	0.34	U	0.26	U	0.26	U
3-Nitroaniline				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
4,6-Dinitro-o-cresol				0.5	U	0.84	U	0.53	U	0.68	U	0.53	U	0.48	U	0.68	U	0.56	U	0.49	U	1.6	U	0.48	U	0.61	U	0.47	U	0.48	U
4-Bromophenyl phenyl ether				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
4-Chloroaniline				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
4-Chlorophenyl phenyl ether				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
4-Nitroaniline				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
4-Nitrophenol				0.27	U	0.45	U	0.28	U	0.36	U	0.29	U	0.26	U	0.36	U	0.3	U	0.26	U	0.87	U	0.26	U	0.33	U	0.25	U	0.26	U
Acenaphthene	20	500	98	0.15	U	0.26	U	**0.029**	**J**	0.21	U	**0.036**	**J**	**0.088**	**J**	**0.03**	**J**	0.17	U	**0.099**	**J**	0.5	U	**0.03**	**J**	0.19	U	0.14	U	**0.18**	
Acenaphthylene	100	500	107	0.15	U	0.26	U	**0.037**	**J**	0.21	U	**0.23**		**0.16**		0.21	U	0.17	U	**0.04**	**J**	**0.098**	**J**	**0.28**		0.19	U	0.14	U	**0.17**	
Acetophenone				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
Anthracene	100	500	1000	0.12	U	0.19	U	**0.08**	**J**	0.16	U	**0.4**		**0.26**		**0.069**	**J**	0.13	U	**1.1**		0.37	U	**0.46**		0.14	U	**0.036**	**J**	**0.55**	
Atrazine				0.15	U	0.26	U	0.16	U	0.21	U	0.16	U	0.15	U	0.21	U	0.17	U	0.15	U	0.5	U	0.15	U	0.19	U	0.14	U	0.15	U
Benzaldehyde				0.26	U	0.22	J	0.27	U	0.34	U	0.27	U	0.25	U	0.34	U	0.28	U	**0.051**	**J**	**0.4**	**J**	0.24	U	0.31	U	0.24	U	0.24	U
Benzo(a)anthracene	1	5.6	1	**0.05**	**J**	0.05	J	**0.29**		0.16	U	**1.4**		**0.41**		**0.11**	**J**	0.13	U	**4**		**0.082**	**J**	**3.9**		0.14	U	**0.099**	**J**	**1.1**	
Benzo(a)pyrene	1	1	22	**0.059**	**J**	0.26	U	**0.32**		0.21	U	**1.6**		**0.36**		**0.097**	**J**	0.17	U	**3.9**		0.5	U	**5.8**		0.19	U	**0.096**	**J**	**0.95**	
Benzo(b)fluoranthene	1	5.6	1.7	**0.078**	**J**	0.062	J	**0.38**		0.16	U	**1.7**		**0.42**		**0.12**	**J**	0.13	U	**4.6**		**0.12**	**J**	**7.3**		0.14	U	**0.12**		**1.3**	
Benzo(ghi)perylene	100	500	1000	**0.073**	**J**	0.048	J	**0.24**		0.21	U	**1.1**		**0.21**		**0.086**	**J**	0.17	U	**2.7**		**0.091**	**J**	**5.8**		0.19	U	**0.12**	**J**	**0.58**	
Benzo(k)fluoranthene	0.8	56	1.7	0.12	U	0.19	U	**0.13**		0.16	U	**0.73**		**0.14**		**0.044**	**J**	0.13	U	**1.6**		0.37	U	**2**		0.14	U	**0.045**	**J**	**0.35**	
Biphenyl				0.44	U	0.74	U	0.46	U	0.6	U	0.47	U	0.42	U	0.59	U	0.49	U	**0.027**	**J**	1.4	U	**0.025**	**J**	0.53	U	**0.042**	**J**	**0.032**	**J**
Bis(2-chloroethoxy)methane				0.21	U	0.35	U	0.22	U	0.28	U	0.22	U	0.2	U	0.28	U	0.23	U	0.2	U	0.67	U	0.2	U	0.25	U	0.2	U	0.2	U
Bis(2-chloroethyl)ether				0.17	U	0.29	U	0.18	U	0.24	U	0.18	U	0.17	U	0.23	U	0.19	U	0.17	U	0.56	U	0.17	U	0.21	U	0.16	U	0.16	U
Bis(2-chloroisopropyl)ether				0.23	U	0.39	U	0.24	U	0.31	U	0.25	U	0.22	U	0.31	U	0.26	U	0.22	U	0.75	U	0.22	U	0.28	U	0.22	U	0.22	U
Bis(2-ethylhexyl)phthalate				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
Butyl benzyl phthalate				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
Caprolactam				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
Carbazole				0.19	U	0.32	U	**0.053**	**J**	0.26	U	**0.15**	**J**	**0.084**	**J**	**0.032**	**J**	0.21	U	**0.56**		0.62	U	**0.23**		0.23	U	**0.023**	**J**	**0.39**	
Chrysene	1	56	1	**0.067**	**J**	**0.043**	**J**	**0.31**		0.16	U	**1.1**		**0.36**		**0.1**	**J**	0.13	U	**3.8**		**0.086**	**J**	**3.4**		0.14	U	**0.14**		**1.1**	
Di-n-butylphthalate				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
Di-n-octylphthalate				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
Dibenzo(a,h)anthracene	0.33	0.56	1000	0.12	U	0.19	U	**0.049**	**J**	0.16	U	**0.22**		**0.045**	**J**	0.16	U	0.13	U	**0.78**		0.37	U	**0.79**		0.14	U	0.11	U	**0.18**	
Dibenzofuran	7	350	210	0.19	U	0.32	U	**0.033**	**J**	0.26	U	**0.069**	**J**	**0.11**	**J**	**0.026**	**J**	0.21	U	**0.19**		0.62	U	**0.11**	**J**	0.23	U	**0.14**	**J**	**0.22**	
Diethyl phthalate				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
Dimethyl phthalate				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
Fluoranthene	100	500	1000	**0.076**	**J**	**0.071**	**J**	**0.59**		0.16	U	**2**		**0.95**		**0.25**		0.13	U	**5.7**		0.37	U	**3.6**		0.14	U	**0.1**	**J**	**2.8**	
Fluorene	30	500	386	0.19	U	0.32	U	**0.039**	**J**	0.26	U	**0.091**	**J**	**0.17**	**J**	**0.037**	**J**	0.21	U	**0.16**	**J**	0.62	U	**0.08**	**J**	0.23	U	**0.026**	**J**	**0.35**	
Hexachlorobenzene	0.33	6	3.2	0.12	U	0.19	U	0.12	U	0.16	U	0.12	U	0.11	U	0.16	U	0.13	U	0.11	U	0.37	U	0.11	U	0.14	U	0.11	U	0.11	U
Hexachlorobutadiene				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
Hexachlorocyclopentadiene				0.55	UJ	0.92	UJ	0.58	U	0.75	U	0.59	U	0.53	U	0.74	UJ	0.61	UJ	0.54	U	1.8	U	0.53	U	0.67	U	0.52	U	0.52	U
Hexachloroethane				0.15	U	0.26	U	0.16	U	0.21	U	0.16	U	0.15	U	0.21	U	0.17	U	0.15	U	0.5	U	0.15	U	0.19	U	0.14	U	0.15	U
Indeno(1,2,3-cd)pyrene	0.5	5.6	8.2	**0.051**	**J**	0.26	U	**0.2**		0.21	U	**1**		**0.2**		**0.061**	**J**	0.17	U	**2.5**		0.5	U	**5.2**		0.19	U	**0.078**	**J**	**0.62**	
Isophorone				0.17	U	0.29	U	0.18	U	0.24	U	0.18	U	0.17	U	0.23	U	0.19	U	0.17	U	0.56	U	0.17	U	0.21	U	0.16	U	0.16	U
n-Nitrosodi-n-propylamine				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
Naphthalene	12	500	12	**0.036**	**J**	**0.039**	**J**	**0.067**	**J**	0.26	U	**0.13**	**J**	**0.3**		**0.061**	**J**	0.21	U	**0.14**	**J**	**0.11**	**J**	**0.13**	**J**	0.23	U	**0.19**		**0.29**	
NDPA/DPA				0.15	U	0.26	U	0.16	U	0.21	U	0.16	U	0.15	U	0.21	U	0.17	U	0.15	U	0.5	U	0.15	U	0.19	U	0.14	U	0.15	U
Nitrobenzene				0.17	U	0.29	U	0.18	U	0.24	U	0.18	U	0.17	U	0.23	U	0.19	U	0.17	U	0.56	U	0.17	U	0.21	U	0.16	U	0.16	U
p-Chloro-m-cresol				0.19	U	0.32	U	0.2	U	0.26	U	0.2	U	0.19	U	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
Pentachlorophenol	0.8	6.7	0.8	0.15	U	0.26	U	0.16	U	0.21	U	0.16	U	0.15	U	0.21	U	0.17	U	0.15	U	0.5	U	0.15	U	0.19	U	0.14	UJ	0.15	UJ
Phenanthrene	100	500	1000	**0.087**	**J**	**0.084**	**J**	**0.51**		0.16	U	**0.89**		**0.94**		**0.24**		0.13	U	**4.6**		0.37	U	**1.8**		0.14	U	**0.4**		**3**	
Phenol	0.33	500	0.33	0.19	U	0.32	U	0.2	U	0.26	U	**0.041**	**J**	**0.038**	**J**	0.26	U	0.21	U	0.19	U	0.62	U	0.18	U	0.23	U	0.18	U	0.18	U
Pyrene	100	500	1000	**0.07**	**J**	**0.067**	**J**	**0.53**		0.16	U	**1.8**		**0.79**		**0.2**		0.13	U	**5.2**		**0.092**	**J**	**3.7**		0.14	U	**0.11**		**2**	
Total TIC Compounds				0	U	**33.5**	**J**	**0.26**	**J**	**5.01**	**J**	**4.34**	**J**	**2.34**	**J**	**0.47**	**J**	0	U	**17.6**	**J**	**11**	**J**	**21.7**	**J**	**9.52**	**J**	**6.62**	**J**	**4.03**	**J**
Petroleum Hydrocarbon Quantitation																															
TPH (C10-C36)				**28.6**	**J**	-	-	**71**		-	-	**333**		-	-	**71.6**		-	-	**318**		-	-	**128**		-	-	-	-	-	-

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-101 FILL		SB-101 NATIVE		SB-102 FILL		SB-102 NATIVE		SB-103 FILL		SB-103 NATIVE		SB-104 FILL		SB-104 NATIVE		SB-105 FILL		SB-105 NATIVE		SB-106 FILL		SB-106 NATIVE		SB-106A FILL		SB-106A NATIVE	
SAMPLING DATE				11/26/2024		11/26/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/26/2024		11/26/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024	
LAB SAMPLE ID				L2469906-01		L2469906-02		L2469590-01		L2469590-02		L2469590-03		L2469590-04		L2469906-03		L2469906-04		L2469590-05		L2469590-06		L2469590-07		L2469590-08		L2469590-09		L2469590-10	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				4-10		12-15		3-8		10-20		2-6		8-14		5-10		15-20		0-5		10-15		1-6		9-15		1-5		8-10	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Polychlorinated Biphenyls by GC																															
Aroclor 1016	0.1	1	3.2	0.0546	U	0.0971	U	0.0566	U	0.0752	U	0.0587	U	0.056	U	0.0753	U	0.061	U	0.0532	U	0.174	U	0.0541	U	0.0678	U	-	-	-	-
Aroclor 1221	0.1	1	3.2	0.0546	U	0.0971	U	0.0566	U	0.0752	U	0.0587	U	0.056	U	0.0753	U	0.061	U	0.0532	U	0.174	U	0.0541	U	0.0678	U	-	-	-	-
Aroclor 1232	0.1	1	3.2	0.0546	U	0.0971	U	0.0566	U	0.0752	U	0.0587	U	0.056	U	0.0753	U	0.061	U	0.0532	U	0.174	U	0.0541	U	0.0678	U	-	-	-	-
Aroclor 1242	0.1	1	3.2	0.0546	U	0.0971	U	0.0566	U	0.0752	U	0.0587	U	0.056	U	0.0753	U	0.061	U	0.0532	U	0.174	U	0.0541	U	0.0678	U	-	-	-	-
Aroclor 1248	0.1	1	3.2	0.0546	U	0.0971	U	0.0566	U	0.0752	U	0.0587	U	0.056	U	0.0753	U	0.061	U	0.0532	U	0.174	U	0.0541	U	0.0678	U	-	-	-	-
Aroclor 1254	0.1	1	3.2	**0.0137**	**J**	0.0971	U	0.0566	U	0.0752	U	0.0587	U	0.056	U	0.0753	U	0.061	U	0.0532	U	0.174	U	0.0541	U	0.0678	U	-	-	-	-
Aroclor 1260	0.1	1	3.2	0.0546	U	0.0971	U	0.0566	U	0.0752	U	0.0587	U	0.056	U	0.0753	U	0.061	U	0.0532	U	0.174	U	0.0541	U	0.0678	U	-	-	-	-
Aroclor 1262	0.1	1	3.2	0.0546	U	0.0971	U	0.0566	U	0.0752	U	0.0587	U	0.056	U	0.0753	U	0.061	U	0.0532	U	0.174	U	0.0541	U	0.0678	U	-	-	-	-
Aroclor 1268	0.1	1	3.2	**0.00994**	**JIP**	**0.018**	**J**	0.0566	U	0.0752	U	0.0587	U	0.056	U	0.0753	U	0.061	U	0.0532	U	0.174	U	0.0541	U	0.0678	U	-	-	-	-
PCBs, Total	0.1	1	3.2	**0.0236**	**J**	**0.018**	**J**	0.0566	U	0.0752	U	0.0587	U	0.056	U	0.0753	U	0.061	U	0.0532	U	0.174	U	0.0541	U	0.0678	U	-	-	-	-
Chlorinated Herbicides by GC																															
2,4,5-T				0.194	U	0.322	U	0.201	U	0.262	U	0.206	U	0.19	U	0.254	U	0.211	U	0.187	U	0.619	U	0.182	U	0.233	U	-	-	-	-
2,4,5-TP (Silvex)	3.8	500	3.8	0.194	U	0.322	U	0.201	U	0.262	U	0.206	U	0.19	U	0.254	U	0.211	U	0.187	U	0.619	U	0.182	U	0.233	U	-	-	-	-
2,4-D				0.194	U	0.322	U	0.201	U	0.262	U	0.206	U	0.19	U	0.254	U	0.211	U	0.187	U	0.619	U	0.182	U	0.233	U	-	-	-	-
Organochlorine Pesticides by GC																															
4,4'-DDD	0.0033	92	14	0.00186	U	0.00308	U	0.00194	U	0.00248	U	0.00194	U	0.00176	U	0.00239	U	0.00198	U	0.00172	U	0.00576	U	0.00172	U	0.00221	U	-	-	-	-
4,4'-DDE	0.0033	62	17	0.00186	U	0.00308	U	0.00194	U	0.00248	U	0.00194	U	0.00176	U	0.00239	U	0.00198	U	0.00172	U	0.00576	U	0.00172	U	0.00221	U	-	-	-	-
4,4'-DDT	0.0033	47	136	0.00186	U	0.00308	U	0.00194	U	0.00248	U	0.00194	U	0.00176	U	0.00239	U	0.00198	U	0.00172	U	0.00576	U	0.00172	U	0.00221	U	-	-	-	-
Aldrin	0.005	0.68	0.19	0.00186	U	0.00308	U	0.00194	U	0.00248	U	0.00194	U	0.00176	U	0.00239	U	0.00198	U	0.00172	U	0.00576	U	0.00172	U	0.00221	U	-	-	-	-
Alpha-BHC	0.02	3.4	0.02	0.00078	U	0.00128	U	0.00081	U	0.00104	U	0.00081	U	0.00073	U	0.00099	U	0.00083	U	0.00072	U	0.0024	U	0.00072	U	0.00092	U	-	-	-	-
Beta-BHC	0.036	3	0.09	0.00186	U	0.00308	U	0.00194	U	0.00248	U	0.00194	U	0.00176	U	0.00239	U	0.00198	U	0.00172	U	0.00576	U	0.00172	U	0.00221	U	-	-	-	-
Chlordane				0.0155	U	0.0257	U	0.0162	U	0.0207	U	0.0162	U	0.0147	U	0.0199	U	0.0165	U	0.0143	U	0.048	U	0.0143	U	0.0184	U	-	-	-	-
cis-Chlordane	0.094	24	2.9	0.00233	U	0.00386	U	0.00243	U	0.0031	U	0.00243	U	0.0022	U	0.00298	U	0.00248	U	0.00215	U	0.0072	U	0.00215	U	0.00276	U	-	-	-	-
Delta-BHC	0.04	500	0.25	0.00186	U	0.00308	U	0.00194	U	0.00248	U	0.00194	U	0.00176	U	0.00239	U	0.00198	U	0.00172	U	0.00576	U	0.00172	U	0.00221	U	-	-	-	-
Dieldrin	0.005	1.4	0.1	0.00117	U	0.00193	U	0.00121	U	0.00155	U	0.00122	U	0.0011	U	0.00149	U	0.00124	U	0.00107	U	0.0036	U	0.00107	U	0.00138	U	-	-	-	-
Endosulfan I	2.4	200	102	0.00186	U	0.00308	U	0.00194	U	0.00248	U	0.00194	U	0.00176	U	0.00239	U	0.00198	U	0.00172	U	0.00576	U	0.00172	U	0.00221	U	-	-	-	-
Endosulfan II	2.4	200	102	0.00186	U	0.00308	U	0.00194	U	0.00248	U	0.00194	U	0.00176	U	0.00239	U	0.00198	U	0.00172	U	0.00576	U	0.00172	U	0.00221	U	-	-	-	-
Endosulfan sulfate	2.4	200	1000	0.00078	U	0.00128	U	0.00081	U	0.00104	U	0.00081	U	0.00073	U	0.00099	U	0.00083	U	0.00072	U	0.0024	U	0.00072	U	0.00092	U	-	-	-	-
Endrin	0.014	89	0.06	0.00078	U	0.00128	U	0.00081	U	0.00104	U	0.00081	U	0.00073	U	0.00099	U	0.00083	U	0.00072	U	0.0024	U	0.00072	U	0.00092	U	-	-	-	-
Endrin aldehyde				0.00233	U	0.00386	U	0.00243	U	0.0031	U	0.00243	U	0.0022	U	0.00298	U	0.00248	U	0.00215	U	0.0072	U	0.00215	U	0.00276	U	-	-	-	-
Endrin ketone				0.00186	U	0.00308	U	0.00194	U	0.00248	U	0.00194	U	0.00176	U	0.00239	U	0.00198	U	0.00172	U	0.00576	U	0.00172	U	0.00221	U	-	-	-	-
Heptachlor	0.042	15	0.38	0.00093	U	0.00154	U	0.00097	U	0.00124	U	0.00097	U	0.00088	U	0.00119	U	0.00099	U	0.00086	U	0.00288	U	0.00086	U	0.0011	U	-	-	-	-
Heptachlor epoxide				0.0035	U	0.00578	U	0.00364	U	0.00466	U	0.00365	U	0.0033	U	0.00447	U	0.00372	U	0.00322	U	0.0108	U	0.00322	U	0.00414	U	-	-	-	-
Lindane	0.1	9.2	0.1	0.00078	U	0.00128	U	0.00081	U	0.00104	U	0.00081	U	0.00073	U	0.00099	U	0.00083	U	0.00072	U	0.0024	U	0.00072	U	0.00092	U	-	-	-	-
Methoxychlor				0.0035	U	0.00578	U	0.00364	U	0.00466	U	0.00365	U	0.0033	U	0.00447	U	0.00372	U	0.00322	U	0.0108	U	0.00322	U	0.00414	U	-	-	-	-
Toxaphene				0.035	U	0.0578	U	0.0364	U	0.0466	U	0.0365	U	0.033	U	0.0447	U	0.0372	U	0.0322	U	0.108	U	0.0322	U	0.0414	U	-	-	-	-
trans-Chlordane				0.00233	U	0.00386	U	0.00243	U	0.0031	U	0.00243	U	0.0022	U	0.00298	U	0.00248	U	0.00215	U	0.0072	U	0.00215	U	0.00276	U	-	-	-	-
Total Metals																															
Aluminum, Total				**6980**		**8410**		**5590**		**1230**		**4790**		**4490**		**1700**		**2820**		**1750**		**4270**		**2530**		**743**		-	-	-	-
Antimony, Total				**0.753**	**J**	7.6	U	**1.36**	**J**	12.5	U	**1.8**	**J**	**15.4**		**6.18**	**J**	5.1	U	**7.53**	**J**	**4.48**	**J**	**0.411**	**J**	5.52	U	-	-	-	-
Arsenic, Total	13	16	16	**9.39**		**4.96**		**11.8**		**0.892**	**J**	**10.9**		**27.7**		**20.8**		**3.01**		**37.6**		**22.6**		**13.9**		**1.56**		-	-	-	-
Barium, Total	350	400	820	**32**		**40.4**		**67.7**		**57.7**		**48.6**		**58.3**		**55.4**		**14.8**		**61.3**		**56.8**		**67.2**		**9.28**		-	-	-	-
Beryllium, Total	7.2	590	47	**0.525**		**0.477**	**J**	**0.399**	**J**	1.25	U	**0.496**	**J**	**0.316**	**J**	**0.198**	**J**	**0.149**	**J**	**0.661**	**J**	**0.633**	**J**	**0.388**	**J**	**0.124**	**J**	-	-	-	-
Cadmium, Total	2.5	9.3	7.5	0.917	U	1.52	U	0.959	U	2.51	U	**0.103**	**J**	**0.17**	**J**	**0.512**	**J**	1.02	U	4.41	U	3.03	U	0.863	U	1.1	U	-	-	-	-
Calcium, Total				**2000**		**23000**		**45200**		**237000**		**3590**		**18100**		**7790**		**58800**		**5180**		**57900**		**4020**		**11900**		-	-	-	-
Chromium, Hexavalent	400	19	1	0.938	U	**0.626**	**J**	0.984	U	1.26	U	1.01	U	0.922	U	1.25	U	1.03	U	0.905	U	3.04	U	0.29	U	1.14	U	-	-	-	-
Chromium, Total				**18.1**		**13.8**		**16.5**		**2.54**		**9.95**		**19.1**		**6.81**		**5.31**		**22.8**		**46.3**		**114**		**5.45**		-	-	-	-
Cobalt, Total				**11.1**		**6.77**		**8.96**		**0.993**	**J**	**5.65**		**7.09**		**7.41**		**3.25**		**13.4**		**9.32**		**5.59**		**2.24**		-	-	-	-
Copper, Total	50	270	1720	**38**		**23.2**		**44.4**		**3.71**		**40.3**		**124**		**65.5**		**11**		**83.4**		**73.4**		30.8		**20.8**		-	-	-	-
Cyanide, Total	27	40	27	**0.4**	**J**	1.8	U	1.1	U	1.5	U	1.2	U	**0.33**	**J**	**0.32**	**J**	1.2	U	1	U	3.7	U	**1**	**U**	1.3	U	-	-	-	-
Iron, Total				**31500**		**18600**		**36300**		**2720**		**21400**		**53700**		**90300**		**7920**		**127000**		**91100**		**32400**		**33500**		-	-	-	-
Lead, Total	63	1000	450	**22.5**		**16.5**		**278**		**2.49**	**J**	**2630**		**363**		**1040**		**3.84**	**J**	**70**		**49.8**		**38.5**		**8.97**		-	-	-	-
Magnesium, Total				**2510**		**6070**		**7920**		**2960**		**641**		**3470**		**591**		**11300**		**581**		**4080**		**356**		**630**		-	-	-	-
Manganese, Total	1600	10000	2000	**733**		**428**		**353**		**347**		**90.6**		**420**		**416**		**206**		**965**		**505**		**137**		**69.2**		-	-	-	-
Mercury, Total	0.18	2.8	0.73	**0.065**	**J**	**0.089**	**J**	**0.654**		0.126	U	**0.408**		**2.86**		**0.133**		0.085	U	0.082	U	0.244	U	0.078	U	0.093	U	-	-	-	-
Nickel, Total	30	310	130	**23.2**		**19.4**		**23.4**		**5.41**	**J**	**15.6**		**15.6**		**14.8**		**8.52**		**19.5**		**22**		**14.1**		**3.41**		-	-	-	-
Potassium, Total				**664**		**690**		**825**		**265**	**J**	**666**		**532**		**240**	**J**	**340**		**146**	**J**	**478**	**J**	**377**		**54.5**	**J**	-	-	-	-
Selenium, Total	3.9	1500	4	1.83	U	**1.33**	**J**	1.92	U	**0.917**	**J**	**1.01**	**J**	**0.446**	**J**	**1.41**	**J**	**0.35**	**J**	8.82	U	**4.44**	**J**	**0.905**	**J**	2.21	U	-	-	-	-
Silver, Total	2	1500	8.3	0.459	U	0.76	U	0.479	U	1.25	U	0.498	U	**0.516**		1.21	U	0.51	U	2.2	U	1.51	U	0.432	U	0.552	U	-	-	-	-
Sodium, Total				**141**	**J**	**385**		**236**		**346**	**J**	**238**		**216**		**93**	**J**	**98.2**	**J**	**160**	**J**	**1060**		**271**		**399**		-	-	-	-
Thallium, Total				**0.378**	**J**	3.04	U	1.92	U	5.02	U	1.99	U	1.79	U	4.83	U	2.04	U	8.82	U	6.05	U	1.73	U	2.21	U	-	-	-	-
Vanadium, Total				**31.1**		**19.1**		**24.2**		**2.17**	**J**	**16.5**		**15.4**		**15.4**		**8.03**		**74**		**51.7**		**12.3**		**17.2**		-	-	-	-
Zinc, Total	109	10000	2480	**39.6**		**39.4**		**108**		**14.9**		**44.4**		**92.4**		**102**		**17.3**		**55.9**		**83**		**24.9**		**11.9**		-	-	-	-

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-101 FILL		SB-101 NATIVE		SB-102 FILL		SB-102 NATIVE		SB-103 FILL		SB-103 NATIVE		SB-104 FILL		SB-104 NATIVE		SB-105 FILL		SB-105 NATIVE		SB-106 FILL		SB-106 NATIVE		SB-106A FILL		SB-106A NATIVE	
SAMPLING DATE				11/26/2024		11/26/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/26/2024		11/26/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024	
LAB SAMPLE ID				L2469906-01		L2469906-02		L2469590-01		L2469590-02		L2469590-03		L2469590-04		L2469906-03		L2469906-04		L2469590-05		L2469590-06		L2469590-07		L2469590-08		L2469590-09		L2469590-10	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				4-10		12-15		3-8		10-20		2-6		8-14		5-10		15-20		0-5		10-15		1-6		9-15		1-5		8-10	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Perfluorinated Alkyl Acids by EPA 1633																															
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)				0.795	U	0.794	U	0.794	U	0.797	U	0.794	U	0.792	U	0.792	U	0.788	U	0.78	U	1.22	U	0.797	U	0.786	U	-	-	-	-
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)				0.795	U	0.794	U	0.794	U	0.797	U	0.794	U	0.792	U	0.792	U	0.788	U	0.78	U	1.22	U	0.797	U	0.786	U	-	-	-	-
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)				0.795	U	0.794	U	0.794	U	0.797	U	0.794	U	0.792	U	0.792	U	0.788	U	0.78	U	1.22	U	0.797	U	0.786	U	-	-	-	-
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)				0.795	U	0.794	U	0.794	U	0.797	U	0.794	U	0.792	U	0.792	U	0.788	U	0.78	U	1.22	U	0.797	U	0.786	U	-	-	-	-
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)				4.97	U	4.96	U	4.96	U	4.98	U	4.96	U	4.95	U	4.95	U	4.92	U	4.88	U	7.6	U	4.98	U	4.91	U	-	-	-	-
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)				4.97	U	4.96	U	4.96	U	4.98	U	4.96	U	4.95	U	4.95	U	4.92	U	4.88	U	7.6	U	4.98	U	4.91	U	-	-	-	-
3-Perfluoropropyl Propanoic Acid (3:3FTCA)				0.994	U	0.992	U	0.992	U	0.996	U	0.993	U	0.99	U	0.99	U	0.984	U	0.975	U	1.52	U	0.996	U	0.982	U	-	-	-	-
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)				0.795	U	0.794	U	0.794	U	0.797	U	0.794	U	0.792	U	0.792	U	0.788	U	0.78	U	1.22	U	0.797	U	0.786	U	-	-	-	-
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)				0.795	U	0.794	U	0.794	U	0.797	U	0.794	U	0.792	U	0.792	U	0.788	U	0.78	U	1.22	U	0.797	U	0.786	U	-	-	-	-
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)				0.795	U	0.794	U	0.794	U	0.797	U	0.794	U	0.792	U	0.792	U	0.788	U	0.78	U	1.22	U	0.797	U	0.786	U	-	-	-	-
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)				1.99	U	1.98	U	1.98	U	1.99	U	1.98	U	1.98	U	1.98	U	1.97	U	1.95	U	3.04	U	1.99	U	1.96	U	-	-	-	-
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)				1.99	U	1.98	U	1.98	U	1.99	U	1.98	U	1.98	U	1.98	U	1.97	U	1.95	U	3.04	U	1.99	U	1.96	U	-	-	-	-
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)				0.397	U	0.397	U	0.397	U	0.398	U	0.397	U	0.396	U	0.396	U	0.394	U	0.39	U	0.608	U	0.398	U	0.393	U	-	-	-	-
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)				0.397	U	0.397	U	0.397	U	0.398	U	0.397	U	0.396	U	0.396	U	0.394	U	0.39	U	0.608	U	0.398	U	0.393	U	-	-	-	-
Perfluoro-3-Methoxypropanoic Acid (PFMPA)				0.397	U	0.397	U	0.397	U	0.398	U	0.397	U	0.396	U	0.396	U	0.394	U	0.39	U	0.608	U	0.398	U	0.393	U	-	-	-	-
Perfluoro-4-Methoxybutanoic Acid (PFMBA)				0.397	U	0.397	U	0.397	U	0.398	U	0.397	U	0.396	U	0.396	U	0.394	U	0.39	U	0.608	U	0.398	U	0.393	U	-	-	-	-
Perfluorobutanesulfonic Acid (PFBS)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
Perfluorobutanoic Acid (PFBA)				0.795	U	0.794	U	**0.077**	**J**	0.797	U	0.794	U	0.792	U	0.792	U	0.788	U	0.78	U	1.22	U	0.797	U	0.786	U	-	-	-	-
Perfluorodecanesulfonic Acid (PFDS)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
Perfluorodecanoic Acid (PFDA)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
Perfluorododecanesulfonic Acid (PFDoS)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
Perfluorododecanoic Acid (PFDoA)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
Perfluoroheptanesulfonic Acid (PFHpS)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
Perfluoroheptanoic Acid (PFHpA)				0.199	U	0.198	U	**0.046**	**J**	0.199	U	0.198	U	**0.027**	**J**	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
Perfluorohexanesulfonic Acid (PFHxS)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	**0.023**	**J**	-	-	-	-
Perfluorohexanoic Acid (PFHxA)				0.199	U	0.198	U	**0.17**	**J**	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
Perfluorononanesulfonic Acid (PFNS)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
Perfluorononanoic Acid (PFNA)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
Perfluorooctanesulfonamide (PFOSA)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
Perfluorooctanesulfonic Acid (PFOS)	0.88	440	1	**0.096**	**J**	0.198	U	**0.092**	**J**	0.199	U	0.198	U	**0.101**	**J**	0.198	U	0.197	U	**0.052**	**J**	0.304	U	0.199	U	**0.204**		-	-	-	-
Perfluorooctanoic Acid (PFOA)	0.66	500	0.8	**0.083**	**J**	0.198	U	**0.214**		0.199	U	0.198	U	**0.05**	**J**	0.198	U	0.197	U	0.195	U	0.304	U	**0.028**	**J**	**0.026**	**J**	-	-	-	-
Perfluoropentanesulfonic Acid (PFPeS)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
Perfluoropentanoic Acid (PFPeA)				0.397	U	0.397	U	**0.195**	**J**	0.398	U	0.397	U	0.396	U	0.396	U	0.394	U	0.39	U	0.608	U	0.398	U	0.393	U	-	-	-	-
Perfluorotetradecanoic Acid (PFTeDA)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
Perfluorotridecanoic Acid (PFTrDA)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-
Perfluoroundecanoic Acid (PFUnA)				0.199	U	0.198	U	0.198	U	0.199	U	0.198	U	0.198	U	0.198	U	0.197	U	0.195	U	0.304	U	0.199	U	0.196	U	-	-	-	-

Notes:
- All values are reported in milligrams per kilogram (mg/kg) / parts per million (ppm) except PFAAs which are reported in micrograms per kilogram (µg/kg) / parts per billion (ppb).
- Analytical results compared to New York 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs).
- **Bolded text** indicates analyte detected at concentrations greater than laboratory detection limits.
- Highlighted cell Indicates analyte exceeds the respective standard/guideline value.
- **Red text** indicates analyte exceeds Protection of Groundwater SCO.
- **Blue qualifiers** were applied based on a third party data usability review.
- Grey highlighted cell indicates the laboratory detection limit exceeds the respective standard/guideline value.
- "U" indicates the analyte was not detected at the reported detection limit for the sample.
- "UJ" indicates the analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
- "J" indicates estimated value.
- "J+" indicates the analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
- "I" indicates the lower value for the two columns has been reported due to obvious interference.
- "P" indicates the RPD between the results for the two columns exceeds the method-specified criteria.
- "EMPC" indicates the results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.
- "R" indicates the data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-106B FILL		SB-106B NATIVE		SB-106C FILL		SB-106C NATIVE		SB-107 FILL		SB-107 NATIVE		SB-108 FILL		SB-108 NATIVE		SB-109 FILL		SB-109 NATIVE		SB-110 FILL		SB-110 NATIVE		SB-111 FILL		SB-111 NATIVE	
SAMPLING DATE				11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/26/2024		11/26/2024	
LAB SAMPLE ID				L2469590-11		L2469590-12		L2469590-13		L2469590-14		L2469590-17		L2469590-18		L2469590-15		L2469590-16		L2469590-19		L2469590-20		L2469590-21		L2469590-22		L2469906-05		L2469906-06	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				1-5		10-12		1-5		10-12		1-6		8-10		0.5-8		8-15		1-5		7-10		1-7		15-20		2-8		9-15	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Volatile Organics by EPA 5035																															
1,1,1-Trichloroethane	0.68	500	0.68	0.00074	U	0.00082	U	0.0011	U	0.0018	U	0.0005	U	0.0015	U	0.00066	U	0.0026	U	0.00069	U	0.0017	U	0.00056	U	0.00098	U	0.00075	U	0.00064	U
1,1,2,2-Tetrachloroethane				0.00074	U	0.00082	U	0.0011	U	0.0018	U	0.0005	U	0.0015	U	0.00066	U	0.0026	U	0.00069	U	0.0017	U	0.00056	U	0.00098	U	0.00075	U	0.00064	U
1,1,2-Trichloroethane				0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
1,1-Dichloroethane	0.27	240	0.27	0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
1,1-Dichloroethene	0.33	500	0.33	0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
1,2,4-Trichlorobenzene				0.003	U	0.0033	U	0.0044	U	0.0074	U	0.002	U	0.006	U	0.0026	U	0.01	U	0.0028	U	0.0069	U	0.0022	U	0.0039	U	0.003	U	0.0025	U
1,2,4-Trimethylbenzene	3.6	190	3.6	0.003	R	0.0033	U	0.0044	U	0.0074	U	0.002	U	0.006	U	0.0026	U	0.01	U	0.0028	U	0.0069	U	0.0022	U	0.0039	U	0.003	U	0.0025	U
1,2-Dibromo-3-chloropropane				0.0044	U	0.0049	U	0.0066	U	0.011	U	0.003	U	0.009	U	0.004	U	0.015	U	0.0042	U	0.01	U	0.0034	U	0.0059	U	0.0045	U	0.0038	U
1,2-Dibromoethane				0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
1,2-Dichlorobenzene	1.1	500	1.1	0.003	U	0.0033	U	0.0044	U	0.0074	U	0.002	U	0.006	U	0.0026	U	0.01	U	0.0028	U	0.0069	U	0.0022	U	0.0039	U	0.003	U	0.0025	U
1,2-Dichloroethane	0.02	30	0.02	0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
1,2-Dichloropropane				0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
1,3,5-Trimethylbenzene	8.4	190	8.4	0.003	R	0.0033	U	0.0044	U	0.0074	U	0.002	U	0.006	U	0.0026	U	0.01	U	0.0028	U	0.0069	U	0.0022	U	0.0039	U	0.003	U	0.0025	U
1,3-Dichlorobenzene	2.4	280	2.4	0.003	U	0.0033	U	0.0044	U	0.0074	U	0.002	U	0.006	U	0.0026	U	0.01	U	0.0028	U	0.0069	U	0.0022	U	0.0039	U	0.003	U	0.0025	U
1,4-Dichlorobenzene	1.8	130	1.8	0.003	U	0.0033	U	0.0044	U	0.0074	U	0.002	U	0.006	U	0.0026	U	0.01	U	0.0028	U	0.0069	U	0.0022	U	0.0039	U	0.003	U	0.0025	U
2-Butanone	0.12	500	0.12	0.015	U	0.016	U	0.022	U	**0.025**	**J**	0.01	U	**0.008**	**J**	0.013	U	0.052	U	0.014	U	0.034	U	0.011	U	**0.0044**	**J**	0.015	U	0.013	U
2-Hexanone				0.015	U	0.016	U	0.022	U	0.037	U	0.01	U	0.03	U	0.013	U	0.052	U	0.014	U	0.034	U	0.011	U	0.02	U	0.015	U	0.013	U
4-Methyl-2-pentanone				0.015	U	0.016	U	0.022	U	0.037	U	0.01	U	0.03	U	0.013	U	0.052	U	0.014	U	0.034	U	0.011	U	0.02	U	0.015	U	0.013	U
Acetone	0.05	500	0.05	0.015	U	**0.044**		0.022	U	**0.1**		0.01	U	**0.063**		**0.0065**	**J**	**0.12**		**0.009**	**J**	**0.033**	**J**	0.011	U	**0.02**		0.015	U	**0.0064**	**J**
Benzene	0.06	44	0.06	0.00074	U	0.00082	U	0.0011	U	**0.005**		0.0005	U	0.0015	U	0.00066	U	0.0026	U	0.00069	U	0.0017	U	0.00056	U	0.00098	U	0.00075	U	0.00064	U
Bromodichloromethane				0.00074	U	0.00082	U	0.0011	U	0.0018	U	0.0005	U	0.0015	U	0.00066	U	0.0026	U	0.00069	U	0.0017	U	0.00056	U	0.00098	U	0.00075	U	0.00064	U
Bromoform				0.0059	U	0.0066	U	0.0087	U	0.015	U	0.004	U	0.012	UJ	0.0053	U	0.021	U	0.0055	U	0.014	U	0.0045	U	0.0078	U	0.006	U	0.0051	U
Bromomethane				0.003	U	0.0033	U	0.0044	U	0.0074	U	0.002	U	0.006	U	0.0026	U	0.01	U	0.0028	U	0.0069	U	0.0022	U	0.0039	U	0.003	U	0.0025	U
Carbon disulfide				0.015	U	0.016	U	0.022	U	0.037	U	0.01	U	**0.018**	**J**	0.013	U	**0.038**	**J**	0.014	U	0.034	U	0.011	U	**0.011**	**J**	0.015	U	0.013	U
Carbon tetrachloride	0.76	22	0.76	0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
Chlorobenzene	1.1	500	1.1	0.00074	U	0.00082	U	0.0011	U	0.0018	U	0.0005	U	0.0015	U	0.00066	U	0.0026	U	0.00069	U	0.0017	U	0.00056	U	0.00098	U	0.00075	U	0.00064	U
Chloroethane				0.003	U	0.0033	U	0.0044	U	0.0074	U	0.002	U	0.006	U	0.0026	U	0.01	U	0.0028	U	0.0069	U	0.0022	U	0.0039	U	0.003	U	0.0025	U
Chloroform	0.37	350	0.37	0.0022	U	0.0025	U	0.0033	U	0.0056	U	0.0015	U	0.0045	U	0.002	U	0.0077	U	0.0021	U	0.0052	U	0.0017	U	0.0029	U	0.0022	U	0.0019	U
Chloromethane				0.0059	U	0.0066	U	0.0087	U	0.015	U	0.004	U	0.012	U	0.0053	U	0.021	U	0.0055	U	0.014	U	0.0045	U	0.0078	U	0.006	U	0.0051	U
cis-1,2-Dichloroethene	0.25	500	0.25	0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
cis-1,3-Dichloropropene				0.00074	U	0.00082	U	0.0011	U	0.0018	U	0.0005	U	0.0015	U	0.00066	U	0.0026	U	0.00069	U	0.0017	U	0.00056	U	0.00098	U	0.00075	U	0.00064	U
Cyclohexane				0.015	R	0.016	U	0.022	U	**0.0022**	**J**	0.01	U	0.03	U	0.013	U	0.052	U	**0.0009**	**J**	0.034	U	0.011	U	0.02	U	0.015	U	0.013	U
Dibromochloromethane				0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
Dichlorodifluoromethane				0.015	U	0.016	U	0.022	U	0.037	U	0.01	U	0.03	U	0.013	U	0.052	U	0.014	U	0.034	U	0.011	U	0.02	U	0.015	U	0.013	U
Ethylbenzene	1	390	1	0.0015	R	0.0016	U	0.0022	U	**0.00062**	**J**	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
Freon-113				0.0059	U	0.0066	U	0.0087	U	0.015	U	0.004	U	0.012	U	0.0053	U	0.021	U	0.0055	U	0.014	U	0.0045	U	0.0078	U	0.006	U	0.0051	U
Isopropylbenzene				0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
Methyl Acetate				0.0059	U	0.0066	U	0.0087	U	0.015	U	0.004	U	0.012	U	0.0053	U	0.021	U	0.0055	U	0.014	U	0.0045	U	0.0078	U	0.006	U	0.0051	U
Methyl cyclohexane				0.0059	R	0.0066	U	0.0087	U	0.015	U	0.004	U	0.012	U	0.0053	U	0.021	U	**0.0013**	**J**	0.014	U	0.0045	U	0.0078	U	0.006	U	0.0051	U
Methyl tert butyl ether	0.93	500	0.93	0.003	U	0.0033	U	0.0044	U	0.0074	U	0.002	U	0.006	U	0.0026	U	0.01	U	0.0028	U	0.0069	U	0.0022	U	0.0039	U	0.003	U	0.0025	U
Methylene chloride	0.05	500	0.05	0.0074	U	0.0082	U	0.011	U	0.018	U	0.005	U	0.015	U	0.0066	U	0.026	U	0.0069	U	0.017	U	0.0056	U	0.0098	U	0.0075	U	0.0064	U
n-Butylbenzene	12	500	12	0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
n-Propylbenzene	3.9	500	3.9	0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
Naphthalene	12	500	12	0.0059	R	0.0066	U	0.0087	U	0.015	U	0.004	U	0.012	U	0.0053	U	0.021	U	0.0055	U	0.014	U	0.0045	U	0.0078	U	0.006	U	0.0051	U
o-Xylene	0.26	500	1.6	0.0015	R	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
p-Isopropyltoluene				0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
p/m-Xylene	0.26	500	1.6	0.003	R	0.0033	U	0.0044	U	0.0074	U	0.002	U	0.006	U	0.0026	U	0.01	U	0.0028	U	0.0069	U	0.0022	U	0.0039	U	0.003	U	0.0025	U
sec-Butylbenzene	11	500	11	0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
Styrene				0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
tert-Butylbenzene	5.9	500	5.9	0.003	U	0.0033	U	0.0044	U	**0.0012**	**J**	0.002	U	0.006	U	0.0026	U	0.01	U	0.0028	U	0.0069	U	0.0022	U	0.0039	U	0.003	U	0.0025	U
Tetrachloroethene	1.3	150	1.3	0.00074	U	0.00082	U	0.0011	U	0.0018	U	0.0005	U	0.0015	U	0.00066	U	0.0026	U	0.00069	U	0.0017	U	0.00056	U	0.00098	U	0.00075	U	0.00064	U
Toluene	0.7	500	0.7	0.0015	U	0.0016	U	0.0022	U	**0.0036**	**J**	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
trans-1,2-Dichloroethene	0.19	500	0.19	0.0022	U	0.0025	U	0.0033	U	0.0056	U	0.0015	U	0.0045	U	0.002	U	0.0077	U	0.0021	U	0.0052	U	0.0017	U	0.0029	U	0.0022	U	0.0019	U
trans-1,3-Dichloropropene				0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
Trichloroethene	0.47	200	0.47	0.00074	U	0.00082	U	0.0011	U	0.0018	U	0.0005	U	0.0015	U	**0.00084**		0.0026	U	0.00069	U	0.0017	U	0.00056	U	0.00098	U	0.00075	U	0.00064	U
Trichlorofluoromethane				0.0059	U	0.0066	U	0.0087	U	0.015	U	0.004	U	0.012	U	0.0053	U	0.021	U	0.0055	U	0.014	U	0.0045	U	0.0078	U	0.006	U	0.0051	U
Vinyl chloride	0.02	13	0.02	0.0015	U	0.0016	U	0.0022	U	0.0037	U	0.001	U	0.003	U	0.0013	U	0.0052	U	0.0014	U	0.0034	U	0.0011	U	0.002	U	0.0015	U	0.0013	U
Total TIC Compounds				**0.0214**	**J**	**0.00368**	**J**	**0.027**	**J**	**1.03**	**J**	**0.0121**	**J**	0	U	0	U	0	U	0	U	0	U	0	U	0	U	**0.0216**	**J**	0	U

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-106B FILL		SB-106B NATIVE		SB-106C FILL		SB-106C NATIVE		SB-107 FILL		SB-107 NATIVE		SB-108 FILL		SB-108 NATIVE		SB-109 FILL		SB-109 NATIVE		SB-110 FILL		SB-110 NATIVE		SB-111 FILL		SB-111 NATIVE	
SAMPLING DATE				11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/26/2024		11/26/2024	
LAB SAMPLE ID				L2469590-11		L2469590-12		L2469590-13		L2469590-14		L2469590-17		L2469590-18		L2469590-15		L2469590-16		L2469590-19		L2469590-20		L2469590-21		L2469590-22		L2469906-05		L2469906-06	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				1-5		10-12		1-5		10-12		1-6		8-10		0.5-8		8-15		1-5		7-10		1-7		15-20		2-8		9-15	
Analyte	Unrestricted Use SCO	Commercial Use SCO	Protection of Groundwater	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics by EPA 5035 High																															
1,1,1-Trichloroethane	0.68	500	0.68	0.036	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane				0.036	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane				0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	0.27	240	0.27	0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	500	0.33	0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene				0.14	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6	190	3.6	**0.069**	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane				0.22	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane				0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	1.1	500	1.1	0.14	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.02	30	0.02	0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane				0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	8.4	190	8.4	**0.034**	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	2.4	280	2.4	0.14	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	1.8	130	1.8	0.14	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Butanone	0.12	500	0.12	0.73	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Hexanone				0.73	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone				0.73	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetone	0.05	500	0.05	0.73	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	0.06	44	0.06	0.036	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane				0.036	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform				0.29	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromomethane				0.14	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon disulfide				0.73	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	0.76	22	0.76	0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	1.1	500	1.1	0.036	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane				0.14	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	0.37	350	0.37	0.11	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane				0.29	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	500	0.25	0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene				0.036	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane				**0.22**	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane				0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane				0.73	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	1	390	1	0.073	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Freon-113				0.29	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isopropylbenzene				0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl Acetate				0.29	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl cyclohexane				**0.72**	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether	0.93	500	0.93	0.14	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	500	0.05	0.36	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Butylbenzene	12	500	12	0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	3.9	500	3.9	0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	12	500	12	**0.087**	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	0.26	500	1.6	**0.054**	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
p-Isopropyltoluene				0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
p/m-Xylene	0.26	500	1.6	**0.071**	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sec-Butylbenzene	11	500	11	0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene				0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
tert-Butylbenzene	5.9	500	5.9	0.14	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	150	1.3	0.036	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	0.7	500	0.7	0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	500	0.19	0.11	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene				0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	200	0.47	0.036	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane				0.29	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02	13	0.02	0.073	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total TIC Compounds				0	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-106B FILL		SB-106B NATIVE		SB-106C FILL		SB-106C NATIVE		SB-107 FILL		SB-107 NATIVE		SB-108 FILL		SB-108 NATIVE		SB-109 FILL		SB-109 NATIVE		SB-110 FILL		SB-110 NATIVE		SB-111 FILL		SB-111 NATIVE	
SAMPLING DATE				11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/26/2024		11/26/2024	
LAB SAMPLE ID				L2469590-11		L2469590-12		L2469590-13		L2469590-14		L2469590-17		L2469590-18		L2469590-15		L2469590-16		L2469590-19		L2469590-20		L2469590-21		L2469590-22		L2469906-05		L2469906-06	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				1-5		10-12		1-5		10-12		1-6		8-10		0.5-8		8-15		1-5		7-10		1-7		15-20		2-8		9-15	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Semivolatile Organics by GC/MS																															
1,2,4,5-Tetrachlorobenzene				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
1,4-Dioxane	0.1	130	0.1	0.028	U	0.033	U	0.029	U	0.061	U	0.029	U	0.051	U	0.029	U	0.094	U	0.03	U	0.062	U	0.03	U	0.044	U	0.15	U	0.033	U
2,3,4,6-Tetrachlorophenol				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
2,4,5-Trichlorophenol				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
2,4,6-Trichlorophenol				0.11	U	0.13	U	0.12	U	0.24	U	0.12	U	0.2	U	0.12	U	0.38	U	0.12	U	0.25	U	0.12	U	0.18	U	0.59	U	0.13	U
2,4-Dichlorophenol				0.17	U	0.2	U	0.17	U	0.36	U	0.17	U	0.31	U	0.17	U	0.56	U	0.18	U	0.37	U	0.18	U	0.26	U	0.88	U	0.2	U
2,4-Dimethylphenol				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
2,4-Dinitrophenol				0.9	U	1	U	0.92	U	1.9	U	0.92	U	1.6	U	0.93	U	3	U	0.95	U	2	U	0.96	U	1.4	U	4.7	U	1	U
2,4-Dinitrotoluene				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
2,6-Dinitrotoluene				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
2-Chloronaphthalene				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
2-Chlorophenol				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
2-Methylnaphthalene				**0.41**		**0.049**	**J**	**0.29**		**0.19**	**J**	**0.83**		**0.083**	**J**	**0.15**	**J**	0.75	U	**1.5**		0.5	U	0.24	U	0.35	U	1.2	U	0.26	U
2-Methylphenol	0.33	500	0.33	0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	**0.045**	**J**	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
2-Nitroaniline				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
2-Nitrophenol				0.4	U	0.47	U	0.41	U	0.88	U	0.42	U	0.74	U	0.42	U	1.4	U	0.43	U	0.89	U	0.43	U	0.64	U	2.1	U	0.47	U
3,3'-Dichlorobenzidine				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
3-Methylphenol/4-Methylphenol	0.33	500	0.33	0.27	U	0.32	U	0.28	U	0.58	U	0.28	U	0.49	U	0.28	U	0.9	U	**0.2**	**J**	0.59	U	0.29	U	0.42	U	1.4	U	**0.22**	**J**
3-Nitroaniline				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
4,6-Dinitro-o-cresol				0.48	U	0.57	U	0.5	U	1	U	0.5	U	0.88	U	0.5	U	1.6	U	0.51	U	1.1	U	0.52	U	0.77	U	2.6	U	0.57	U
4-Bromophenyl phenyl ether				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
4-Chloroaniline				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
4-Chlorophenyl phenyl ether				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
4-Nitroaniline				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
4-Nitrophenol				0.26	U	0.31	U	0.27	U	0.57	U	0.27	U	0.48	U	0.27	U	0.88	U	0.28	U	0.58	U	0.28	U	0.41	U	1.4	U	0.3	U
Acenaphthene	20	500	98	0.15	U	0.18	U	0.15	U	**0.052**	**J**	0.15	U	0.27	U	0.16	U	0.5	U	**2.4**		0.33	U	0.16	U	0.24	U	0.79	U	0.17	U
Acenaphthylene	100	500	107	**0.12**	**J**	**0.055**	**J**	0.15	U	0.32	U	**0.044**	**J**	0.27	U	0.16	U	0.5	U	**0.93**		0.33	U	0.16	U	0.24	U	0.79	U	0.17	U
Acetophenone				0.19	U	0.22	U	**0.028**	**J**	0.4	U	**0.068**	**J**	0.34	U	**0.031**	**J**	0.63	U	**0.046**	**J**	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
Anthracene	100	500	1000	**0.058**	**J**	**0.045**	**J**	0.12	U	**0.27**		**0.04**	**J**	0.2	U	0.12	U	0.38	U	**5.8**		0.25	U	**0.055**	**J**	**0.13**	**J**	**0.23**	**J**	0.13	U
Atrazine				0.15	U	0.18	U	0.15	U	0.32	U	0.15	U	0.27	U	0.16	U	0.5	U	0.16	U	0.33	U	0.16	U	0.24	U	0.79	U	0.17	U
Benzaldehyde				0.25	U	0.29	U	**0.08**	**J**	**0.21**	**J**	**0.1**	**J**	0.45	U	0.26	U	0.83	U	**0.059**	**J**	0.54	U	0.26	U	0.39	U	1.3	U	0.29	U
Benzo(a)anthracene	1	5.6	1	**0.48**		**0.091**	**J**	**0.17**		**0.14**	**J**	**0.42**		**0.09**	**J**	**0.073**	**J**	0.38	U	**7.8**		0.25	U	**0.18**		**0.16**	**J**	**0.6**	J	**0.094**	**J**
Benzo(a)pyrene	1	1	22	**1.1**		**0.086**	**J**	**0.24**		**0.16**	**J**	**0.58**		**0.09**	**J**	**0.098**	**J**	0.5	U	**7.3**		0.33	U	**0.16**		**0.13**	**J**	**0.54**	**J**	**0.097**	**J**
Benzo(b)fluoranthene	1	5.6	1.7	**1.3**		**0.098**	**J**	**0.28**		**0.2**	**J**	**0.67**		**0.1**	**J**	**0.12**		0.38	U	**11**		0.25	U	**0.2**		**0.15**	**J**	**0.56**	**J**	**0.1**	**J**
Benzo(ghi)perylene	100	500	1000	**1.4**		**0.072**	**J**	**0.27**		**0.18**	**J**	**0.67**		**0.09**	**J**	**0.14**	**J**	0.5	U	**3.7**		0.33	U	**0.12**	**J**	**0.072**	**J**	**0.37**	**J**	**0.076**	**J**
Benzo(k)fluoranthene	0.8	56	1.7	**0.4**		**0.044**	**J**	**0.07**	**J**	0.24	U	**0.23**		0.2	U	**0.032**	**J**	0.38	U	**2.4**		0.25	U	**0.071**	**J**	0.18	U	**0.25**	**J**	**0.039**	**J**
Biphenyl				**0.053**	**J**	0.5	U	**0.026**	**J**	0.92	U	**0.095**	**J**	0.78	U	0.44	U	1.4	U	**0.26**	**J**	0.94	U	0.45	U	0.67	U	2.2	U	0.5	U
Bis(2-chloroethoxy)methane				0.2	U	0.24	U	0.21	U	0.44	U	0.21	U	0.37	U	0.21	U	0.68	U	0.21	U	0.44	U	0.22	U	0.32	U	1.1	U	0.24	U
Bis(2-chloroethyl)ether				0.17	U	0.2	U	0.17	U	0.36	U	0.17	U	0.31	U	0.17	U	0.56	U	0.18	U	0.37	U	0.18	U	0.26	U	0.88	U	0.2	U
Bis(2-chloroisopropyl)ether				0.22	U	0.26	U	0.23	U	0.49	U	0.23	U	0.41	U	0.23	U	0.75	U	0.24	U	0.5	U	0.24	U	0.35	U	1.2	U	0.26	U
Bis(2-ethylhexyl)phthalate				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
Butyl benzyl phthalate				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
Caprolactam				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
Carbazole				**0.026**	**J**	**0.021**	**J**	0.19	U	0.4	U	**0.026**	**J**	0.34	U	0.19	U	0.63	U	**1.1**		0.41	U	**0.023**	**J**	0.3	U	0.98	U	0.22	U
Chrysene	1	56	1	**0.47**		**0.083**	**J**	**0.19**		**0.17**	**J**	**0.4**		**0.084**	**J**	**0.083**	**J**	0.38	U	**6.3**		0.25	U	**0.16**		**0.15**	**J**	**0.48**	**J**	**0.083**	**J**
Di-n-butylphthalate				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
Di-n-octylphthalate				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
Dibenzo(a,h)anthracene	0.33	0.56	1000	**0.18**		0.13	U	**0.038**	**J**	0.24	U	**0.074**	**J**	0.2	U	0.12	U	0.38	U	**0.96**		0.25	U	**0.025**	**J**	0.18	U	0.59	U	0.13	U
Dibenzofuran	7	350	210	**0.11**	**J**	0.22	U	**0.088**	**J**	0.4	U	**0.22**		0.34	U	**0.038**	**J**	0.63	U	**1.9**		0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
Diethyl phthalate				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
Dimethyl phthalate				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
Fluoranthene	100	500	1000	**0.38**		**0.16**		**0.22**		**0.24**		**0.46**		**0.15**	**J**	**0.071**	**J**	0.38	U	**21**		**0.05**	**J**	**0.34**		**0.36**		**1.2**	J	**0.19**	
Fluorene	30	500	386	0.19	U	**0.022**	**J**	0.19	U	0.4	U	**0.029**	**J**	0.34	U	0.19	U	0.63	U	**3.7**		0.41	U	0.2	U	0.036	J	0.98	U	**0.024**	**J**
Hexachlorobenzene	0.33	6	3.2	0.11	U	0.13	U	0.12	U	0.24	U	0.12	U	0.2	U	0.12	U	0.38	U	0.12	U	0.25	U	0.12	U	0.18	U	0.59	U	0.13	U
Hexachlorobutadiene				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
Hexachlorocyclopentadiene				0.53	U	0.63	U	0.55	U	1.2	U	0.55	U	0.97	U	0.55	U	1.8	U	0.57	U	1.2	U	0.57	U	0.84	U	2.8	UJ	0.62	UJ
Hexachloroethane				0.15	U	0.18	U	0.15	U	0.32	U	0.15	U	0.27	U	0.16	U	0.5	U	0.16	U	0.33	U	0.16	U	0.24	U	0.79	U	0.17	U
Indeno(1,2,3-cd)pyrene	0.5	5.6	8.2	**1.3**		**0.056**	**J**	**0.21**		**0.15**	**J**	**0.53**		**0.075**	**J**	**0.1**	**J**	0.5	U	**3.9**		0.33	U	**0.1**	**J**	**0.064**	**J**	**0.27**	**J**	**0.052**	**J**
Isophorone				0.17	U	0.2	U	0.17	U	0.36	U	0.17	U	0.31	U	0.17	U	0.56	U	0.18	U	0.37	U	0.18	U	0.26	U	0.88	U	0.2	U
n-Nitrosodi-n-propylamine				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
Naphthalene	12	500	12	**0.2**		**0.034**	**J**	**0.15**	**J**	**0.15**	**J**	**0.41**		**0.064**	**J**	**0.094**	**J**	0.63	U	**1.6**		0.41	U	0.03	J	0.3	U	0.98	U	**0.048**	**J**
NDPA/DPA				0.15	U	0.18	U	0.15	U	0.32	U	0.15	U	0.27	U	0.16	U	0.5	U	0.16	U	0.33	U	0.16	U	0.24	U	0.79	U	0.17	U
Nitrobenzene				0.17	U	0.2	U	0.17	U	0.36	U	0.17	U	0.31	U	0.17	U	0.56	U	0.18	U	0.37	U	0.18	U	0.26	U	0.88	U	0.2	U
p-Chloro-m-cresol				0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	0.2	U	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
Pentachlorophenol	0.8	6.7	0.8	0.15	UJ	0.18	UJ	0.15	U	0.32	UJ	0.15	U	0.27	U	0.16	U	0.5	U	0.16	U	0.33	U	0.16	U	0.24	UJ	0.79	U	0.17	U
Phenanthrene	100	500	1000	**0.35**		**0.13**		**0.28**		**0.23**	**J**	**0.56**		**0.14**	**J**	**0.11**	**J**	0.38	U	**21**		0.25	U	**0.24**		**0.37**		**0.97**	J	**0.13**	
Phenol	0.33	500	0.33	0.19	U	0.22	U	0.19	U	0.4	U	0.19	U	0.34	U	0.19	U	0.63	U	**0.16**	**J**	0.41	U	0.2	U	0.3	U	0.98	U	0.22	U
Pyrene	100	500	1000	**0.44**		**0.14**		**0.21**		**0.27**		**0.55**		**0.13**	**J**	**0.078**	**J**	0.38	U	**17**		**0.041**	**J**	**0.29**		**0.28**		**0.97**	J	**0.16**	
Total TIC Compounds				**5.33**	**J**	**0.916**	**J**	**4.59**	**J**	**37.4**	**J**	**7.19**	**J**	0	U	0	U	**8.74**	**J**	**20.5**	**J**	**6.04**	**J**	0	U	**0.334**	**J**	0	U	**2.79**	**J**
Petroleum Hydrocarbon Quantitation																															
TPH (C10-C36)				-	-	-	-	-	-	-	-	**249**		-	-	**540**		-	-	**445**		-	-	**166**		-	-	**582**	J	-	-

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-106B FILL		SB-106B NATIVE		SB-106C FILL		SB-106C NATIVE		SB-107 FILL		SB-107 NATIVE		SB-108 FILL		SB-108 NATIVE		SB-109 FILL		SB-109 NATIVE		SB-110 FILL		SB-110 NATIVE		SB-111 FILL		SB-111 NATIVE	
SAMPLING DATE				11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/26/2024		11/26/2024	
LAB SAMPLE ID				L2469590-11		L2469590-12		L2469590-13		L2469590-14		L2469590-17		L2469590-18		L2469590-15		L2469590-16		L2469590-19		L2469590-20		L2469590-21		L2469590-22		L2469906-05		L2469906-06	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				1-5		10-12		1-5		10-12		1-6		8-10		0.5-8		8-15		1-5		7-10		1-7		15-20		2-8		9-15	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Polychlorinated Biphenyls by GC																															
Aroclor 1016	0.1	1	3.2	-	-	-	-	-	-	-	-	0.056	U	0.101	U	0.0575	U	0.189	U	0.0568	U	0.118	U	0.0561	U	0.0861	U	0.0565	U	0.0612	U
Aroclor 1221	0.1	1	3.2	-	-	-	-	-	-	-	-	0.056	U	0.101	U	0.0575	U	0.189	U	0.0568	U	0.118	U	0.0561	U	0.0861	U	0.0565	U	0.0612	U
Aroclor 1232	0.1	1	3.2	-	-	-	-	-	-	-	-	0.056	U	0.101	U	0.0575	U	0.189	U	0.0568	U	0.118	U	0.0561	U	0.0861	U	0.0565	U	0.0612	U
Aroclor 1242	0.1	1	3.2	-	-	-	-	-	-	-	-	0.056	U	0.101	U	0.0575	U	0.189	U	0.0568	U	0.118	U	0.0561	U	0.0861	U	0.0565	U	0.0612	U
Aroclor 1248	0.1	1	3.2	-	-	-	-	-	-	-	-	0.056	U	0.101	U	0.0575	U	0.189	U	0.0568	U	0.118	U	0.0561	U	0.0861	U	0.0565	U	0.0612	U
Aroclor 1254	0.1	1	3.2	-	-	-	-	-	-	-	-	0.056	U	0.101	U	0.0575	U	0.189	U	0.0568	U	0.118	U	0.0561	U	0.0861	U	0.0565	U	0.0612	U
Aroclor 1260	0.1	1	3.2	-	-	-	-	-	-	-	-	0.056	U	0.101	U	0.0575	U	0.189	U	**0.0196**	**J**	0.118	U	0.0561	U	0.0861	U	0.0565	U	0.0612	U
Aroclor 1262	0.1	1	3.2	-	-	-	-	-	-	-	-	0.056	U	0.101	U	0.0575	U	0.189	U	0.0568	U	0.118	U	0.0561	U	0.0861	U	0.0565	U	0.0612	U
Aroclor 1268	0.1	1	3.2	-	-	-	-	-	-	-	-	0.056	U	0.101	U	0.0575	U	0.189	U	0.0568	U	0.118	U	0.0561	U	0.0861	U	**0.00654**	**J**	0.0612	U
PCBs, Total	0.1	1	3.2	-	-	-	-	-	-	-	-	0.056	U	0.101	U	0.0575	U	0.189	U	**0.0196**	**J**	0.118	U	0.0561	U	0.0861	U	**0.00654**	**J**	0.0612	U
Chlorinated Herbicides by GC																															
2,4,5-T				-	-	-	-	-	-	-	-	0.19	U	0.335	U	0.192	U	0.625	U	0.199	U	0.411	U	0.196	U	0.298	U	0.194	U	0.217	U
2,4,5-TP (Silvex)	3.8	500	3.8	-	-	-	-	-	-	-	-	0.19	U	0.335	U	0.192	U	0.625	U	0.199	U	0.411	U	0.196	U	0.298	U	0.194	U	0.217	U
2,4-D				-	-	-	-	-	-	-	-	0.19	U	0.335	U	0.192	U	0.625	U	0.199	U	0.411	U	0.196	U	0.298	U	0.194	U	0.217	U
Organochlorine Pesticides by GC																															
4,4'-DDD	0.0033	92	14	-	-	-	-	-	-	-	-	0.00177	U	0.00322	U	0.00188	U	0.00606	U	0.00187	U	0.00394	U	0.00191	U	0.00272	U	0.00183	U	0.00211	U
4,4'-DDE	0.0033	62	17	-	-	-	-	-	-	-	-	0.00177	U	0.00322	U	0.00188	U	0.00606	U	0.00187	U	0.00394	U	0.00191	U	0.00272	U	0.00183	U	0.00211	U
4,4'-DDT	0.0033	47	136	-	-	-	-	-	-	-	-	0.00177	U	0.00322	U	0.00188	U	0.00606	U	0.00187	U	0.00394	U	0.00191	U	0.00272	U	0.00183	U	0.00211	U
Aldrin	0.005	0.68	0.19	-	-	-	-	-	-	-	-	0.00177	U	0.00322	U	0.00188	U	0.00606	U	0.00187	U	0.00394	U	0.00191	U	0.00272	U	0.00183	U	0.00211	U
Alpha-BHC	0.02	3.4	0.02	-	-	-	-	-	-	-	-	0.00074	U	0.00134	U	0.00078	U	0.00252	U	0.00078	U	0.00164	U	0.00079	U	0.00114	U	0.00076	U	0.00088	U
Beta-BHC	0.036	3	0.09	-	-	-	-	-	-	-	-	0.00177	U	0.00322	U	0.00188	U	0.00606	U	0.00187	U	0.00394	U	0.00191	U	0.00272	U	0.00183	U	0.00211	U
Chlordane				-	-	-	-	-	-	-	-	0.0148	U	0.0269	U	0.0157	U	0.0505	U	0.0156	U	0.0328	U	0.0159	U	0.0227	U	0.0152	U	0.0176	U
cis-Chlordane	0.094	24	2.9	-	-	-	-	-	-	-	-	0.00222	U	0.00403	U	0.00235	U	0.00757	U	0.00234	U	0.00493	U	0.00238	U	0.0034	U	0.00228	U	0.00264	U
Delta-BHC	0.04	500	0.25	-	-	-	-	-	-	-	-	0.00177	U	0.00322	U	0.00188	U	0.00606	U	0.00187	U	0.00394	U	0.00191	U	0.00272	U	0.00183	U	0.00211	U
Dieldrin	0.005	1.4	0.1	-	-	-	-	-	-	-	-	0.00111	U	0.00201	U	0.00118	U	0.00378	U	0.00117	U	0.00246	U	0.00119	U	0.0017	U	0.00114	U	0.00132	U
Endosulfan I	2.4	200	102	-	-	-	-	-	-	-	-	0.00177	U	0.00322	U	0.00188	U	0.00606	U	0.00187	U	0.00394	U	0.00191	U	0.00272	U	0.00183	U	0.00211	U
Endosulfan II	2.4	200	102	-	-	-	-	-	-	-	-	0.00177	U	0.00322	U	0.00188	U	0.00606	U	0.00187	U	0.00394	U	0.00191	U	0.00272	U	0.00183	U	0.00211	U
Endosulfan sulfate	2.4	200	1000	-	-	-	-	-	-	-	-	0.00074	U	0.00134	U	0.00078	U	0.00252	U	0.00078	U	0.00164	U	0.00079	U	0.00114	U	0.00076	U	0.00088	U
Endrin	0.014	89	0.06	-	-	-	-	-	-	-	-	0.00074	U	0.00134	U	0.00078	U	0.00252	U	0.00078	U	0.00164	U	0.00079	U	0.00114	U	0.00076	U	0.00088	U
Endrin aldehyde				-	-	-	-	-	-	-	-	0.00222	U	0.00403	U	0.00235	U	0.00757	U	0.00234	U	0.00493	U	0.00238	U	0.0034	U	0.00228	U	0.00264	U
Endrin ketone				-	-	-	-	-	-	-	-	0.00177	U	0.00322	U	0.00188	U	0.00606	U	0.00187	U	0.00394	U	0.00191	U	0.00272	U	0.00183	U	0.00211	U
Heptachlor	0.042	15	0.38	-	-	-	-	-	-	-	-	0.00089	U	0.00161	U	0.00094	U	0.00303	U	0.00094	U	0.00197	U	0.00095	U	0.00136	U	0.00091	U	0.00105	U
Heptachlor epoxide				-	-	-	-	-	-	-	-	0.00333	U	0.00604	U	0.00352	U	0.0114	U	0.00351	U	0.00739	U	0.00357	U	0.00511	U	0.00343	U	0.00396	U
Lindane	0.1	9.2	0.1	-	-	-	-	-	-	-	-	0.00074	U	0.00134	U	0.00078	U	0.00252	U	0.00078	U	0.00164	U	0.00079	U	0.00114	U	0.00076	U	0.00088	U
Methoxychlor				-	-	-	-	-	-	-	-	0.00333	U	0.00604	U	0.00352	U	0.0114	U	0.00351	U	0.00739	U	0.00357	U	0.00511	U	0.00343	U	0.00396	U
Toxaphene				-	-	-	-	-	-	-	-	0.0333	U	0.0604	U	0.0352	U	0.114	U	0.0351	U	0.0739	U	0.0357	U	0.0511	U	0.0343	U	0.0396	U
trans-Chlordane				-	-	-	-	-	-	-	-	0.00222	U	0.00403	U	0.00235	U	0.00757	U	0.00234	U	0.00493	U	0.00238	U	0.0034	U	0.00228	U	0.00264	U
Total Metals																															
Aluminum, Total				-	-	-	-	-	-	-	-	**2100**		**5930**		**3600**		**10200**		**2690**		**2770**		**4410**		**8100**		**6520**		**3860**	
Antimony, Total				-	-	-	-	-	-	-	-	4.62	U	8.18	U	**1.6**	**J**	**1.74**	**J**	**4.79**	**J**	19.4	U	**2.72**	**J**	6.97	U	**2.36**	**J**	**3.9**	**J**
Arsenic, Total	13	16	16	-	-	-	-	-	-	-	-	**15.6**		**2.24**		**12.6**		**5.49**		**17.3**		**1.14**	**J**	**6.83**		**3.27**		**44.5**	**J**	**8.29**	
Barium, Total	350	400	820	-	-	-	-	-	-	-	-	**31.8**		**33.3**		**213**		**90.8**		**83.2**		**71.7**		**70.2**		**66.9**		**210**	**J**	**99.6**	
Beryllium, Total	7.2	590	47	-	-	-	-	-	-	-	-	**0.433**	**J**	**0.349**	**J**	**0.325**	**J**	**0.632**	**J**	**0.325**	**J**	**0.197**	**J**	**0.326**	**J**	**0.452**	**J**	**1.39**		**0.28**	**J**
Cadmium, Total	2.5	9.3	7.5	-	-	-	-	-	-	-	-	0.924	U	1.64	U	0.911	U	3.02	U	**0.663**	**J**	3.89	U	**0.475**	**J**	**0.153**	**J**	**2.24**	**J**	1.02	U
Calcium, Total				-	-	-	-	-	-	-	-	**4830**		**26600**		**70800**		**146000**		**50700**		**227000**		**20800**		**16100**	**J**	**19000**	**J**	**80700**	
Chromium, Hexavalent	400	19	1	-	-	-	-	-	-	-	-	0.928	U	1.65	U	0.943	U	3.04	UJ	0.959	U	1.98	U	0.963	U	1.45	U	0.957	U	1.07	U
Chromium, Total				-	-	-	-	-	-	-	-	**19.5**		**11.2**		**18.9**		**19.2**		**87.1**		**6.07**		**10.1**		**15.5**		**14.6**		**10.6**	
Cobalt, Total				-	-	-	-	-	-	-	-	**5.39**		**5.43**		**5.33**		**9.28**		**10.5**		**5.05**	**J**	**4.83**		**12.6**	**J**	**6.42**		**4.27**	
Copper, Total	50	270	1720	-	-	-	-	-	-	-	-	**17.4**		**16.2**		**140**		**25.2**		**120**		**11**		**175**		**15**		**273**	**J**	**53.1**	
Cyanide, Total	27	40	27	-	-	-	-	-	-	-	-	**0.52**	**J**	2	U	**0.42**	**J**	3.6	U	**0.27**	**J**	2.3	U	1.1	U	1.7	U	1.1	U	**0.3**	**J**
Iron, Total				-	-	-	-	-	-	-	-	**24500**		**11200**		**33800**		**16500**		**102000**		**8430**		**15800**		**12300**		**13700**		**19300**	
Lead, Total	63	1000	450	-	-	-	-	-	-	-	-	**17.4**		**11**		**128**		**15.2**		**283**		**9.11**	**J**	**288**		**7.54**		**506**	**J**	**1500**	
Magnesium, Total				-	-	-	-	-	-	-	-	**876**		**6480**		**2800**		**11600**		**3260**		**3460**		**4940**		**6910**		**2210**	**J**	**27500**	
Manganese, Total	1600	10000	2000	-	-	-	-	-	-	-	-	**105**		**359**		**378**		**422**		**425**		**552**		**185**		**85.1**		**186**	**J**	**300**	
Mercury, Total	0.18	2.8	0.73	-	-	-	-	-	-	-	-	**0.106**		0.141	U	**0.65**		0.28	U	**0.089**		0.161	U	**3.49**		0.128	U	**0.801**	**J**	**3.67**	
Nickel, Total	30	310	130	-	-	-	-	-	-	-	-	**12.1**		**18.1**		**44.8**		**39.9**		**32.8**		**19.3**		**29.3**		**44**		**15.1**		**9.89**	
Potassium, Total				-	-	-	-	-	-	-	-	**346**		**629**		**608**		**1060**		**221**	**J**	**468**	**J**	**409**		**922**		**552**		**694**	
Selenium, Total	3.9	1500	4	-	-	-	-	-	-	-	-	**0.238**	**J**	**0.45**	**J**	**0.988**	**J**	**2.92**	**J**	**3.52**	**J**	**2.43**	**J**	1.88	U	**1.41**	**J**	**1.12**	**J**	**0.633**	**J**
Silver, Total	2	1500	8.3	-	-	-	-	-	-	-	-	0.462	U	0.818	U	0.455	U	1.51	U	2.3	U	1.94	U	0.47	U	0.697	U	**0.689**		0.508	U
Sodium, Total				-	-	-	-	-	-	-	-	**428**		**539**		**1640**		**664**		**206**	**J**	**308**	**J**	**90.9**	**J**	**242**	**J**	**397**		**242**	
Thallium, Total				-	-	-	-	-	-	-	-	1.85	U	3.27	U	**0.347**	**J**	6.04	U	9.18	U	7.77	U	1.88	U	2.79	U	**0.787**	**J**	2.03	U
Vanadium, Total				-	-	-	-	-	-	-	-	**15.3**		**10.8**		**15.8**		**16.4**		**30.9**		**4.01**		**18.6**		**11.9**		**23.6**		**14.7**	
Zinc, Total	109	10000	2480	-	-	-	-	-	-	-	-	**19.9**		**40.2**		**151**		**50.5**		**117**		**27.8**		**314**		**41.7**		**366**	**J**	**103**	

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-106B FILL		SB-106B NATIVE		SB-106C FILL		SB-106C NATIVE		SB-107 FILL		SB-107 NATIVE		SB-108 FILL		SB-108 NATIVE		SB-109 FILL		SB-109 NATIVE		SB-110 FILL		SB-110 NATIVE		SB-111 FILL		SB-111 NATIVE	
SAMPLING DATE				11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/25/2024		11/26/2024		11/26/2024	
LAB SAMPLE ID				L2469590-11		L2469590-12		L2469590-13		L2469590-14		L2469590-17		L2469590-18		L2469590-15		L2469590-16		L2469590-19		L2469590-20		L2469590-21		L2469590-22		L2469906-05		L2469906-06	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				1-5		10-12		1-5		10-12		1-6		8-10		0.5-8		8-15		1-5		7-10		1-7		15-20		2-8		9-15	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Perfluorinated Alkyl Acids by EPA 1633																															
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)				-	-	-	-	-	-	-	-	0.797	U	0.798	U	0.795	U	1.22	U	0.793	U	0.799	U	0.785	U	0.797	U	0.79	U	0.8	U
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)				-	-	-	-	-	-	-	-	0.797	U	0.798	U	0.795	U	1.22	U	0.793	U	0.799	U	0.785	U	0.797	U	0.79	U	0.8	U
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)				-	-	-	-	-	-	-	-	0.797	U	0.798	U	0.795	U	1.22	U	0.793	U	0.799	U	0.785	U	0.797	U	0.79	U	0.8	U
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)				-	-	-	-	-	-	-	-	0.797	U	0.798	U	0.795	U	1.22	U	0.793	U	0.799	U	0.785	U	0.797	U	0.79	U	0.8	U
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)				-	-	-	-	-	-	-	-	4.98	U	4.98	U	4.97	U	7.6	U	4.95	U	4.99	U	4.91	U	4.98	U	4.93	U	5	U
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)				-	-	-	-	-	-	-	-	4.98	U	4.98	U	4.97	U	7.6	U	4.95	U	4.99	U	4.91	U	4.98	U	4.93	U	5	U
3-Perfluoropropyl Propanoic Acid (3:3FTCA)				-	-	-	-	-	-	-	-	0.997	U	0.997	U	0.994	U	1.52	U	0.991	U	0.999	U	0.982	U	0.996	U	0.987	U	1	U
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)				-	-	-	-	-	-	-	-	0.797	U	0.798	U	0.795	U	1.22	U	0.793	U	0.799	U	0.785	U	0.797	U	0.79	U	0.8	U
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)				-	-	-	-	-	-	-	-	0.797	U	0.798	U	0.795	U	1.22	U	0.793	U	0.799	U	0.785	U	0.797	U	0.79	U	0.8	U
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)				-	-	-	-	-	-	-	-	0.797	U	0.798	U	0.795	U	1.22	U	0.793	U	0.799	U	0.785	U	0.797	U	0.79	U	0.8	U
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)				-	-	-	-	-	-	-	-	1.99	U	1.99	U	1.99	U	3.04	U	1.98	U	2	U	1.96	U	1.99	U	1.97	U	2	U
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)				-	-	-	-	-	-	-	-	1.99	U	1.99	U	1.99	U	3.04	U	1.98	U	2	U	1.96	U	1.99	U	1.97	U	2	U
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)				-	-	-	-	-	-	-	-	0.399	U	0.399	U	0.398	U	0.608	U	0.396	U	0.4	U	0.393	U	0.398	U	0.395	U	0.4	U
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)				-	-	-	-	-	-	-	-	0.399	U	0.399	U	0.398	U	0.608	U	0.396	U	0.4	U	0.393	U	0.398	U	0.395	U	0.4	U
Perfluoro-3-Methoxypropanoic Acid (PFMPA)				-	-	-	-	-	-	-	-	0.399	U	0.399	U	0.398	U	0.608	U	0.396	U	0.4	U	0.393	U	0.398	U	0.395	U	0.4	U
Perfluoro-4-Methoxybutanoic Acid (PFMBA)				-	-	-	-	-	-	-	-	0.399	U	0.399	U	0.398	U	0.608	U	0.396	U	0.4	U	0.393	U	0.398	U	0.395	U	0.4	U
Perfluorobutanesulfonic Acid (PFBS)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
Perfluorobutanoic Acid (PFBA)				-	-	-	-	-	-	-	-	0.797	U	0.798	U	0.795	U	1.22	U	0.793	U	0.799	U	0.785	U	0.797	U	0.79	U	0.8	U
Perfluorodecanesulfonic Acid (PFDS)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
Perfluorodecanoic Acid (PFDA)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
Perfluorododecanesulfonic Acid (PFDoS)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
Perfluorododecanoic Acid (PFDoA)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
Perfluoroheptanesulfonic Acid (PFHpS)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
Perfluoroheptanoic Acid (PFHpA)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	**0.038**	**J**	0.2	U	**0.024**	**J**	0.199	U	0.197	U	0.2	U
Perfluorohexanesulfonic Acid (PFHxS)				-	-	-	-	-	-	-	-	**0.034**	**J**	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
Perfluorohexanoic Acid (PFHxA)				-	-	-	-	-	-	-	-	**0.032**	**J**	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	**0.03**	**J**	0.199	U	0.197	U	0.2	U
Perfluorononanesulfonic Acid (PFNS)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
Perfluorononanoic Acid (PFNA)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	**0.056**	**J**	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
Perfluorooctanesulfonamide (PFOSA)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
Perfluorooctanesulfonic Acid (PFOS)	0.88	440	1	-	-	-	-	-	-	-	-	**0.079**	**J**	0.199	U	**0.054**	**J**	0.304	U	**0.209**		**0.141**	**J**	**0.089**	**J**	0.199	U	**0.049**	**J**	0.2	U
Perfluorooctanoic Acid (PFOA)	0.66	500	0.8	-	-	-	-	-	-	-	-	**0.059**	**J**	0.199	U	0.199	U	0.304	U	**0.117**	**J**	**0.03**	**J**	**0.071**	**J**	0.199	U	**0.057**	**J**	0.2	U
Perfluoropentanesulfonic Acid (PFPeS)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
Perfluoropentanoic Acid (PFPeA)				-	-	-	-	-	-	-	-	0.399	U	0.399	U	0.398	U	0.608	U	0.396	U	0.4	U	0.393	U	0.398	U	0.395	U	0.4	U
Perfluorotetradecanoic Acid (PFTeDA)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
Perfluorotridecanoic Acid (PFTrDA)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U
Perfluoroundecanoic Acid (PFUnA)				-	-	-	-	-	-	-	-	0.199	U	0.199	U	0.199	U	0.304	U	0.198	U	0.2	U	0.196	U	0.199	U	0.197	U	0.2	U

Notes:
- All values are reported in milligrams per kilogram (mg/kg) / parts per million (ppm) except PFAAs which are reported in micrograms per kilogram (µg/kg) / parts per billion (ppb).
- Analytical results compared to New York 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs).
- **Bolded text** indicates analyte detected at concentrations greater than laboratory detection limits.
- Highlighted cell Indicates analyte exceeds the respective standard/guideline value.
- **Red text** indicates analyte exceeds Protection of Groundwater SCO.
- **Blue qualifiers** were applied based on a third party data usability review.
- Grey highlighted cell indicates the laboratory detection limit exceeds the respective standard/guideline value.
- "U" indicates the analyte was not detected at the reported detection limit for the sample.
- "UJ" indicates the analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
- "J" indicates estimated value.
- "J+" indicates the analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
- "I" indicates the lower value for the two columns has been reported due to obvious interference.
- "P" indicates the RPD between the results for the two columns exceeds the method-specified criteria.
- "EMPC" indicates the results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.
- "R" indicates the data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-112 FILL		SB-112 NATIVE		SB-112A FILL		SB-112A NATIVE		SB-112B FILL		SB-112B NATIVE		SB-112C FILL		SB-112C NATIVE		SB-113 FILL		SB-113 NATIVE		SB-114 FILL		SB-114 NATIVE		SB-115 FILL		SB-115 NATIVE	
SAMPLING DATE				11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/25/2024		11/25/2024		11/26/2024		11/26/2024	
LAB SAMPLE ID				L2469906-07		L2469906-08		L2469906-09		L2469906-10 R1		L2469906-11 R1		L2469906-12 R1		L2469906-13		L2469906-14		L2469906-15		L2469906-16		L2469590-23		L2469590-24		L2469906-17		L2469906-18	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				2-10		11-14		6-8		10-13		7-9		11-13		7-9		11-15		3-10		10-15		1-5		12-20		3-8		13-20	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Volatile Organics by EPA 5035																															
1,1,1-Trichloroethane	0.68	500	0.68	0.001	U	0.00077	U	0.00094	U	0.00078	UJ	0.00095	UJ	0.00082	UJ	0.001	U	0.0006	U	0.00076	U	0.0012	U	**0.0024**		**0.00037**	**J**	0.00084	U	0.00058	U
1,1,2,2-Tetrachloroethane				0.001	UJ	0.00077	U	0.00094	U	0.00078	U	0.00095	UJ	0.00082	UJ	0.001	U	0.0006	U	0.00076	U	0.0012	U	0.00066	U	0.00053	U	0.00084	U	0.00058	U
1,1,2-Trichloroethane				0.0021	UJ	0.0015	U	0.0019	U	0.0016	U	0.0019	UJ	0.0016	UJ	0.0021	U	0.0012	U	0.0015	U	0.0023	U	0.0013	U	0.0011	U	0.0017	U	0.0012	U
1,1-Dichloroethane	0.27	240	0.27	0.0021	U	0.0015	U	0.0019	U	0.0016	UJ	0.0019	UJ	0.0016	UJ	0.0021	U	0.0012	U	0.0015	U	0.0023	U	0.0013	U	0.0011	U	0.0017	U	0.0012	U
1,1-Dichloroethene	0.33	500	0.33	0.0021	U	0.0015	U	0.0019	U	0.0016	UJ	0.0019	UJ	0.0016	UJ	0.0021	U	0.0012	U	0.0015	UJ	0.0023	U	0.0013	U	0.0011	U	0.0017	UJ	0.0012	UJ
1,2,4-Trichlorobenzene				0.0042	R	0.0031	U	0.0038	U	0.0031	U	0.0038	UJ	0.0033	UJ	0.0042	U	0.0024	U	0.003	U	0.0046	U	0.0027	U	0.0021	U	0.0034	U	0.0023	UJ
1,2,4-Trimethylbenzene	3.6	190	3.6	0.0042	R	0.0031	U	0.0038	U	0.0031	U	0.0038	UJ	0.0033	UJ	0.0042	U	**0.003**	**J+**	0.003	U	0.0046	U	0.0027	U	0.0021	U	0.0034	U	0.0023	U
1,2-Dibromo-3-chloropropane				0.0063	UJ	0.0046	U	0.0056	U	0.0047	U	0.0057	UJ	0.0049	UJ	0.0063	U	0.0036	U	0.0046	U	0.0069	U	0.004	U	0.0032	U	0.005	U	0.0035	U
1,2-Dibromoethane				0.0021	UJ	0.0015	U	0.0019	U	0.0016	U	0.0019	UJ	0.0016	UJ	0.0021	U	0.0012	U	0.0015	U	0.0023	U	0.0013	U	0.0011	U	0.0017	U	0.0012	U
1,2-Dichlorobenzene	1.1	500	1.1	0.0042	R	0.0031	U	0.0038	U	0.0031	U	0.0038	UJ	0.0033	UJ	0.0042	U	0.0024	U	0.003	U	0.0046	U	0.0027	U	0.0021	U	0.0034	U	0.0023	U
1,2-Dichloroethane	0.02	30	0.02	0.0021	UJ	0.0015	U	0.0019	U	0.0016	UJ	0.0019	UJ	0.0016	UJ	0.0021	U	0.0012	U	0.0015	U	0.0023	U	0.0013	U	0.0011	U	0.0017	U	0.0012	U
1,2-Dichloropropane				0.0021	U	0.0015	U	0.0019	U	0.0016	UJ	0.0019	UJ	0.0016	UJ	0.0021	U	0.0012	U	0.0015	U	0.0023	U	0.0013	U	0.0011	U	0.0017	U	0.0012	U
1,3,5-Trimethylbenzene	8.4	190	8.4	0.0042	UJ	0.0031	U	0.0038	U	0.0031	U	0.0038	UJ	0.0033	UJ	0.0042	U	**0.0004**	**J+**	0.003	U	0.0046	U	0.0027	U	0.0021	U	0.0034	U	0.0023	U
1,3-Dichlorobenzene	2.4	280	2.4	0.0042	R	0.0031	U	0.0038	U	0.0031	U	0.0038	UJ	0.0033	UJ	0.0042	U	0.0024	U	0.003	U	0.0046	U	0.0027	U	0.0021	U	0.0034	U	0.0023	U
1,4-Dichlorobenzene	1.8	130	1.8	0.0042	R	0.0031	U	0.0038	U	0.0031	U	0.0038	UJ	0.0033	UJ	0.0042	U	0.0024	U	0.003	U	0.0046	U	0.0027	U	0.0021	U	0.0034	U	0.0023	U
2-Butanone	0.12	500	0.12	0.021	U	**0.0099**	**J+**	0.019	U	**0.0072**	**J**	0.019	UJ	**0.004**	**J**	0.021	U	0.012	U	0.015	U	0.023	U	0.013	U	0.011	U	0.017	U	0.012	U
2-Hexanone				0.021	UJ	0.015	U	0.019	U	0.016	U	0.019	UJ	0.016	UJ	0.021	U	0.012	U	0.015	U	0.023	U	0.013	U	0.011	U	0.017	U	0.012	U
4-Methyl-2-pentanone				0.021	U	0.015	U	0.019	U	0.016	U	0.019	UJ	0.016	UJ	0.021	U	0.012	U	0.015	U	0.023	U	0.013	U	0.011	U	0.017	U	0.012	U
Acetone	0.05	500	0.05	0.021	U	**0.043**	**J+**	0.019	U	**0.026**	**J**	0.019	UJ	**0.019**	**J**	0.021	U	**0.012**	**J+**	0.015	U	**0.015**	**J+**	0.013	U	0.011	U	**0.04**		**0.016**	
Benzene	0.06	44	0.06	0.001	U	0.00077	U	0.00094	U	0.00078	UJ	0.00095	UJ	0.00082	UJ	0.001	U	0.0006	U	0.00076	U	0.0012	U	0.00066	U	0.00053	U	**0.0018**		0.00058	U
Bromodichloromethane				0.001	UJ	0.00077	U	0.00094	U	0.00078	UJ	0.00095	UJ	0.00082	UJ	0.001	U	0.0006	U	0.00076	U	0.0012	U	0.00066	U	0.00053	U	0.00084	U	0.00058	U
Bromoform				0.0084	UJ	0.0062	U	0.0075	U	0.0063	U	0.0076	UJ	0.0066	UJ	0.0084	U	0.0048	U	0.0061	U	0.0093	U	0.0053	U	0.0043	U	0.0067	U	0.0046	U
Bromomethane				0.0042	U	0.0031	U	0.0038	U	0.0031	UJ	0.0038	UJ	0.0033	UJ	0.0042	U	0.0024	U	0.003	U	0.0046	U	0.0027	U	0.0021	U	0.0034	U	0.0023	U
Carbon disulfide				0.021	U	0.015	U	0.019	U	0.016	UJ	0.019	UJ	0.016	UJ	0.021	U	0.012	U	0.015	UJ	0.023	U	0.013	U	0.011	U	0.017	UJ	0.012	UJ
Carbon tetrachloride	0.76	22	0.76	0.0021	U	0.0015	U	0.0019	U	0.0016	UJ	0.0019	UJ	0.0016	UJ	**0.00076**	**J+**	0.0012	U	0.0015	U	0.0023	U	0.0013	U	0.0011	U	0.0017	U	0.0012	U
Chlorobenzene	1.1	500	1.1	0.001	UJ	0.00077	U	0.00094	U	0.00078	U	0.00095	UJ	0.00082	UJ	0.001	U	0.0006	U	0.00076	U	0.0012	U	0.00066	U	0.00053	U	0.00084	U	0.00058	U
Chloroethane				0.0042	U	0.0031	U	0.0038	U	0.0031	UJ	0.0038	UJ	0.0033	UJ	0.0042	U	0.0024	U	0.003	U	0.0046	U	0.0027	U	0.0021	U	0.0034	U	0.0023	U
Chloroform	0.37	350	0.37	0.0031	UJ	0.0023	U	0.0028	U	0.0023	UJ	0.0028	UJ	0.0024	UJ	0.0031	U	0.0018	U	0.0023	U	0.0035	U	0.002	U	0.0016	U	0.0025	U	0.0017	U
Chloromethane				0.0084	U	0.0062	U	0.0075	U	0.0063	UJ	0.0076	UJ	0.0066	UJ	0.0084	U	0.0048	U	0.0061	U	0.0093	U	0.0053	U	0.0043	U	0.0067	U	0.0046	U
cis-1,2-Dichloroethene	0.25	500	0.25	0.0021	UJ	0.0015	U	0.0019	U	0.0016	UJ	0.0019	UJ	0.0016	UJ	0.0021	U	0.0012	U	0.0015	U	0.0023	U	0.0013	U	0.0011	U	0.0017	U	0.0012	U
cis-1,3-Dichloropropene				0.001	UJ	0.00077	U	0.00094	U	0.00078	UJ	0.00095	UJ	0.00082	UJ	0.001	U	0.0006	U	0.00076	U	0.0012	U	0.00066	U	0.00053	U	0.00084	U	0.00058	U
Cyclohexane				0.021	U	0.015	U	0.019	U	0.016	UJ	0.019	UJ	0.016	UJ	0.021	U	0.012	U	0.015	U	0.023	U	0.013	U	0.011	U	**0.013**	**J**	0.012	U
Dibromochloromethane				0.0021	UJ	0.0015	U	0.0019	U	0.0016	U	0.0019	UJ	0.0016	UJ	0.0021	U	0.0012	U	0.0015	U	0.0023	U	0.0013	U	0.0011	U	0.0017	U	0.0012	U
Dichlorodifluoromethane				0.021	U	0.015	U	0.019	U	0.016	UJ	0.019	UJ	0.016	UJ	0.021	U	0.012	U	0.015	U	0.023	U	0.013	U	0.011	U	0.017	U	0.012	U
Ethylbenzene	1	390	1	0.0021	UJ	0.0015	U	0.0019	U	**0.00056**	**J+**	0.0019	UJ	0.0016	UJ	0.0021	U	**0.00061**	**J+**	0.0015	U	0.0023	U	0.0013	U	0.0011	U	**0.00093**	**J**	0.0012	U
Freon-113				0.0084	U	0.0062	U	0.0075	U	0.0063	UJ	0.0076	UJ	0.0066	UJ	0.0084	U	0.0048	U	0.0061	UJ	0.0093	U	0.0053	U	0.0043	U	0.0067	UJ	0.0046	UJ
Isopropylbenzene				0.0021	UJ	0.0015	U	0.0019	U	**0.0002**	**J+**	0.0019	UJ	0.0016	UJ	0.0021	U	0.0012	U	0.0015	U	0.0023	U	0.0013	U	0.0011	U	**0.00028**	**J**	0.0012	U
Methyl Acetate				0.0084	UJ	0.0062	U	0.0075	U	0.0063	UJ	0.0076	UJ	0.0066	UJ	0.0084	U	0.0048	U	0.0061	U	0.0093	U	0.0053	U	0.0043	U	0.0067	U	0.0046	U
Methyl cyclohexane				0.0084	U	0.0062	U	**0.0011**	**J**	**0.0044**	**J**	0.0076	UJ	0.0066	UJ	0.0084	U	0.0048	U	0.0061	U	**0.002**	**J+**	0.0053	U	0.0043	U	0.0067	U	0.0046	U
Methyl tert butyl ether	0.93	500	0.93	0.0042	U	0.0031	U	0.0038	U	0.0031	UJ	0.0038	UJ	0.0033	UJ	0.0042	U	0.0024	U	0.003	U	0.0046	U	0.0027	U	0.0021	U	0.0034	U	0.0023	U
Methylene chloride	0.05	500	0.05	0.01	UJ	0.0077	U	0.0094	U	0.0078	UJ	0.0095	UJ	0.0082	UJ	0.01	U	0.006	U	0.0076	U	0.012	U	0.0066	U	0.0053	U	0.0084	U	0.0058	U
n-Butylbenzene	12	500	12	0.0021	R	0.0015	U	0.0019	U	0.0016	U	0.0019	UJ	0.0016	UJ	0.0021	U	**0.0051**	**J+**	0.0015	U	**0.0047**	**J+**	0.0013	U	0.0011	U	0.0017	U	0.0012	U
n-Propylbenzene	3.9	500	3.9	0.0021	R	0.0015	U	0.0019	U	0.0016	U	0.0019	UJ	0.0016	UJ	0.0021	U	**0.0027**	**J+**	0.0015	U	0.0023	U	0.0013	U	0.0011	U	**0.0005**	**J**	0.0012	U
Naphthalene	12	500	12	0.0084	R	**0.0075**	**J+**	0.0075	U	**0.031**	**J+**	0.0076	UJ	0.0066	UJ	0.0084	U	**0.0033**	**J+**	0.0061	U	**0.007**	**J+**	0.0053	U	0.0043	U	0.0067	U	0.0046	U
o-Xylene	0.26	500	1.6	0.0021	UJ	0.0015	U	0.0019	U	**0.0013**	**J+**	0.0019	UJ	0.0016	UJ	0.0021	U	0.0012	U	0.0015	U	0.0023	U	0.0013	U	0.0011	U	0.0017	U	0.0012	U
p-Isopropyltoluene				0.0021	R	0.0015	U	0.0019	U	0.0016	U	0.0019	UJ	0.0016	UJ	0.0021	U	0.0012	U	0.0015	U	0.0023	U	0.0013	U	0.0011	U	0.0017	U	0.0012	U
p/m-Xylene	0.26	500	1.6	0.0042	UJ	0.0031	U	0.0038	U	**0.00088**	**J+**	0.0038	UJ	0.0033	UJ	0.0042	U	0.0024	U	0.003	U	0.0046	U	0.0027	U	0.0021	U	0.0034	U	0.0023	U
sec-Butylbenzene	11	500	11	0.0021	R	**0.00045**	**J+**	0.0019	U	**0.01**	**J+**	0.0019	UJ	0.0016	UJ	0.0021	U	**0.0042**	**J+**	0.0015	U	**0.009**	**J+**	0.0013	U	0.0011	U	0.0017	U	0.0012	U
Styrene				0.0021	R	0.0015	U	0.0019	U	0.0016	U	0.0019	UJ	0.0016	UJ	0.0021	U	0.0012	U	0.0015	U	0.0023	U	0.0013	U	0.0011	U	0.0017	U	0.0012	U
tert-Butylbenzene	5.9	500	5.9	0.0042	UJ	**0.0019**	**J+**	0.0038	U	**0.029**	**J+**	0.0038	UJ	0.0033	UJ	0.0042	U	**0.022**	**J+**	0.003	U	**0.014**	**J+**	0.0027	U	0.0021	U	0.0034	U	0.0023	U
Tetrachloroethene	1.3	150	1.3	0.001	UJ	0.00077	U	0.00094	U	0.00078	U	0.00095	UJ	0.00082	UJ	0.001	U	0.0006	U	0.00076	U	0.0012	U	**0.0013**		**0.00057**		0.00084	U	0.00058	U
Toluene	0.7	500	0.7	0.0021	UJ	0.0015	U	0.0019	U	0.0016	U	0.0019	UJ	0.0016	UJ	0.0021	U	0.0012	U	0.0015	U	0.0023	U	0.0013	U	0.0011	U	**0.0015**	**J**	0.0012	U
trans-1,2-Dichloroethene	0.19	500	0.19	0.0031	UJ	0.0023	U	0.0028	UJ	0.0023	U	0.0028	UJ	0.0024	UJ	0.0031	UJ	0.0018	U	0.0023	U	0.0035	U	0.002	U	0.0016	U	0.0025	U	0.0017	U
trans-1,3-Dichloropropene				0.0021	R	0.0015	U	0.0019	U	0.0016	U	0.0019	UJ	0.0016	UJ	0.0021	U	0.0012	U	0.0015	U	0.0023	U	0.0013	U	0.0011	U	0.0017	U	0.0012	U
Trichloroethene	0.47	200	0.47	0.001	UJ	0.00077	U	0.00094	U	0.00078	UJ	0.00095	UJ	0.00082	UJ	0.001	U	0.0006	U	0.00076	U	0.0012	U	0.00066	U	0.00053	U	0.00084	U	0.00058	U
Trichlorofluoromethane				0.0084	U	0.0062	U	0.0075	U	0.0063	UJ	0.0076	UJ	0.0066	UJ	0.0084	U	0.0048	U	0.0061	UJ	0.0093	U	0.0053	U	0.0043	U	0.0067	UJ	0.0046	UJ
Vinyl chloride	0.02	13	0.02	0.0021	U	0.0015	U	0.0019	U	0.0016	UJ	0.0019	UJ	0.0016	UJ	0.0021	U	0.0012	U	0.0015	U	0.0023	U	0.0013	U	0.0011	U	0.0017	U	0.0012	U
Total TIC Compounds				**0.00658**	**J**	**3.61**	**J**	**0.0564**	**J**	**3.8**	**J**	**0.0488**	**J**	**0.0415**	**J**	**0.057**	**J**	**1.35**	**J**	0	U	**3.45**	**J**	0	U	0	U	**0.254**	**J**	0	U

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-112 FILL		SB-112 NATIVE		SB-112A FILL		SB-112A NATIVE		SB-112B FILL		SB-112B NATIVE		SB-112C FILL		SB-112C NATIVE		SB-113 FILL		SB-113 NATIVE		SB-114 FILL		SB-114 NATIVE		SB-115 FILL		SB-115 NATIVE	
SAMPLING DATE				11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/25/2024		11/25/2024		11/26/2024		11/26/2024	
LAB SAMPLE ID				L2469906-07		L2469906-08		L2469906-09		L2469906-10 R1		L2469906-11 R1		L2469906-12 R1		L2469906-13		L2469906-14		L2469906-15		L2469906-16		L2469590-23		L2469590-24		L2469906-17		L2469906-18	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				2-10		11-14		6-8		10-13		7-9		11-13		7-9		11-15		3-10		10-15		1-5		12-20		3-8		13-20	
Analyte	Unrestricted Use SCO	Commercial Use SCO	Protection of Groundwater	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics by EPA 5035 High																															
1,1,1-Trichloroethane	0.68	500	0.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	0.27	240	0.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	500	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6	190	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	1.1	500	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.02	30	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	8.4	190	8.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	2.4	280	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	1.8	130	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Butanone	0.12	500	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Hexanone				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetone	0.05	500	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	0.06	44	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromomethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon disulfide				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	0.76	22	0.76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	1.1	500	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	0.37	350	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	500	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	1	390	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Freon-113				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isopropylbenzene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl Acetate				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl cyclohexane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether	0.93	500	0.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	500	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Butylbenzene	12	500	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	3.9	500	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	12	500	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	0.26	500	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
p-Isopropyltoluene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
p/m-Xylene	0.26	500	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sec-Butylbenzene	11	500	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
tert-Butylbenzene	5.9	500	5.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	150	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	0.7	500	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	500	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	200	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02	13	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total TIC Compounds				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-112 FILL		SB-112 NATIVE		SB-112A FILL		SB-112A NATIVE		SB-112B FILL		SB-112B NATIVE		SB-112C FILL		SB-112C NATIVE		SB-113 FILL		SB-113 NATIVE		SB-114 FILL		SB-114 NATIVE		SB-115 FILL		SB-115 NATIVE	
SAMPLING DATE				11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/25/2024		11/25/2024		11/26/2024		11/26/2024	
LAB SAMPLE ID				L2469906-07		L2469906-08		L2469906-09		L2469906-10 R1		L2469906-11 R1		L2469906-12 R1		L2469906-13		L2469906-14		L2469906-15		L2469906-16		L2469590-23		L2469590-24		L2469906-17		L2469906-18	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				2-10		11-14		6-8		10-13		7-9		11-13		7-9		11-15		3-10		10-15		1-5		12-20		3-8		13-20	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Semivolatile Organics by GC/MS																															
1,2,4,5-Tetrachlorobenzene				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
1,4-Dioxane	0.1	130	0.1	0.14	U	0.031	U	0.027	U	0.033	U	0.028	U	0.033	U	0.034	U	0.026	U	0.029	U	0.036	U	0.031	U	0.03	U	0.029	U	0.032	U
2,3,4,6-Tetrachlorophenol				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
2,4,5-Trichlorophenol				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
2,4,6-Trichlorophenol				0.55	U	0.12	U	0.11	U	0.13	U	0.11	U	0.13	U	0.13	U	0.1	U	0.12	U	0.14	U	0.12	U	0.12	U	0.12	U	0.13	U
2,4-Dichlorophenol				0.83	U	0.18	U	0.16	U	0.2	U	0.17	U	0.2	U	0.2	U	0.16	U	0.17	U	0.22	U	0.19	U	0.18	U	0.17	U	0.19	U
2,4-Dimethylphenol				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
2,4-Dinitrophenol				4.4	R	0.99	U	0.87	U	1.1	U	0.89	U	1.1	U	1.1	U	0.84	U	0.92	U	1.2	U	1	U	0.97	U	0.92	U	1	R
2,4-Dinitrotoluene				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
2,6-Dinitrotoluene				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
2-Chloronaphthalene				0.92	U	0.21	U	**0.02**	**J**	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
2-Chlorophenol				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
2-Methylnaphthalene				**1.4**		**0.47**		**0.53**		**0.31**		**1.7**		**0.4**		**1.6**		**0.36**		**0.92**		**0.3**		**0.82**		0.24	U	**0.069**	**J**	0.25	U
2-Methylphenol	0.33	500	0.33	0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
2-Nitroaniline				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
2-Nitrophenol				2	U	0.44	U	0.39	U	0.48	U	0.4	U	0.48	U	0.48	U	0.38	U	0.42	U	0.52	U	0.45	U	0.44	U	0.41	U	0.46	U
3,3'-Dichlorobenzidine				0.92	R	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
3-Methylphenol/4-Methylphenol	0.33	500	0.33	**0.16**	**J**	0.3	U	0.26	U	0.32	U	0.27	U	**0.054**	**J**	0.32	U	0.25	U	**0.059**	**J**	0.34	U	**0.086**	**J**	0.29	U	0.28	U	0.3	U
3-Nitroaniline				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
4,6-Dinitro-o-cresol				2.4	R	0.54	U	0.47	U	0.58	U	0.48	U	0.58	U	0.58	U	0.46	U	0.5	U	0.62	U	0.54	U	0.52	U	0.5	U	0.55	U
4-Bromophenyl phenyl ether				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
4-Chloroaniline				0.92	R	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
4-Chlorophenyl phenyl ether				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
4-Nitroaniline				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
4-Nitrophenol				1.3	U	0.29	U	0.25	U	0.31	U	0.26	U	0.31	U	0.31	U	0.25	U	0.27	U	0.34	U	0.29	U	0.28	U	0.27	U	0.3	U
Acenaphthene	20	500	98	**0.61**	**J**	**0.34**		0.14	U	0.18	U	0.15	U	**0.089**	**J**	**0.23**		**0.52**		**0.14**	**J**	**0.57**		**0.11**	**J**	0.16	U	**0.074**	**J**	**0.033**	**J**
Acenaphthylene	100	500	107	**11**		**0.52**		0.14	U	0.18	U	**0.029**	**J**	0.18	U	0.18	U	0.14	U	**0.51**		0.19	U	**1.8**		0.16	U	**0.27**		**0.18**	
Acetophenone				**0.66**	**J**	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	**0.16**	**J**	0.2	U	0.19	U	0.21	U
Anthracene	100	500	1000	**5**		**0.37**		0.11	U	0.13	U	**0.037**	**J**	**0.067**	**J**	**0.56**		**0.6**		**0.47**		**0.6**		**1.3**		0.12	U	0.067	J	0.13	U
Atrazine				0.74	U	0.16	U	0.14	U	0.18	U	0.15	U	0.18	U	0.18	U	0.14	U	0.15	U	0.19	U	0.17	U	0.16	U	0.15	U	0.17	U
Benzaldehyde				**0.8**	**J**	0.27	U	0.24	U	0.29	U	0.24	U	0.29	U	0.3	U	0.23	U	0.25	U	0.32	U	0.28	U	0.26	U	0.25	U	0.28	U
Benzo(a)anthracene	1	5.6	1	**9.4**		**0.14**		**0.12**		**0.33**		**0.26**		**0.12**	**J**	**0.11**	**J**	**0.095**	**J**	**1.6**		**0.21**		**3.6**		0.12	U	**0.19**		0.13	U
Benzo(a)pyrene	1	1	22	**9.9**		**0.47**		**0.21**		**0.56**		**0.28**		**0.062**	**J**	**0.077**	**J**	**0.12**	**J**	**1.5**		**0.17**	**J**	**4.4**		0.16	U	**0.43**		0.17	U
Benzo(b)fluoranthene	1	5.6	1.7	**13**		**0.24**		**0.21**		**0.76**		**0.42**		**0.17**		**0.14**		**0.15**		**2.2**		**0.24**		**5.6**		0.12	U	**0.45**		0.13	U
Benzo(ghi)perylene	100	500	1000	**7.4**		**2.5**		**0.35**		**0.9**		**0.37**		**0.14**	**J**	**0.08**	**J**	**0.14**		**1.2**		**0.21**		**3.4**		0.16	U	**1.6**		**0.41**	
Benzo(k)fluoranthene	0.8	56	1.7	**3.4**		**0.12**		**0.06**	**J**	**0.2**		**0.12**		0.13	U	0.13	U	**0.042**	**J**	**0.58**		**0.054**	**J**	**2**		0.12	U	**0.13**		0.13	U
Biphenyl				**0.17**	**J**	**0.13**	**J**	**0.06**	**J**	**0.04**	**J**	**0.17**	**J**	**0.14**	**J**	**0.22**	**J**	**0.11**	**J**	**0.12**	**J**	0.55	U	**0.082**	**J**	0.46	U	0.44	U	0.48	U
Bis(2-chloroethoxy)methane				1	U	0.22	U	0.2	U	0.24	U	0.2	U	0.24	U	0.24	U	0.19	U	0.21	U	0.26	U	0.23	U	0.22	U	0.21	U	0.23	U
Bis(2-chloroethyl)ether				0.83	U	0.18	U	0.16	U	0.2	U	0.17	U	0.2	U	0.2	U	0.16	U	0.17	U	0.22	U	0.19	U	0.18	U	0.17	U	0.19	U
Bis(2-chloroisopropyl)ether				1.1	U	0.25	U	0.22	U	0.27	U	0.22	U	0.27	U	0.27	U	0.21	U	0.23	U	0.29	U	0.25	U	0.24	U	0.23	U	0.25	U
Bis(2-ethylhexyl)phthalate				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
Butyl benzyl phthalate				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
Caprolactam				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
Carbazole				**0.36**	**J**	0.21	U	0.18	U	0.22	U	**0.03**	**J**	0.22	U	0.22	U	0.18	U	**0.2**		0.24	U	**0.24**		0.2	U	**0.025**	**J**	0.21	U
Chrysene	1	56	1	**9.7**		**0.11**	**J**	**0.14**		**0.39**		**0.31**		**0.39**		**0.18**		**0.1**		**1.9**		**0.24**		**3.5**		0.12	U	**0.2**		0.13	U
Di-n-butylphthalate				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
Di-n-octylphthalate				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
Dibenzo(a,h)anthracene	0.33	0.56	1000	**1.7**		**0.65**		**0.03**	**J**	**0.12**	**J**	**0.049**	**J**	**0.047**	**J**	0.13	U	0.1	U	**0.31**		**0.038**	**J**	**0.76**		0.12	U	**0.16**		0.13	U
Dibenzofuran	7	350	210	**0.49**	**J**	0.21	U	**0.13**	**J**	**0.093**	**J**	**0.36**		**0.07**	**J**	**0.28**		**0.16**	**J**	**0.24**		**0.15**	**J**	**0.27**		0.2	U	**0.033**	**J**	0.21	U
Diethyl phthalate				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
Dimethyl phthalate				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
Fluoranthene	100	500	1000	**9.5**		**0.24**		**0.14**		**0.28**		**0.33**		**0.11**	**J**	**0.3**		**0.29**		**2.5**		**0.71**		**4.7**		0.12	U	**0.26**		0.13	U
Fluorene	30	500	386	**1.6**		0.21	U	**0.029**	**J**	**0.03**	**J**	**0.049**	**J**	**0.19**	**J**	**0.49**		**0.2**		**0.14**	**J**	**0.4**		**0.24**		0.2	U	0.19	U	0.21	U
Hexachlorobenzene	0.33	6	3.2	0.55	U	0.12	U	0.11	U	0.13	U	0.11	U	0.13	U	0.13	U	0.1	U	0.12	U	0.14	U	0.12	U	0.12	U	0.12	U	0.13	U
Hexachlorobutadiene				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
Hexachlorocyclopentadiene				2.6	R	0.59	UJ	0.52	U	0.63	U	0.53	U	0.64	U	0.64	U	0.5	U	0.55	U	0.69	U	0.6	U	0.58	U	0.55	U	0.6	R
Hexachloroethane				0.74	U	0.16	U	0.14	U	0.18	U	0.15	U	0.18	U	0.18	U	0.14	U	0.15	U	0.19	U	0.17	U	0.16	U	0.15	U	0.17	U
Indeno(1,2,3-cd)pyrene	0.5	5.6	8.2	**6.3**		**1.6**		**0.23**		**0.7**		**0.29**		**0.038**	**J**	**0.064**	**J**	**0.11**	**J**	**1**		**0.14**	**J**	**3.3**		0.16	U	**0.8**		**0.15**	**J**
Isophorone				0.83	U	0.18	U	0.16	U	0.2	U	0.17	U	0.2	U	0.2	U	0.16	U	0.17	U	0.22	U	0.19	U	0.18	U	0.17	U	0.19	U
n-Nitrosodi-n-propylamine				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
Naphthalene	12	500	12	**2.9**		**0.45**		**0.29**		**0.18**	**J**	**0.88**		**0.23**		**1.1**		**0.38**		**0.73**		**0.14**	**J**	**1.1**		0.2	U	**0.062**	**J**	0.21	U
NDPA/DPA				0.74	U	0.16	U	0.14	U	0.18	U	0.15	U	0.18	U	0.18	U	0.14	U	0.15	U	0.19	U	0.17	U	0.16	U	0.15	U	0.17	U
Nitrobenzene				0.83	U	0.18	U	0.16	U	0.2	U	0.17	U	0.2	U	0.2	U	0.16	U	0.17	U	0.22	U	0.19	U	0.18	U	0.17	U	0.19	U
p-Chloro-m-cresol				0.92	U	0.21	U	0.18	U	0.22	U	0.18	U	0.22	U	0.22	U	0.18	U	0.19	U	0.24	U	0.21	U	0.2	U	0.19	U	0.21	U
Pentachlorophenol	0.8	6.7	0.8	0.74	U	0.16	U	0.14	U	0.18	U	0.15	U	0.18	U	0.18	U	0.14	U	0.15	U	0.19	U	0.17	U	0.16	U	**0.063**	**J**	0.17	U
Phenanthrene	100	500	1000	**4**		**0.26**		**0.34**		**0.35**		**0.73**		**0.6**		**0.5**		**0.22**		**1.8**		**0.99**		**1.7**		0.12	U	**0.22**		0.13	U
Phenol	0.33	500	0.33	**0.15**	**J**	0.21	U	0.18	U	0.22	U	0.18	U	0.046	J	0.22	U	0.18	U	**0.035**	**J**	0.24	U	**0.056**	**J**	0.2	U	0.19	U	0.21	U
Pyrene	100	500	1000	**14**		**0.3**		**0.17**		**0.31**		**0.35**		**0.16**		**0.65**		**0.58**		**2.4**		**0.78**		**4.8**		0.12	U	**0.3**		**0.022**	**J**
Total TIC Compounds				**49.4**	**J**	**19.1**	**J**	**6.58**	**J**	**7.59**	**J**	**11.6**	**J**	**7.61**	**J**	**25.3**	**J**	**19.7**	**J**	**12.6**	**J**	**31.8**	**J**	**17.2**	**J**	0	U	**0.326**	**J**	0	U
Petroleum Hydrocarbon Quantitation																															
TPH (C10-C36)				**2740**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	**337**		-	-	**890**		-	-	**26.8**	**J**	-	-

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-112 FILL		SB-112 NATIVE		SB-112A FILL		SB-112A NATIVE		SB-112B FILL		SB-112B NATIVE		SB-112C FILL		SB-112C NATIVE		SB-113 FILL		SB-113 NATIVE		SB-114 FILL		SB-114 NATIVE		SB-115 FILL		SB-115 NATIVE	
SAMPLING DATE				11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/25/2024		11/25/2024		11/26/2024		11/26/2024	
LAB SAMPLE ID				L2469906-07		L2469906-08		L2469906-09		L2469906-10 R1		L2469906-11 R1		L2469906-12 R1		L2469906-13		L2469906-14		L2469906-15		L2469906-16		L2469590-23		L2469590-24		L2469906-17		L2469906-18	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				2-10		11-14		6-8		10-13		7-9		11-13		7-9		11-15		3-10		10-15		1-5		12-20		3-8		13-20	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Polychlorinated Biphenyls by GC																															
Aroclor 1016	0.1	1	3.2	0.0563	U	0.0611	U	-	-	-	-	-	-	-	-	-	-	-	-	0.0552	U	0.0699	U	0.0602	U	0.0598	U	0.0549	U	0.0591	U
Aroclor 1221	0.1	1	3.2	0.0563	U	0.0611	U	-	-	-	-	-	-	-	-	-	-	-	-	0.0552	U	0.0699	U	0.0602	U	0.0598	U	0.0549	U	0.0591	U
Aroclor 1232	0.1	1	3.2	0.0563	U	0.0611	U	-	-	-	-	-	-	-	-	-	-	-	-	0.0552	U	0.0699	U	0.0602	U	0.0598	U	0.0549	U	0.0591	U
Aroclor 1242	0.1	1	3.2	0.0563	U	0.0611	U	-	-	-	-	-	-	-	-	-	-	-	-	0.0552	U	0.0699	U	0.0602	U	0.0598	U	0.0549	U	0.0591	U
Aroclor 1248	0.1	1	3.2	0.0563	U	0.0611	U	-	-	-	-	-	-	-	-	-	-	-	-	0.0552	U	0.0699	U	0.0602	U	0.0598	U	0.0549	U	0.0591	U
Aroclor 1254	0.1	1	3.2	0.0563	U	**0.0087**	**J**	-	-	-	-	-	-	-	-	-	-	-	-	0.0552	U	0.0699	U	0.0602	U	0.0598	U	**0.00962**	**J**	0.0591	U
Aroclor 1260	0.1	1	3.2	0.145	UJ	0.0611	U	-	-	-	-	-	-	-	-	-	-	-	-	0.0552	U	0.0699	U	**0.0859**		0.0598	U	0.0549	U	0.0591	U
Aroclor 1262	0.1	1	3.2	0.0563	U	0.0611	U	-	-	-	-	-	-	-	-	-	-	-	-	**0.112**		0.0699	U	0.0602	U	0.0598	U	0.0549	U	0.0591	U
Aroclor 1268	0.1	1	3.2	0.0563	U	**0.023**	**J**	-	-	-	-	-	-	-	-	-	-	-	-	0.0552	U	**0.02**	**J**	0.0602	U	0.0598	U	**0.035**	**J**	0.0591	U
PCBs, Total	0.1	1	3.2	0.145	UJ	**0.0317**	**J**	-	-	-	-	-	-	-	-	-	-	-	-	**0.112**		**0.02**	**J**	**0.0859**		0.0598	U	**0.0446**	**J**	0.0591	U
Chlorinated Herbicides by GC																															
2,4,5-T				0.19	U	0.206	U	-	-	-	-	-	-	-	-	-	-	-	-	0.19	U	0.24	U	0.209	U	0.201	U	0.193	U	0.208	U
2,4,5-TP (Silvex)	3.8	500	3.8	0.19	U	0.206	U	-	-	-	-	-	-	-	-	-	-	-	-	0.19	U	0.24	U	0.209	U	0.201	U	0.193	U	0.208	U
2,4-D				0.19	U	0.206	U	-	-	-	-	-	-	-	-	-	-	-	-	0.19	U	0.24	U	0.209	U	0.201	U	0.193	U	0.208	U
Organochlorine Pesticides by GC																															
4,4'-DDD	0.0033	92	14	0.00172	UJ	0.00199	U	-	-	-	-	-	-	-	-	-	-	-	-	0.0018	U	0.00229	U	0.00194	U	0.0019	U	0.00186	U	0.002	U
4,4'-DDE	0.0033	62	17	0.00172	UJ	0.00199	U	-	-	-	-	-	-	-	-	-	-	-	-	0.0018	U	0.00229	U	0.00194	U	0.0019	U	0.00186	U	0.002	U
4,4'-DDT	0.0033	47	136	0.00172	UJ	0.00199	U	-	-	-	-	-	-	-	-	-	-	-	-	**0.00422**		0.00229	U	0.00194	U	0.0019	U	0.00186	U	0.002	U
Aldrin	0.005	0.68	0.19	0.00172	UJ	0.00199	U	-	-	-	-	-	-	-	-	-	-	-	-	0.0018	U	0.00229	U	0.00194	U	0.0019	U	0.00186	U	0.002	U
Alpha-BHC	0.02	3.4	0.02	0.00072	UJ	0.00083	U	-	-	-	-	-	-	-	-	-	-	-	-	0.00075	U	0.00096	U	0.00081	U	0.00079	U	0.00077	U	0.00084	U
Beta-BHC	0.036	3	0.09	0.00172	UJ	0.00199	U	-	-	-	-	-	-	-	-	-	-	-	-	0.0018	U	0.00229	U	0.00194	U	0.0019	U	0.00186	U	0.002	U
Chlordane				0.0144	UJ	0.0166	U	-	-	-	-	-	-	-	-	-	-	-	-	0.015	U	0.0191	U	0.0162	U	0.0158	U	0.0155	U	0.0167	U
cis-Chlordane	0.094	24	2.9	0.00216	UJ	0.00249	U	-	-	-	-	-	-	-	-	-	-	-	-	0.00225	U	0.00287	U	0.00243	U	0.00237	U	0.00232	U	0.00251	U
Delta-BHC	0.04	500	0.25	0.00172	UJ	0.00199	U	-	-	-	-	-	-	-	-	-	-	-	-	0.0018	U	0.00229	U	0.00194	U	0.0019	U	0.00186	U	0.002	U
Dieldrin	0.005	1.4	0.1	0.00108	UJ	0.00125	U	-	-	-	-	-	-	-	-	-	-	-	-	0.00113	U	0.00143	U	0.00121	U	0.00119	U	0.00116	U	0.00125	U
Endosulfan I	2.4	200	102	0.00172	UJ	0.00199	U	-	-	-	-	-	-	-	-	-	-	-	-	0.0018	U	0.00229	U	0.00194	U	0.0019	U	0.00186	U	0.002	U
Endosulfan II	2.4	200	102	0.00172	UJ	0.00199	U	-	-	-	-	-	-	-	-	-	-	-	-	0.0018	U	0.00229	U	0.00194	U	0.0019	U	0.00186	U	0.002	U
Endosulfan sulfate	2.4	200	1000	0.00072	UJ	0.00083	U	-	-	-	-	-	-	-	-	-	-	-	-	0.00075	U	0.00096	U	0.00081	U	0.00079	U	0.00077	U	0.00084	U
Endrin	0.014	89	0.06	0.00072	UJ	0.00083	U	-	-	-	-	-	-	-	-	-	-	-	-	0.00075	U	0.00096	U	0.00081	U	0.00079	U	0.00077	U	0.00084	U
Endrin aldehyde				0.00216	UJ	0.00249	U	-	-	-	-	-	-	-	-	-	-	-	-	0.00225	U	0.00287	U	0.00243	U	0.00237	U	0.00232	U	0.00251	U
Endrin ketone				0.00172	UJ	0.00199	U	-	-	-	-	-	-	-	-	-	-	-	-	0.0018	U	0.00229	U	0.00194	U	0.0019	U	0.00186	U	0.002	U
Heptachlor	0.042	15	0.38	0.00086	UJ	0.001	U	-	-	-	-	-	-	-	-	-	-	-	-	0.0009	U	0.00115	U	0.00097	U	0.00095	U	0.00093	U	0.001	U
Heptachlor epoxide				0.00323	UJ	0.00374	U	-	-	-	-	-	-	-	-	-	-	-	-	0.00338	U	0.0043	U	0.00364	U	0.00356	U	0.00348	U	0.00376	U
Lindane	0.1	9.2	0.1	0.00072	UJ	0.00083	U	-	-	-	-	-	-	-	-	-	-	-	-	0.00075	U	0.00096	U	0.00081	U	0.00079	U	0.00077	U	0.00084	U
Methoxychlor				0.00323	UJ	0.00374	U	-	-	-	-	-	-	-	-	-	-	-	-	0.00338	U	0.0043	U	0.00364	U	0.00356	U	0.00348	U	0.00376	U
Toxaphene				0.0323	UJ	0.0374	U	-	-	-	-	-	-	-	-	-	-	-	-	0.0338	U	0.043	U	0.0364	U	0.0356	U	0.0348	U	0.0376	U
trans-Chlordane				0.00216	UJ	0.00249	U	-	-	-	-	-	-	-	-	-	-	-	-	0.00225	U	0.00287	U	0.00243	U	0.00237	U	0.00232	U	0.00251	U
Total Metals																															
Aluminum, Total				**4310**		**3220**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2700**		**3700**		**7330**		**8080**		**4420**		**11000**	
Antimony, Total				**0.449**	**J**	9.78	U	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.922**	**J**	**5.37**	**J**	4.77	U	7.9	U	**0.466**	**J**	5.03	U
Arsenic, Total	13	16	16	**16.9**		**7.14**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**30.2**		**21.6**		**3.27**		**2.94**		**19.6**		**5.13**	
Barium, Total	350	400	820	**76.6**		**42**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**90.4**		**74**		**64.1**		**88.3**		**146**		**87.4**	
Beryllium, Total	7.2	590	47	**0.442**	**J**	**0.413**	**J**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.314**	**J**	**1.03**	**J**	**0.352**	**J**	**0.579**	**J**	**0.715**		**0.531**	
Cadmium, Total	2.5	9.3	7.5	**5.17**		1.96	U	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	0.905	U	2.88	U	0.953	U	1.58	U	**0.239**	**J**	1.01	U
Calcium, Total				**2340**		**157000**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**19300**		**7870**		**66000**		**34500**		**15200**		**63800**	
Chromium, Hexavalent	400	19	1	0.916	U	1.01	U	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	0.93	U	1.17	U	1.01	U	0.982	U	0.944	U	1.03	UJ
Chromium, Total				**6.49**		**19.9**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**25.1**		**197**		**11.4**		**15.3**		**31**		**18**	
Cobalt, Total				**11**		**4.15**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**6.34**		**8.21**		**5.48**		**6.32**		**8.47**		**9.34**	
Copper, Total	50	270	1720	**21.1**		**46.2**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**52.3**		**81.8**		**16.3**		**22.7**		**89.7**		**20.8**	
Cyanide, Total	27	40	27	**1.3**		1.2	U	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.36**	**J**	1.4	U	**0.28**	**J**	1.2	U	**0.4**	**J**	1.2	U
Iron, Total				**14900**		**23800**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**34400**		**124000**		**12600**		**12800**		**40100**		**21900**	
Lead, Total	63	1000	450	**6.92**		**91.1**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**91.1**		**482**		**9.27**		**8.86**		**105**		**8.54**	
Magnesium, Total				**1450**	**J**	**14000**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2500**		**1450**		**18400**		**8750**		**2660**		**17700**	
Manganese, Total	1600	10000	2000	**370**		**262**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**224**		**1030**		**265**		**103**		**307**		**373**	
Mercury, Total	0.18	2.8	0.73	**0.089**	**U**	**0.648**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.089**		0.097	U	0.082	U	0.162	U	**0.096**		0.1	U
Nickel, Total	30	310	130	**20.7**		**10.2**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**14.6**		**20**		**15.3**		**30.1**		**19.8**		**21.6**	
Potassium, Total				**519**		**376**	**J**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**626**		**337**	**J**	**864**		**905**		**379**		**1510**	
Selenium, Total	3.9	1500	4	**0.285**	**J**	**9.31**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1.4**	**J**	**1.96**	**J**	1.91	U	**1.03**	**J**	**0.788**	**J**	2.01	U
Silver, Total	2	1500	8.3	0.448	U	0.978	U	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.293**	**J**	**0.833**	**J**	0.477	U	0.79	U	**0.291**	**J**	0.503	U
Sodium, Total				**87.7**	**J**	**123**	**J**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**114**	**J**	**317**	**J**	**186**	**J**	**293**	**J**	**87.4**	**J**	**279**	
Thallium, Total				**1.2**	**J**	3.91	U	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0.636**	**J**	**0.973**	**J**	1.91	U	3.16	U	**0.519**	**J**	**0.631**	**J**
Vanadium, Total				**12.1**		**29.7**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**22**		**221**		**12.9**		**12.7**		**19.6**		**25.5**	
Zinc, Total	109	10000	2480	**291**		**63.7**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**86.2**		**54.2**		**28.4**		**41.2**		**89.6**		**45.7**	

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-112 FILL		SB-112 NATIVE		SB-112A FILL		SB-112A NATIVE		SB-112B FILL		SB-112B NATIVE		SB-112C FILL		SB-112C NATIVE		SB-113 FILL		SB-113 NATIVE		SB-114 FILL		SB-114 NATIVE		SB-115 FILL		SB-115 NATIVE	
SAMPLING DATE				11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/25/2024		11/25/2024		11/26/2024		11/26/2024	
LAB SAMPLE ID				L2469906-07		L2469906-08		L2469906-09		L2469906-10 R1		L2469906-11 R1		L2469906-12 R1		L2469906-13		L2469906-14		L2469906-15		L2469906-16		L2469590-23		L2469590-24		L2469906-17		L2469906-18	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				2-10		11-14		6-8		10-13		7-9		11-13		7-9		11-15		3-10		10-15		1-5		12-20		3-8		13-20	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Perfluorinated Alkyl Acids by EPA 1633																															
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)				0.797	U	0.802	U	-	-	-	-	-	-	-	-	-	-	-	-	0.802	U	0.802	U	0.798	U	0.798	U	0.796	U	0.801	U
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)				0.797	U	0.802	U	-	-	-	-	-	-	-	-	-	-	-	-	0.802	U	0.802	U	0.798	U	0.798	U	0.796	U	0.801	U
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)				0.797	U	0.802	U	-	-	-	-	-	-	-	-	-	-	-	-	0.802	U	0.802	U	0.798	U	0.798	U	0.796	U	0.801	U
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)				0.797	U	0.802	U	-	-	-	-	-	-	-	-	-	-	-	-	0.802	U	0.802	U	0.798	U	0.798	U	0.796	U	0.801	U
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)				4.98	U	5.01	U	-	-	-	-	-	-	-	-	-	-	-	-	5.01	U	5.01	U	4.98	U	4.99	U	4.98	U	5	U
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)				4.98	U	**1.17**	EMPC	-	-	-	-	-	-	-	-	-	-	-	-	5.01	U	5.01	U	4.98	U	4.99	U	4.98	U	5	U
3-Perfluoropropyl Propanoic Acid (3:3FTCA)				0.996	U	1	U	-	-	-	-	-	-	-	-	-	-	-	-	1	U	1	U	0.997	U	0.998	U	0.995	U	1	U
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)				0.797	U	0.802	U	-	-	-	-	-	-	-	-	-	-	-	-	0.802	U	0.802	U	0.798	U	0.798	U	0.796	U	0.801	U
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)				0.797	U	0.802	U	-	-	-	-	-	-	-	-	-	-	-	-	0.802	U	0.802	U	0.798	U	0.798	U	0.796	U	0.801	U
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)				0.797	U	0.802	U	-	-	-	-	-	-	-	-	-	-	-	-	0.802	U	0.802	U	0.798	U	0.798	U	0.796	U	0.801	U
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	0.199	U	0.2	U	0.199	U	0.2	U
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)				1.99	U	2	U	-	-	-	-	-	-	-	-	-	-	-	-	2	U	2	U	1.99	U	2	U	1.99	U	2	U
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	0.199	U	0.2	U	0.199	U	0.2	U
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	0.199	U	0.2	U	0.199	U	0.2	U
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)				1.99	U	2	U	-	-	-	-	-	-	-	-	-	-	-	-	2	U	2	U	1.99	U	2	U	1.99	U	2	U
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	0.199	U	0.2	U	0.199	U	0.2	U
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)				0.398	U	0.401	U	-	-	-	-	-	-	-	-	-	-	-	-	0.401	U	0.401	U	0.399	U	0.399	U	0.398	U	0.4	U
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)				0.398	U	0.401	U	-	-	-	-	-	-	-	-	-	-	-	-	0.401	U	0.401	U	0.399	U	0.399	U	0.398	U	0.4	U
Perfluoro-3-Methoxypropanoic Acid (PFMPA)				0.398	U	0.401	U	-	-	-	-	-	-	-	-	-	-	-	-	0.401	U	0.401	U	0.399	U	0.399	U	0.398	U	0.4	U
Perfluoro-4-Methoxybutanoic Acid (PFMBA)				0.398	U	0.401	U	-	-	-	-	-	-	-	-	-	-	-	-	0.401	U	0.401	U	0.399	U	0.399	U	0.398	U	0.4	U
Perfluorobutanesulfonic Acid (PFBS)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	0.199	U	0.2	U	0.199	U	0.2	U
Perfluorobutanoic Acid (PFBA)				**0.053**	**J**	0.802	U	-	-	-	-	-	-	-	-	-	-	-	-	**0.033**	**J**	0.802	U	**0.058**	**J**	0.798	U	**0.057**	**J**	0.801	U
Perfluorodecanesulfonic Acid (PFDS)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	0.199	U	0.2	U	0.199	U	0.2	U
Perfluorodecanoic Acid (PFDA)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	**0.058**	**J**	0.2	U	0.199	U	0.2	U
Perfluorododecanesulfonic Acid (PFDoS)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	0.199	U	0.2	U	0.199	U	0.2	U
Perfluorododecanoic Acid (PFDoA)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	0.199	U	0.2	U	0.199	U	0.2	U
Perfluoroheptanesulfonic Acid (PFHpS)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	0.199	U	0.2	U	0.199	U	0.2	U
Perfluoroheptanoic Acid (PFHpA)				**0.037**	**J**	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	**0.135**	**J**	0.2	U	0.199	U	0.2	U
Perfluorohexanesulfonic Acid (PFHxS)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	0.199	U	0.2	U	0.199	U	0.2	U
Perfluorohexanoic Acid (PFHxA)				**0.048**	**J**	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	**0.017**	**J**	0.2	U	**0.113**	**J**	0.2	U	0.199	U	0.2	U
Perfluorononanesulfonic Acid (PFNS)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	0.199	U	0.2	U	0.199	U	0.2	U
Perfluorononanoic Acid (PFNA)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	**0.065**	**J**	0.2	U	0.199	U	0.2	U
Perfluorooctanesulfonamide (PFOSA)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	0.199	U	0.2	U	0.199	U	0.2	U
Perfluorooctanesulfonic Acid (PFOS)	0.88	440	1	**0.157**	**J**	**0.051**	**J**	-	-	-	-	-	-	-	-	-	-	-	-	**0.073**	**J**	0.2	U	**0.251**		**0.032**	**J**	0.199	U	0.2	U
Perfluorooctanoic Acid (PFOA)	0.66	500	0.8	**0.095**	**J**	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	**0.176**	**J**	0.2	U	**0.175**	**J**	0.2	U	0.199	U	0.2	U
Perfluoropentanesulfonic Acid (PFPeS)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	0.199	U	0.2	U	0.199	U	0.2	U
Perfluoropentanoic Acid (PFPeA)				0.398	U	0.401	U	-	-	-	-	-	-	-	-	-	-	-	-	0.401	U	0.401	U	**0.21**	**J**	0.399	U	0.398	U	0.4	U
Perfluorotetradecanoic Acid (PFTeDA)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	0.199	U	0.2	U	0.199	U	0.2	U
Perfluorotridecanoic Acid (PFTrDA)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	0.199	U	0.2	U	0.199	U	0.2	U
Perfluoroundecanoic Acid (PFUnA)				0.199	U	0.2	U	-	-	-	-	-	-	-	-	-	-	-	-	0.2	U	0.2	U	**0.021**	**J**	0.2	U	0.199	U	0.2	U

Notes:
- All values are reported in milligrams per kilogram (mg/kg) / parts per million (ppm) except PFAAs which are reported in micrograms per kilogram (µg/kg) / parts per billion (ppb).
- Analytical results compared to New York 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs).
- **Bolded text** indicates analyte detected at concentrations greater than laboratory detection limits.
- Highlighted cell Indicates analyte exceeds the respective standard/guideline value.
- **Red text** indicates analyte exceeds Protection of Groundwater SCO.
- **Blue qualifiers** were applied based on a third party data usability review.
- Grey highlighted cell indicates the laboratory detection limit exceeds the respective standard/guideline value.
- "U" indicates the analyte was not detected at the reported detection limit for the sample.
- "UJ" indicates the analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
- "J" indicates estimated value.
- "J+" indicates the analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
- "I" indicates the lower value for the two columns has been reported due to obvious interference.
- "P" indicates the RPD between the results for the two columns exceeds the method-specified criteria.
- "EMPC" indicates the results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.
- "R" indicates the data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-116 FILL		SB-116 NATIVE		SB-117 FILL		SB-117 NATIVE		SB-118 FILL		SB-118 NATIVE		DUP-02 (SB-110 NATIVE)		DUP-03 (SB-111 FILL)	
SAMPLING DATE				11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/25/2024		11/26/2024	
LAB SAMPLE ID				L2469906-19		L2469906-20		L2469906-21		L2469906-22		L2469906-23		L2469906-24		L2469590-25		L2469906-25	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				4-7		7-10		3-7		12-15		1-5		10-14		15-20		2-8	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Volatile Organics by EPA 5035																			
1,1,1-Trichloroethane	0.68	500	0.68	0.00052	U	0.0029	U	0.00074	U	0.001	U	0.0015	U	0.00096	U	0.0013	U	0.00075	U
1,1,2,2-Tetrachloroethane				0.00052	U	0.0029	U	0.00074	U	0.001	U	0.0015	U	0.00096	U	0.0013	U	0.00075	U
1,1,2-Trichloroethane				0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
1,1-Dichloroethane	0.27	240	0.27	0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
1,1-Dichloroethene	0.33	500	0.33	0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	UJ
1,2,4-Trichlorobenzene				0.0021	U	0.012	U	0.003	U	0.004	U	0.0059	U	0.0038	U	0.005	U	0.003	U
1,2,4-Trimethylbenzene	3.6	190	3.6	0.0021	U	0.012	U	0.003	U	0.004	U	0.0059	U	0.0038	U	0.005	U	0.003	U
1,2-Dibromo-3-chloropropane				0.0031	U	0.018	U	0.0045	U	0.006	U	0.0089	U	0.0057	U	0.0076	U	0.0045	U
1,2-Dibromoethane				0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
1,2-Dichlorobenzene	1.1	500	1.1	0.0021	U	0.012	U	0.003	U	0.004	U	0.0059	U	0.0038	U	0.005	U	0.003	U
1,2-Dichloroethane	0.02	30	0.02	0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
1,2-Dichloropropane				0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
1,3,5-Trimethylbenzene	8.4	190	8.4	0.0021	U	0.012	U	0.003	U	0.004	U	0.0059	U	0.0038	U	0.005	U	0.003	U
1,3-Dichlorobenzene	2.4	280	2.4	0.0021	U	0.012	U	0.003	U	0.004	U	0.0059	U	0.0038	U	0.005	U	0.003	U
1,4-Dichlorobenzene	1.8	130	1.8	0.0021	U	0.012	U	0.003	U	0.004	U	0.0059	U	0.0038	U	0.005	U	0.003	U
2-Butanone	0.12	500	0.12	0.01	U	0.059	U	0.015	U	**0.066**		**0.19**		0.019	U	0.025	U	0.015	U
2-Hexanone				0.01	U	0.059	U	0.015	U	0.02	U	0.03	U	0.019	U	0.025	U	0.015	U
4-Methyl-2-pentanone				0.01	U	0.059	U	0.015	U	0.02	U	0.03	U	0.019	U	0.025	U	0.015	U
Acetone	0.05	500	0.05	**0.0091**	**J**	**0.11**		0.015	U	**0.31**		**0.77**		0.019	U	**0.019**	**J**	0.015	U
Benzene	0.06	44	0.06	0.00052	U	0.0029	U	0.00074	U	0.001	U	0.0015	U	0.00096	U	0.0013	U	0.00075	U
Bromodichloromethane				0.00052	U	0.0029	U	0.00074	U	0.001	U	0.0015	U	0.00096	U	0.0013	U	0.00075	U
Bromoform				0.0041	U	0.024	U	0.0059	U	0.008	U	0.012	U	0.0076	U	0.01	U	0.006	U
Bromomethane				0.0021	U	0.012	U	0.003	U	0.004	U	0.0059	U	0.0038	U	0.005	U	0.003	U
Carbon disulfide				0.01	U	0.059	U	0.015	U	0.02	U	**0.02**	**J**	0.019	U	0.025	U	0.015	UJ
Carbon tetrachloride	0.76	22	0.76	0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
Chlorobenzene	1.1	500	1.1	0.00052	U	0.0029	U	0.00074	U	0.001	U	0.0015	U	0.00096	U	0.0013	U	0.00075	U
Chloroethane				0.0021	U	0.012	U	0.003	U	0.004	U	0.0059	U	0.0038	U	0.005	U	0.003	U
Chloroform	0.37	350	0.37	0.0016	U	0.0088	U	0.0022	U	0.003	U	0.0044	U	0.0029	U	0.0038	U	0.0022	U
Chloromethane				0.0041	U	0.024	U	0.0059	U	0.008	U	0.012	U	0.0076	U	0.01	U	0.006	U
cis-1,2-Dichloroethene	0.25	500	0.25	0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
cis-1,3-Dichloropropene				0.00052	U	0.0029	U	0.00074	U	0.001	U	0.0015	U	0.00096	U	0.0013	U	0.00075	U
Cyclohexane				0.01	U	0.059	U	0.015	U	0.02	U	0.03	U	0.019	U	0.025	U	0.015	U
Dibromochloromethane				0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
Dichlorodifluoromethane				0.01	U	0.059	U	0.015	U	0.02	U	0.03	U	0.019	U	0.025	U	0.015	U
Ethylbenzene	1	390	1	0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
Freon-113				0.0041	U	0.024	U	0.0059	U	0.008	U	0.012	U	0.0076	U	0.01	U	0.006	UJ
Isopropylbenzene				0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
Methyl Acetate				0.0041	U	0.024	U	0.0059	U	0.008	U	0.012	U	0.0076	U	0.01	U	0.006	U
Methyl cyclohexane				0.0041	U	0.024	U	0.0059	U	0.008	U	0.012	U	0.0076	U	0.01	U	0.006	U
Methyl tert butyl ether	0.93	500	0.93	0.0021	U	0.012	U	0.003	U	0.004	U	0.0059	U	0.0038	U	0.005	U	0.003	U
Methylene chloride	0.05	500	0.05	0.0052	U	0.029	U	0.0074	U	0.01	U	0.015	U	0.0096	U	0.013	U	0.0075	U
n-Butylbenzene	12	500	12	0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
n-Propylbenzene	3.9	500	3.9	0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
Naphthalene	12	500	12	0.0041	U	0.024	U	**0.0014**	**J**	0.008	U	0.012	U	0.0076	U	0.01	U	0.006	U
o-Xylene	0.26	500	1.6	0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
p-Isopropyltoluene				0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
p/m-Xylene	0.26	500	1.6	0.0021	U	0.012	U	0.003	U	0.004	U	0.0059	U	0.0038	U	0.005	U	0.003	U
sec-Butylbenzene	11	500	11	0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
Styrene				0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
tert-Butylbenzene	5.9	500	5.9	0.0021	U	0.012	U	0.003	U	0.004	U	0.0059	U	0.0038	U	0.005	U	0.003	U
Tetrachloroethene	1.3	150	1.3	0.00052	U	0.0029	U	0.00074	U	0.001	U	0.0015	U	0.00096	U	0.0013	U	0.00075	U
Toluene	0.7	500	0.7	0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
trans-1,2-Dichloroethene	0.19	500	0.19	0.0016	U	0.0088	U	0.0022	U	0.003	U	0.0044	U	0.0029	U	0.0038	U	0.0022	U
trans-1,3-Dichloropropene				0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
Trichloroethene	0.47	200	0.47	0.00052	U	0.0029	U	0.00074	U	0.001	U	0.0015	U	0.00096	U	0.0013	U	0.00075	U
Trichlorofluoromethane				0.0041	U	0.024	U	0.0059	U	0.008	U	0.012	U	0.0076	U	0.01	U	0.006	UJ
Vinyl chloride	0.02	13	0.02	0.001	U	0.0059	U	0.0015	U	0.002	U	0.003	U	0.0019	U	0.0025	U	0.0015	U
Total TIC Compounds				**0.00234**	**J**	**0.0478**	**J**	0	U	**0.0152**	**J**	**0.0435**	**J**	**0.0062**	**J**	**0.00535**	**J**	0	U

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-116 FILL		SB-116 NATIVE		SB-117 FILL		SB-117 NATIVE		SB-118 FILL		SB-118 NATIVE		DUP-02 (SB-110 NATIVE)		DUP-03 (SB-111 FILL)	
SAMPLING DATE				11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/25/2024		11/26/2024	
LAB SAMPLE ID				L2469906-19		L2469906-20		L2469906-21		L2469906-22		L2469906-23		L2469906-24		L2469590-25		L2469906-25	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				4-7		7-10		3-7		12-15		1-5		10-14		15-20		2-8	
Analyte	Unrestricted Use SCO	Commercial Use SCO	Protection of Groundwater	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics by EPA 5035 High																			
1,1,1-Trichloroethane	0.68	500	0.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	0.27	240	0.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	500	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6	190	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	1.1	500	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.02	30	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	8.4	190	8.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	2.4	280	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	1.8	130	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Butanone	0.12	500	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Hexanone				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetone	0.05	500	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	0.06	44	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromomethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon disulfide				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	0.76	22	0.76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	1.1	500	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	0.37	350	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	500	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	1	390	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Freon-113				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isopropylbenzene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl Acetate				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl cyclohexane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert butyl ether	0.93	500	0.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	500	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Butylbenzene	12	500	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	3.9	500	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	12	500	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	0.26	500	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
p-Isopropyltoluene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
p/m-Xylene	0.26	500	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sec-Butylbenzene	11	500	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
tert-Butylbenzene	5.9	500	5.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	150	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	0.7	500	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	500	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	200	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02	13	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total TIC Compounds				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-116 FILL		SB-116 NATIVE		SB-117 FILL		SB-117 NATIVE		SB-118 FILL		SB-118 NATIVE		DUP-02 (SB-110 NATIVE)		DUP-03 (SB-111 FILL)	
SAMPLING DATE				11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/25/2024		11/26/2024	
LAB SAMPLE ID				L2469906-19		L2469906-20		L2469906-21		L2469906-22		L2469906-23		L2469906-24		L2469590-25		L2469906-25	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				4-7		7-10		3-7		12-15		1-5		10-14		15-20		2-8	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Semivolatile Organics by GC/MS																			
1,2,4,5-Tetrachlorobenzene				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
1,4-Dioxane	0.1	130	0.1	0.027	U	0.27	U	0.03	U	0.097	U	0.065	U	0.1	U	0.051	U	0.029	U
2,3,4,6-Tetrachlorophenol				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
2,4,5-Trichlorophenol				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
2,4,6-Trichlorophenol				0.11	U	1.1	U	0.12	U	0.39	U	0.26	U	0.4	U	0.2	U	0.12	U
2,4-Dichlorophenol				0.16	U	1.6	U	0.18	U	0.58	U	0.39	U	0.6	U	0.3	U	0.17	U
2,4-Dimethylphenol				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
2,4-Dinitrophenol				0.86	U	8.7	U	0.96	U	3.1	U	2.1	U	3.2	U	1.6	U	0.92	U
2,4-Dinitrotoluene				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
2,6-Dinitrotoluene				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
2-Chloronaphthalene				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
2-Chlorophenol				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
2-Methylnaphthalene				**0.14**	**J**	2.2	U	**1.3**		0.78	U	**0.66**		0.8	U	0.4	U	0.23	U
2-Methylphenol	0.33	500	0.33	0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
2-Nitroaniline				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
2-Nitrophenol				0.39	U	3.9	U	0.43	U	1.4	U	0.94	U	1.4	U	0.73	U	0.42	U
3,3'-Dichlorobenzidine				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
3-Methylphenol/4-Methylphenol	0.33	500	0.33	**0.05**	**J**	2.6	U	**0.12**	**J**	0.93	U	**0.26**	**J**	0.96	U	0.48	U	0.28	U
3-Nitroaniline				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
4,6-Dinitro-o-cresol				0.47	U	4.7	U	0.52	U	1.7	U	1.1	U	1.7	U	0.88	U	0.5	U
4-Bromophenyl phenyl ether				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
4-Chloroaniline				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
4-Chlorophenyl phenyl ether				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
4-Nitroaniline				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
4-Nitrophenol				0.25	U	2.5	U	0.28	U	0.9	U	0.61	U	0.94	U	0.47	U	0.27	U
Acenaphthene	20	500	98	**0.36**		1.4	U	**0.35**		0.52	U	**1.4**		0.54	U	0.27	U	0.15	U
Acenaphthylene	100	500	107	**0.25**		1.4	U	**2.6**		0.52	U	**2.7**		0.54	U	0.27	U	0.15	U
Acetophenone				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
Anthracene	100	500	1000	1.4		1.1	U	**2.1**		0.39	U	**7.8**		0.4	U	**0.086**	**J**	0.12	U
Atrazine				0.14	U	1.4	U	0.16	U	0.52	U	0.35	U	0.54	U	0.27	U	0.15	U
Benzaldehyde				**0.11**	**J**	2.4	U	0.26	U	0.85	U	0.57	U	0.88	U	0.44	U	0.25	U
Benzo(a)anthracene	1	5.6	1	**4.4**		1.1	U	**5.1**		0.39	U	**27**		**0.12**	**J**	**0.12**	**J**	**0.075**	**J**
Benzo(a)pyrene	1	1	22	**3.8**		1.4	U	**7.8**		0.52	U	**24**		0.54	U	**0.094**	**J**	**0.066**	**J**
Benzo(b)fluoranthene	1	5.6	1.7	**4.7**		1.1	U	**10**		0.39	U	**31**		**0.11**	**J**	**0.098**	**J**	**0.094**	**J**
Benzo(ghi)perylene	100	500	1000	**2.3**		1.4	U	**6.8**		0.52	U	**14**		0.54	U	**0.049**	**J**	**0.075**	**J**
Benzo(k)fluoranthene	0.8	56	1.7	**1.1**		1.1	U	**2**		0.39	U	**4.2**		0.4	U	0.2	U	0.12	U
Biphenyl				**0.045**	**J**	4.1	U	**0.26**	**J**	1.5	U	**0.17**	**J**	1.5	U	0.77	U	0.44	U
Bis(2-chloroethoxy)methane				0.19	U	2	U	0.22	U	0.7	U	0.47	U	0.72	U	0.36	U	0.21	U
Bis(2-chloroethyl)ether				0.16	U	1.6	U	0.18	U	0.58	U	0.39	U	0.6	U	0.3	U	0.17	U
Bis(2-chloroisopropyl)ether				0.22	U	2.2	U	0.24	U	0.78	U	0.52	U	0.8	U	0.4	U	0.23	U
Bis(2-ethylhexyl)phthalate				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
Butyl benzyl phthalate				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
Caprolactam				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
Carbazole				**0.45**		1.8	U	**0.65**		0.65	U	**2.8**		**0.076**	**J**	0.34	U	0.19	U
Chrysene	1	56	1	**4**		1.1	U	**4.7**		0.39	U	**26**		**0.1**	**J**	**0.1**	**J**	**0.088**	**J**
Di-n-butylphthalate				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
Di-n-octylphthalate				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
Dibenzo(a,h)anthracene	0.33	0.56	1000	**0.52**		1.1	U	**1.5**		0.39	U	**3.3**		0.4	U	0.2	U	0.12	U
Dibenzofuran	7	350	210	**0.28**		1.8	U	**0.44**		0.65	U	**1.1**		0.67	U	0.34	U	0.19	U
Diethyl phthalate				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
Dimethyl phthalate				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
Fluoranthene	100	500	1000	**6.9**		1.1	U	**6.1**		0.39	U	**47**		**0.19**	**J**	**0.24**		**0.1**	**J**
Fluorene	30	500	386	**0.32**		1.8	U	**0.56**		0.65	U	**1.6**		0.67	U	**0.036**	**J**	0.19	U
Hexachlorobenzene	0.33	6	3.2	0.11	U	1.1	U	0.12	U	0.39	U	0.26	U	0.4	U	0.2	U	0.12	U
Hexachlorobutadiene				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
Hexachlorocyclopentadiene				0.51	UJ	5.2	U	0.57	U	1.8	U	1.2	U	1.9	U	0.96	U	0.55	U
Hexachloroethane				0.14	U	1.4	U	0.16	U	0.52	U	0.35	U	0.54	U	0.27	U	0.15	U
Indeno(1,2,3-cd)pyrene	0.5	5.6	8.2	**2.1**		1.4	U	**6.2**		0.52	U	**14**		0.54	U	0.27	U	**0.041**	**J**
Isophorone				0.16	U	1.6	U	0.18	U	0.58	U	0.39	U	0.6	U	0.3	U	0.17	U
n-Nitrosodi-n-propylamine				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
Naphthalene	12	500	12	**0.33**		1.8	U	**2.8**		0.65	U	**1.8**		0.67	U	0.34	U	0.19	U
NDPA/DPA				0.14	U	1.4	U	0.16	U	0.52	U	0.35	U	0.54	U	0.27	U	0.15	U
Nitrobenzene				0.16	U	1.6	U	0.18	U	0.58	U	0.39	U	0.6	U	0.3	U	0.17	U
p-Chloro-m-cresol				0.18	U	1.8	U	0.2	U	0.65	U	0.43	U	0.67	U	0.34	U	0.19	U
Pentachlorophenol	0.8	6.7	0.8	0.14	U	1.4	U	0.16	U	0.52	U	0.35	U	0.54	U	0.27	U	0.15	U
Phenanthrene	100	500	1000	**5.9**		1.1	U	**4.2**		0.39	U	**35**		**0.15**	**J**	**0.24**		**0.085**	**J**
Phenol	0.33	500	0.33	**0.033**	**J**	1.8	U	**0.14**	**J**	0.65	U	**0.16**	**J**	0.67	U	0.34	U	0.19	U
Pyrene	100	500	1000	**6.8**		1.1	U	**5.8**		0.39	U	**48**		**0.2**	**J**	**0.2**		**0.097**	**J**
Total TIC Compounds				**17.8**	**J**	**33.6**	**J**	**25.6**	**J**	4.13	**J**	**46.2**	**J**	**11.8**	**J**	**1.72**	**J**	**0.233**	**J**
Petroleum Hydrocarbon Quantitation																			
TPH (C10-C36)				**311**		-	-	**893**		-	-	**3510**		-	-	-	-	**981**	J

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-116 FILL		SB-116 NATIVE		SB-117 FILL		SB-117 NATIVE		SB-118 FILL		SB-118 NATIVE		DUP-02 (SB-110 NATIVE)		DUP-03 (SB-111 FILL)	
SAMPLING DATE				11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/25/2024		11/26/2024	
LAB SAMPLE ID				L2469906-19		L2469906-20		L2469906-21		L2469906-22		L2469906-23		L2469906-24		L2469590-25		L2469906-25	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				4-7		7-10		3-7		12-15		1-5		10-14		15-20		2-8	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Polychlorinated Biphenyls by GC																			
Aroclor 1016	0.1	1	3.2	0.0529	U	0.188	U	0.0588	U	0.0684	U	0.128	U	0.0651	U	0.1	U	0.053	U
Aroclor 1221	0.1	1	3.2	0.0529	U	0.188	U	0.0588	U	0.0684	U	0.128	U	0.0651	U	0.1	U	0.053	U
Aroclor 1232	0.1	1	3.2	0.0529	U	0.188	U	0.0588	U	0.0684	U	0.128	U	0.0651	U	0.1	U	0.053	U
Aroclor 1242	0.1	1	3.2	0.0529	U	0.188	U	0.0588	U	0.0684	U	0.128	U	0.0651	U	0.1	U	0.053	U
Aroclor 1248	0.1	1	3.2	0.0529	U	0.188	U	0.0588	U	0.0684	U	0.128	U	0.0651	U	0.1	U	0.053	U
Aroclor 1254	0.1	1	3.2	0.0529	U	0.188	U	0.0588	U	0.0684	U	0.128	U	0.0651	U	0.1	U	0.053	U
Aroclor 1260	0.1	1	3.2	0.0529	U	0.188	U	**0.0464**	**J**	0.0684	U	**0.19**		0.0651	U	0.1	U	0.053	U
Aroclor 1262	0.1	1	3.2	0.0529	U	0.188	U	0.0588	U	0.0684	U	0.128	U	0.0651	U	0.1	U	0.053	U
Aroclor 1268	0.1	1	3.2	**0.0202**	**J**	**0.161**	**J**	**0.0419**	**J**	**0.023**	**J**	**0.113**	**J**	**0.0203**	**J**	0.1	U	**0.0179**	**J**
PCBs, Total	0.1	1	3.2	**0.0202**	**J**	**0.161**	**J**	**0.0883**	**J**	**0.023**	**J**	**0.303**	**J**	**0.0203**	**J**	0.1	U	**0.0179**	**J**
Chlorinated Herbicides by GC																			
2,4,5-T				0.177	U	0.627	U	0.202	U	0.23	U	0.435	U	0.22	U	0.337	U	0.188	U
2,4,5-TP (Silvex)	3.8	500	3.8	0.177	U	0.627	U	0.202	U	0.23	U	0.435	U	0.22	U	0.337	U	0.188	U
2,4-D				0.177	U	0.627	U	0.202	U	0.23	U	0.435	U	0.22	U	0.337	U	0.188	U
Organochlorine Pesticides by GC																			
4,4'-DDD	0.0033	92	14	0.00164	U	0.00609	U	0.00191	U	0.00222	U	0.0042	U	0.00215	U	0.00315	U	0.00183	U
4,4'-DDE	0.0033	62	17	0.00164	U	0.00609	U	0.00191	U	0.00222	U	0.0042	U	0.00215	U	0.00315	U	0.00183	U
4,4'-DDT	0.0033	47	136	0.00164	U	0.00609	U	0.00191	U	0.00222	U	0.0042	U	0.00215	U	0.00315	U	0.00183	U
Aldrin	0.005	0.68	0.19	0.00164	U	0.00609	U	0.00191	U	0.00222	U	0.0042	U	0.00215	U	0.00315	U	0.00183	U
Alpha-BHC	0.02	3.4	0.02	0.00069	U	0.00254	U	0.0008	U	0.00093	U	0.00175	U	0.0009	U	0.00131	U	0.00076	U
Beta-BHC	0.036	3	0.09	0.00164	U	0.00609	U	0.00191	U	0.00222	U	0.0042	U	0.00215	U	0.00315	U	0.00183	U
Chlordane				0.0137	U	0.0508	U	0.0159	U	0.0185	U	0.035	U	0.0179	U	0.0262	U	0.0152	U
cis-Chlordane	0.094	24	2.9	0.00206	U	0.00762	U	0.00239	U	0.00278	U	0.00526	U	0.00269	U	0.00394	U	0.00229	U
Delta-BHC	0.04	500	0.25	0.00164	U	0.00609	U	0.00191	U	0.00222	U	0.0042	U	0.00215	U	0.00315	U	0.00183	U
Dieldrin	0.005	1.4	0.1	0.00103	U	0.00381	U	0.00119	U	0.00139	U	0.00263	U	0.00134	U	0.00197	U	0.00114	U
Endosulfan I	2.4	200	102	0.00164	U	0.00609	U	0.00191	U	0.00222	U	0.0042	U	0.00215	U	0.00315	U	0.00183	U
Endosulfan II	2.4	200	102	0.00164	U	0.00609	U	0.00191	U	0.00222	U	0.0042	U	0.00215	U	0.00315	U	0.00183	U
Endosulfan sulfate	2.4	200	1000	0.00069	U	0.00254	U	0.0008	U	0.00093	U	0.00175	U	0.0009	U	0.00131	U	0.00076	U
Endrin	0.014	89	0.06	0.00069	U	0.00254	U	0.0008	U	0.00093	U	0.00175	U	0.0009	U	0.00131	U	0.00076	U
Endrin aldehyde				0.00206	U	0.00762	U	0.00239	U	0.00278	U	0.00526	U	0.00269	U	0.00394	U	0.00229	U
Endrin ketone				0.00164	U	0.00609	U	0.00191	U	0.00222	U	0.0042	U	0.00215	U	0.00315	U	0.00183	U
Heptachlor	0.042	15	0.38	0.00082	U	0.00305	U	0.00096	U	0.00111	U	0.0021	U	0.00108	U	0.00157	U	0.00092	U
Heptachlor epoxide				0.00308	U	0.0114	U	0.00358	U	0.00417	U	0.00788	U	0.00404	U	0.0059	U	0.00343	U
Lindane	0.1	9.2	0.1	0.00069	U	0.00254	U	0.0008	U	0.00093	U	0.00175	U	0.0009	U	0.00131	U	0.00076	U
Methoxychlor				0.00308	U	0.0114	U	0.00358	U	0.00417	U	0.00788	U	0.00404	U	0.0059	U	0.00343	U
Toxaphene				0.0308	U	0.114	U	0.0358	U	0.0417	U	0.0788	U	0.0404	U	0.059	U	0.0343	U
trans-Chlordane				0.00206	U	0.00762	U	0.00239	U	0.00278	U	0.00526	U	0.00269	U	0.00394	U	0.00229	U
Total Metals																			
Aluminum, Total				**7820**		**24100**		**7460**		**5170**		**23400**		**6990**		**4520**		**5470**	
Antimony, Total				**1.49**	**J**	15	U	**2.29**	**J**	5.35	U	20.1	U	5.32	U	4.95	U	**3.1**	**J**
Arsenic, Total	13	16	16	**14.7**		**12.1**		**25.3**		**7.13**		**75.2**		**2.81**		**19.5**		**9.1**	J
Barium, Total	350	400	820	**194**		**223**		**298**		**67.7**		**367**		**61.4**		**125**		**74.6**	J
Beryllium, Total	7.2	590	47	**0.437**		**1.38**	**J**	**0.64**		**0.283**	**J**	**1.37**	**J**	**0.428**	**J**	**0.505**		**0.413**	**J**
Cadmium, Total	2.5	9.3	7.5	**0.352**	**J**	3	U	**0.807**	**J**	1.07	U	4.02	U	1.06	U	**0.383**	**J**	0.89	UJ
Calcium, Total				**37600**		**138000**		**47800**		**96900**		**197000**		**8000**		**26700**	J	**61500**	J
Chromium, Hexavalent	400	19	1	0.871	U	3.08	U	0.976	U	1.13	U	2.1	U	1.08	U	1.65	U	**0.774**	**J**
Chromium, Total				**23.6**		**44**		**39.6**		**9.51**		**74.6**		**13.4**		**74.8**		**10.4**	
Cobalt, Total				**5.6**		**20.7**		**20.5**		**6.66**		**11.7**		**3.4**		**18.1**	J	**4.9**	
Copper, Total	50	270	1720	**302**		**67.2**		**233**		**16.7**		**53.3**		**6.48**		**308**		**140**	J
Cyanide, Total	27	40	27	**0.29**	**J**	3.6	U	**3.7**		1.3	U	2.6	U	1.3	U	1.9	U	**0.29**	**J**
Iron, Total				**17100**		**41800**		**27700**		**10600**		**29200**		**13900**		**44800**		**16000**	
Lead, Total	63	1000	450	**316**		**103**		**398**		**18.4**		**309**		**10.7**		**286**		**293**	J
Magnesium, Total				**6720**		**38200**		**5090**		**3620**		**23000**		**3560**		**6320**		**11100**	J
Manganese, Total	1600	10000	2000	**266**		**590**		**334**		**429**		**478**		**81.1**		**281**		**265**	J
Mercury, Total	0.18	2.8	0.73	**1.07**		**0.704**		**0.666**		**0.084**	**J**	**15.7**		**0.073**	**J**	**0.585**		**1.84**	J
Nickel, Total	30	310	130	**13.5**		**64.6**		**55.2**		**18.6**		**28.2**		**22.2**		**23.2**		**13.2**	
Potassium, Total				**1090**		**2500**		**626**		**614**		**3930**		**705**		**483**		**631**	
Selenium, Total	3.9	1500	4	**0.741**	**J**	**3.62**	**J**	**2**		**1.47**	**J**	**1.17**	**J**	**2.4**		**1.59**	**J**	**0.457**	**J**
Silver, Total	2	1500	8.3	0.419	U	1.5	U	**0.378**	**J**	0.535	U	2.01	U	0.532	U	0.495	U	0.445	U
Sodium, Total				**267**		**266**	**J**	**219**		**163**	**J**	**790**	**J**	**66.4**	**J**	**169**	**J**	**292**	
Thallium, Total				**0.408**	**J**	6.01	U	**0.512**	**J**	2.14	U	**1.69**	**J**	2.13	U	1.98	U	**0.351**	**J**
Vanadium, Total				**21**		**44.7**		**30.6**		**9.06**		**69.7**		**10.6**		**37.8**		**18.5**	
Zinc, Total	109	10000	2480	**290**		**149**		**450**		**55.6**		**326**		**43**		**173**		**240**	J

Table 3
Alternatives Analysis Report / Remedial Action Work Plan
Sub-Surface Soil Data Summary

LOCATION				SB-116 FILL		SB-116 NATIVE		SB-117 FILL		SB-117 NATIVE		SB-118 FILL		SB-118 NATIVE		DUP-02 (SB-110 NATIVE)		DUP-03 (SB-111 FILL)	
SAMPLING DATE				11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/26/2024		11/25/2024		11/26/2024	
LAB SAMPLE ID				L2469906-19		L2469906-20		L2469906-21		L2469906-22		L2469906-23		L2469906-24		L2469590-25		L2469906-25	
SAMPLE TYPE				SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
SAMPLE DEPTH (ft.)				4-7		7-10		3-7		12-15		1-5		10-14		15-20		2-8	
Analyte	**Unrestricted Use SCO**	**Commercial Use SCO**	**Protection of Groundwater**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Perfluorinated Alkyl Acids by EPA 1633																			
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)				0.802	U	1.23	U	0.802	U	0.796	U	0.844	U	0.801	U	0.795	U	0.8	U
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)				0.802	U	1.23	U	0.802	U	0.796	U	0.844	U	0.801	U	0.795	U	0.8	U
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)				0.802	U	1.23	U	0.802	U	0.796	U	0.844	U	0.801	U	0.795	U	0.8	U
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)				0.802	U	1.23	U	0.802	U	0.796	U	0.844	U	0.801	U	0.795	U	0.8	U
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)				5.02	U	7.67	U	5.01	U	4.97	U	5.28	U	5	U	4.97	U	5	U
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)				5.02	U	7.67	U	5.01	U	4.97	U	5.28	U	5	U	4.97	U	5	U
3-Perfluoropropyl Propanoic Acid (3:3FTCA)				1	U	1.53	U	1	U	0.995	U	1.06	U	1	U	0.994	U	1	U
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)				0.802	U	1.23	U	0.802	U	0.796	U	0.844	U	0.801	U	0.795	U	0.8	U
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)				0.802	U	1.23	U	0.802	U	0.796	U	0.844	U	0.801	U	0.795	U	0.8	U
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)				0.802	U	1.23	U	0.802	U	0.796	U	0.844	U	0.801	U	0.795	U	0.8	U
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)				0.201	U	0.307	U	0.2	U	0.199	U	0.211	U	0.2	U	0.199	U	0.2	U
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)				2.01	U	3.07	U	2	U	1.99	U	2.11	U	2	U	1.99	U	2	U
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)				0.201	U	0.307	U	0.2	U	0.199	U	0.211	U	0.2	U	0.199	U	0.2	U
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)				0.201	U	0.307	U	0.2	U	0.199	U	0.211	U	0.2	U	0.199	U	0.2	U
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)				2.01	U	3.07	U	2	U	1.99	U	2.11	U	2	U	1.99	U	2	U
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)				0.201	U	0.307	U	0.2	U	0.199	U	0.211	U	0.2	U	0.199	U	0.2	U
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)				0.401	U	0.613	U	0.401	U	0.398	U	0.422	U	0.4	U	0.398	U	0.4	U
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)				0.401	U	0.613	U	0.401	U	0.398	U	0.422	U	0.4	U	0.398	U	0.4	U
Perfluoro-3-Methoxypropanoic Acid (PFMPA)				0.401	U	0.613	U	0.401	U	0.398	U	0.422	U	0.4	U	0.398	U	0.4	U
Perfluoro-4-Methoxybutanoic Acid (PFMBA)				0.401	U	0.613	U	0.401	U	0.398	U	0.422	U	0.4	U	0.398	U	0.4	U
Perfluorobutanesulfonic Acid (PFBS)				0.201	U	0.307	U	0.2	U	0.199	U	0.211	U	0.2	U	0.199	U	0.2	U
Perfluorobutanoic Acid (PFBA)				0.802	U	1.23	U	**0.038**	**J**	0.796	U	**0.041**	**J**	0.801	U	0.795	U	0.8	U
Perfluorodecanesulfonic Acid (PFDS)				0.201	U	0.307	U	0.2	U	0.199	U	0.211	U	0.2	U	0.199	U	0.2	U
Perfluorodecanoic Acid (PFDA)				0.201	U	0.307	U	0.2	U	0.199	U	**0.063**	**J**	0.2	U	0.199	U	0.2	U
Perfluorododecanesulfonic Acid (PFDoS)				0.201	U	0.307	U	0.2	U	0.199	U	0.211	U	0.2	U	0.199	U	0.2	U
Perfluorododecanoic Acid (PFDoA)				0.201	U	0.307	U	0.2	U	0.199	U	0.211	U	0.2	U	0.199	U	0.2	U
Perfluoroheptanesulfonic Acid (PFHpS)				0.201	U	0.307	U	0.2	U	0.199	U	0.211	U	0.2	U	0.199	U	0.2	U
Perfluoroheptanoic Acid (PFHpA)				**0.03**	**J**	0.307	U	**0.036**	**J**	0.199	U	**0.045**	**J**	0.2	U	0.199	U	0.2	U
Perfluorohexanesulfonic Acid (PFHxS)				0.201	U	0.307	U	0.2	U	0.199	U	0.211	U	0.2	U	0.199	U	0.2	U
Perfluorohexanoic Acid (PFHxA)				**0.03**	**J**	0.307	U	**0.047**	**J**	**0.026**	**J**	**0.063**	**J**	0.2	U	0.199	U	0.2	U
Perfluorononanesulfonic Acid (PFNS)				0.201	U	0.307	U	0.2	U	0.199	U	0.211	U	0.2	U	0.199	U	0.2	U
Perfluorononanoic Acid (PFNA)				**0.062**	**J**	0.307	U	**0.041**	**J**	0.199	U	**0.044**	**J**	0.2	U	0.199	U	**0.027**	**EMPC**
Perfluorooctanesulfonamide (PFOSA)				0.201	U	0.307	U	0.2	U	0.199	U	0.211	U	0.2	U	0.199	U	0.2	U
Perfluorooctanesulfonic Acid (PFOS)	0.88	440	1	**0.399**		0.307	U	**0.346**		0.199	U	**0.379**		0.2	U	0.199	U	**0.145**	**J**
Perfluorooctanoic Acid (PFOA)	0.66	500	0.8	**0.095**	**J**	0.307	U	**0.127**	**J**	0.199	U	**0.107**	**J**	0.2	U	0.199	U	0.2	U
Perfluoropentanesulfonic Acid (PFPeS)				0.201	U	0.307	U	0.2	U	0.199	U	0.211	U	0.2	U	0.199	U	0.2	U
Perfluoropentanoic Acid (PFPeA)				0.401	U	0.613	U	**0.041**	**J**	0.398	U	**0.071**	**J**	0.4	U	0.398	U	0.4	U
Perfluorotetradecanoic Acid (PFTeDA)				0.201	U	0.307	U	0.2	U	0.199	U	0.211	U	0.2	U	0.199	U	0.2	U
Perfluorotridecanoic Acid (PFTrDA)				0.201	U	0.307	U	0.2	U	0.199	U	0.211	U	0.2	U	0.199	U	0.2	U
Perfluoroundecanoic Acid (PFUnA)				0.201	U	0.307	U	0.2	U	0.199	U	**0.035**	**J**	0.2	U	0.199	U	0.2	U

Notes:
- All values are reported in milligrams per kilogram (mg/kg) / parts per million (ppm) except PFAAs which are reported in micrograms per kilogram (µg/kg) / parts per billion (ppb).
- Analytical results compared to New York 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs).
- **Bolded text** indicates analyte detected at concentrations greater than laboratory detection limits.
- Highlighted cell Indicates analyte exceeds the respective standard/guideline value.
- **Red text** indicates analyte exceeds Protection of Groundwater SCO.
- **Blue qualifiers** were applied based on a third party data usability review.
- Grey highlighted cell indicates the laboratory detection limit exceeds the respective standard/guideline value.
- "U" indicates the analyte was not detected at the reported detection limit for the sample.
- "UJ" indicates the analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
- "J" indicates estimated value.
- "J+" indicates the analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
- "I" indicates the lower value for the two columns has been reported due to obvious interference.
- "P" indicates the RPD between the results for the two columns exceeds the method-specified criteria.
- "EMPC" indicates the results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.
- "R" indicates the data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.

Table 4
Alternatives Analysis Report / Remedial Action Work Plan
Groundwater Data Summary

LOCATION		MW-101 ROUND 1		MW-101 ROUND 2		MW-102 ROUND 1		MW-102 ROUND 2		MW-103 ROUND 1		MW-103 ROUND 2		MW-104 ROUND 1		MW-104 ROUND 2		MW-105 ROUND 1		MW-105 ROUND 2		MW-106 ROUND 1		MW-106 ROUND 2		MW-107 ROUND 1		MW-107 ROUND 2		DUP ROUND 1 (MW-106 ROUND 1)		DUP ROUND 2 (MW-105 ROUND 2)	
SAMPLING DATE		12/13/2024		2/12/2025		12/12/2024		2/11/2025		12/13/2024		2/12/2025		12/12/2024		2/11/2025		12/13/2024		2/11/2025		12/13/2024		2/11/2025		12/13/2024		2/12/2025		12/13/2024		2/11/2025	
LAB SAMPLE ID		L2473569-05		L2507955-01		L2473175-02		L2507633-01		L2473569-02		L2507955-02		L2473175-01		L2507633-02		L2473569-04		L2507633-03		L2473569-01		L2507633-04		L2473569-03		L2507955-03		L2473569-06		L2507633-05	
SAMPLE TYPE		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
SAMPLE DEPTH (ft.)		14		14		20		20		20		20		20		20		20		20		20		20		20		20		20		20	
Analyte	**NY TOGS 1.1.1 AWQS**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Volatile Organics by GC/MS																																	
1,1,1-Trichloroethane	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,1,2,2-Tetrachloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
1,1-Dichloroethane	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,1-Dichloroethene	5	0.5	U	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U
1,2,4-Trichlorobenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2,4-Trimethylbenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2-Dibromo-3-chloropropane	0.04	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2-Dibromoethane	0.0006	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,2-Dichlorobenzene	3	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2-Dichloroethane	0.6	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	1	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,3,5-Trimethylbenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,3-Dichlorobenzene	3	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,4-Dichlorobenzene	3	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
2-Butanone	50	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2-Hexanone	50	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Acetone	50	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Benzene	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	50	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	50	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Bromomethane	5	2.5	U	2.5	UJ	2.5	U	2.5	U	2.5	UJ	2.5	UJ	2.5	U	2.5	U	2.5	U	2.5	U	2.5	UJ	2.5	U	2.5	U	2.5	UJ	2.5	U	2.5	U
Carbon disulfide	60	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Carbon tetrachloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Chloroethane	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Chloroform	7	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Chloromethane		2.5	UJ	2.5	U	2.5	U	2.5	U	2.5	UJ	2.5	U	2.5	U	2.5	U	2.5	UJ	2.5	U	2.5	UJ	2.5	U	2.5	UJ	2.5	U	2.5	UJ	2.5	U
cis-1,2-Dichloroethene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
cis-1,3-Dichloropropene	0.4	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cyclohexane		10	UJ	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	UJ	10	U	10	U	10	U	10	UJ	10	U	10	UJ	10	U
Dibromochloromethane	50	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	5	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Ethylbenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Freon-113	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Isopropylbenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Methyl Acetate		2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	UJ	2	U	2	U	2	U	2	U	2	U
Methyl cyclohexane		10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl tert butyl ether	10	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Methylene chloride	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
n-Butylbenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
n-Propylbenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Naphthalene	10	2.5	U	2.5	U	2.5	U	2.5	UJ	2.5	U	2.5	U	2.5	U	2.5	UJ	2.5	U	2.5	UJ	2.5	U	2.5	UJ	2.5	U	2.5	U	2.5	U	2.5	UJ
o-Xylene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
p-Isopropyltoluene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
p/m-Xylene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
sec-Butylbenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Styrene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
tert-Butylbenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Tetrachloroethene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
trans-1,2-Dichloroethene	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
trans-1,3-Dichloropropene	0.4	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	5	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Vinyl chloride	2	1	UJ	1	UJ	1	U	1	U	1	UJ	1	UJ	1	U	1	U	1	UJ	1	U	1	UJ	1	U	1	UJ	1	UJ	1	UJ	1	U
Total TIC Compounds		0	U	0	U	0	U	1.56	U	**1.1**	**J**	**2.11**	**J**	0	U	0	U	0	U	1.65	U	0	U	1.67	U	0	U	**1.5**	**J**	0	U	1.69	U

Table 4
Alternatives Analysis Report / Remedial Action Work Plan
Groundwater Data Summary

LOCATION		MW-101 ROUND 1		MW-101 ROUND 2		MW-102 ROUND 1		MW-102 ROUND 2		MW-103 ROUND 1		MW-103 ROUND 2		MW-104 ROUND 1		MW-104 ROUND 2		MW-105 ROUND 1		MW-105 ROUND 2		MW-106 ROUND 1		MW-106 ROUND 2		MW-107 ROUND 1		MW-107 ROUND 2		DUP ROUND 1 (MW-106 ROUND 1)		DUP ROUND 2 (MW-105 ROUND 2)	
SAMPLING DATE		12/13/2024		2/12/2025		12/12/2024		2/11/2025		12/13/2024		2/12/2025		12/12/2024		2/11/2025		12/13/2024		2/11/2025		12/13/2024		2/11/2025		12/13/2024		2/12/2025		12/13/2024		2/11/2025	
LAB SAMPLE ID		L2473569-05		L2507955-01		L2473175-02		L2507633-01		L2473569-02		L2507955-02		L2473175-01		L2507633-02		L2473569-04		L2507633-03		L2473569-01		L2507633-04		L2473569-03		L2507955-03		L2473569-06		L2507633-05	
SAMPLE TYPE		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
SAMPLE DEPTH (ft.)		14		14		20		20		20		20		20		20		20		20		20		20		20		20		20		20	
Analyte	**NY TOGS 1.1.1 AWQS**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Semivolatile Organics by GC/MS																																	
1,2,4,5-Tetrachlorobenzene	5	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,3,4,6-Tetrachlorophenol		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2,4,5-Trichlorophenol		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2,4,6-Trichlorophenol		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dichlorophenol	1	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dimethylphenol	50	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	UJ	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dinitrophenol	10	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene	5	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene	5	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2-Chlorophenol		2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
2-Methylphenol		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitroaniline	5	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitrophenol		10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	5	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
3-Methylphenol/4-Methylphenol		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
3-Nitroaniline	5	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
4,6-Dinitro-o-cresol		10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Bromophenyl phenyl ether		2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
4-Chloroaniline	5	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
4-Chlorophenyl phenyl ether		2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
4-Nitroaniline	5	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
4-Nitrophenol		10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Acetophenone		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Atrazine	7.5	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzaldehyde		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Biphenyl		2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Bis(2-chloroethoxy)methane	5	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bis(2-chloroethyl)ether	1	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Bis(2-chloroisopropyl)ether	5	2	UJ	2	U	2	U	2	UJ	2	UJ	2	U	2	U	2	UJ	2	UJ	2	UJ	2	UJ	2	UJ	2	UJ	2	U	2	U	2	UJ	2	UJ
Bis(2-ethylhexyl)phthalate	5	3	U	1.4	J	3	U	3	U	1.4	J	**4.3**		3	U	3	U	3	U	**8.6**	J	3	U	**22**		3	U	3	U	3	U	**2.9**	**J**		
Butyl benzyl phthalate	50	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Caprolactam		10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbazole		2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Di-n-butylphthalate	50	5	U	3.4	J	5	U	5	U	5	U	**1.9**	**J**	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	**1.3**	**J**	5	U	5	U
Di-n-octylphthalate	50	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Dibenzofuran		2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Diethyl phthalate	50	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Dimethyl phthalate	50	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Hexachlorocyclopentadiene	5	20	U	20	U	20	UJ	20	U	20	U	20	U	20	UJ	20	U	20	U	20	U	20	UJ	20	U	20	U	20	U	20	U	20	U	20	U
Isophorone	50	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
n-Nitrosodi-n-propylamine		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
NDPA/DPA	50	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Nitrobenzene	0.4	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
p-Chloro-m-cresol		2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Phenol	1	**1.8**	**J**	5	U	5	U	5	U	5	U	5	U	5	U	5	U	0.82	J	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Total TIC Compounds		**10.2**	**J**	**53.9**	**J**	54.9	U	13.4	U	**161**	**J**	**159**	**J**	37.4	U	15.9	U	**10.9**	**J**	17.1	U	**27.9**	**J**	9.8	U	**22.9**	**J**	**26.5**	**J**	**43.2**	**J**	9.8	U		
Semivolatile Organics by GC/MS-SIM																																	
1,4-Dioxane	0.35	0.139	U	-	-	0.15	U	-	-	0.144	U	-	-	0.144	U	-	-	0.139	U	-	-	0.144	U	-	-	0.15	U	-	-	0.144	U	-	-		
2-Chloronaphthalene	10	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U		
2-Methylnaphthalene		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U		
Acenaphthene	20	**0.03**	**J**	0.1	U	0.1	U	0.1	U	**0.06**	**J**	**0.04**	**J**	0.1	U	0.1	U	**0.03**	**J**	0.1	U	0.1	U	0.1	U	**0.05**	**J**	**0.04**	**J**	0.1	U	0.1	U		
Acenaphthylene		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U		
Anthracene	50	**0.08**	**J**	0.1	U	0.1	U	0.1	U	**0.06**	**J**	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	**0.04**	**J**	0.1	U	0.1	U	0.1	U		
Benzo(a)anthracene	0.002	**0.19**		0.1	U	0.1	U	0.1	U	**0.05**	**J**	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	**0.05**	**J**	0.1	U		
Benzo(a)pyrene	0	**0.14**		0.1	U	0.1	U	0.1	U	**0.04**	**J**	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	**0.05**	**J**	0.1	U		
Benzo(b)fluoranthene	0.002	**0.23**		0.1	U	0.1	U	0.1	U	**0.06**	**J**	0.1	U	0.1	U	0.1	U	**0.03**	**J**	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	**0.09**	**J**	0.1	U		
Benzo(ghi)perylene		**0.2**		0.1	U	0.1	U	0.1	U	**0.06**	**J**	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	**0.08**	**J**	0.1	U		
Benzo(k)fluoranthene	0.002	**0.21**		0.1	U	0.1	U	0.1	U	**0.06**	**J**	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	**0.06**	**J**	0.1	U		
Chrysene	0.002	**0.2**		0.1	U	0.1	U	0.1	U	**0.05**	**J**	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	**0.05**	**J**	0.1	U		
Dibenzo(a,h)anthracene		**0.23**		0.1	U	0.1	U	0.1	U	**0.06**	**J**	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	**0.07**	**J**	0.1	U		
Fluoranthene	50	**0.15**		0.1	U	**0.05**	**J**	**0.06**	**J**	**0.08**	**J**	0.1	U	0.1	U	0.1	U	**0.05**	**J**	0.1	U	0.1	U	0.1	U	**0.04**	**J**	0.1	U	**0.08**	**J**	0.1	U		
Fluorene	50	**0.06**	**J**	0.1	U	0.1	U	0.1	U	**0.03**	**J**	0.1	U	0.1	U	0.1	U	**0.04**	**J**	0.1	U	0.1	U	0.1	U	**0.03**	**J**	0.1	U	0.1	U	0.1	U		
Hexachlorobenzene	0.04	**0.07**	J-	0.8	U	0.8	UJ	0.8	U	0.8	UJ	0.8	U	0.8	UJ	0.8	U	0.8	UJ	0.8	U	0.8	UJ	0.8	U	**0.03**	J-	0.8	U	0.8	UJ	0.8	U		
Hexachlorobutadiene	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		
Hexachloroethane	5	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U		
Indeno(1,2,3-cd)pyrene	0.002	**0.22**		0.1	U	0.1	U	0.1	U	**0.06**	**J**	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	**0.08**	**J**	0.1	U		
Naphthalene	10	**0.08**	**J**	0.04	U	0.1	U	**0.07**	**J**	0.1	U	0.1	U	0.1	U	0.1	U	**0.03**	**J**	**0.05**	**J**	**0.09**	**J**	0.1	U	**0.04**	**J**	0.04	U	**0.09**	**J**	0.1	U		
Pentachlorophenol	1	0.8	U	0.8	U	0.8	U	0.06	U	**0.12**	**J**	0.8	U	**0.13**	**J**	0.8	U	**0.11**	**J**	0.07	U	0.8	U	0.8	U	**0.13**	**J**	0.8	U	0.8	U	0.8	U		
Phenanthrene	50	**0.11**		0.1	U	**0.05**	**J**	**0.11**		**0.06**	**J**	0.1	U	0.1	U	0.1	U	**0.05**	**J**	0.1	U	0.1	U	0.1	U	**0.06**	**J**	0.1	U	0.1	U	0.1	U		
Pyrene	50	**0.14**		0.1	U	**0.04**	**J**	**0.04**	**J**	**0.07**	**J**	0.1	U	0.1	U	0.1	U	**0.04**	**J**	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	**0.06**	**J**	0.1	U		

Table 4
Alternatives Analysis Report / Remedial Action Work Plan
Groundwater Data Summary

LOCATION		MW-101 ROUND 1		MW-101 ROUND 2		MW-102 ROUND 1		MW-102 ROUND 2		MW-103 ROUND 1		MW-103 ROUND 2		MW-104 ROUND 1		MW-104 ROUND 2		MW-105 ROUND 1		MW-105 ROUND 2		MW-106 ROUND 1		MW-106 ROUND 2		MW-107 ROUND 1		MW-107 ROUND 2		DUP ROUND 1 (MW-106 ROUND 1)		DUP ROUND 2 (MW-105 ROUND 2)	
SAMPLING DATE		12/13/2024		2/12/2025		12/12/2024		2/11/2025		12/13/2024		2/12/2025		12/12/2024		2/11/2025		12/13/2024		2/11/2025		12/13/2024		2/11/2025		12/13/2024		2/12/2025		12/13/2024		2/11/2025	
LAB SAMPLE ID		L2473569-05		L2507955-01		L2473175-02		L2507633-01		L2473569-02		L2507955-02		L2473175-01		L2507633-02		L2473569-04		L2507633-03		L2473569-01		L2507633-04		L2473569-03		L2507955-03		L2473569-06		L2507633-05	
SAMPLE TYPE		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
SAMPLE DEPTH (ft.)		14		14		20		20		20		20		20		20		20		20		20		20		20		20		20		20	
Analyte	NY TOGS 1.1.1 AWQS	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Polychlorinated Biphenyls by GC																																	
Aroclor 1016	0.09	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U
Aroclor 1221	0.09	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U
Aroclor 1232	0.09	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U
Aroclor 1242	0.09	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U
Aroclor 1248	0.09	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U
Aroclor 1254	0.09	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U
Aroclor 1260	0.09	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U
Aroclor 1262	0.09	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U
Aroclor 1268	0.09	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U
PCBs, Total		0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U	0.071	U
Chlorinated Herbicides by GC																																	
2,4,5-T	35	-	-	-	-	-	-	-	-	-	-	2	U	2	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-TP (Silvex)		-	-	-	-	-	-	-	-	-	-	2	U	2	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-D	50	-	-	-	-	-	-	-	-	-	-	10	U	10	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Organochlorine Pesticides by GC																																	
4,4'-DDD	0.3	-	-	-	-	-	-	-	-	-	-	0.029	U	0.029	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.2	-	-	-	-	-	-	-	-	-	-	0.029	U	0.029	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.2	-	-	-	-	-	-	-	-	-	-	0.029	U	0.029	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aldrin	0	-	-	-	-	-	-	-	-	-	-	0.014	U	0.014	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alpha-BHC	0.01	-	-	-	-	-	-	-	-	-	-	0.014	U	0.014	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beta-BHC	0.04	-	-	-	-	-	-	-	-	-	-	0.02	U	0.014	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlordane	0.05	-	-	-	-	-	-	-	-	-	-	0.143	U	0.143	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-Chlordane		-	-	-	-	-	-	-	-	-	-	0.02	U	0.014	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Delta-BHC	0.04	-	-	-	-	-	-	-	-	-	-	0.014	U	0.014	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.004	-	-	-	-	-	-	-	-	-	-	0.029	U	0.029	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan I		-	-	-	-	-	-	-	-	-	-	0.014	U	0.014	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan II		-	-	-	-	-	-	-	-	-	-	0.029	U	0.029	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan sulfate		-	-	-	-	-	-	-	-	-	-	0.029	U	0.029	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0	-	-	-	-	-	-	-	-	-	-	0.029	U	0.029	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin aldehyde	5	-	-	-	-	-	-	-	-	-	-	0.03	U	0.029	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin ketone	5	-	-	-	-	-	-	-	-	-	-	0.029	U	0.029	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor	0.04	-	-	-	-	-	-	-	-	-	-	0.014	U	0.014	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor epoxide	0.03	-	-	-	-	-	-	-	-	-	-	0.014	U	0.014	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lindane	0.05	-	-	-	-	-	-	-	-	-	-	0.014	U	0.014	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methoxychlor	35	-	-	-	-	-	-	-	-	-	-	0.143	U	0.143	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toxaphene	0.06	-	-	-	-	-	-	-	-	-	-	0.2	U	0.143	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-Chlordane		-	-	-	-	-	-	-	-	-	-	0.02	U	0.014	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 4
Alternatives Analysis Report / Remedial Action Work Plan
Groundwater Data Summary

LOCATION		MW-101 ROUND 1		MW-101 ROUND 2		MW-102 ROUND 1		MW-102 ROUND 2		MW-103 ROUND 1		MW-103 ROUND 2		MW-104 ROUND 1		MW-104 ROUND 2		MW-105 ROUND 1		MW-105 ROUND 2		MW-106 ROUND 1		MW-106 ROUND 2		MW-107 ROUND 1		MW-107 ROUND 2		DUP ROUND 1 (MW-106 ROUND 1)		DUP ROUND 2 (MW-105 ROUND 2)	
SAMPLING DATE		12/13/2024		2/12/2025		12/12/2024		2/11/2025		12/13/2024		2/12/2025		12/12/2024		2/11/2025		12/13/2024		2/11/2025		12/13/2024		2/11/2025		12/13/2024		2/12/2025		12/13/2024		2/11/2025	
LAB SAMPLE ID		L2473569-05		L2507955-01		L2473175-02		L2507633-01		L2473569-02		L2507955-02		L2473175-01		L2507633-02		L2473569-04		L2507633-03		L2473569-01		L2507633-04		L2473569-03		L2507955-03		L2473569-06		L2507633-05	
SAMPLE TYPE		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
SAMPLE DEPTH (ft.)		14		14		20		20		20		20		20		20		20		20		20		20		20		20		20	
Analyte	**NY TOGS 1.1.1 AWQS**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Total Metals																																	
Aluminum, Total		**109**		**3.93**	**J**	**255**		**11.3**		**12.7**		**10.4**		**269**		**58.7**		**21000**		**25.8**		**48.4**		**8.17**	**J**	**278**		**151**		**60.7**		**25.8**	
Antimony, Total	3	4	U	4	U	4	U	4	U	4	U	4	U	4	U	4	U	40	U	4	U	4	U	4	U	4	U	40	U	4	U	4	U
Arsenic, Total	25	**1.29**		**0.83**		**3.36**		**2.03**		**2.19**		**0.36**	**J**	**0.87**		**0.5**		**13.88**		0.5	U	**0.43**	**J**	**0.32**	**J**	**5.75**		**3.51**	**J**	**0.4**	**J**	**0.19**	**J**
Barium, Total	1000	**71.73**		**56.65**		**308.1**		**255.2**		**30.29**		**22.49**		**278.2**		**252.5**		**797.4**		**234.6**		**35.83**		**24.66**		**298.2**		**219**		**36.68**		**253.1**	
Beryllium, Total	3	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**1.62**	**J**	0.5	U	0.5	U	0.5	U	0.5	U	5	U	0.5	U	0.5	U
Cadmium, Total	5	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	**1.18**	**J**	0.2	U	0.2	U	0.2	U	0.2	U	2	U	**0.07**	**J**	0.2	U
Calcium, Total		**418000**		**415000**		**187000**		**174000**		**691000**		**520000**		**148000**		**158000**		**454000**		**150000**		**693000**		**664000**		**82400**	J	**216000**		**673000**		**168000**	
Chromium, Total	50	**2.57**		**0.69**	**J**	**1.44**		**0.55**	**J**	**1.23**		**0.49**	**J**	**0.81**	**J**	**0.37**	**J**	**45.98**		**0.62**	**J**	**0.65**	**J**	**0.41**	**J**	**0.36**	**J**	10	U	**0.35**	**J**	**0.44**	**J**
Chromium, Hexavalent, Total	50	-	-	-	-	-	-	-	-	-	-	**17**	**J**	**17**	**J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt, Total		**1.34**		**0.45**	**J**	**0.55**		**0.26**	**J**	0.5	U	0.5	U	**0.31**	**J**	0.5	U	**23.75**		0.5	U	**2.06**		**4.93**		5	U	5	U	**2.32**		0.5	U
Copper, Total	200	**2.05**		**0.63**	**J**	**1.35**		1	U	1	U	1	U	**1.3**		1	U	**215.1**		**2.67**	J	**0.55**	**J**	**0.67**	**J**	10	U	10	U	**0.62**	**J**	**0.38**	**J**
Cyanide, Total	200	-	-	-	-	-	-	-	-	-	-	5	U	5	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron, Total	300	**3660**		**3380**		**27700**		**31600**		**7120**		**8170**		**16700**		**19200**		**61200**		**6910**		**152**	J	**321**		**2160**		**3730**		**151**		**7290**	
Lead, Total	25	**1.31**		1	U	**4.73**		1	U	1	U	1	U	**6.11**		**1.21**		**353.2**		**0.59**	**J**	1	U	1	U	**4.76**		**3.55**	**J**	**0.51**	**J**	**0.52**	**J**
Magnesium, Total	35000	**44800**		**50500**		**22100**		**23400**		**79600**		**62100**		**20200**		**23700**		**39500**		**19000**		**73800**		**78400**		**18200**		**17600**		**75800**		**19100**	
Manganese, Total	300	**371.9**		**362.9**		**580.8**		**619.1**		**307.6**		**278.7**		**328.1**		**364.9**		**1460**		**248.6**		**722.9**	J	**1283**		**90.68**	J	**213.8**		**763.6**		**259.7**	
Mercury, Total	0.7	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	**0.75**		0.2	U	0.2	U	0.2	U	**0.19**	**J**	0.2	U	0.2	U	0.2	U
Nickel, Total	100	**2.12**		**0.99**	**J**	**1.4**	**J**	2	U	**0.64**	**J**	2	U	**1.26**	**J**	2	U	**75.11**		2	U	**3.46**		**3.11**		20	U	20	U	**3.2**		2	U
Potassium, Total		**5950**		**4890**		**18000**		**17300**		**6550**		**4640**		**14500**		**14100**		**15000**		**11600**		**6690**	J-	**4290**		**12700**	J	**12200**		**6750**		**12100**	
Selenium, Total	10	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	50	U	5	U	5	U	5	U	50	U	50	U	5	U	5	U
Silver, Total	50	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	4	U	0.4	U	0.4	U	0.4	U	4	U	4	U	0.4	U	0.4	U
Sodium, Total	20000	**234000**		**209000**		**149000**		**147000**		**212000**		**168000**		**89600**		**95200**		**125000**		**115000**		**252000**		**236000**		**2640000**		**966000**		**248000**		**122000**	
Thallium, Total	0.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	10	U	1	U	**0.18**	**J**	1	U	1	U	10	U	1	U	1	U
Vanadium, Total		**1.85**	**J**	5	U	5	U	5	U	5	U	5	U	5	U	5	U	**53.2**		5	U	5	U	5	U	5	U	50	U	5	U	5	U
Zinc, Total	2000	10	U	**5.14**	**J**	**5.53**	**J**	10	U	10	U	10	U	**3.59**	**J**	10	U	**406.5**		10	U	10	U	10	U	100	U	100	U	10	U	10	U
Dissolved Metals																																	
Aluminum, Dissolved		**6.28**	**J**	10	U	**4.2**	**J**	**3.96**	**J**	**3.92**	**J**	10	U	10	U	10	U	**19.2**		10	U	**7.84**	**J**	10	U	**48.9**	**J**	10	U	**6.52**	**J**	10	U
Antimony, Dissolved	3	**0.63**	**J**	4	U	4	U	4	U	4	U	4	U	4	U	4	U	**0.66**	**J**	4	U	**1.35**	**J**	4	U	**4.51**	**J**	4	U	4	U	4	U
Arsenic, Dissolved	25	**0.45**	**J**	**0.8**		**1.28**		**0.51**		**1.01**		**0.41**	**J**	**0.35**	**J**	**0.18**	**J**	**0.59**		**0.22**	**J**	**0.32**	**J**	**0.32**	**J**	**5.32**		**1.83**		**0.3**	**J**	0.5	U
Barium, Dissolved	1000	**65.38**		**55.7**		**182.8**		**128.5**		**29.14**		**22.92**		**194.3**		**154.7**		**230.3**		**201.4**		**31.56**		**24.06**		**309.3**		**180**		**32.96**		**199.6**	
Beryllium, Dissolved	3	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	5	U	0.5	U	0.5	U	0.5	U
Cadmium, Dissolved	5	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	2	U	0.2	U	0.2	U	0.2	U
Calcium, Dissolved		**340000**		**421000**		**164000**		**178000**		**545000**		**521000**		**144000**		**163000**		**137000**		**166000**		**687000**		**649000**		**162000**	J	**219000**		**550000**		**173000**	
Chromium, Dissolved	50	1	U	1	U	**0.26**	**J**	0.28	U	1	U	**0.21**	**J**	1	U	1	U	1	U	0.31	U	1	U	1	U	10	U	**0.19**	**J**	1	U	0.26	U
Chromium, Hexavalent, Dissolved	50	-	-	-	-	-	-	-	-	-	-	10	U	10	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt, Dissolved		**1.17**		**0.43**	**J**	**0.23**	**J**	**0.19**	**J**	0.5	U	0.5	U	0.5	U	0.5	U	**0.26**	**J**	0.5	U	**2.06**		**5**		5	U	0.5	U	**1.97**		0.5	U
Copper, Dissolved	200	**0.42**	**J**	1	U	1	U	1	U	1	U	1	U	1	U	1	U	**0.46**	**J**	**0.4**	**J**	**0.41**	**J**	1	U	10	U	**0.44**	**J**	**0.57**	**J**	1	U
Cyanide, Dissolved	200	-	-	-	-	-	-	-	-	-	-	5	U	5	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron, Dissolved	300	**40.5**	**J**	**2150**		**8870**		**2770**		**2690**		**7040**		**6060**		**887**		**83.4**		**144**	J	**82.4**		**28.7**	**J**	**252**	**J**	**53**		**124**		50	UJ
Lead, Dissolved	25	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	10	U	1	U	1	U	1	U
Magnesium, Dissolved	35000	**43100**		**47400**		**20900**		**22500**		**77300**		**62400**		**19900**		22100		**16200**		**18300**		**73900**		**71500**		**18400**		**17400**		**68700**		**19100**	
Manganese, Dissolved	300	**304**		**367.8**		**545.6**		**582.8**		**282.4**		**286.4**		**323.4**		**363**		**202.6**		**252.4**		**800.8**		**1200**		**135.6**	J	**218.2**		**596.5**		**271.4**	
Mercury, Dissolved	0.7	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Nickel, Dissolved	100	**1.74**	**J**	**0.92**	**J**	2	U	**0.88**	**J**	2	U	2	U	2	U	2	U	2	U	2	U	**2.97**		**3.18**		20	U	2	U	**2.85**		2	U
Potassium, Dissolved		**5270**		**4780**		**17600**		**17400**		**5540**		**4870**		**14600**		**15000**		**11600**		**12600**		**5530**		**4250**		**18700**	J	**12400**		**4960**		**13100**	
Selenium, Dissolved	10	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	50	U	5	U	5	U	5	U
Silver, Dissolved	50	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	4	U	0.4	U	0.4	U	0.4	U
Sodium, Dissolved	20000	**204000**		**211000**		**146000**		**148000**		**188000**		**176000**		**91400**		**98200**		**123000**		**120000**		**266000**		**236000**		**2560000**		**1040000**		**221000**		**124000**	
Thallium, Dissolved	0.5	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	10	U	1	U	1	U	1	U
Vanadium, Dissolved		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	50	U	5	U	5	U	5	U
Zinc, Dissolved	2000	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	100	U	10	U	10	U	10	U

Table 4
Alternatives Analysis Report / Remedial Action Work Plan
Groundwater Data Summary

LOCATION		MW-101 ROUND 1		MW-101 ROUND 2		MW-102 ROUND 1		MW-102 ROUND 2		MW-103 ROUND 1		MW-103 ROUND 2		MW-104 ROUND 1		MW-104 ROUND 2		MW-105 ROUND 1		MW-105 ROUND 2		MW-106 ROUND 1		MW-106 ROUND 2		MW-107 ROUND 1		MW-107 ROUND 2		DUP ROUND 1 (MW-106 ROUND 1)		DUP ROUND 2 (MW-105 ROUND 2)	
SAMPLING DATE		12/13/2024		2/12/2025		12/12/2024		2/11/2025		12/13/2024		2/12/2025		12/12/2024		2/11/2025		12/13/2024		2/11/2025		12/13/2024		2/11/2025		12/13/2024		2/12/2025		12/13/2024		2/11/2025	
LAB SAMPLE ID		L2473569-05		L2507955-01		L2473175-02		L2507633-01		L2473569-02		L2507955-02		L2473175-01		L2507633-02		L2473569-04		L2507633-03		L2473569-01		L2507633-04		L2473569-03		L2507955-03		L2473569-06		L2507633-05	
SAMPLE TYPE		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
SAMPLE DEPTH (ft.)		14		14		20		20		20		20		20		20		20		20		20		20		20		20		20		20	
Analyte	**NY TOGS 1.1.1 AWQS**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Perfluorinated Alkyl Acids by EPA 1633																																	
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)		6.31	U	6.14	U	6.08	U	-	-	6.38	U	-	-	6.16	U	-	-	6.27	U	-	-	6.37	U	-	-	6.23	U	6.1	U	6.23	U	-	-
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)		6.31	U	6.14	U	6.08	U	-	-	6.38	U	-	-	6.16	U	-	-	6.27	U	-	-	6.37	U	-	-	6.23	U	6.1	U	6.23	U	-	-
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)		6.31	U	6.14	U	6.08	U	-	-	6.38	U	-	-	6.16	U	-	-	6.27	U	-	-	6.37	U	-	-	6.23	U	6.1	U	6.23	U	-	-
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)		6.31	U	6.14	U	6.08	U	-	-	6.38	U	-	-	6.16	U	-	-	6.27	U	-	-	6.37	U	-	-	6.23	U	6.1	U	6.23	U	-	-
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)		39.4	U	38.4	U	38	U	-	-	39.9	U	-	-	38.5	U	-	-	39.2	U	-	-	39.8	U	-	-	39	U	38.1	U	38.9	U	-	-
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)		39.4	U	38.4	U	38	U	-	-	39.9	U	-	-	38.5	U	-	-	39.2	U	-	-	39.8	U	-	-	39	U	38.1	U	38.9	U	-	-
3-Perfluoropropyl Propanoic Acid (3:3FTCA)		7.88	U	7.68	U	7.59	U	-	-	7.98	U	-	-	7.7	U	-	-	7.83	U	-	-	7.96	U	-	-	7.79	U	7.63	U	7.79	U	-	-
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)		6.31	U	6.14	U	6.08	U	-	-	6.38	U	-	-	6.16	U	-	-	6.27	U	-	-	6.37	U	-	-	6.23	U	6.1	U	6.23	U	-	-
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)		6.31	U	6.14	U	6.08	U	-	-	6.38	U	-	-	6.16	U	-	-	6.27	U	-	-	6.37	U	-	-	6.23	U	6.1	U	6.23	U	-	-
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)		6.31	U	6.14	U	6.08	U	-	-	6.38	U	-	-	6.16	U	-	-	6.27	U	-	-	6.37	U	-	-	6.23	U	6.1	U	6.23	U	-	-
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)		1.58	U	1.54	U	1.52	U	-	-	1.6	U	-	-	1.54	U	-	-	1.57	U	-	-	1.59	U	-	-	1.56	U	1.52	U	1.56	U	-	-
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)		15.8	U	15.4	U	15.2	U	-	-	16	U	-	-	15.4	U	-	-	15.7	U	-	-	15.9	U	-	-	15.6	U	15.2	U	15.6	U	-	-
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)		1.58	U	1.54	U	1.52	U	-	-	1.6	U	-	-	1.54	U	-	-	1.57	U	-	-	1.59	U	-	-	1.56	U	1.52	U	1.56	U	-	-
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)		1.58	U	1.54	U	1.52	U	-	-	1.6	U	-	-	1.54	U	-	-	1.57	U	-	-	1.59	U	-	-	1.56	U	1.52	U	1.56	U	-	-
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)		15.8	U	15.4	U	15.2	U	-	-	16	U	-	-	15.4	U	-	-	15.7	U	-	-	15.9	U	-	-	15.6	U	15.2	U	15.6	U	-	-
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)		1.58	U	1.54	U	1.52	U	-	-	1.6	U	-	-	1.54	U	-	-	1.57	U	-	-	1.59	U	-	-	1.56	U	1.52	U	1.56	U	-	-
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)		3.15	U	3.07	U	3.04	U	-	-	3.19	U	-	-	3.08	U	-	-	3.13	U	-	-	3.18	U	-	-	3.12	U	3.05	U	3.11	U	-	-
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)		3.15	U	3.07	U	3.04	U	-	-	3.19	U	-	-	3.08	U	-	-	3.13	U	-	-	3.18	U	-	-	3.12	U	3.05	U	3.11	U	-	-
Perfluoro-3-Methoxypropanoic Acid (PFMPA)		3.15	U	3.07	U	3.04	U	-	-	3.19	U	-	-	3.08	U	-	-	3.13	U	-	-	3.18	U	-	-	3.12	U	3.05	U	3.11	U	-	-
Perfluoro-4-Methoxybutanoic Acid (PFMBA)		3.15	U	3.07	U	3.04	U	-	-	3.19	U	-	-	3.08	U	-	-	3.13	U	-	-	3.18	U	-	-	3.12	U	3.05	U	3.11	U	-	-
Perfluorobutanesulfonic Acid (PFBS)		**0.544**	**J**	**0.453**	**EMPC**	**1.57**		-	-	**0.455**	**J**	-	-	**1.08**	**J**	-	-	**1.05**	**J**	-	-	1.59	U	-	-	**4.85**		**4.42**		1.56	U	-	-
Perfluorobutanoic Acid (PFBA)		**1.44**	**J**	6.14	U	**2.2**	**J**	-	-	**2.73**	**J**	-	-	**1.38**	**J**	-	-	**1.15**	**J**	-	-	**0.804**	**J**	-	-	**5.69**	**J**	**5.66**	**J**	**0.522**	**J**	-	-
Perfluorodecanesulfonic Acid (PFDS)		1.58	U	1.54	U	1.52	U	-	-	1.6	U	-	-	1.54	U	-	-	1.57	U	-	-	1.59	U	-	-	1.56	U	1.52	U	1.56	U	-	-
Perfluorodecanoic Acid (PFDA)		1.58	U	1.54	U	1.52	U	-	-	1.6	U	-	-	1.54	U	-	-	1.57	U	-	-	1.59	U	-	-	1.56	U	1.52	U	1.56	U	-	-
Perfluorododecanesulfonic Acid (PFDoS)		1.58	U	1.54	U	1.52	U	-	-	1.6	U	-	-	1.54	U	-	-	1.57	U	-	-	1.59	U	-	-	1.56	U	1.52	U	1.56	U	-	-
Perfluorododecanoic Acid (PFDoA)		1.58	U	1.54	U	1.52	U	-	-	1.6	U	-	-	1.54	U	-	-	1.57	U	-	-	1.59	U	-	-	1.56	U	1.52	U	1.56	U	-	-
Perfluoroheptanesulfonic Acid (PFHpS)		1.58	U	1.54	U	1.52	U	-	-	1.6	U	-	-	1.54	U	-	-	1.57	U	-	-	1.59	U	-	-	1.56	U	1.52	U	1.56	U	-	-
Perfluoroheptanoic Acid (PFHpA)		**0.56**	**J**	**0.591**	**J**	**0.433**	**J**	-	-	1.6	U	-	-	**0.431**	**J**	-	-	1.57	U	-	-	**0.526**	**J**	-	-	**2.66**		**2.27**		**0.335**	**J**	-	-
Perfluorohexanesulfonic Acid (PFHxS)		**0.512**	**J**	**1.47**	**J**	1.52	U	-	-	**2.13**		-	-	**0.3**	**J**	-	-	1.57	U	-	-	1.59	U	-	-	**1.09**	**J**	**1.75**		1.56	U	-	-
Perfluorohexanoic Acid (PFHxA)		**0.875**	**EMPC**	**0.561**	**J**	**0.608**	**EMPC**	-	-	1.6	U	-	-	**0.601**	**J**	-	-	1.57	U	-	-	1.5	J	-	-	**4.72**		**3.07**		**1.51**	**J**	-	-
Perfluorononanesulfonic Acid (PFNS)		1.58	U	1.54	U	1.52	U	-	-	1.6	U	-	-	1.54	U	-	-	1.57	U	-	-	1.59	U	-	-	1.56	U	1.52	U	1.56	U	-	-
Perfluorononanoic Acid (PFNA)		1.58	U	**0.3**	**J**	1.52	U	-	-	1.6	U	-	-	1.54	U	-	-	1.57	U	-	-	1.59	U	-	-	1.56	U	**0.267**	**EMPC**	1.56	U	-	-
Perfluorooctanesulfonamide (PFOSA)		1.58	U	1.54	U	1.52	U	-	-	1.6	U	-	-	1.54	U	-	-	1.57	U	-	-	1.59	U	-	-	1.56	U	1.52	U	1.56	U	-	-
Perfluorooctanesulfonic Acid (PFOS)	2.7	**3.3**		**3.66**		1.52	U	-	-	1.6	U	-	-	**0.478**	**J**	-	-	**1.9**		-	-	1.59	U	-	-	1.56	U	**2.4**	**EMPC**	1.56	U	-	-
Perfluorooctanoic Acid (PFOA)	6.7	**2.42**		**4.55**		**1.83**		-	-	1.6	U	-	-	**1.26**	**J**	-	-	**0.564**	**J**	-	-	**0.629**	**J**	-	-	**7.78**		**6.9**		**0.459**	**J**	-	-
Perfluoropentanesulfonic Acid (PFPeS)		1.58	U	1.54	U	**0.645**	**EMPC**	-	-	1.6	U	-	-	1.54	U	-	-	1.57	U	-	-	1.59	U	-	-	1.56	U	1.52	U	1.56	U	-	-
Perfluoropentanoic Acid (PFPeA)		**1.29**	**J**	3.07	U	**1.26**	**J**	-	-	3.19	U	-	-	**0.408**	**J**	-	-	**0.713**	**J**	-	-	3.18	U	-	-	**6.49**		**4.72**		3.11	U	-	-
Perfluorotetradecanoic Acid (PFTeDA)		1.58	U	1.54	U	1.52	U	-	-	1.6	U	-	-	1.54	U	-	-	1.57	U	-	-	1.59	U	-	-	1.56	U	1.52	U	1.56	U	-	-
Perfluorotridecanoic Acid (PFTrDA)		1.58	U	1.54	U	1.52	U	-	-	1.6	U	-	-	1.54	U	-	-	1.57	U	-	-	1.59	U	-	-	1.56	U	1.52	U	1.56	U	-	-
Perfluoroundecanoic Acid (PFUnA)		1.58	U	1.54	U	1.52	U	-	-	1.6	U	-	-	1.54	U	-	-	1.57	U	-	-	1.59	U	-	-	1.56	U	1.52	U	1.56	U	-	-

Notes:
- All values are reported in micrograms per liter (µg/L) / parts per billion (ppb) except PFAAs which are reported in nanograms per liter (ng/L) / parts per trillion (ppt).
- Analytical results compared to New York Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards & Guidance Values Criteria per Standards & Guidance Values including all addenda through February 2023.
- **Bolded text** indicates analyte detected at concentrations greater than laboratory detection limits.
- Highlighted cell Indicates analyte exceeds the respective standard/guideline value.
- **Blue qualifiers** were applied based on a third party data usability review.
- Grey highlighted cell indicates the laboratory detection limit exceeds the respective standard/guideline value.
- "U" indicates the analyte was not detected at the reported detection limit for the sample.
- "UJ" indicates the analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
- "J" indicates estimated value.
- "J-" indicates the analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
- "EMPC" indicates the results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

Table 4
Alternatives Analysis Report / Remedial Action Work Plan
Groundwater Data Summary

LOCATION		TRIP BLANK		TRIP BLANK		TRIP BLANK		TRIP BLANK		FIELD BLANK		FIELD BLANK	
SAMPLING DATE		12/12/2024		12/13/2024		2/11/2025		2/12/2025		12/12/2024		2/12/2025	
LAB SAMPLE ID		L2473175-04		L2473569-07		L2507633-06		L2507955-05		L2473175-03		L2507955-04	
SAMPLE TYPE		WATER		WATER		WATER		WATER		WATER		WATER	
SAMPLE DEPTH (ft.)													
Analyte	NY TOGS 1.1.1 AWQS	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics by GC/MS													
1,1,1-Trichloroethane	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
1,1,2,2-Tetrachloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	-	-	-	-
1,1,2-Trichloroethane	1	1.5	U	1.5	U	1.5	U	1.5	U	-	-	-	-
1,1-Dichloroethane	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
1,1-Dichloroethene	5	0.5	U	0.5	U	0.5	U	0.5	UJ	-	-	-	-
1,2,4-Trichlorobenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
1,2,4-Trimethylbenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
1,2-Dibromo-3-chloropropane	0.04	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
1,2-Dibromoethane	0.0006	2	U	2	U	2	U	2	U	-	-	-	-
1,2-Dichlorobenzene	3	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
1,2-Dichloroethane	0.6	0.5	U	0.5	U	0.5	U	0.5	U	-	-	-	-
1,2-Dichloropropane	1	1	U	1	U	1	U	1	U	-	-	-	-
1,3,5-Trimethylbenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
1,3-Dichlorobenzene	3	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
1,4-Dichlorobenzene	3	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
2-Butanone	50	5	U	5	U	5	U	5	U	-	-	-	-
2-Hexanone	50	5	U	5	U	5	U	5	U	-	-	-	-
4-Methyl-2-pentanone		5	U	5	U	5	U	5	U	-	-	-	-
Acetone	50	5	U	5	U	5	U	5	U	-	-	-	-
Benzene	1	0.5	U	0.5	U	0.5	U	0.5	U	-	-	-	-
Bromodichloromethane	50	0.5	U	0.5	U	0.5	U	0.5	U	-	-	-	-
Bromoform	50	2	U	2	U	2	U	2	U	-	-	-	-
Bromomethane	5	2.5	U	2.5	U	2.5	U	2.5	UJ	-	-	-	-
Carbon disulfide	60	5	U	5	U	5	U	5	U	-	-	-	-
Carbon tetrachloride	5	0.5	U	0.5	U	0.5	U	0.5	U	-	-	-	-
Chlorobenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
Chloroethane	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
Chloroform	7	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
Chloromethane		2.5	U	2.5	UJ	2.5	U	2.5	U	-	-	-	-
cis-1,2-Dichloroethene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
cis-1,3-Dichloropropene	0.4	0.5	U	0.5	U	0.5	U	0.5	U	-	-	-	-
Cyclohexane		10	U	10	UJ	10	U	10	U	-	-	-	-
Dibromochloromethane	50	0.5	U	0.5	U	0.5	U	0.5	U	-	-	-	-
Dichlorodifluoromethane	5	5	U	5	U	5	U	5	U	-	-	-	-
Ethylbenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
Freon-113	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
Isopropylbenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
Methyl Acetate		2	U	2	U	2	U	2	U	-	-	-	-
Methyl cyclohexane		10	U	10	U	10	U	10	U	-	-	-	-
Methyl tert butyl ether	10	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
Methylene chloride	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
n-Butylbenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
n-Propylbenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
Naphthalene	10	2.5	U	2.5	U	2.5	UJ	2.5	U	-	-	-	-
o-Xylene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
p-Isopropyltoluene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
p/m-Xylene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
sec-Butylbenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
Styrene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
tert-Butylbenzene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
Tetrachloroethene	5	0.5	U	0.5	U	0.5	U	0.5	U	-	-	-	-
Toluene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
trans-1,2-Dichloroethene	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
trans-1,3-Dichloropropene	0.4	0.5	U	0.5	U	0.5	U	0.5	U	-	-	-	-
Trichloroethene	5	0.5	U	0.5	U	0.5	U	0.5	U	-	-	-	-
Trichlorofluoromethane	5	2.5	U	2.5	U	2.5	U	2.5	U	-	-	-	-
Vinyl chloride	2	1	U	1	UJ	1	U	1	UJ	-	-	-	-
Total TIC Compounds		0	U	0	U	0	U	0	U	-	-	-	-

Table 4
Alternatives Analysis Report / Remedial Action Work Plan
Groundwater Data Summary

LOCATION		TRIP BLANK		TRIP BLANK		TRIP BLANK		TRIP BLANK		FIELD BLANK		FIELD BLANK	
SAMPLING DATE		12/12/2024		12/13/2024		2/11/2025		2/12/2025		12/12/2024		2/12/2025	
LAB SAMPLE ID		L2473175-04		L2473569-07		L2507633-06		L2507955-05		L2473175-03		L2507955-04	
SAMPLE TYPE		WATER		WATER		WATER		WATER		WATER		WATER	
SAMPLE DEPTH (ft.)													
Analyte	**NY TOGS 1.1.1 AWQS**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Semivolatile Organics by GC/MS													
1,2,4,5-Tetrachlorobenzene	5	-	-	-	-	-	-	-	-	-	-	-	-
2,3,4,6-Tetrachlorophenol		-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol		-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol		-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	1	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	50	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	10	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	5	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	5	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol		-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol		-	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	5	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol		-	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	5	-	-	-	-	-	-	-	-	-	-	-	-
3-Methylphenol/4-Methylphenol		-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	5	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-o-cresol		-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether		-	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	5	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether		-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	5	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol		-	-	-	-	-	-	-	-	-	-	-	-
Acetophenone		-	-	-	-	-	-	-	-	-	-	-	-
Atrazine	7.5	-	-	-	-	-	-	-	-	-	-	-	-
Benzaldehyde		-	-	-	-	-	-	-	-	-	-	-	-
Biphenyl		-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethoxy)methane	5	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethyl)ether	1	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroisopropyl)ether	5	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-ethylhexyl)phthalate	5	-	-	-	-	-	-	-	-	-	-	-	-
Butyl benzyl phthalate	50	-	-	-	-	-	-	-	-	-	-	-	-
Caprolactam		-	-	-	-	-	-	-	-	-	-	-	-
Carbazole		-	-	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate	50	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-octylphthalate	50	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran		-	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	50	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	50	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	5	-	-	-	-	-	-	-	-	-	-	-	-
Isophorone	50	-	-	-	-	-	-	-	-	-	-	-	-
n-Nitrosodi-n-propylamine		-	-	-	-	-	-	-	-	-	-	-	-
NDPA/DPA	50	-	-	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	0.4	-	-	-	-	-	-	-	-	-	-	-	-
p-Chloro-m-cresol		-	-	-	-	-	-	-	-	-	-	-	-
Phenol	1	-	-	-	-	-	-	-	-	-	-	-	-
Total TIC Compounds		-	-	-	-	-	-	-	-	-	-	-	-
Semivolatile Organics by GC/MS-SIM													
1,4-Dioxane	0.35	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	10	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene		-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	20	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene		-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	50	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	0.002	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	0	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	0.002	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(ghi)perylene		-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	0.002	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	0.002	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,h)anthracene		-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	50	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	50	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	0.04	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	5	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	0.002	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	10	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	1	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	50	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	50	-	-	-	-	-	-	-	-	-	-	-	-

Table 4
Alternatives Analysis Report / Remedial Action Work Plan
Groundwater Data Summary

LOCATION		TRIP BLANK		TRIP BLANK		TRIP BLANK		TRIP BLANK		FIELD BLANK		FIELD BLANK	
SAMPLING DATE		12/12/2024		12/13/2024		2/11/2025		2/12/2025		12/12/2024		2/12/2025	
LAB SAMPLE ID		L2473175-04		L2473569-07		L2507633-06		L2507955-05		L2473175-03		L2507955-04	
SAMPLE TYPE		WATER		WATER		WATER		WATER		WATER		WATER	
SAMPLE DEPTH (ft.)													
Analyte	NY TOGS 1.1.1 AWQS	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Polychlorinated Biphenyls by GC													
Aroclor 1016	0.09	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1221	0.09	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1232	0.09	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1242	0.09	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1248	0.09	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1254	0.09	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1260	0.09	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1262	0.09	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1268	0.09	-	-	-	-	-	-	-	-	-	-	-	-
PCBs, Total		-	-	-	-	-	-	-	-	-	-	-	-
Chlorinated Herbicides by GC													
2,4,5-T	35	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-TP (Silvex)		-	-	-	-	-	-	-	-	-	-	-	-
2,4-D	50	-	-	-	-	-	-	-	-	-	-	-	-
Organochlorine Pesticides by GC													
4,4'-DDD	0.3	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.2	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.2	-	-	-	-	-	-	-	-	-	-	-	-
Aldrin	0	-	-	-	-	-	-	-	-	-	-	-	-
Alpha-BHC	0.01	-	-	-	-	-	-	-	-	-	-	-	-
Beta-BHC	0.04	-	-	-	-	-	-	-	-	-	-	-	-
Chlordane	0.05	-	-	-	-	-	-	-	-	-	-	-	-
cis-Chlordane		-	-	-	-	-	-	-	-	-	-	-	-
Delta-BHC	0.04	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.004	-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan I		-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan II		-	-	-	-	-	-	-	-	-	-	-	-
Endosulfan sulfate		-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0	-	-	-	-	-	-	-	-	-	-	-	-
Endrin aldehyde	5	-	-	-	-	-	-	-	-	-	-	-	-
Endrin ketone	5	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor	0.04	-	-	-	-	-	-	-	-	-	-	-	-
Heptachlor epoxide	0.03	-	-	-	-	-	-	-	-	-	-	-	-
Lindane	0.05	-	-	-	-	-	-	-	-	-	-	-	-
Methoxychlor	35	-	-	-	-	-	-	-	-	-	-	-	-
Toxaphene	0.06	-	-	-	-	-	-	-	-	-	-	-	-
trans-Chlordane		-	-	-	-	-	-	-	-	-	-	-	-

Table 4
Alternatives Analysis Report / Remedial Action Work Plan
Groundwater Data Summary

LOCATION		TRIP BLANK		TRIP BLANK		TRIP BLANK		TRIP BLANK		FIELD BLANK		FIELD BLANK	
SAMPLING DATE		12/12/2024		12/13/2024		2/11/2025		2/12/2025		12/12/2024		2/12/2025	
LAB SAMPLE ID		L2473175-04		L2473569-07		L2507633-06		L2507955-05		L2473175-03		L2507955-04	
SAMPLE TYPE		WATER		WATER		WATER		WATER		WATER		WATER	
SAMPLE DEPTH (ft.)													
Analyte	NY TOGS 1.1.1 AWQS	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Total Metals													
Aluminum, Total		-	-	-	-	-	-	-	-	-	-	-	-
Antimony, Total	3	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, Total	25	-	-	-	-	-	-	-	-	-	-	-	-
Barium, Total	1000	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium, Total	3	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium, Total	5	-	-	-	-	-	-	-	-	-	-	-	-
Calcium, Total		-	-	-	-	-	-	-	-	-	-	-	-
Chromium, Total	50	-	-	-	-	-	-	-	-	-	-	-	-
Chromium, Hexavalent, Total	50	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt, Total		-	-	-	-	-	-	-	-	-	-	-	-
Copper, Total	200	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide, Total	200	-	-	-	-	-	-	-	-	-	-	-	-
Iron, Total	300	-	-	-	-	-	-	-	-	-	-	-	-
Lead, Total	25	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium, Total	35000	-	-	-	-	-	-	-	-	-	-	-	-
Manganese, Total	300	-	-	-	-	-	-	-	-	-	-	-	-
Mercury, Total	0.7	-	-	-	-	-	-	-	-	-	-	-	-
Nickel, Total	100	-	-	-	-	-	-	-	-	-	-	-	-
Potassium, Total		-	-	-	-	-	-	-	-	-	-	-	-
Selenium, Total	10	-	-	-	-	-	-	-	-	-	-	-	-
Silver, Total	50	-	-	-	-	-	-	-	-	-	-	-	-
Sodium, Total	20000	-	-	-	-	-	-	-	-	-	-	-	-
Thallium, Total	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium, Total		-	-	-	-	-	-	-	-	-	-	-	-
Zinc, Total	2000	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Metals													
Aluminum, Dissolved		-	-	-	-	-	-	-	-	-	-	-	-
Antimony, Dissolved	3	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic, Dissolved	25	-	-	-	-	-	-	-	-	-	-	-	-
Barium, Dissolved	1000	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium, Dissolved	3	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium, Dissolved	5	-	-	-	-	-	-	-	-	-	-	-	-
Calcium, Dissolved		-	-	-	-	-	-	-	-	-	-	-	-
Chromium, Dissolved	50	-	-	-	-	-	-	-	-	-	-	-	-
Chromium, Hexavalent, Dissolved	50	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt, Dissolved		-	-	-	-	-	-	-	-	-	-	-	-
Copper, Dissolved	200	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide, Dissolved	200	-	-	-	-	-	-	-	-	-	-	-	-
Iron, Dissolved	300	-	-	-	-	-	-	-	-	-	-	-	-
Lead, Dissolved	25	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium, Dissolved	35000	-	-	-	-	-	-	-	-	-	-	-	-
Manganese, Dissolved	300	-	-	-	-	-	-	-	-	-	-	-	-
Mercury, Dissolved	0.7	-	-	-	-	-	-	-	-	-	-	-	-
Nickel, Dissolved	100	-	-	-	-	-	-	-	-	-	-	-	-
Potassium, Dissolved		-	-	-	-	-	-	-	-	-	-	-	-
Selenium, Dissolved	10	-	-	-	-	-	-	-	-	-	-	-	-
Silver, Dissolved	50	-	-	-	-	-	-	-	-	-	-	-	-
Sodium, Dissolved	20000	-	-	-	-	-	-	-	-	-	-	-	-
Thallium, Dissolved	0.5	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium, Dissolved		-	-	-	-	-	-	-	-	-	-	-	-
Zinc, Dissolved	2000	-	-	-	-	-	-	-	-	-	-	-	-

Table 4
Alternatives Analysis Report / Remedial Action Work Plan
Groundwater Data Summary

LOCATION		TRIP BLANK		TRIP BLANK		TRIP BLANK		TRIP BLANK		FIELD BLANK		FIELD BLANK	
SAMPLING DATE		**12/12/2024**		**12/13/2024**		**2/11/2025**		**2/12/2025**		**12/12/2024**		**2/12/2025**	
LAB SAMPLE ID		**L2473175-04**		**L2473569-07**		**L2507633-06**		**L2507955-05**		**L2473175-03**		**L2507955-04**	
SAMPLE TYPE		**WATER**		**WATER**		**WATER**		**WATER**		**WATER**		**WATER**	
SAMPLE DEPTH (ft.)													
Analyte	**NY TOGS 1.1.1 AWQS**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**	**Results**	**Qual**
Perfluorinated Alkyl Acids by EPA 1633													
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)		-	-	-	-	-	-	-	-	6.19	U	7.11	U
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)		-	-	-	-	-	-	-	-	6.19	U	7.11	U
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)		-	-	-	-	-	-	-	-	6.19	U	7.11	U
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)		-	-	-	-	-	-	-	-	6.19	U	7.11	U
2H,2H,3H,3H-Perfluorooctanoic Acid (5:3FTCA)		-	-	-	-	-	-	-	-	38.7	U	44.4	U
3-Perfluoroheptyl Propanoic Acid (7:3FTCA)		-	-	-	-	-	-	-	-	38.7	U	44.4	U
3-Perfluoropropyl Propanoic Acid (3:3FTCA)		-	-	-	-	-	-	-	-	7.74	U	8.89	U
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)		-	-	-	-	-	-	-	-	6.19	U	7.11	U
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)		-	-	-	-	-	-	-	-	6.19	U	7.11	U
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)		-	-	-	-	-	-	-	-	6.19	U	7.11	U
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)		-	-	-	-	-	-	-	-	15.5	U	17.8	U
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)		-	-	-	-	-	-	-	-	15.5	U	17.8	U
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)		-	-	-	-	-	-	-	-	3.1	U	3.55	U
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)		-	-	-	-	-	-	-	-	3.1	U	3.55	U
Perfluoro-3-Methoxypropanoic Acid (PFMPA)		-	-	-	-	-	-	-	-	3.1	U	3.55	U
Perfluoro-4-Methoxybutanoic Acid (PFMBA)		-	-	-	-	-	-	-	-	3.1	U	3.55	U
Perfluorobutanesulfonic Acid (PFBS)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
Perfluorobutanoic Acid (PFBA)		-	-	-	-	-	-	-	-	6.19	U	**0.622**	**J**
Perfluorodecanesulfonic Acid (PFDS)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
Perfluorodecanoic Acid (PFDA)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
Perfluorododecanesulfonic Acid (PFDoS)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
Perfluorododecanoic Acid (PFDoA)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
Perfluoroheptanesulfonic Acid (PFHpS)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
Perfluoroheptanoic Acid (PFHpA)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
Perfluorohexanesulfonic Acid (PFHxS)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
Perfluorohexanoic Acid (PFHxA)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
Perfluorononanesulfonic Acid (PFNS)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
Perfluorononanoic Acid (PFNA)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
Perfluorooctanesulfonamide (PFOSA)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
Perfluorooctanesulfonic Acid (PFOS)	2.7	-	-	-	-	-	-	-	-	1.55	U	**0.426**	**J**
Perfluorooctanoic Acid (PFOA)	6.7	-	-	-	-	-	-	-	-	1.55	U	1.78	U
Perfluoropentanesulfonic Acid (PFPeS)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
Perfluoropentanoic Acid (PFPeA)		-	-	-	-	-	-	-	-	3.1	U	3.55	U
Perfluorotetradecanoic Acid (PFTeDA)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
Perfluorotridecanoic Acid (PFTrDA)		-	-	-	-	-	-	-	-	1.55	U	1.78	U
Perfluoroundecanoic Acid (PFUnA)		-	-	-	-	-	-	-	-	1.55	U	1.78	U

Notes:
- All values are reported in micrograms per liter (µg/L) / parts per billion (ppb) except PFAAs which are reported in nanograms per liter (ng/L) / parts per trillion (ppt).
- Analytical results compared to New York Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards & Guidance Values Criteria per Standards & Guidance Values including all addenda through February 2023.
- **Bolded text** indicates analyte detected at concentrations greater than laboratory detection limits.
- Highlighted cell Indicates analyte exceeds the respective standard/guideline value.
- **Blue qualifiers** were applied based on a third party data usability review.
- Grey highlighted cell indicates the laboratory detection limit exceeds the respective standard/guideline value.
- "U" indicates the analyte was not detected at the reported detection limit for the sample.
- "UJ" indicates the analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
- "J" indicates estimated value.
- "J-" indicates the analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
- "EMPC" indicates the results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

Table 5
Alternatives Analysis Report / Remedial Action Work Plan
Soil Vapor Data Summary

LOCATION				SSV-101		IA-101		SSV-102		IA-102		SSV-103		SSV-103 RETEST		IA-103		CS-104		IA-104		CS-105		IA-105		SV-101		SV-102		SV-103		SV-104		SV-105		SV-106		SV-107		OA-101	
SAMPLING DATE				12/4/2024		12/4/2024		12/4/2024		12/4/2024		12/4/2024		1/14/2025		12/4/2024		12/4/2024		12/4/2024		12/4/2024		12/4/2024		12/4/2024		12/4/2024		12/4/2024		12/4/2024		12/4/2024		12/4/2024		12/4/2024		12/4/2024	
LAB SAMPLE ID				L2471075-01		L2471075-02		L2471075-03		L2471075-04		L2471075-05		L2502298-01		L2471075-06		L2471075-07		L2471075-08		L2471075-09		L2471075-10		L2471075-11		L2471075-12		L2471075-13		L2471075-14		L2471075-15		L2471075-16		L2471075-17		L2471075-18	
SAMPLE TYPE				Sub-Slab Soil Vapor		Indoor Air		Sub-Slab Soil Vapor		Indoor Air		Sub-Slab Soil Vapor		Sub-Slab Soil Vapor		Indoor Air		Crawl Space Air		Indoor Air		Crawl Space Air		Indoor Air		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Outdoor Air	
Analyte	NYSDOH AGV	NYSDOH Matrix Indoor Air	NYSDOH Matrix Soil Vapor	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics by TO-15																																								
1,1,1-Trichloroethane		3	100	1.09	UJ	1.09	U	1.09	U	1.09	UJ	3.64	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	UJ	1.09	U	1.09	U
1,1,2,2-Tetrachloroethane				1.37	UJ	1.37	U	1.37	U	1.37	UJ	4.58	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	U	1.37	UJ	1.37	U	1.37	U
1,1,2-Trichloroethane				1.09	UJ	1.09	U	1.09	U	1.09	UJ	3.64	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	U	1.09	UJ	1.09	U	1.09	U
1,1-Dichloroethene		0.2	6	0.793	UJ	0.793	U	0.793	U	0.793	UJ	2.64	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	UJ	0.793	U	0.793	U
1,2,4-Trichlorobenzene				1.48	UJ	1.48	U	1.48	U	1.48	UJ	4.95	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	U	1.48	UJ	1.48	U	1.48	U
1,2,4-Trimethylbenzene		2	60	0.983	UJ	0.983	U	0.983	U	0.983	UJ	3.28	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	**1.2**		**1.12**		**1.16**		**0.993**		**1.09**		0.983	UJ	0.983	U	0.983	U
1,2-Dibromoethane				1.54	UJ	1.54	U	1.54	U	1.54	UJ	5.13	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	U	1.54	UJ	1.54	U	1.54	U
1,2-Dichlorobenzene				1.2	UJ	1.2	U	1.2	U	1.2	UJ	4.01	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	UJ	1.2	U	1.2	U
1,2-Dichloroethane				0.809	UJ	0.809	U	0.809	U	0.809	UJ	2.7	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	U	0.809	UJ	0.809	U	0.809	U
1,2-Dichloropropane				0.924	UJ	0.924	U	0.924	U	0.924	UJ	3.08	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	U	0.924	UJ	0.924	U	0.924	U
1,3,5-Trimethylbenzene		2	60	0.983	UJ	0.983	U	0.983	U	0.983	UJ	3.28	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	UJ	0.983	U	0.983	U
1,3-Butadiene				0.442	UJ	0.442	U	0.442	U	0.442	UJ	1.48	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	U	0.442	UJ	0.442	U	0.442	U
1,3-Dichlorobenzene				1.2	UJ	1.2	U	1.2	U	1.2	UJ	4.01	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	**1.29**		**1.32**		**1.28**		1.2	U	**1.33**		**1.41**	J	1.2	U	1.2	U
1,4-Dichlorobenzene				1.2	UJ	1.2	U	1.2	U	1.2	UJ	4.01	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	UJ	1.2	U	1.2	U
1,4-Dioxane				0.721	UJ	0.721	U	0.721	U	0.721	UJ	2.4	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	UJ	0.721	U	0.721	U
2,2,4-Trimethylpentane		2	60	0.934	UJ	0.934	U	0.934	U	**0.99**	J	3.12	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	0.934	U	**3.69**		**3.24**		**3.92**		**3.7**		**3.24**		**4.61**	J	**3.58**		0.934	U
2-Butanone				1.47	UJ	1.47	U	1.47	U	1.47	UJ	4.93	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	**2.62**		**2.72**		**2.79**		**2.24**		**2.76**		**3.21**	J	**2.33**		1.47	U
2-Hexanone				0.82	UJ	0.82	U	0.82	U	0.82	UJ	2.73	U	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U	0.82	UJ	0.82	U	0.82	U
3-Chloropropene				0.626	UJ	0.626	U	0.626	U	0.626	UJ	2.09	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	U	0.626	UJ	0.626	U	0.626	U
4-Ethyltoluene				0.983	UJ	0.983	U	0.983	U	0.983	UJ	3.28	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	U	0.983	UJ	0.983	U	0.983	U
4-Methyl-2-pentanone				2.05	UJ	2.05	U	2.05	U	2.05	UJ	6.84	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	U	2.05	UJ	2.05	U	2.05	U
Acetone				**16.4**	J	**5.37**		**5.32**		**5.08**	J	**17.5**		**13**		**4.47**		**5.13**		**138**		**7.41**		**59.1**		**54.9**		**59.9**		**61.8**		**46.3**		**61.5**		**126**	J	**48.7**		**3.66**	
Benzene		2	60	**2.09**	J	0.639	U	**1.77**		0.639	UJ	**25.3**		**2.66**		0.639	U	0.639	U	0.639	U	**0.725**		0.639	U	**1.27**		**1.4**		**1.32**		**1.29**		**1.28**		**1.92**	J	**1.36**		0.639	U
Benzyl chloride				1.04	UJ	1.04	U	1.04	U	1.04	UJ	3.45	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	U	1.04	UJ	1.04	U	1.04	U
Bromodichloromethane				1.34	UJ	1.34	U	1.34	U	1.34	UJ	4.47	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	U	1.34	UJ	1.34	U	1.34	U
Bromoform				2.07	UJ	2.07	U	2.07	U	2.07	UJ	6.9	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	U	2.07	UJ	2.07	U	2.07	U
Bromomethane				0.777	UJ	0.777	U	0.777	U	0.777	UJ	2.59	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	U	0.777	UJ	0.777	U	0.777	U
Carbon disulfide				**5.57**	J	0.623	U	**0.959**		0.623	UJ	**30.5**		**38.3**		0.623	U	**0.872**		0.623	U	**0.925**		0.623	U	0.623	U	0.623	U	0.623	U	0.623	U	0.623	U	**0.757**	J	0.623	U	0.623	U
Chlorobenzene				0.921	UJ	0.921	U	0.921	U	0.921	UJ	3.07	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	U	0.921	UJ	0.921	U	0.921	U
Chloroethane				0.528	UJ	0.528	U	0.528	U	0.528	UJ	1.76	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	U	0.528	UJ	0.528	U	0.528	U
Chloroform				0.977	UJ	0.977	U	0.977	U	0.977	UJ	**17.8**		**6.49**		0.977	U	**10.6**		0.977	U	**8.79**		0.977	U	0.977	U	0.977	U	0.977	U	0.977	U	0.977	U	0.977	UJ	0.977	U	0.977	U
Chloromethane				0.413	UJ	**1.07**		0.413	U	**1.07**	J	**5.06**		0.413	U	**1.09**		0.413	U	**1.13**		0.413	U	**1.1**		**1.27**		**1.36**		**1.44**		**1.33**		**1.53**		**1.08**	J	**1.55**		**1.02**	
cis-1,3-Dichloropropene				0.908	UJ	0.908	U	0.908	U	0.908	UJ	3.03	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	UJ	0.908	U	0.908	U
Cyclohexane		2	60	**10.7**	J	0.688	U	**3.65**		0.688	UJ	**157**		**66.1**		0.688	U	0.688	U	0.688	U	0.688	U	0.688	U	**1.35**		**1.25**		**1.41**		**1.36**		**1.16**		**1.85**	J	**1.34**		0.688	U
Dibromochloromethane				1.7	UJ	1.7	U	1.7	U	1.7	UJ	5.68	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	UJ	1.7	U	1.7	U
Dichlorodifluoromethane				**2.35**	J	**2.52**		**2.9**		**2.56**	J	**3.39**		**2.8**		**2.63**		**2.68**		**2.62**		**2.75**		**2.67**		**2.31**		**2.48**		**1.97**		**2.38**		**2.34**		**2.02**	J	**2.59**		**2.41**	
Ethanol				9.42	UJ	9.42	U	**11.4**		9.42	UJ	31.5	U	9.42	U	9.42	U	**14.5**		9.42	U	**17.1**		9.42	U	**644**		**529**		**641**		**522**		**594**		**486**	J	**539**		9.42	U
Ethyl Acetate				**2.75**	J	1.8	U	**3.3**		1.8	UJ	6.02	U	1.8	U	1.8	U	**6.16**		1.8	U	**6.49**		1.8	U	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U	1.8	UJ	1.8	U	1.8	U
Ethylbenzene		2	60	0.869	UJ	0.869	U	0.869	U	0.869	UJ	2.9	U	0.869	U	0.869	U	**0.899**		0.869	U	**1.3**		0.869	U	**0.999**		**0.973**		**1.14**		**0.912**		**0.912**		**1.03**	J	**0.986**		0.869	U
Freon-113				1.53	UJ	1.53	U	1.53	U	1.53	UJ	5.11	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	U	1.53	UJ	1.53	U	1.53	U
Freon-114				1.4	UJ	1.4	U	1.4	U	1.4	UJ	4.66	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U	1.4	UJ	1.4	U	1.4	U
Heptane		6	200	**8.36**	J	0.82	U	**5.82**		0.82	UJ	**240**		**5.29**		0.82	U	0.82	U	0.82	U	**0.869**		0.82	U	**1.35**		**1.3**		**1.44**		**1.28**		**1.26**		**2.08**	J	**1.38**		0.82	U
Hexachlorobutadiene				2.13	UJ	2.13	U	**9.89**		2.13	UJ	7.11	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	U	2.13	UJ	2.13	U	2.13	U
Isopropanol				**34.7**	J	**2.53**		**46**		**2.27**	J	**40.3**		**15.3**		**1.52**		**85.5**		1.23	U	**97.8**		1.23	U	**30.2**		**17.7**		**30.5**		**25.1**		**24.8**		**15**	J	**23.5**		1.23	U
Methyl tert butyl ether				0.721	UJ	0.721	U	0.721	U	0.721	UJ	2.4	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	UJ	0.721	U	0.721	U
Methylene chloride	60	3	100	1.74	UJ	1.74	U	1.74	U	1.74	UJ	5.8	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	U	1.74	UJ	1.74	U	1.74	U
n-Hexane		6	200	**20.3**	J	0.705	U	**15.4**		**0.708**	J	**835**		**20.9**		0.705	U	**2.79**		0.705	U	**3.29**		0.705	U	**3.26**		**3.11**		**3.7**		**3.44**		**2.88**		**5.92**	J	**3.22**		0.705	U
o-Xylene		2	60	0.869	UJ	0.869	U	0.869	U	0.869	UJ	2.9	U	0.869	U	0.869	U	**0.886**		0.869	U	**1.27**		0.869	U	**1.36**		**1.32**		**1.49**		**1.22**		**1.26**		**1.28**	J	**1.35**		0.869	U
p/m-Xylene		6	200	1.74	UJ	1.74	U	**2**		1.74	UJ	5.78	U	1.74	U	1.74	U	**3.17**		1.74	U	**4.52**		1.74	U	**3.38**		**3.31**		**3.89**		**3**		**3.07**		**3.32**	J	**3.33**		1.74	U
Styrene				0.852	UJ	0.852	U	0.852	U	0.852	UJ	2.84	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	U	0.852	UJ	0.852	U	0.852	U
Tertiary butyl Alcohol				1.52	UJ	1.52	U	1.52	U	1.52	UJ	5.06	U	1.52	U	1.52	U	1.52	U	1.52	U	1.52	U	1.52	U	**6.28**		**5.52**		**6.28**		**6.31**		**6**		**4.82**	J	**5.43**		1.52	U
Tetrachloroethene	30	3	100	1.36	UJ	1.36	U	1.36	U	**7.46**	J	4.52	U	1.36	U	1.36	U	1.36	U	**14**		1.36	U	1.36	U	1.36	U	**4.29**		1.36	U	1.36	U	1.36	U	1.36	UJ	1.36	U	1.36	U
Tetrahydrofuran				1.47	UJ	1.47	U	1.47	U	1.47	UJ	4.93	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	U	1.47	UJ	1.47	U	1.47	U
Toluene		10	300	**3.12**	J	**1.32**		**3.46**		**4.26**	J	**8.22**		**1.22**		**1.41**		**4.86**		**1.63**		**8.89**		**1.64**		**6.14**		**5.99**		**7.35**		**5.69**		**5.62**		**9.04**	J	**6.59**		0.754	U
trans-1,2-Dichloroethene				0.793	UJ	0.793	U	0.793	U	0.793	UJ	2.64	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	U	0.793	UJ	0.793	U	0.793	U
trans-1,3-Dichloropropene				0.908	UJ	0.908	U	0.908	U	0.908	UJ	3.03	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	U	0.908	UJ	0.908	U	0.908	U
Trichlorofluoromethane				1.12	UJ	**1.23**		1.12	U	**1.18**	J	3.75	U	1.12	U	**1.24**		**1.16**		**1.23**		**1.15**		**1.19**		1.12	U	**1.25**		**1.14**		1.12	U	**1.25**		1.12	UJ	**1.18**		**1.24**	
Vinyl bromide				0.874	UJ	0.874	U	0.874	U	0.874	UJ	2.92	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	UJ	0.874	U	0.874	U
Volatile Organics by TO-15 SIM																																							
1,1-Dichloroethane				0.081	UJ	0.081	U	0.081	U	0.081	UJ	0.27	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	U	0.081	UJ	0.081	U	0.081	U
Carbon tetrachloride		0.2	6	**0.365**	J	**0.434**		**0.415**		**0.409**	J	**667**		**90.6**		**0.472**		**0.554**		**0.428**		**0.591**		**0.434**		**0.302**		**0.283**		**0.296**		**0.277**		**0.308**		**0.226**	J	**0.321**		**0.409**	
cis-1,2-Dichloroethene		0.2	6	0.079	UJ	0.079	U	0.079	U	0.079	UJ	0.264	U	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U	0.079	UJ	0.079	U	0.079	U
Naphthalene		2	60	0.262	UJ	0.262	U	**0.708**		0.262	UJ	0.876	U	0.262	U	0.262	U	**0.519**		**0.351**		0.262	U	**0.304**		0.262	U	0.262	U	0.262	U	0.262	U	0.262	U	0.262	UJ	0.262	U	0.262	U
Trichloroethene	2	0.2	6	**0.226**	J	0.107	U	**0.333**		0.107	UJ	0.358	U	**0.107**		0.107	U	**0.828**		0.107	U	**0.726**		0.107	U	0.107	U	0.107	U	0.107	U	0.107	U	0.107	U	0.107	UJ	0.107	U	0.107	U
Vinyl chloride		0.2	6	0.051	UJ	0.051	U	0.051	U	0.051	UJ	0.171	U	0.051	U	0.051	U	0.051	U	0.051	U	0.051	U	0.051	U	**0.23**		**0.268**		**0.263**		**0.228**		**0.268**		**0.184**	J	**0.263**		0.051	U

Notes:
- All values are reporting in micrograms per cubic meter (ug/m3)
- Analytical results compared to NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006 and NYSDOH Soil Vapor / Indoor Air Decision Matrices, May 2017. Only those analytes with accompanying NYSDOH guidance values are shown.
- Paired sample locations are SSV-101 / IA-101, SSV-102 / IA-102, SSV-103 / IA-103, CS-104 / IA-104, and CS-105 / IA-105.
- Highlighted yellow cell indicates the analyte exceeds the respective NYSDOH AGV.
- For analytes that exceed a Decision Matrix value, highlighted green cell indicates "No Further Action" and highlighted red cell indicates "Mitigate."
- **Blue qualifiers** were applied based on a third party data usability review.
- "U" indicates the analyte not detected at the reported detection limit for the sample.
- "UJ" indicates the analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
- "J" indicates estimated value.

Table 6
Alternatives Analysis Report / Remedial Action Work Plan
Passive Soil Gas Sampler Data Summary

LOCATION				SSV-103		SSV-103 RETEST		PSG-101		PSG-102		PSG-103		PSG-104		PSG-105		PSG-106		PSG-107		PSG-108		PSG-109		PSG-110		PSG-111		PSG-112		PSG-113		PSG-114		PSG-115		TRIP BLANK	
SAMPLING DATE				12/4/2024		1/14/2025		2/20/2025		2/20/2025		2/20/2025		2/20/2025		2/20/2025		2/20/2025		2/20/2025		2/20/2025		2/20/2025		2/20/2025		2/20/2025		2/20/2025		2/20/2025		2/20/2025		2/20/2025		2/20/2025	
LAB SAMPLE ID				L2471075-05		L2502298-01		211313		211314		211315		211310		211312		211308		211309		211308		211304		211305		211306		211307		211289		211290		211291		211316	
SAMPLE TYPE				Sub-Slab Soil Vapor		Sub-Slab Soil Vapor		Sub-Slab Soil Vapor		Sub-Slab Soil Vapor		Sub-Slab Soil Vapor		Sub-Slab Soil Vapor		Sub-Slab Soil Vapor		Sub-Slab Soil Vapor		Sub-Slab Soil Vapor		Sub-Slab Soil Vapor		Sub-Slab Soil Vapor		Sub-Slab Soil Vapor		Sub-Slab Soil Vapor		Sub-Slab Soil Vapor		Sub-Slab Soil Vapor		Sub-Slab Soil Vapor		Sub-Slab Soil Vapor	
Analyte	NYSDOH AGV	NYSDOH Matrix Indoor Air	NYSDOH Matrix Soil Vapor	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics by TO-15 SIM																																					
Carbon tetrachloride		0.2	6	667		90.6		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	-
Volatile Organics by Modified USEPA Method 8260																																					
Carbon tetrachloride		0.2	6	-	-	-	-	75.8	U	75.8	U	197		2230		82.6		75.7	U	75.7	U	166		75.5	U	75.6	U	75.6	U	618		75.5	U	75.5	U	75.5	U	75.6	U

Notes:
- All values are reporting in micrograms per cubic meter (ug/m3)
- Analytical results compared to NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006 and NYSDOH Soil Vapor / Indoor Air Decision Matrices, May 2017. Only those analytes with accompanying NYSDOH guidance values are shown.
- For analytes that exceed a Decision Matrix value, highlighted red cell indicates "Mitigate."
- Highlighted grey cell indicates the detection limit exceeded the respective NYSDOH guidance value.
- "U" indicates the analyte not detected at the reported detection limit for the sample.

Table 7
Alternatives Analysis Report / Remedial Action Work Plan
SVE System Soil Vapor Data Summary

LOCATION		SVE-101		SVE-101		SVE-101		SVE-101		SVE-101		SVE-101		SVE-101 (Tedlar)		SVE-101 (Summa)		SVE-101		SVE-101	
SAMPLING DATE		7/14/2025		7/21/2025		7/28/2025		8/4/2025		8/11/2025		8/18/2025		8/26/2025		8/26/2025		9/2/2025		9/9/2025	
LAB SAMPLE ID		L2544000-01		L2546085-01		L2547116-01		L2548746-01		L2550287-01		L2552041-01		L2553844-01		L2553844-02		L2555009-01		L2556691-01	
SAMPLE TYPE		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor	
SAMPLE DEPTH (ft.)		3-8		3-8		3-8		3-8		3-8		3-8		3-8		3-8		3-8		3-8	
	NYSDOH Matrix Soil Vapor	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics in Air																					
1,1,1-Trichloroethane	100	682	U	27.8	U	16.8	U	7.75	U	26	U	4.51	U	4.54	U	6.98	U	3.73	U	2.1	U
1,1,2,2-Tetrachloroethane		858	U	35	U	21.1	U	9.75	U	32.7	U	5.67	U	5.72	U	8.79	U	4.7	U	2.64	U
1,1,2-Trichloroethane		682	U	27.8	U	16.8	U	7.75	U	26	U	4.51	U	4.54	U	6.98	U	3.73	U	2.1	U
1,1-Dichloroethane		506	U	20.6	U	12.4	U	5.75	U	19.3	U	3.34	U	3.37	U	5.18	U	2.77	U	1.55	U
1,1-Dichloroethene	6	496	U	20.2	U	12.2	U	5.63	U	18.9	U	3.27	U	3.3	U	5.07	U	2.71	U	1.52	U
1,2,4-Trichlorobenzene		928	U	95	U	56.9	U	26.4	U	88.3	U	15.4	U	15.4	U	23.8	U	12.7	U	7.13	U
1,2,4-Trimethylbenzene	60	615	U	25.1	U	**10.6**	**J**	6.98	U	23.4	U	4.06	U	4.1	U	6.29	U	**3.53**		1.89	U
1,2-Dibromoethane		961	U	39.2	U	23.6	U	10.9	U	36.6	U	6.35	U	6.4	U	9.84	U	5.26	U	2.95	U
1,2-Dichlorobenzene		752	U	30.7	U	18.5	U	8.54	U	28.6	U	4.97	U	5.01	U	7.7	U	4.11	U	2.31	U
1,2-Dichloroethane		506	U	20.6	U	12.4	U	5.75	U	19.3	U	3.34	U	3.37	U	5.18	U	2.77	U	1.55	U
1,2-Dichloropropane		578	U	23.6	U	14.2	U	6.56	U	22	U	3.82	U	3.85	U	5.92	U	3.16	U	1.77	U
1,3,5-Trimethybenzene	60	615	U	25.1	U	15.1	U	6.98	U	23.4	U	4.06	U	4.1	U	6.29	U	3.36	U	1.89	U
1,3-Butadiene		277	U	11.3	U	6.79	U	3.14	U	10.5	U	**1.83**		1.84	U	2.83	U	1.51	U	0.85	U
1,3-Dichlorobenzene		752	U	30.7	U	18.5	U	8.54	U	28.6	U	4.97	U	5.01	U	7.7	U	4.11	U	2.31	U
1,4-Dichlorobenzene		752	U	30.7	U	18.5	U	8.54	U	28.6	U	4.97	U	5.01	U	7.7	U	4.11	U	2.31	U
1,4-Dioxane		450	U	91.9	U	55.1	U	25.6	U	85.8	U	14.9	U	15	U	23.2	U	12.3	U	6.92	U
2,2,4-Trimethylpentane	60	584	U	238	U	143	U	66.3	U	222	U	38.6	U	38.9	U	59.8	U	31.9	U	17.9	U
2-Butanone		**3950**		**1090**		**1020**		**475**		**1100**		**206**		**89.1**		**170**		**549**		**36.6**	
2-Hexanone		512	U	209	U	126	U	58.2	U	195	U	33.9	U	34.1	U	52.5	U	28	U	15.7	U
3-Chloropropene		391	U	160	U	96.1	U	44.4	U	149	U	25.9	U	26.1	U	40.1	U	21.4	U	12	U
4-Ethyltoluene		615	U	25.1	U	15.1	U	6.98	U	23.4	U	4.06	U	4.1	U	6.29	U	3.36	U	1.89	U
4-Methyl-2-pentanone		1280	U	525	U	314	U	145	U	488	U	84.8	U	85.2	U	132	U	70.1	U	39.3	U
Acetone		**48900**		**19800**		**17300**		**6840**		**14600**		**4800**		**2320**		**2250**		**11100**		**359**	
Benzene	60	399	U	81.5	U	**17.6**	**J**	22.7	U	76	U	16.6		13.3	U	20.5	U	10.9	U	**14**	
Benzyl chloride		647	U	132	U	79.2	U	36.8	U	123	U	21.4	U	21.6	U	33.3	U	17.7	U	9.94	U
Bromodichloromethane		837	U	34.2	U	20.6	U	9.51	U	31.9	U	5.53	U	5.58	U	8.58	U	4.58	U	2.57	U
Bromoform		1290	U	52.7	U	31.7	U	14.7	U	49.2	U	8.54	U	8.61	U	13.2	U	7.07	U	3.97	U
Bromomethane		485	U	19.8	U	11.9	U	5.51	U	18.5	U	3.21	U	3.23	U	4.97	U	2.66	U	1.49	U
Carbon disulfide		389	U	**34.9**	**J**	**28.6**	**J**	44.2	U	148	U	**28.1**		25.9	U	39.9	U	21.3	U	**15.2**	
Carbon tetrachloride	6	786	U	32.1	U	19.3	U	8.93	U	29.9	U	**5.46**		5.24	U	**42.8**		**99.4**		**6.67**	
Chlorobenzene		576	U	117	U	**32.5**	**J**	32.7	U	110	U	**30.8**		**26.5**		29.6	U	**17.5**		**34.8**	
Chloroethane		330	U	67.3	U	40.4	U	18.7	U	62.8	U	10.9	U	11	U	17	U	9.02	U	5.07	U
Chloroform		610	U	24.9	U	**9.72**	**J**	6.93	U	23.2	U	**5.23**		4.07	U	**77.6**		**17**		**1.97**	
Chloromethane		258	U	105	U	63.4	U	29.3	U	98.3	U	17.1	U	17.2	U	26.4	U	**14.8**		7.93	U
cis-1,2-Dichloroethene	6	496	U	20.2	U	12.2	U	5.63	U	18.9	U	3.27	U	3.3	U	5.07	U	2.71	U	1.52	U
cis-1,3-Dichloropropene		567	U	23.2	U	13.9	U	6.45	U	21.6	U	3.75	U	3.78	U	5.81	U	3.11	U	1.74	U
Cyclohexane	60	430	U	176	U	106	U	48.9	U	164	U	28.4	U	28.7	U	44.1	U	23.5	U	13.2	U
Dibromochloromethane		1060	U	43.4	U	26.2	U	12.1	U	40.6	U	7.04	U	7.1	U	10.9	U	5.83	U	3.27	U
Dichlorodifluoromethane		618	U	252	U	152	U	70.2	U	235	U	40.8	U	41.2	U	63.3	U	33.8	U	19	U
Ethanol		5880	U	2410	U	1450	U	669	U	2240	U	390	U	392	U	605	U	322	U	181	U
Ethyl Acetate		1120	U	461	U	276	U	128	U	429	U	74.6	U	75	U	116	U	61.6	U	34.6	U
Ethylbenzene	60	543	U	**29.9**		**12.6**	**J**	**9.56**		20.7	U	**10.6**		**6.86**		5.56	U	**6.69**		**9.43**	
Freon-113		958	U	98.1	U	58.8	U	27.2	U	91.2	U	15.9	U	15.9	U	24.6	U	13.1	U	7.36	U
Freon-114		874	U	89.5	U	53.6	U	24.8	U	83.2	U	14.5	U	14.5	U	22.4	U	12	U	6.71	U
Heptane	200	512	U	**216**		**242**		**251**		**215**		**235**		**90.6**		52.5	U	**95.1**		**144**	
Hexachlorobutadiene		1330	U	137	U	81.8	U	37.9	U	127	U	22.1	U	22.2	U	34.2	U	18.2	U	10.2	U
Isopropanol		1540	U	**406**	**J**	**226**	**J**	**300**		585	U	**285**		**809**		**1410**		**2880**		47.2	U
Methyl tert butyl ether		451	U	184	U	111	U	51.2	U	172	U	29.8	U	30	U	46.1	U	24.7	U	13.8	U
Methylene chloride	100	1080	U	445	U	266	U	123	U	413	U	71.9	U	72.3	U	112	U	59.4	U	33.4	U
n-Hexane	200	441	U	**59.2**	**J**	**61**	**J**	**94.1**		168	U	**56.7**		**61.7**		**142**		**260**		13.5	U
Naphthalene	60	624	U	67.1	U	40.2	U	18.6	U	62.4	U	10.9	U	10.9	U	16.8	U	8.97	U	5.03	U
o-Xylene	60	543	U	22.2	U	**14.6**		**10.2**		20.7	U	**9.86**		**7.95**		5.56	U	**8.17**		**10.5**	
p/m-Xylene	200	1090	U	**24.4**	**J**	**39.3**		**29.3**		41.4	U	**28.9**		**19.5**		11.2	U	**20.9**		**28**	
Styrene		532	U	**16.3**	**J**	**6.51**	**J**	6.05	U	20.3	U	**4.94**		**3.55**		5.45	U	**5.83**		**4.17**	
Tertiary butyl Alcohol		946	U	388	U	233	U	108	U	361	U	62.8	U	**606**		**1240**		**858**		29.1	U
Tetrachloroethene	100	848	U	**88.2**		20.8	U	9.63	U	32.3	U	5.6	U	5.65	U	8.68	U	4.64	U	2.6	U
Tetrahydrofuran		**118000**		**29800**		**28400**	**E**	**10700**	**E**	**25100**		**5600**		**4160**		**5540**		**149000**		**2010**	
Toluene	300	471	U	**30.8**	**J**	**27.2**	**J**	26.8	U	89.7	U	**17.7**		**16.3**		24.2	U	**19.9**		**13.6**	
trans-1,2-Dichloroethene		496	U	20.2	U	12.2	U	5.63	U	18.9	U	3.27	U	3.3	U	5.07	U	2.71	U	1.52	U
trans-1,3-Dichloropropene		567	U	23.2	U	13.9	U	6.45	U	21.6	U	3.75	U	3.78	U	5.81	U	3.11	U	1.74	U
Trichloroethene	6	672	U	27.4	U	16.5	U	7.63	U	25.6	U	4.44	U	4.48	U	**15.9**		**4.41**		**2.99**	
Trichlorofluoromethane		702	U	71.9	U	43.1	U	19.9	U	66.9	U	11.6	U	11.7	U	18	U	9.61	U	5.39	U
Vinyl bromide		547	U	223	U	134	U	62.1	U	208	U	36.1	U	36.4	U	56	U	29.9	U	16.8	U
Vinyl chloride	6	320	U	13	U	7.85	U	3.63	U	12.2	U	2.11	U	2.13	U	3.27	U	1.75	U	0.982	U

Notes:

- All values are in micrograms per cubic meter (ug/m3)

- Analytical results compared to NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006 and NYSDOH Soil Vapor / Indoor Air Decision Matrices, May 2017.

- Highlighted yellow cells indicate the analyte concentration exceeds the lowest tier of the NYSDOH Decision Matrix for Soil Vapor.

- Highlighted grey cell indicates that the detection limit exceeded the respective Decision Matrix value.

- "U" indicates the analyte not detected at the reported detection limit for the sample.
- "J" indicates estimated concentration.

Table 7
Alternatives Analysis Report / Remedial Action Work Plan
SVE System Soil Vapor Data Summary

LOCATION		SVE-102		SVE-102		SVE-102		SVE-102		SVE-102		SVE-102		SVE-102 (Tedlar)		SVE-102 (Summa)		SVE-102		SVE-102	
SAMPLING DATE		7/14/2025		7/21/2025		7/28/2025		8/4/2025		8/11/2025		8/18/2025		8/26/2025		8/26/2025		9/2/2025		9/9/2025	
LAB SAMPLE ID		L2544000-02		L2546085-02		L2547116-02		L2548746-02		L2550287-02		L2552041-02		L2553844-03		L2553844-04		L2555009-02		L2556691-02	
SAMPLE TYPE		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor	
SAMPLE DEPTH (ft.)		3-8		3-8		3-8		3-8		3-8		3-8		3-8		3-8		3-8		3-8	
	NYSDOH Matrix Soil Vapor	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Volatile Organics in Air																					
1,1,1-Trichloroethane	100	578	U	21.3	U	12.5	U	6.44	U	13	U	3.22	U	2.83	U	2.78	U	7.64	U	2.48	U
1,1,2,2-Tetrachloroethane		728	U	26.9	U	15.7	U	8.1	U	16.3	U	4.06	U	3.56	U	3.5	U	9.61	U	3.12	U
1,1,2-Trichloroethane		578	U	21.3	U	12.5	U	6.44	U	13	U	3.22	U	2.83	U	2.78	U	7.64	U	2.48	U
1,1-Dichloroethane		429	U	15.8	U	9.27	U	4.78	U	9.63	U	2.39	U	2.1	U	2.06	U	5.67	U	1.84	U
1,1-Dichloroethene	6	420	U	15.5	U	9.08	U	4.68	U	9.44	U	2.34	U	2.05	U	2.02	U	5.55	U	1.8	U
1,2,4-Trichlorobenzene		787	U	72.5	U	42.6	U	21.8	U	44.2	U	11	U	9.58	U	9.43	U	25.9	U	8.39	U
1,2,4-Trimethylbenzene	60	521	U	19.2	U	**5.65**	**J**	5.8	U	11.7	U	2.91	U	2.55	U	2.5	U	**7.92**		2.23	U
1,2-Dibromoethane		815	U	30	U	17.6	U	9.07	U	18.3	U	4.54	U	3.98	U	3.91	U	10.8	U	3.49	U
1,2-Dichlorobenzene		637	U	23.5	U	13.8	U	7.09	U	14.3	U	3.55	U	3.11	U	3.06	U	8.42	U	2.73	U
1,2-Dichloroethane		429	U	15.8	U	9.27	U	4.78	U	9.63	U	2.39	U	2.1	U	2.06	U	5.67	U	1.84	U
1,2-Dichloropropane		490	U	18.1	U	10.6	U	5.45	U	11	U	2.73	U	2.39	U	2.35	U	6.47	U	2.1	U
1,3,5-Trimethybenzene	60	521	U	19.2	U	11.3	U	5.8	U	11.7	U	2.91	U	2.55	U	2.5	U	6.88	U	2.23	U
1,3-Butadiene		235	U	8.65	U	5.07	U	2.61	U	5.27	U	1.31	U	1.15	U	1.13	U	3.1	U	1	U
1,3-Dichlorobenzene		637	U	23.5	U	13.8	U	7.09	U	14.3	U	3.55	U	3.11	U	3.06	U	8.42	U	2.73	U
1,4-Dichlorobenzene		637	U	23.5	U	13.8	U	7.09	U	14.3	U	3.55	U	3.11	U	3.06	U	8.42	U	2.73	U
1,4-Dioxane		382	U	70.3	U	41.4	U	21.2	U	42.9	U	10.7	U	9.33	U	9.15	U	25.2	U	8.18	U
2,2,4-Trimethylpentane	60	495	U	183	U	107	U	55.1	U	111	U	27.6	U	24.2	U	23.8	U	65.4	U	21.2	U
2-Butanone		**13500**		**3010**		**2720**		**1670**		**1930**		**439**		**242**		**278**		**416**		**197**	
2-Hexanone		434	U	160	U	93.8	U	48.4	U	97.5	U	24.2	U	21.2	U	20.9	U	57.4	U	18.6	U
3-Chloropropene		332	U	122	U	71.7	U	36.9	U	74.5	U	18.5	U	16.2	U	15.9	U	43.8	U	14.2	U
4-Ethyltoluene		521	U	19.2	U	11.3	U	5.8	U	11.7	U	2.91	U	2.55	U	2.5	U	6.88	U	2.23	U
4-Methyl-2-pentanone		1090	U	400	U	235	U	120	U	244	U	60.7	U	52.9	U	52	U	143	U	46.3	U
Acetone		**42300**		**12900**		**9880**		**5440**		**6270**		**2370**		**1020**		**943**		**2370**		**727**	
Benzene	60	339	U	62.3	U	**13.5**	**J**	18.8	U	38	U	**12.3**		**9.33**		8.11	U	22.3	U	**10**	
Benzyl chloride		549	U	101	U	59.5	U	30.4	U	61.6	U	15.3	U	13.4	U	13.2	U	36.1	U	11.8	U
Bromodichloromethane		710	U	26.2	U	15.3	U	7.91	U	15.9	U	3.96	U	3.47	U	3.41	U	9.38	U	3.04	U
Bromoform		1100	U	40.4	U	23.7	U	12.2	U	24.6	U	6.11	U	5.36	U	5.26	U	14.5	U	4.69	U
Bromomethane		412	U	15.2	U	8.89	U	4.58	U	9.24	U	2.29	U	2.01	U	1.98	U	5.44	U	1.76	U
Carbon disulfide		330	U	**24.3**	**J**	**21.4**	**J**	36.7	U	74.1	U	**22.6**		16.1	U	15.9	U	43.6	U	14.1	U
Carbon tetrachloride	6	667	U	**24.6**		**11.6**	**J**	**11.8**		15	U	**10.8**		**5.37**		**7.36**		**17.1**		**6.28**	
Chlorobenzene		488	U	89.8	U	**30.6**	**J**	27.1	U	54.8	U	26		**26**		**15.6**		32.1	U	**28.3**	
Chloroethane		280	U	51.5	U	30.3	U	15.5	U	31.4	U	7.81	U	6.83	U	6.7	U	18.4	U	5.99	U
Chloroform		518	U	**18.1**	**J**	**14**		**13.8**		11.6	U	**12**		**6.2**		**9.67**		**10.5**		**5.96**	
Chloromethane		219	U	80.7	U	47.3	U	24.4	U	49.1	U	12.2	U	10.7	U	10.5	U	28.9	U	9.38	U
cis-1,2-Dichloroethene	6	420	U	15.5	U	9.08	U	4.68	U	9.44	U	2.34	U	2.05	U	2.02	U	5.55	U	1.8	U
cis-1,3-Dichloropropene		481	U	17.8	U	10.4	U	5.36	U	10.8	U	2.68	U	2.35	U	2.31	U	6.36	U	2.06	U
Cyclohexane	60	365	U	135	U	78.8	U	40.6	U	81.9	U	20.3	U	17.8	U	17.5	U	48.2	U	15.6	U
Dibromochloromethane		903	U	33.3	U	19.5	U	10.1	U	20.3	U	5.03	U	4.41	U	4.34	U	11.9	U	3.87	U
Dichlorodifluoromethane		524	U	193	U	113	U	58.3	U	118	U	29.2	U	25.6	U	25.2	U	69.2	U	22.4	U
Ethanol		5010	U	1840	U	1080	U	554	U	1120	U	279	U	243	U	239	U	658	U	213	U
Ethyl Acetate		959	U	352	U	207	U	106	U	214	U	53.3	U	46.5	U	45.8	U	126	U	40.7	U
Ethylbenzene	60	460	U	**11**	**J**	**11.5**		**9.95**		**10.9**		**9.12**		**6.17**		**2.76**		**9.69**		**6.99**	
Freon-113		812	U	**16.5**	**J**	**9.66**	**J**	22.5	U	45.6	U	11.3	U	9.89	U	9.73	U	26.7	U	8.66	U
Freon-114		741	U	68.2	U	40.1	U	20.5	U	41.6	U	10.3	U	9.02	U	8.88	U	24.4	U	7.9	U
Heptane	200	434	U	**158**	**J**	**166**		**211**		**179**		**165**		**75.8**		20.9	U	**85.7**		**82.4**	
Hexachlorobutadiene		1130	U	104	U	61.2	U	31.4	U	63.5	U	15.8	U	13.8	U	13.5	U	37.2	U	12.1	U
Isopropanol		1310	U	**408**	**J**	**144**	**J**	**165**		293	U	**195**		63.7	U	62.4	U	**6860**		55.8	U
Methyl tert butyl ether		382	U	141	U	82.6	U	42.5	U	85.8	U	21.3	U	18.7	U	18.4	U	50.5	U	16.4	U
Methylene chloride	100	924	U	339	U	199	U	102	U	207	U	51.4	U	44.8	U	44.1	U	121	U	39.3	U
n-Hexane	200	374	U	**115**	**J**	**31.5**	**J**	**58.2**		83.9	U	**31.2**		18.3	U	17.9	U	**895**		16	U
Naphthalene	60	530	U	51.2	U	30.1	U	15.4	U	31.2	U	7.76	U	6.76	U	6.66	U	18.3	U	5.92	U
o-Xylene	60	460	U	**10.2**	**J**	**11.9**		**11**		**11.9**		**8.86**		**7.21**		**5.08**		**12.7**		**8.08**	
p/m-Xylene	200	925	U	**30.5**	**J**	**33.4**		**30.7**		**35.7**		**24.2**		**17.3**		**9.51**		**33.4**		**20.5**	
Styrene		451	U	16.6	U	**6.81**	**J**	**5.02**		10.1	U	**4.64**		**3.3**		**4.01**		**9.79**		**3.28**	
Tertiary butyl Alcohol		806	U	296	U	174	U	89.1	U	180	U	44.9	U	39.1	U	38.5	U	**1140**		34.3	U
Tetrachloroethene	100	719	U	**69.2**		15.5	U	8	U	16.1	U	4.01	U	3.51	U	3.45	U	9.49	U	3.08	U
Tetrahydrofuran		**104000**		**23700**		**19500**	**E**	**10500**	**E**	**13100**		**3660**		**3270**		**2890**		**21800**		**2750**	
Toluene	300	399	U	**30.2**	**J**	**23.8**	**J**	22.2	U	44.8	U	**14.9**		9.76	U	9.57	U	**33.7**		**10.1**	
trans-1,2-Dichloroethene		420	U	15.5	U	9.08	U	4.68	U	9.44	U	2.34	U	2.05	U	2.02	U	5.55	U	1.8	U
trans-1,3-Dichloropropene		481	U	17.8	U	10.4	U	5.36	U	10.8	U	2.68	U	2.35	U	2.31	U	6.36	U	2.06	U
Trichloroethene	6	570	U	21	U	12.3	U	6.34	U	12.8	U	3.18	U	2.78	U	2.74	U	7.52	U	2.44	U
Trichlorofluoromethane		596	U	**11**	**J**	32.3	U	16.5	U	33.4	U	8.32	U	7.25	U	7.14	U	19.6	U	6.35	U
Vinyl bromide		463	U	171	U	100	U	51.6	U	104	U	25.8	U	22.6	U	22.3	U	61.2	U	19.8	U
Vinyl chloride	6	271	U	9.99	U	5.85	U	3.02	U	6.08	U	1.51	U	1.32	U	1.3	U	3.58	U	1.16	U

Notes:

- All values are in micrograms per cubic meter (ug/m3)

- Analytical results compared to NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006 and NYSDOH Soil Vapor / Indoor Air Decision Matrices, May 2017.

- Highlighted yellow cells indicate the analyte concentration exceeds the lowest tier of the NYSDOH Decision Matrix for Soil Vapor.

- Highlighted grey cell indicates that the detection limit exceeded the respective Decision Matrix value.

- "U" indicates the analyte not detected at the reported detection limit for the sample.
- "J" indicates estimated concentration.

Appendices

Appendix A

Metes and Bounds

Michael J. McCully, PLS
5875 Fieldstone Drive
Cazenovia, New York 13035
mike@mccullylandsurveying.com
315-815-5034

No. 1153-69 West Fayette Street

All that tract and or parcel of land situate in the City of Syracuse, County of Onondaga and State of New York, said tract and or parcel of land being known as Lot A on a Final Subdivision Map on Part of Farm Lots 261 & 262 according to a map thereof, as recorded in the Onondaga County Clerk's office on November 13, 2023 as Map #13566 and being more particularly described as follows:

Beginning at a point situate in the present southerly line of West Fayette Street, said point being N.75º-35'-20''W., a distance of 348.19 feet, as measured along said southerly line, from its intersection with the present westerly line of South Geddes Street;

thence, S.00º-31'00''E., a distance of 164.16 feet to a point;

thence, S.86º-59'-45''E., a distance of 69.63 feet to a point;

thence, S.00º-31'-00''E., a distance of 33.07 feet to a point;

thence, N.86º-59'-45''W., a distance of 77.38 feet to a point;

thence, S.05º-53'-50''E., a distance of 81.80 feet to a point;

thence, S.83º-54'-12''W., a distance of 141.05 feet to a point;

thence, N.06º-10'-06''W., a distance of 10.12 feet to a point;

thence, S.88º-18'-30''W., a distance of 104.05 feet to point;

thence N.27º-29'-19''W., a distance of 453.60 feet to a point;

thence S.75º-35'-20''E., a distance of 466.96 feet to the point of beginning.

The hereinbefore described tract and or parcel of land contains 2.65 acres, more or less, and is subject to and together with any and all easements, restrictions and/or rights of way of record.

Appendix B

Remedial Investigation Field Logs

C&S Engineers, Inc.
499 Col Eileen Collins Blvd
Syracuse, New York 13212
Phone: 315-455-2000
Fax: 315-455-9667
www.cscos.com

BORING LOG

Boring No.	**SB-101**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/26/24
Finish Date:	11/26/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation
Location:	Syracuse, NY
Client:	1153 Owner LLC
Drilling Firm:	SES

Groundwater	Depth	Date & Time
While Drilling:		
Before Casing Removal:		
After Casing Removal:		

Drill Rig:	GeoProbe 6011DT		
Casing:		**Rock Core:**	**Undist:**
Sampler:		**Other:**	
Hammer:			

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse
m - medium
f - fine

MATERIAL DESCRIPTION

S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

a - and - 35-50%
s - some - 20-35%
l - little - 10-20%
t - trace - 0-10%

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-1 ft: Black / grey topsoil and gravel, loose, moist	Recovery = 80%
1		0.0	1-4 ft: Brown SILT, trace clay, fm sand, soft, moist	Odor = None
				Staining = None
2		0.0		
3		0.0		
			4-10 ft: Black HFM (coal, cinder, brick, ash, wood), fmc, loose, moist	
4		0.0		
	SB-101			Recovery = 50%
5	FILL	0.0		Odor = None
	4-10			Staining = None
6	14:25	0.0		
7				
		0.0		
8				
		0.0		
9				
			10-12 ft: Black fm GRAVEL and SILT, loose, saturated	Recovery = 20%
10		0.0		Odor = None
				Staining = None
11		0.0		
	SB-101		12-20 ft: Dark brown SILT, trace fm sand, trace clay, little wood, soft, wet	
12	NATIVE			
	12-15	0.0		
13	14:35			
		4.7		
14				
				Recovery = 10%
15		0.0		Odor = None
				Staining = None
16		0.0		
17				
		0.0		
18				
		0.0		
19				
			20 ft: End of borehole	
20				
21				
22				
23				

C&S Engineers, Inc.	BORING LOG	Boring No.	SB-102
499 Col Eileen Collins Blvd Syracuse, New York 13212 Phone: 315-455-2000 Fax: 315-455-9667 www.cscos.com		Sheet 1 of:	1
		Project No.:	AB2.002.002

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation	**Surface Elev.:**	
Location:	Syracuse, NY	**Datum:**	
Client:	1153 Owner LLC	**Start Date:**	11/25/24
Drilling Firm:	SES	**Finish Date:**	11/25/24

Groundwater	Depth	Date & Time	Drill Rig:	GeoProbe 6011DT			Inspector:	CD / HH
While Drilling:			Casing:		Rock Core:		Undist:	
Before Casing Removal:			Sampler:		Other:			
After Casing Removal:			Hammer:					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	c - coarse m - medium f - fine **MATERIAL DESCRIPTION** S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey a - and - 35-50% s - some - 20-35% l - little - 10-20% t - trace - 0-10%	**COMMENTS** (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-3 ft: Grey asphalt / subbase	Recovery = 80%
1		0.0		Odor = None
				Staining = None
2		0.0		
	SB-102		3-8 ft: Black HFM (coal, cinder, brick, ash), fmc, loose, moist	
3	FILL	0.0		
	3-8			
4	13:10	0.0		
				Recovery = 50%
5		0.0		Odor = None
				Staining = None
6		0.0		
7				
		0.0	8-10 ft: Black SILT and CLAY, roots, soft, plastic, moist	
8				
		0.0		
9				
	SB-102		10-15 ft: Dark brown SILT and mc angular GRAVEL, loose, saturated	Recovery = 50%
10	NATIVE	3.8		Odor = Methane / Sulfur
	10-20			Staining = None
11	13:20			
				10-15 ft sleeve had very poor
12				recovery, pulled up another
				sleeve spanning from 10-20 ft
13				
14				
			15-20 ft: Dark brown CLAY, trace f sand, soft, plastic, saturated	
15		22.2		
		(HS: 1.2)		
16				
		6.2		
17				
18		49.4		
19				
			20 ft: End of borehole	
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-103**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/25/24
Finish Date:	11/25/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation							
Location:	Syracuse, NY							
Client:	1153 Owner LLC							
Drilling Firm:	SES							
Groundwater	***Depth***	***Date & Time***	***Drill Rig:***	GeoProbe 6011DT				
While Drilling:			***Casing:***		***Rock Core:***		***Undist:***	
Before Casing Removal:			***Sampler:***		***Other:***			
After Casing Removal:			***Hammer:***					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-2 ft: Grey asphalt / subbase	Recovery = 50%
1		0.0		Odor = None
	SB-103		2-4 ft: Black HFM (coal, cinder, brick, ash), fmc, loose, moist	Staining = None
2	FILL	0.0		
	2-6			
3	13:45	0.0		
			4-5 ft: Brown mc SAND, trace gravel, trace HFM, loose, moist	
4		0.0		
			5-8 ft: Dark brown HFM (coal, cinder, brick, ash), fmc, loose, moist	Recovery = 50%
5		0.0		Odor = None
				Staining = None
6		0.0		
7				
	SB-103	0.0	8-9 ft: Dark brown SILT, trace f sand, dense, moist	
8	NATIVE			
	8-14	1.4	9-10 ft: Dark brown mc SAND, some angular gravel, loose, wet	
9	13:35			
			10-13 ft: Dark brown mc SAND, some angular gravel, loose, saturated	Recovery = 10%
10		0.0		Odor = None
				Staining = None
11				
12				
		0.0	13-15 ft: Dark brown CLAY, trace f sand, soft, plastic, moist	
13				
14				
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-104**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/26/24
Finish Date:	11/26/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation
Location:	Syracuse, NY
Client:	1153 Owner LLC
Drilling Firm:	SES

Groundwater	Depth	Date & Time	Drill Rig:	GeoProbe 6011DT		
While Drilling:			**Casing:**		**Rock Core:**	**Undist:**
Before Casing Removal:			**Sampler:**		**Other:**	
After Casing Removal:			**Hammer:**			

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse
m - medium
f - fine

MATERIAL DESCRIPTION

S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

a - and - 35-50%
s - some - 20-35%
l - little - 10-20%
t - trace - 0-10%

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-0.5 ft: Grey asphalt / subbase	Recovery = 30%
1		0.0	0.5-4 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	Odor = None
				Staining = None
2		0.0		
3		0.0		
			4-5 ft: Brown fm SAND, loose, moist	
4		0.0		
	SB-104		5-8 ft: Black / brown HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	Recovery = 30%
5	FILL	0.0		Odor = None
	5-10			Staining = None
6	12:00	0.0		
7				
		0.0	8-13 ft: Black / brown HFM (coal, cinder, brick, ash, slag), fmc, loose, wet	
8				
		0.0		
9				
				Recovery = 10%
10		0.0		Odor = None
				Staining = None
11		0.0		
12				
		0.0	13-15 ft: Dark brown SILT and fm SAND, trace clay, loose, wet	
13				
		0.0		
14				
	SB-104		15-16 ft: Grey CLAY, soft, saturated	Recovery = 100%
15	NATIVE	0.0		Odor = None
	15-20		16-20 ft: Grey fm SAND, loose, saturated	Staining = None
16	12:05	0.0		
17				
		0.0		
18				
		0.0		
19				
			20 ft: End of borehole	
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-105**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/25/24
Finish Date:	11/25/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation
Location:	Syracuse, NY
Client:	1153 Owner LLC
Drilling Firm:	SES

Groundwater	Depth	Date & Time	Drill Rig:	GeoProbe 6011DT		
While Drilling:			**Casing:**		**Rock Core:**	**Undist:**
Before Casing Removal:			**Sampler:**		**Other:**	
After Casing Removal:			**Hammer:**			

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse
m - medium
f - fine

MATERIAL DESCRIPTION

S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

a - and - 35-50%
s - some - 20-35%
l - little - 10-20%
t - trace - 0-10%

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-0.5 ft: Concrete	Recovery = 50%
1		0.0	0.5-4 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	Odor = None
	SB-105			Staining = None
2	FILL	0.0		
	0-5	(HS: 0.7)		
3	12:25	1.0		
			4-5 ft: Brown HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	
4		0.0		
			5-8 ft: Dark brown CLAY, trace f sand, trace mc angular gravel, medium dense, moist	Recovery = 50%
5		0.0		Odor = None
				Staining = None
6		0.0		
7				
		0.0	8-10 ft: Black HFM (coal), fmc, loose, moist	
8				
		0.0		
9				
	SB-105		10-11 ft: Dark brown CLAY, soft, wet	Recovery = 50%
10	NATIVE	0.0		Odor = Methane / Sulfur
	10-15		11-15 ft: Dark brown SILT and CLAY, trace f sand, trace roots, moist	Staining = None
11	12:30	11.4		
		(HS: 0.3)		
12				
		19.0		
13				
		0.0		
14				
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-106**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/25/24
Finish Date:	11/25/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation							
Location:	Syracuse, NY							
Client:	1153 Owner LLC							
Drilling Firm:	SES							
Groundwater	**Depth**	**Date & Time**	**Drill Rig:**	GeoProbe 6011DT				
While Drilling:			**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:			**Sampler:**		**Other:**			
After Casing Removal:			**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse
m - medium
f - fine

a - and - 35-50%
s - some - 20-35%
l - little - 10-20%
t - trace - 0-10%

S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-0.5 ft: Concrete	Recovery = 30%
1		0.0	0.5-5 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	Odor = None
	SB-106			Staining = None
2	FILL	0.0		
	1-6			
3	11:25	0.0		
4		0.0		
			5-6 ft: White / yellow HFM (ash and brick), fmc, loose, moist	Recovery = 50%
5		0.0		Odor = None
			6-9 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	Staining = None
6		0.0		
7				
		0.0		
8				
		0.0	9-15 ft: Dark brown silty CLAY, trace wood, soft, semi-plastic, moist	
9				
	SB-106			Recovery = 25%
10	NATIVE	0.0		Odor = None
	9-15			Staining = None
11	11:30	0.0		
12				
		0.0		
13				
		0.0		
14				
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-106A**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/25/24
Finish Date:	11/25/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation
Location:	Syracuse, NY
Client:	1153 Owner LLC
Drilling Firm:	SES

Groundwater	Depth	Date & Time
While Drilling:		
Before Casing Removal:		
After Casing Removal:		

Drill Rig:	GeoProbe 6011DT				
Casing:		**Rock Core:**		**Undist:**	
Sampler:		**Other:**			
Hammer:					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-0.5 ft: Concrete	Recovery = 30%
1		0.0	0.5-8 ft: Black HFM (coal, cinder, brick, ash), fmc, loose, dry	Odor = None
	SB-106A			Staining = None
2	FILL	0.0		
	1-5			
3	11:00	0.0		
		(HS: 0.1)		
4		0.0		
				Recovery = 30%
5		0.0		Odor = None
				Staining = None
6		0.0		
7				
	SB-106A	0.0	8-10 ft: Black / dark brown m SAND, trace c angular gravel, brick fragments, loose,	
8	NATIVE		moist	
	8-10	0.0		
9	11:10	(HS: 1.8)		
			10-15 ft: No recovery	Recovery = 0%
10				Odor = None
				Staining = None
11				
12				
13				
14				
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-106B**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/25/24
Finish Date:	11/25/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation
Location:	Syracuse, NY
Client:	1153 Owner LLC
Drilling Firm:	SES

Groundwater	**Depth**	**Date & Time**	**Drill Rig:**	GeoProbe 6011DT			**Undist:**
While Drilling:			**Casing:**		**Rock Core:**		
Before Casing Removal:			**Sampler:**		**Other:**		
After Casing Removal:			**Hammer:**				

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-0.5 ft: Concrete	Recovery = 50%
1		0.0	0.5-8 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	Odor = None
	SB-106B			Staining = None
2	FILL	0.0		
	1-5	(HS: 0.2)		
3	12:10	0.0		
4		0.3		
				Recovery = 20%
5		0.0		Odor = None
				Staining = None
6		0.0		
7				
		0.0	8-10 ft: Dark brown CLAY, trace c angular gravel, dense, non-plastic, moist	
8				
		0.0		
9				
	SB-106B	0.8	10-11 ft: Dark brown angular GRAVEL, trace mc sand, loose, wet	Recovery = 50%
10	NATIVE			Odor = Methane / Sulfur
	10-12	5.3	11-11.5 ft: Wood	Staining = None
11	12:15		11.5-15 ft: Dark brown SILT, trace f sand, roots, soft, moist	
		2.9		
12				
		0.7		
13				
		0.8		
14				
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-106C**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/25/24
Finish Date:	11/25/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation								
Location:	Syracuse, NY								
Client:	1153 Owner LLC								
Drilling Firm:	SES								
Groundwater		**Depth**	**Date & Time**	**Drill Rig:**	GeoProbe 6011DT				
While Drilling:				**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:				**Sampler:**		**Other:**			
After Casing Removal:				**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-0.5 ft: Concrete	Recovery = 35%
1		0.0	0.5-9 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	Odor = None
	SB-106C	(HS: 0.9)		Staining = None
2	FILL	0.0		
	1-5			
3	11:45	0.0		
4		0.0		
				Recovery = 50%
5		0.0		Odor = None
				Staining = None
6		0.4		
7				
		0.0		
8				
		18.9	9-10 ft: Dark brown CLAY, soft, semi-plastic, moist	
9				
	SB-106C	15.2	10-11 ft: Dark brown mc angular GRAVEL, trace mc sand, loose, wet	Recovery = 50%
10	NATIVE	(HS: 99.4)		Odor = Petroleum
	10-12		11-15 ft: Dark brown SILT, trace f sand, roots, soft, moist	Staining = Petroleum
11	11:50	56.0		
12		13.2		
13				
		8.3		
14				
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-107**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/25/24
Finish Date:	11/25/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation								
Location:	Syracuse, NY								
Client:	1153 Owner LLC								
Drilling Firm:	SES								
Groundwater		**Depth**	**Date & Time**	**Drill Rig:**	GeoProbe 6011DT				
While Drilling:				**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:				**Sampler:**		**Other:**			
After Casing Removal:				**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-0.5 ft: Concrete	Recovery = 50%
1		0.0	0.5-8 ft: Black HFM (coal, cinder, brick, ash), fmc, trace angular gravel, loose, dry	Odor = None
	SB-107			Staining = None
2	FILL	0.0		
	1-6			
3	10:30	0.0		
4		0.0		
				Recovery = 60%
5		0.0		Odor = Methane / Sulfur
				Staining = None
6		0.0		
7				
	SB-107	0.0	8-10 ft: Dark brown CLAY, trace roots and wood, soft, plastic, moist	
8	NATIVE			
	8-10	0.1		
9	10:50			
			10-15 ft: No recovery	Recovery = 0%
10				Odor = None
				Staining = None
11				
12				
13				
14				
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-108**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/25/24
Finish Date:	11/25/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation								
Location:	Syracuse, NY								
Client:	1153 Owner LLC								
Drilling Firm:	SES								
Groundwater		**Depth**	**Date & Time**	**Drill Rig:**	GeoProbe 6011DT				
While Drilling:				**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:				**Sampler:**		**Other:**			
After Casing Removal:				**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-0.5 ft: Concrete	Recovery = 50%
1		0.0	0.5-8 ft: Black HFM (coal, cinder, brick, ash), fmc, loose, dry	Odor = None
	SB-108			Staining = None
2	FILL	0.0		
	0.5-8			
3	9:50	0.0		
4		0.0		
				Recovery = 50%
5		0.0		Odor = Methane / Sulfur
				Staining = None
6		0.0		
7				
	SB-108	0.0	8-9.5 ft: Dark brown silty CLAY, soft, semi-plastic, moist	
8	NATIVE			
	8-15	0.0		
9	9:55		9.5-10 ft: Dark brown silty CLAY, trace grey fmc cinders, soft, semi-plastic, moist	
			10-10.5 ft: Dark brown angular GRAVEL and brick, trace silt, loose, wet	Recovery = 50%
10		0.0	10.5 - 15 ft: Dark brown silty CLAY, soft, semi-plastic, wet	Odor = Methane / Sulfur
				Staining = None
11		0.0		
12				
		0.0		
13				
		0.5		
14				
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-109**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/25/24
Finish Date:	11/25/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation								
Location:	Syracuse, NY								
Client:	1153 Owner LLC								
Drilling Firm:	SES								
Groundwater		**Depth**	**Date & Time**	**Drill Rig:**	GeoProbe 6011DT				
While Drilling:				**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:				**Sampler:**		**Other:**			
After Casing Removal:				**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse
m - medium
f - fine

a - and - 35-50%
s - some - 20-35%
l - little - 10-20%
t - trace - 0-10%

S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-1 ft: Grey asphalt / subbase	Recovery = 60%
1		0.0	1-5 ft: Black HFM (coal, cinder, brick, ash), fmc, loose, moist	Odor = None
	SB-109			Staining = None
2	FILL	0.0		
	1-5			
3	13:55	0.0		
4		0.0		
			5-8 ft: Black HFM (coal, cinder, brick, ash), fmc, loose, saturated	Recovery = 60%
5		0.0		Odor = Methane / Sulfur
				Staining = None
6		2.0		
	SB-109		7-10 ft: Dark brown SILT and CLAY, trace roots, soft, semi-plastic, moist	
7	NATIVE			
	7-10	9.5		
8	14:05			
		0.0		
9				
			10-12 ft: Brown fm SAND, some mc angular gravel, loose, wet	Recovery = 40%
10		0.0		Odor = None
				Staining = None
11		0.0		
			12-15 ft: Dark brown CLAY, trace silt, dense, plastic, moist	
12				
		0.0		
13				
		0.0		
14				
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-110**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/25/24
Finish Date:	11/25/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation								
Location:	Syracuse, NY								
Client:	1153 Owner LLC								
Drilling Firm:	SES								
Groundwater		**Depth**	**Date & Time**	**Drill Rig:**	GeoProbe 6011DT				
While Drilling:				**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:				**Sampler:**		**Other:**			
After Casing Removal:				**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse
m - medium
f - fine

a - and - 35-50%
s - some - 20-35%
l - little - 10-20%
t - trace - 0-10%

S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-1 ft: Grey asphalt / subbase	Recovery = 60%
1		0.0	1-7 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	Odor = None
	SB-110			Staining = None
2	FILL	0.0		
	1-7			
3	14:10	0.0		
4		0.0		
				Recovery = 60%
5		0.0		Odor = None
				Staining = None
6		0.0		
			7-10 ft: Grey HFM (ash, coal), fmc, loose, saturated	
7				
		0.0		
8				
		0.0		
9				
			10-14 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, wet	Recovery = 60%
10		0.0		Odor = None
				Staining = None
11		0.0		
12				
		0.0		
13				
		2.0	14-15 ft: Dark brown fm SAND, trace mc sand, trace roots, loose, wet	
14				
	SB-110		15-16 ft: Dark brown SILT, some f sand and broken shells, loose, wet	Recovery = 60%
15	NATIVE	45.3		Odor = Methane / Sulfur
	15-20		16-18 ft: Dark brown SILT, trace clay, trace mc gravel, loose, saturated	Staining = None
16	14:30	12.4		
	DUP-02	(HS: 0.3)		
17				
		17.5	18-20 ft: Dark brown CLAY, trace silt, dense, moist	
18				
19				
			20 ft: End of borehole	
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-111**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/26/24
Finish Date:	11/26/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation								
Location:	Syracuse, NY								
Client:	1153 Owner LLC								
Drilling Firm:	SES								
Groundwater		**Depth**	**Date & Time**	**Drill Rig:**	GeoProbe 6011DT				
While Drilling:				**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:				**Sampler:**		**Other:**			
After Casing Removal:				**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-2 ft: Black HFM (coal, cinder, brick, ash), fmc, loose, moist	Recovery = 30%
1		0.0		Odor = None
	SB-111		2-3 ft: Brown SILT, little fm sand, dense, moist	Staining = None
2	FILL	0.0		
	2-8		3-8 ft: Black HFM (coal, cinder, brick, ash), fmc, loose, moist	
3	12:30	0.0		
	DUP-03			
4		0.0		
				Recovery = 30%
5		0.0		Odor = None
				Staining = None
6		0.0		
7				
		0.0	8-9 ft: Black / brown CLAY, little silt, soft, plastic, wet	
8				
		0.0	9-15 ft: Black / grey mc SAND and fm GRAVEL, loose, wet	
9				
	SB-111			Recovery = 20%
10	NATIVE	0.0		Odor = None
	9-15			Staining = None
11	12:35	0.0		
12				
		0.0		
13				
		0.0		
14				
			15-17 ft: Black / grey mc SAND and fm GRAVEL, loose, saturated	Recovery = 100%
15		0.0		Odor = None
				Staining = None
16		0.0		
			17-20 ft: Brown CLAY, trace silt, trace wood, plastic, soft, wet	
17				
		0.0		
18				
		0.0		
19				
			20 ft: End of borehole	
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-112**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/26/24
Finish Date:	11/26/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation								
Location:	Syracuse, NY								
Client:	1153 Owner LLC								
Drilling Firm:	SES								
Groundwater		**Depth**	**Date & Time**	**Drill Rig:**	GeoProbe 6011DT				
While Drilling:				**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:				**Sampler:**		**Other:**			
After Casing Removal:				**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-1 ft: Black topsoil, f SAND, trace HFM, loose, moist	Recovery = 80%
1		0.0	1-10 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	Odor = None
	SB-112			Staining = None
2	FILL	0.0		
	2-10			
3	9:30	0.0		
	MS-03			
4	MSD-03	0.0		
				Recovery = 50%
5		0.0		Odor = None
				Staining = None
6		0.0		
7				
		0.0		
8				
		0.0		
9				
			10-13 ft: Black mc angular and smooth GRAVEL, some m sand, loose, wet	Recovery = 80%
10		0.0		Odor = Petroleum
	SB-112	(HS:4.5)		Staining = Petroleum
11	NATIVE	0.0		
	11-14			
12	9:55			
		58.7	13-15 ft: Dark brown SILT, little clay, soft, semi-plastic, wooden rail tie, wet	
13		(HS: 9.5)		
		46.2		
14				
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

C&S Engineers, Inc.	BORING LOG	Boring No.	SB-112A
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		Project No.:	AB2.002.002

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation	**Surface Elev.:**	
Location:	Syracuse, NY	**Datum:**	
Client:	1153 Owner LLC	**Start Date:**	11/26/24
Drilling Firm:	SES	**Finish Date:**	11/26/24
Groundwater	**Depth** / **Date & Time**	**Drill Rig:** GeoProbe 6011DT	**Inspector:** CD / HH
While Drilling:		**Casing:** / **Rock Core:** / **Undist:**	
Before Casing Removal:		**Sampler:** / **Other:**	
After Casing Removal:		**Hammer:**	

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10% S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-1 ft: Black topsoil, f SAND, trace HFM, loose, moist	Recovery = 80%
1		0.0	1-10 ft: Black HFM (coal, cinder, brick, ash, slag, cement, rock), fmc, loose, moist	Odor = None
				Staining = None
2		0.0		
3		1.8		
			4 ft: Pieces of possible cement floor	
4		1.0		
				Recovery = 50%
5		1.2		Odor = None
	SB-112A	(HS: 1.4)		Staining = None
6	FILL	2.2		
	6-8			
7	10:10			
		0.5		
8				
		0.2		
9				
	SB-112A		10-13 ft: Black mc angular and smooth GRAVEL, some m sand, loose, wet	Recovery = 50%
10	NATIVE	0.2		Odor = Petroleum
	10-13			Staining = Petroleum
11	10:15	45.0		
		(HS: 22.2)		
12				
		8.5	13-15 ft: Dark brown SILT, little clay, soft, semi-plastic, wooden rail tie, wet	
13				
		21.0		
14				
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-112B**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/26/24
Finish Date:	11/26/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation								
Location:	Syracuse, NY								
Client:	1153 Owner LLC								
Drilling Firm:	SES								
Groundwater		**Depth**	**Date & Time**	**Drill Rig:**	GeoProbe 6011DT				
While Drilling:				**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:				**Sampler:**		**Other:**			
After Casing Removal:				**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-1 ft: Black topsoil, f SAND, trace HFM, loose, moist	Recovery = 50%
1		0.0	1-9 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	Odor = None
				Staining = None
2		0.3		
3		0.7		
		(HS:0.3)		
4		0.7		
				Recovery = 50%
5		0.0		Odor = None
				Staining = None
6		4.1		
7	SB-112B FILL 7-9 10:35			
		0.0		
8				
		0.0	9-11 ft: Black / brown SILT, some fm sand, trace HFM, loose, moist	
9				
	SB-112B			Recovery = 90%
10	NATIVE	0.6		Odor = Slight Petroleum
	11-13		11-13 ft: Black mc angular and smooth GRAVEL, some m sand, loose, saturated	Staining = None
11	10:40	0.4		
12				
		8.4	13-15 ft: Dark brown SILT, little clay, soft, semi-plastic, wooden rail tie, wet	
13		(HS: 4.0)		
		60.1		
14				
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-112C**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/26/24
Finish Date:	11/26/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation
Location:	Syracuse, NY
Client:	1153 Owner LLC
Drilling Firm:	SES

Groundwater	Depth	Date & Time
While Drilling:		
Before Casing Removal:		
After Casing Removal:		

Drill Rig:	GeoProbe 6011DT				
Casing:		**Rock Core:**		**Undist:**	
Sampler:		**Other:**			
Hammer:					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-1 ft: Black topsoil, f SAND, trace HFM, loose, moist	Recovery = 50%
1		0.0	1-9 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	Odor = None
				Staining = None
2		0.0		
3		0.0		
4		0.0		
				Recovery = 50%
5		0.0		Odor = None
				Staining = None
6		0.0		
7	SB-112C FILL 7-9 11:05			
		0.2		
8		(HS: 5.9)		
		1.3	9-10 ft: Black / brown SILT, some fm sand, trace HFM, loose, moist	
9				
			10-11 ft: Black / grey CLAY, trace silt, soft, plastic, wet	Recovery = 50%
10		0.2		Odor = Petroleum
	SB-112C		11-15 ft: Black mc angular and smooth GRAVEL, some m sand, loose, saturated	Staining = Petroleum
11	NATIVE 11-15 11:00	4.1		
12		55.8		
		(HS: 13.9)		
13				
		38.5		
14			15 ft: Wooden rail tie	
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-113**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/26/24
Finish Date:	11/26/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation								
Location:	Syracuse, NY								
Client:	1153 Owner LLC								
Drilling Firm:	SES								
Groundwater		**Depth**	**Date & Time**	**Drill Rig:**	GeoProbe 6011DT				
While Drilling:				**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:				**Sampler:**		**Other:**			
After Casing Removal:				**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-9 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	Recovery = 50%
1		0.0		Odor = None
				Staining = None
2		0.0		
	SB-113			
3	FILL	0.0		
	3-10			
4	8:40	0.0		
				Recovery = 30%
5		0.0		Odor = None
				Staining = None
6		0.0		
7				
		0.0		
8				
		0.0	9-10 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, wet	
9				
	SB-113		10-12 ft: Black mc angular and smooth GRAVEL, some m sand, loose, wet	Recovery = 30%
10	NATIVE	36.8		Odor = Petroleum
	10-15			Staining = None
11	9:10	45.8		
		(HS: 42.8)	12-15 ft: Dark brown SILT, little clay, wooden rail tie, soft, semi-plastic, moist	
12				
13		36.3		
14				
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-114**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/25/24
Finish Date:	11/25/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation								
Location:	Syracuse, NY								
Client:	1153 Owner LLC								
Drilling Firm:	SES								
Groundwater		**Depth**	**Date & Time**	**Drill Rig:**	GeoProbe 6011DT				
While Drilling:				**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:				**Sampler:**		**Other:**			
After Casing Removal:				**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

c - coarse
m - medium
f - fine

a - and - 35-50%
s - some - 20-35%
l - little - 10-20%
t - trace - 0-10%

S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-1 ft: Black asphalt / subbase	Recovery = 40%
1		0.0	1-10 ft: Black HFM (coal, cinder, brick, ash, slag, glass), fmc, loose, moist	Odor = None
	SB-114			Staining = None
2	FILL	0.0		
	1-5			
3	14:50	0.0		
4		0.0		
				Recovery = 30%
5		0.0		Odor = None
				Staining = None
6		0.0		
7				
		0.0		
8				
		0.0		
9				
			10-12 ft: HFM (brick), fmc, loose, moist	Recovery = 40%
10		0.0		Odor = None
				Staining = None
11		0.0		
			12-15 ft: Grey mc SAND, some silt, trace mc gravel, trace wood, loose, saturated	
12				
		0.0		
13				
		0.0		
14				
	SB-114		15-20 ft: Grey mc SAND, some silt, trace mc smooth gravel, very loose, saturated	Recovery = 40%
15	NATIVE	0.0		Odor = None
	12-20			Staining = None
16	14:55	0.0		
17				
		0.0		
18				
		0.0		
19				
			20 ft: End of borehole	
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-115**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/26/24
Finish Date:	11/26/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation								
Location:	Syracuse, NY								
Client:	1153 Owner LLC								
Drilling Firm:	SES								
Groundwater		**Depth**	**Date & Time**	**Drill Rig:**	GeoProbe 6011DT				
While Drilling:				**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:				**Sampler:**		**Other:**			
After Casing Removal:				**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-10 ft: Black HFM (coal, cinder, brick, ash, slag, wood), fmc, loose, moist	Recovery = 50%
1		0.0		Odor = None
				Staining = None
2		0.0		
	SB-115			
3	FILL	0.0		
	3-8	(HS: 0.5)		
4	8:05	14.5		
				Recovery = 30%
5		0.3		Odor = None
				Staining = None
6		0.4		
7				
		0.3		
8				
		0.3		
9				
			10-14 ft: Dark brown SILT and CLAY, soft, semi-plastic, moist	Recovery = 30%
10		0.4		Odor = Methane / Sulfur
				Staining = None
11				
		9.0		
12				
	SB-115			
13	NATIVE	0.0		
	13-20		14-15 ft: Dark brown CLAY, trace f sand, soft, plastic, wet	
14	8:15			
	MS-02		15-20 ft: Grey CLAY and fm SAND, dense, plastic, wet	Recovery = 30%
15	MSD-02	0.0		Odor = None
				Staining = None
16		0.0		
17				
		0.0		
18				
		0.0		
19				
			20 ft: End of borehole	
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-116**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/26/24
Finish Date:	11/26/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation								
Location:	Syracuse, NY								
Client:	1153 Owner LLC								
Drilling Firm:	SES								
Groundwater		**Depth**	**Date & Time**	**Drill Rig:**	GeoProbe 6011DT				
While Drilling:				**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:				**Sampler:**		**Other:**			
After Casing Removal:				**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION (c - coarse, m - medium, f - fine; a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10%; S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey)	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-1 ft: Black mc angular GRAVEL, some fm sand, loose, moist	Recovery = 40%
1		0.0	1-4 ft: Brick / concrete debris	Odor = None
				Staining = None
2		0.0		
3		0.0		
	SB-116		4-5 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	
4	FILL	0.0		
	4-7		5-7 ft: Brown HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	Recovery = 80%
5	11:25	0.0		Odor = None
				Staining = None
6		0.0		
	SB-116		7-10 ft: Black / brown SILT, trace clay, some roots, dense, semi-plastic, moist	
7	NATIVE			
	7-10	0.0		
8	11:30			
		0.0		
9				
			10-11 ft: Dark brown SILT, little clay, trace f sand, soft, wet	Recovery = 80%
10		2.0		Odor = None
			11-14 ft: Grey CLAY, soft, plastic, wet	Staining = None
11		5.0		
12				
		5.7		
13				
		6.8	14-15 ft: Dark brown SILT and fm SAND, trace clay, wood, wet	
14				
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

C&S Engineers, Inc.	BORING LOG	Boring No.	SB-117
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		Project No.:	AB2.002.002

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation	**Surface Elev.:**	
Location:	Syracuse, NY	**Datum:**	
Client:	1153 Owner LLC	**Start Date:**	11/26/24
Drilling Firm:	SES	**Finish Date:**	11/26/24
Groundwater	**Depth** / **Date & Time**	**Drill Rig:** GeoProbe 6011DT	**Inspector:** CD / HH
While Drilling:		**Casing:** / **Rock Core:** / **Undist:**	
Before Casing Removal:		**Sampler:** / **Other:**	
After Casing Removal:		**Hammer:**	

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10% S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-1 ft: Asphalt / gravel / wood chips	Recovery = 30%
1		0.0	1-7 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	Odor = None
				Staining = None
2		0.0		
	SB-117			
3	FILL	0.0		
	S-45358			
4	12:50	0.0		
				Recovery = 30%
5		0.0		Odor = None
				Staining = None
6		0.0		
			7-10 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, wet	
7				
		0.0		
8				
		0.0		
9				
			10-12 ft: Black GRAVEL, loose, saturated	Recovery = 40%
10		0.0		Odor = None
				Staining = None
11		0.0		
	SB-117		12-13 ft: Dark brown CLAY, soft, plastic, wet	
12	NATIVE			
	12-15	0.0	13-15 ft: Dark brown CLAY, little silt, trace wood / roots, loose, wet	
13	12:55			
		0.0		
14				
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

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BORING LOG

Boring No.	**SB-118**
Sheet 1 of:	1
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	11/26/24
Finish Date:	11/26/24
Inspector:	CD / HH

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation								
Location:	Syracuse, NY								
Client:	1153 Owner LLC								
Drilling Firm:	SES								
Groundwater		**Depth**	**Date & Time**	**Drill Rig:**	GeoProbe 6011DT				
While Drilling:				**Casing:**		**Rock Core:**		**Undist:**	
Before Casing Removal:				**Sampler:**		**Other:**			
After Casing Removal:				**Hammer:**					

(N -- No. of blows to drive sampler 12" w/140 lb. hammer falling 30" ASTM D-1586, Standard Penetration Test)

Depth (ft)	Sample No.	PID Reading (ppm)	MATERIAL DESCRIPTION c - coarse, m - medium, f - fine a - and - 35-50%, s - some - 20-35%, l - little - 10-20%, t - trace - 0-10% S - Sand, $ - Silt, G - Gravel, C - Clay, cly - clayey	COMMENTS (e.g., N-value, recovery, relative moisture, core run, RQD, % recovered)
			0-1 ft: Black topsoil	Recovery = 50%
1	SB-118	0.0	1-10 ft: Black HFM (coal, cinder, brick, ash, slag), fmc, loose, moist	Odor = None
	FILL			Staining = None
2	1-5	0.0		
	13:15			
3		0.0		
4		0.0		
				Recovery = 20%
5		0.0		Odor = None
				Staining = None
6		0.0		
7				
		0.0		
8				
		0.0		
9				
	SB-118		10-14 ft: Dark brown CLAY, little silt, roots, soft, wet	Recovery = 50%
10	NATIVE	0.0		Odor = Methane / Sulfur
	10-14			Staining = None
11	13:25	0.0		
12				
		0.0		
13				
		1.5	14-15 ft: Wooden rail tie	
14				
			15 ft: End of borehole	
15				
16				
17				
18				
19				
20				
21				
22				
23				

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GROUNDWATER OBSERVATION WELL CONSTRUCTION LOG

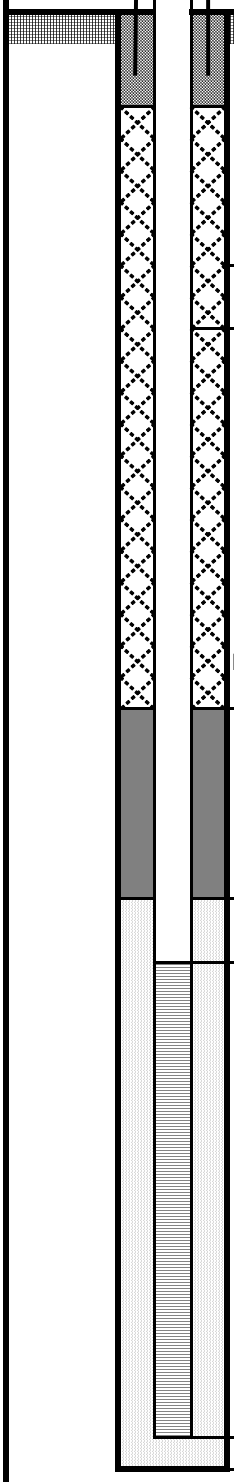
Well No.	**MW-101**
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	12/5/24
Finish Date:	12/6/24
Inspector:	CD

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation
Location:	Syracuse, NY
Client:	1153 Owner LLC
Drilling Firm:	SES

Drill Rig:	GeoProbe 6011DT	**Casing:**	Auger

Notes: (provide description of observation well location, method of construction, development method and any other information)

- Soil cuttings put on poly on the south side of the Site.
- Got refusal at 14 feet bgs in two different locations. Set well at 14 feet bgs with 10 feet of screen. The screen will still straddle the water table.
- Manhole installed on 12/6/24.



0'-0" Top Protective Casing
Top of Riser

0'-0" Ground Surface

Surface Backfill Material
- [ ] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [X] Concrete

4.25" Bore Hole Diameter

2" Well Diameter

Well Material
- [X] PVC
- [ ] Stainless Steel

Backfill Material
- [ ] Soil Cuttings
- [X] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

1' Top of Seal

Seal Material
- [X] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout

2' Top of Filter Pack

4' Top of Screen

Screen Slot Size
- [X] 010 in
- [ ] 015 in
- [ ] 020 in
- [ ] 025 in

Filter Material
- [ ] 00 Sand Pack
- [ ] 0 Sand Pack
- [X] 1 Sand Pack
- [ ] 2 Sand Pack
- [ ] 3 Sand Pack
- [ ] 4 Sand Pack

14' Bottom of Screen

14' Bottom of Bore Hole

Groundwater Measurement Data

Date	Time	Depth to Water	Water Elevation	Tide Status
12/6/2024	10:25	10.00	TBD	NA

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GROUNDWATER OBSERVATION WELL CONSTRUCTION LOG

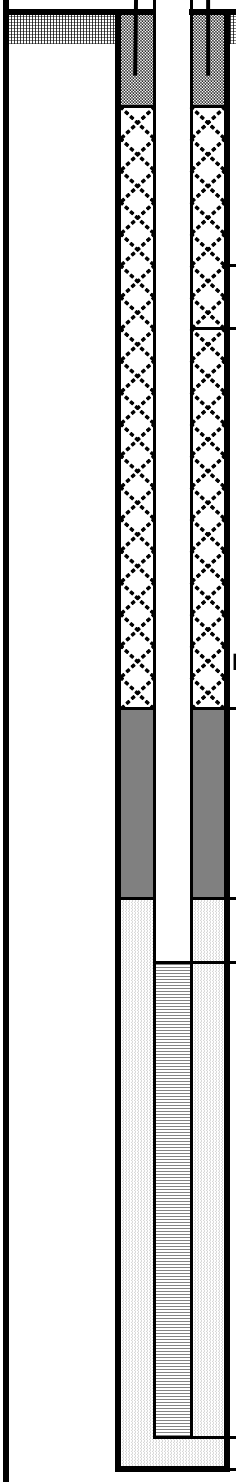
Well No.	**MW-102**
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	12/2/24
Finish Date:	12/4/24
Inspector:	CD

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation
Location:	Syracuse, NY
Client:	1153 Owner LLC
Drilling Firm:	SES

Drill Rig:	GeoProbe 6011DT	**Casing:**	Auger

Notes: (provide description of observation well location, method of construction, development method and any other information)

- Soil cuttings put on poly on the south side of the Site.
- Manhole installed on 12/4/24.



0'-0" Top Protective Casing
Top of Riser

0'-0" Ground Surface

Surface Backfill Material
- [ ] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [X] Concrete

4.25" Bore Hole Diameter

2" Well Diameter

Well Material
- [X] PVC
- [ ] Stainless Steel

Backfill Material
- [ ] Soil Cuttings
- [X] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

1' Top of Seal

Seal Material
- [X] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout

3' Top of Filter Pack

5' Top of Screen

Screen Slot Size
- [X] 010 in
- [ ] 015 in
- [ ] 020 in
- [ ] 025 in

Filter Material
- [ ] 00 Sand Pack
- [ ] 0 Sand Pack
- [X] 1 Sand Pack
- [ ] 2 Sand Pack
- [ ] 3 Sand Pack
- [ ] 4 Sand Pack

20' Bottom of Screen

20' Bottom of Bore Hole

Groundwater Measurement Data

Date	Time	Depth to Water	Water Elevation	Tide Status
12/4/2024	7:40	6.87	TBD	NA

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GROUNDWATER OBSERVATION WELL CONSTRUCTION LOG

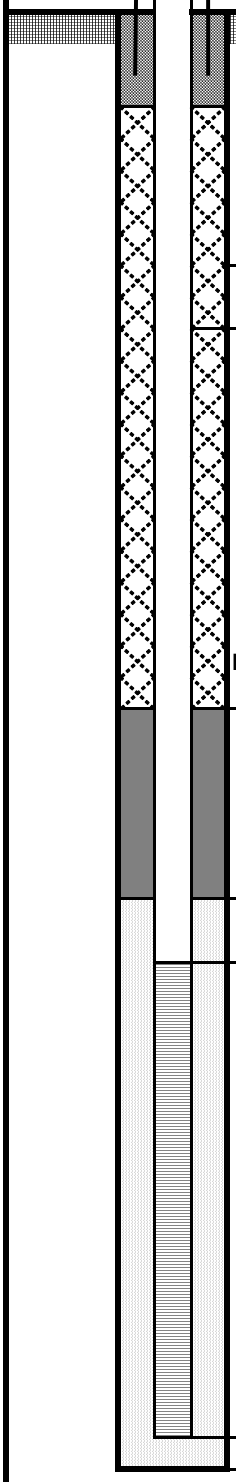
Well No.	**MW-103**
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	12/4/24
Finish Date:	12/6/24
Inspector:	CD

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation
Location:	Syracuse, NY
Client:	1153 Owner LLC
Drilling Firm:	SES

Drill Rig:	GeoProbe 6011DT	**Casing:**	Auger

Notes: (provide description of observation well location, method of construction, development method and any other information)

- Soil cuttings put on poly on the south side of the Site.
- Manhole installed on 12/6/24.
- Soil cuttings has petroleum odor, staining, and PID readings greater than 10 ppm.



0'-0" Top Protective Casing
Top of Riser

0'-0" Ground Surface

Surface Backfill Material
- [ ] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [X] Concrete

4.25" Bore Hole Diameter

2" Well Diameter

Well Material
- [X] PVC
- [ ] Stainless Steel

Backfill Material
- [ ] Soil Cuttings
- [X] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

1' Top of Seal

Seal Material
- [X] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout

3' Top of Filter Pack

5' Top of Screen

Screen Slot Size
- [X] 010 in
- [ ] 015 in
- [ ] 020 in
- [ ] 025 in

Filter Material
- [ ] 00 Sand Pack
- [ ] 0 Sand Pack
- [X] 1 Sand Pack
- [ ] 2 Sand Pack
- [ ] 3 Sand Pack
- [ ] 4 Sand Pack

20' Bottom of Screen

20' Bottom of Bore Hole

Groundwater Measurement Data

Date	Time	Depth to Water	Water Elevation	Tide Status
12/6/2024	8:30	11.19	TBD	NA

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GROUNDWATER OBSERVATION WELL CONSTRUCTION LOG

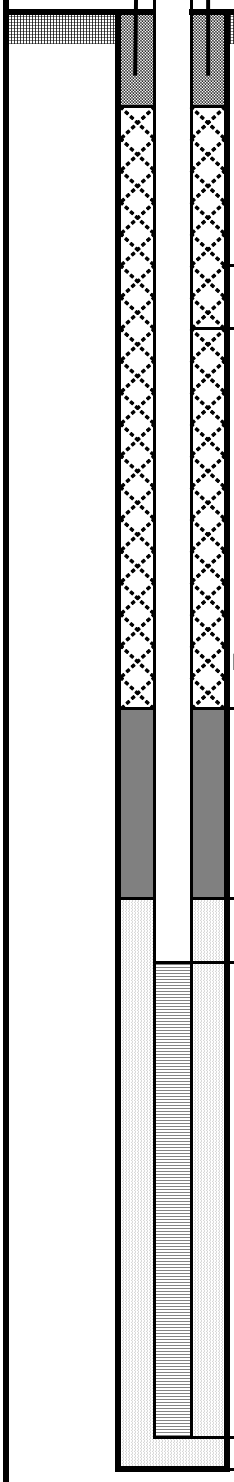
Well No.	**MW-104**
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	12/2/24
Finish Date:	12/4/24
Inspector:	CD

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation
Location:	Syracuse, NY
Client:	1153 Owner LLC
Drilling Firm:	SES

Drill Rig:	GeoProbe 6011DT	**Casing:**	Auger

Notes: (provide description of observation well location, method of construction, development method and any other information)

- Began installation on 11/27/24 but ran into issues. The well would raise when the augers were pulled up. Retried on 12/2/24 and successfully installed the well.
- Soil cuttings put on poly on the south side of the Site.
- Manhole installed on 12/4/24.



0'-0" Top Protective Casing
Top of Riser

0'-0" Ground Surface

Surface Backfill Material
- [ ] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [X] Concrete

4.25" Bore Hole Diameter

2" Well Diameter

Well Material
- [X] PVC
- [ ] Stainless Steel

Backfill Material
- [ ] Soil Cuttings
- [X] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

1' Top of Seal

Seal Material
- [X] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout

3' Top of Filter Pack

5' Top of Screen

Screen Slot Size
- [X] 010 in
- [ ] 015 in
- [ ] 020 in
- [ ] 025 in

Filter Material
- [ ] 00 Sand Pack
- [ ] 0 Sand Pack
- [X] 1 Sand Pack
- [ ] 2 Sand Pack
- [ ] 3 Sand Pack
- [ ] 4 Sand Pack

20' Bottom of Screen

20' Bottom of Bore Hole

Groundwater Measurement Data

Date	Time	Depth to Water	Water Elevation	Tide Status
12/3/2024	12:45	7.14	TBD	NA

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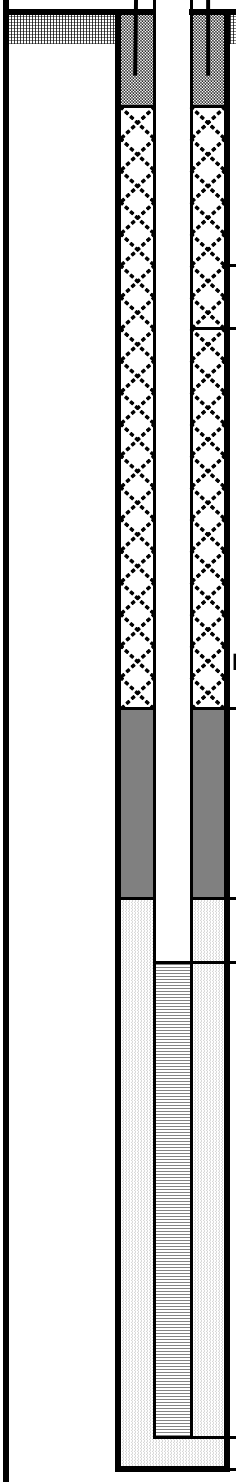
GROUNDWATER OBSERVATION WELL CONSTRUCTION LOG

Well No.	**MW-105**
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	12/3/24
Finish Date:	12/6/24
Inspector:	CD

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation
Location:	Syracuse, NY
Client:	1153 Owner LLC
Drilling Firm:	SES
Drill Rig:	GeoProbe 6011DT
Casing:	Auger

Notes: (provide description of observation well location, method of construction, development method and any other information)

- Augered down to 20 feet bgs on 12/3/24 but there was no time to install the actual well. The augers were left in place and the well was installed on 12/4/24.
- Soil cuttings put on poly on the south side of the Site.
- Manhole installed on 12/6/24.



0'-0" Top Protective Casing
Top of Riser

0'-0" Ground Surface

Surface Backfill Material
- [ ] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [X] Concrete

4.25" Bore Hole Diameter

2" Well Diameter

Well Material
- [X] PVC
- [ ] Stainless Steel

Backfill Material
- [ ] Soil Cuttings
- [X] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

1' Top of Seal

Seal Material
- [X] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout

3' Top of Filter Pack

5' Top of Screen

Screen Slot Size
- [X] 010 in
- [ ] 015 in
- [ ] 020 in
- [ ] 025 in

Filter Material
- [ ] 00 Sand Pack
- [ ] 0 Sand Pack
- [X] 1 Sand Pack
- [ ] 2 Sand Pack
- [ ] 3 Sand Pack
- [ ] 4 Sand Pack

20' Bottom of Screen

20' Bottom of Bore Hole

Groundwater Measurement Data

Date	Time	Depth to Water	Water Elevation	Tide Status
12/5/2024	9:45	6.35	TBD	NA

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GROUNDWATER OBSERVATION WELL CONSTRUCTION LOG

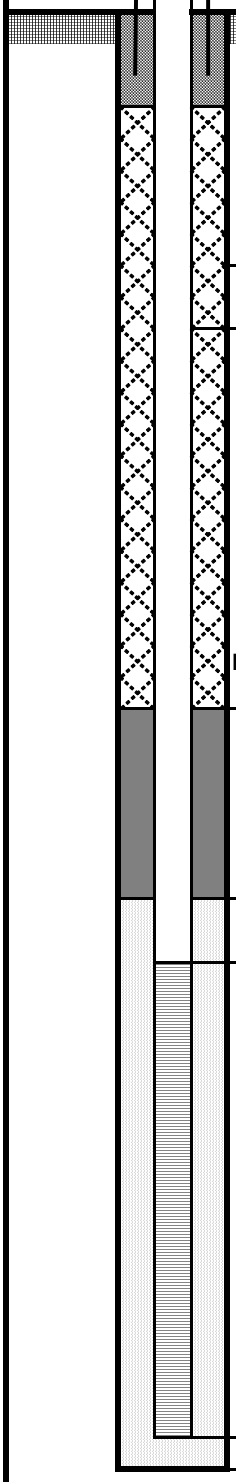
Well No.	**MW-106**
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	12/4/24
Finish Date:	12/6/24
Inspector:	CD

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation
Location:	Syracuse, NY
Client:	1153 Owner LLC
Drilling Firm:	SES

Drill Rig: GeoProbe 6011DT **Casing:** Auger

Notes: (provide description of observation well location, method of construction, development method and any other information)

- Soil cuttings put on poly on the south side of the Site.
- Manhole installed on 12/6/24.



0'-0" Top Protective Casing
Top of Riser

0'-0" Ground Surface

Surface Backfill Material
- [ ] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [X] Concrete

4.25" Bore Hole Diameter

2" Well Diameter

Well Material
- [X] PVC
- [ ] Stainless Steel

Backfill Material
- [ ] Soil Cuttings
- [X] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

1' Top of Seal

Seal Material
- [X] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout

3' Top of Filter Pack

5' Top of Screen

Screen Slot Size
- [X] 010 in
- [ ] 015 in
- [ ] 020 in
- [ ] 025 in

Filter Material
- [ ] 00 Sand Pack
- [ ] 0 Sand Pack
- [X] 1 Sand Pack
- [ ] 2 Sand Pack
- [ ] 3 Sand Pack
- [ ] 4 Sand Pack

20' Bottom of Screen

20' Bottom of Bore Hole

Groundwater Measurement Data

Date	Time	Depth to Water	Water Elevation	Tide Status
12/6/2024	7:15	12.15	TBD	NA

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GROUNDWATER OBSERVATION WELL CONSTRUCTION LOG

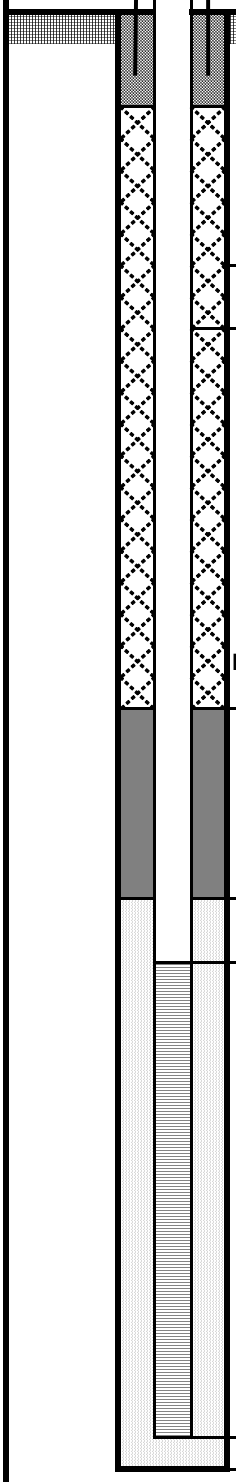
Well No.	**MW-107**
Project No.:	AB2.002.002
Surface Elev.:	
Datum:	
Start Date:	12/3/24
Finish Date:	12/4/24
Inspector:	CD

Project Name:	1153-69 West Fayette Street BCP Site Remedial Investigation
Location:	Syracuse, NY
Client:	1153 Owner LLC
Drilling Firm:	SES

Drill Rig:	GeoProbe 6011DT	**Casing:**	Auger

Notes: (provide description of observation well location, method of construction, development method and any other information)

- Began installing on 11/27/24 but kept hitting concrete around 5 feet bgs. Tried new location on 12/3/24 on the other side of the fence and shifted to the north slightly.
- Soil cuttings put on poly on the south side of the Site.
- Manhole installed on 12/4/24.



0'-0" **Top Protective Casing**
Top of Riser

0'-0" **Ground Surface**

Surface Backfill Material
- [ ] Soil Cuttings
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [X] Concrete

4.25" **Bore Hole Diameter**

2" **Well Diameter**

Well Material
- [X] PVC
- [ ] Stainless Steel

Backfill Material
- [ ] Soil Cuttings
- [X] Bentonite Slurry
- [ ] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

1' **Top of Seal**

Seal Material
- [X] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [ ] Cement/Bentonite Grout

3' **Top of Filter Pack**

5' **Top of Screen**

Screen Slot Size
- [X] 010 in
- [ ] 015 in
- [ ] 020 in
- [ ] 025 in

Filter Material
- [ ] 00 Sand Pack
- [ ] 0 Sand Pack
- [X] 1 Sand Pack
- [ ] 2 Sand Pack
- [ ] 3 Sand Pack
- [ ] 4 Sand Pack

20' **Bottom of Screen**

20' **Bottom of Bore Hole**

Groundwater Measurement Data

Date	Time	Depth to Water	Water Elevation	Tide Status
12/4/2024	12:30	7.40	TBD	NA

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www.cscos.com

Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: CD

WELL DATA

Date	12/6/2024	
Time	10:25	
Water meter utilized and date last calibrated		
Well Number	MW-101	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	13.54	
Static Water Level (feet)	10.00	
H_2O Column (feet)	3.54	
Pump Intake (feet)	13.00	
Well Volume (gallons)	0.58	
Amount to Evacuate (gallons)	2.00	
Amount Evacuated (gallons)	4.00	

SAMPLE DATA

Sample Date		
Sample Time		
Sampler Initials		
Sample I.D.		
Dupe Collected?	☐ Yes ☐ No	ID:
MS Collected?	☐ Yes ☐ No	ID:
MSD Collected?	☐ Yes ☐ No	ID:
Trip Blank Collected?	☐ Yes ☐ No	ID:
EQ Blank Collected?	☐ Yes ☐ No	ID:
Comments No sampling, development only		

FIELD READINGS

Date	Stabilization Criteria	12/6/2024							
Time		10:50	10:55	11:00	11:05	11:10			
Volume Extracted	gallons	2	2.5	3	3.5	4			
Static Water Level (feet)	NA	10.01	10.01	10.01	10.01	10.01			
pH (Std. Units)	+/-0.1	6.78	6.75	6.74	6.75	6.74			
Conductivity (mS/cm)	3%	2.59	2.6	2.61	2.6	2.6			
Turbidity (NTU)	10%	166	117	38.2	38.3	14.5			
D.O. (mg/L)	10%	0.85	0.25	0.16	0.08	0.09			
Temperature (ºC) (ºF)	3%	13.07	13.4	13.51	13.39	13.54			
ORP[3](mV)	+/-10 mv	13	16	18	18	16			
Appearance		C	C	C	C	C			
Free Product (Yes/No)		No	No	No	No	No			
Odor		None	None	None	None	None			

Date	Stabilization Criteria								
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (ºC) (ºF)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Initial Purge - 10:30
Minimal sediment built up at the bottom of the well, purging it out before connecting Horiba.
All parameters stable, more than 3 well volumes purged, turbidity below 50 NTU. Development complete.

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: CD

WELL DATA

Date	12/4/2024	
Time	7:40	
Water meter utilized and date last calibrated		
Well Number	MW-102	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.98	
Static Water Level (feet)	6.87	
H_2O Column (feet)	13.11	
Pump Intake (feet)	19.00	
Well Volume (gallons)	2.14	
Amount to Evacuate (gallons)	6.50	
Amount Evacuated (gallons)	6.80	

SAMPLE DATA

Sample Date		
Sample Time		
Sampler Initials		
Sample I.D.		
Dupe Collected?	☐ Yes ☐ No	ID:
MS Collected?	☐ Yes ☐ No	ID:
MSD Collected?	☐ Yes ☐ No	ID:
Trip Blank Collected?	☐ Yes ☐ No	ID:
EQ Blank Collected?	☐ Yes ☐ No	ID:
Comments No sampling, development only		

FIELD READINGS

Date	Stabilization Criteria	12/4/2024							
Time		8:00	8:05	8:10	8:15	8:20	8:25	8:30	8:35
Volume Extracted	gallons	2	2.6	3.2	3.8	4.4	5	5.6	6.2
Static Water Level (feet)	NA	6.99	7	7	7	7	7.01	7.02	7.02
pH (Std. Units)	+/-0.1	6.71	6.78	6.79	6.81	6.82	6.84	6.84	6.85
Conductivity (mS/cm)	3%	1.77	1.8	1.8	1.81	1.8	1.8	1.8	1.8
Turbidity (NTU)	10%	627	240	75.5	45.2	33.8	35.5	34.9	32.3
D.O. (mg/L)	10%	1.59	1.63	1.62	1.62	1.58	1.56	1.54	1.52
Temperature (ºC) (ºF)	3%	16.63	17.17	17.36	17.47	17.52	17.54	17.6	17.63
ORP[3](mV)	+/-10 mv	-114	-123	-126	-129	-130	-131	-132	-132
Appearance		ST	C	C	C	C	C	C	C
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

Date	Stabilization Criteria	12/4/2024							
Time		8:40							
Volume Extracted	gallons	6.8							
Static Water Level (feet)	NA	7.02							
pH (Std. Units)	+/-0.1	6.85							
Conductivity (mS/cm)	3%	1.8							
Turbidity (NTU)	10%	29.5							
D.O. (mg/L)	10%	1.46							
Temperature (ºC) (ºF)	3%	17.58							
ORP[3](mV)	+/-10 mv	-133							
Appearance		C							
Free Product (Yes/No)		No							
Odor		None							

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Initial Purge - 7:50
Lots of sediment built up at the bottom of the well, purging it out before connecting Horiba.
All parameters stable, more than 3 well volumes purged, turbidity below 50 NTU. Development complete.

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: CD

WELL DATA

Date	12/6/2024	
Time	8:30	
Water meter utilized and date last calibrated		
Well Number	MW-103	
PID Reading (ppm)	14.9	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.83	
Static Water Level (feet)	11.19	
H_2O Column (feet)	8.64	
Pump Intake (feet)	19.00	
Well Volume (gallons)	1.41	
Amount to Evacuate (gallons)	4.50	
Amount Evacuated (gallons)	4.50	

SAMPLE DATA

Sample Date		
Sample Time		
Sampler Initials		
Sample I.D.		
Dupe Collected?	☐ Yes ☐ No	ID:
MS Collected?	☐ Yes ☐ No	ID:
MSD Collected?	☐ Yes ☐ No	ID:
Trip Blank Collected?	☐ Yes ☐ No	ID:
EQ Blank Collected?	☐ Yes ☐ No	ID:
Comments No sampling, development only		

FIELD READINGS

Date	Stabilization Criteria	12/6/2024	12/6/2024						
Time		9:00	9:05	9:10	9:15	9:20	9:25		
Volume Extracted	gallons	2	2.5	3	3.5	4	4.5		
Static Water Level (feet)	NA	11.28	11.28	11.28	11.28	11.28	11.28		
pH (Std. Units)	+/-0.1	6.96	6.81	6.75	6.71	6.69	6.67		
Conductivity (mS/cm)	3%	3.65	3.43	3.37	3.26	3.22	3.17		
Turbidity (NTU)	10%	62.9	36.1	23.2	8.1	7.6	7.4		
D.O. (mg/L)	10%	0.73	0.35	0.16	0.15	0.16	0.15		
Temperature (ºC) (ºF)	3%	12.22	12.57	12.42	12.49	12.49	12.59		
ORP[3](mV)	+/-10 mv	-74	-74	-74	-76	-77	-78		
Appearance		C	C	C	C	C	C		
Free Product (Yes/No)		Sheen	Sheen	Sheen	Sheen	Sheen	Sheen		
Odor		Petro	Petro	Petro	Petro	Petro	Petro		

Date	Stabilization Criteria								
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (ºC) (ºF)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Initial Purge - 8:40
Minimal sediment built up at the bottom of the well, purging it out before connecting Horiba.
All parameters stable, more than 3 well volumes purged, turbidity below 50 NTU. Development complete.

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: CD

WELL DATA

Date	12/3/2024	12/3/2024
Time	12:45	13:55
Water meter utilized and date last calibrated		
Well Number	MW-104	
PID Reading (ppm)	0.3	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	17.40	19.41
Static Water Level (feet)	7.14	
H_2O Column (feet)	10.26	
Pump Intake (feet)	17.00	
Well Volume (gallons)	1.67	
Amount to Evacuate (gallons)	5.00	
Amount Evacuated (gallons)	6.00	

SAMPLE DATA

Sample Date		
Sample Time		
Sampler Initials		
Sample I.D.		
Dupe Collected?	☐ Yes ☐ No	ID:
MS Collected?	☐ Yes ☐ No	ID:
MSD Collected?	☐ Yes ☐ No	ID:
Trip Blank Collected?	☐ Yes ☐ No	ID:
EQ Blank Collected?	☐ Yes ☐ No	ID:

Comments
No sampling, development only

FIELD READINGS

Date	Stabilization Criteria	12/3/2024							
Time		13:20	13:25	13:30	13:35	13:40	13:45	13:50	
Volume Extracted	gallons	3	3.5	4	4.5	5	5.5	6	
Static Water Level (feet)	NA	8.32	8.32	8.32	8.33	8.34	8.38	8.38	
pH (Std. Units)	+/-0.1	6.98	6.79	6.76	6.83	6.85	6.87	6.87	
Conductivity (mS/cm)	3%	1.47	1.43	1.42	1.43	1.42	1.43	1.43	
Turbidity (NTU)	10%	1000	1000	845	165	107	62.4	41.6	
D.O. (mg/L)	10%	1.94	1.11	0.56	0.83	0.69	0.69	0.68	
Temperature (ºC) (ºF)	3%	16.29	17.1	17.12	17.16	17.18	17.45	17.4	
ORP[3](mV)	+/-10 mv	-101	-106	-111	-118	-120	-123	-123	
Appearance		T	T	ST	C	C	C	C	
Free Product (Yes/No)		No	No	No	No	No	No	No	
Odor		Methane	Methane	Methane	Methane	Methane	None	None	

Date	Stabilization Criteria								
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (ºC) (ºF)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Initial Purge - 12:55
Lots of sediment built up at the bottom of the well, purging it out before connecting Horiba.
All parameters stable, more than 3 well volumes purged, turbidity below 50 NTU. Development complete.
Following development, well depth was remeasured.

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: CD

WELL DATA

Date	12/5/2024	
Time	9:45	
Water meter utilized and date last calibrated		
Well Number	MW-105	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.37	
Static Water Level (feet)	6.35	
H_2O Column (feet)	13.02	
Pump Intake (feet)	19.00	
Well Volume (gallons)	2.12	
Amount to Evacuate (gallons)	6.50	
Amount Evacuated (gallons)	6.50	

SAMPLE DATA

Sample Date		
Sample Time		
Sampler Initials		
Sample I.D.		
Dupe Collected?	☐ Yes ☐ No	ID:
MS Collected?	☐ Yes ☐ No	ID:
MSD Collected?	☐ Yes ☐ No	ID:
Trip Blank Collected?	☐ Yes ☐ No	ID:
EQ Blank Collected?	☐ Yes ☐ No	ID:
Comments No sampling, development only		

FIELD READINGS

Date	Stabilization Criteria	12/5/2024							
Time		10:15	10:20	10:25	10:30	10:35	10:40	10:45	10:50
Volume Extracted	gallons	3	3.5	4	4.5	5	5.5	6	6.5
Static Water Level (feet)	NA	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37
pH (Std. Units)	+/-0.1	6.88	6.96	6.97	6.99	6.99	6.98	6.99	6.99
Conductivity (mS/cm)	3%	1.4	1.3	1.29	1.28	1.29	1.29	1.29	1.29
Turbidity (NTU)	10%	586	354	345	407	162	87.6	47.7	40.7
D.O. (mg/L)	10%	1.62	0.49	0.38	0.45	0.44	0.35	0.31	0.27
Temperature (ºC) (ºF)	3%	16.44	17.94	17.18	17.12	17.1	17.16	17.21	17.24
ORP[3](mV)	+/-10 mv	-55	-78	-84	-80	-83	-87	-90	-91
Appearance		ST	ST	ST	ST	C	C	C	C
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

Date	Stabilization Criteria								
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (ºC) (ºF)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Initial Purge - 9:50
Lots of sediment built up at the bottom of the well, purging it out before connecting Horiba.
All parameters stable, more than 3 well volumes purged, turbidity below 50 NTU. Development complete.
Following development, well depth was remeasured

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: CD

WELL DATA

Date	12/6/2024	
Time	7:15	
Water meter utilized and date last calibrated		
Well Number	MW-106	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.69	
Static Water Level (feet)	12.15	
H_2O Column (feet)	7.54	
Pump Intake (feet)	19.00	
Well Volume (gallons)	1.23	
Amount to Evacuate (gallons)	4.00	
Amount Evacuated (gallons)	4.00	

SAMPLE DATA

Sample Date		
Sample Time		
Sampler Initials		
Sample I.D.		
Dupe Collected?	☐ Yes ☐ No	ID:
MS Collected?	☐ Yes ☐ No	ID:
MSD Collected?	☐ Yes ☐ No	ID:
Trip Blank Collected?	☐ Yes ☐ No	ID:
EQ Blank Collected?	☐ Yes ☐ No	ID:
Comments No sampling, development only		

FIELD READINGS

Date	Stabilization Criteria	12/6/2024							
Time		7:45	7:50	7:55	8:00	8:05	8:10		
Volume Extracted	gallons	1.5	2	2.5	3	3.5	4		
Static Water Level (feet)	NA	12.24	12.25	12.25	12.25	12.25	12.25		
pH (Std. Units)	+/-0.1	6.93	6.89	6.89	6.9	6.9	6.9		
Conductivity (mS/cm)	3%	3.65	3.69	3.7	3.73	3.71	3.72		
Turbidity (NTU)	10%	1000	415	167	78.8	37.4	28.5		
D.O. (mg/L)	10%	4.05	2.7	1.8	1.57	1.51	1.5		
Temperature (ºC) (ºF)	3%	12.87	13.12	13.32	13.04	13.08	13.05		
ORP[3](mV)	+/-10 mv	165	150	137	130	124	122		
Appearance		T	ST	C	C	C	C		
Free Product (Yes/No)		No	No	No	No	No	No		
Odor		None	None	None	None	None	None		

Date	Stabilization Criteria								
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (ºC) (ºF)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Initial Purge - 7:30
Minimal sediment built up at the bottom of the well, purging it out before connecting Horiba.
All parameters stable, more than 3 well volumes purged, turbidity below 50 NTU. Development complete.

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: CD

WELL DATA

Date	12/4/2024	12/4/2024
Time	12:30	13:50
Water meter utilized and date last calibrated		
Well Number	MW-107	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.49	19.66
Static Water Level (feet)	7.40	
H_2O Column (feet)	12.09	
Pump Intake (feet)	19.00	
Well Volume (gallons)	1.97	
Amount to Evacuate (gallons)	6.00	
Amount Evacuated (gallons)	7.00	

SAMPLE DATA

Sample Date		
Sample Time		
Sampler Initials		
Sample I.D.		
Dupe Collected?	☐ Yes ☐ No	ID:
MS Collected?	☐ Yes ☐ No	ID:
MSD Collected?	☐ Yes ☐ No	ID:
Trip Blank Collected?	☐ Yes ☐ No	ID:
EQ Blank Collected?	☐ Yes ☐ No	ID:

Comments
No sampling, development only

FIELD READINGS

Date	Stabilization Criteria	12/4/2024							
Time		13:10	13:15	13:20	13:25	13:30	13:35	13:40	13:45
Volume Extracted	gallons	3.5	4	4.5	5	5.5	6	6.5	7
Static Water Level (feet)	NA	7.62	7.62	7.62	7.62	7.62	7.62	7.62	7.62
pH (Std. Units)	+/-0.1	7.21	7.31	7.34	7.36	7.38	7.43	7.43	7.43
Conductivity (mS/cm)	3%	14.1	14.6	14.7	14.8	14.8	14.8	14.9	14.9
Turbidity (NTU)	10%	1000	744	517	127	260	60.9	42.6	37.3
D.O. (mg/L)	10%	3.41	2.95	2.04	1.19	1.17	0.77	0.26	0.29
Temperature (ºC) (ºF)	3%	14.94	15.32	15.48	15.49	15.59	15.4	15.6	15.6
ORP[3](mV)	+/-10 mv	-69	-92	-101	-107	-112	-114	-116	-118
Appearance		T	ST	ST	C	C	C	C	C
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

Date	Stabilization Criteria								
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (ºC) (ºF)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Initial Purge - 12:45
Lots of sediment built up at the bottom of the well, purging it out before connecting Horiba.
All parameters stable, more than 3 well volumes purged, turbidity below 50 NTU. Development complete.
Following development, well depth was remeasured.

C&S Engineers, Inc.
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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: JT

WELL DATA

Date	12/13/2024	
Time	13:45	
Water meter utilized and date last calibrated		
Well Number	MW-101	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	13.54	
Static Water Level (feet)	9.43	
H_2O Column (feet)	4.11	
Pump Intake (feet)	13.00	
Well Volume (gallons)	0.67	
Amount to Evacuate (gallons)	NA	
Amount Evacuated (gallons)	1.25	

SAMPLE DATA

Sample Date	12/13/2024	
Sample Time	14:10	
Sampler Initials	JT	
Sample I.D.	MW-101 ROUND 1	
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☑ Yes ☐ No	ID: TRIP BLANK
EQ Blank Collected?	☑ Yes ☐ No	ID: FIELD BLANK

Comments
Extra parameters not collected at this well.

FIELD READINGS

Date	Stabilization Criteria	12/13/2024							
Time		13:55	14:00	14:05	14:08				
Volume Extracted	gallons	0.5	0.75	1	1.25				
Static Water Level (feet)	NA	9.39	9.4	9.41	9.41				
pH (Std. Units)	+/-0.1	6.52	6.45	6.41	6.39				
Conductivity (mS/cm)	3%	2.79	2.82	2.84	2.84				
Turbidity (NTU)	10%	2.6	0	0	9.7				
D.O. (mg/L)	10%	0.88	0.58	0.54	0.52				
Temperature (ºC) (ºF)	3%	12.28	12.11	12.05	11.99				
ORP[3](mV)	+/-10 mv	-61	-61	-63	-64				
Appearance		ST	C	C	C				
Free Product (Yes/No)		No	No	No	No				
Odor		None	None	None	None				

Date	Stabilization Criteria								
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (ºC) (ºF)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Initial Purge - 13:45

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: JT

WELL DATA

Date	12/12/2024	
Time	13:30	
Water meter utilized and date last calibrated		
Well Number	MW-102	
PID Reading (ppm)	0.1	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.98	
Static Water Level (feet)	6.87	
H_2O Column (feet)	13.11	
Pump Intake (feet)	19.00	
Well Volume (gallons)	2.14	
Amount to Evacuate (gallons)	NA	
Amount Evacuated (gallons)	2.75	

SAMPLE DATA

Sample Date	12/12/2024	
Sample Time	14:11	
Sampler Initials	JT	
Sample I.D.	MW-102 ROUND 1	
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☑ Yes ☐ No	ID:TRIP BLANK
EQ Blank Collected?	☑ Yes ☐ No	ID: FIELD BLANK

Comments
Extra parameters not collected at this well.

FIELD READINGS

Date	Stabilization Criteria	12/12/2024							
Time		13:35	13:42	13:47	13:52	13:55	13:58	14:02	14:07
Volume Extracted	gallons	0.75	1	1.25	1.5	1.75	2	2.25	2.5
Static Water Level (feet)	NA	6.9	6.9	6.9	6.92	6.9	6.9	6.9	6.9
pH (Std. Units)	+/-0.1	6.09	6.09	6.1	6.11	6.12	6.12	6.13	6.14
Conductivity (mS/cm)	3%	1.97	2.02	2.05	2.03	1.99	1.98	2	2.04
Turbidity (NTU)	10%	186	132	90.9	56.9	44.4	36.7	36.4	33.6
D.O. (mg/L)	10%	0.61	0.51	0.47	0.46	0.43	0.38	0.43	0.41
Temperature (ºC) (ºF)	3%	13.8	13.99	14.24	14.22	14.28	14.32	14.25	14.19
ORP[3](mV)	+/-10 mv	-107	-115	-119	-121	-124	-126	-128	-130
Appearance		ST	ST	ST	C	C	C	C	C
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

Date	Stabilization Criteria	12/4/2024							
Time		14:10							
Volume Extracted	gallons	2.75							
Static Water Level (feet)	NA	6.9							
pH (Std. Units)	+/-0.1	6.15							
Conductivity (mS/cm)	3%	2.03							
Turbidity (NTU)	10%	28.9							
D.O. (mg/L)	10%	0.39							
Temperature (ºC) (ºF)	3%	14.2							
ORP[3](mV)	+/-10 mv	-131							
Appearance		C							
Free Product (Yes/No)		No							
Odor		None							

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Initial Purge - 13:30

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: JT

WELL DATA

Date	12/13/2024	
Time	9:45	
Water meter utilized and date last calibrated		
Well Number	MW-103	
PID Reading (ppm)	1.5	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.83	
Static Water Level (feet)	10.55	
H_2O Column (feet)	9.28	
Pump Intake (feet)	19.00	
Well Volume (gallons)	1.51	
Amount to Evacuate (gallons)	NA	
Amount Evacuated (gallons)	3.50	

SAMPLE DATA

Sample Date	12/13/2024	
Sample Time	10:40	
Sampler Initials	JT	
Sample I.D.	MW-103 ROUND 1	
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☑ Yes ☐ No	ID: TRIP BLANK
EQ Blank Collected?	☑ Yes ☐ No	ID: FIELD BLANK

Comments
Extra parameters not collected at this well.

FIELD READINGS

Date	Stabilization Criteria	12/13/2024							
Time		10:13	10:20	10:25	10:30	10:35	10:38		
Volume Extracted	gallons	1	1.75	2.25	2.75	3.25	3.5		
Static Water Level (feet)	NA	10.61	10.61	10.6	10.6	10.6	10.6		
pH (Std. Units)	+/-0.1	6.68	6.69	6.67	6.64	6.62	6.6		
Conductivity (mS/cm)	3%	3.88	3.91	3.92	3.89	3.88	3.88		
Turbidity (NTU)	10%	56.1	45.3	30.4	14.7	7.7	4.5		
D.O. (mg/L)	10%	0.72	0.61	0.54	0.47	0.45	0.43		
Temperature (ºC) (ºF)	3%	11.18	11.41	11.4	11.88	11.81	11.89		
ORP[3](mV)	+/-10 mv	-248	-289	-300	-303	-304	-303		
Appearance		ST	ST	ST	ST	C	C		
Free Product (Yes/No)		No	No	No	No	No	No		
Odor		None	None	None	None	None	None		

Date	Stabilization Criteria								
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (ºC) (ºF)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Initial Purge - 9:45

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: JT

WELL DATA

Date	12/12/2024	
Time	11:05	
Water meter utilized and date last calibrated		
Well Number	MW-104	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.41	
Static Water Level (feet)	7.68	
H_2O Column (feet)	11.73	
Pump Intake (feet)	17.00	
Well Volume (gallons)	1.91	
Amount to Evacuate (gallons)	NA	
Amount Evacuated (gallons)	5.50	

SAMPLE DATA

Sample Date	12/12/2024	
Sample Time	12:10	
Sampler Initials	JT	
Sample I.D.	MW-104 ROUND 1	
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☑ Yes ☐ No	ID: TRIP BLANK
EQ Blank Collected?	☑ Yes ☐ No	ID: FIELD BLANK

Comments
Extra parameters collected at this well.

FIELD READINGS

Date	Stabilization Criteria	12/12/2024							
Time		11:12	11:16	11:21	11:26	11:31	11:36	11:42	11:47
Volume Extracted	gallons	0.5	0.75	1	1.5	2	2.5	3	3.5
Static Water Level (feet)	NA	8.16	8.22	8.24	8.27	8.27	8.31	8.3	8.36
pH (Std. Units)	+/-0.1	6.11	6.09	6.09	6.11	6.15	6.16	6.15	6.21
Conductivity (mS/cm)	3%	1.47	1.49	1.52	1.51	1.49	1.48	1.46	1.47
Turbidity (NTU)	10%	710	622	1000	1000	809	406	271	160
D.O. (mg/L)	10%	2.75	2.57	4.59	1.83	1.8	1.8	1.8	1.81
Temperature (°C) (°F)	3%	11.86	12.67	12.94	12.91	14.37	14.93	14.82	14.86
ORP[3](mV)	+/-10 mv	-66	-76	-85	-89	-97	-100	-101	-102
Appearance		VT	VT	VT	VT	VT	T	T	T
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

Date	Stabilization Criteria	12/12/2024							
Time		11:52	11:58	12:05	12:10				
Volume Extracted	gallons	4	4.5	5	5.5				
Static Water Level (feet)	NA	8.34	8.37	8.41	8.4				
pH (Std. Units)	+/-0.1	6.21	6.2	6.24	6.24				
Conductivity (mS/cm)	3%	1.45	1.48	1.46	1.47				
Turbidity (NTU)	10%	133	135	122	109				
D.O. (mg/L)	10%	1.83	1.88	1.91	1.81				
Temperature (°C) (°F)	3%	14.71	14.77	14.82	14.94				
ORP[3](mV)	+/-10 mv	-104	-104	-106	-106				
Appearance		T	ST	ST	ST				
Free Product (Yes/No)		No	No	No	No				
Odor		None	None	None	None				

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Initial Purge - 11:05

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: JT

WELL DATA

Date	12/13/2024	
Time	12:38	
Water meter utilized and date last calibrated		
Well Number	MW-105	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.37	
Static Water Level (feet)	6.34	
H_2O Column (feet)	13.03	
Pump Intake (feet)	19.00	
Well Volume (gallons)	2.13	
Amount to Evacuate (gallons)	NA	
Amount Evacuated (gallons)	2.00	

SAMPLE DATA

Sample Date	12/13/2024	
Sample Time	13:08	
Sampler Initials	JT	
Sample I.D.	MW-105 ROUND 1	
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☑ Yes ☐ No	ID: TRIP BLANK
EQ Blank Collected?	☑ Yes ☐ No	ID: FIELD BLANK

Comments
Extra parameters not collected at this well.

FIELD READINGS

Date	Stabilization Criteria	12/13/2024							
Time		12:45	12:50	12:55	13:00	13:03	13:06		
Volume Extracted	gallons	0.5	0.75	1.25	1.5	1.75	2		
Static Water Level (feet)	NA	6.29	6.3	6.3	6.31	6.31	6.32		
pH (Std. Units)	+/-0.1	6.54	6.47	6.46	6.46	6.46	6.46		
Conductivity (mS/cm)	3%	1.5	1.46	1.45	1.45	1.45	1.45		
Turbidity (NTU)	10%	337	904	903	178	159	171		
D.O. (mg/L)	10%	0.35	0.28	0.25	0.25	0.25	0.24		
Temperature (°C) (°F)	3%	13.44	14.55	14.53	14.76	14.83	14.89		
ORP[3](mV)	+/-10 mv	-127	-135	-140	-145	-147	-148		
Appearance		Brown	VT	VT	T	T	T		
Free Product (Yes/No)		No	No	No	No	No	No		
Odor		None	None	None	None	None	None		

Date	Stabilization Criteria								
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (°C) (°F)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Initial Purge - 12:38

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: JT

WELL DATA

Date	12/13/2024	
Time	7:30	
Water meter utilized and date last calibrated		
Well Number	MW-106	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.69	
Static Water Level (feet)	11.76	
H_2O Column (feet)	7.93	
Pump Intake (feet)	19.00	
Well Volume (gallons)	1.29	
Amount to Evacuate (gallons)	NA	
Amount Evacuated (gallons)	2.75	

SAMPLE DATA

Sample Date	12/13/2024	
Sample Time	8:25	
Sampler Initials	JT	
Sample I.D.	MW-106 ROUND 1	
Dupe Collected?	☑ Yes ☐ No	ID: DUP ROUND 1
MS Collected?	☑ Yes ☐ No	ID: MS ROUND 1
MSD Collected?	☑ Yes ☐ No	ID: MSD ROUND 1
Trip Blank Collected?	☑ Yes ☐ No	ID: TRIP BLANK
EQ Blank Collected?	☑ Yes ☐ No	ID: FIELD BLANK

Comments
Extra parameters not collected at this well.

FIELD READINGS

Date	Stabilization Criteria	12/13/2024							
Time		7:50	7:56	8:01	8:07	8:13	8:18	8:23	
Volume Extracted	gallons	0.75	1	1.5	2	2.25	2.5	2.75	
Static Water Level (feet)	NA	11.88	11.86	11.85	11.85	11.85	11.85	11.85	
pH (Std. Units)	+/-0.1	6.49	6.34	6.31	6.3	6.29	6.29	6.29	
Conductivity (mS/cm)	3%	3.6	3.63	3.63	3.64	3.64	3.65	3.66	
Turbidity (NTU)	10%	251	168	127	87.5	61.7	44.5	35.7	
D.O. (mg/L)	10%	1.16	0.88	0.77	0.67	0.6	0.59	0.59	
Temperature (ºC) (ºF)	3%	12.34	11.76	11.79	12.03	12.11	12.07	12.06	
ORP[3](mV)	+/-10 mv	97	96	95	94	92	91	90	
Appearance		T	T	ST	ST	ST	C	C	
Free Product (Yes/No)		No	No	No	No	No	No	No	
Odor		None	None	None	None	None	None	None	

Date	Stabilization Criteria								
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (ºC) (ºF)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Initial Purge - 7:30

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: JT

WELL DATA

Date	12/13/2024	
Time	11:15	
Water meter utilized and date last calibrated		
Well Number	MW-107	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.66	
Static Water Level (feet)	7.02	
H_2O Column (feet)	12.64	
Pump Intake (feet)	19.00	
Well Volume (gallons)	2.06	
Amount to Evacuate (gallons)	NA	
Amount Evacuated (gallons)	3.65	

SAMPLE DATA

Sample Date	12/13/2024	
Sample Time	12:15	
Sampler Initials	JT	
Sample I.D.	MW-107 ROUND 1	
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☑ Yes ☐ No	ID: TRIP BLANK
EQ Blank Collected?	☑ Yes ☐ No	ID: FIELD BLANK

Comments
Extra parameters not collected at this well.

FIELD READINGS

Date	Stabilization Criteria	12/13/2024							
Time		11:25	11:30	11:35	11:40	11:45	11:50	11:55	12:00
Volume Extracted	gallons	0.5	0.75	1.25	1.5	1.75	2	2.5	3
Static Water Level (feet)	NA	7.3	7.3	7.3	7.3	7.29	7.3	7.3	7.3
pH (Std. Units)	+/-0.1	6.71	6.7	6.92	7.08	7.16	7.05	7.02	7.17
Conductivity (mS/cm)	3%	16.3	15.7	13.4	12.6	12.3	13.3	12.8	13.55
Turbidity (NTU)	10%	216	184	105	54.9	32.7	36.5	30.3	27
D.O. (mg/L)	10%	0.56	0.49	0.46	0.44	0.4	0.35	0.34	0.35
Temperature (ºC) (ºF)	3%	12.55	12.73	12.91	13.11	13.27	13.19	13.23	13.49
ORP[3](mV)	+/-10 mv	-206	-208	-229	-240	-244	-235	-234	-244
Appearance		ST	ST	ST	ST	ST	ST	ST	ST
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

Date	Stabilization Criteria	12/13/2024							
Time		12:05	12:08	12:11	12:13				
Volume Extracted	gallons	3.25	3.35	3.5	3.65				
Static Water Level (feet)	NA	7.3	7.3	7.3	7.3				
pH (Std. Units)	+/-0.1	7.23	7.24	7.25	7.25				
Conductivity (mS/cm)	3%	12.4	12.4	12.4	12.4				
Turbidity (NTU)	10%	20	6.4	14.8	5.9				
D.O. (mg/L)	10%	0.34	0.34	0.33	0.32				
Temperature (ºC) (ºF)	3%	13.66	13.75	13.78	13.72				
ORP[3](mV)	+/-10 mv	-248	-249	-249	-249				
Appearance		ST	ST	ST	ST				
Free Product (Yes/No)		No	No	No	No				
Odor		None	None	None	None				

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
Initial Purge - 11:15

C&S Engineers, Inc.
499 Col Eileen Collins Blvd
Syracuse, NY 13212
Phone: 315-455-2000
Fax: 315-455-9667
www.cscos.com

Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: CD

WELL DATA

Date	2/12/2025	
Time	15:25	
Water meter utilized and date last calibrated		
Well Number	MW-101	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	13.54	
Static Water Level (feet)	10.17	
H_2O Column (feet)	3.37	
Pump Intake (feet)	13.00	
Well Volume (gallons)	0.55	
Amount to Evacuate (gallons)	NA	
Amount Evacuated (gallons)	4.50	

SAMPLE DATA

Sample Date	2/12/2025	
Sample Time	14:20	
Sampler Initials	CD	
Sample I.D.	MW-101 ROUND 2	
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☑ Yes ☐ No	ID: TRIP BLANK
EQ Blank Collected?	☑ Yes ☐ No	ID: FIELD BLANK

Comments
No 1,4-dioxane, collected PFAS

FIELD READINGS

	Stabilization Criteria	2/12/2025							
Time		15:35	15:40	15:45	15:50	15:55	16:00	16:05	16:10
Volume Extracted	gallons	0.5	1	1.5	2	2.5	3	3.5	4
Static Water Level (feet)	NA	10.17	10.17	10.17	10.17	10.17	10.17	10.17	10.17
pH (Std. Units)	+/-0.1	7.33	7.17	7.13	7.12	7.09	7.07	7.06	7.05
Conductivity (mS/cm)	3%	2.86	2.96	2.97	2.96	2.95	2.95	2.94	2.94
Turbidity (NTU)	10%	54.4	16.3	11.5	9.3	7.8	4.8	1.9	1.3
D.O. (mg/L)	10%	9.57	8.25	7.27	6.87	6.2	5.81	4.47	4.45
Temperature (°C) (°F)	3%	9.03	10.23	10.28	10.27	10.47	10.34	10.37	10.4
ORP[3](mV)	+/-10 mv	-156	-193	-194	-193	-193	-191	-187	-187
Appearance		C	C	C	C	C	C	C	C
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

	Stabilization Criteria	2/12/2025							
Time		16:15							
Volume Extracted	gallons	4.5							
Static Water Level (feet)	NA	10.17							
pH (Std. Units)	+/-0.1	7.05							
Conductivity (mS/cm)	3%	2.94							
Turbidity (NTU)	10%	0.8							
D.O. (mg/L)	10%	4.35							
Temperature (°C) (°F)	3%	10.39							
ORP[3](mV)	+/-10 mv	-186							
Appearance		C							
Free Product (Yes/No)		No							
Odor		None							

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
All parameters stable, turbidity below 5. Collecting sample.

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Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: CD

WELL DATA

Date	2/11/2025	
Time	9:35	
Water meter utilized and date last calibrated		
Well Number	MW-102	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.98	
Static Water Level (feet)	7.28	
H_2O Column (feet)	12.70	
Pump Intake (feet)	18.00	
Well Volume (gallons)	2.07	
Amount to Evacuate (gallons)	NA	
Amount Evacuated (gallons)	3.00	

SAMPLE DATA

Sample Date	2/11/2025	
Sample Time	16:15	
Sampler Initials	CD	
Sample I.D.	MW-102 ROUND 2	
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☑ Yes ☐ No	ID: TRIP BLANK
EQ Blank Collected?	☐ Yes ☑ No	ID:

Comments
No PFAS or 1,4-dioxane

FIELD READINGS

Date	Stabilization Criteria	2/11/2025							
Time		15:45	15:50	15:55	16:00	16:05	16:10		
Volume Extracted	gallons	0.5	1	1.5	2	2.5	3		
Static Water Level (feet)	NA	7.39	7.39	7.39	7.39	7.39	7.39		
pH (Std. Units)	+/-0.1	7.29	7.21	7.16	7.14	7.13	7.14		
Conductivity (mS/cm)	3%	1.84	1.76	1.75	1.74	1.74	1.74		
Turbidity (NTU)	10%	34.8	14.9	2.7	0	1.2	0		
D.O. (mg/L)	10%	1.62	0.53	0.35	0.28	0.28	0.27		
Temperature (ºC) (ºF)	3%	11.51	11.51	11.41	11.44	11.62	11.64		
ORP[3](mV)	+/-10 mv	-111	-127	-131	-132	-134	-134		
Appearance		C	C	C	C	C	C		
Free Product (Yes/No)		No	No	No	No	No	No		
Odor		None	None	None	None	None	None		

Date	Stabilization Criteria								
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (ºC) (ºF)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
All parameters stable, turbidity below 5. Collecting sample.

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: CD

WELL DATA

Date	2/11/2025	
Time	10:00	
Water meter utilized and date last calibrated		
Well Number	MW-103	
PID Reading (ppm)	2.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.83	
Static Water Level (feet)	11.33	
H_2O Column (feet)	8.50	
Pump Intake (feet)	18.00	
Well Volume (gallons)	1.39	
Amount to Evacuate (gallons)	NA	
Amount Evacuated (gallons)	4.50	

SAMPLE DATA

Sample Date	2/12/2025	
Sample Time	14:45	
Sampler Initials	CD	
Sample I.D.	MW-103 ROUND 2	
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☑ Yes ☐ No	ID: TRIP BLANK
EQ Blank Collected?	☐ Yes ☑ No	ID:
Comments No PFAS or 1,4-dioxane Extra parameters collected		

FIELD READINGS

Date	Stabilization Criteria	2/12/2025							
Time		14:00	14:05	14:10	14:15	14:20	14:25	14:30	14:35
Volume Extracted	gallons	0.5	1	1.5	2	2.5	3	3.5	4
Static Water Level (feet)	NA	11.48	11.5	11.51	11.52	11.5	11.5	11.5	11.5
pH (Std. Units)	+/-0.1	7.64	7.47	7.35	7.29	7.25	7.2	7.16	7.14
Conductivity (mS/cm)	3%	3.83	3.84	3.79	3.7	3.58	3.5	3.37	3.32
Turbidity (NTU)	10%	7.2	2.7	1.2	0.9	0.9	0	0.5	0.5
D.O. (mg/L)	10%	5.26	0.97	0.53	0.44	0.39	0.36	0.29	0.29
Temperature (°C) (°F)	3%	10.27	10.4	10.47	10.51	10.29	10.47	10.88	10.93
ORP[3](mV)	+/-10 mv	-162	-211	-270	-275	-276	-278	-280	-281
Appearance		C	C	C	C	C	C	C	C
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		Sulfur	Sulfur	Sulfur	Sulfur	Sulfur	None	None	None

Date	Stabilization Criteria	2/12/2025							
Time		14:40							
Volume Extracted	gallons	4.5							
Static Water Level (feet)	NA	11.5							
pH (Std. Units)	+/-0.1	7.11							
Conductivity (mS/cm)	3%	3.28							
Turbidity (NTU)	10%	0.5							
D.O. (mg/L)	10%	0.29							
Temperature (°C) (°F)	3%	10.84							
ORP[3](mV)	+/-10 mv	-281							
Appearance		C							
Free Product (Yes/No)		No							
Odor		Sulfur							

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
All parameters stable. Collecting sample.

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Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: CD

WELL DATA

Date	2/11/2025	
Time	11:00	
Water meter utilized and date last calibrated		
Well Number	MW-104	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.41	
Static Water Level (feet)	8.29	
H_2O Column (feet)	11.12	
Pump Intake (feet)	18.00	
Well Volume (gallons)	1.81	
Amount to Evacuate (gallons)	NA	
Amount Evacuated (gallons)	4.00	

SAMPLE DATA

Sample Date	2/11/2025	
Sample Time	14:20	
Sampler Initials	CD	
Sample I.D.	MW-104 ROUND 2	
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☑ Yes ☐ No	ID: TRIP BLANK
EQ Blank Collected?	☐ Yes ☑ No	ID:

Comments
No PFAS or 1,4-dioxane

FIELD READINGS

Date	Stabilization Criteria	2/11/2025							
Time		13:40	13:45	13:50	13:55	14:00	14:05	14:10	14:15
Volume Extracted	gallons	0.5	1	1.5	2	2.5	3	3.5	4
Static Water Level (feet)	NA	8.87	8.87	8.89	8.91	8.92	8.93	8.94	8.95
pH (Std. Units)	+/-0.1	7.26	7.16	7.14	7.13	7.13	7.13	7.13	7.13
Conductivity (mS/cm)	3%	1.33	1.33	1.34	1.34	1.36	1.35	1.35	1.35
Turbidity (NTU)	10%	79.9	78.8	39.5	23.2	17.8	14.5	12.4	9.7
D.O. (mg/L)	10%	4.65	3.15	2.74	3.26	2.72	2.02	1.98	1.86
Temperature (ºC) (ºF)	3%	13.35	13.34	13.35	13.31	13.37	13.27	13.22	13.33
ORP[3](mV)	+/-10 mv	-108	-117	-121	-122	-124	-124	-123	-123
Appearance		C	C	C	C	C	C	C	C
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

Date	Stabilization Criteria								
Time									
Volume Extracted	gallons								
Static Water Level (feet)	NA								
pH (Std. Units)	+/-0.1								
Conductivity (mS/cm)	3%								
Turbidity (NTU)	10%								
D.O. (mg/L)	10%								
Temperature (ºC) (ºF)	3%								
ORP[3](mV)	+/-10 mv								
Appearance									
Free Product (Yes/No)									
Odor									

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
All parameters stable, turbidity below 10. Collecting sample.

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Well Sampling Field Data Sheet

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1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: CD

WELL DATA

Date	2/11/2025	
Time	10:30	
Water meter utilized and date last calibrated		
Well Number	MW-105	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.37	
Static Water Level (feet)	7.15	
H_2O Column (feet)	12.22	
Pump Intake (feet)	18.00	
Well Volume (gallons)	1.99	
Amount to Evacuate (gallons)	NA	
Amount Evacuated (gallons)	5.00	

SAMPLE DATA

Sample Date	2/11/2025	
Sample Time	12:45	
Sampler Initials	CD	
Sample I.D.	MW-105 ROUND 2	
Dupe Collected?	☑ Yes ☐ No	ID: DUP ROUND 2
MS Collected?	☑ Yes ☐ No	ID: MS ROUND 2
MSD Collected?	☑ Yes ☐ No	ID: MSD ROUND 2
Trip Blank Collected?	☑ Yes ☐ No	ID: TRIP BLANK
EQ Blank Collected?	☐ Yes ☑ No	ID:
Comments No PFAS or 1,4-dioxane		

FIELD READINGS

Date	Stabilization Criteria	2/11/2025							
Time		11:55	12:00	12:05	12:10	12:15	12:20	12:25	12:30
Volume Extracted	gallons	0.5	1	1.5	2	2.5	3	3.5	4
Static Water Level (feet)	NA	7.15	7.15	7.15	7.15	7.15	7.15	7.15	7.15
pH (Std. Units)	+/-0.1	7.49	7.2	7.15	7.13	7.15	7.17	7.19	7.19
Conductivity (mS/cm)	3%	1.4	1.39	1.39	1.39	1.39	1.38	1.4	1.39
Turbidity (NTU)	10%	105	113	114	82.9	56.2	38.3	30.7	16.3
D.O. (mg/L)	10%	1.82	0.91	0.82	0.5	0.49	0.37	0.29	0.23
Temperature (°C) (°F)	3%	13.3	13.81	13.87	13.93	13.85	13.93	13.98	13.97
ORP[3](mV)	+/-10 mv	-83	-90	-96	-100	-103	-106	-108	-109
Appearance		C	C	C	C	C	C	C	C
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

Date	Stabilization Criteria	2/11/2025							
Time		12:35	12:40						
Volume Extracted	gallons	4.5	5						
Static Water Level (feet)	NA	7.15	7.15						
pH (Std. Units)	+/-0.1	7.19	7.2						
Conductivity (mS/cm)	3%	1.4	1.39						
Turbidity (NTU)	10%	7.7	4.9						
D.O. (mg/L)	10%	0.25	0.25						
Temperature (°C) (°F)	3%	13.98	13.97						
ORP[3](mV)	+/-10 mv	-109	-110						
Appearance		C	C						
Free Product (Yes/No)		No	No						
Odor		None	None						

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
All parameters stable, turbidity below 5. Collecting sample.

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Well Sampling Field Data Sheet

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1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: CD

WELL DATA

Date	2/11/2025	
Time	9:25	
Water meter utilized and date last calibrated		
Well Number	MW-106	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.69	
Static Water Level (feet)	12.12	
H_2O Column (feet)	7.57	
Pump Intake (feet)	18.00	
Well Volume (gallons)	1.24	
Amount to Evacuate (gallons)	NA	
Amount Evacuated (gallons)	5.25	

SAMPLE DATA

Sample Date	2/11/2025	
Sample Time	15:25	
Sampler Initials	CD	
Sample I.D.	MW-106 ROUND 2	
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☑ Yes ☐ No	ID: TRIP BLANK
EQ Blank Collected?	☐ Yes ☑ No	ID:
Comments No PFAS or 1,4-dioxane		

FIELD READINGS

Date	Stabilization Criteria	2/11/2025							
Time		14:40	14:45	14:50	14:55	15:00	15:05	15:10	15:15
Volume Extracted	gallons	0.5	1	1.5	2	2.5	3	3.5	4
Static Water Level (feet)	NA	12.19	12.19	12.2	12.2	12.2	12.2	12.2	12.2
pH (Std. Units)	+/-0.1	7.4	7.29	7.26	7.24	7.23	7.22	7.22	7.22
Conductivity (mS/cm)	3%	3.58	3.62	3.63	3.66	3.69	3.7	3.72	3.72
Turbidity (NTU)	10%	24.1	17.1	17.6	8.8	7.3	4.9	4.1	3.3
D.O. (mg/L)	10%	9.53	8.12	7.22	6.36	5.59	5.04	4.55	4.25
Temperature (ºC) (ºF)	3%	11.38	11.72	11.88	11.87	11.79	11.84	11.89	11.83
ORP[3](mV)	+/-10 mv	41	44	39	40	44	45	47	48
Appearance		C	C	C	C	C	C	C	C
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

Date	Stabilization Criteria	2/11/2025							
Time		15:18	15:21	15:24					
Volume Extracted	gallons	4.75	5	5.25					
Static Water Level (feet)	NA	12.2	12.2	12.2					
pH (Std. Units)	+/-0.1	7.21	7.22	7.22					
Conductivity (mS/cm)	3%	3.73	3.74	3.74					
Turbidity (NTU)	10%	2.5	2.6	1.9					
D.O. (mg/L)	10%	3.84	3.63	3.48					
Temperature (ºC) (ºF)	3%	11.95	11.88	11.84					
ORP[3](mV)	+/-10 mv	49	51	52					
Appearance		C	C	C					
Free Product (Yes/No)		No	No	No					
Odor		None	None	None					

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
All parameters stable, turbidity below 5. Collecting sample.

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Well Sampling Field Data Sheet

Well Casing Unit Volume (gal/l.f.)		
1¼" = 0.08	2" = 0.17	3" = 0.38
4" = 0.66	6" = 1.5	8" = 2.6

Client Name: 1153 Owner LLC
Site Name: 1153-69 West Fayette Street BCP Site Remedial Investigation
Project No.: AB2.002.002
Field Staff: CD

WELL DATA

Date	2/11/2025	
Time	10:35	
Water meter utilized and date last calibrated		
Well Number	MW-107	
PID Reading (ppm)	0.0	
Diameter (inches)	2.0	
Total Sounded Depth (feet)	19.66	
Static Water Level (feet)	7.82	
H_2O Column (feet)	11.84	
Pump Intake (feet)	18.00	
Well Volume (gallons)	1.93	
Amount to Evacuate (gallons)	NA	
Amount Evacuated (gallons)	6.50	

SAMPLE DATA

Sample Date	2/12/2025	
Sample Time	13:30	
Sampler Initials	CD	
Sample I.D.	MW-107 ROUND 2	
Dupe Collected?	☐ Yes ☑ No	ID:
MS Collected?	☐ Yes ☑ No	ID:
MSD Collected?	☐ Yes ☑ No	ID:
Trip Blank Collected?	☑ Yes ☐ No	ID: TRIP BLANK
EQ Blank Collected?	☑ Yes ☐ No	ID: FIELD BLANK

Comments
No 1,4-dioxane, collected PFAS

FIELD READINGS

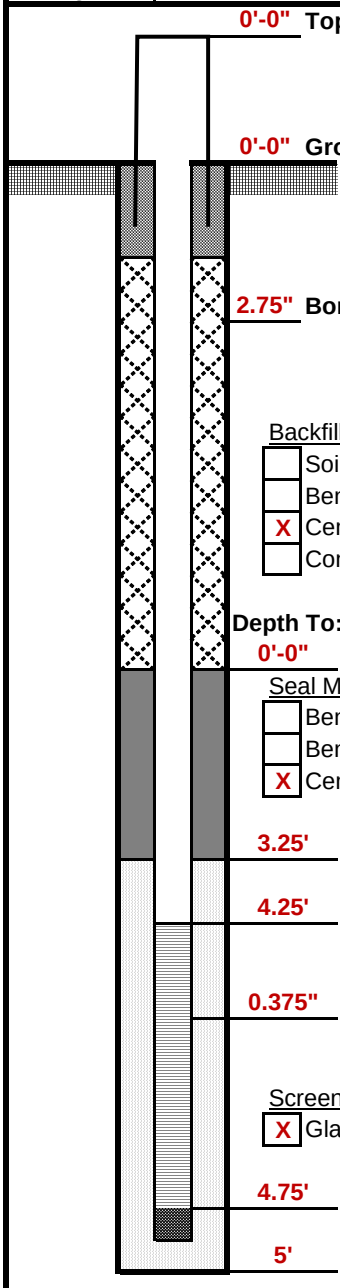
Date	Stabilization Criteria	2/12/2025							
Time		12:25	12:30	12:35	12:40	12:45	12:50	12:55	13:00
Volume Extracted	gallons	0.5	1	1.5	2	2.5	3	3.5	4
Static Water Level (feet)	NA	7.92	7.93	7.96	7.98	7.98	7.98	7.98	7.99
pH (Std. Units)	+/-0.1	7.45	7.61	7.68	7.68	7.69	7.72	7.75	7.77
Conductivity (mS/cm)	3%	11.2	6.45	3.18	3.31	3.54	3.61	3.69	3.87
Turbidity (NTU)	10%	94.5	188	82.5	49.7	30.7	21.6	16.3	12.1
D.O. (mg/L)	10%	2.21	1.17	0.7	0.56	0.54	0.48	0.5	0.43
Temperature (°C) (°F)	3%	10.54	11.19	11.41	11.65	11.62	11.8	11.83	11.74
ORP[3](mV)	+/-10 mv	-81	-102	-114	-120	-138	-145	-152	-156
Appearance		C	C	C	C	C	C	C	C
Free Product (Yes/No)		No	No	No	No	No	No	No	No
Odor		None	None	None	None	None	None	None	None

Date	Stabilization Criteria	2/12/2025							
Time		13:05	13:10	13:15	13:20	13:25			
Volume Extracted	gallons	4.5	5	5.5	6	6.5			
Static Water Level (feet)	NA	7.99	7.99	7.99	7.99	7.99			
pH (Std. Units)	+/-0.1	7.79	7.81	7.84	7.8	7.81			
Conductivity (mS/cm)	3%	4.07	4.26	4.74	4.79	4.82			
Turbidity (NTU)	10%	7.7	5.3	24.5	24.2	24.3			
D.O. (mg/L)	10%	0.46	0.34	0.26	0.25	0.24			
Temperature (°C) (°F)	3%	11.69	11.79	11.65	11.74	11.89			
ORP[3](mV)	+/-10 mv	-159	-162	-160	-161	-164			
Appearance		C	C	C	C	C			
Free Product (Yes/No)		No	No	No	No	No			
Odor		None	None	None	None	None			

C = Clear T = Turbid ST = Semi Turbid VT = Very Turbid

Comments
All parameters stable. Collecting sample.

C&S COMPANIES	C&S Engineers, Inc. 499 Col Eileen Collins Blvd Syracuse, NY 13212 Phone: 315-455-2000 Fax: 315-455-9667 www.cscos.com	**SOIL VAPOR IMPLANT CONSTRUCTION LOG**		***Soil Vapor Implant No.:***	**SV-101**
				Project No.:	AB2.002.002
				Surface Elev.:	
Project Name:	1153-69 West Fayette Street Remedial Investigation			***Datum:***	
Location:	Syracuse, NY			***Start Date/Time:***	12/2/24
Client:	1153 Owner LLC			***Finish Date/Time:***	12/4/24
Drilling Firm:	Sessler Environmental Services	***Drill Rig:***	GeoProbe 6011DT	***Inspector:***	CD



0'-0" **Top Protective Casing**
(If used)

0'-0" **Ground Surface**

2.75" **Bore Hole Diameter**

Backfill Material
- [ ] Soil Cuttings
- [ ] Bentonite Slurry
- [X] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

0'-0" **Top of Seal**

Seal Material
- [ ] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [X] Cement/Bentonite Grout

3.25' **Top of Filter Pack**

4.25' **Top of Screen**

0.375" **Screen Diameter**

Screen Filter Material
- [X] Glass Beads

4.75' **Bottom of Screen**

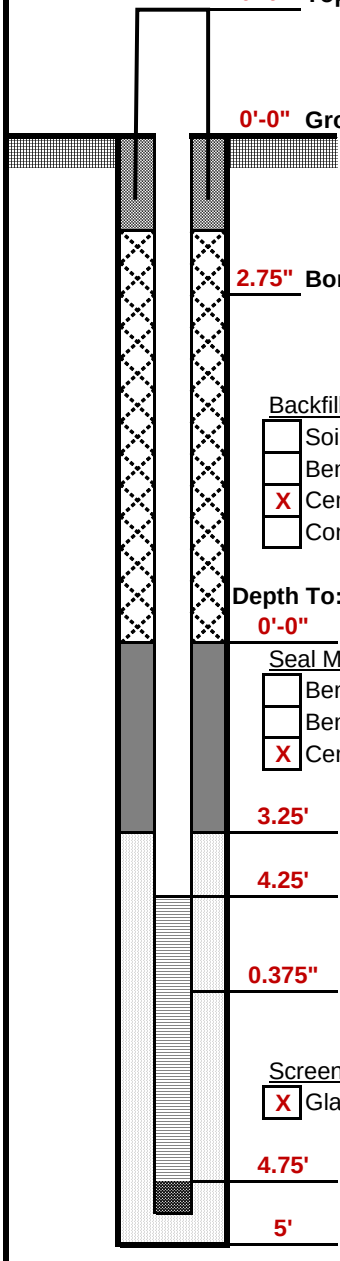
5' **Bottom of Bore Hole**

Depth to Groundwater (Based on Nearby Borings)
15' Feet Below Grade

Measure Length of Screen Weight
2.75" Length of Weight in Inches

Vapor Implant Material
6" Length of Screen
SS Implant Material

C&S COMPANIES	C&S Engineers, Inc. 499 Col Eileen Collins Blvd Syracuse, NY 13212 Phone: 315-455-2000 Fax: 315-455-9667 www.cscos.com	**SOIL VAPOR IMPLANT CONSTRUCTION LOG**		***Soil Vapor Implant No.:***	**SV-102**
				Project No.:	AB2.002.002
				Surface Elev.:	
Project Name:	1153-69 West Fayette Street Remedial Investigation			***Datum:***	
Location:	Syracuse, NY			***Start Date/Time:***	12/2/24
Client:	1153 Owner LLC			***Finish Date/Time:***	12/6/24
Drilling Firm:	Sessler Environmental Services	***Drill Rig:***	GeoProbe 6011DT	***Inspector:***	CD



0'-0" **Top Protective Casing**
(If used)

0'-0" **Ground Surface**

2.75" **Bore Hole Diameter**

Backfill Material
- [ ] Soil Cuttings
- [ ] Bentonite Slurry
- [X] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

0'-0" **Top of Seal**

Seal Material
- [ ] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [X] Cement/Bentonite Grout

3.25' **Top of Filter Pack**

4.25' **Top of Screen**

0.375" **Screen Diameter**

Screen Filter Material
- [X] Glass Beads

4.75' **Bottom of Screen**

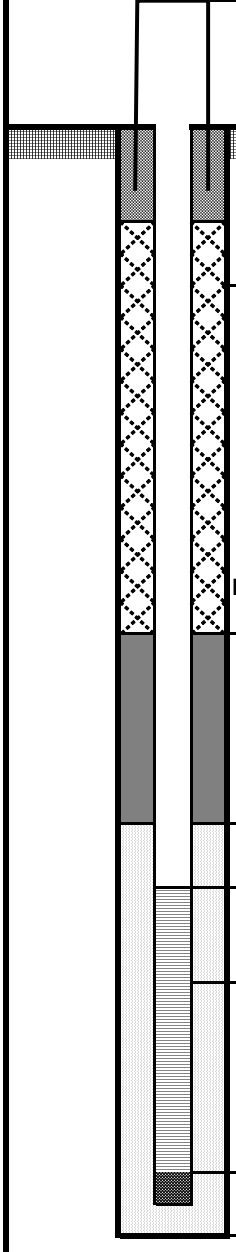
5' **Bottom of Bore Hole**

Depth to Groundwater (Based on Nearby Borings)
15' Feet Below Grade

Measure Length of Screen Weight
2.75" Length of Weight in Inches

Vapor Implant Material
6" Length of Screen
SS Implant Material

C&S COMPANIES	C&S Engineers, Inc. 499 Col Eileen Collins Blvd Syracuse, NY 13212 Phone: 315-455-2000 Fax: 315-455-9667 www.cscos.com	**SOIL VAPOR IMPLANT CONSTRUCTION LOG**		***Soil Vapor Implant No.:***	**SV-103**
				Project No.:	AB2.002.002
				Surface Elev.:	
Project Name:	1153-69 West Fayette Street Remedial Investigation			***Datum:***	
Location:	Syracuse, NY			***Start Date/Time:***	12/2/24
Client:	1153 Owner LLC			***Finish Date/Time:***	12/4/24
Drilling Firm:	Sessler Environmental Services	***Drill Rig:***	GeoProbe 6011DT	***Inspector:***	CD



0'-0" **Top Protective Casing**
(If used)

0'-0" **Ground Surface**

2.75" **Bore Hole Diameter**

Backfill Material
- [ ] Soil Cuttings
- [ ] Bentonite Slurry
- [X] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

0'-0" **Top of Seal**

Seal Material
- [ ] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [X] Cement/Bentonite Grout

3.25' **Top of Filter Pack**

4.25' **Top of Screen**

0.375" **Screen Diameter**

Screen Filter Material
- [X] Glass Beads

4.75' **Bottom of Screen**

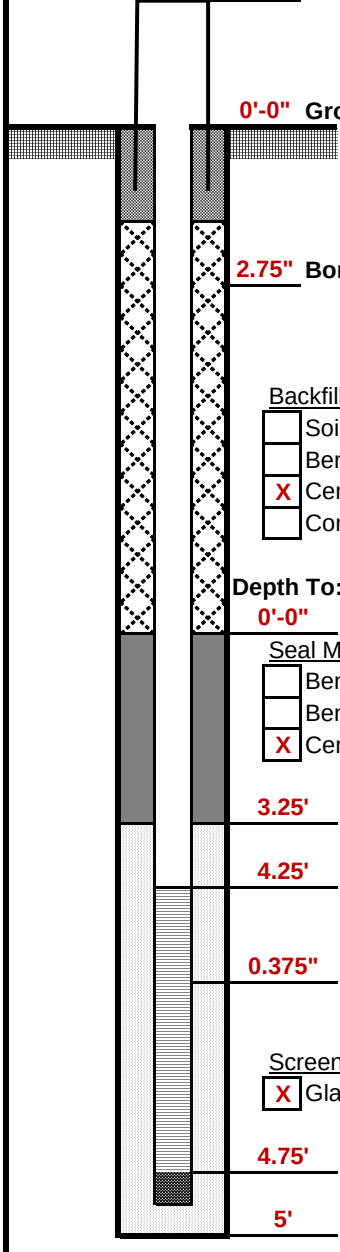
5' **Bottom of Bore Hole**

Depth to Groundwater (Based on Nearby Borings)
10' Feet Below Grade

Measure Length of Screen Weight
2.75" Length of Weight in Inches

Vapor Implant Material
6" Length of Screen
SS Implant Material

C&S COMPANIES	C&S Engineers, Inc. 499 Col Eileen Collins Blvd Syracuse, NY 13212 Phone: 315-455-2000 Fax: 315-455-9667 www.cscos.com	**SOIL VAPOR IMPLANT CONSTRUCTION LOG**		***Soil Vapor Implant No.:***	**SV-104**
				Project No.:	AB2.002.002
				Surface Elev.:	
Project Name:	1153-69 West Fayette Street Remedial Investigation			***Datum:***	
Location:	Syracuse, NY			***Start Date/Time:***	12/2/24
Client:	1153 Owner LLC			***Finish Date/Time:***	12/6/24
Drilling Firm:	Sessler Environmental Services	***Drill Rig:***	GeoProbe 6011DT	***Inspector:***	CD



0'-0" **Top Protective Casing**
(If used)

0'-0" **Ground Surface**

2.75" **Bore Hole Diameter**

Backfill Material
- [ ] Soil Cuttings
- [ ] Bentonite Slurry
- [X] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

0'-0" **Top of Seal**

Seal Material
- [ ] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [X] Cement/Bentonite Grout

3.25' **Top of Filter Pack**

4.25' **Top of Screen**

0.375" **Screen Diameter**

Screen Filter Material
- [X] Glass Beads

4.75' **Bottom of Screen**

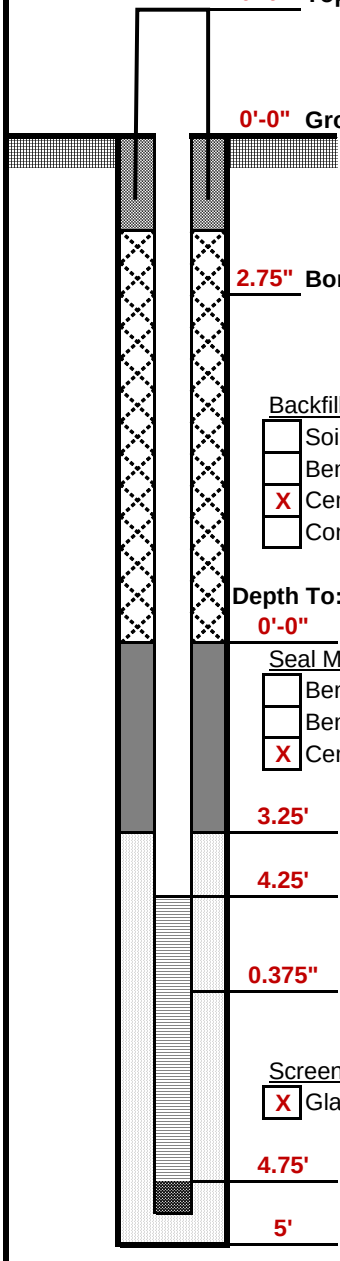
5' **Bottom of Bore Hole**

Depth to Groundwater (Based on Nearby Borings)
10' Feet Below Grade

Measure Length of Screen Weight
2.75" Length of Weight in Inches

Vapor Implant Material
6" Length of Screen
SS Implant Material

C&S COMPANIES	C&S Engineers, Inc. 499 Col Eileen Collins Blvd Syracuse, NY 13212 Phone: 315-455-2000 Fax: 315-455-9667 www.cscos.com	**SOIL VAPOR IMPLANT CONSTRUCTION LOG**		***Soil Vapor Implant No.:***	**SV-105**
				Project No.:	AB2.002.002
				Surface Elev.:	
Project Name:	1153-69 West Fayette Street Remedial Investigation			***Datum:***	
Location:	Syracuse, NY			***Start Date/Time:***	12/2/24
Client:	1153 Owner LLC			***Finish Date/Time:***	12/6/24
Drilling Firm:	Sessler Environmental Services	***Drill Rig:***	GeoProbe 6011DT	***Inspector:***	CD



0'-0" **Top Protective Casing**
(If used)

0'-0" **Ground Surface**

2.75" **Bore Hole Diameter**

Backfill Material
- [ ] Soil Cuttings
- [ ] Bentonite Slurry
- [X] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

0'-0" **Top of Seal**

Seal Material
- [ ] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [X] Cement/Bentonite Grout

3.25' **Top of Filter Pack**

4.25' **Top of Screen**

0.375" **Screen Diameter**

Screen Filter Material
- [X] Glass Beads

4.75' **Bottom of Screen**

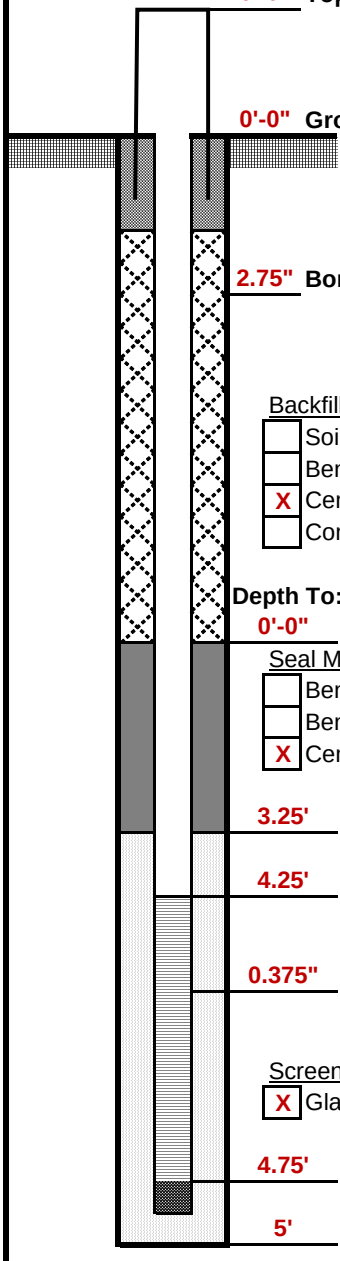
5' **Bottom of Bore Hole**

Depth to Groundwater (Based on Nearby Borings)
10' Feet Below Grade

Measure Length of Screen Weight
2.75" Length of Weight in Inches

Vapor Implant Material
6" Length of Screen
SS Implant Material

C&S COMPANIES	C&S Engineers, Inc. 499 Col Eileen Collins Blvd Syracuse, NY 13212 Phone: 315-455-2000 Fax: 315-455-9667 www.cscos.com	**SOIL VAPOR IMPLANT CONSTRUCTION LOG**		***Soil Vapor Implant No.:***	**SV-106**
				Project No.:	AB2.002.002
				Surface Elev.:	
Project Name:	1153-69 West Fayette Street Remedial Investigation			***Datum:***	
Location:	Syracuse, NY			***Start Date/Time:***	11/27/24
Client:	1153 Owner LLC			***Finish Date/Time:***	12/4/24
Drilling Firm:	Sessler Environmental Services	***Drill Rig:***	GeoProbe 6011DT	***Inspector:***	CD



0'-0" **Top Protective Casing**
(If used)

0'-0" **Ground Surface**

2.75" **Bore Hole Diameter**

Backfill Material
- [ ] Soil Cuttings
- [ ] Bentonite Slurry
- [X] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

0'-0" **Top of Seal**

Seal Material
- [ ] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [X] Cement/Bentonite Grout

3.25' **Top of Filter Pack**

4.25' **Top of Screen**

0.375" **Screen Diameter**

Screen Filter Material
- [X] Glass Beads

4.75' **Bottom of Screen**

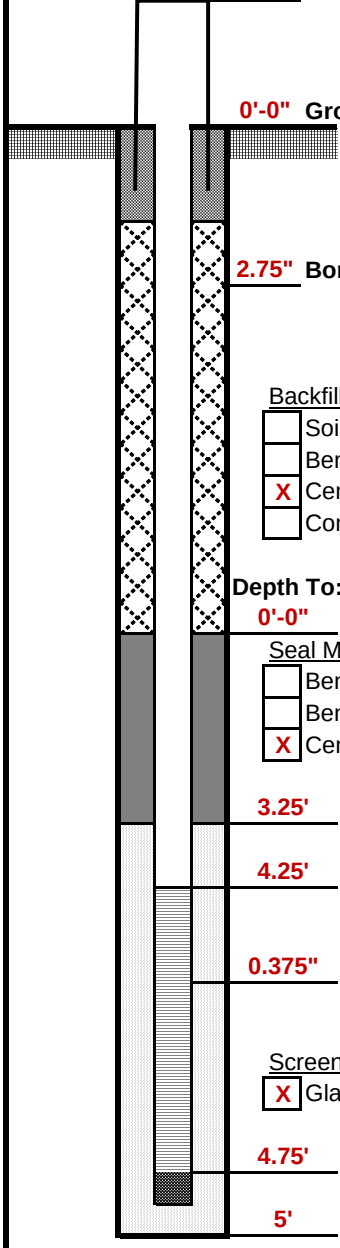
5' **Bottom of Bore Hole**

Depth to Groundwater (Based on Nearby Borings)
14' Feet Below Grade

Measure Length of Screen Weight
2.75" Length of Weight in Inches

Vapor Implant Material
6" Length of Screen
SS Implant Material

C&S COMPANIES	C&S Engineers, Inc. 499 Col Eileen Collins Blvd Syracuse, NY 13212 Phone: 315-455-2000 Fax: 315-455-9667 www.cscos.com	**SOIL VAPOR IMPLANT CONSTRUCTION LOG**		***Soil Vapor Implant No.:***	**SV-107**
				Project No.:	AB2.002.002
				Surface Elev.:	
Project Name:	1153-69 West Fayette Street Remedial Investigation			***Datum:***	
Location:	Syracuse, NY			***Start Date/Time:***	11/27/24
Client:	1153 Owner LLC			***Finish Date/Time:***	12/4/24
Drilling Firm:	Sessler Environmental Services	***Drill Rig:***	GeoProbe 6011DT	***Inspector:***	CD



0'-0" **Top Protective Casing**
(If used)

0'-0" **Ground Surface**

2.75" **Bore Hole Diameter**

Backfill Material
- [ ] Soil Cuttings
- [ ] Bentonite Slurry
- [X] Cement/Bentonite Grout
- [ ] Concrete

Depth To:

0'-0" **Top of Seal**

Seal Material
- [ ] Bentonite Chips/Pellets
- [ ] Bentonite Slurry
- [X] Cement/Bentonite Grout

3.25' **Top of Filter Pack**

4.25' **Top of Screen**

0.375" **Screen Diameter**

Screen Filter Material
- [X] Glass Beads

4.75' **Bottom of Screen**

5' **Bottom of Bore Hole**

Depth to Groundwater (Based on Nearby Borings)
10' Feet Below Grade

Measure Length of Screen Weight
2.75" Length of Weight in Inches

Vapor Implant Material
6" Length of Screen
SS Implant Material

Appendix C

Sanborn Maps

FIRE INSURANCE MAPS

Project Property:	1153 West Fayette Street 1153 West Fayette Street Syracuse NY 13204
Project No:	AB1.001.001
Requested By:	C&S Companies
Order No:	23022400512
Date Completed:	February 26, 2023

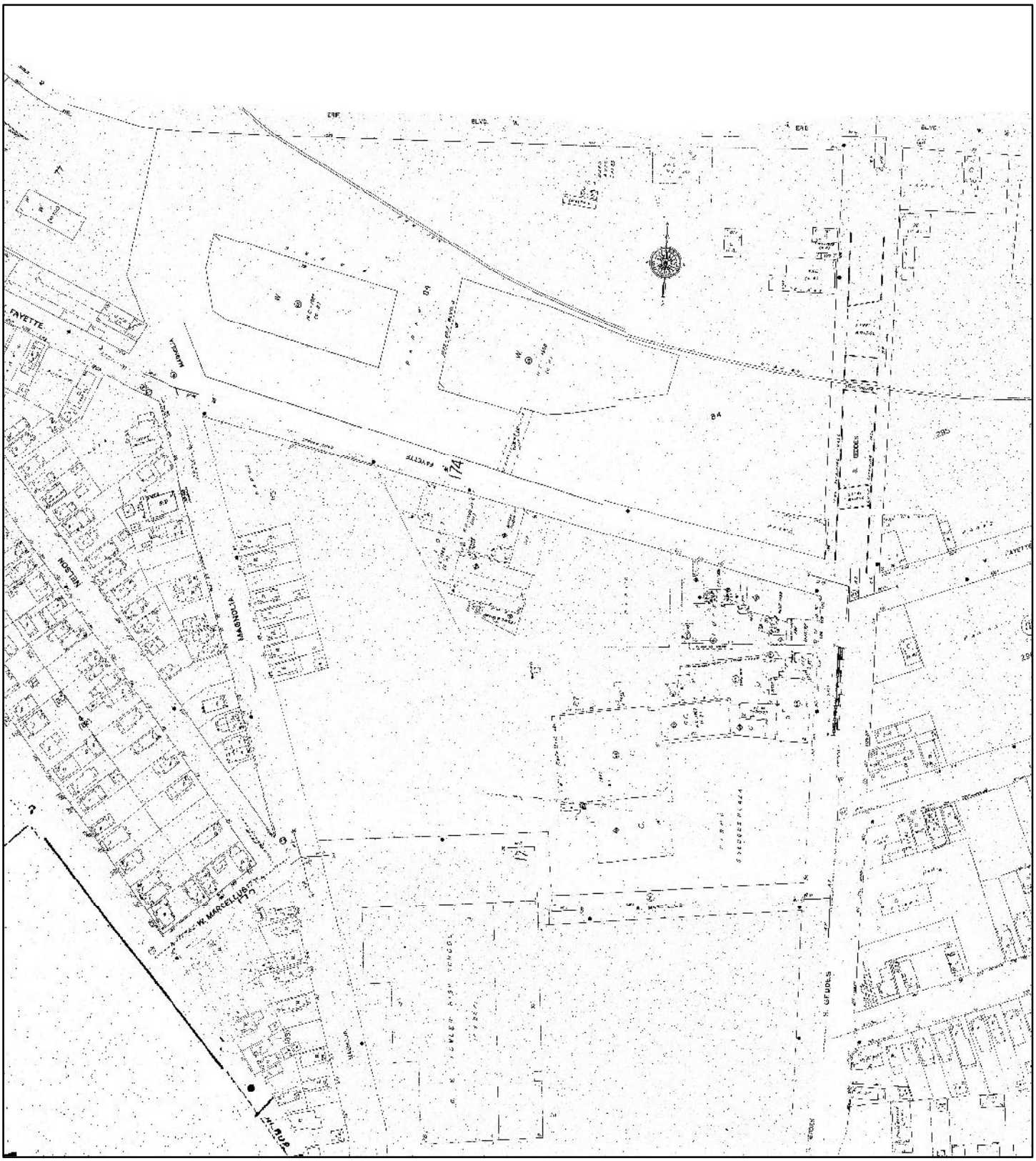
Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Listed below, please find the results of our search for historic fire insurance maps from our in-house collection, performed in conjuction with your ERIS report.

Date	City	State	Volume	Sheet Number(s)
1990	Syracuse	New York	2	167, 168, 169, 173, 174, 175
1971	Syracuse	New York	2	167, 168, 169, 173, 174, 175
1967	Syracuse	New York	2	167, 168, 169, 173, 174, 175
1962	Syracuse	New York	2	167, 168, 169, 173, 174, 175
1953	Syracuse	New York	2	167, 168, 169, 173, 174, 175
1951	Syracuse	New York	2	167, 168, 169, 173, 174, 175
1911	Syracuse	New York	2	167, 168, 169, 173, 174, 175
1892	Syracuse	New York	1	10, 11, 12, 27, 71

Individual Fire Insurance Maps for the subject property and/or adjacent sites are included with the ERIS environmental database report to be used for research purposes only and cannot be resold for any other commercial uses other than for use in a Phase I environmental assessment.

Fire Insurance Map



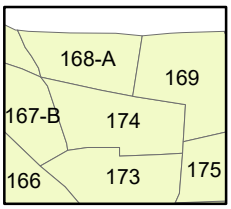
1990

N

0 112.5 225 450 675 900

Feet

Address: 1153 West Fayette Street Syracuse NY 13204

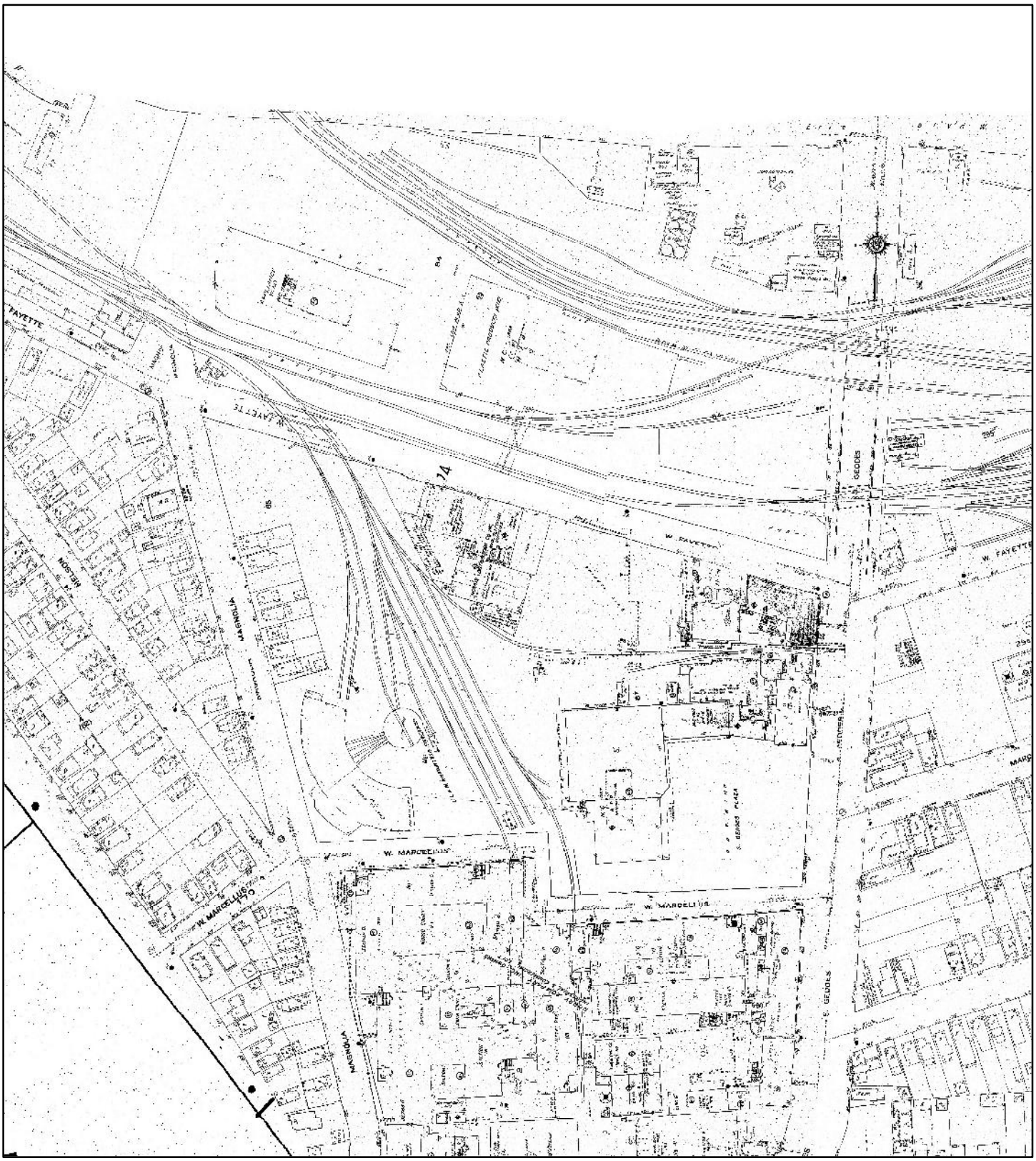


Map sheet(s):
Volume 2: 167,168,169,173,174,175;

Order Number 23022400512

ERIS

Fire Insurance Map



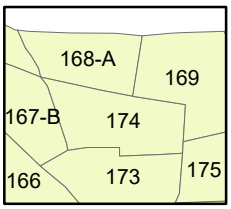
1971

N

0 112.5 225 450 675 900

Feet

Address: 1153 West Fayette Street Syracuse NY 13204

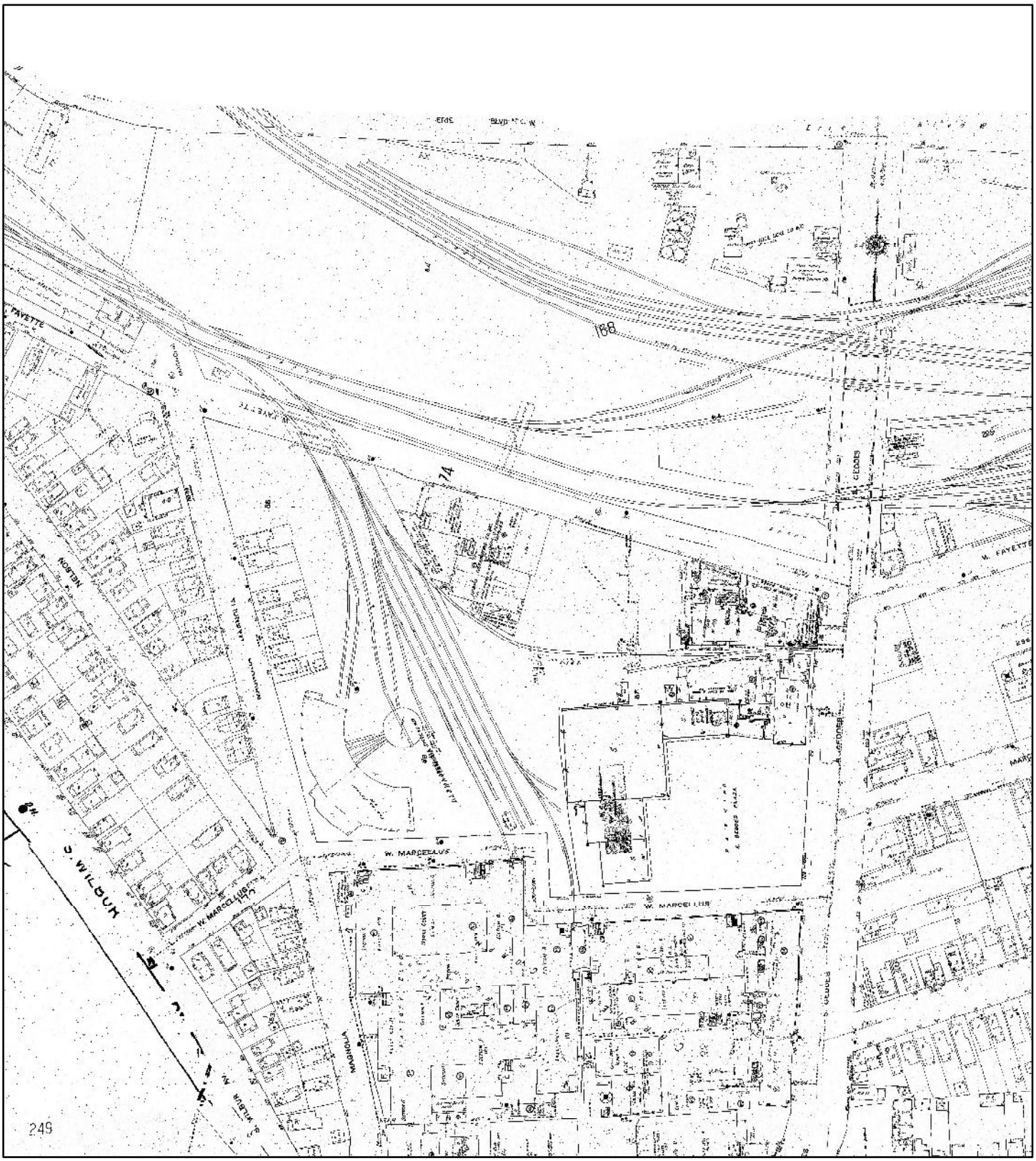


Map sheet(s):
Volume 2: 167,168,169,173,174,175;

Order Number 23022400512

ERIS

Fire Insurance Map

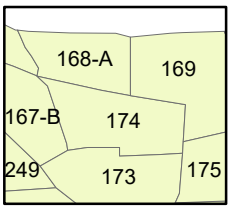


1967

0 112.5 225 450 675 900

Feet

Address: 1153 West Fayette Street Syracuse NY 13204



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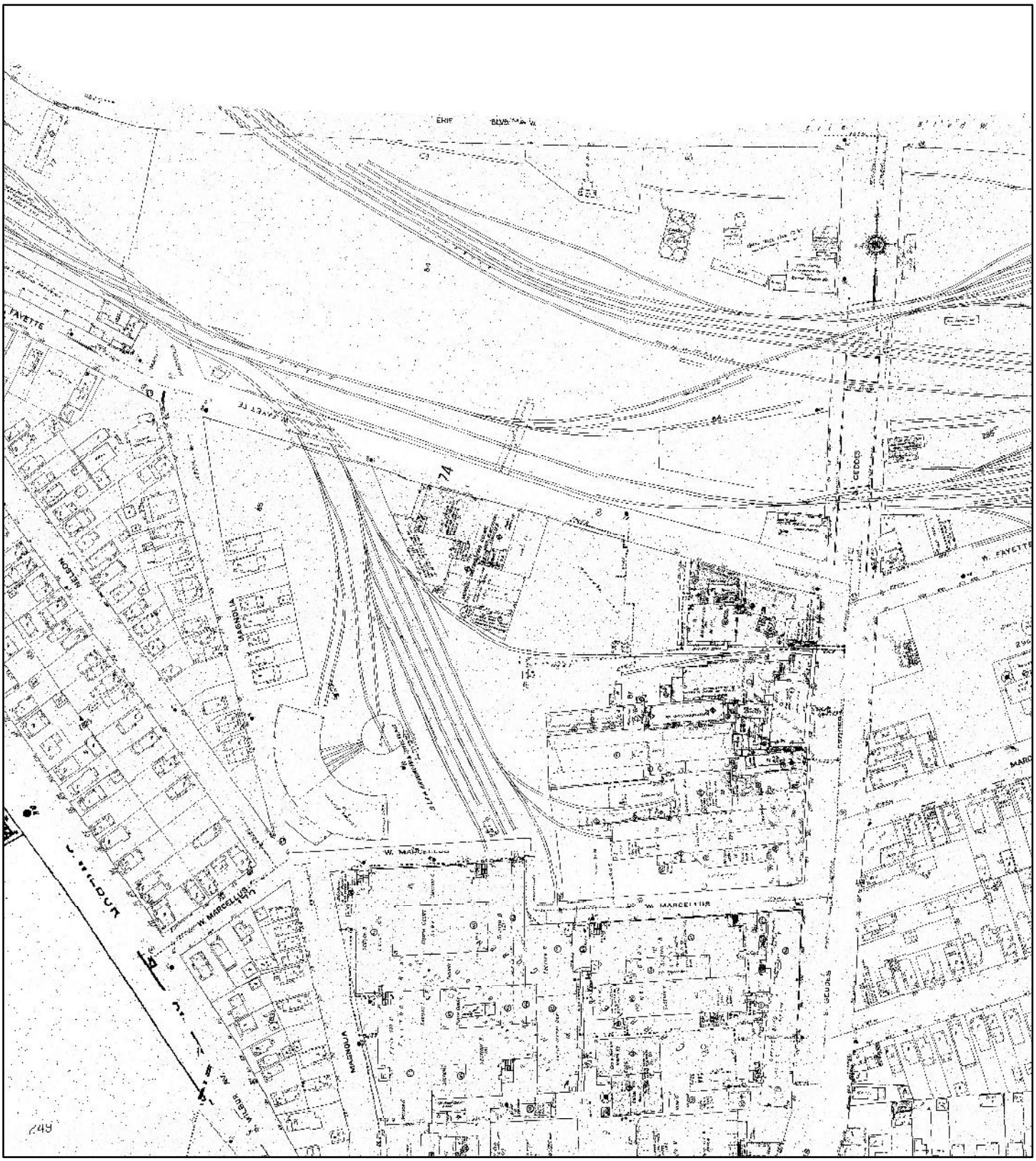
Order Number 23022400512

ERIS

Fire Insurance Map



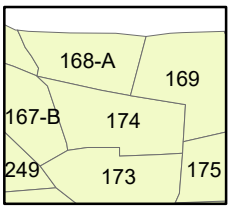
1962

0 112.5 225 450 675 900

N

Feet

Address: 1153 West Fayette Street Syracuse NY 13204

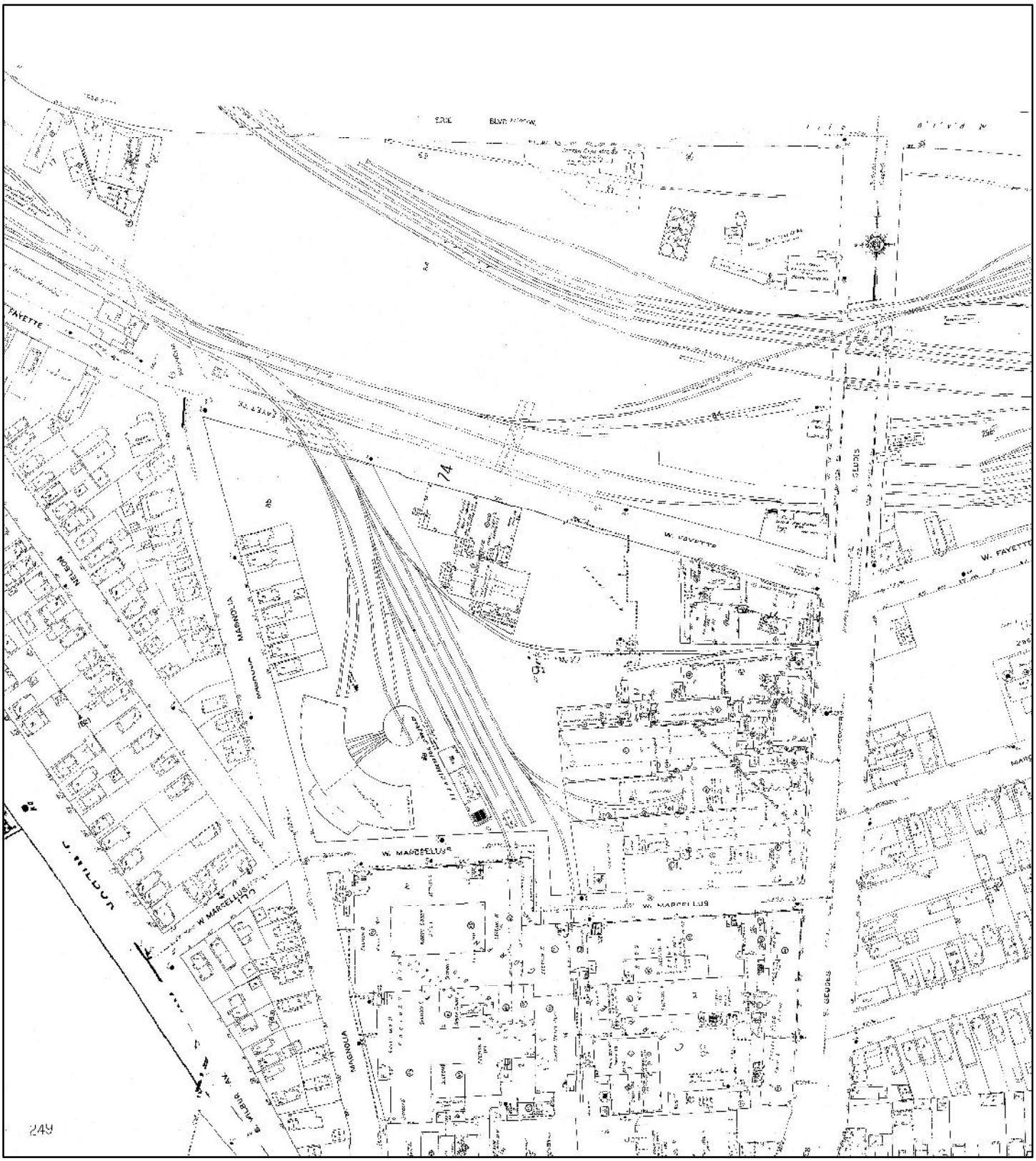


Map sheet(s):
Volume 2: 167,168,169,173,174,175;

Order Number 23022400512

ERIS

Fire Insurance Map



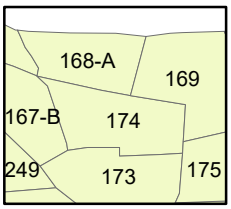
1953

N

0 112.5 225 450 675 900

Feet

Address: 1153 West Fayette Street Syracuse NY 13204



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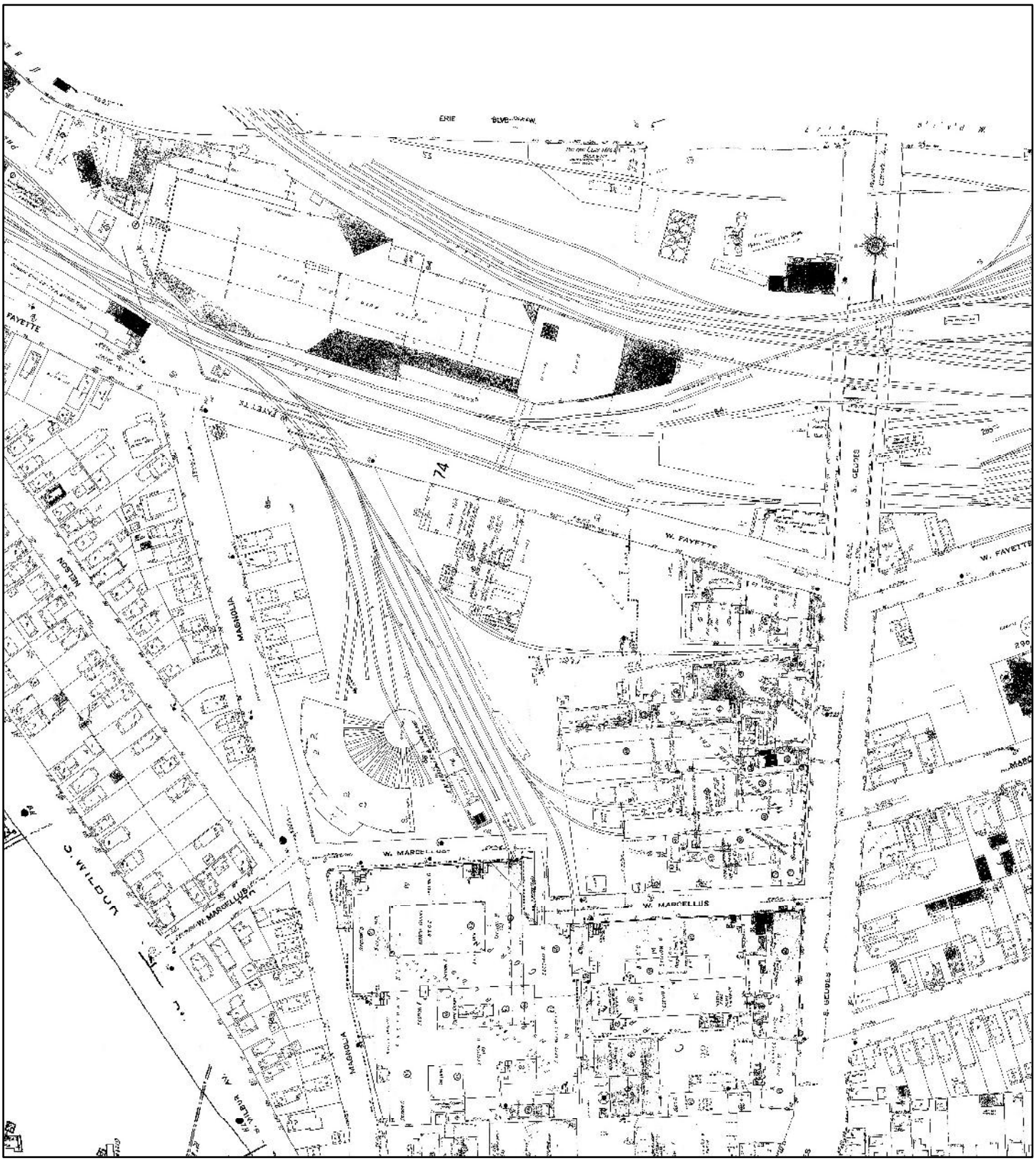
Volume 2: 167,168,169,173,174,175;

Order Number 23022400512

ERIS

Fire Insurance Map



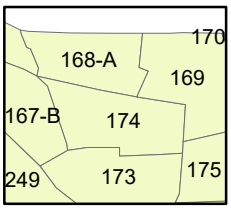
1951

N

0 112.5 225 450 675 900

Feet

Address: 1153 West Fayette Street Syracuse NY 13204



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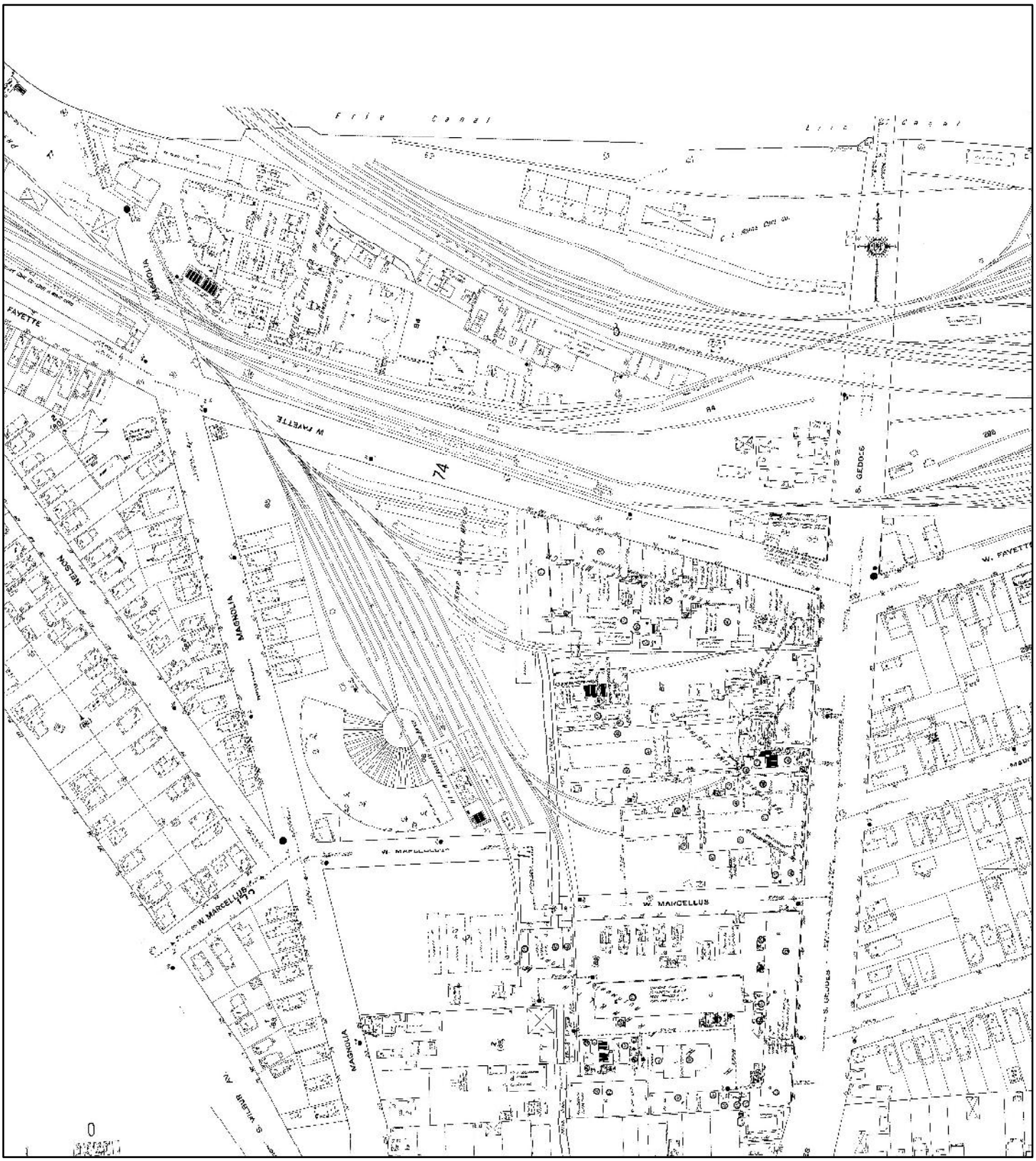
Order Number 23022400512

ERIS

Fire Insurance Map



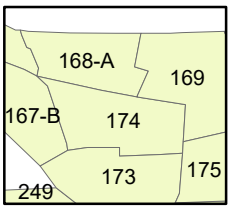
1911

N

0 112.5 225 450 675 900

Feet

Address: 1153 West Fayette Street Syracuse NY 13204

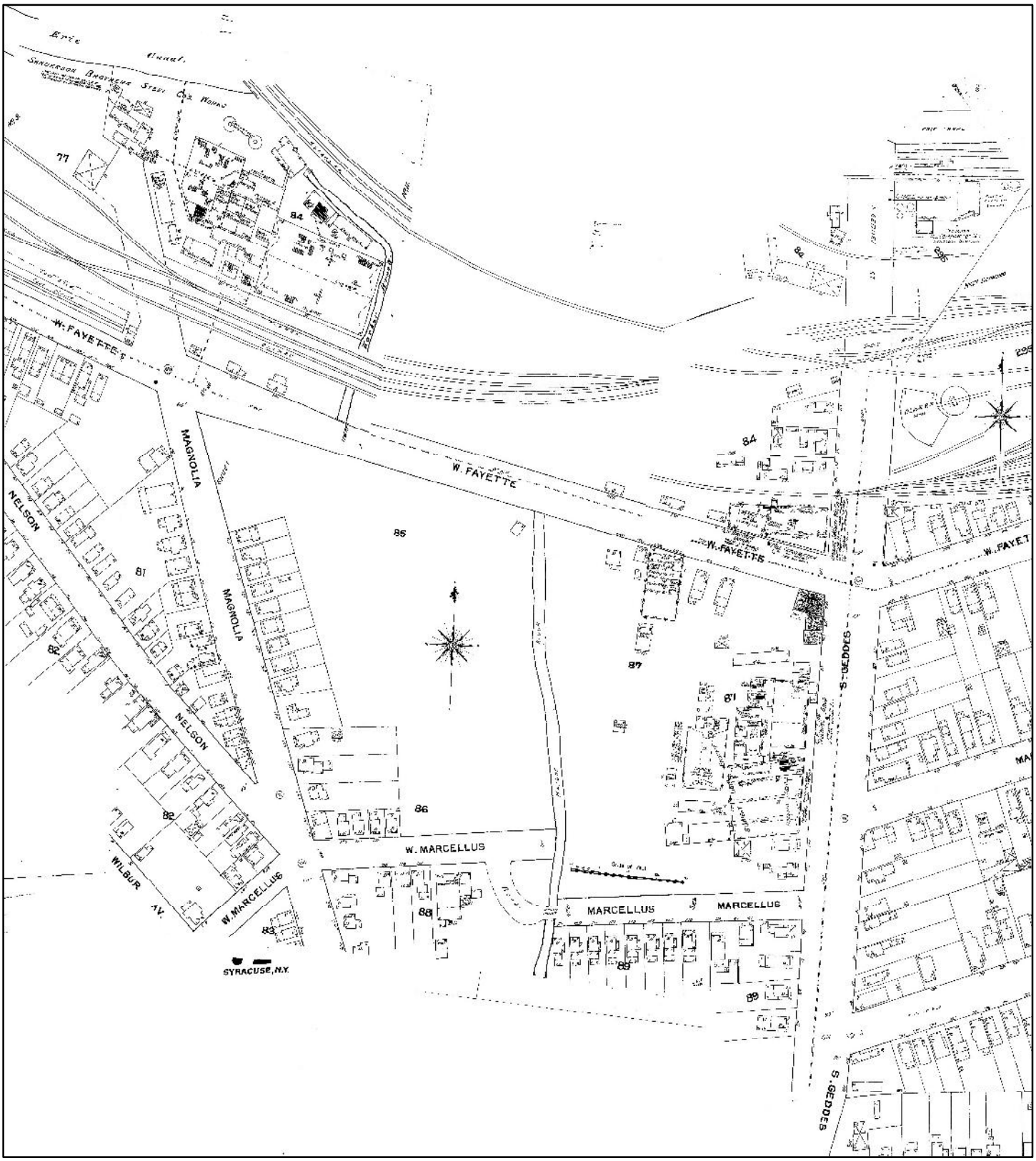


Map sheet(s):
Volume 2: 167,168,169,173,174,175;

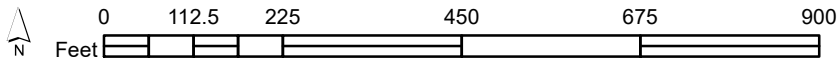
Order Number 23022400512

ERIS

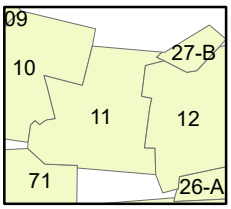
Fire Insurance Map



1892



Address: 1153 West Fayette Street Syracuse NY 13204



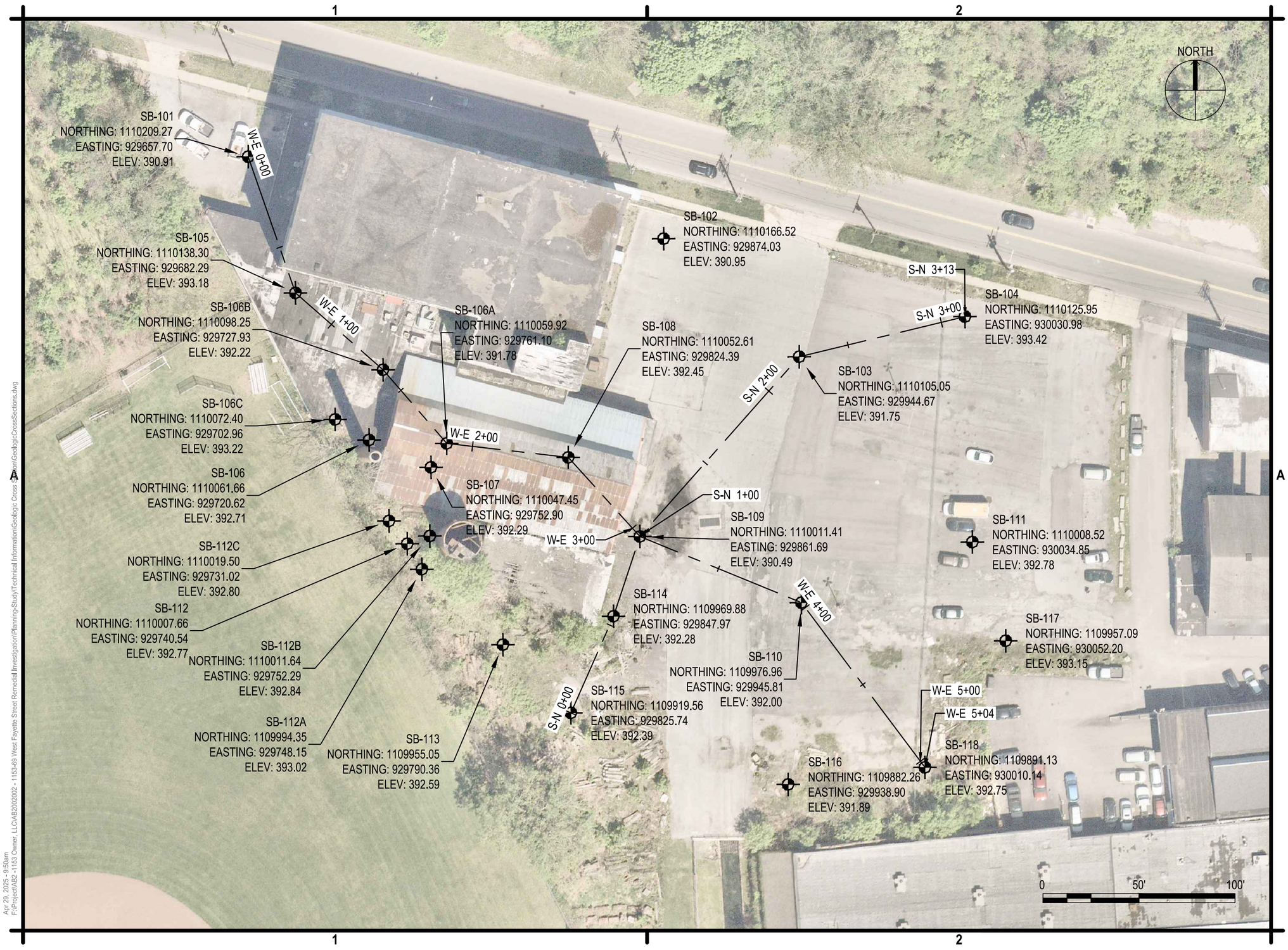
Map sheet(s):
Volume 1: 10,11,12,27,71;

Order Number 23022400512

ERIS

Appendix D

Geologic Cross Sections



Apr 29, 2025 - 9:50am
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C&S Engineers, Inc.
499 Col. Eileen Collins Blvd.
Syracuse, New York 13212
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Alternatives Analysis Report / Remedial Action Work Plan

1153-69 West Fayette Street (BCP Site No. C734164)
City of Syracuse, Onondaga County, New York

MARK	DATE	DESCRIPTION
		REVISIONS

PROJECT NO:	AB2.002.002
DATE:	APRIL 2025
DRAWN BY:	J. URRA
DESIGNED BY:	J. URRA
CHECKED BY:	C. DEL FATTI

NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK EDUCATION LAW

SOIL BORING AND ALIGNMENT LOCATIONS

EXHIBIT A

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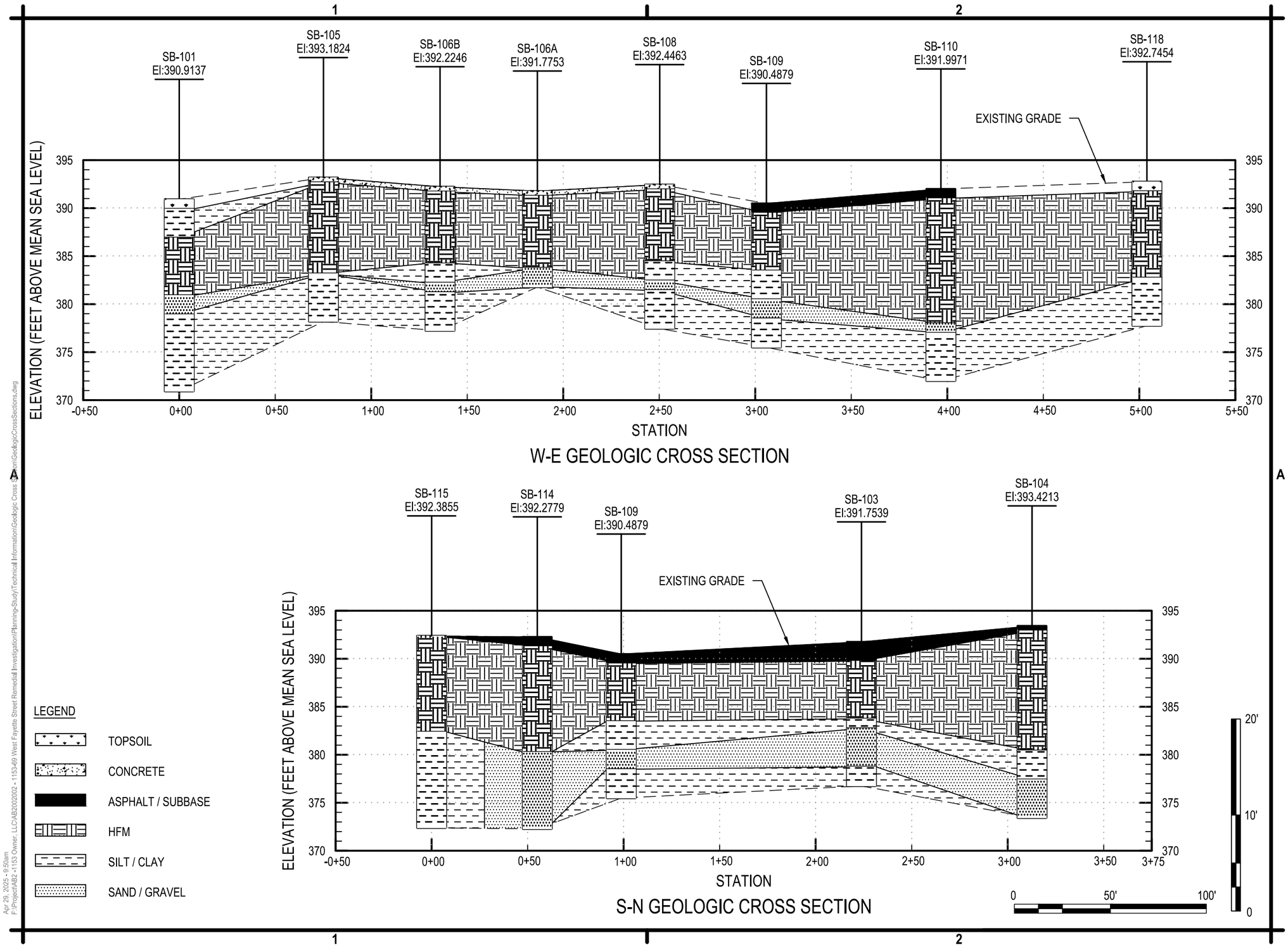

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GEOLOGIC CROSS SECTIONS

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Appendix E

SVE System Startup and Monitoring Logs

1153-69 West Fayette Street BCP Site (C734164)

SVE System Start-Up Measurements

SVE System Start-Up Measurements					
Date	**Time**	**Location**	**PID Reading (ppm)**	**Vacuum Reading (inWC)**	**Airflow Measurement (CFM)**
7/11/2025	10:30	SVE-101	11.7	8.5	2200
		SVE-102	4.8	9.0	3500
		Blower	34.1	12.0	4500
		Exhaust	0.0	--	--
	11:30	SVE-101	0.9	8.5	4800
		SVE-102	0.0	9.0	5500
		Blower	0.4	12.0	4500
		Exhaust	0.0	--	--
	12:30	SVE-101	0.2	8.5	5600
		SVE-102	0.0	9.0	5800
		Blower	0.0	12.0	4500
		Exhaust	0.0	--	--
	13:30	SVE-101	0.0	8.5	2100
		SVE-102	0.0	9.0	2300
		Blower	0.0	12.0	4300
		Exhaust	0.0	--	--
	14:30	SVE-101	0.0	8.5	2200
		SVE-102	0.0	9.0	2300
		Blower	0.0	12.0	4300
		Exhaust	0.0	--	--
	15:30	SVE-101	0.0	8.5	2100
		SVE-102	0.0	9.0	2300
		Blower	0.0	12.0	4300
		Exhaust	0.0	--	--
7/14/2025	9:15	SVE-101	0.0	9.0	2100
		SVE-102	0.0	9.5	2300
		Blower	0.0	12.0	4400
		Exhaust	0.0	--	--

1153-69 West Fayette Street BCP Site (C734164)
Pressure Field Extension Testing

SVE System Pressure Field Extension Testing						
Date	**Test Location**	**Distance from SVE-101 (feet)**	**Direction from SVE-101 (degrees)**	**Distance from SVE-102 (feet)**	**Direction from SVE-102 (degrees)**	**Pressure Differential (inWC)**
7/11/2025	PSG-103	7.3	228	23.7	169	-0.029
	PSG-105	10.3	46	21.1	123	-0.018
	PSG-106	18.1	121	37.6	137	-0.026
	PSG-107	17.7	189	36.5	169	-0.010
	PSG-108	11.2	282	16.0	182	-0.077
	PSG-109	23.8	89	38.9	118	0.000
	PSG-110	26.3	154	47.5	153	-0.020
	PSG-112	19.0	332	2.6	152	-0.136
	PSG-113	34.0	115	52.6	129	-0.016
	PSG-115	20.9	301	10.7	224	-0.036
	TP-101	2.5	0	18.9	148	-0.097
	TP-102	11.0	323	10.0	165	-0.024
	TP-103	28.5	340	8.0	0	-0.012
	TP-104	37.7	318	18.0	315	-0.029
7/14/2025	PSG-103	7.3	228	23.7	169	-0.033
	PSG-105	10.3	46	21.1	123	-0.019
	PSG-106	18.1	121	37.6	137	-0.027
	PSG-107	17.7	189	36.5	169	-0.009
	PSG-108	11.2	282	16.0	182	-0.081
	PSG-109	23.8	89	38.9	118	-0.001
	PSG-110	26.3	154	47.5	153	-0.022
	PSG-112	19.0	332	2.6	152	-0.141
	PSG-113	34.0	115	52.6	129	-0.017
	PSG-115	20.9	301	10.7	224	-0.039
	TP-101	2.5	0	18.9	148	-0.158
	TP-102	11.0	323	10.0	165	-0.026
	TP-103	28.5	340	8.0	0	-0.014
	TP-104	37.7	318	18.0	315	-0.019

SVE System Daily Vacuum Measurements				
Date	**Time**	**Location**	**Vacuum Reading (inWC)**	**Notes**
7/14/2025	9:15	SVE-101 SVE-102 Blower	9.0 9.5 12.0	
7/15/2025	12:00	SVE-101 SVE-102 Blower	8.5 9.0 12.0	
7/16/2025	6:30	SVE-101 SVE-102 Blower	8.5 9.0 12.0	
7/17/2025	6:30	SVE-101 SVE-102 Blower	8.5 9.0 12.0	
7/18/2025	6:30	SVE-101 SVE-102 Blower	0.0 0.0 0.0	
	7:00	SVE-101 SVE-102 Blower	8.5 9.0 12.0	
7/21/2025	8:00	SVE-101 SVE-102 Blower	8.5 9.0 12.0	
7/22/2025	6:15	SVE-101 SVE-102 Blower	8.5 9.0 12.0	
7/23/2025	6:15	SVE-101 SVE-102 Blower	8.5 9.0 12.0	
7/24/2025	10:45	SVE-101 SVE-102 Blower	8.5 9.0 12.0	
7/25/2025	6:45	SVE-101 SVE-102 Blower	8.5 9.0 12.0	
7/28/2025	7:45	SVE-101 SVE-102 Blower	8.5 9.0 12.0	

SVE System Daily Vacuum Measurements				
Date	**Time**	**Location**	**Vacuum Reading (inWC)**	**Notes**
7/29/2025	6:00	SVE-101 SVE-102 Blower	8.5 9.5 12.0	
7/30/2025	6:50	SVE-101 SVE-102 Blower	8.5 9.5 12.0	
7/31/2025	6:45	SVE-101 SVE-102 Blower	8.5 9.5 12.0	
8/1/2025	6:45	SVE-101 SVE-102 Blower	8.5 9.5 12.0	
8/4/2025	6:45	SVE-101 SVE-102 Blower	9.0 9.5 12.0	
8/5/2025	6:45	SVE-101 SVE-102 Blower	8.5 9.5 12.0	
8/6/2025	8:30	SVE-101 SVE-102 Blower	9.0 9.5 12.0	
8/7/2025	6:45	SVE-101 SVE-102 Blower	9.0 9.5 12.0	
8/8/2025	6:45	SVE-101 SVE-102 Blower	9.0 9.5 12.0	
8/11/2025	7:00	SVE-101 SVE-102 Blower	9.0 9.5 12.0	
8/12/2025	8:00	SVE-101 SVE-102 Blower	9.5 10.0 12.5	
8/13/2025	8:00	SVE-101 SVE-102 Blower	9.5 10.0 12.5	

SVE System Daily Vacuum Measurements				
Date	**Time**	**Location**	**Vacuum Reading (inWC)**	**Notes**
8/14/2025	7:00	SVE-101 SVE-102 Blower	9.5 10.0 12.5	
8/15/2025	6:45	SVE-101 SVE-102 Blower	9.5 10.0 12.5	
8/18/2025	6:57	SVE-101 SVE-102 Blower	9.5 10.5 13.0	
8/19/2025	6:48	SVE-101 SVE-102 Blower	9.5 10.5 13.0	
8/20/2025	8:07	SVE-101 SVE-102 Blower	9.5 10.5 13.0	
8/21/2025	6:15	SVE-101 SVE-102 Blower	9.5 10.5 13.0	
8/22/2025	9:15	SVE-101 SVE-102 Blower	9.5 10.0 12.5	Someone unplugged the blower in the morning, plugged back in at 9:15
8/25/2025	6:30	SVE-101 SVE-102 Blower	9.5 10.0 12.5	HB checked on system on Sunday during rain storm, electrical had gone out. Got system running again.
8/26/2025	7:25	SVE-101 SVE-102 Blower	9.5 10.0 12.5	
8/26/2025	11:40	SVE-101 SVE-102 Blower	0.0 18.0 20.0	
8/27/2025	6:33	SVE-101 SVE-102 Blower	0.0 18.0 20.5	
8/28/2025	6:30	SVE-101 SVE-102 Blower	0.0 18.0 20.5	

SVE System Daily Vacuum Measurements				
Date	**Time**	**Location**	**Vacuum Reading (inWC)**	**Notes**
8/29/2025	7:40	SVE-101 SVE-102 Blower	0.0 18.0 20.5	Someone unplugged the blower in the morning, plugged back in at 7:40
9/2/2025	8:00	SVE-101 SVE-102 Blower	0.0 18.0 20.5	
9/3/2025	7:20	SVE-101 SVE-102 Blower	0.0 18.0 20.5	
9/5/2025	7:15	SVE-101 SVE-102 Blower	0.0 18.0 20.5	Someone unplugged the blower in the morning, plugged back in at 7:15
	9:00	SVE-101 SVE-102 Blower	9.5 10.0 12.5	
9/8/2025	7:45	SVE-101 SVE-102 Blower	8.5 9.5 12.0	Blower turned off for majority of the day to facilitate PFE testing in the single-story annex
9/9/2025	11:00	SVE-101 SVE-102 Blower	9.5 10.0 13.0	Blower turning on and off all day due to breaker trips and other contractors. C&S talked to HB about importance of keeping blower on. HB ran dedicated cords for the blower.
9/10/2025	7:15	SVE-101 SVE-102 Blower	9.0 10.0 12.0	
9/11/2025	8:00	SVE-101 SVE-102 Blower	9.5 10.5 12.0	
9/12/2025	8:00	SVE-101 SVE-102 Blower	9.5 10.5 13.0	
9/15/2025	6:30	SVE-101 SVE-102 Blower	9.5 10.5 13.0	
9/16/2025	7:45	SVE-101 SVE-102 Blower	9.5 10.5 13.0	

SVE System Daily Vacuum Measurements				
Date	**Time**	**Location**	**Vacuum Reading (inWC)**	**Notes**
9/17/2025	7:30	SVE-101 SVE-102 Blower	9.5 10.5 13.0	
9/18/2025	7:30	SVE-101 SVE-102 Blower	9.5 10.5 13.0	
9/19/2025	7:30	SVE-101 SVE-102 Blower	9.5 10.5 13.0	
IRM Terminated - Will be installing permanent SSD System				

SVE System Weekly System Monitoring & Sampling														
Date	**Time**	**Location**	**PID Reading (ppm)**	**Vacuum Reading (inWC)**	**Airflow Measurement (CFM)**	**Sample ID**	**Canister ID**	**Regulator ID**	**Sample Start Time**	**Sample End Time**	**Initial Vaccum (inHg)**	**Final Vacuum (inHg)**	**Sample Flow Rate (cc/min)**	**Sample Volume (L)**
7/14/2025	9:15	SVE-101	0.0	9.0	2100	SVE-101_071425	Tedlar	--	11:55	12:07	--	--	200	2.3 - 2.4
		SVE-102	0.0	9.5	2300	SVE-102_071425	Tedlar	--	13:10	13:22	--	--	200	2.3 - 2.4
		Blower	0.0	12.0	4400	--	--	--	--	--	--	--	--	--
		Exhaust	0.0	--	--	--	--	--	--	--	--	--	--	--
7/21/2025	8:00	SVE-101	0.0	8.5	2000	SVE-101_072125	Tedlar	--	9:25	9:37	--	--	200	2.3 - 2.4
		SVE-102	0.0	9.0	2200	SVE-102_072125	Tedlar	--	10:44	10:56	--	--	200	2.3 - 2.4
		Blower	0.0	12.0	4300	--	--	--	--	--	--	--	--	--
		Exhaust	0.0	--	--	--	--	--	--	--	--	--	--	--
7/21/2025	7:50	SVE-101	0.0	8.5	2100	SVE-101_072825	Tedlar	--	9:26	9:38	--	--	200	2.3 - 2.4
		SVE-102	0.0	9.0	2200	SVE-102_072825	Tedlar	--	10:36	10:48	--	--	200	2.3 - 2.4
		Blower	0.0	12.0	4400	--	--	--	--	--	--	--	--	--
		Exhaust	0.0	--	--	--	--	--	--	--	--	--	--	--
8/4/2025	7:00	SVE-101	0.0	9.0	2000	SVE-101_080425	Tedlar	--	8:20	8:33	--	--	200	2.3 - 2.4
		SVE-102	0.0	9.5	2300	SVE-102_080425	Tedlar	--	9:40	9:52	--	--	200	2.3 - 2.4
		Blower	0.0	12.0	4300	--	--	--	--	--	--	--	--	--
		Exhaust	0.0	--	--	--	--	--	--	--	--	--	--	--
8/11/2025	7:00	SVE-101	0.0	9.0	2000	SVE-101_081125	Tedlar	--	9:04	9:16	--	--	200	2.3 - 2.4
		SVE-102	0.0	9.5	2100	SVE-102_081125	Tedlar	--	10:35	10:47	--	--	200	2.3 - 2.4
		Blower	0.0	12.0	4300	--	--	--	--	--	--	--	--	--
		Exhaust	0.0	--	--	--	--	--	--	--	--	--	--	--
8/18/2025	7:00	SVE-101	0.0	9.5	2000	SVE-101_081825	Tedlar	--	8:50	8:59	--	--	200	2.3 - 2.4
		SVE-102	0.0	10.5	2200	SVE-102_081825	Tedlar	--	10:06	10:19	--	--	200	2.3 - 2.4
		Blower	0.0	13	4400	--	--	--	--	--	--	--	--	--
		Exhaust	0.0	--	--	--	--	--	--	--	--	--	--	--
8/26/2025	7:25	SVE-101	0.0	9.5	2000	SVE-101_Tedlar_082625	Tedlar	--	9:12	9:24	--	--	200	2.3 - 2.4
						SVE-101_Summa_082625	649	02473	9:29	9:51	-29.43	-6.48	200	6
		SVE-102	0.0	10	2100	SVE-102_Tedlar_082625	Tedlar	--	10:59	11:11	--	--	200	2.3 - 2.4
						SVE-102_Summa_082625	1938	02466	11:16	11:38	-29.19	-6.46	200	6
		Blower	0.0	12.5	4400	--	--	--	--	--	--	--	--	--
		Exhaust	0.0	--	--	--	--	--	--	--	--	--	--	--
9/2/2025	8:00	SVE-101	0.0	0	0	SVE-101_090225	Tedlar	--	8:17	8:29	--	--	200	2.3 - 2.4
		SVE-102	0.0	18	3400	SVE-102_090225	Tedlar	--	9:51	10:03	--	--	200	2.3 - 2.4
		Blower	12.7	20.5	4000	--	--	--	--	--	--	--	--	--
		Exhaust	0.0	--	--	--	--	--	--	--	--	--	--	--
9/9/2025	11:00	SVE-101	0.0	9.5	1900	SVE-101_090925	Tedlar	--	12:13	12:25	--	--	200	2.3 - 2.4
		SVE-102	0.0	10	2100	SVE-102_090925	Tedlar	--	13:36	13:48	--	--	200	2.3 - 2.4
		Blower	0.0	13	4400	--	--	--	--	--	--	--	--	--
		Exhaust	0.0	--	--	--	--	--	--	--	--	--	--	--

Appendix F

Climate Screening Checklist

Climate Screening Checklist

Background Information

- Project Manager: H. Nevin Bradford, P.E. - C&S Engineers, Inc.
- Site Name: 1153-69 West Fayette Street BCP Site
- Site Number: C734164
- Site Location: 1153-69 West Fayette Street, Syracuse, Onondaga County, New York
- Site Elevation (average above sea level): 398 feet
- ClimAID Region (Responding Climate Change in New York State (ClimAID) - NYSERDA): Region 6
- Remedial Stage/site classification:
  Brownfield Cleanup Program (BCP Site ID C734164)
  Alternatives Analysis Report (AAR) / Remedial Action Work Plan (RAWP)

- Contamination - Media Impacted/ Contaminants of Concern:
  Surface and Subsurface Soil - SVOCs and metals as a result of historic fill material
  Groundwater - SVOCs, metals, and PFAS
  Soil Vapor - Carbon tetrachloride
- Proposed/Current Remedy:
  Proposed remedy includes construction of a cover system (combination of hardscape and clean soil), installation and operation of an SVE system, recording of an Environmental Easement, and publication of a Site Management Plan.
- What is the predicted timeframe of the remedy? Will components of the remedy still be in place in 10+ years?
  The proposed remedy completion is by the end of 2025. The remedy will remain in place for longer than 10 years.

- Is the site in proximity to any sensitive receptors? (e.g. wetlands, waterbodies, residential properties, hospitals, schools, drinking water supplies, etc.)
  There are residential properties and a school adjacent to the Site. Rare plants and animals are located approximately 0.15 miles from the Site.

Is the site in a disadvantaged community (DAC) or potential environmental justice area (PEJA) (Use DECinfolocator: DECinfo Locator (ny.gov))?

☐ **Yes** ■ **No**

If the site is in a DAC or PEJA, will climate impacts be magnified? If yes, list how and why.

☐ **Yes** ☐ **No**

DAC and PEJA are not applicable at the Site.

Should thresholds of concern be lowered to account for magnification of impacts? If yes, indicate how lower thresholds will be used in the screening.

☐ **Yes** ■ **No**

DAC and PEJA are not applicable at the Site.

Climate Screening Table*

Potential Climate Hazards	**Relevant to the Site Location** (Y/N/NA)[1]	**Projected Change** (Reference data source/Model)[3]	**Potential to Impact Remedy** (Y/N)	**Is remedy/site already resilient?** (Y/N)[4]
Precipitation	Y	0-10% Increase by 2050	Y	Y
Temperature[2] (Extreme Heat or Cold Weather Impacts)	Y	Extreme heat to increase by 5-14 days and extreme cold to decrease by 26-39 days by 2050	N	NA
Sea Level Rise	N	NA	NA	NA
Flooding	N	NA	NA	NA
Storm Surge	N	NA	NA	NA
Wildfire	N	NA	NA	NA
Drought	N	NA	NA	NA
Storm Severity	Y	1-3 day increase by 2050	Y	Y
Landslides	N	NA	NA	NA
Other Hazards:				

* Links to potential data sources can be found on the following page

[1] If the first column is N --> The rest of the columns will be N/A, the hazard is not applicable to the site.

[2] Extreme Heat: periods of three or more days above 90°F- Extreme Cold: Individual days with minimum temperatures at or below 0 degrees F (NYSERDA ClimAID report)

[3] List the projected change in specific terms or units e.g. inches of rain fall, feet of sea level rise, etc.

[4] If final column is Y, provide reasoning, if the final column is N --> Climate Vulnerability Assessment (CVA) required.

Required Next Steps (If no further action is required, provide justification):

No further actions at this time. The proposed Site redevelopment includes an upgrade of the stormwater systems which will be designed to handle 100-year storm events. Therefore, the remedy will be resilient.

Potential Data Sources (not an exhaustive list)- from Superfund Climate Resilience: Vulnerability Assessment | US EPA

NYSERDA ClimAID report- Responding Climate Change in New York State (ClimAID) - NYSERDA

FEMA- National Flood Hazard Layer | FEMA.gov

NOAA- National Storm Surge Risk Maps - Version 3 (noaa.gov)

Department of Agriculture Forest Service Wildfire Risk to Communities

EPA Climate Change Indicators in the United States

EPA Climate Resilience Evaluation & Awareness Tool (CREAT) | U.S. Climate Resilience Toolkit

EPA National Stormwater Calculator

National Integrated Drought Information System U.S. Drought Portal

National Interagency Coordination Center National Interagency Fire Center

National Oceanic and Atmospheric Administration Coastal Services Digital Coast

- Resources to help communities assess coastal hazards, such as the Sea Level Rise Viewer for visualizing community-level impacts of flooding or sea level rise and downloadable LIDAR data

National Oceanic and Atmospheric Administration National Centers for Environmental Information website

National Oceanic and Atmospheric Administration Sea Level Trends

National Weather Service Climate Prediction Center

National Weather Service National Hurricane Center

National Weather Service Sea, Lake, and Overland Surges from Hurricanes (SLOSH)

National Weather Service Storm Surge Hazard Maps

U.S. Federal Government Climate Resilience Toolkit: The Climate Explorer

U.S. Army Corps of Engineers Climate Prepardness and Resilience

U.S. Geological Survey Coastal Change Hazards Portal

U.S. Geological Survey Landslide Hazards Program

U.S. Geological Survey National Ground-water Monitoring Network Data Portal

U.S. Geological Survey National Climate Change Viewer

U.S. Geological Survey National Water Dashboard

U.S. Geological Survey StreamStats

NYS Department of State- Assess | Department of State (ny.gov)

NYSERDA NY Costal Floodplain Mapper- Home Page (ny.gov)

NYSDEC Costal Erosion Hazards- Coastal Areas Regulated By The CEHA Permit Program - NYDEC

NYSDOH Heat Index- health.ny.gov/environmental/weather/vulnerability_index/county_maps.htm

Appendix G

Green Remediation Evaluation

Input Summary

Remedy Component Number →		1	2	3	4	5	6									Remedy Component Subtotals						
		Column headings in Row 6 must match the name of "Input" tabs in this workbook for Columns C - P in this table to be populated ("0" in Row 4 means "Input" tab is turned Off and will not be grouped to a Remedy Component (Columns Q - V) or used in subsequent calculations)																				
Item		Material Removal	Cover System	Input Template (3)	Input Template (4)	Input Template (5)	Input Template (6)	Input Template (7)	Input Template (8)	Input Template (9)	Input Template (10)	Input Template (11)	Input Template (12)	Input Template (13)	Input Template (14)	1	2	3	4	5	6	Total
On-Site																						
On-site Renewable Energy																						
Renewable electricity generated on-site	MWh	0	0													0	0	0	0	0	0	0
Landfill gas combusted on-site for energy use	ccf CH_4	0	0													0	0	0	0	0	0	0
On-site biodiesel use	gal	0	0													0	0	0	0	0	0	0
On-site biodiesel use - Other	gal	0	0													0	0	0	0	0	0	0
User-defined on-site renewable energy use #1	TBD	0	0													0	0	0	0	0	0	0
User-defined on-site renewable energy use #2	TBD	0	0													0	0	0	0	0	0	0
On-Site Conventional Energy																						
Grid electricity	MWh	0.16	0.08													0.16	0.08	0	0	0	0	0.24
On-site diesel use - Other	Gal	5250	4149.375													5250	4149.375	0	0	0	0	9399.375
On-site diesel use <75 hp	Gal	0	0													0	0	0	0	0	0	0
On-site diesel use 75<hp<750	Gal	0	0													0	0	0	0	0	0	0
On-site diesel use >750 hp	Gal	0	0													0	0	0	0	0	0	0
On-site gasoline use - Other	Gal	0.075	0.0375													0.075	0.0375	0	0	0	0	0.1125
On-site gasoline use <25 hp	Gal	0	0													0	0	0	0	0	0	0
On-site gasoline use >25 hp	Gal	0	0													0	0	0	0	0	0	0
On-site natural gas use	ccf	0	0													0	0	0	0	0	0	0
On-site compressed natural gas use - Other	ccf	0	0													0	0	0	0	0	0	0
On-site compressed natural gas use	ccf	0	0													0	0	0	0	0	0	0
On-site liquified petroleum gas use - Other	gal	0	0													0	0	0	0	0	0	0
On-site liquified petroleum gas use	gal	0	0													0	0	0	0	0	0	0
Other forms of on-site conventional energy use #1	TBD	0	0													0	0	0	0	0	0	0
Other forms of on-site conventional energy use #2	TBD	0	0													0	0	0	0	0	0	0
Other On-site Emissions																						
On-site HAP process emissions	Lbs	0	0													0	0	0	0	0	0	0
On-site GHG emissions	Lbs CO2e	0	0													0	0	0	0	0	0	0
On-site carbon storage	Lbs CO2e	0	0													0	0	0	0	0	0	0
GHG avoided by flaring on-site landfill methane	ccf CH4	0	0													0	0	0	0	0	0	0
Other on-site NOx emissions or reductions	Lbs	0	0													0	0	0	0	0	0	0
Other on-site SOx emissions or reductions	Lbs	0	0													0	0	0	0	0	0	0
Other on-site PM emissions or reductions	Lbs	0	0													0	0	0	0	0	0	0
Electricity Generation																						
Grid electricity	MWh	0.16	0.08													0.16	0.08	0	0	0	0	0.24
Voluntary purchase of renewable electricity	MWh	0	0													0	0	0	0	0	0	0
Voluntary purchase of RECs	MWh	0	0													0	0	0	0	0	0	0

Input Summary

Remedy Component Number →		1	2	3	4	5	6									Remedy Component Subtotals						
		Column headings in Row 6 must match the name of "Input" tabs in this workbook for Columns C - P in this table to be populated ("0" in Row 4 means "Input" tab is turned Off and will not be grouped to a Remedy Component (Columns Q - V) or used in subsequent calculations)																				
Item		Material Removal	Cover System	Input Template (3)	Input Template (4)	Input Template (5)	Input Template (6)	Input Template (7)	Input Template (8)	Input Template (9)	Input Template (10)	Input Template (11)	Input Template (12)	Input Template (13)	Input Template (14)	1	2	3	4	5	6	Total
Transportation																						
Transportation Fuel Use Breakdown																						
Biodiesel use - Personnel Transport	gal	0	0													0	0	0	0	0	0	0
Biodiesel use - Personnel Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Biodiesel use - Equipment Transport	gal	0	0													0	0	0	0	0	0	0
Biodiesel use - Equipment Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Biodiesel use - Material Transport	gal	0	0													0	0	0	0	0	0	0
Biodiesel use - Material Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Biodiesel use - Waste Transport	gal	0	0													0	0	0	0	0	0	0
Biodiesel use - Waste Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Diesel use - Personnel Transport - other vehicles	gal	667.6	333.6													667.6	333.6	0	0	0	0	1001.2
Diesel use - Personnel Transport - car	gal	0	0													0	0	0	0	0	0	0
Diesel use - Personnel Transport - passenger truck	gal	0	0													0	0	0	0	0	0	0
Diesel use - Personnel Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Diesel use - Equipment Transport	gal	50	100													50	100	0	0	0	0	150
Diesel use - Equipment Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Diesel use - Material Transport	gal	5	1628.333													5	1628.333	0	0	0	0	1633.333
Diesel use - Material Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Diesel use - Waste Transport	gal	2166.7	0													2166.7	0	0	0	0	0	2166.7
Diesel use - Waste Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Gasoline use - Personnel Transport - other vehicles	gal	0	0													0	0	0	0	0	0	0
Gasoline use - Personnel Transport - car	gal	42	21													42	21	0	0	0	0	63
Gasoline use - Personnel Transport - passenger truck	gal	0	0													0	0	0	0	0	0	0
Gasoline use - Personnel Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Gasoline use - Equipment Transport	gal	0	0													0	0	0	0	0	0	0
Gasoline use - Equipment Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Natural Gas use - Personnel Transport	ccf	0	0													0	0	0	0	0	0	0
Natural Gas use - Personnel Transport - User Defined	ccf	0	0													0	0	0	0	0	0	0
Natural Gas use - Equipment Transport	ccf	0	0													0	0	0	0	0	0	0
Conventional Energy																						
Transportation diesel use	gal	2889.3	2061.933													2889.3	2061.933	0	0	0	0	4951.233
Transportation gasoline use	gal	42	21													42	21	0	0	0	0	63
Transportation natural gas use	ccf	0	0													0	0	0	0	0	0	0
User-defined conventional energy transportation #1	TBD	0	0													0	0	0	0	0	0	0
User-defined conventional energy transportation #2	TBD	0	0													0	0	0	0	0	0	0
Renewable Energy																						
Transportation biodiesel use	gal	0	0													0	0	0	0	0	0	0
User-defined renewable energy transportation #1	TBD	0	0													0	0	0	0	0	0	0
User-defined renewable energy transportation #2	TBD	0	0													0	0	0	0	0	0	0
Off-Site																						
Construction Materials																						
Aluminum, Rolled Sheet	lb	0	0													0	0	0	0	0	0	0
Asphalt, mastic	lb	0	1806000													0	1806000	0	0	0	0	1806000
Asphalt, paving-grade	lb	0	1084000													0	1084000	0	0	0	0	1084000
Ethanol, Corn, 95%	lb	0	0													0	0	0	0	0	0	0
Ethanol, Corn, 99.7%	lb	0	0													0	0	0	0	0	0	0
Ethanol, Petroleum, 99.7%	lb	0	0													0	0	0	0	0	0	0
Gravel/Sand Mix, 65% Gravel	lb	0	3600000													0	3600000	0	0	0	0	3600000
Gravel/sand/clay	lb	0	1050000													0	1050000	0	0	0	0	1050000
HDPE	lb	0	0													0	0	0	0	0	0	0
Photovoltaic system (installed)	W	0	0													0	0	0	0	0	0	0
PVC	lb	0	0													0	0	0	0	0	0	0
Portland cement, US average	lb	0	0																			
Ready-mixed concrete, 20 MPa	ft3	0	2000													0	2000	0	0	0	0	2000
Round Gravel	lb	0	0													0	0	0	0	0	0	0
Sand	lb	0	0													0	0	0	0	0	0	0
Stainless Steel	lb	0	0													0	0	0	0	0	0	0
Steel	lb	0	0													0	0	0	0	0	0	0
Other refined construction materials	lb	500	600													500	600	0	0	0	0	1100
Other unrefined construction materials	lb	0	0													0	0	0	0	0	0	0

Input Summary

Remedy Component Number →		1	2	3	4	5	6									Remedy Component Subtotals						
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Item		Material Removal	Cover System	Input Template (3)	Input Template (4)	Input Template (5)	Input Template (6)	Input Template (7)	Input Template (8)	Input Template (9)	Input Template (10)	Input Template (11)	Input Template (12)	Input Template (13)	Input Template (14)	1	2	3	4	5	6	Total
Treatment Materials & Chemicals																						
Cheese Whey	lbs	0	0													0	0	0	0	0	0	0
Emulsified vegetable oil	lbs	0	0													0	0	0	0	0	0	0
Granular activated carbon, primary	lbs	0	0													0	0	0	0	0	0	0
Granular activated carbon, regenerated	lbs	0	0													0	0	0	0	0	0	0
Hydrogen Peroxide, 50% in H2O	lbs	0	0													0	0	0	0	0	0	0
Iron (II) Sulfate	lbs	0	0													0	0	0	0	0	0	0
Lime, Hydrated, Packed	lbs	0	0													0	0	0	0	0	0	0
Molasses	lbs	0	0													0	0	0	0	0	0	0
Phosphoric Acid, 70% in H2O	lbs	0	0													0	0	0	0	0	0	0
Potassium Permanganate	lbs	0	0													0	0	0	0	0	0	0
Sodium Hydroxide, 50% in H2O	lbs	0	0													0	0	0	0	0	0	0
Other Treatment Chemicals & Materials	lbs	0	0													0	0	0	0	0	0	0
Material Type																						
Total Virgin Refined Materials	tons	0.25	3845.3													0.25	3845.3	0	0	0	0	3845.55
Total Recycled Refined Materials	tons	0	0													0	0	0	0	0	0	0
Total Reused Refined Materials	tons	0	0													0	0	0	0	0	0	0
Total Refined Material	tons	0.25	3845.3													0.25	3845.3	0	0	0	0	3845.55
Total Virgin Unrefined Materials	tons	0	0													0	0	0	0	0	0	0
Total Recycled Unrefined Materials	tons	0	0													0	0	0	0	0	0	0
Total Reused Unrefined Materials	tons	0	0													0	0	0	0	0	0	0
Total Unrefined Material	tons	0	0													0	0	0	0	0	0	0
Fuel Processing																						
Biodiesel produced	gal	0	0													0	0	0	0	0	0	0
Diesel produced	gal	8139.3	6211.308													8139.3	6211.308	0	0	0	0	14350.608
Gasoline produced	gal	42.075	21.0375													42.075	21.0375	0	0	0	0	63.1125
Compressed natural gas produced	ccf	0	0													0	0	0	0	0	0	0
Liquified petroleum gas produced	gal	0	0													0	0	0	0	0	0	0
Natural gas produced	ccf	0	0													0	0	0	0	0	0	0
Water Use																						
Public Water Supply	gal x 1000	10	10													10	10	0	0	0	0	20
Extracted Groundwater	gal x 1000	0	0													0	0	0	0	0	0	0
Surface Water	gal x 1000	0	0													0	0	0	0	0	0	0
Reclaimed Water	gal x 1000	0	0													0	0	0	0	0	0	0
Collected/Diverted Storm Water	gal x 1000	0	0													0	0	0	0	0	0	0
User-defined water resource #1	gal x 1000	0	0													0	0	0	0	0	0	0
User-defined water resource #2	gal x 1000	0	0													0	0	0	0	0	0	0
Waste/Recycle Handling																						
Hazardous waste incineration	lbs	0	0													0	0	0	0	0	0	0
Off-site waste water treatment (POTW)	gal x 1000	0	0													0	0	0	0	0	0	0
Off-site non-hazardous waste landfill	tons	2100	0													2100	0	0	0	0	0	2100
Off-site hazardous waste landfill	tons	0	0													0	0	0	0	0	0	0
Recycled/Reused On-Site	tons	2250	0													2250	0	0	0	0	0	2250
Recycled/Reused Off-Site	tons	2100	0													2100	0	0	0	0	0	2100
Solid Waste Totals																						
Total Non-Hazardous Waste	tons	2100	0													2100	0	0	0	0	0	2100
Total Hazardous Waste	tons	0	0													0	0	0	0	0	0	0
Total Recycled/Reused	tons	4350	0													4350	0	0	0	0	0	4350
Total Waste (all types)	tons	6450	0													6450	0	0	0	0	0	6450

Input Summary

Remedy Component Number →		1	2	3	4	5	6									Remedy Component Subtotals						
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Item		Material Removal	Cover System	Input Template (3)	Input Template (4)	Input Template (5)	Input Template (6)	Input Template (7)	Input Template (8)	Input Template (9)	Input Template (10)	Input Template (11)	Input Template (12)	Input Template (13)	Input Template (14)	1	2	3	4	5	6	Total
Lab Services																						
Off-site Laboratory Analysis - Other	sample	15	25													15	25	0	0	0	0	40
Off-site Laboratory Analysis - Metals	sample	3	5													3	5	0	0	0	0	8
Off-site Laboratory Analysis - Mercury	sample	3	5													3	5	0	0	0	0	8
Off-site Laboratory Analysis - Inorganic Anions	sample	0	0													0	0	0	0	0	0	0
Off-site Laboratory Analysis - Alkalinity	sample	0	0													0	0	0	0	0	0	0
Off-site Laboratory Analysis - Perchlorate	sample	0	0													0	0	0	0	0	0	0
Off-site Laboratory Analysis - Nitrogen/Nitrate	sample	0	0													0	0	0	0	0	0	0
Off-site Laboratory Analysis - Sulfate	sample	0	0													0	0	0	0	0	0	0
Off-site Laboratory Analysis - PCBs	sample	3	5													3	5	0	0	0	0	8
Off-site Laboratory Analysis - VOCs	sample	12	18													12	18	0	0	0	0	30
Off-site Laboratory Analysis - SVOCs	sample	3	5													3	5	0	0	0	0	8
Resource Extraction for Electricity																						
Coal extraction and processing	MWh	0.0488	0.0048													0.0488	0.0048	0	0	0	0	0.0536
Natural gas extraction and processing	MWh	0.05424	0.008													0.05424	0.008	0	0	0	0	0.06224
Nuclear fuel extraction and processing	MWh	0.03168	0.0016													0.03168	0.0016	0	0	0	0	0.03328
Oil extraction and processing	MWh	0.00112	0.004													0.00112	0.004	0	0	0	0	0.00512
Other fuel extraction and processing	MWh	0.00016	0													0.00016	0	0	0	0	0	0.00016
Electricity Transmission																						
Transmission and distribution losses	MWh	0.16	0.08													0.16	0.08	0	0	0	0	0.24
Other																						
User-defined material #1	TBD	0	0													0	0	0	0	0	0	0
User-defined material #2	TBD	0	0													0	0	0	0	0	0	0
User-defined material #3	TBD	0	0													0	0	0	0	0	0	0
User-defined material #4	TBD	0	0													0	0	0	0	0	0	0
User-defined material #5	TBD	0	0													0	0	0	0	0	0	0
User-defined material #6	TBD	0	0													0	0	0	0	0	0	0
User-defined material #7	TBD	0	0													0	0	0	0	0	0	0
User-defined material #8	TBD	0	0													0	0	0	0	0	0	0
User-defined material #9	TBD	0	0													0	0	0	0	0	0	0
User-defined material #10	TBD	0	0													0	0	0	0	0	0	0
User-defined material #11	TBD	0	0													0	0	0	0	0	0	0
User-defined material #12	TBD	0	0													0	0	0	0	0	0	0
User-defined material #13	TBD	0	0													0	0	0	0	0	0	0
User-defined material #14	TBD	0	0													0	0	0	0	0	0	0
User-defined material #15	TBD	0	0													0	0	0	0	0	0	0
User-defined material #16	TBD	0	0													0	0	0	0	0	0	0
User-defined material #17	TBD	0	0													0	0	0	0	0	0	0
User-defined material #18	TBD	0	0													0	0	0	0	0	0	0
User-defined material #19	TBD	0	0													0	0	0	0	0	0	0
User-defined material #20	TBD	0	0													0	0	0	0	0	0	0
User-defined Waste Destinations																						
User-defined recycled/reused on-site #1	TBD	0	0													0	0	0	0	0	0	0
User-defined recycled/reused on-site #2	TBD	0	0													0	0	0	0	0	0	0
User-defined recycled/reused on-site #3	TBD	0	0													0	0	0	0	0	0	0
User-defined recycled/reused off-site #1	TBD	0	0													0	0	0	0	0	0	0
User-defined recycled/reused off-site #2	TBD	0	0													0	0	0	0	0	0	0
User-defined recycled/reused off-site #3	TBD	0	0													0	0	0	0	0	0	0
User-defined non-hazardous waste destination #1	TBD	0	0													0	0	0	0	0	0	0
User-defined non-hazardous waste destination #2	TBD	0	0													0	0	0	0	0	0	0
User-defined non-hazardous waste destination #3	TBD	0	0													0	0	0	0	0	0	0
User-defined hazardous waste destination #1	TBD	0	0													0	0	0	0	0	0	0
User-defined hazardous waste destination #2	TBD	0	0													0	0	0	0	0	0	0
User-defined hazardous waste destination #3	TBD	0	0													0	0	0	0	0	0	0

Input Worksheet for Material Removal

Please specify which Remedy Component this Input worksheet is part of: (Select "Off" to exclude this Input worksheet from calculations and results)	**Component 1**	**Material Removal**

General Scope

Removal of excess subgrade material from the Site due to utility installations, foundation demolitions, and regrading. Watering the Site to comply with the CAMP. Consultant and contractor travel to and from the Site.

Example Items Eliminated through Screening Process

Other Notes and References

Total sitework anticipated to take 3 months - estimated 2 months for material removal and 1 month for cover system construction

Personnel Transportation

Participant	Number of Roundtrips to Site	Roundtrip Distance to Site (miles)	Mode of Transportation*	Transport Fuel Type*	Total Distance Transported (miles)	Default Fuel Usage Rate**	Fuel Usage Rate Override**	Fuel Used for Personnel Transport**	Activity or Notes
Contractor Personnel 1	42	30	Heavy-Duty Truck	Diesel	1260	7.55		166.9	Sitework contractor trip to site and back each day
Contractor Personnel 2	42	30	Heavy-Duty Truck	Diesel	1260	7.55		166.9	Sitework contractor trip to site and back each day
Contractor Personnel 3	42	30	Heavy-Duty Truck	Diesel	1260	7.55		166.9	Sitework contractor trip to site and back each day
Contractor Personnel 4	42	30	Heavy-Duty Truck	Diesel	1260	7.55		166.9	Sitework contractor trip to site and back each day
C&S Personnel	42	25	Car	Gasoline	1050	25		42	C&S trip to site, lab (if applicable), and back each day

**** See the "Detailed Notes and Explanations" tab for explanation of transport and fuel options.***

***** for biodiesel, B20, diesel, and gasoline, units are gallons for Fuel Used and miles/gallon for Fuel Usage Rate; for natural gas, units are hundreds of cubic feet (ccf) for Fuel Used and ccf/miles for Fuel Usage Rate; for electricity, units are miles/kWh for Fuel Usage Rate and the kWh (Fuel Used) are added to total grid electricity used (cell G69).***

On-Site Equipment Use and Transportation

Equipment Type*	HP*	Load Factor (%)*	Equipment Fuel Type**	Equipment Fuel Usage Rate	Equipment Hours Operated	Fuel Used for On-site Equipment	Equipment weight (tons)	Number of Equipment Roundtrips to Site	Roundtrip Distance to Site (miles)	Total Distance Transported (miles)	Mode of Transportation	Transport Fuel Type***	Default Transport Fuel Usage Rate (gptm or mpg)	Transport Fuel Usage Rate Override (gptm or mpg)	Fuel Used for Equipment Transport (gallons)	Activity or Notes
Excavator - medium (175 HP)	175	75%	Diesel	6.5625	250	1640.625	25	2	30	60	Truck (mpg)	Diesel	6		10	Equipment for sitework and regrading
Excavator - medium (175 HP)	175	75%	Diesel	6.5625	250	1640.625	25	2	30	60	Truck (mpg)	Diesel	6		10	Equipment for sitework and regrading
Dozer - small (100 HP)	100	75%	Diesel	3.75	175	656.25	20	2	30	60	Truck (mpg)	Diesel	6		10	Equipment for sitework and regrading
Loader (200 HP)	200	75%	Diesel	7.5	175	1312.5	20	2	30	60	Truck (mpg)	Diesel	6		10	Equipment for sitework and regrading
Generator - HP varies	5	75%	Gasoline	0.00075	100	0.075	0.1	2	30	60	Truck (mpg)	Diesel	6		10	For miscallaneous site tasks

**** HP and Load Factor must be entered by user in Columns C and D. Please see the "Detailed Notes and Explanations" tab for further explanation.***

***** For biodiesel, B20, diesel, gasoline, and liquified petroleum gas, units are gallons for Fuel Used for On-site Equipment and gallons/hr for Equipment Fuel Usage Rate; for compressed natural gas units are ccf (hundreds of cubic feet) for Fuel Used for On-site Equipment and ccf/hr for Equipment Fuel Usage Rate.***

****** Please see the "Detailed Notes and Explanations" tab for instructions on selecting mode of transportation and other aspects of data entry in Columns M, N, and P. Units are gallons for Fuel Used for Equipment Transport and miles/gallon (mpg) or gallons per ton-mile (gptm) for Transport Fuel Usage Rate.***

Input Worksheet for Material Removal

Remedy Component that this Input worksheet is part of:	Component 1	Material Removal

On-Site Electricity Use

Equipment Type	HP	Load Factor (%)	Efficiency (%)	Electrical Rating (kW)	Hours Used	Energy Used (kWh)	Notes
<Equip. with HP, Efficiency, and Hours>							
<Equip. with HP, Efficiency, and Hours>							
<Equip. with HP, Efficiency, and Hours>							
<Equip. with HP, Efficiency, and Hours>							
<Equip. with known kW rating>							
<Equip. with known kW rating>							
<Equip. with known kW rating>							
<Equip. with known kW rating>							
Pair of CAMP Stations						160	Charging of CAMP stations for 42 days
<Equip. with known total Energy Used>							
<Equip. with known total Energy Used>							
<Equip. with known total Energy Used>							
					Estimated Total Electricity Usage Based on Above	160	
					Renewable Electricity Generated On-Site*		
					Total Electricity Usage Based on Personnel Transportation	0	
					Total Grid Electricity Used	160	

**** Electricity generated on-site from renewable resources, for which the facility retains the rights to the renewable energy (i.e., does not sell renewable energy certificates associated with the renewable energy generation).***

On-Site Natural Gas Use

Equipment Type	Power Rating (Btu/hr)	Efficiency (%)	Hours Used	Energy Required (Btu)	Natural Gas Used (ccf)	Notes
					0	
				0		
			Totals	0	0	0

Landfill Gas Combusted On-Site for Energy Use

Equipment Type	Landfill Gas (ccf)	% Methane by volume	Used for electricity?	Landfill Gas Methane Used (ccf)	Notes
				0	
				0	
				0	
			Total	0	

Please see the "Detailed Notes and Explanations" tab for instructions on using the two tables above ("On-site Natural Gas Use" and "Landfill Gas Combusted On-Site for Energy Use"). In the two tables above, ccf = hundreds of cubic feet.

Materials Use and Transportation

Material Type*	Unit	Quantity	Tons	Is the Material Refined or Unrefined?**	Material Source: Virgin, Recycled, or Reused?**	Calculate Item Footprint?**	Default One-way Distance to Site (miles)	One-way Distance to Site Override (miles)	Number of One-way Trips to Site	Include Return Trip in Calculations?	Total Distance Transported (miles)	Mode of Transportation***	Transport Fuel Type	Default Transport Fuel Usage Rate (gptm or mpg)	Transport Fuel Usage Rate Override (gptm or mpg)	Fuel Used for Materials Transport (gallons)	Notes and Description of Materials
Other refined construction materials	lb	500	0.25	Refined	Virgin	Yes	500	30	1	No	30	Truck (mpg)	Diesel	6		5.000	Poly sheeting and other materials for soil
			0														
			0														
			0														
			0														
			0														
			0														
			0														
			0														
			0														
			0														
			0														
			0														
			0														
			0														
			0														
			0														
			0														
			0														

**** Please see the "Detailed Notes and Explanations" tab for instructions on specifying "User-Defined Materials" in the dropdown menu.***

***** Selections must be made in Columns F - H in order for the footprint calculations to be performed. Please see the "Detailed Notes and Explanations" tab for further information.***

****** Please see the "Detailed Notes and Explanations" tab for instructions on selecting mode of transportation, accounting for empty return trips, and other aspects of data entry in Columns L, N, O, and Q. Units are gallons for Fuel Used for Materials Transport and miles/gallon (mpg) or gallons per ton-mile (gptm) for Transport Fuel Usage Rate.***

Input Worksheet for Material Removal

Remedy Component that this Input worksheet is part of:	Component 1	Material Removal

Waste Disposal and Transportation

Waste Destination*	Unit	Quantity	Tons	Default One-way Distance to Site (miles)	One-way Distance to Site Override (miles)	Number of One-way Trips to Site	Include Return Trip in Calculations?	Total Distance Transported (miles)	Mode of Transportation **	Transport Fuel Type	Default Transport Fuel Usage Rate (gptm or mpg)	Transport Fuel Usage Rate Override (gptm or mpg)	Fuel Used for Waste Transport (gallons)	Notes and Description of Waste
Off-site non-hazardous waste landfill	tons	2100	2100	25	50	100	Yes	10000	Truck (mpg)	Diesel	6		1666.7	Export of excess contaminated soil during sitework
Recycled/reused off-site	tons	2100	2100	50	15	100	Yes	3000	Truck (mpg)	Diesel	6		500.0	Export of concrete / asphalt during sitework
Recycled/reused on-site	tons	2250	2250	0	0	0	No	0						Reuse of soil beneath the cover system
			0											
			0											
			0											
			0											
			0											
			0											
			0											
			0											
			0											

**** No footprint is calculated for the Recycled/Reused On-Site and Off-Site selections. Please see the "Detailed Notes and Explanations" tab for instructions on specifying "User-Defined" selections in the dropdown menu.***

***** Please see the "Detailed Notes and Explanations" tab for instructions on selecting mode of transportation, accounting for empty return trips, and other aspects of data entry in Columns I, K, L, and N. Units are gallons for Fuel Used for Waste Transport and miles/gallon (mpg) or gallons per ton-mile (gptm) for Transport Fuel Usage Rate.***

Type of Water Used

Source of Water Used*	Unit	Quantity	Tons	Source Location/Aquifer (optional)	Quality of Water Used (optional)	Water Uses (optional)	Fate of Used Water (optional)
Public Water	gal x 1000	10	41.7	Onondaga County Water Authority		CAMP Implementation	
			0				
			0				
			0				
			0				
			0				
			0				
			0				
			0				
			0				
			0				
			0				
			0				

**** Only the "Public Water" selection has an associated footprint. No footprint is calculated for the other water source selections.***

Note: Information entered in Columns F - V (Source/Quality/Use/Fate) is not compiled or reported by SEFA.

Input Worksheet for Material Removal

Remedy Component that this Input worksheet is part of:	Component 1	Material Removal

Other Energy Use and Air Emissions

Item		Units	Quantity	Notes
On-Site				
User-defined on-site conventional energy use #1	*User-Defined	TBD		
User-defined on-site conventional energy use #2	*User-Defined	TBD		
On-site HAP process emissions**		lbs		
On-site GHG emissions**		lbs CO2e		
On-site carbon storage**		lbs CO2e		
Landfill gas flared on-site		ccf CH4		
Other on-site NOx emissions or reductions**		lbs		
Other on-site SOx emissions or reductions**		lbs		
Other on-site PM emissions or reductions**		lbs		
Transportation		**Units**	**Quantity**	**Notes**
User-defined conventional energy transportation #1	*User-Defined	TBD		
User-defined conventional energy transportation #2	*User-Defined	TBD		

**** Enter units and conversion factors on "User Defined Factors" tab***
***** Enter a positive number for emissions and a negative number for reductions, avoidances, or storage***
See the "Detailed Notes and Explanations" tab for use of this table.

Other Voluntary Renewable Energy Use

Item		Units	Quantity	Notes
User-defined on-site renewable energy use #1	*User-Defined	TBD		
User-defined on-site renewable energy use #2	*User-Defined	TBD		
User-defined renewable energy transportation #1	*User-Defined	TBD		
User-defined renewable energy transportation #2	*User-Defined	TBD		
Voluntary purchase of renewable electricity**		MWh		
Voluntary purchase of RECs**		MWh		

**** Enter units and conversion factors on "User Defined Factors" tab***
***** Complete information on provider in the table to the right. No footprint reductions are associated with the voluntary purchases.***
See the "Detailed Notes and Explanations" tab for use of this table

Off-Site Laboratory Analysis

Parameter and Notes	Number of Samples	Comments
Off-site Laboratory Analysis - VOCs	12	
Off-site Laboratory Analysis - SVOCs	3	
Off-site Laboratory Analysis - PCBs	3	
Off-site Laboratory Analysis - Metals	3	
Off-site Laboratory Analysis - Mercury	3	
Off-site Laboratory Analysis - Other	3	
Off-site Laboratory Analysis - Other	3	
Off-site Laboratory Analysis - Other	3	
Off-site Laboratory Analysis - Other	3	
Off-site Laboratory Analysis - Other	3	
Off-site Laboratory Analysis - Other		
Totals	**39**	

Description of purchased renewable electricity (green pricing product or green marketing product)	Provider:	
	Type of product:	
	Type of renewable energy source:	
	Date of renewable system installation:	
Description of purchased RECs	Provider:	
	Type of renewable energy source:	
	Date of renewable system installation:	
	Location of renewable system installation:	

Input Worksheet for Cover System

Please specify which Remedy Component this Input worksheet is part of: (Select "Off" to exclude this Input worksheet from calculations and results)	**Component 2**	**Cover System**

General Scope

Construction of the cover system (soil, asphalt, concrete). Watering the Site to comply with the CAMP. Consultant and contractor travel to and from the Site.

Example Items Eliminated through Screening Process

Other Notes and References

Total sitework anticipated to take 3 months - estimated 2 months for material removal and 1 month for cover system construction

Personnel Transportation

Participant	Number of Roundtrips to Site	Roundtrip Distance to Site (miles)	Mode of Transportation*	Transport Fuel Type*	Total Distance Transported (miles)	Default Fuel Usage Rate**	Fuel Usage Rate Override**	Fuel Used for Personnel Transport**	Activity or Notes
Contractor Personnel 1	21	30	Heavy-Duty Truck	Diesel	630	7.55		83.4	Sitework contractor trip to site and back each day
Contractor Personnel 2	21	30	Heavy-Duty Truck	Diesel	630	7.55		83.4	Sitework contractor trip to site and back each day
Contractor Personnel 3	21	30	Heavy-Duty Truck	Diesel	630	7.55		83.4	Sitework contractor trip to site and back each day
Contractor Personnel 4	21	30	Heavy-Duty Truck	Diesel	630	7.55		83.4	Sitework contractor trip to site and back each day
C&S Personnel	21	25	Car	Gasoline	525	25		21	C&S trip to site, lab (if applicable), and back each day

**** See the "Detailed Notes and Explanations" tab for explanation of transport and fuel options.***

***** for biodiesel, B20, diesel, and gasoline, units are gallons for Fuel Used and miles/gallon for Fuel Usage Rate; for natural gas, units are hundreds of cubic feet (ccf) for Fuel Used and ccf/miles for Fuel Usage Rate; for electricity, units are miles/kWh for Fuel Usage Rate and the kWh (Fuel Used) are added to total grid electricity used (cell G69).***

On-Site Equipment Use and Transportation

Equipment Type*	HP*	Load Factor (%)*	Equipment Fuel Type**	Equipment Fuel Usage Rate	Equipment Hours Operated	Fuel Used for On-site Equipment	Equipment weight (tons)	Number of Equipment Roundtrips to Site	Roundtrip Distance to Site (miles)	Total Distance Transported (miles)	Mode of Transportation	Transport Fuel Type***	Default Transport Fuel Usage Rate (gptm or mpg)	Transport Fuel Usage Rate Override (gptm or mpg)	Fuel Used for Equipment Transport (gallons)	Activity or Notes
Asphalt paver (150 HP)	150	75%	Diesel	5.625	50	281.25	15	2	30	60	Truck (mpg)	Diesel	6		10	Equipment for impervious cover system construction
Backhoe (100 HP)	100	75%	Diesel	3.75	150	562.5	10	2	30	60	Truck (mpg)	Diesel	6		10	Equipment for general cover system construction
Concrete paving machine (200 HP)	200	75%	Diesel	7.5	50	375	15	2	30	60	Truck (mpg)	Diesel	6		10	Equipment for impervious cover system construction
Dozer - small (100 HP)	100	75%	Diesel	3.75	150	562.5	20	2	30	60	Truck (mpg)	Diesel	6		10	Equipment for general cover system construction
Generator - HP varies	5	75%	Gasoline	0.00075	50	0.0375	0.1	2	30	60	Truck (mpg)	Diesel	6		10	For miscallaneous site tasks
Grader (175 HP)	175	75%	Diesel	6.5625	50	328.125	20	2	30	60	Truck (mpg)	Diesel	6		10	Equipment for general cover system construction
Hydroseeder (20 HP)	20	75%	Diesel	0.75	20	15	2	2	30	60	Truck (mpg)	Diesel	6		10	Equipment for pervious cover system construction
Loader (200 HP)	200	75%	Diesel	7.5	150	1125	20	2	30	60	Truck (mpg)	Diesel	6		10	Equipment for general cover system construction
Roller (100 HP)	100	75%	Diesel	3.75	150	562.5	2	2	30	60	Truck (mpg)	Diesel	6		10	Equipment for general cover system construction
Skid-steer - small (60 HP)	60	75%	Diesel	2.25	150	337.5	2	2	30	60	Truck (mpg)	Diesel	6		10	Equipment for general cover system construction

**** HP and Load Factor must be entered by user in Columns C and D. Please see the "Detailed Notes and Explanations" tab for further explanation.***

***** For biodiesel, B20, diesel, gasoline, and liquified petroleum gas, units are gallons for Fuel Used for On-site Equipment and gallons/hr for Equipment Fuel Usage Rate; for compressed natural gas units are ccf (hundreds of cubic feet) for Fuel Used for On-site Equipment and ccf/hr for Equipment Fuel Usage Rate.***

****** Please see the "Detailed Notes and Explanations" tab for instructions on selecting mode of transportation and other aspects of data entry in Columns M, N, and P. Units are gallons for Fuel Used for Equipment Transport and miles/gallon (mpg) or gallons per ton-mile (gptm) for Transport Fuel Usage Rate.***

Input Worksheet for Cover System

Remedy Component that this Input worksheet is part of:	Component 2	Cover System

On-Site Electricity Use

Equipment Type	HP	Load Factor (%)	Efficiency (%)	Electrical Rating (kW)	Hours Used	Energy Used (kWh)	Notes
<Equip. with HP, Efficiency, and Hours>							
<Equip. with HP, Efficiency, and Hours>							
<Equip. with HP, Efficiency, and Hours>							
<Equip. with HP, Efficiency, and Hours>							
<Equip. with known kW rating>							
<Equip. with known kW rating>							
<Equip. with known kW rating>							
<Equip. with known kW rating>							
Pair of CAMP Stations						80	Charging of CAMP stations for 21 days
<Equip. with known total Energy Used>							
<Equip. with known total Energy Used>							
<Equip. with known total Energy Used>							
					Estimated Total Electricity Usage Based on Above	80	
					Renewable Electricity Generated On-Site*		
					Total Electricity Usage Based on Personnel Transportation	0	
					Total Grid Electricity Used	80	

**** Electricity generated on-site from renewable resources, for which the facility retains the rights to the renewable energy (i.e., does not sell renewable energy certificates associated with the renewable energy generation).***

On-Site Natural Gas Use

Equipment Type	Power Rating (Btu/hr)	Efficiency (%)	Hours Used	Energy Required (Btu)	Natural Gas Used (ccf)	Notes
					0	
				0		
		Totals	0	0	0	

Landfill Gas Combusted On-Site for Energy Use

Equipment Type	Landfill Gas (ccf)	% Methane by volume	Used for electricity?	Landfill Gas Methane Used (ccf)	Notes
				0	
				0	
				0	
			Total	0	

Please see the "Detailed Notes and Explanations" tab for instructions on using the two tables above ("On-site Natural Gas Use" and "Landfill Gas Combusted On-Site for Energy Use"). In the two tables above, ccf = hundreds of cubic feet.

Materials Use and Transportation

Material Type*	Unit	Quantity	Tons	Is the Material Refined or Unrefined?**	Material Source: Virgin, Recycled, or Reused?**	Calculate Item Footprint?**	Default One-way Distance to Site (miles)	One-way Distance to Site Override (miles)	Number of One-way Trips to Site	Include Return Trip in Calculations?	Total Distance Transported (miles)	Mode of Transportation***	Transport Fuel Type	Default Transport Fuel Usage Rate (gptm or mpg)	Transport Fuel Usage Rate Override (gptm or mpg)	Fuel Used for Materials Transport (gallons)	Notes and Description of Materials
Asphalt, mastic	lb	1,806,000	903	Refined	Virgin	Yes	25	15	60	Yes	1800	Truck (mpg)	Diesel	6		300.000	Asphalt binder coat for parking lots
Asphalt, paving-grade	lb	1,084,000	542	Refined	Virgin	Yes	25	15	40	Yes	1200	Truck (mpg)	Diesel	6		200.000	Asphalt top coat for parking lots
Gravel/Sand Mix, 65% Gravel	lb	3600000	1800	Refined	Virgin	Yes	25		100	Yes	5000	Truck (mpg)	Diesel	6		833.333	Stone base import
Gravel/sand/clay	lb	1050000	525	Refined	Virgin	Yes	25		30	Yes	1500	Truck (mpg)	Diesel	6		250.000	Topsoil import
Ready-mixed concrete, 20 MPa	ft3	2000	75	Refined	Virgin	Yes	25	15	8	Yes	240	Truck (mpg)	Diesel	6		40.000	Concrete mix for sidewalks
Other refined construction materials	lb	600	0.3	Refined	Virgin	Yes	500	15	1	Yes	30	Truck (mpg)	Diesel	6		5.000	Geotextile for demarcation barrier
			0														
			0														
			0														
			0														
			0														
			0														
			0														
			0														
			0														
			0														
			0														
			0														

**** Please see the "Detailed Notes and Explanations" tab for instructions on specifying "User-Defined Materials" in the dropdown menu.***

***** Selections must be made in Columns F - H in order for the footprint calculations to be performed. Please see the "Detailed Notes and Explanations" tab for further information.***

****** Please see the "Detailed Notes and Explanations" tab for instructions on selecting mode of transportation, accounting for empty return trips, and other aspects of data entry in Columns L, N, O, and Q. Units are gallons for Fuel Used for Materials Transport and miles/gallon (mpg) or gallons per ton-mile (gptm) for Transport Fuel Usage Rate.***

Input Worksheet for Cover System

Remedy Component that this Input worksheet is part of:	Component 2	Cover System

Waste Disposal and Transportation

Waste Destination*	Unit	Quantity	Tons	Default One-way Distance to Site (miles)	One-way Distance to Site Override (miles)	Number of One-way Trips to Site	Include Return Trip in Calculations?	Total Distance Transported (miles)	Mode of Transportation **	Transport Fuel Type	Default Transport Fuel Usage Rate (gptm or mpg)	Transport Fuel Usage Rate Override (gptm or mpg)	Fuel Used for Waste Transport (gallons)	Notes and Description of Waste
			0											
			0											
			0											
			0											
			0											
			0											
			0											
			0											
			0											
			0											
			0											
			0											

**** No footprint is calculated for the Recycled/Reused On-Site and Off-Site selections. Please see the "Detailed Notes and Explanations" tab for instructions on specifying "User-Defined" selections in the dropdown menu.***

***** Please see the "Detailed Notes and Explanations" tab for instructions on selecting mode of transportation, accounting for empty return trips, and other aspects of data entry in Columns I, K, L, and N. Units are gallons for Fuel Used for Waste Transport and miles/gallon (mpg) or gallons per ton-mile (gptm) for Transport Fuel Usage Rate.***

Type of Water Used

Source of Water Used*	Unit	Quantity	Tons	Source Location/Aquifer (optional)	Quality of Water Used (optional)	Water Uses (optional)	Fate of Used Water (optional)
Public Water	gal x 1000	10	41.7	Onondaga County Water Authority		CAMP Implementation	
			0				
			0				
			0				
			0				
			0				
			0				
			0				
			0				
			0				
			0				
			0				
			0				

**** Only the "Public Water" selection has an associated footprint. No footprint is calculated for the other water source selections.***

Note: Information entered in Columns F - V (Source/Quality/Use/Fate) is not compiled or reported by SEFA.

Input Worksheet for Cover System

Remedy Component that this Input worksheet is part of:	Component 2	Cover System

Other Energy Use and Air Emissions

Item		Units	Quantity	Notes
On-Site				
User-defined on-site conventional energy use #1	*User-Defined	TBD		
User-defined on-site conventional energy use #2	*User-Defined	TBD		
On-site HAP process emissions**		lbs		
On-site GHG emissions**		lbs CO2e		
On-site carbon storage**		lbs CO2e		
Landfill gas flared on-site		ccf CH4		
Other on-site NOx emissions or reductions**		lbs		
Other on-site SOx emissions or reductions**		lbs		
Other on-site PM emissions or reductions**		lbs		
Transportation		**Units**	**Quantity**	**Notes**
User-defined conventional energy transportation #1	*User-Defined	TBD		
User-defined conventional energy transportation #2	*User-Defined	TBD		

**** Enter units and conversion factors on "User Defined Factors" tab***
***** Enter a positive number for emissions and a negative number for reductions, avoidances, or storage***
See the "Detailed Notes and Explanations" tab for use of this table.

Other Voluntary Renewable Energy Use

Item		Units	Quantity	Notes
User-defined on-site renewable energy use #1	*User-Defined	TBD		
User-defined on-site renewable energy use #2	*User-Defined	TBD		
User-defined renewable energy transportation #1	*User-Defined	TBD		
User-defined renewable energy transportation #2	*User-Defined	TBD		
Voluntary purchase of renewable electricity**		MWh		
Voluntary purchase of RECs**		MWh		

**** Enter units and conversion factors on "User Defined Factors" tab***
***** Complete information on provider in the table to the right. No footprint reductions are associated with the voluntary purchases.***
See the "Detailed Notes and Explanations" tab for use of this table

Off-Site Laboratory Analysis

Parameter and Notes	Number of Samples	Comments
Off-site Laboratory Analysis - VOCs	18	
Off-site Laboratory Analysis - SVOCs	5	
Off-site Laboratory Analysis - PCBs	5	
Off-site Laboratory Analysis - Metals	5	
Off-site Laboratory Analysis - Mercury	5	
Off-site Laboratory Analysis - Other	5	
Off-site Laboratory Analysis - Other	5	
Off-site Laboratory Analysis - Other	5	
Off-site Laboratory Analysis - Other	5	
Off-site Laboratory Analysis - Other	5	
Off-site Laboratory Analysis - Other		
Totals	**63**	

Description of purchased renewable electricity (green pricing product or green marketing product)	Provider:	
	Type of product:	
	Type of renewable energy source:	
	Date of renewable system installation:	
Description of purchased RECs	Provider:	
	Type of renewable energy source:	
	Date of renewable system installation:	
	Location of renewable system installation:	

Material Removal - On-Site Footprint (Scope 1)

Contributors to Footprints	Units	Usage	Energy		GHG		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
On-Site														
On-site Renewable Energy														
Renewable electricity generated on-site	MWh	0	3.413	0										
Landfill gas combusted on-site for energy use	ccf CH4	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
On-site biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
On-site biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
User-defined on-site renewable energy use #1	gal	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined on-site renewable energy use #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
On-site Renewable Energy Subtotals				**0**		**0**		**0**		**0**		**0**		**0**
Notes:														
On-site Conventional Energy														
On-site grid electricity	MWh	0.16	3.413	0.54608										
On-site diesel use - Other	Gal	5250	0.139	729.75	22.5	118125	0.17	892.5	0.0054	28.35	0.0034	17.85	0.0000052	0.0273
On-site diesel use <75 hp	Gal	0	0.139	0	22.21	0	0.1565	0	0.000145	0	0.0145	0	0.00004	0
On-site diesel use 75<hp<750	Gal	0	0.139	0	22.24	0	0.101	0	0.00013	0	0.009	0	0.00004	0
On-site diesel use >750 hp	Gal	0	0.139	0	22.24	0	0.149	0	0.00013	0	0.006	0	0.00004	0
On-site gasoline use - Other	Gal	0.075	0.124	0.0093	19.6	1.47	0.11	0.00825	0.0045	0.0003375	0.00054	0.0000405	0.000039	2.925E-06
On-site gasoline use <25 hp	Gal	0	0.124	0	17.48	0	0.037	0	0.00025	0	0.165	0	0.00008	0
On-site gasoline use >25 hp	Gal	0	0.124	0	19.93	0	0.032	0	0.00029	0	0.002	0	0.00009	0
On-site natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
On-site compressed natural gas use - Other	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site compressed natural gas use	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site liquified petroleum gas use - Other	gal	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
On-site liquified petroleum gas use	gal	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
Other forms of on-site conventional energy use #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Other forms of on-site conventional energy use #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
On-site Conventional Energy Subtotals				**730**		**118,126**		**893**		**28**		**18**		**0**
Notes:														
Other On-site Emissions														
On-site HAP process emissions	lbs	0											1	0
On-site GHG emissions	lbs CO2e	0			1	0								
On-site carbon storage	lbs CO2e	0			1	0								
GHG avoided by flaring on-site landfill methane	Lbs	0			-262	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Other on-site NOx emissions or reductions	lbs	0					1	0						
Other on-site SOx emissions or reductions	lbs	0							1	0				
Other on-site PM emissions or reductions	lbs	0									1	0		
User-defined recycled/reused on-site #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused on-site #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
On-site Totals				**730.31**		**118,126**		**893**		**28**		**18**		**0**

Material Removal - Electricity Generation Footprint (Scope 2)

Contributors to Footprints	Units	Usage	Energy		GHG		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Electricity Generation														
Grid electricity	MWh	0.16	6.929	1.10864	1124.3	179.888	2.2421	0.358736	4.6078874	0.737262	0.057518	0.0092029	0.2102371	0.0336379
Voluntary purchase of renewable electricity	MWh	0												
Voluntary purchase of RECs	MWh	0												
Notes:														

Material Removal - Transportation Footprint (Scope 3a)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Conventional Energy														
Transportation diesel use	gal	2889.3	0.139	401.6127	22.5	65009.25	0.17	491.181	0.0054	15.60222	0.0034	9.82362	0.0000052	0.0150244
Transportation diesel use - car	gal	0	0.139	0	22.57	0	0.015	0	0.0002	0	0.003	0	0.00252	0
Transportation diesel use - passenger truck	gal	0	0.139	0	22.545	0	0.0585	0	0.0002	0	0.007	0	0.002605	0
Transportation diesel use - User Defined	gal	0	0.139	0	22.5	0	0.17	0	0.0054	0	0.0034	0	0.0000052	0
Transportation gasoline use	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation gasoline use - car	gal	42	0.124	5.208	19.77	830.34	0.027	1.134	0.00036	0.01512	0.003	0.126	0.0067	0.2814
Transportation gasoline use - passenger truck	gal	0	0.124	0	19.79	0	0.035	0	0.00036	0	0.003	0	0.00661	0
Transportation gasoline use - User Defined	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Transportation natural gas use - User Defined	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
User-defined conventional energy transportation #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined conventional energy transportation #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Conventional Energy Subtotals				**407**		**65,840**		**492**		**16**		**10**		**0**
Notes:														
Renewable Energy														
Transportation biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
User-defined renewable energy transportation #1	TBD	0	Biodiesel		0	0	0	0	0	0	0	0	Ref.	
User-defined renewable energy transportation #2	TBD	0	mpg or pmp		0	0	0	0	0	0	0	0	0	0
Renewable Energy Subtotals				**0**		**0**		**0**		**0**		**0**		**0**
Notes:														
Transportation Totals				**407**		**65840**		**492**		**16**		**10**		**0**

Material Removal - Off-Site Footprint (Scope 3b)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Construction Materials														
Aluminum, Rolled Sheet	lb	0	0.0633	0	9.15	0	0.0148	0	0.0283	0	0.0088	0	0.00102	0
Asphalt, mastic	lb	0	0.0412	0	0.85	0	0.00271	0	0.00798	0	0.000766	0	0.00107	0
Asphalt, paving-grade	lb	0	0.5	0	8.58	0	0.0299	0	0.0969	0	0.0091	0	0.0133	0
Ethanol, Corn, 95%	lb	0	0.0318	0	-0.0199	0	0.00425	0	0.00303	0	0.000469	0	0.0000846	0
Ethanol, Corn, 99.7%	lb	0	0.0324	0	0.0591	0	0.00431	0	0.0031	0	0.000472	0	0.000087	0
Ethanol, Petroleum, 99.7%	lb	0	0.0205	0	1.25	0	0.00199	0	0.00214	0	0.000277	0	0.0000589	0
Gravel/Sand Mix, 65% Gravel	lb	0	0.0000248	0	0.0024	0	0.000018	0	4.52E-06	0	2.61E-06	0	3.08E-07	0
Gravel/sand/clay	lb	0	0.000028	0	0.00335	0	0.0000165	0	0.000015	0	0.000002	0	2.05E-10	0
HDPE	lb	0	0.0332	0	1.94	0	0.00325	0	0.00409	0	0.000439	0	0.0000641	0
Photovoltaic system (installed)	W	0	0.0336	0	4.47	0	0.015	0	0.032	0	0.00063	0	0.0000029	0
PVC	lb	0	0.0262	0	2.02	0	0.004	0	0.00274	0	0.000372	0	0.000375	0
Portland cement, US average	lb	0	0.0139	0	1.34	0	0.00654	0	0.0104	0	0.00378	0	0.00097	0
Ready-mixed concrete, 20 MPa	ft3	0	0.217	0	19.5	0	0.0975	0	0.154	0	0.057	0	0.0141	0
Round Gravel	lb	0	0.0000248	0	0.0024	0	0.000018	0	4.52E-06	0	2.61E-06	0	3.08E-07	0
Sand	lb	0	0.0000248	0	0.0024	0	0.000018	0	4.52E-06	0	2.61E-06	0	3.08E-07	0
Stainless Steel	lb	0	0.0116	0	3.4	0	0.0075	0	0.012	0	0.0044	0	0.000144	0
Steel	lb	0	0.0044	0	1.1	0	0.0014	0	0.0017	0	0.00056	0	0.000067	0
Other refined construction materials	lb	500	0.01885	9.425	2.115	1057.5	0.0040375	2.01875	0.0051325	2.56625	0.0014428	0.721375	0.0001625	0.0812625
Other unrefined construction materials	lb	0	0.000028	0	0.00335	0	0.0000165	0	0.000015	0	0.000002	0	2.05E-10	0

Notes:

Material Removal - Off-Site Footprint (Scope 3b)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Treatment Materials & Chemicals														
Cheese Whey	lbs	0	0.0025	0	0.031	0	0.000062	0	0.000033	0	0.000002	0	NP	
Emulsified vegetable oil	lbs	0	0.0077	0	3.44	0	0.0066	0	0.0019	0	0.000033	0	NP	
Granular activated carbon, primary	lbs	0	0.0356	0	4.82	0	0.0793	0	0.128	0	0.000987	0	0.000657	0
Granular activated carbon, regenerated	lbs	0	0.00873	0	1.7	0	0.00733	0	0.0129	0	0.000886	0	0.000671	0
Hydrogen Peroxide, 50% in H2O	lbs	0	0.00979	0	1.19	0	0.00142	0	0.0024	0	0.000308	0	0.0000629	0
Iron (II) Sulfate	lbs	0	0.00147	0	0.167	0	0.000316	0	0.000589	0	0.000103	0	0.000023	0
Lime, Hydrated, Packed	lbs	0	0.00206	0	0.762	0	0.000513	0	0.000358	0	0.00013	0	6.57E-06	0
Molasses	lbs	0	0.0044	0	0.48	0	0.0011	0	0.00024	0	0.0000041	0	NP	
Phosphoric Acid, 70% in H2O	lbs	0	0.0067	0	0.882	0	0.00282	0	0.0294	0	0.00171	0	0.000163	0
Potassium Permanganate	lbs	0	0.00981	0	1.16	0	0.00234	0	0.0032	0	0.000422	0	0.000122	0
Sodium Hydroxide, 50% in H2O	lbs	0	0.00977	0	1.09	0	0.00194	0	0.00352	0	0.000403	0	0.000129	0
Other Treatment Chemicals & Materials	lbs	0	0.015	0	1.67	0	0.003	0	0.0065	0	0.00061	0	0.000016	0
Notes:														
Fuel Processing														
Biodiesel produced	gal	0	0.029	0	-16.8	0	0.018	0	0.033	0	0.00082	0	NP	
Diesel produced	gal	8139.3	0.017	138.3681	3.02	24580.686	0.0051	41.51043	0.0062	50.46366	0.0017	13.83681	0.0011	8.95323
Gasoline produced	gal	42.075	0.033	1.388475	2.8	117.81	0.0046	0.193545	0.005	0.210375	0.0015	0.0631125	0.001	0.042075
Liquefied Petroleum Gas Produced	gal	0	0.088	0	1.47	0	0.0016	0	0.0024	0	0.0007	0	0.0003	0
Natural Gas - Compressed Produced	ccf	0	19.983	0	343.92	0	0.4732	0	2.1651	0	0.1846	0	0.2895	0
Natural Gas Produced	ccf	0	0.0052	0	2.2	0	0.0037	0	0.0046	0	0.000072	0	0.0000061	0
Fuel Processing Subtotals				**139.75658**		**24698.496**		**41.703975**		**50.674035**		**13.899923**		**8.995305**
Notes:														
Public water	gal x 1000	10	0.0092	0.092	5	50	0.0097	0.097	0.0059	0.059	0.016	0.16	0.000015	0.00015
User-defined water resource #1	gal x 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined water resource #2	gal x 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														

Material Removal - Off-Site Footprint (Scope 3b)

			Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv.		Conv.		Conv.		Conv.		Conv.		Conv.	
Category	**Units**	**Usage**	**Factor**	**MMBtus**	**Factor**	**lbs CO2e**	**Factor**	**lbs**	**Factor**	**lbs**	**Factor**	**lbs**	**Factor**	**lbs**
Off-Site Services														
Hazardous waste incineration	lb	0	0.00609	0	2.43	0	0.0016	0	0.00167	0	0.000209	0	0.000087	0
Off-site waste water treatment (POTW)	gal x 1000	0	0.015	0	4.4	0	0.016	0	0.015	0	NP		NP	
Off-site non-hazardous waste landfill	ton	2100	0.16	336	25	52500	0.14	294	0.075	157.5	0.4	840	0.0014	2.94
Off-site hazardous waste landfill	ton	0	0.18	0	27.5	0	0.154	0	0.0825	0	0.44	0	0.00154	0
Off-site Laboratory Analysis - Other	sample	15	0.058071	0.8710654	6.8534384	102.80158	0.131402	1.9710294	0.3038758	4.5581365	0.0455698	0.6835474	0.0330165	0.4952479
Off-site Laboratory Analysis - Metals	sample	3	0.212	0.636	27.4693	82.4079	0.6423	1.9269	1.5072	4.5216	0.2264	0.6792	0.1643	0.4929
Off-site Laboratory Analysis - Mercury	sample	3	0.0731715	0.2195144	9.325458	27.976374	0.2127439	0.6382317	0.4982396	1.4947188	0.0747359	0.2242078	0.0542332	0.1626995
Off-site Laboratory Analysis - Inorganic Anions	sample	0	0.0074025	0	0.6459478	0	0.0067681	0	0.0147929	0	0.0022024	0	0.0015542	0
Off-site Laboratory Analysis - Alkalinity	sample	0	0.0174398	0	1.3381922	0	0.0070106	0	0.0132496	0	0.00194	0	0.0012831	0
Off-site Laboratory Analysis - Perchlorate	sample	0	0.023885	0	1.8717054	0	0.0079807	0	0.0141535	0	0.0020547	0	0.0012875	0
Off-site Laboratory Analysis - Nitrogen/Nitrate	sample	0	0.0336475	0	4.29897	0	0.0954592	0	0.2226646	0	0.0335099	0	0.0242506	0
Off-site Laboratory Analysis - Sulfate	sample	0	0.0141225	0	1.4726728	0	0.0079807	0	0.0136024	0	0.0019797	0	0.0012015	0
Off-site Laboratory Analysis - PCBs	sample	3	0.0512769	0.1538307	5.224902	15.674706	0.0833339	0.2500016	0.1904774	0.5714323	0.0284393	0.085318	0.0212083	0.0636248
Off-site Laboratory Analysis - VOCs	sample	12	0.0762045	0.9144538	9.016814	108.20177	0.104498	1.2539765	0.2270738	2.7248856	0.0339508	0.4074101	0.0235892	0.2830706
Off-site Laboratory Analysis - SVOCs	sample	3	0.0715602	0.2146806	7.870422	23.611266	0.1459445	0.4378336	0.3373038	1.0119114	0.0504853	0.151456	0.0372577	0.1117732
Notes:														
Resource Extraction for Electricity														
Coal extraction and processing	MWh	0.0488	3.1	0.1490254	180.0	8.784	0.8	0.037576	0.2	0.00732	0.0	0.0008784	NP	
Natural gas extraction and processing	MWh	0.05424	1.6	0.0885088	270.0	14.6448	0.2	0.0097632	13.0	0.70512	0.0	0.0003851	NP	
Nuclear fuel extraction and processing	MWh	0.03168	0.2	0.0049254	25.0	0.792	0.2	0.004752	0.5	0.01584	0.0	4.752E-05	NP	
Oil extraction and processing	MWh	0.00112	2.3	0.0025708	270.0	0.3024	1.7	0.001904	0.1	7.728E-05	0.0	4.704E-05	NP	
Other fuel extraction and processing	MWh	0.00016	0	0	0	0	0	0	0	0	0	0	0	0
Resource Extraction Subtotals				**0.2450305**		**24.5232**		**0.0539952**		**0.7283573**		**0.0013581**		**0**
Notes:														
Electricity Transmission														
Transmission and distribution losses	MWh	0.16	1.0342	0.165472	112.43	17.9888	0.22421	0.0358736	0.4607887	0.0737262	0.0057518	0.0009203	0.0210237	0.0033638
Notes:														

Material Removal - Off-Site Footprint (Scope 3b)

			Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv.		Conv.		Conv.		Conv.		Conv.		Conv.	
Category	Units	Usage	Factor	MMBtus	Factor	lbs CO2e	Factor	lbs	Factor	lbs	Factor	lbs	Factor	lbs
User-defined Materials														
User-defined material #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #4	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #5	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #6	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #7	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #8	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #9	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #10	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #11	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #12	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #13	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #14	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #15	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #16	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #17	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #18	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #19	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #20	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
User-defined Waste Destinations														
User-defined recycled/reused off-site #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #3	TBD	0	gy(MMBtu/t		(lbs CO2e/t		Ox(lbs/unit)		Ox(lbs/unit)		M(lbs/unit)		APs(lbs/unit	
User-defined non-hazardous waste destination #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined non-hazardous waste destination #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined non-hazardous waste destination #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
Off-site Totals				**488.69362**		**78709.182**		**344.38757**		**226.48405**		**857.01472**		**13.629397**

Material Removal - Intermediate Totals

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Total Grid Electricity Footprint														
On-site grid electricity	MWh	0.16	3.413	0.54608										
Electricity Generation														
Grid electricity	MWh	0.16	6.929	1.10864	1124.3	179.888	2.2421	0.358736	4.6078874	0.737262	0.057518	0.0092029	0.2102371	0.0336379
Resource Extraction for Electricity														
Coal extraction and processing	MWh	0.0488	3.1	0.1490254	180.0	8.784	0.8	0.037576	0.2	0.00732	0.0	0.0008784	NP	
Natural gas extraction and processing	MWh	0.05424	1.6	0.0885088	270.0	14.6448	0.2	0.0097632	13.0	0.70512	0.0	0.0003851	NP	
Nuclear fuel extraction and processing	MWh	0.03168	0.2	0.0049254	25.0	0.792	0.2	0.004752	0.5	0.01584	0.0	4.752E-05	NP	
Oil extraction and processing	MWh	0.00112	2.3	0.0025708	270.0	0.3024	1.7	0.001904	0.1	7.728E-05	0.0	4.704E-05	NP	
Other fuel extraction and processing	MWh	0.00016	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Electricity Transmission														
Transmission and distribution losses	MWh	0.16	1.0342	0.165472	112.43	17.9888	0.22421	0.0358736	0.4607887	0.0737262	0.0057518	0.0009203	0.0210237	0.0033638
Total Grid Electricity Footprint				**2**		**222**		**0**		**2**		**0**		**0**
Total Fuel Footprints														
Total Gasoline Footprint														
On-site gasoline use - Other	gal	0.075	0.124	0.0093	19.6	1.47	0.11	0.00825	0.0045	0.0003375	0.00054	0.0000405	0.000039	2.925E-06
On-site gasoline use <25 hp	gal	0	0.124	0	17.48	0	0.037	0	0.00025	0	0.165	0	0.00008	0
On-site gasoline use >25 hp	gal	0	0.124	0	19.93	0	0.032	0	0.00029	0	0.002	0	0.00009	0
Transportation gasoline use	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation gasoline use - car	gal	42	0.124	5.208	19.77	830.34	0.027	1.134	0.00036	0.01512	0.003	0.126	0.0067	0.2814
Transportation gasoline use - passenger truck	gal	0	0.124	0	19.79	0	0.035	0	0.00036	0	0.003	0	0.00661	0
Transportation gasoline use - User Defined	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Gasoline produced	gal	42.075	0.033	1.388475	2.8	117.81	0.0046	0.193545	0.005	0.210375	0.0015	0.0631125	0.001	0.042075
Total Gasoline Footprint		**42.075**		**6.605775**		**949.62**		**1.335795**		**0.2258325**		**0.189153**		**0.3234779**
Total Diesel Footprint														
On-site diesel use - Other	gal	5250	0.139	729.75	22.5	118125	0.17	892.5	0.0054	28.35	0.0034	17.85	0.0000052	0.0273
On-site diesel use <75 hp	gal	0	0.139	0	22.21	0	0.1565	0	0.000145	0	0.0145	0	0.00004	0
On-site diesel use 75<hp<750	gal	0	0.139	0	22.24	0	0.101	0	0.00013	0	0.009	0	0.00004	0
On-site diesel use >750 hp	gal	0	0.139	0	22.24	0	0.149	0	0.00013	0	0.006	0	0.00004	0
Transportation diesel use	gal	2889.3	0.139	401.6127	22.5	65009.25	0.17	491.181	0.0054	15.60222	0.0034	9.82362	0.0000052	0.0150244
Transportation diesel use - car	gal	0	0.139	0	22.57	0	0.015	0	0.0002	0	0.003	0	0.00252	0
Transportation diesel use - passenger truck	gal	0	0.139	0	22.545	0	0.0585	0	0.0002	0	0.007	0	0.002605	0
Transportation diesel use - User Defined	gal	0	0.139	0	22.5	0	0.17	0	0.0054	0	0.0034	0	0.0000052	0
Diesel produced	gal	8139.3	0.017	138.3681	3.02	24580.686	0.0051	41.51043	0.0062	50.46366	0.0017	13.83681	0.0011	8.95323
Total Diesel Footprint		**8139.3**		**1269.7308**		**207714.94**		**1425.1914**		**94.41588**		**41.51043**		**8.9955544**
Total Biodiesel Footprint														
On-site biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
On-site biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Biodiesel produced	gal	0	0.029	0	-16.8	0	0.018	0	0.033	0	0.00082	0	NP	
Total Biodiesel Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Natural Gas Footprint														
On-site natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Transportation natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Transportation natural gas use - User Defined	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Natural gas produced	ccf	0	0.0052	0	2.2	0	0.0037	0	0.0046	0	0.000072	0	0.0000061	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Liquified Petroleum Gas Footprint														
On-site liquified petroleum gas use - Other	ccf	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
On-site liquified petroleum gas use	ccf	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
Liquified petroleum gas produced	ccf	0	0.088	0	1.47	0	0.0016	0	0.0024	0	0.0007	0	0.0003	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Compressed Gas Footprint														
On-site compressed gas use - Other	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site compressed gas use	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
Compressed gas produced	ccf	0	19.983	0	343.92	0	0.4732	0	2.1651	0	0.1846	0	0.2895	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**

Notes:

Note: Please refer to the "Default Conversions" tab for references for the default conversion factors used on this calculation sheet.

Space below available for notes and calculations:

Cover System - On-Site Footprint (Scope 1)

Contributors to Footprints	Units	Usage	Energy		GHG		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
On-Site														
On-site Renewable Energy														
Renewable electricity generated on-site	MWh	0	3.413	0										
Landfill gas combusted on-site for energy use	ccf CH4	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
On-site biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
On-site biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
User-defined on-site renewable energy use #1	gal	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined on-site renewable energy use #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
On-site Renewable Energy Subtotals				**0**		**0**		**0**		**0**		**0**		**0**
Notes:														
On-site Conventional Energy														
On-site grid electricity	MWh	0.08	3.413	0.27304										
On-site diesel use - Other	Gal	4149.375	0.139	576.76313	22.5	93360.938	0.17	705.39375	0.0054	22.406625	0.0034	14.107875	0.0000052	0.0215768
On-site diesel use <75 hp	Gal	0	0.139	0	22.21	0	0.1565	0	0.000145	0	0.0145	0	0.00004	0
On-site diesel use 75<hp<750	Gal	0	0.139	0	22.24	0	0.101	0	0.00013	0	0.009	0	0.00004	0
On-site diesel use >750 hp	Gal	0	0.139	0	22.24	0	0.149	0	0.00013	0	0.006	0	0.00004	0
On-site gasoline use - Other	Gal	0.0375	0.124	0.00465	19.6	0.735	0.11	0.004125	0.0045	0.0001688	0.00054	2.025E-05	0.000039	1.463E-06
On-site gasoline use <25 hp	Gal	0	0.124	0	17.48	0	0.037	0	0.00025	0	0.165	0	0.00008	0
On-site gasoline use >25 hp	Gal	0	0.124	0	19.93	0	0.032	0	0.00029	0	0.002	0	0.00009	0
On-site natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
On-site compressed natural gas use - Other	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site compressed natural gas use	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site liquified petroleum gas use - Other	gal	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
On-site liquified petroleum gas use	gal	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
Other forms of on-site conventional energy use #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Other forms of on-site conventional energy use #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
On-site Conventional Energy Subtotals				**577**		**93,362**		**705**		**22**		**14**		**0**
Notes:														
Other On-site Emissions														
On-site HAP process emissions	lbs	0											1	0
On-site GHG emissions	lbs CO2e	0			1	0								
On-site carbon storage	lbs CO2e	0			1	0								
GHG avoided by flaring on-site landfill methane	Lbs	0			-262	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Other on-site NOx emissions or reductions	lbs	0					1	0						
Other on-site SOx emissions or reductions	lbs	0							1	0				
Other on-site PM emissions or reductions	lbs	0									1	0		
User-defined recycled/reused on-site #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused on-site #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
On-site Totals				**577.04**		**93,362**		**705**		**22**		**14**		**0**

Cover System - Electricity Generation Footprint (Scope 2)

Contributors to Footprints	Units	Usage	Energy		GHG		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Electricity Generation														
Grid electricity	MWh	0.08	6.929	0.55432	352	28.16	1.504	0.12032	1.46966	0.1175728	0.07546	0.0060368	0.0454035	0.0036323
Voluntary purchase of renewable electricity	MWh	0												
Voluntary purchase of RECs	MWh	0												
Notes:														

Cover System - Transportation Footprint (Scope 3a)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Conventional Energy														
Transportation diesel use	gal	2061.933	0.139	286.60869	22.5	46393.493	0.17	350.52861	0.0054	11.134438	0.0034	7.0105722	0.0000052	0.0107221
Transportation diesel use - car	gal	0	0.139	0	22.57	0	0.015	0	0.0002	0	0.003	0	0.00252	0
Transportation diesel use - passenger truck	gal	0	0.139	0	22.545	0	0.0585	0	0.0002	0	0.007	0	0.002605	0
Transportation diesel use - User Defined	gal	0	0.139	0	22.5	0	0.17	0	0.0054	0	0.0034	0	0.0000052	0
Transportation gasoline use	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation gasoline use - car	gal	21	0.124	2.604	19.77	415.17	0.027	0.567	0.00036	0.00756	0.003	0.063	0.0067	0.1407
Transportation gasoline use - passenger truck	gal	0	0.124	0	19.79	0	0.035	0	0.00036	0	0.003	0	0.00661	0
Transportation gasoline use - User Defined	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Transportation natural gas use - User Defined	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
User-defined conventional energy transportation #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined conventional energy transportation #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Conventional Energy Subtotals				**289**		**46,809**		**351**		**11**		**7**		**0**
Notes:														
Renewable Energy														
Transportation biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
User-defined renewable energy transportation #1	TBD	0	Biodiesel		0	0	0	0	0	0	0	0	Ref.	
User-defined renewable energy transportation #2	TBD	0	mpg or pmp		0	0	0	0	0	0	0	0	0	0
Renewable Energy Subtotals				**0**		**0**		**0**		**0**		**0**		**0**
Notes:														
Transportation Totals				**289**		**46809**		**351**		**11**		**7**		**0**

Cover System - Off-Site Footprint (Scope 3b)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Construction Materials														
Aluminum, Rolled Sheet	lb	0	0.0633	0	9.15	0	0.0148	0	0.0283	0	0.0088	0	0.00102	0
Asphalt, mastic	lb	1806000	0.0412	74407.2	0.85	1535100	0.00271	4894.26	0.00798	14411.88	0.000766	1383.396	0.00107	1932.42
Asphalt, paving-grade	lb	1084000	0.5	542000	8.58	9300720	0.0299	32411.6	0.0969	105039.6	0.0091	9864.4	0.0133	14417.2
Ethanol, Corn, 95%	lb	0	0.0318	0	-0.0199	0	0.00425	0	0.00303	0	0.000469	0	0.0000846	0
Ethanol, Corn, 99.7%	lb	0	0.0324	0	0.0591	0	0.00431	0	0.0031	0	0.000472	0	0.000087	0
Ethanol, Petroleum, 99.7%	lb	0	0.0205	0	1.25	0	0.00199	0	0.00214	0	0.000277	0	0.0000589	0
Gravel/Sand Mix, 65% Gravel	lb	3600000	0.0000248	89.28	0.0024	8640	0.000018	64.8	4.52E-06	16.272	2.61E-06	9.396	3.08E-07	1.1088
Gravel/sand/clay	lb	1050000	0.000028	29.4	0.00335	3517.5	0.0000165	17.325	0.000015	15.75	0.000002	2.1	2.05E-10	0.0002153
HDPE	lb	0	0.0332	0	1.94	0	0.00325	0	0.00409	0	0.000439	0	0.0000641	0
Photovoltaic system (installed)	W	0	0.0336	0	4.47	0	0.015	0	0.032	0	0.00063	0	0.0000029	0
PVC	lb	0	0.0262	0	2.02	0	0.004	0	0.00274	0	0.000372	0	0.000375	0
Portland cement, US average	lb	0	0.0139	0	1.34	0	0.00654	0	0.0104	0	0.00378	0	0.00097	0
Ready-mixed concrete, 20 MPa	ft3	2000	0.217	434	19.5	39000	0.0975	195	0.154	308	0.057	114	0.0141	28.2
Round Gravel	lb	0	0.0000248	0	0.0024	0	0.000018	0	4.52E-06	0	2.61E-06	0	3.08E-07	0
Sand	lb	0	0.0000248	0	0.0024	0	0.000018	0	4.52E-06	0	2.61E-06	0	3.08E-07	0
Stainless Steel	lb	0	0.0116	0	3.4	0	0.0075	0	0.012	0	0.0044	0	0.000144	0
Steel	lb	0	0.0044	0	1.1	0	0.0014	0	0.0017	0	0.00056	0	0.000067	0
Other refined construction materials	lb	600	0.01885	11.31	2.115	1269	0.0040375	2.4225	0.0051325	3.0795	0.0014428	0.86565	0.0001625	0.097515
Other unrefined construction materials	lb	0	0.000028	0	0.00335	0	0.0000165	0	0.000015	0	0.000002	0	2.05E-10	0

Notes:

Cover System - Off-Site Footprint (Scope 3b)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Treatment Materials & Chemicals														
Cheese Whey	lbs	0	0.0025	0	0.031	0	0.000062	0	0.000033	0	0.000002	0	NP	
Emulsified vegetable oil	lbs	0	0.0077	0	3.44	0	0.0066	0	0.0019	0	0.000033	0	NP	
Granular activated carbon, primary	lbs	0	0.0356	0	4.82	0	0.0793	0	0.128	0	0.000987	0	0.000657	0
Granular activated carbon, regenerated	lbs	0	0.00873	0	1.7	0	0.00733	0	0.0129	0	0.000886	0	0.000671	0
Hydrogen Peroxide, 50% in H2O	lbs	0	0.00979	0	1.19	0	0.00142	0	0.0024	0	0.000308	0	0.0000629	0
Iron (II) Sulfate	lbs	0	0.00147	0	0.167	0	0.000316	0	0.000589	0	0.000103	0	0.000023	0
Lime, Hydrated, Packed	lbs	0	0.00206	0	0.762	0	0.000513	0	0.000358	0	0.00013	0	6.57E-06	0
Molasses	lbs	0	0.0044	0	0.48	0	0.0011	0	0.00024	0	0.0000041	0	NP	
Phosphoric Acid, 70% in H2O	lbs	0	0.0067	0	0.882	0	0.00282	0	0.0294	0	0.00171	0	0.000163	0
Potassium Permanganate	lbs	0	0.00981	0	1.16	0	0.00234	0	0.0032	0	0.000422	0	0.000122	0
Sodium Hydroxide, 50% in H2O	lbs	0	0.00977	0	1.09	0	0.00194	0	0.00352	0	0.000403	0	0.000129	0
Other Treatment Chemicals & Materials	lbs	0	0.015	0	1.67	0	0.003	0	0.0065	0	0.00061	0	0.000016	0
Notes:														
Fuel Processing														
Biodiesel produced	gal	0	0.029	0	-16.8	0	0.018	0	0.033	0	0.00082	0	NP	
Diesel produced	gal	6211.308	0.017	105.59224	3.02	18758.15	0.0051	31.677671	0.0062	38.51011	0.0017	10.559224	0.0011	6.8324388
Gasoline produced	gal	21.0375	0.033	0.6942375	2.8	58.905	0.0046	0.0967725	0.005	0.1051875	0.0015	0.0315563	0.001	0.0210375
Liquefied Petroleum Gas Produced	gal	0	0.088	0	1.47	0	0.0016	0	0.0024	0	0.0007	0	0.0003	0
Natural Gas - Compressed Produced	ccf	0	19.983	0	343.92	0	0.4732	0	2.1651	0	0.1846	0	0.2895	0
Natural Gas Produced	ccf	0	0.0052	0	2.2	0	0.0037	0	0.0046	0	0.000072	0	0.0000061	0
Fuel Processing Subtotals				**106.28647**		**18817.055**		**31.774443**		**38.615297**		**10.59078**		**6.8534763**
Notes:														
Public water	gal x 1000	10	0.0092	0.092	5	50	0.0097	0.097	0.0059	0.059	0.016	0.16	0.000015	0.00015
User-defined water resource #1	gal x 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined water resource #2	gal x 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														

Cover System - Off-Site Footprint (Scope 3b)

			Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv.		Conv.		Conv.		Conv.		Conv.		Conv.	
Category	**Units**	**Usage**	**Factor**	**MMBtus**	**Factor**	**lbs CO2e**	**Factor**	**lbs**	**Factor**	**lbs**	**Factor**	**lbs**	**Factor**	**lbs**
Off-Site Services														
Hazardous waste incineration	lb	0	0.00609	0	2.43	0	0.0016	0	0.00167	0	0.000209	0	0.000087	0
Off-site waste water treatment (POTW)	gal x 1000	0	0.015	0	4.4	0	0.016	0	0.015	0	NP		NP	
Off-site non-hazardous waste landfill	ton	0	0.16	0	25	0	0.14	0	0.075	0	0.4	0	0.0014	0
Off-site hazardous waste landfill	ton	0	0.18	0	27.5	0	0.154	0	0.0825	0	0.44	0	0.00154	0
Off-site Laboratory Analysis - Other	sample	25	0.058071	1.4517757	6.8534384	171.33596	0.131402	3.2850489	0.3038758	7.5968942	0.0455698	1.1392456	0.0330165	0.8254132
Off-site Laboratory Analysis - Metals	sample	5	0.212	1.06	27.4693	137.3465	0.6423	3.2115	1.5072	7.536	0.2264	1.132	0.1643	0.8215
Off-site Laboratory Analysis - Mercury	sample	5	0.0731715	0.3658574	9.325458	46.62729	0.2127439	1.0637195	0.4982396	2.491198	0.0747359	0.3736797	0.0542332	0.2711658
Off-site Laboratory Analysis - Inorganic Anions	sample	0	0.0074025	0	0.6459478	0	0.0067681	0	0.0147929	0	0.0022024	0	0.0015542	0
Off-site Laboratory Analysis - Alkalinity	sample	0	0.0174398	0	1.3381922	0	0.0070106	0	0.0132496	0	0.00194	0	0.0012831	0
Off-site Laboratory Analysis - Perchlorate	sample	0	0.023885	0	1.8717054	0	0.0079807	0	0.0141535	0	0.0020547	0	0.0012875	0
Off-site Laboratory Analysis - Nitrogen/Nitrate	sample	0	0.0336475	0	4.29897	0	0.0954592	0	0.2226646	0	0.0335099	0	0.0242506	0
Off-site Laboratory Analysis - Sulfate	sample	0	0.0141225	0	1.4726728	0	0.0079807	0	0.0136024	0	0.0019797	0	0.0012015	0
Off-site Laboratory Analysis - PCBs	sample	5	0.0512769	0.2563845	5.224902	26.12451	0.0833339	0.4166694	0.1904774	0.9523872	0.0284393	0.1421967	0.0212083	0.1060413
Off-site Laboratory Analysis - VOCs	sample	18	0.0762045	1.3716808	9.016814	162.30265	0.104498	1.8809647	0.2270738	4.0873284	0.0339508	0.6111151	0.0235892	0.424606
Off-site Laboratory Analysis - SVOCs	sample	5	0.0715602	0.3578009	7.870422	39.35211	0.1459445	0.7297226	0.3373038	1.686519	0.0504853	0.2524267	0.0372577	0.1862887
Notes:														
Resource Extraction for Electricity														
Coal extraction and processing	MWh	0.0048	3.1	0.0146582	180.0	0.864	0.8	0.003696	0.2	0.00072	0.0	0.0000864	NP	
Natural gas extraction and processing	MWh	0.008	1.6	0.0130544	270.0	2.16	0.2	0.00144	13.0	0.104	0.0	0.0000568	NP	
Nuclear fuel extraction and processing	MWh	0.0016	0.2	0.0002488	25.0	0.04	0.2	0.00024	0.5	0.0008	0.0	0.0000024	NP	
Oil extraction and processing	MWh	0.004	2.3	0.0091816	270.0	1.08	1.7	0.0068	0.1	0.000276	0.0	0.000168	NP	
Other fuel extraction and processing	MWh	0	0	0	0	0	0	0	0	0	0	0	0	0
Resource Extraction Subtotals				**0.037143**		**4.144**		**0.012176**		**0.105796**		**0.0003136**		**0**
Notes:														
Electricity Transmission														
Transmission and distribution losses	MWh	0.08	1.0342	0.082736	35.2	2.816	0.1504	0.012032	0.146966	0.0117573	0.007546	0.0006037	0.0045403	0.0003632
Notes:														

Cover System - Off-Site Footprint (Scope 3b)

			Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
Category	Units	Usage	Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
User-defined Materials														
User-defined material #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #4	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #5	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #6	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #7	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #8	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #9	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #10	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #11	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #12	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #13	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #14	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #15	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #16	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #17	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #18	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #19	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
User-defined Waste Destinations														
User-defined recycled/reused off-site #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #3	TBD	0	y(MMBtu/t		(lbs CO2e/t		Ox(lbs/unit)		Ox(lbs/unit)		M(lbs/unit)		APs(lbs/unit	
User-defined non-hazardous waste destination #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined non-hazardous waste destination #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined non-hazardous waste destination #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
Off-site Totals				**617082.55**		**10907704**		**37627.891**		**119857.72**		**11388.56**		**16388.516**

Cover System - Intermediate Totals

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Total Grid Electricity Footprint														
On-site grid electricity	MWh	0.08	3.413	0.27304										
Electricity Generation														
Grid electricity	MWh	0.08	6.929	0.55432	1124.3	89.944	2.2421	0.179368	4.6078874	0.368631	0.057518	0.0046014	0.2102371	0.016819
Resource Extraction for Electricity														
Coal extraction and processing	MWh	0.0048	3.1	0.0146582	180.0	0.864	0.8	0.003696	0.2	0.00072	0.0	0.0000864	NP	
Natural gas extraction and processing	MWh	0.008	1.6	0.0130544	270.0	2.16	0.2	0.00144	13.0	0.104	0.0	0.0000568	NP	
Nuclear fuel extraction and processing	MWh	0.0016	0.2	0.0002488	25.0	0.04	0.2	0.00024	0.5	0.0008	0.0	0.0000024	NP	
Oil extraction and processing	MWh	0.004	2.3	0.0091816	270.0	1.08	1.7	0.0068	0.1	0.000276	0.0	0.000168	NP	
Other fuel extraction and processing	MWh	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Electricity Transmission														
Transmission and distribution losses	MWh	0.08	1.0342	0.082736	112.43	8.9944	0.22421	0.0179368	0.4607887	0.0368631	0.0057518	0.0004601	0.0210237	0.0016819
Total Grid Electricity Footprint				**1**		**103**		**0**		**1**		**0**		**0**
Total Fuel Footprints														
Total Gasoline Footprint														
On-site gasoline use - Other	gal	0.0375	0.124	0.00465	19.6	0.735	0.11	0.004125	0.0045	0.0001688	0.00054	2.025E-05	0.000039	1.463E-06
On-site gasoline use <25 hp	gal	0	0.124	0	17.48	0	0.037	0	0.00025	0	0.165	0	0.00008	0
On-site gasoline use >25 hp	gal	0	0.124	0	19.93	0	0.032	0	0.00029	0	0.002	0	0.00009	0
Transportation gasoline use	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation gasoline use - car	gal	21	0.124	2.604	19.77	415.17	0.027	0.567	0.00036	0.00756	0.003	0.063	0.0067	0.1407
Transportation gasoline use - passenger truck	gal	0	0.124	0	19.79	0	0.035	0	0.00036	0	0.003	0	0.00661	0
Transportation gasoline use - User Defined	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Gasoline produced	gal	21.0375	0.033	0.6942375	2.8	58.905	0.0046	0.0967725	0.005	0.1051875	0.0015	0.0315563	0.001	0.0210375
Total Gasoline Footprint		**21.0375**		**3.3028875**		**474.81**		**0.6678975**		**0.1129163**		**0.0945765**		**0.161739**
Total Diesel Footprint														
On-site diesel use - Other	gal	4149.375	0.139	576.76313	22.5	93360.938	0.17	705.39375	0.0054	22.406625	0.0034	14.107875	0.0000052	0.0215768
On-site diesel use <75 hp	gal	0	0.139	0	22.21	0	0.1565	0	0.000145	0	0.0145	0	0.00004	0
On-site diesel use 75<hp<750	gal	0	0.139	0	22.24	0	0.101	0	0.00013	0	0.009	0	0.00004	0
On-site diesel use >750 hp	gal	0	0.139	0	22.24	0	0.149	0	0.00013	0	0.006	0	0.00004	0
Transportation diesel use	gal	2061.933	0.139	286.60869	22.5	46393.493	0.17	350.52861	0.0054	11.134438	0.0034	7.0105722	0.0000052	0.0107221
Transportation diesel use - car	gal	0	0.139	0	22.57	0	0.015	0	0.0002	0	0.003	0	0.00252	0
Transportation diesel use - passenger truck	gal	0	0.139	0	22.545	0	0.0585	0	0.0002	0	0.007	0	0.002605	0
Transportation diesel use - User Defined	gal	0	0.139	0	22.5	0	0.17	0	0.0054	0	0.0034	0	0.0000052	0
Diesel produced	gal	6211.308	0.017	105.59224	3.02	18758.15	0.0051	31.677671	0.0062	38.51011	0.0017	10.559224	0.0011	6.8324388
Total Diesel Footprint		**6211.308**		**968.96405**		**158512.58**		**1087.6**		**72.051173**		**31.677671**		**6.8647376**
Total Biodiesel Footprint														
On-site biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
On-site biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Biodiesel produced	gal	0	0.029	0	-16.8	0	0.018	0	0.033	0	0.00082	0	NP	
Total Biodiesel Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Natural Gas Footprint														
On-site natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Transportation natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Transportation natural gas use - User Defined	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Natural gas produced	ccf	0	0.0052	0	2.2	0	0.0037	0	0.0046	0	0.000072	0	0.0000061	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Liquified Petroleum Gas Footprint														
On-site liquified petroleum gas use - Other	ccf	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
On-site liquified petroleum gas use	ccf	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
Liquified petroleum gas produced	ccf	0	0.088	0	1.47	0	0.0016	0	0.0024	0	0.0007	0	0.0003	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Compressed Gas Footprint														
On-site compressed gas use - Other	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site compressed gas use	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
Compressed gas produced	ccf	0	19.983	0	343.92	0	0.4732	0	2.1651	0	0.1846	0	0.2895	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**

Notes:

Note: Please refer to the "Default Conversions" tab for references for the default conversion factors used on this calculation sheet.

Space below available for notes and calculations:

All Components - On-Site Footprint (Scope 1)

Contributors to Footprints	Units	Usage	Energy		GHG		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
On-Site														
On-site Renewable Energy														
Renewable electricity generated on-site	MWh	0	3.413	0										
Landfill gas combusted on-site for energy use	ccf CH4	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
On-site biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
On-site biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
User-defined on-site renewable energy use #1	gal	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined on-site renewable energy use #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
On-site Renewable Energy Subtotals				**0**		**0**		**0**		**0**		**0**		**0**
Notes:														
On-site Conventional Energy														
On-site grid electricity	MWh	0.24	3.413	0.81912										
On-site diesel use - Other	Gal	9399.375	0.139	1306.5131	22.5	211485.94	0.17	1597.8938	0.0054	50.756625	0.0034	31.957875	0.0000052	0.0488768
On-site diesel use <75 hp	Gal	0	0.139	0	22.21	0	0.1565	0	0.000145	0	0.0145	0	0.00004	0
On-site diesel use 75<hp<750	Gal	0	0.139	0	22.24	0	0.101	0	0.00013	0	0.009	0	0.00004	0
On-site diesel use >750 hp	Gal	0	0.139	0	22.24	0	0.149	0	0.00013	0	0.006	0	0.00004	0
On-site gasoline use - Other	Gal	0.1125	0.124	0.01395	19.6	2.205	0.11	0.012375	0.0045	0.0005063	0.00054	6.075E-05	0.000039	4.388E-06
On-site gasoline use <25 hp	Gal	0	0.124	0	17.48	0	0.037	0	0.00025	0	0.165	0	0.00008	0
On-site gasoline use >25 hp	Gal	0	0.124	0	19.93	0	0.032	0	0.00029	0	0.002	0	0.00009	0
On-site natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
On-site compressed natural gas use - Other	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site compressed natural gas use	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site liquified petroleum gas use - Other	gal	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
On-site liquified petroleum gas use	gal	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
Other forms of on-site conventional energy use #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Other forms of on-site conventional energy use #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
On-site Conventional Energy Subtotals				**1,307**		**211,488**		**1,598**		**51**		**32**		**0**
Notes:														
Other On-site Emissions														
On-site HAP process emissions	lbs	0											1	0
On-site GHG emissions	lbs CO2e	0			1	0								
On-site carbon storage	lbs CO2e	0			1	0								
GHG avoided by flaring on-site landfill methane	Lbs	0			-262	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Other on-site NOx emissions or reductions	lbs	0					1	0						
Other on-site SOx emissions or reductions	lbs	0							1	0				
Other on-site PM emissions or reductions	lbs	0									1	0		
User-defined recycled/reused on-site #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused on-site #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
On-site Totals				**1,307.35**		**211,488**		**1,598**		**51**		**32**		**0**

All Components - Electricity Generation Footprint (Scope 2)

Contributors to Footprints	Units	Usage	Energy		GHG		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Electricity Generation														
Grid electricity	MWh	0.24	6.929	1.66296	N/A*	208.048	N/A*	0.479056	N/A*	0.8548348	N/A*	0.0152397	N/A*	0.0372702
**** Conversion factors are not applied to grid electricity in the "All Components" tab since multiple fuel mixes may be used. The value for each cell shaded yellow in Row 51 is the sum of values from Components 1 - 6.***														
Voluntary purchase of renewable electricity	MWh	0												
Voluntary purchase of RECs	MWh	0												

Notes:

All Components - Transportation Footprint (Scope 3a)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Conventional Energy														
Transportation diesel use	gal	4951.233	0.139	688.22139	22.5	111402.74	0.17	841.70961	0.0054	26.736658	0.0034	16.834192	0.0000052	0.0257464
Transportation diesel use - car	gal	0	0.139	0	22.57	0	0.015	0	0.0002	0	0.003	0	0.00252	0
Transportation diesel use - passenger truck	gal	0	0.139	0	22.545	0	0.0585	0	0.0002	0	0.007	0	0.002605	0
Transportation diesel use - User Defined	gal	0	0.139	0	22.5	0	0.17	0	0.0054	0	0.0034	0	0.0000052	0
Transportation gasoline use	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation gasoline use - car	gal	63	0.124	7.812	19.77	1245.51	0.027	1.701	0.00036	0.02268	0.003	0.189	0.0067	0.4221
Transportation gasoline use - passenger truck	gal	0	0.124	0	19.79	0	0.035	0	0.00036	0	0.003	0	0.00661	0
Transportation gasoline use - User Defined	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Transportation natural gas use - User Defined	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
User-defined conventional energy transportation #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined conventional energy transportation #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Conventional Energy Subtotals				**696**		**112,648**		**843**		**27**		**17**		**0**
Notes:														
Renewable Energy														
Transportation biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
User-defined renewable energy transportation #1	TBD	0	Biodiesel		0	0	0	0	0	0	0	0	Ref.	
User-defined renewable energy transportation #2	TBD	0	mpg or pmp		0	0	0	0	0	0	0	0	0	0
Renewable Energy Subtotals				**0**		**0**		**0**		**0**		**0**		**0**
Notes:														
Transportation Totals				**696**		**112648**		**843**		**27**		**17**		**0**

All Components - Off-Site Footprint (Scope 3b)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Construction Materials														
Aluminum, Rolled Sheet	lb	0	0.0633	0	9.15	0	0.0148	0	0.0283	0	0.0088	0	0.00102	0
Asphalt, mastic	lb	1806000	0.0412	74407.2	0.85	1535100	0.00271	4894.26	0.00798	14411.88	0.000766	1383.396	0.00107	1932.42
Asphalt, paving-grade	lb	1084000	0.5	542000	8.58	9300720	0.0299	32411.6	0.0969	105039.6	0.0091	9864.4	0.0133	14417.2
Ethanol, Corn, 95%	lb	0	0.0318	0	-0.0199	0	0.00425	0	0.00303	0	0.000469	0	0.0000846	0
Ethanol, Corn, 99.7%	lb	0	0.0324	0	0.0591	0	0.00431	0	0.0031	0	0.000472	0	0.000087	0
Ethanol, Petroleum, 99.7%	lb	0	0.0205	0	1.25	0	0.00199	0	0.00214	0	0.000277	0	0.0000589	0
Gravel/Sand Mix, 65% Gravel	lb	3600000	0.0000248	89.28	0.0024	8640	0.000018	64.8	4.52E-06	16.272	2.61E-06	9.396	3.08E-07	1.1088
Gravel/sand/clay	lb	1050000	0.000028	29.4	0.00335	3517.5	0.0000165	17.325	0.000015	15.75	0.000002	2.1	2.05E-10	0.0002153
HDPE	lb	0	0.0332	0	1.94	0	0.00325	0	0.00409	0	0.000439	0	0.0000641	0
Photovoltaic system (installed)	W	0	0.0336	0	4.47	0	0.015	0	0.032	0	0.00063	0	0.0000029	0
PVC	lb	0	0.0262	0	2.02	0	0.004	0	0.00274	0	0.000372	0	0.000375	0
Portland cement, US average	lb	0	0.0139	0	1.34	0	0.00654	0	0.0104	0	0.00378	0	0.00097	0
Ready-mixed concrete, 20 MPa	ft3	2000	0.217	434	19.5	39000	0.0975	195	0.154	308	0.057	114	0.0141	28.2
Round Gravel	lb	0	0.0000248	0	0.0024	0	0.000018	0	4.52E-06	0	2.61E-06	0	3.08E-07	0
Sand	lb	0	0.0000248	0	0.0024	0	0.000018	0	4.52E-06	0	2.61E-06	0	3.08E-07	0
Stainless Steel	lb	0	0.0116	0	3.4	0	0.0075	0	0.012	0	0.0044	0	0.000144	0
Steel	lb	0	0.0044	0	1.1	0	0.0014	0	0.0017	0	0.00056	0	0.000067	0
Other refined construction materials	lb	1100	0.01885	20.735	2.115	2326.5	0.0040375	4.44125	0.0051325	5.64575	0.0014428	1.587025	0.0001625	0.1787775
Other unrefined construction materials	lb	0	0.000028	0	0.00335	0	0.0000165	0	0.000015	0	0.000002	0	2.05E-10	0

Notes:

All Components - Off-Site Footprint (Scope 3b)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Treatment Materials & Chemicals														
Cheese Whey	lbs	0	0.0025	0	0.031	0	0.000062	0	0.000033	0	0.000002	0	NP	
Emulsified vegetable oil	lbs	0	0.0077	0	3.44	0	0.0066	0	0.0019	0	0.000033	0	NP	
Granular activated carbon, primary	lbs	0	0.0356	0	4.82	0	0.0793	0	0.128	0	0.000987	0	0.000657	0
Granular activated carbon, regenerated	lbs	0	0.00873	0	1.7	0	0.00733	0	0.0129	0	0.000886	0	0.000671	0
Hydrogen Peroxide, 50% in H2O	lbs	0	0.00979	0	1.19	0	0.00142	0	0.0024	0	0.000308	0	0.0000629	0
Iron (II) Sulfate	lbs	0	0.00147	0	0.167	0	0.000316	0	0.000589	0	0.000103	0	0.000023	0
Lime, Hydrated, Packed	lbs	0	0.00206	0	0.762	0	0.000513	0	0.000358	0	0.00013	0	6.57E-06	0
Molasses	lbs	0	0.0044	0	0.48	0	0.0011	0	0.00024	0	0.0000041	0	NP	
Phosphoric Acid, 70% in H2O	lbs	0	0.0067	0	0.882	0	0.00282	0	0.0294	0	0.00171	0	0.000163	0
Potassium Permanganate	lbs	0	0.00981	0	1.16	0	0.00234	0	0.0032	0	0.000422	0	0.000122	0
Sodium Hydroxide, 50% in H2O	lbs	0	0.00977	0	1.09	0	0.00194	0	0.00352	0	0.000403	0	0.000129	0
Other Treatment Chemicals & Materials	lbs	0	0.015	0	1.67	0	0.003	0	0.0065	0	0.00061	0	0.000016	0
Notes:														
Fuel Processing														
Biodiesel produced	gal	0	0.029	0	-16.8	0	0.018	0	0.033	0	0.00082	0	NP	
Diesel produced	gal	14350.608	0.017	243.96034	3.02	43338.836	0.0051	73.188101	0.0062	88.97377	0.0017	24.396034	0.0011	15.785669
Gasoline produced	gal	63.1125	0.033	2.0827125	2.8	176.715	0.0046	0.2903175	0.005	0.3155625	0.0015	0.0946688	0.001	0.0631125
Liquefied Petroleum Gas Produced	gal	0	0.088	0	1.47	0	0.0016	0	0.0024	0	0.0007	0	0.0003	0
Natural Gas - Compressed Produced	ccf	0	19.983	0	343.92	0	0.4732	0	2.1651	0	0.1846	0	0.2895	0
Natural Gas Produced	ccf	0	0.0052	0	2.2	0	0.0037	0	0.0046	0	0.000072	0	0.0000061	0
Fuel Processing Subtotals				**246.04305**		**43515.551**		**73.478418**		**89.289332**		**24.490702**		**15.848781**
Notes:														
Public water	gal x 1000	20	0.0092	0.184	5	100	0.0097	0.194	0.0059	0.118	0.016	0.32	0.000015	0.0003
User-defined water resource #1	gal x 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined water resource #2	gal x 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														

All Components - Off-Site Footprint (Scope 3b)

			Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv.		Conv.		Conv.		Conv.		Conv.		Conv.	
Category	**Units**	**Usage**	**Factor**	**MMBtus**	**Factor**	**lbs CO2e**	**Factor**	**lbs**	**Factor**	**lbs**	**Factor**	**lbs**	**Factor**	**lbs**
Off-Site Services														
Hazardous waste incineration	lb	0	0.00609	0	2.43	0	0.0016	0	0.00167	0	0.000209	0	0.000087	0
Off-site waste water treatment (POTW)	gal x 1000	0	0.015	0	4.4	0	0.016	0	0.015	0	NP		NP	
Off-site non-hazardous waste landfill	ton	2100	0.16	336	25	52500	0.14	294	0.075	157.5	0.4	840	0.0014	2.94
Off-site hazardous waste landfill	ton	0	0.18	0	27.5	0	0.154	0	0.0825	0	0.44	0	0.00154	0
Off-site Laboratory Analysis - Other	sample	40	0.058071	2.3228412	6.8534384	274.13754	0.131402	5.2560783	0.3038758	12.155031	0.0455698	1.822793	0.0330165	1.3206611
Off-site Laboratory Analysis - Metals	sample	8	0.212	1.696	27.4693	219.7544	0.6423	5.1384	1.5072	12.0576	0.2264	1.8112	0.1643	1.3144
Off-site Laboratory Analysis - Mercury	sample	8	0.0731715	0.5853718	9.325458	74.603664	0.2127439	1.7019512	0.4982396	3.9859168	0.0747359	0.5978875	0.0542332	0.4338653
Off-site Laboratory Analysis - Inorganic Anions	sample	0	0.0074025	0	0.6459478	0	0.0067681	0	0.0147929	0	0.0022024	0	0.0015542	0
Off-site Laboratory Analysis - Alkalinity	sample	0	0.0174398	0	1.3381922	0	0.0070106	0	0.0132496	0	0.00194	0	0.0012831	0
Off-site Laboratory Analysis - Perchlorate	sample	0	0.023885	0	1.8717054	0	0.0079807	0	0.0141535	0	0.0020547	0	0.0012875	0
Off-site Laboratory Analysis - Nitrogen/Nitrate	sample	0	0.0336475	0	4.29897	0	0.0954592	0	0.2226646	0	0.0335099	0	0.0242506	0
Off-site Laboratory Analysis - Sulfate	sample	0	0.0141225	0	1.4726728	0	0.0079807	0	0.0136024	0	0.0019797	0	0.0012015	0
Off-site Laboratory Analysis - PCBs	sample	8	0.0512769	0.4102152	5.224902	41.799216	0.0833339	0.666671	0.1904774	1.5238195	0.0284393	0.2275147	0.0212083	0.169666
Off-site Laboratory Analysis - VOCs	sample	30	0.0762045	2.2861346	9.016814	270.50442	0.104498	3.1349412	0.2270738	6.812214	0.0339508	1.0185252	0.0235892	0.7076766
Off-site Laboratory Analysis - SVOCs	sample	8	0.0715602	0.5724815	7.870422	62.963376	0.1459445	1.1675562	0.3373038	2.6984304	0.0504853	0.4038827	0.0372577	0.2980619
Notes:														
Resource Extraction for Electricity														
Coal extraction and processing	MWh	0.0536	3.1	0.1636837	180.0	9.648	0.8	0.041272	0.2	0.00804	0.0	0.0009648	NP	
Natural gas extraction and processing	MWh	0.06224	1.6	0.1015632	270.0	16.8048	0.2	0.0112032	13.0	0.80912	0.0	0.0004419	NP	
Nuclear fuel extraction and processing	MWh	0.03328	0.2	0.0051741	25.0	0.832	0.2	0.004992	0.5	0.01664	0.0	4.992E-05	NP	
Oil extraction and processing	MWh	0.00512	2.3	0.0117524	270.0	1.3824	1.7	0.008704	0.1	0.0003533	0.0	0.000215	NP	
Other fuel extraction and processing	MWh	0.00016	0	0	0	0	0	0	0	0	0	0	0	0
Resource Extraction Subtotals				**0.2821735**		**28.6672**		**0.0661712**		**0.8341533**		**0.0016717**		**0**
Notes:														
Electricity Transmission														
Transmission and distribution losses	MWh	0.24	1.0342	0.248208										
Notes:														

All Components - Off-Site Footprint (Scope 3b)

			Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
Category	Units	Usage	Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
User-defined Materials														
User-defined material #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #4	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #5	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #6	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #7	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #8	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #9	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #10	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #11	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #12	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #13	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #14	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #15	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #16	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #17	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #18	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #19	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #20	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
User-defined Waste Destinations														
User-defined recycled/reused off-site #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #3	TBD	0	y(MMBtu/t		(lbs CO2e/t		Ox(lbs/unit)		Ox(lbs/unit)		M(lbs/unit)		APs(lbs/unit	
User-defined non-hazardous waste destination #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined non-hazardous waste destination #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined non-hazardous waste destination #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
Off-site Totals				**617571.25**		**10986392**		**37972.23**		**120084.12**		**12245.573**		**16402.141**

All Components - Intermediate Totals

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Total Grid Electricity Footprint														
On-site grid electricity	MWh	0.24	3.413	0.81912										
Electricity Generation														
Grid electricity	MWh	0.24	6.929	1.66296	1124.3	269.832	2.2421	0.538104	4.6078874	1.105893	0.057518	0.0138043	0.2102371	0.0504569
Resource Extraction for Electricity														
Coal extraction and processing	MWh	0.0536	3.1	0.1636837	180.0	9.648	0.8	0.041272	0.2	0.00804	0.0	0.0009648	NP	
Natural gas extraction and processing	MWh	0.06224	1.6	0.1015632	270.0	16.8048	0.2	0.0112032	13.0	0.80912	0.0	0.0004419	NP	
Nuclear fuel extraction and processing	MWh	0.03328	0.2	0.0051741	25.0	0.832	0.2	0.004992	0.5	0.01664	0.0	4.992E-05	NP	
Oil extraction and processing	MWh	0.00512	2.3	0.0117524	270.0	1.3824	1.7	0.008704	0.1	0.0003533	0.0	0.000215	NP	
Other fuel extraction and processing	MWh	0.00016	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Electricity Transmission														
Transmission and distribution losses	MWh	0.24	1.0342	0.248208	112.43	26.9832	0.22421	0.0538104	0.4607887	0.1105893	0.0057518	0.0013804	0.0210237	0.0050457
Total Grid Electricity Footprint				**3**		**325**		**1**		**2**		**0**		**0**
Total Fuel Footprints														
Total Gasoline Footprint														
On-site gasoline use - Other	gal	0.1125	0.124	0.01395	19.6	2.205	0.11	0.012375	0.0045	0.0005063	0.00054	6.075E-05	0.000039	4.388E-06
On-site gasoline use <25 hp	gal	0	0.124	0	17.48	0	0.037	0	0.00025	0	0.165	0	0.00008	0
On-site gasoline use >25 hp	gal	0	0.124	0	19.93	0	0.032	0	0.00029	0	0.002	0	0.00009	0
Transportation gasoline use	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation gasoline use - car	gal	63	0.124	7.812	19.77	1245.51	0.027	1.701	0.00036	0.02268	0.003	0.189	0.0067	0.4221
Transportation gasoline use - passenger truck	gal	0	0.124	0	19.79	0	0.035	0	0.00036	0	0.003	0	0.00661	0
Transportation gasoline use - User Defined	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Gasoline produced	gal	63.1125	0.033	2.0827125	2.8	176.715	0.0046	0.2903175	0.005	0.3155625	0.0015	0.0946688	0.001	0.0631125
Total Gasoline Footprint		**63.1125**		**9.9086625**		**1424.43**		**2.0036925**		**0.3387488**		**0.2837295**		**0.4852169**
Total Diesel Footprint														
On-site diesel use - Other	gal	9399.375	0.139	1306.5131	22.5	211485.94	0.17	1597.8938	0.0054	50.756625	0.0034	31.957875	0.0000052	0.0488768
On-site diesel use <75 hp	gal	0	0.139	0	22.21	0	0.1565	0	0.000145	0	0.0145	0	0.00004	0
On-site diesel use 75<hp<750	gal	0	0.139	0	22.24	0	0.101	0	0.00013	0	0.009	0	0.00004	0
On-site diesel use >750 hp	gal	0	0.139	0	22.24	0	0.149	0	0.00013	0	0.006	0	0.00004	0
Transportation diesel use	gal	4951.233	0.139	688.22139	22.5	111402.74	0.17	841.70961	0.0054	26.736658	0.0034	16.834192	0.0000052	0.0257464
Transportation diesel use - car	gal	0	0.139	0	22.57	0	0.015	0	0.0002	0	0.003	0	0.00252	0
Transportation diesel use - passenger truck	gal	0	0.139	0	22.545	0	0.0585	0	0.0002	0	0.007	0	0.002605	0
Transportation diesel use - User Defined	gal	0	0.139	0	22.5	0	0.17	0	0.0054	0	0.0034	0	0.0000052	0
Diesel produced	gal	14350.608	0.017	243.96034	3.02	43338.836	0.0051	73.188101	0.0062	88.97377	0.0017	24.396034	0.0011	15.785669
Total Diesel Footprint		**14350.608**		**2238.6948**		**366227.52**		**2512.7915**		**166.46705**		**73.188101**		**15.860292**
Total Biodiesel Footprint														
On-site biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
On-site biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Biodiesel produced	gal	0	0.029	0	-16.8	0	0.018	0	0.033	0	0.00082	0	NP	
Total Biodiesel Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Natural Gas Footprint														
On-site natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Transportation natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Transportation natural gas use - User Defined	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Natural gas produced	ccf	0	0.0052	0	2.2	0	0.0037	0	0.0046	0	0.000072	0	0.0000061	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Liquified Petroleum Gas Footprint														
On-site liquified petroleum gas use - Other	ccf	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
On-site liquified petroleum gas use	ccf	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
Liquified petroleum gas produced	ccf	0	0.088	0	1.47	0	0.0016	0	0.0024	0	0.0007	0	0.0003	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Compressed Gas Footprint														
On-site compressed gas use - Other	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site compressed gas use	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
Compressed gas produced	ccf	0	19.983	0	343.92	0	0.4732	0	2.1651	0	0.1846	0	0.2895	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**

Notes:

Note: Please refer to the "Default Conversions" tab for references for the default conversion factors used on this calculation sheet.

Space below available for notes and calculations:

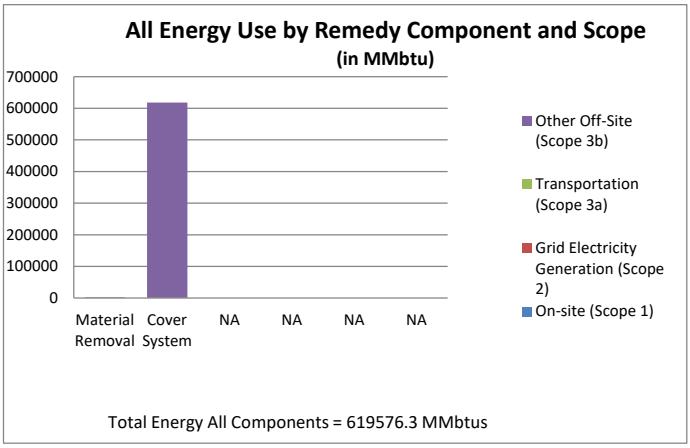
Environmental Footprint Summary

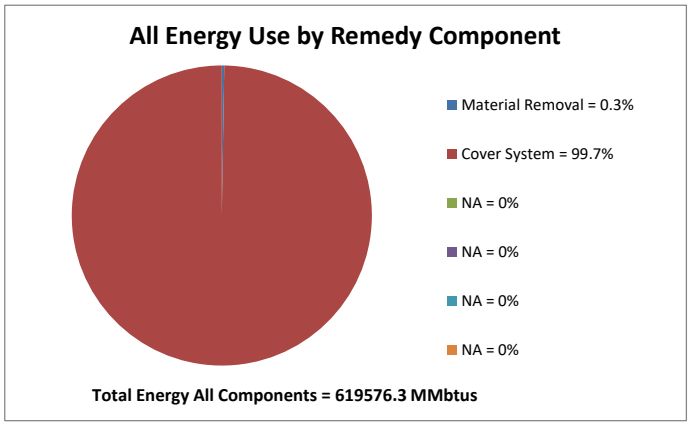
Core Element	Metric		Unit of Measure	Footprint						
				Material Removal	Cover System	NA	NA	NA	NA	Total
Materials & Waste	M&W-1	Refined materials used on-site	Tons	0.3	3,845.3	0.0	0.0	0.0	0.0	3,845.6
	M&W-2	% of refined materials from recycled or reused material	%	0.0%	0.0%					0.0%
	M&W-3	Unrefined materials used on-site	Tons	0.000	0.000	0.000	0.000	0.000	0.000	0.0
	M&W-4	% of unrefined materials from recycled or reused material	%							
	M&W-5	On-site hazardous waste disposed of off-site	Tons	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M&W-6	On-site non-hazardous waste disposed of off-site	Tons	2,100.0	0.0	0.0	0.0	0.0	0.0	2,100.0
	M&W-7	Recycled or reused waste	Tons	4,350.0	0.0	0.0	0.0	0.0	0.0	4,350.0
	M&W-8	% of total potential waste recycled or reused	%	67.4%						67.4%
Water (used on-site)	W-1	Public water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-2	Groundwater use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-3	Surface water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-4	Reclaimed water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-5	Storm water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-6	User-defined water resource #1	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-7	User-defined water resource #2	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-8	Wastewater generated	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy	E-1	Total energy used (on-site and off-site)	MMBtu	1,626.9	617,949.4	0.0	0.0	0.0	0.0	619,576.3
	E-2	Energy voluntarily derived from renewable resources								
	E-2A	On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-2B	Voluntary purchase of renewable electricity	MWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-3	Voluntary purchase of RECs	MWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-4	On-site grid electricity use	MWh	0.160	0.080	0.000	0.000	0.000	0.000	0.2
Air	A-1	On-site NOx, SOx, and PM emissions	Pounds	938.7	741.9	0.0	0.0	0.0	0.0	1,680.6
	A-2	On-site HAP emissions	Pounds	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	A-3	Total NOx, SOx, and PM emissions	Pounds	2,885.6	169,985.6	0.0	0.0	0.0	0.0	172,871.2
	A-3A	Total NOx emissions	Pounds	1,729.6	38,684.5	0.0	0.0	0.0	0.0	40,414.1
	A-3B	Total SOx emissions	Pounds	271.2	119,891.4	0.0	0.0	0.0	0.0	120,162.6
	A-3C	Total PM emissions	Pounds	884.8	11,409.7	0.0	0.0	0.0	0.0	12,294.6
	A-4	Total HAP emissions	Pounds	14.0	16,388.7	0.0	0.0	0.0	0.0	16,402.7
	A-5	Total greenhouse gas emissions	Tons CO2e*	131.4	5,524.0	0.0	0.0	0.0	0.0	5,655.4
Land & Ecosystems	Qualitative Description									

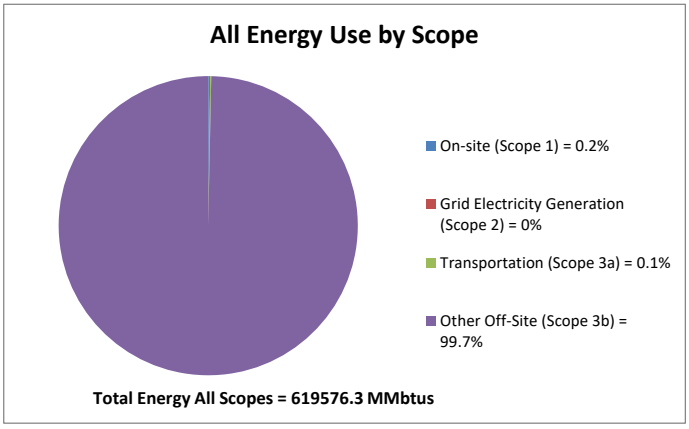
** Total greenhouse gases emissions (in CO2e) include consideration of CO2, CH4, and N2O (Nitrous oxide) emissions.*
"MMBtu" = millions of Btus
"MG" = millions of gallons
"CO2e" = carbon dioxide equivalents of global warming potential
"MWh" = megawatt hours (i.e., thousands of kilowatt-hours or millions of Watt-hours)
"Tons" = short tons (2,000 pounds)

The above metrics are consistent with EPA's Methodology for Understanding and Reducing a Project's Environmental Footprint (EPA 542-R-12-002), February 2012

Notes:







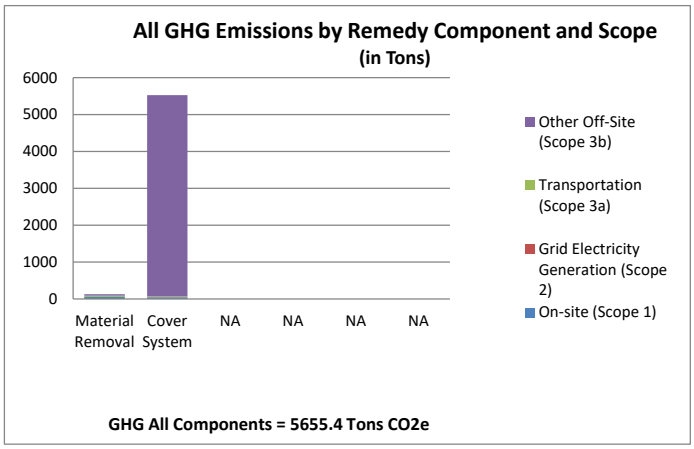
Total Energy MMbtus

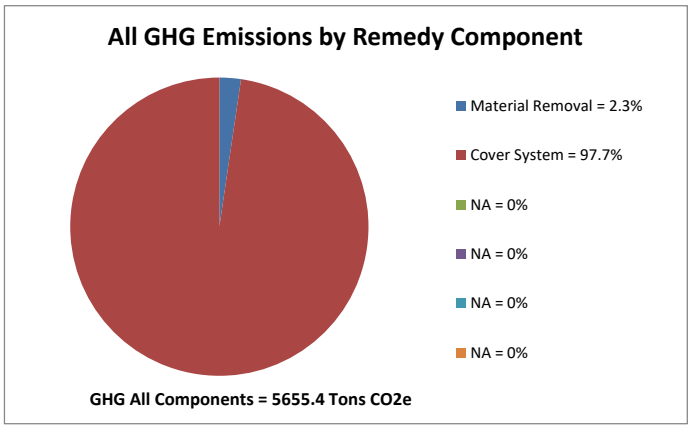
	Material R	Cover Syst	NA	NA	NA	NA	Total	
On-site (Scope 1)	730.3	577.0	0.0	0.0	0.0	0.0	1,307.3	
Generation (Scope 2)	1.1	0.6	0.0	0.0	0.0	0.0	1.7	Electricity
nsportation (Scope 3a)	406.8	289.2	0.0	0.0	0.0	0.0	696.0	Tran
her Off-Site (Scope 3b)	488.7	617,082.6	0.0	0.0	0.0	0.0	617,571.2	Oth
Total	1,626.9	617,949.4	0.0	0.0	0.0	0.0	619,576.3	

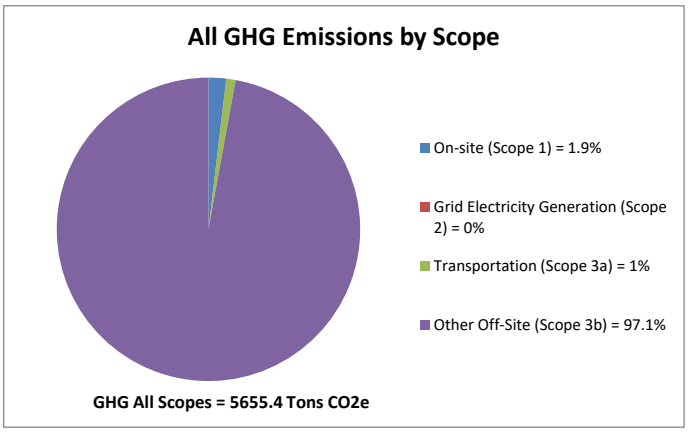
Material Removal = 0.3%
Cover System = 99.7%
NA = 0%
NA = 0%
NA = 0%
NA = 0%

On-site (Scope 1) = 0.2%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.1%
Other Off-Site (Scope 3b) = 99.7%

Total Energy All Components = 619576.3 MMbtus
Total Energy All Scopes = 619576.3 MMbtus







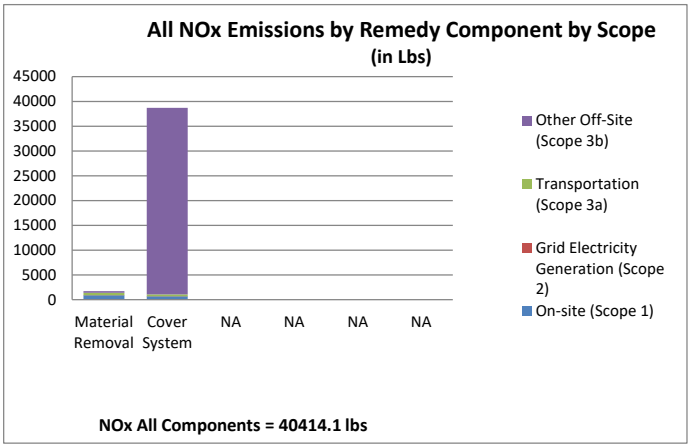
GHG
Tons CO2e

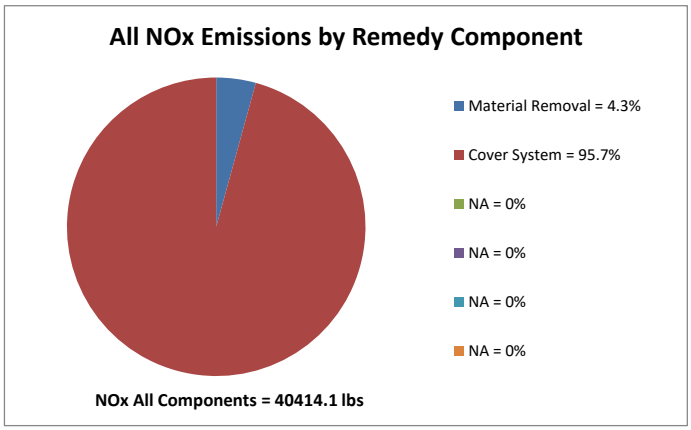
	Material R	Cover Syst	NA	NA	NA	NA	Total	
On-site (Scope 1)	59.1	46.7	0.0	0.0	0.0	0.0	105.7	
Generation (Scope 2)	0.1	0.0	0.0	0.0	0.0	0.0	0.1	l Electricity
sportation (Scope 3a)	32.9	23.4	0.0	0.0	0.0	0.0	56.3	Tran
er Off-Site (Scope 3b)	39.4	5,453.9	0.0	0.0	0.0	0.0	5,493.2	Oth
Total	131.4	5,524.0	0.0	0.0	0.0	0.0	5,655.4	

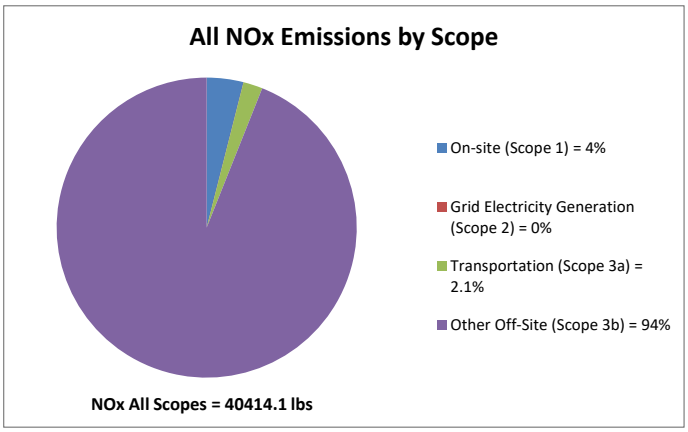
Material Removal = 2.3%
Cover System = 97.7%
NA = 0%
NA = 0%
NA = 0%
NA = 0%

On-site (Scope 1) = 1.9%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 1%
Other Off-Site (Scope 3b) = 97.1%

GHG All Components = 5655.4 Tons CO2e
GHG All Scopes = 5655.4 Tons CO2e





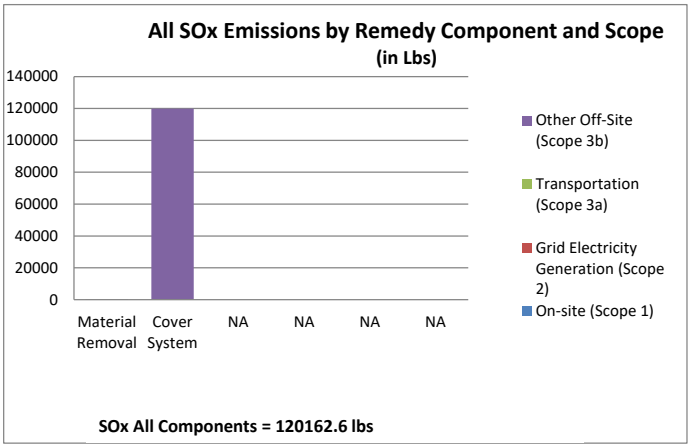


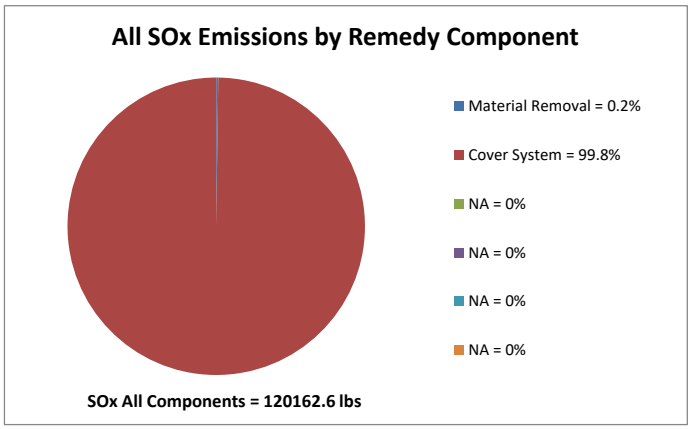
NOx lbs	Material R	Cover Syst	NA	NA	NA	NA	Total	
On-site (Scope 1)	892.5	705.4	0.0	0.0	0.0	0.0	1,597.9	
Generation (Scope 2)	0.4	0.1	0.0	0.0	0.0	0.0	0.5	Electricity
sportation (Scope 3a)	492.3	351.1	0.0	0.0	0.0	0.0	843.4	Tran
er Off-Site (Scope 3b)	344.4	37,627.9	0.0	0.0	0.0	0.0	37,972.3	Oth
Total	1,729.6	38,684.5	0.0	0.0	0.0	0.0	40,414.1	

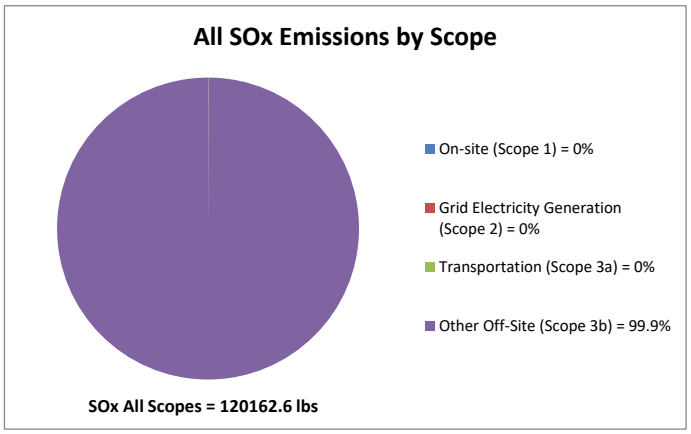
Material Removal = 4.3%
Cover System = 95.7%
NA = 0%
NA = 0%
NA = 0%
NA = 0%

On-site (Scope 1) = 4%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 2.1%
Other Off-Site (Scope 3b) = 94%

NOx All Components = 40414.1 lbs
NOx All Scopes = 40414.1 lbs







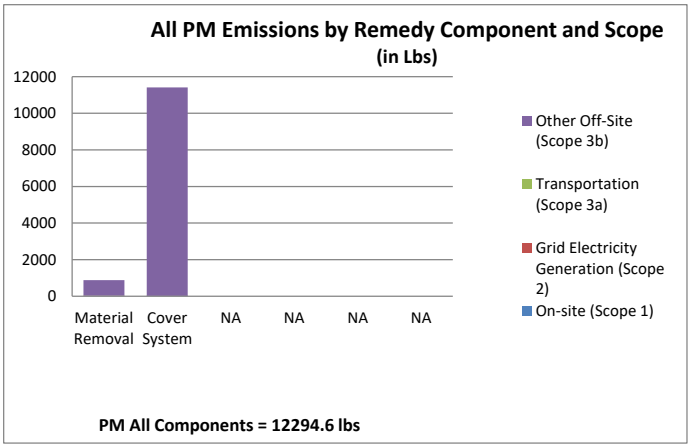
SOx lbs

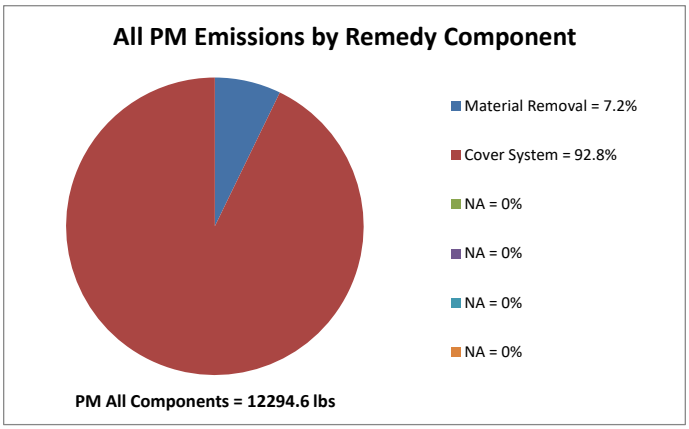
	Material R	Cover Syst	NA	NA	NA	NA	Total	
On-site (Scope 1)	28.4	22.4	0.0	0.0	0.0	0.0	50.8	
Generation (Scope 2)	0.7	0.1	0.0	0.0	0.0	0.0	0.9	Electricity
sportation (Scope 3a)	15.6	11.1	0.0	0.0	0.0	0.0	26.8	Tran
er Off-Site (Scope 3b)	226.5	119,857.7	0.0	0.0	0.0	0.0	120,084.2	Oth
Total	271.2	119,891.4	0.0	0.0	0.0	0.0	120,162.6	

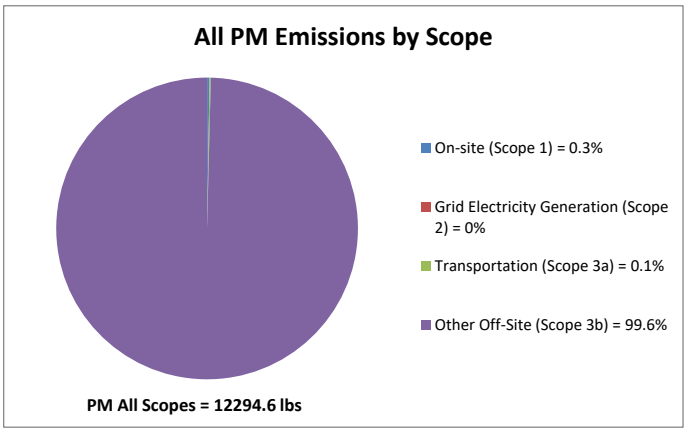
Material Removal = 0.2%
Cover System = 99.8%
NA = 0%
NA = 0%
NA = 0%
NA = 0%

On-site (Scope 1) = 0%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0%
Other Off-Site (Scope 3b) = 99.9%

SOx All Components = 120162.6 lbs
SOx All Scopes = 120162.6 lbs







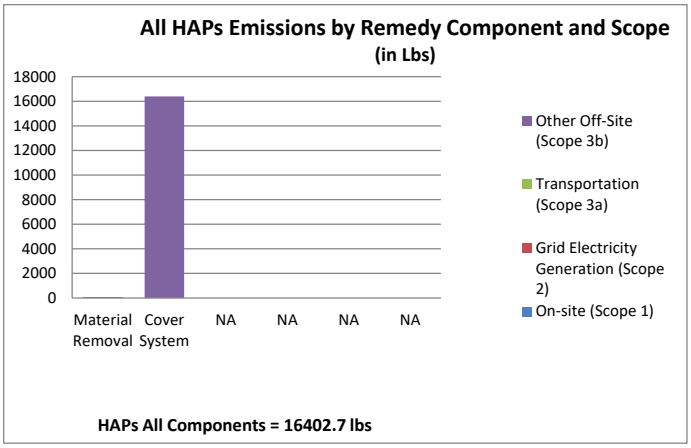
PM lbs

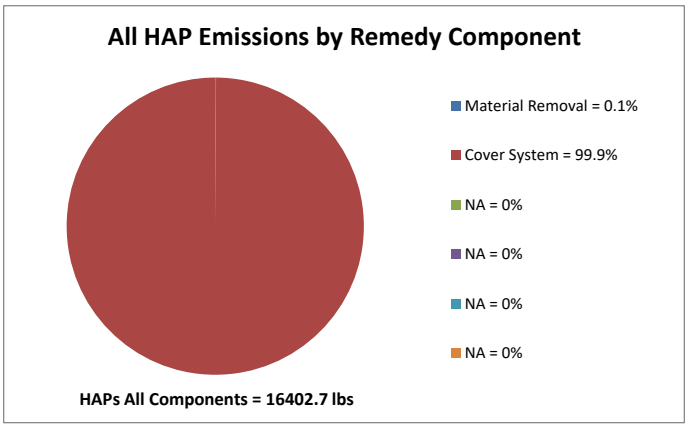
	Material R	Cover Syst	NA	NA	NA	NA	Total	
On-site (Scope 1)	17.9	14.1	0.0	0.0	0.0	0.0	32.0	
Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	l Electricity
sportation (Scope 3a)	9.9	7.1	0.0	0.0	0.0	0.0	17.0	Tran
er Off-Site (Scope 3b)	857.0	11,388.6	0.0	0.0	0.0	0.0	12,245.6	Oth
Total	884.8	11,409.7	0.0	0.0	0.0	0.0	12,294.6	

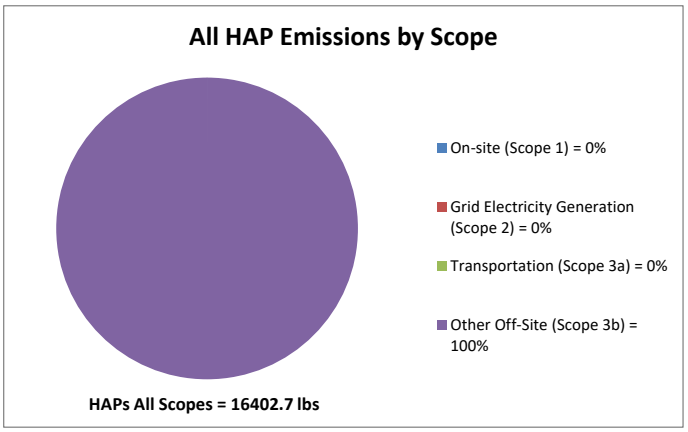
Material Removal = 7.2%
Cover System = 92.8%
NA = 0%
NA = 0%
NA = 0%
NA = 0%

On-site (Scope 1) = 0.3%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.1%
Other Off-Site (Scope 3b) = 99.6%

PM All Components = 12294.6 lbs
PM All Scopes = 12294.6 lbs







HAPs
lbs

	Material R	Cover Syst	NA	NA	NA	NA	Total
On-site (Scope 1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ısportation (Scope 3a)	0.3	0.2	0.0	0.0	0.0	0.0	0.4
ıer Off-Site (Scope 3b)	13.6	16,388.5	0.0	0.0	0.0	0.0	16,402.1
Total	14.0	16,388.7	0.0	0.0	0.0	0.0	16,402.7

Material Removal = 0.1%
Cover System = 99.9%
NA = 0%
NA = 0%
NA = 0%
NA = 0%

On-site (Scope 1) = 0%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0%
Other Off-Site (Scope 3b) = 100%

HAPs All Components = 16402.7 lbs
HAPs All Scopes = 16402.7 lbs

Material Removal - Energy & Air Compiled Results

Category	Total Energy	GHG	NOx	SOx	PM	NOx + SOx + PM	HAPs
	MMbtus	lbs CO2e	lbs	lbs	lbs	lbs	lbs
On-site (Scope 1)	**730.3**	**118,126**	**892.5**	**28.4**	**17.9**	**938.7**	**0.0**
Grid Electricity Generation (Scope 2)	**1.109**	**180**	**0.4**	**0.7**	**0.0**	**1.1**	**0.0**
Transportation (Scope 3a)	**406.8**	**65,840**	**492.3**	**15.6**	**9.9**	**517.9**	**0.3**
Other Off-Site (Scope 3b)	**488.7**	**78,709**	**344.4**	**226.5**	**857.0**	**1,427.9**	**13.6**
Remedy Totals	**1,626.9**	**262,855**	**1,729.6**	**271.2**	**884.8**	**2,885.6**	**14.0**

Values that are forwarded to the "Summary" tab are indicated in orange.

Voluntary Renewable Energy Use	Unit	Quantity	
On-site renewable energy generation or use	MMBtu	**0**	
On-site biodiesel use	MMBtu	**0**	
Biodiesel and other renewable resource use for transportation	MMBtu	**0**	
On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	**0**	*(This value is the sum of the three rows above)*
Voluntary purchase of renewable electricity	MWh	**0**	
Voluntary purchase of RECs	MWh	**0**	

This worksheet is not intended for user input. Values on this worksheet are obtained from the following file: SEFA_calculations_(121718).xlsx

Cover System - Energy & Air Compiled Results

Category	Total Energy	GHG	NOx	SOx	PM	NOx + SOx + PM	HAPs
	MMbtus	lbs CO2e	lbs	lbs	lbs	lbs	lbs
On-site (Scope 1)	**577**	**93,362**	**705**	**22**	**14**	**742**	**0**
Grid Electricity Generation (Scope 2)	**1**	**28**	**0**	**0**	**0**	**0**	**0**
Transportation (Scope 3a)	**289**	**46,809**	**351**	**11**	**7**	**369**	**0**
Other Off-Site (Scope 3b)	**617,083**	**10,907,704**	**37,628**	**119,858**	**11,389**	**168,874**	**16,389**
Remedy Totals	**617,949**	**11,047,902**	**38,685**	**119,891**	**11,410**	**169,986**	**16,389**

Values that are forwarded to the "Summary" tab are indicated in orange.

Voluntary Renewable Energy Use	Unit	Quantity	
On-site renewable energy generation or use	MMBtu	**0**	
On-site biodiesel use	MMBtu	**0**	
Biodiesel and other renewable resource use for transportation	MMBtu	**0**	
On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	**0**	*(This value is the sum of the three rows above)*
Voluntary purchase of renewable electricity	MWh	**0**	
Voluntary purchase of RECs	MWh	**0**	

This worksheet is not intended for user input. Values on this worksheet are obtained from the following file: SEFA_calculations_(121718).xlsx

All - Energy & Air Compiled Results

Category	Total Energy	GHG	NOx	SOx	PM	NOx + SOx + PM	HAPs
	MMbtus	lbs CO2e	lbs	lbs	lbs	lbs	lbs
On-site (Scope 1)	**1,307**	**211,488**	**1,598**	**51**	**32**	**1,681**	**0**
Grid Electricity Generation (Scope 2)	**1.663**	**208**	**0**	**1**	**0**	**1**	**0**
Transportation (Scope 3a)	**696**	**112,648**	**843**	**27**	**17**	**887**	**0**
Other Off-Site (Scope 3b)	**617,571**	**10,986,392**	**37,972**	**120,084**	**12,246**	**170,302**	**16,402**
Remedy Totals	**619,576**	**11,310,736**	**40,414**	**120,162**	**12,295**	**172,871**	**16,403**

Values that are forwarded to the "Summary" tab are indicated in orange.

Voluntary Renewable Energy Use	Unit	Quantity	
On-site renewable energy generation or use	MMBtu	**0**	
On-site biodiesel use	MMBtu	**0**	
Biodiesel and other renewable resource use for transportation	MMBtu	**0**	
On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	**0**	*(This value is the sum of the three rows above)*
Voluntary purchase of renewable electricity	MWh	**0**	
Voluntary purchase of RECs	MWh	**0**	

This worksheet is not intended for user input. Values on this worksheet are obtained from the following file: SEFA_calculations_(121718).xlsx

Appendix H

Health and Safety Plan

Health and Safety Plan for 1153-69 West Fayette Street

1153-69 West Fayette Street
City of Syracuse, Onondaga County, New York

BCP Site No. C734164

Prepared by:

C&S Engineers, Inc.
499 Col Eileen Collins Blvd.
Syracuse, New York 13212

July 2024
Revised June 2025

EMERGENCY PHONE NUMBERS

Emergency Service	911
Police: Syracuse Police Department	(315) 442-5200
Fire: Syracuse Fire Department	(315) 453-5525
Hospital: Upstate: Emergency Room	(315) 464-5611
Hospital: Crouse: Emergency Room	(315) 470-7111
Department of Public Works	(315) 448-2489
National Response Center	(800) 424-8802
Poison Control Center	(800) 222-1222
Center for Disease Control	(800) 311-3435
NYSDEC Region 7 (Syracuse, New York)	(315) 426-7551
C&S Engineers	(315) 455-2000
Site Superintendent	(315) 884-0618
Site Project Manager	(315) 436-7511
Developer Main Office	(315) 476-7917

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ATTACHMENTS

Attachment A – Map and Directions to Hospital
Attachment B – Guidance on Incident Investigation and Reporting

SECTION 1 – GENERAL INFORMATION

This Health and Safety Plan (HASP) addresses health and safety considerations for the activities that personnel employed by C&S Engineers, Inc., may be engaged in during site investigation and remedial activities at 1153-69 West Fayette Street in the City of Syracuse, Onondaga County, New York; hereby, referred to as (Site). This HASP will be implemented by the Health and Safety Officer (HSO) during site work. All personnel engaged in site investigation, soil excavation and handling, remediation, and other activities associated with the implementation of the site investigation and remedy are required to maintain current HAZWOPER training, including initial 40-hour training, on-the-job training, and consistent annual 8-hour refresher training, as per the requirements of 29 CFR 1910.120.

Compliance with this HASP is required of C&S personnel who enter this Site. The content of the HASP may change or undergo revision based upon additional information made available to the health, safety, and training (H&S) committee, monitoring results or changes in the technical scope of work. Any changes proposed must be reviewed by the H&S committee.

1.1 Responsibilities

Project Manager.....	Claire Del Fatti Phone: (315) 703-4233 Cell: (315) 949-1805
C&S Health and Safety Director.....	Mike Sherlock Phone: (315) 703-4210 Cell: (315) 420-3455
Site Health and Safety Officer.....	Nick Coulombe Phone: (315) 703-4284 Cell: (315) 720-8682
Emergency Coordinator.....	Nick Coulombe Phone: (315) 703-4284 Cell: (315) 720-8682

1.2 Applicable Standards and Regulations References

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only. Where a conflict or overlap among regulations and/or these specifications exist, the most stringent requirements shall apply. C&S's Project Manager will determine which requirements are most stringent.

1. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

a. ANSI Z89.1, Personnel Protective Equipment-Protective Headwear for Industrial Workers-Requirements (Latest Revision)

b. ANSI Z87.1, Occupational and Educational Personal Eye and Face Protection Devices

c. *ANSI Z9.2,* Fundamentals Governing the Design and Operation of Local Exhaust Systems

d. *ANSI Z88.2-80,* Practices for Respiratory Protection

2. CODE OF FEDERAL REGULATIONS (CFR)

a. 29 CFR Subpart D Walking-Working Surfaces

b. 29 CFR 1910 Occupational Safety and Health Standards-All Sections

c. 29 CFR 1926 Safety and Health Regulations for Construction-All Sections

d. 40 CFR 50.6 National Primary and Secondary Ambient Air Quality Standards for Particulate Matter

e. 40 CFR 61 National Emissions Standards for Hazardous Air Pollutants (NESHAPS)-Subpart A-General Provisions

f. 49 CFR 172 Hazardous Material Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

3. NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

a. Publication Number 87-108 Respiratory Decision Logic

b. NIOSH/OSHA Booklet 3142 Lead in Construction

c. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (NIOSH Publication 85-115)

4. U.S. DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

a. PUB 3126 Working with Lead in the Construction Industry

b. 29 CFR 1910, Subpart I, Appendix B-Non-Mandatory Compliance Guidelines for Hazard Assessment and Personal Protective Equipment Selection

SECTION 2 – HEALTH AND SAFETY PERSONNEL

The following information briefly describes the health and safety designations and general responsibilities for this Site.

2.1 Project Manager (PM)

The PM is responsible for the overall project including the implementation of the HASP. Specifically, this includes allocating adequate manpower, equipment, and time resources to conduct Site activities safely.

2.2 Health and Safety Manager

- Has the overall responsibility for coordinating and reporting health and safety activities and the health and safety of Site Workers.
- Must have completed, at a minimum, the OSHA 30-Hour Construction Safety Training, and either the 24-Hour training course for the Occasional Hazardous Waste Site Worker or the 40-Hour training course for the Hazardous Waste Operations Worker that meets OHSA 29 CFR 1910.
- Must have completed the 8-Hour site supervisor / manager's course for supervisors and managers having responsibilities for hazardous waste site operations and management.
- Directs and coordinates health and safety monitoring activities.
- Ensures that field teams utilize proper personal protective equipment (PPE).
- Conducts initial on-site specific training prior to Site Workers commencing work.
- Conducts and documents daily and periodic safety briefings.
- Ensures that field team members comply with this HASP.
- Immediately notifies the Project Manager of all accident / incidents.
- Determines upgrading or downgrading of PPE based on Site conditions and/or real time monitoring results.
- Ensures that monitoring instruments are calibrated daily or as the manufacturer's instructions determine.
- Provides daily summaries of field operations and progress to the Project Manager.
- Submits and maintains all documentation required in this HASP and any other pertinent health and safety documentation.

2.3 Health and Safety Officer (HSO)

- Must be designated by the Health and Safety Manager and at a minimum, have the OSHA 10-Hour Construction Safety Training.
- Must schedule and attend a Pre-Construction Safety Meeting with the Health and Safety Manager to discuss the Subcontractor Safety Requirements and must attend the Weekly Subcontractor Coordination Meeting.

- Responsible for ensuring subcontractors and their lower tier contractors comply with project safety requirements.
- Must make frequent and regular inspections of their work areas and activities and ensure hazards that are under their control are corrected immediately and all other hazards are reported to the Project Manager and Health and Safety Manager.
- Must report all work-related injuries, regardless of severity, to the Project Manager and the Health and Safety Manager within 24 hours after they occur.

2.4 Emergency Coordinator

- The Emergency Coordinator or his on-site designee will, in coordination with the Authority / Agency having Jurisdiction, implement the emergency response procedures outlined in Section 11 whenever conditions at the Site warrant such action.
- The Emergency Coordinator or his on-site designee will be responsible for assuring the evacuation, emergency treatment, emergency transport of C&S personnel as necessary, and notification of emergency response units (refer to phone listing in the beginning of this HASP) and the appropriate management staff.

2.5 Site Workers

- Report any unsafe or potentially hazardous conditions to the HSO and the Health and Safety Manager.
- Maintain knowledge of the information, instructions, and emergency response actions contained in the HASP.
- Comply with rules, regulations, and procedures as set forth in this HASP, including any revisions that are instituted.
- Prevent unauthorized personnel from entering work Site.

SECTION 3 – SITE HAZARDS EVALUATION

3.1 Chemical Hazards

3.1.1 Nature of Chemical Hazards

Based on the June 2023 Phase II Environmental Site Assessment (ESA), the September 2023 Surface Soil Investigation, and the November 2024 through February 2025 Remedial Investigation (RI) the known contaminants of concern include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), pesticides, herbicides, and per- and polyfluoroalkyl substances (PFAS). Various combinations of these contaminants are present in the surface soil, subsurface soil, groundwater, and soil vapor at the Site. The extent of the contamination in each media was investigation during the RI and is summarized below:

- Soil contamination is primarily limited to the historic fill material (HFM) located across the Site. The HFM is located immediately below existing surfaces and is underlain by native soils. The Site contains HFM with observed thickness of seven to 14 feet below ground surface (bgs). The observed HFM is shallowest on the west and south sides of the Site and deepest in the center and the northeast corner of the Site. SVOC contamination is most prominent along the western perimeter of the Site. It is believed that the contaminant sources are related to the historical urban and commercial uses of the property, historical coal handling practices in the vicinity of the coal silo and former rail spur, and the unregulated deposition of HFM that occurred over time.

- Groundwater is located across the Site at approximately 5.5 to 13 feet bgs. The groundwater across the Site contains various SVOCs at relatively low concentrations, but above corresponding groundwater standards and guidance values. Based on the data gathered during the RI, it appears that SVOCs in the groundwater are related to the presence of HFM across the Site. Low-level PFAS contaminated groundwater is located on the northwestern and southeastern portion of the Site. The likely reason for the presence of PFAS is not currently understood. Existing groundwater gradient data indicates a northwesterly flow direction. The groundwater gradient at the Site is moderate, averaging 0.0125 feet per foot.

- Carbon tetrachloride contaminated soil vapor is present in the northwestern portion of the single-story building. The impacted area is limited to approximately 500 square feet. Carbon tetrachloride was not identified in nearby sub-surface soil or groundwater.

3.1.2 Common Routes of Exposure

The contaminants at the Site may enter the human body in a variety of ways. Based on the nature of site contaminants, the chemical routes of exposure anticipated from the remedial activities at this site include:

Route	Mechanism	Control
Absorption	Dermal (skin) contact with impacted soil on-site resulting in absorption of chemicals of concern through the skin and into the blood stream.	Proper use of PPE will minimize risks of exposure at the site.
Ingestion	Chemicals / materials of concern can come in direct contact with the mouth from soil or other contaminated areas (PPE, skin, tools, etc.) and enter the bloodstream through the stomach lining.	Proper care in handling PPE and tools, refraining from eating and drinking at the Site, and frequent hand washing with soap and water will minimize risks of exposure.
Inhalation	Volatile vapors and/or contaminants attached to dust and particulates can be entrained by wind and become airborne across the site and be subsequently inhaled through the nose and / or mouth. This exposure route is the most likely way for worker exposure to occur.	Conduct monitoring of air quality for VOCs in worker breathing zones. Employ methods that minimize the creation of dust and utilize dust suppression techniques to minimize dust and particulates. Respirators with appropriate filtration and organic adsorption cartridges should be available to on-site workers in case volatile compounds become a nuisance or health hazard.

3.2 Physical Hazards

Based upon the anticipated field activities, the following potential physical hazardous conditions may exist:

Category	Mechanism	Control
Mechanical Equipment	The use of typical mechanical equipment such as drill rigs and sampling vehicles can create a potential for crushing and pinching hazards due to movement and positioning of the equipment, movement of lever arms and hydraulics, and entanglement of clothing and appendages in exposed drives and tracks. Mechanical equipment can also create a potential for impact of steel tools, masts, and cables should equipment rigging fail, or other structural failures occur during hydraulic equipment operation.	Heavy equipment work must be conducted only by trained, experienced personnel. If possible, personnel must remain outside the turning radius of large, moving equipment. At a minimum, personnel must maintain visual contact with the equipment operator. When not operational, equipment must be set and locked so that it cannot be activated, released, dropped, etc. The mechanical equipment stated above represents typical equipment that is ordinarily used during this scope of work but is not meant to be an all-inclusive list. Similar precautions should be used around other mechanical equipment deployed to the Site that is not listed above.

Category	Mechanism	Control
Excavations and Trenches	The use of excavation/trenching such as removal of overburden soils, installation of utilities, and site grading operations can cause potential for suffocation, crushing, or other injury from falling material. Advancement of excavation and trenches can also create possible damage/failure of any installed underground utility services and create hazards. Other hazards created can included tripping, slipping, or falling. Entering an excavation or trench could have the possibility of an explosive, flammable, toxic, or oxygen-deficient atmosphere within the excavation or trench.	Ensure compliance with OSHA's construction standard for excavations (29 CFR 1926 Subpart P). Designate a Competent Person responsible for selecting and implementing the appropriate protective system(s), assuring appropriate means of access and egress for excavations greater than four (4) feet in depth, and for ensuring that potential atmospheric and physical hazards associated with any excavation / trenching activities are completed in accordance with Subpart P and other applicable OSHA Standards.
Noise	Work around large equipment often creates excessive noise. Noise can cause workers to be startled, annoyed, and/or distracted; as well as causing pain, physical damage to the ear, and temporary and/or permanent hearing loss; and can interfere with communication.	If workers are subjected to noise exceeding an 8-hour time-weighted average sound level of 85 dBA, hearing protection will be required with an appropriate noise reduction rating to comply with 29 CFR 1910.95 and to reduce noise levels below levels of concern.
Slips / Trips / Falls	Personnel may encounter slip, trip, and fall hazards associated with excavations, manways, and construction debris and materials. Precautionary measures should be taken by identifying and removing slip, trip, and fall hazards prior to commencing work.	In the event slip, trip, and fall hazards cannot be removed or minimized, site workers will be shown the location of the physical hazard and be asked to avoid it during work activities.
Fire / Explosion	The potential for fire and/or explosion emergencies is always present on the Site.	Field vehicles will be equipped with a fire extinguisher. Employees, contractors and workers must be trained in the proper use of fire suppression equipment. However, large fires that cannot be controlled with a fire extinguisher shall be handled by professionals. The proper authorities shall be notified in these instances, as well as the HSO and Health and Safety Manager.

Category	Mechanism	Control
Cold Exposure	Persons working in the outdoors in temperatures at or below freezing may be subject to frostbite. Extreme cold for a short time may cause injury to exposed body surfaces or result in a profound generalized cooling which can cause death. Areas of the body such as fingers, toes, and ears, are the most susceptible to cold stress. Ambient air temperature and wind velocity are two factors which influence the development of a cold weather injury. Local injury resulting from exposure to cold temperatures is known as "frostbite." There are several degrees of damage in which frostbite of the extremities can be categorized, as follows: ○ Frost nip or incipient frostbite is characterized by sudden bleaching or whitening of the skin. ○ Superficial frostbite occurs when the skin has a waxy or white appearance and is firm to the touch, but tissue beneath is resilient. ○ Deep frostbite is characterized by tissues that are cold, pale, and solid; this is an extremely serious injury.	Wear several layers of dry clothes so that you can vary the amount of clothing to match the conditions. If there is wind, wear a windbreaker, since wind increases the effects of cold air and in turn lowers your body's core temperature even faster. Don't get overheated. Sweat can dampen clothing and in turn lead to over-cooling. Keep hands, feet, ears, and face warm. These are the areas of the body where frostbite tends to strike first. Heart disease and the use of sedatives or excessive alcohol will make you more susceptible to cold stress. If you feel chilly or sleepy, or have pain in your extremities, go to a warm shelter to recover.

Category	Mechanism	Control
Heat Exposure / Stress	Heat stress can result from a number of contributing factors, including environmental conditions, clothing, and workload as well as the physical condition of the individual. Since heat stress is one of the most common injuries / symptoms associated with outdoor work conducted with direct solar load, and, in particular, because wearing PPE can increase the risk of developing heat stress, workers must be capable of recognizing the signs and symptoms of heat-related illnesses. Signs and symptoms of heat-related illnesses which all on-site personnel should be aware, include the following: ○ Heat rash may result from continuous exposure to heat or humid air. ○ Heat cramps are caused by heavy sweating and may include muscle spasms and pain in the hands, feet, and abdomen. ○ Heat exhaustion is indicated by pale, cool, and moist skin; heavy sweating; dizziness; nausea; and fainting. ○ Heat stroke is indicated by red, hot, and unusually dry skin; lack of or reduced perspiration; nausea; dizziness and confusion; rapid pulse; and coma. Immediate action must be taken to cool the body before serious injury or death occurs.	The following will steps will be taken to limit heat exposure: adjust schedules, take breaks, limit heavy work in protective clothing or in a hot environment may require more time resting than working. Schedule heavy work in the coolest part of the day. Have shaded rest shelters with chairs or benches. Drink Fluids. Sweating cools the body, but it also robs the body of fluid. Drink enough fluids to replace what you lose. You may not feel thirsty until you've become dehydrated. Drink regularly throughout the day. Don't wait until you're thirsty. Monitor for signs of potential heat exposure and stress through use of the "buddy system', with frequent communication between site personnel. Take scheduled breaks and hydrate frequently throughout the day. Maintain an adequate supply of cold water and electrolyte containing drinks in support zone of site. In the event that personnel are observed to exhibit dizziness, disorientation, heat rash, slurred speech, dry mouth, heat cramps, or other symptoms of heat stress, discontinue work immediately and move affected person(s) to a location that is free from direct sunlight and provide fluids (preferably "Gatorade" or similar product that will replenish electrolytes). Monitor condition during to evaluate whether there is notable improvement in their condition.
Utilities	Overhead and underground utilities may exist within the Work Area, which may expose workers to electrocution hazards, explosive hazards, and volatile vapors.	Dig Safely New York shall be contacted a minimum of three business days prior to initiating the field activities, to arrange for the identification and markout of buried utilities at the site. The contact number for Dig Safely New York is 1-800-962-7962. In the event of inadvertent damage to buried utilities, all work shall cease, and the situation shall be evaluated by the HSO.

3.3 Environmental Hazards

Based upon the anticipated field activities, the following potential environmental hazardous conditions may exist:

Category	Hazard	Control
Biological	Ticks, bees/wasps, mosquitos, spiders, snakes, rabid animals	There are no known species of poisonous spiders or snakes common to the area. Minimize potential exposure to by wearing wear long pants and safety shoes. Change clothing and carefully examine for evidence of insects and ticks upon undressing, immediately following return from the site. Avoid contact with any animals, either wild or domestic, that may be encountered while conducting the field activities, and notify the local office of the New York State Department of Health (NYSDOH) in the event that animals are observed to elicit strange behavior. In the event of contact with an animal that is behaving in a strange manner, the NYSDOH should be contacted immediately.
Biological	Poison Ivy, Poison Oak	Familiarize yourself with the characteristics and appearance of poison ivy and poison oak. Be cognizant of vegetation while conducting work activities. Minimize potential exposure to by wearing wear long pants and safety shoes. Change clothing immediately following return from the site.
Weather	Wet surfaces, lighting, high winds (falling objects, contaminated dust), hail, excessive heat, extreme cold, snow and ice.	Remain cognizant of weather conditions, forecasts, and changing weather conditions. Exercise extra caution during wet and inclement site conditions to minimize risk of slips and falls. Avoid work during periods of high winds to reduce risk of injury from falling objects and airborne contaminant migration. Cease work and monitor conditions in the event that lightning is observed or suspected in the area, or in the event that other weather conditions pose a health or safety hazard.

SECTION 4 – TRAINING

4.1 Site-Specific Training

Training will be provided that specifically addresses the activities, procedures, monitoring, and equipment for the Site operations prior to going on Site. Training will include familiarization with Site and facility layout, known and potential hazards, and emergency services at the Site, and details all provisions contained within this HASP. This training will also allow Site Workers to clarify anything they do not understand and to reinforce their responsibilities regarding safety and operations for their particular activity.

4.2 Task-Specific Training

For projects involving asbestos sampling, personnel will be trained to collect bulk asbestos samples using the requirements set forth in 40 CFR Part 763.92(a) (1) and (2) and 40 CFR Part. 763, Subpart. E, App. C. The training incorporates many sections of 40 CFR Part 763 but should focus on the sampling method listed in 40 CFR Part 763.86. The training includes inspection planning, bulk sampling, personal protection, and reporting. Personnel must demonstrate proficiency by identifying areas where asbestos may be found and properly collecting a bulk sample using proper methodology.

4.3 Safety Briefings

C&S project personnel will be given briefings by the HSO on a daily or as needed basis to further assist Site workers in conducting their activities safely. Pertinent information will be provided when new operations are to be conducted. Changes in work practices must be implemented due to new information made available, or if Site or environmental conditions change. Briefings will also be given to facilitate conformance with prescribed safety practices. When conformance with these practices is not occurring or if deficiencies are identified during safety audits, the project manager will be notified.

4.4 Daily Tailgate Safety Meeting

The HSO or the HSO designee will be responsible for conducting a daily tailgate safety meeting prior to start of any work activities. The contractor and workers will be responsible for attending daily tailgate safety meetings, as well as providing any additional insight into any possible hazards which might be anticipated or encountered throughout the day on the Site. The meeting will discuss any measures which will be implemented throughout the day to mitigate any hazards. The meetings are designed to create awareness of any hazards and their associated mitigation measures at the Site. If conditions at the Site change and new hazards are determined to be present, work will be stopped and an additional safety meeting will be conducted. The daily tailgate meetings discussions will be logged, as well as all who attended.

SECTION 5 – COMMUNICATIONS

5.1 Communications

A phone will be located on Site to be utilized by personnel conducting investigation. Cell phones will be the primary means of communicating with emergency support services/facilities.

SECTION 6 – PERSONAL PROTECTIVE EQUIPMENT

6.1 Personal Protective Equipment – General

The level of protection to be worn by field personnel will be defined and controlled by the HSO. Depending upon the type and levels of material present or anticipated at the site, varying degrees of protective equipment will be needed. If the possible hazards are unknown, a reasonable level of protection will be taken until sampling and monitoring results can ascertain potential risks. The levels of protection listed below are based on USEPA Guidelines. A list of the appropriate clothing for each level is also provided.

Level A protection must be worn when a reasonable determination has been made that the highest available level of respiratory, skin, eye, and mucous membrane protection is needed. It should be noted that while Level A provides maximum available protection, it does not protect against all possible hazards. Consideration of the heat stress that can arise from wearing Level A protection should also enter into the decision-making process. Level A protection includes:

- Open circuit, pressure-demand self-contained breathing apparatus (SCBA)
- Totally encapsulated chemical resistant suit
- Gloves, inner (surgical type)
- Gloves, outer, chemical protective
- Boots, chemical protective

Level B protection must be used when the highest level of respiratory protection is needed, but hazardous material exposure to the few unprotected areas of the body (e.g., the back of the neck) is unlikely. Level B protection includes:

- Open circuit, pressure-demand SCBA or pressure airline with escape air bottle
- Chemical protective clothing: Overalls and long sleeved jacket; disposal chemical resistant coveralls; coveralls; one or two piece chemical splash suit with hood
- Gloves, inner (surgical type)
- Gloves, outer, chemical protective
- Boots, chemical protective

Level C must be used when the required level of respiratory protection is known, or reasonably assumed to be, not greater than the level of protection afforded by air purifying respirators; and hazardous materials exposure to the few unprotected areas of the body (e.g. the back of the neck) is unlikely. Level C protection includes:

- Full or half face air-purifying respirator
- Chemical protective clothing: Overalls and long-sleeve jacket; disposable chemical resistant coveralls; coveralls; one- or two-piece chemical splash suit
- Gloves, inner (surgical type)

- Gloves, outer, chemical protective
- Boots, chemical protective

Level D is the basic work uniform. It cannot be worn on any site where respiratory or skin hazards exist. Level D protection includes:

- Safety boots/shoes
- Safety glasses
- Hard hat with optional face shield

Note that the use of SCBA and airline equipment is contingent upon the user receiving special training in the proper use and maintenance of such equipment.

6.2 Personal Protective Equipment – Site Specific

Level D with some modification will be required when working on this Site. In addition to the basic work uniform specified by Level D protection, nitrile gloves will be required when contact with soil and/or groundwater is likely. Hearing protection will be worn when power equipment is used to perform subsurface work. An upgrade to a higher level (Level C) of protection may occur if determined necessary by the HSO.

SECTION 7 – MONITORING PROCEDURES

7.1 Monitoring During Site Operations

All Site environmental monitoring should be accompanied by periodic meteorological monitoring of appropriate climatic conditions.

7.1.1 Surface Soil Operation

Monitoring will be performed by the HSO or field personnel during the conduct of work. A photoionization detector (PID) equipped with a 10.6 eV lamp will be utilized to monitor for the presence of volatile organic vapors within the breathing zone, the surface soil holes, and subsurface samples upon their retrieval. The PID will be field checked for calibration accuracy three times per day (morning, lunch, and end of day.

7.1.2 Drilling / Test Pit Operations (Monitoring Well Installation and Subsurface Borings)

Monitoring will be performed by the HSO or drilling observer during the conduct of work. A PID equipped with a 10.6 eV lamp will be utilized to monitor for the presence of volatile organic vapors within the breathing zone, the borehole, and subsurface samples upon their retrieval. Drill cuttings and excavation spoils will also be monitored by use of the PID. The PID will be field checked for calibration accuracy three times per day (morning, lunch, and end of day. If subsurface conditions warrant, a combustible gas indicator (CGI) with oxygen alarm may also be used to monitor the borehole for the presence of combustible gases. Similar monitoring of fluids produced during well development will also be conducted.

7.1.3 Soil Excavation and Trenching Operation

Monitoring will be performed by the HSO or remedial observer during the conduct of work. A PID equipped with a 10.6 eV lamp will be utilized to monitor for the presence of volatile organic vapors within the breathing zone, the excavation or trench, and any subsurface samples upon their retrieval. Excavation and trenching spoils will also be monitored by use of the PID. The PID will be field checked for calibration accuracy three times per day (morning, lunch, and end of day. If subsurface conditions warrant, a CGI with oxygen alarm may also be used to monitor the borehole for the presence of combustible gases.

7.2 Action Levels

If readings on the PID exceed 10 ppm for more than fifteen minutes consecutively, then personal protective equipment should be upgraded to Level C. The air purifying respirator used with Level C protective equipment must be equipped with organic vapor cartridges. If readings on the explosive gas meter are within a range of 10%-25% of the lower exposure limit (LEL) then continuous monitoring will be implemented. Readings above 25% of the LEL indicate the potential

for an explosive condition. Sources of ignition should be removed and the Site should be evacuated.

7.3 Personal Monitoring Procedures

Personal monitoring shall be performed as a contingency measure in the event that VOC concentrations are consistently above the 10-ppm action level as detected by the PID. If the concentration of VOCs is above this action level, then amendments to the HASP must be made before work can continue at the Site.

SECTION 8 – SAFETY CONSIDERATIONS FOR SITE OPERATIONS

8.1 General

Standard safe work practices that will be followed include:

- Do not climb over/under drums, or other obstacles.
- Do not work on the Site alone.
- Practice contamination avoidance, on and off-site.
- Plan activities ahead of time, and use caution when conducting concurrently running activities.
- No eating, drinking, chewing or smoking is permitted on the Site.
- Due to the unknown nature of waste placement at the Site, extreme caution should be practiced during excavation activities.
- Apply immediate first aid to any and all cuts, scratches, abrasions, etc.
- Be alert to your own physical condition. Watch your buddy for signs of fatigue, exposure, etc.
- A work/rest regimen will be initiated when ambient temperatures and protective clothing create a potential heat or cold stress situation.
- No work will be conducted without adequate natural light or without appropriate supervision.
- Task safety briefings will be held prior to onset of task work.
- Ignition of flammable liquids within or through improvised heating devices (barrels, etc.) or space heaters is forbidden.
- Entry into areas of spaces where toxic or explosive concentrations of gases or dust may exist without proper equipment is prohibited.
- Any injury or unusual health effect must be reported to the Site HSO.
- Prevent splashing or spilling of potentially contaminated materials.
- Use of contact lenses is prohibited while on site.
- Beards and other facial hair that would impair the effectiveness of respiratory protection are prohibited if respiratory protection is necessary.
- Field crew members should be familiar with the physical characteristics of investigations, including but not limited to:
    - Wind direction in relation to potential sources
    - Accessibility to co-workers, equipment, and vehicles
    - Communication
    - Hot zones (areas of known or suspected contamination)
    - Site access
    - Nearest water sources
- The number of personnel and equipment in potentially contaminated areas should be minimized consistent with site operations.

8.2 Field Operations

The HSO or designee will be present on-site during all intrusive work, e.g., drilling operations, excavations, trenching, and will provide monitoring to oversee that appropriate levels of protection and safety procedures are utilized by C&S Engineers, Inc., personnel. The use of salamanders or other equipment with an open flame is prohibited and the use of protective clothing, especially hard hats and boots, will be required during drilling or other heavy equipment operations.

8.3 General Asbestos Safety

Asbestos exposure is primarily an inhalation hazard. OSHA compliant respiratory protection should be worn if there is risk of asbestos becoming airborne. Personal Protective Equipment including protective clothing (suits/gloves, etc.) may be necessary to avoid contaminating the worker and/or the site.

Procedural Precautions - The sampler should be aware that disruption of asbestos-containing materials can create the potential for cross contamination when conducting bulk asbestos sampling.

The Sampler should take the following precautions to avoid cross contamination as well as disruption of material while sampling:

- The sampling tool must be cleaned with amended water after every sample is collected, or a different clean tool must be used.
- The sampler must avoid touching the material being sampled (utilize gloves).
- The area being sampled must be sufficiently wet before collecting the sample.
- The space left after sampling must be sealed with repair/patch material to reduce the chance of airborne exposure.

The object or material sampled should be minimally disturbed during the sampling process.

SECTION 9 – DECONTAMINATION PROCEDURES

9.1 General Decontamination

Decontamination involves physically removing contaminants and / or converting them chemically into innocuous substances. Only general guidance can be given on methods and techniques for decontamination. Decontamination procedures are designed to:

- Remove contaminant(s).
- Avoid spreading the contamination off Site.
- Avoid exposing unprotected personnel off Site to contaminants.

9.2 Contamination Avoidance

Contamination avoidance is the first and best method for preventing spread of contamination from a hazardous site. Each person involved in site operations must practice the basic methods of contamination avoidance listed below. Additional precautions may be required in the HASP.

- Know the limitations of all protective equipment being used.
- Use the proper tools necessary to safely conduct the work.

9.3 Reducing Contamination

Specific methods that may reduce the chance of contamination are:

- Use of remote sampling techniques.
- Opening containers by non-manual means.
- Bagging monitoring instruments.
- Use of drum grapplers.
- Watering down dusty areas.

9.4 Equipment Decontamination

Equipment which will need to be decontaminated includes tools, monitoring equipment, and personal protective equipment. Items to be decontaminated will be brushed off, rinsed, and dropped into a plastic container supplied for that purpose. They will then be washed with a detergent solution and rinsed with clean water. Instrumentation that is contaminated during field operations will be carefully wiped down. Heavy equipment, if utilized for operations where it may be contaminated, will have prescribed decontamination procedures to prevent contaminant materials from potentially leaving the Site. On-site contractors, such as drillers or backhoe operators, will be responsible for decontaminating all construction equipment prior to demobilization.

SECTION 10 – DISPOSAL PROCEDURES

All discarded materials, waste materials, or other objects shall be handled in such a way as to reduce or eliminate the potential for spreading contamination, creating a sanitary hazard, or causing litter to be left on-site. All potentially contaminated materials, e.g., clothing, gloves, etc., will be bagged or drummed as necessary and segregated for proper disposal. All contaminated waste materials shall be disposed of as required by the provisions included in the contract and consistent with regulatory provisions. All non-contaminated materials shall be collected and bagged for appropriate disposal.

Investigation derived waste (IDW) that is free from physical indications of contamination such as odors, staining, and sheens will be placed back into the borehole of origin or in the case of well water allowed to infiltrate the Site surface. In cases where physical indications of contamination are evident, the affected media will be containerized per NYSDOT requirements pending proper disposal. Samples may be analyzed for toxicity characteristic leaching procedure (TCLP) VOCs, SVOCs, pesticides, herbicides, and metals; PCBs; pH (corrosivity), flash point (ignitability); reactivity; and paint filter (free liquids).

SECTION 11 – EMERGENCY RESPONSE PROCEDURES

As a result of the hazards at the Site, and the conditions under which operations are conducted, there is the possibility of emergency situations. This section establishes procedures for the implementation of an emergency plan.

11.1 Emergency Coordinator

Emergency Coordinator:..... Nick Coulombe..... Work Phone: (315) 703-4284

The Emergency Coordinator or his on-site designee will, in coordination with the Authority / Agency having Jurisdiction, implement the emergency response procedures whenever conditions at the site warrant such action. The Emergency Coordinator or his on-site designee will be responsible for assuring the evacuation, emergency treatment, emergency transport of C&S personnel or workers as necessary, and notification of emergency response units (**refer to phone listing** in the beginning of this HASP) and the appropriate management staff.

11.2 Evacuation

In the event of an emergency situation, such as fire, explosion, significant release of toxic gases, etc., all personnel will evacuate and assemble in a designated assembly area. The Emergency Coordinator or his on-site designee will have authority to contact outside services as required. Under no circumstances will incoming personnel or visitors be allowed to proceed into the area once the emergency signal has been given. The Emergency Coordinator or his on-site designee must see that access for emergency equipment is provided and that all ignition sources have been shut down once the emergency situation is established. Once the safety of all personnel is established, the Fire Department and other emergency response groups will be notified by telephone of the emergency.

11.3 Potential / Actual Fire or Explosion

Immediately evacuate the Site and notify local fire and police departments, and other appropriate emergency response groups, if LEL values are above 25% in the work zone or if an actual fire or explosion has taken place.

11.4 Environmental Incident (Spread or Release of Contamination)

Control or stop the spread of contamination if possible. Notify the Emergency Coordinator and the Project Manager. Other appropriate response groups will be notified as appropriate.

11.5 Personnel Injury

Emergency first aid shall be applied on-site as necessary. Then, decontaminate (en route if necessary) and transport the individual to nearest medical facility if needed. The ambulance/rescue squad shall be contacted for transport as necessary in an emergency. A map of directions to the nearest hospital is shown in **Attachment A**.

11.6 Personnel Exposure

- *Skin Contact*: Use copious amounts of soap and water. Wash/rinse affected area thoroughly, and then provide appropriate medical attention. Eyes should be thoroughly rinsed with water for at least 15 minutes.
- *Inhalation*: Move to fresh air and/or, if necessary, decontaminate and transport to emergency medical facility.
- *Ingestion*: Decontaminate and transport to emergency medical facility.
- *Puncture Wound/Laceration*: Decontaminate, if possible, and transport to emergency medical facility.

11.7 Adverse Weather Conditions

In the event of adverse weather conditions, the HSO will determine if work can continue without sacrificing the health and safety of field workers.

11.8 Incident Investigation and Reporting

In the event of an incident, procedures discussed in the Medical Emergency / Incident Response Protocol, presented in **Attachment B** of this HASP, shall be followed.

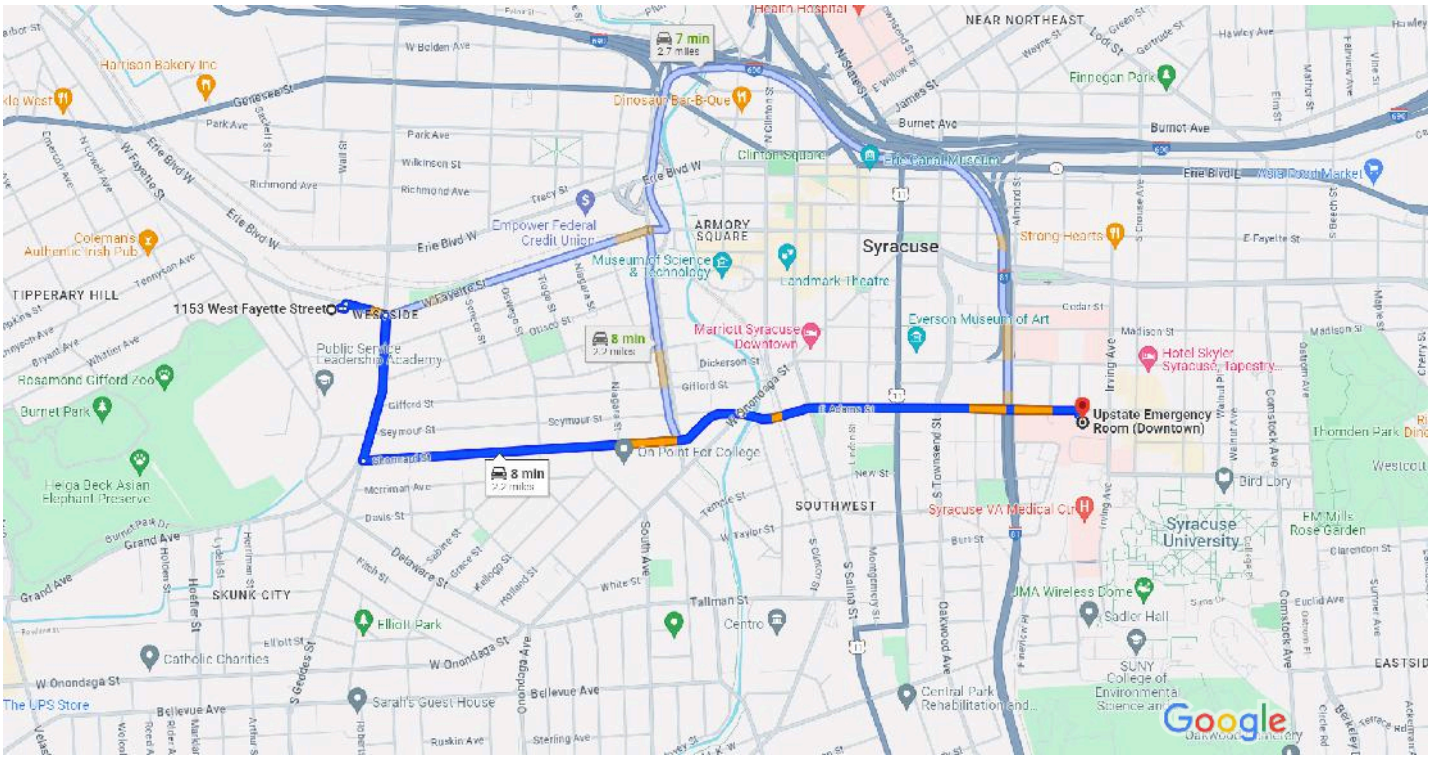
Attachment A

MAP AND DIRECTIONS TO HOSPITAL

Google Maps

1153 W Fayette St, Syracuse, NY 13204 to Upstate Emergency Room (Downtown), 750 E Adams St, Syracuse, NY 13210

Drive 2.2 miles, 8 min



Map data ©2024 Google 1000 ft

1153 W Fayette St
Syracuse, NY 13204

1. Head east toward W Fayette St — 46 ft
2. Turn left toward W Fayette St — 59 ft
3. Turn right onto W Fayette St — 0.1 mi
4. Turn right onto S Geddes St — 0.3 mi
5. Turn left onto Shonnard St — 0.9 mi
6. Continue onto W Adams St — 0.8 mi
7. Turn right
   Destination will be on the right — 75 ft

Attachment B

GUIDANCE ON INCIDENT INVESTIGATION AND REPORTING

Medical Emergency / Incident Response Protocol

Prepared by:

C&S Engineers, Inc.
499 Col Eileen Collins Blvd.
Syracuse, New York 13212

SECTION 1 – PURPOSE

From time to time employees of C&S Engineers, Inc. will sustain an injury while working on the job. While every effort is being made to prevent this, in the event of an injury or illness on the job, the following procedures will be implemented. This format may also be utilized in the event of a property damage incident.

SECTION 2 – SCOPE

This guideline applies to all C&S Engineers, Inc. job sites and employees.

SECTION 3 – GUIDELINES

3.1 First Response Procedures

Upon notification or awareness of an incident/accident with injuries or illness the Emergency Coordinator or his On-Site Designee will:

1. Ensure that the injured employee is receiving immediate first aid and medical care.
2. Notify Emergency Services (911) if injuries are severe.
3. Stabilize the work area; ensure that no one else can be injured.
4. Notify the Project Manager at the earliest possible convenience**.**
5. Notify the Owner/Client at the earliest possible convenience.

To assist the Health and Safety Manager in the root cause analysis, the Emergency Coordinator or his On-Site Designee will also make an attempt to:

1. Obtain the names and phone numbers of witnesses.
2. Preserve the accident scene if possible for analysis.

3.2 Injury Management

1. If the patient is stable with non-life threatening injuries, the foreman will ensure the employee is transported to the emergency medical facility listed in Section 1 of the HASP. Directions to the nearest emergency medical facility are located in Attachment A of the HASP.

At no time will an injured employee drive themselves to medical care.

2. If the patient has serious or life threatening injuries, the emergency coordinator or his on- site designee will notify the emergency services for the area for treatment and transport to a hospital or emergency room. Serious injuries can be considered but not limited to head injuries, loss of consciousness, severe laceration or amputation, fractured bones, burns and eye injuries.

3. Following the treatment and care of the injured employee, the emergency coordinator or his on-site designee and the project manager will initiate the completion of the first injury report. The Health & Safety Manager will assist.

3.3 Project Manager

1. Upon notification of a personal injury or illness on the job site, will notify C&S Engineers, Inc, President and Corporate Legal and C&S Companies Health and Safety Manager.
2. Will report to the worksite to initiate the first injury report.
3. Will report to the treatment facility to check on the well being of the injured employee.
4. The project manager will ensure that the treatment facility is aware that this is a workers compensation case.
5. Will assist the Health and Safety Manager in the analysis of the incident.

3.4 Health & Safety Manager

1. Upon notification of the personal injury will determined if it is necessary to report to the treatment facility or the accident site, depending on the nature of the injuries and the circumstances of the accident.
2. Will report to the worksite to begin a root cause analysis investigation of the accident.
3. The investigation may include interview of witnesses, field crew , and project manager, the photographing of the scene, reconstruction of the accident scene, using test instruments and taking measurements. The Health and Safety Manager may draw diagrams from the information learned.
4. The Health and Safety Manager will work with the owner/client as necessary to investigate the accident.
5. The Health & Safety manager will ensure that the site is safe to resume work.
6. The Health & Safety Manager shall initiate the New York State Compensation form requirements (C-2) and forward a copy of the C-2 to the C & S Engineers, Inc. controller for transmittal to the Compensation Carrier within 8 hrs of notification of the incident or by the end of the next business day.
7. The Health and Safety manager, upon completion of the investigation, will provide the
8. Project Manager with a written investigative report (copy to the President)
9. The accident will be reviewed at the next Project Managers meeting with the intent to prevent further or similar events on other projects.
10. The Health & Safety Manager will assess the incident to determine OSHA record ability and make record if necessary on the OSHA 300 form, within five working days.

SECTION 4 - INCIDENT RESPONSE

4.1 Purpose

To prevent the occurrence of accidents on C&S Engineers, Inc., work sites and to establish a procedure for investigation and reporting of incidents occurring in, or related to C&S work activities.

4.2 Scope

Applies to all incidents related to C&S Engineers, Inc. work activities.

4.3 Definitions

Accident - An undesired event resulting in personal injury and/or property damage, and/or equipment failure.

Fatality - An injury or illness resulting in death of the individual.

Incident - Any occurrence which results in, or could potentially result in, the need for medical care or property damage. Such incidents shall include lost time accidents or illness, medical treatment cases, unplanned exposure to toxic materials or any other significant occurrence resulting in property damage or in "near misses."

Incidence Rate - the number of injuries, illnesses, or lost workdays related to a common exposure base of 100 full-time workers. The rate is calculated as:

N/EH x 200,000

N = number of injuries and illnesses or lost workday cases; EH = total hours worked by all associates during calendar year. 200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

Injury - An injury such as a cut, fracture, sprain, amputation, etc. which results from a work accident or from a single instantaneous event in the work environment.

Lost Workday Case - A lost workday case occurs when an injured or ill employee experiences days away from work beginning with the next scheduled work day. Lost workday cases do not occur unless the employee is affected beyond the day of injury or onset of illness.

Recordable Illness - An illness that results from the course of employment and must be entered on the OSHA 300 Log and Summary of Occupational Injuries and Illnesses. These illnesses require medical treatment and evaluation of work related injury. For example, dermatitis, bronchitis, irritation of eyes, nose, and throat can result from work and non-work related incidents.

Recordable Injury - An injury that results from the course of employment and must be entered on the OSHA 300 Log and Summary of Occupational Injuries and Illnesses. These injuries require medical treatment; may involve loss of consciousness; may result in restriction of work or motion or transfer to another job; or result in a fatality.

Near Miss - An incident which, if occurring at a different time or in a different personnel or equipment configuration, would have resulted in an incident.

4.4 Responsibilities

Employees - It shall be the responsibility of all C&S Engineers, Inc. employees to report all incidents as soon as possible to the HSC, regardless of the severity.

Human Resources - has overall responsibility for maintaining accident/ incident reporting and investigations according to current regulations and recording injuries/ illness on the OSHA 300 log, and posting the OSHA 300 log.

Emergency Coordinator - It is the responsibility of the Emergency Coordinator to investigate and prepare an appropriate report of all accidents, illnesses, and incidents occurring on or related to C&S Engineers, Inc. work. The Emergency Coordinator shall complete Attachment A within 24 hours of the incident occurrence.

Health and Safety Manager (HSM) - It is the responsibility of the HSM to investigate and prepare an appropriate report of all lost time injuries and illnesses and significant incidents occurring on or related to C&S Companies. The HSM shall maintain the OSHA 300 form.

Project Managers (PM) - It shall be the PM's responsibility to promptly correct any deficiencies in personnel, training, actions, or any site or equipment deficiencies that were determined to cause or contribute to the incident investigated.

SECTION 5 – GUIDELINES

5.1 Incident Investigation

The Project Manager will immediately investigate the circumstances surrounding the incident and will make recommendations to prevent recurrence. The HSM shall be immediately notified by telephone if a serious accident/ incident occurs. The incident shall be evaluated to determine whether it is OSHA recordable. If the incident is determined to be OSHA 300 recordable, it shall be entered on the OSHA 300 form.

The Project Manager with assistance from the HSM must submit to the office an incident report form pertaining to any incident resulting in injury or property damage.

5.2 Incident Report

The completed incident report must be completed by the Project Manager within 12 hours of the incident and distributed to the HSM, and Human Resources. This form shall be maintained by Human Resources for at least five years for all OSHA recordable cases. This form serves as an equivalent to the OSHA 101 form.

5.3 Incident Follow-up Report

The Incident Follow-Up Report (Attachment B) shall be distributed with the Incident Report within one week of the incident. Delay in filing this report shall be explained in a brief memorandum.

5.4 Reporting of Fatalities or Multiple Hospitalization Accidents

Fatalities or accidents resulting in the hospitalization of three or more employees must be reported to OSHA verbally or in writing within 8 hours. The report must contain 1) circumstances surrounding the accident(s), 2) the number of fatalities, and 3) the extent of any injuries.

5.5 OSHA 300A Summary Form

Recordable cases must be entered on the log within six workdays of receipt of the information that a recordable case has occurred. The OSHA log must be kept updated to within 45 calendar days.

OSHA 300 forms must be updated during the 5 year retention period, if there is a change in the extent or outcome of an injury or illness which affects an entry on a log. If a change is necessary, the original entry should be lined out and a corrected entry made on that log. New entries should be made for previously unrecorded cases that are discovered or for cases that initially weren't recorded but were found to be recordable after the end of the year. Log totals should also be modified to reflect these changes.

5.6 Posting

The log must be summarized at the end of the calendar year and the summary must be posted from February 1 through May 31.

5.7 OSHA 300A

Facilities selected by the Bureau of Labor Statistics (BLS) to participate in surveys of occupational injuries and illnesses will receive the OSHA 300A. The data from the annual summary on the OSHA 300 log should be transferred to the OSHA 300A, other requested information provided and the form returned as instructed by the BLS.

5.8 Access to OSHA Records

All OSHA records (accident reporting forms and OSHA 300 logs) should be available for inspection and copying by authorized Federal and State government officials.

Employees, former employees, and their representatives must be given access for inspection and copying to only the log, OSHA No. 300, for the establishment in which the employee currently works or formerly worked.

SECTION 6 – REFERENCES

29 CFR Part 1904

SECTION 7 – ATTACHMENTS

Attachment A - Incident Investigation Form
Attachment B - Incident Follow-Up Report
Attachment C - Establishing Recordability

ATTACHMENT A

INCIDENT INVESTIGATION FORM

Accident investigation should include:

Location:

Time of Day:

Accident Type:

Victim:

Nature of Injury:

Released Injury:

Hazardous Material:

Unsafe Acts:

Unsafe Conditions:

Policies, Decisions:

Personal Factors:

Environmental Factors:

ATTACHMENT B

INCIDENT FOLLOW-UP REPORT

Date _____

Foreman: _____

Date of Incident: _____

Site: _____

Brief description of incident: _____

_____

_____

_____

_____

Outcome of incident: _____

_____

_____

_____

Physician's recommendations: _____

_____

_____

_____

Date the injured returned to work: _____

Project Manager Signature: _____

Date: _____

ATTACH ANY ADDITIONAL INFORMATION TO THIS FORM

ATTACHMENT C

ATTACHMENT ESTABLISHING RECORDABILITY

1. Deciding whether to record a case and how to classify the case.

   Determine whether a fatality, injury or illness is recordable.

   A fatality is recordable if:

   - Results from employment

   An injury is recordable if:

   - Results from employment and
   - It requires medical treatment beyond first aid or
   - Results in restricted work activity or job transfer, or
   - Results in lost work day or
   - Results in loss of consciousness

   An illness is recordable if:

   - It results from employment

2. Definition of "Resulting from Employment"

   Resulting from employment is when the injury or illness results from an event or exposure in the work environment. The work environment is primarily composed of: 1) The employer's premises, and 2) other locations where associates are engaged in work-related activities or are present as a condition of their employment.

   The employer's premises include company rest rooms, hallways, cafeterias, sidewalks and parking lots. Injuries occurring in these places are generally considered work related.

   The employer's premises EXCLUDES employer controlled ball fields, tennis courts, golf courses, parks, swimming pools, gyms, and other similar recreational facilities, used by associates on a voluntary basis for their own benefit, primarily during off work hours.

   Ordinary and customary commute, is not generally considered work related.

   Employees injured or taken ill while engaged in consuming food, as part of a normal break or activity is not considered work related. Employees injured or taken ill as the result of smoking, consuming illegal drugs, alcohol or applying make-up are generally not considered work related. Employee injured by unauthorized horseplay is generally not considered work related, however, an employee injured as a result of a fight or other

workplace violence act, may be considered work related. Associates who travel on company business are considered to be engaged in work related activities all the time they spend in the interest of the company. This includes travel to and from customer contacts, and entertaining or being entertained for purpose of promoting or discussing business. Incidents occurring during normal living activities (eating, sleeping, recreation) or if the associate deviates from a reasonably direct route of travel are not considered OSHA recordable.

3. Distinction between Medical Treatment and First Aid.

First aid:

Any one-time treatment, and any follow up visit for the purpose of observation, of minor scratches, cuts, burns, splinters, etc., which do not ordinarily require medical care. Such one-time treatment, and follow up visit for the purpose of observation, is considered first aid even though provided by a physician or registered professional personnel.

Medical Treatment (recordable):

a) Must be treated only by a physician or licensed medical personnel.
b) Impairs bodily function (i.e. normal use of senses, limbs, etc.).
c) Results in damage to physical structure of a non-superficial nature (fractures).
d) Involves complications requiring follow up medical treatment.

Appendix I

Resumes of Key Personnel

H. Nevin Bradford, PE

Department Manager

Nevin Bradford is a New York State licensed professional engineer with over 35 years of experience in the environmental consulting industry. His expertise spans a variety of technical matters, including asbestos surveys and abatement design, environmental due diligence assessments, remedial investigation, remedial design, remedial construction management, vapor intrusion mitigation design, petroleum and chemical bulk storage compliance, and facility decommissioning and demolition management.

Total Experience
35+ years

With C&S Since
2021

Education
Associates of Applied Science, SUNY Canton, 1988

Bachelor of Arts, SUNY Potsdam, 1990

Registrations
Professional Engineer — NY, 2008

Certifications
NYS Certified Asbestos Designer

NYS Certified Asbestos Building Inspector

NYS Certified Asbestos Management Planner

OSHA 40-Hour HAZWOPER

OSHA HAZWOPER Supervisor

Certified NORM/TNORM Surveyor

Professional Associations
Central New York Air and Waste Management Association

Brownfield Coalition of the Northeast

Genesee Finger Lakes Air and Waste Management Association

Experience

Brownfields

Remedial Investigation, Remedial Alternatives Analysis, Remedial Design, and Remedial Construction Management, New York State Environmental Restoration Program, Former 112-Acre Petroleum Bulk Storage and Distribution Facility, Sackets Harbor, NY—Served as consultant to Village of Sackets Harbor in connection with remediation of former large-scale petroleum bulk storage and distribution facility under New York State's Environmental Restoration Program (ERP). Prepared grant application securing funding from New York State and provided site-wide investigation and remedial design and management throughout project. Site remediation employed source area excavation, underground storage tank closures, off-site soil disposal, and on-site soil treatment using mechanical aeriation with an Allu bucket.

Remedial Investigation, Remedial Alternatives Analysis, Remedial Design, and Remedial Construction Management, New York State Environmental Restoration Program, Abandoned Automotive Repair Garage and Retail Gasoline Station, Redwood, NY—Served as consultant to the Town of Alexandria in connection with remediation of former gasoline service station and automobile repair garage under New York State's Environmental Restoration Program (ERP). Prepared grant application securing funding from New York State and provided site-wide investigation and remedial design and management throughout project. Site remediation involved hazardous building material abatement, building demolition, and excavation and off-site soil disposal of petroleum-impacted soil beneath and downgradient of the former structure.

NYSDEC Brownfield Cleanup Program Site, Former Mixed Commercial Property, Buffalo, NY—Represented private developer with the investigation and remediation planning for a former commercial property under the NYSDEC Brownfield Cleanup Program. Contaminants of concern included heavy metals and semi-volatile organic compounds associated with extensive historic urban fill.

NYSDEC Brownfield Cleanup Program Site, Former Smith Restaurant Supply Site, Syracuse, NY—Represented private developer with the investigation and remediation of former industrial property under the NYSDEC Brownfield Cleanup Program. Contaminants of concern include heavy metals, semi-volatile organic compounds, and volatile organic compounds (vapor intrusion concern).

NYSDEC Brownfield Cleanup Program Site, Former Will & Baumer Candle Company Site, Syracuse, NY—Represented private developer with the investigation and remediation of former industrial property under the NYSDEC Brownfield Cleanup

Program. Contaminants of concern include heavy metals, semi-volatile organic compounds, and petroleum products.

NYSDEC Brownfield Cleanup Program Site, Former Industrial Facility, Johnson City, NY—Represented private developer with the investigation and remediation of former industrial property under the NYSDEC Brownfield Cleanup Program. Contaminants of concern include heavy metals, semi-volatile organic compounds, and volatile organic compounds (vapor intrusion concern).

NYSDEC Brownfield Cleanup Program Site, Former Penfield Manufacturing Company Site, Syracuse, NY—Represented private developer with the investigation and remediation of former industrial property under the NYSDEC Brownfield Cleanup Program. Contaminants of concern include chlorinated industrial solvents (groundwater contamination and vapor intrusion concern).

Site Remediation

Indoor Shooting Range Decommissioning and Lead Hazard Control Project, Public K-12 School District, St. Lawrence County, NY—Served as the principal consultant to the architect and school district on a $3M decommissioning and lead hazard control project involving an indoor shooting range and 50,000 S.F. of basement and crawlspace affected by lead-containing dust at a public-school facility. This work was undertaken as part of a larger capital improvement project at the district.

In-Situ Chemical Oxidation, Historic Gasoline Contamination Beneath Public School Building, Oneida County, NY—Provided investigation, remedial design, and implementation of in-situ chemical oxidation process to address gasoline impacted soil and groundwater beneath and surrounding public school building and multiple buried utility corridors.

PCB-Contaminated HVAC Duct Assessment and Mitigation Planning and Oversight, Lakeland Central School District, Westchester County, NY—Project involved the rapid assessment and field design of measures to address an HVAC ductwork system within the school that was found to contain PCBs during sampling by others. The issue was discovered two weeks prior to the opening date of school for the fall semester, posing extreme logistical challenges with scheduling and directing an environmental contractor, scoping the removal of the affected duct system, scoping and coordinating the installation of a replacement duct system once clearance was achieved. Served as the primary liaison between the Westchester County Health Department and the District. Project execution allowed school to open on schedule.

Site-Wide Hydrogeologic Investigation and Groundwater Remediation System Optimization and Operation, Abandoned Hazardous Waste Treatment Facility, Madison County, NY—Served as principal consultant to the New York State Department of Environmental Conservation following revocation of a Hazardous Waste Treatment, Storage, and Disposal (TSD) facility permit due to extensive non-compliance on part of facility operator. Provided evaluation of an existing groundwater pump-and-treat (air stripper/carbon polishing) system and two (2) soil vapor extraction systems that were previously constructed to control/remediate soil and groundwater contaminated by chlorinated volatile organic compounds; provided recommendations for modification and optimization of existing systems to improve plume control; provided on-going monitoring and maintenance of remediation systems; and developed and implemented site-wide hydrogeologic investigation and source area delineation. Site was subsequently transferred to New York State Superfund Program.

11,000-Gallon Tanker Release / Gasoline Spill Remediation, Steuben County, NY—Served as the principal technical consultant to a petroleum transporter and their insurance company in connection with the assessment and remediation of an 11,000-gallon release of gasoline from a tank truck resulting from a vehicle accident. The accident occurred on an interstate highway, adjacent to the Cohocton River. Due to the nature of the incident and risk posed to the river, the work involved a rapid field assessment/investigation, and field design and immediate implementation of remedial measures. Provided investigation, remedial design, and

remedial management. Remedial techniques included high vacuum extraction and catalytic oxidation, followed by air sparging/soil vapor extraction, and final oxygen injection.

Voluntary Cleanup-Heavy Metal and VOC Contaminated Soil-Former Agricultural Disposal Site, Jefferson County Industrial Development Agency, Watertown, NY—Served as principal consultant on behalf of the Jefferson County Industrial Development Agency in connection with the development and execution of a remedial investigation and corrective action to address an historic solid/agricultural waste disposal area on an abandoned farm acquired for the purposes of expanding the Jefferson County Industrial Park. The disposal area was adjacent to the Black River, within a large sinkhole in karst terrain. The underlying bedrock contained caves used as wintering habitat by the Indiana Brown Bat, an endangered species.

Landfill Cover Design and Construction Oversight Services, Former Hazardous Waste Landfill, Syracuse, NY-- Provided design and construction observation services for a regional utility company for the repair of a hazardous waste landfill cover system that was inadvertently breached during a utility line upgrade project.

Remediation Management, Sale of Active Paper Production Mill, St. Lawrence County, NY—Served as owner's environmental consultant in conjunction with the sale of an active paper product mill in northern New York State. Responsibilities included reviewing the findings of a Phase I and II Environmental Site Assessment and Facility Audit that was completed by the prospective buyer's environmental consultant and conducting additional/supplementary sampling and investigation into the nature and extent of existing environmental concerns. These concerns included petroleum- and solvent/VOC-impacted soil and sediments at the facility's storage tank farm and in a down gradient drainage basin; an inactive 15,000-gallon fuel oil storage tank that required in place closure due to site access limitations; extensive asbestos-containing materials throughout facility; PCB-containing electrical equipment; and low-level PCB soil contamination in the vicinity of an abandoned transformer building. Provided recommendations on remedial options; provided remediation-phase construction management; prepared closure documents required for regulatory review; and assisted legal counsel in drafting closing documents that allowed the property transfer to occur prior to completion of the remedial activities.

Hazardous Building Materials (Secondary Education)

Asbestos Abatement Design, Allen Loop Reconstruction and Utility Upgrade Project, SUNY Brockport, Brockport, NY—Provided asbestos design services in support of State University Construction Fund civil and utility design project.

Asbestos Abatement Design, Mackin Steam Line Project, SUNY Oswego, Oswego, NY—Provided asbestos design services in connection with the removal and replacement of steam lines under State University Construction Fund design project.

Asbestos Abatement Design, Campus-Wide Utility Upgrade Project, SUNY Alfred, Alfred, NY—Provided asbestos design services in support of State University Construction Fund campus-wide civil and utility design project.

Asbestos Abatement Design, Road and Utility Upgrade Project, SUNY Geneseo, Geneseo, NY—Provided asbestos design services in support of State University Construction Fund civil and utility design project.

Asbestos Survey and Abatement Design, Administration Building Renovation, Clinton Community College, Plattsburgh, NY—Provided asbestos survey and design services in support of two separate facility renovation projects at the Clinton Community College Main Administration Building and Student Center.

Asbestos Survey and Abatement Design, McVean Student Center and Dewey Library, Jefferson Community College, Watertown, NY—Provided asbestos survey and design services in support of several facility renovation projects at the Jefferson Community College's McVean Student Center and Dewey Library buildings.

Asbestos Abatement Design, Corey Union Facility Improvements, SUNY Cortland, Cortland, NY—Provided asbestos design services in support of facility renovation at Corey Union.

Asbestos Abatement Design, Veterinary Research Tower, Cornell University, Ithaca, NY—Provided asbestos design services in support of facility renovation at Cornell University's Veterinary Research Tower.

Asbestos Abatement Design, Veterinary Research Tower, Cornell University, Ithaca, NY—Provided asbestos design services in support of facility renovation at Cornell University's Balch Hall student residence building.

Hazardous Building Materials (K-12 Schools)

Hazardous Building Material Abatement Design, Capital Improvement Project and Crawlspace Cleanup Project, Delaware Academy at Delhi, Delhi, NY—Provided full hazardous building material abatement design services in support of capital improvement project and large-scale crawlspace abatement program at K-12 public school.

Hazardous Building Material Abatement Design, Capital Improvement Project, Pine Bush Central School District, Pine Bush, NY—Provided full hazardous building material abatement design services in support of capital improvement project involving multiple schools at K-12 public school.

Hazardous Building Material Abatement Design, Capital Improvement Project, Auburn Enlarged City School District, Auburn, NY—Provided full hazardous building material abatement design services in support of several capital improvement projects involving multiple schools at K-12 public school.

Hazardous Building Material Abatement Design, Capital Improvement Project, Tri-Valley Central School District, Grahamsville, NY—Provided full hazardous building material abatement design services in support of capital improvement project involving multiple schools at K-12 public school.

Hazardous Building Material Abatement Design, Capital Improvement Project, Rondout Valley School District, Accord, NY—Provided full hazardous building material abatement design services in support of capital improvement project involving multiple schools at K-12 public school.

Hazardous Building Material Abatement Design, Capital Improvement Project, Walton Central School District, Accord, NY—Provided full hazardous building material abatement design services in support of capital improvement project involving two schools at K-12 public school.

Hazardous Building Material Abatement Design, Capital Improvement Project, Andes Central School District, Andes, NY—Provided full hazardous building material abatement design services in support of capital improvement project.

Pre-Renovation Hazardous Building Material Surveys, Capital Improvement Project, Syracuse City School District, Syracuse, NY—Provided full pre-renovation hazardous building material survey services in support of planned capital improvement projects at Shea and Clary Middle School facilities.

Pre-Renovation Hazardous Building Material Surveys and Abatement Design, Capital Improvement Project, Lakeland Central School District, Lakeland, NY—Provided full pre-renovation hazardous building material survey and design services in support of planned capital improvement projects at all District buildings.

Pre-Renovation Hazardous Building Material Surveys, Capital Improvement Project, Plattsburgh City School District, Plattsburgh, NY—Provided full pre-renovation hazardous building material survey services in support of planned capital improvement projects at all District buildings.

Pre-Renovation Hazardous Building Material Surveys, Capital Improvement Project, Peru Central School District, Peru, NY—Provided full pre-renovation hazardous building material survey services in support of planned capital improvement projects at all District buildings.

Pre-Renovation Hazardous Building Material Surveys, Capital Improvement Project, Schroon Lake Central School District, Schroon Lake, NY—Provided full pre-renovation hazardous building material survey services in support of planned capital improvement project.

Pre-Renovation Hazardous Building Material Surveys, Capital Improvement Project, Clinton Central School District, Clinton, NY—Provided full pre-renovation hazardous building material survey services in support of planned capital improvement projects at all District buildings.

Pre-Renovation Hazardous Building Material Surveys, Capital Improvement Project, Chateauguay Central School District, Chateauguay, NY—Provided full pre-renovation hazardous building material survey services in support of planned capital improvement projects at all District buildings.

Pre-Renovation Hazardous Building Material Surveys, Capital Improvement Project, Mexico Academy, Mexico, NY—Provided full pre-renovation hazardous building material survey services in support of planned capital improvement projects at all District buildings.

Pre-Renovation Hazardous Building Material Surveys, Capital Improvement Project, Jordan Central School District, Jordan, NY—Provided full pre-renovation hazardous building material survey services in support of planned capital improvement projects at all District buildings.

Pre-Renovation Hazardous Building Material Surveys, Capital Improvement Project, Skaneateles High School, Skaneateles Central School District, Skaneateles, NY—Provided full pre-renovation hazardous building material survey services in support of planned capital improvement projects at high school building.

Pre-Renovation Hazardous Building Material Surveys, Renovations and Additions Project, Lisbon Central School District, Lisbon, NY—Provided full pre-renovation hazardous building material survey services in support of planned renovation project.

Pre-Renovation Hazardous Building Material Surveys, Capital Improvement Project, Fonda-Fultonville Central School District, Fultonville, NY—Provided full pre-renovation hazardous building material survey services in support of planned capital improvement project.

Pre-Renovation Hazardous Building Material Surveys, Capital Improvement Project, Warwick Valley Central School District, Warwick, NY—Provided full pre-renovation hazardous building material survey services in support of planned capital improvement projects at all District buildings.

Underground Storage Tank Closures, Bus Maintenance Facility, Chateauguay Central School District, Chateauguay, NY—Provided field observation, soil screening, post-removal soil sampling, and tank closure report preparation for the closure of several underground petroleum storage tanks at the district's bus maintenance facility.

Underground Storage Tank Closure, Former Heating Oil Tank, LaFargeville Central School District, LaFargeville, NY—Provided field observation, soil screening, post-removal soil sampling, and tank closure report preparation for the closure of former underground fuel oil storage tank.

Hazardous Building Materials (Federal)

Pre-Demolition Hazardous Building Material Surveys, 150 Structures, Fort Drum Military Installation, Watertown, NY—Provided field surveys of 150 buildings scheduled for demolition under the US Army Corps of Engineers' Facility Reduction Program.

Pre-Demolition Hazardous Building Material Surveys, 75 Structures, Picatinny Arsenal, Dover, NJ—Provided field surveys of 75 buildings scheduled for demolition under the US Army Corps of Engineers' Facility Reduction Program.

Hazardous Building Material Surveys, Central Energy Plant, US Military Academy, West Point, NY—Provided field surveys of central energy plant in preparation for turbine replacement project.

Hazardous Building Materials (Residential and Commercial)

Hazardous Building Material Abatement Design, Former Penfield Manufacturing Building, Syracuse, NY—Provided design services associated with asbestos abatement, structure demolition, lead-based paint management, universal waste management, and radon mitigation for a residential conversion of an abandoned industrial facility.

Hazardous Building Material Surveys and Contamination Assessments, Former Nestle Chocolate & Confections Facility, Fulton, NY—Provided pre-demolition hazardous material surveys and contamination assessments of 1.1 million square feet of abandoned industrial facility in preparation of facility demolition.

Hazardous Building Material Survey and Abatement Design, Former West Middle School Building, Auburn, NY—Provided facility-wide regulated building material survey and design services associated with asbestos abatement, lead-based paint management, and universal waste management for a residential conversion of a former public-school building.

Hazardous Building Material Survey and Abatement Design, Former Public School Building, Waterloo, NY—Provided facility-wide regulated building material survey and design services associated with asbestos abatement, lead-based paint management, and universal waste management for a residential conversion of a former public school building.

Hazardous Building Material Survey and Abatement Design, Former Public School Building, Watkins Glen, NY—Provided facility-wide regulated building material survey and design services associated with asbestos abatement, lead-based paint management, universal waste management, and crawlspace asbestos cleanup for a residential conversion of a former public school building.

Pre-Renovation Hazardous Building Material Surveys and Abatement Design, Adaptive Re-Use of Former School Facility, Sidney, NY—Provided facility-wide regulated building material survey and hazardous building material surveys and abatement design services in support of large-scale renovation project resulting in the conversion of a former public school building into offices and housing.

Pre-Renovation Hazardous Building Material Surveys and Abatement Design, Adaptive Re-Use of Former School Facility, East Syracuse, NY—Provided facility-wide regulated building material survey and hazardous building material surveys and abatement design services in support of large-scale renovation project resulting in the conversion of a former public school building into senior housing.

Pre-Renovation Hazardous Building Material Surveys and Abatement Design, Adaptive Re-Use of Former Commercial Buildings, Wellsville, NY—Provided hazardous building material surveys and abatement design services in support of large-scale renovation project which resulted in the conversion of a series of interconnected commercial buildings into mixed use (offices and housing).

Vapor and Radon Mitigation

Radon Mitigation System Design, Adaptive Reuse of Former Industrial Building, Elmira, NY—Provided design services for multiple radon mitigation systems to address high indoor radon levels in connection with the residential conversion of a former industrial building. Systems included sub-slab depressurization systems (basement areas) and sub-membrane depressurization systems (crawlspaces).

Vapor and Radon Mitigation System Design, Adaptive Reuse of Former Industrial Building, Syracuse, NY—Provided design services for multiple sub-slab depressurization systems to address soil vapor and radon intrusion concerns in connection with the residential conversion of a former industrial building at a site contaminated by chlorinated solvents.

Radon Mitigation System Design, Redevelopment of Former Industrial Properties Contaminated by TENORM, Buffalo, NY—Provided design services for multiple sub-slab depressurization systems to address radon intrusion concerns in connection with the design of new commercial buildings constructed on two former industrial properties on which slag and fill material containing technologically enhanced radioactive material (TENORM) was present.

Vapor Intrusion Mitigation System Design, Redevelopment of Former Industrial Property Cortland, NY—Provided design services for sub-slab depressurization systems to address vapor intrusion concerns in connection with the design of new manufacturing building constructed on a former industrial property where vapor intrusion concerns were present because of subsurface contamination by chlorinated solvents. System design incorporated a Cupolex® sub-floor structural dome system that integrated slab design and load bearing capacity with enhanced sub-slab air flow.

Facility Decommissioning

Former McIntyre Paper Mill Decommissioning and Demolition, Mill Street Partners, LLC, Fayetteville, NY—Served as the principal consultant to the purchaser/proposed developer of an abandoned paper mill facility in Onondaga County, New York. Provided a Phase II and II Environmental Site Assessment, waste inventory and profiling for proper disposal/management, underground storage tank assessment, aboveground storage tank compliance and closure planning, pre-demolition asbestos building survey, facility demolition planning, storm water management, and site restoration planning.

Former Tube Mill Decommissioning and Demolition, Industrial Facility, Rome, NY—Provided pre-demolition hazardous material surveys, universal and miscellaneous waste characterization and management, and abatement and cleanup design for 400,000 square feet of unutilized industrial facility in preparation of facility demolition.

Former Apex Tool Building Debris Cleanup, Cortland, NY—Provided design and oversight services to the Cortland County Industrial Development Agency in support of the cleanup of asbestos-containing building debris left at the site following material salvage and building demolition activities conducted by a salvage company. Debris was widespread over 7+ -acre property.

Environmental Due Diligence

Phase I and II Environmental Site Assessment—Planned, performed, and managed the completion of Phase I and II Environmental Site Assessments at hundreds of active and abandoned commercial, industrial, medical, agricultural, and residential facilities throughout the northeastern United States. Representative properties have included retail gasoline service stations, dry cleaning facilities, automobile dealerships, pulp and paper mills, automotive and auto body repair shops, retail shopping centers, hydroelectric facilities, machine shops, marinas, textile manufacturing mills, metals processing facilities, plating facilities, metals machining operations, steel fabrication plants, large agricultural properties (dairy, vegetables), medical facilities, former railyards, salvage yards, junkyards, funeral homes, concrete and asphalt batch plants, golf courses, and foundries.

Petroleum Bulk Storage Compliance

Petroleum Bulk Storage Compliance—Advised numerous private, commercial, public, and industrial facility owners throughout New York State on state and federal petroleum bulk storage compliance issues and spill incidents from 1990 to the present. Representative work has included performance of facility audits (both prior to and following NYSDEC regulatory audits), to identify compliance deficiencies and provide corrective action recommendations; preparation of plans and specifications for storage system corrective actions, upgrades and installations; coordination of corrective actions with tank contractors on facility owner behalf; oversight and field direction of corrective action measures; assisting facility owners with regulatory negotiations with orders on consent and regulatory fines; preparation of Spill Prevention, Containment and Countermeasure Plans to satisfy federal regulatory requirements; preparation of storage tank closure plans, oversight and direction of

storage tank closures, and preparation of storage tank closure reports involving countless petroleum USTs; forensic field investigations to identify sources of product loss and/or spills; and development and implementation of spill response actions for failed tanks systems.

Spill Prevention, Control & Countermeasure Planning

Fibermark, Brownville, NY—Prepared facility-wide Spill Prevention, Control, and Countermeasure Plan and Chemical Bulk Storage Spill Prevention Plan for active paper production facility located along the Black River in Brownville, New York.

State University of New York, Canton, NY—Prepared facility-wide Spill Prevention, Control, and Countermeasure Plan for active college campus and related support facilities.

Plattsburgh International Airport, Plattsburgh, NY—Prepared Spill Prevention, Control, and Countermeasure Plan for active airport and ancillary facilities.

Syracuse University, Syracuse, NY—Prepared updated facility-wide Spill Prevention, Control, and Countermeasure Plan for active university campus and related support facilities.

Tripp Fuels, LLC, Gouverneur, NY—Prepared Spill Prevention, Control, and Countermeasure Plan for petroleum distribution facility and retail gasoline service station and convenience store.

Storm Water Pollution Prevention Planning

Ronald McDonald House, Syracuse, NY—Prepared hydraulic model, Site Plan, Utility Plan, Landscaping Plan, Grading Plan, and Storm Water Pollution Prevention Plan for planned redevelopment of commercial property with new regional Ronald McDonald House facility. Provided site-related construction inspections and storm water compliance inspections throughout duration of construction.

Northeast Utilities Development Site, Van Buren, NY—Prepared pre- and post-construction hydraulic model, Storm Water Pollution Prevention Plan, and storm water management design for planned development of undeveloped agricultural property with new commercial office park.

Proposed Solar Array, Clayton, NY—Prepared pre- and post-construction hydraulic model, Storm Water Pollution Prevention Plan, and storm water management design for planned development of undeveloped agricultural property with new solar array.

Claire Del Fatti

Environmental Engineer

Claire Del Fatti works as an Environmental Engineer in C&S's Remediation Department of the Environmental Services Group. She has 5 years of experience with environmental contamination assessment and remediation, environmental emergency response, and project management. Her responsibilities include conducting environmental assessments, performing remedial investigations, developing remedial work plans and designs, and performing various project management tasks including coordination of field work and preparing cost estimates. Her project experience includes a wide variety of settings including residential homes, commercial buildings, industrial facilities, pipeline stations, and rail lines and yards.

Total Experience
5 years

With C&S Since
January 2023

Education
B.A.Sc., University of Toronto, 2021

Certifications
OSHA 40-Hour HAZWOPER

NRPP Certified Radon Measurement Professional

NRPP Certified Radon Mitigation Specialist

Incident Command System (ICS) 300

Transport Canada UAV Pilot – Advanced Operations

Experience

Site Assessment

USEPA Phase I / II Environmental Site Assessments, 2023 – 2024 – Prepared numerous Phase I and II Environmental Site Assessments (ESAs) at priority brownfield sites within Oswego and Onondaga County. The work is funded by a USEPA Brownfield Assessment Grant. Responsibilities include preparing EPA compliant Phase I and Phase II reports, preparing Health and Safety Work Plans (HASPs) and Quality Assurance Project Plans (QAPPs), performing site walks and assessments, leading subsurface investigations, and assisting with project management tasks including preparation of proposals and approval forms.

Phase I / II Environmental Site Assessments, 2023 – 2024 – Coordinated, performed, and prepared technical documents and reports for Phase I and II Environmental Site Assessments at numerous sites throughout New York, including commercial, industrial, residential, and agricultural facilities. Responsibilities included preparing reports, performing site walks and assessments, and leading subsurface investigations. Claire has been the project manager on a variety of these kinds of projects and is responsible for preparing proposals, cost estimates, coordinating with contractors and communicating with the client.

Subsurface Investigation, Monitoring, Remediation

1153 West Fayette Street BCP Site, Syracuse, NY, 2023 – 2025 – Compiled and submitted a NYSDEC Brownfield Cleanup Program (BCP) application for a former manufacturing facility with known subsurface contamination. Work consisted of conducting a Phase I ESA, a Phase II ESA, and additional surface soil sampling prior to compiling all relevant data into an application package. Upon acceptance into the program, Claire prepared multiple technical documents including a Citizens Participation Plan (CPP), a Remedial Investigation Work Plan (RIWP), and an Interim Site Management Plan (ISMP). Claire has coordinated and lead all investigative work at the site to date. Field work included drilling oversight, soil classification and screening, soil sampling, monitoring well installation oversight, monitoring well development and sampling, and soil vapor intrusion sampling. Project management work consisted of preparing proposals, cost estimates, and coordinating with regulatory agencies and the client. The Remedial Investigation at the Site is complete and under NYSDEC review.

Yates County Groundwater Remediation Design, Penn Yan, NY, 2024 – 2025 – Lead the remedial design efforts for groundwater remediation following a petroleum spill at a Highway Department Garage. Work consisted of researching various groundwater remediation technologies, presenting multiple feasible solutions to the client with estimated costs, identifying gaps in the conceptual site model, preparing a work plan to gather further information to refine the remedial design, performing a Pre-Design Investigation (PDI), and developing a Remedial Action Work Plan (RAWP) based on the results of the PDI. Claire lead an Activated Carbon Groundwater Injection Program at the Site which was successful in reducing contaminant concentrations by 84 to 99% from baseline values.

Yates County Spill Investigation, Penn Yan, NY, 2023 – Coordinated and performed a spill investigation at a Highway Department Garage following the closure of two underground storage tanks containing gasoline and diesel. Work consisted of overseeing and leading a borehole investigation to determine extent of impacts, soil classification and screening, soil sampling, monitoring well installation oversight, and monitoring well development and sampling. Following the field program, responsibilities included preparing a Spill Investigation Report, preparing preliminary models of the extent of soil and groundwater impact, and coordinating with the client and regulatory agencies.

Former Ithaca Gun Factory BCP Site, Ithaca, NY, 2023 – 2024 – Prepared technical documents including investigation work plans, investigation reports, and cost estimates for a former gun factory part of the NYSDEC BCP. Claire has also been providing periodic environmental oversight during the remediation phase of the project which includes excavation oversight, waste tracking, and soil sampling.

Harbor View Square BCP Site, Oswego, NY, 2023 – 2024 – Oversaw the remedial groundwater injection program for a NYSDEC BCP Site. Work included drilling oversight, monitoring well installation oversight, monitoring well development and sampling, and injection oversight. Following the injection program, responsibilities included conducting periodic groundwater sampling to determine the effectiveness of the remedy and laboratory data compilation and analysis.

Lofts at 1117 BCP Site, Syracuse, NY, 2023 – Coordinated and performed a remedial investigation at a former manufacturing facility with known metal and SVOC contamination. Work consisted of drilling oversight, soil classification and screening, soil sampling, monitoring well installation oversight, and monitoring well development and sampling. Other responsibilities included preparing a Remedial Investigation Report and an Alternatives Analysis Report for submission to NYSDEC.

Urban Villages BCP Site, Syracuse, NY, 2023 – Assisted with the preparation of technical documents including analytical data tables and investigation reports. Claire has also assisted with various field tasks including test pit investigations, soil classification, soil sampling, and soil vapor sampling.

Novelis Environmental Investigation, Oswego, NY, 2023 – Coordinated and performed an environmental investigation at a proposed expansion for an aluminum manufacturing facility. Work consisted of drilling oversight, soil classification and screening, soil sampling, monitoring well installation oversight, and monitoring well development and sampling. Claire also prepared technical documents including an investigation proposal, cost estimate, and investigation report.

Soil Vapor Intrusion Sampling and Mitigation Design

Radon Sampling and Mitigation Design for Historical Property, Ithaca, NY, 2024 – 2025 – Coordinated and performed radon testing in a historical property with multiple foundation types. Upon receipt of the results, Claire designed and developed technical documents for the construction of a radon mitigation system to reduce indoor air concentrations while preserving historical aspects of the property. Work consisted of ensuring compliance with relevant ANSI / AARST radon mitigation standards, performing pressure-field extension testing, designing sub-slab suction points and riser routes, and properly sizing radon mitigation piping and fans.

Radon Mitigation System Design for a New Build, Buffalo, NY, 2025 – Designed and developed technical documents for the construction of a passive radon mitigation system in a new residential build. Work consisted of ensuring compliance with relevant ANSI / AARST radon mitigation standards, designing sub-slab suction points and riser routes, and properly sizing radon mitigation piping and fans.

Radon Mitigation System Inspections for a New Build, Hamilton, NY, 2024 – 2025 – Performed periodic inspections of sub-slab components of a newly installed radon mitigation system. Work consisted of performing on-site inspections to ensure compliance with the approved design, preparing inspection logs, coordinating with the design engineer, and providing recommendations to the system installer.

Soil Vapor Intrusion Mitigation Design, Adaptive Reuse of Former Industrial Building Newark, NY, 2024 – Assisted with soil vapor intrusion mitigation design services to address elevated concentrations of volatile organic compounds and the potential for elevated concentrations of radon in a former industrial building being renovated for residential use. Work consisted of coordinating / planning pressure field extension testing for the sub-slab depressurization system and assisting with data analysis and development of design specifications.

Sub-Slab Soil Vapor Sampling for a Commercial Property, Fulton, NY, 2023 – Coordinated, performed, and developed technical documents for the completion of a sub-slab soil vapor assessment through the installation of sub-slab sampling points and the collection of indoor air and outdoor ambient air samples.

Environmental Emergency Response, Previous Employer

Crude Oil Pipeline Release Remediation and Monitoring, Abbotsford, BC, 2021 – 2022 – Coordinated and performed environmental monitoring and remediation at a pipeline station following the release of 150,000 liters of crude oil. Work consisted of preparation of technical documents (including a remedial action plan), groundwater sampling, soil sampling, excavation oversight, drilling oversight, monitoring well installation, waste handling, unmanned aerial vehicle (UAV) surveys, and installation of a biosparging groundwater remediation system.

Train Derailment Emergency Response, Various Locations, 2021 – 2022 – Performed contamination assessment and environmental monitoring on a variety of train derailment sites across Western Canada. Spilled products included gasoline, diesel, coal, grain, etc. Work consisted of preparation of technical documents, environmental monitoring and sampling, and UAV surveys.

Gasoline Truck Spill Emergency Response, Yellowknife, NT, 2022 – Coordinated and performed contamination assessment and delineation following a truck rollover resulting in the release of 16,000 liters of gasoline. Work consisted of initial site walkthroughs, UAV surveys, borehole and test pit oversight, soil sampling, excavation oversight, and waste handling.

Gasoline Storage Tank Spill Emergency Response, Sidney, NS, 2022 – Coordinated and performed work zone and community air monitoring following the release of 600,000 liters of gasoline from a storage facility. Work consisted of community and work zone air monitoring using stationary and handheld devices, implementing appropriate controls to minimize exposure, air data compilation, air data analysis, and preparation of technical reports such as daily air monitoring memos.

Diesel Release Environmental Investigation, Port Coquitlam, BC, 2022 – Coordinated and performed an environmental investigation at a rail yard following the suspected release of diesel fuel. Work consisted of site walkthroughs, visual inspections, soil and surface water sampling, excavation oversight, off-site water monitoring and sampling, and preparation of technical reports.

Flooding Response and Environmental Investigation, Abbotsford, BC, 2021 – Performed an environmental investigation throughout the City of Abbotsford following large scale flooding events. Work consisted of surface water and sediment sampling, data compilation and analysis, and preparation of an investigation report summarizing the findings.

Wildfire Response and Environmental Investigation, Lytton, BC, 2021 – Performed an environmental investigation throughout the Town of Lytton following a wildfire that destroyed 90% of the infrastructure in the town. Work consisted of coordinating hazard assessments, performing real-time air monitoring for particulates, carbon monoxide, and other gases of concern, ash sampling, and UAV surveys.

Nuclear Power Plant Project Management / Controls, Previous Employer

Bruce Power Project Management / Controls, 2019 – 2020 – Maintained healthy project schedules and created a variety of reports to capture project success at the world's second largest nuclear power plant. Work consisted of collecting and analyzing large sets of raw data from hundreds of active projects and transforming it into visually appealing and meaningful information for the client. Assisted in building an internal document management system that was used to migrate dated paper documents on to a user friendly and automated digital platform.

Michael Sherlock

Director of Health and Safety

Michael is an accomplished safety professional with 12 years' experience directing corporate health and safety programs. His proficiencies include the protection of workers, assets, and the community at both the field and corporate level. Mike utilizes his experience in commercial and industrial construction, demolition, and environmental remediation to develop and monitor the programs that protect employees and the public across all C&S projects and locations. In addition, Mike is an authorized trainer for the American Red Cross, Mobile Elevated Work Platforms (MEWP), Powered Industrial Vehicles (PIT), and OSHA Construction (OSHA 500).

Total Experience
12 years

With C&S Since
2022

Education
SUNY New Paltz,
Bachelor of Science in Biology,
Minor in Evolutionary Studies, 2012

Certifications
OSHA Authorized Construction Trainer (OSHA 500)

Class G Asbestos Supervisor NY–Department of Labor

American Red Cross Adult and Pediatric CPR/AED/First Aid Trainer

Hazardous Waste Operations and Emergency Response

Silica Competent Person

Drug and Alcohol Abuse Recognition and Intervention Supervisor

Ives Certified Powered Industrial Truck Operator Trainer

Mobile Crane Management

Underground Utility Damage Prevention – 811

Occupational Safety and Health Administration 30 Hour Construction

National Ranger Training Institute

Experience

Sabre Demolition Corporation, Warners, NY Corporate Health and Safety Director, November 2018–2022 (Environmental Health and Safety Specialist, 2017–2018)

- Responsible for ensuring the safety and compliance of all project sites through regular inspections and by coordinating, administrating, and implementing comprehensive training programs in occupational, industrial, and environmental safety
- Responsible for implementation of the Loss Prevention System®
- Oversee site safety managers in ensuring compliance with company and site-specific safety plans, and maintaining hazard and incident-free project sites
- Perform and oversee investigation of accidents, injuries, and unsafe working conditions
- Plan and implement programs to train management and employees in site safety practices and safe operating techniques
- Manage medical surveillance program and records for all employees exposed to occupational hazards
- Act as the corporate contact for client, federal, state, or municipal safety or risk management authority

Eastman Associates, Inc., Oneonta, NY, Safety Director/Construction Services Coordinator/Asbestos Project Manager, 2014 –2017

- Responsible for ensuring the safety of all work sites through jobsite inspections and by coordinating, administrating, and implementing comprehensive training programs in occupational, industrial, and environmental safety
- Respond to and investigate all reported accidents and near misses in order to evaluate current best practices and recommend changes where necessary
- Assess and revise company safety and employee policies where necessary
- Manage company-owned vehicle fleet as well as equipment and material distribution at all jobsites
- Assess employees' progress through goal establishment and scheduling with daily reports from field superintendents
- Plan, organize, and execute all asbestos abatement projects from acceptance of contract to completion

New York Collegiate Baseball League, Sherrill, NY, Vice President/Treasurer, Sherrill Silversmiths Organization
2015–Current

- Direct all baseball operations for a 501(c)(3) organization affiliated with and sponsored by Major League Baseball, including, but not limited to, hiring coaches, staffing, roster development, fundraising, community relations, and finances.

D. AARON WALTER

PROJECT EXECUTIVE, LEED AP

Aaron manages all aspects of development and construction projects, overseeing internal and external resources ensuring project completion on time and within budget.

Aaron's Strengths:

- Client Relations
- Strategic Direction
- Business Development
- Pre-Construction
- Financial Management
- Right-to-Build

EDUCATION

BA Construction Management
Wentworth Institute of Technology
Boston, MA

AAS Civil Engineering Technology
SUNY Alfred
Alfred, NY

EXPERIENCE

Over 37 years experience
24 years with Hueber-Breuer Construction

CERTIFICATIONS

LEED AP
OSHA 30-hr.
OSHA HAZWOPER
OSHA Supervisor
Procore

TRAINING

First Aid/CPR

AWARDS

Syracuse Builders Exchange
Craftsmanship Award for
On-Site Project Management

NOTABLE PROJECTS

1153 Fayette Street – New Syracuse Public Safety Building
$21.7 Million. The Renovation/Redevelopment of a six-story CIP concrete frame historic industrial building, an adjacent single story building, and a steel framed "barn" into tenant office and program spaces. Project site area is roughly 3.1 acres. The CIP building is roughly 84,600 GSF, the single story building is roughly 6,700 GSF, and the barn area is roughly 9,700 GSF.
In Progress

LOSO at Lakeside, Cicero, NY
$51.24 Million. General Construction services for a new, 11 building apartment complex with 8 garage building and a community clubhouse on a 16.5 acre site on the shores of Oneida Lake.

Hilltop Hall at SUNY Polytechnic Utica, Utica, NY
$27.7 Million. The residential hall is approximately 77,500 SF with 250 hotel-style beds. This is a Net Zero Building Ready and Net Zero Carbon project.

NYS Fairgrounds Exposition Building, Syracuse, NY
$62.5 Million. Design-Build. The HBP Partnership (Hueber-Breuer Pike). New multi-purpose expo hall to accommodate a variety of events for year-round use.

Embassy Suites at Destiny, Syracuse, NY
$38 Million. Construction Management services for a new, 7-story, 182,000 SF, 206 room hotel. Features include an atrium lobby, indoor pool, exercise facility, ballroom, and restaurant.

Onondaga Lakeview Amphitheater, Syracuse, NY
$54 Million. Design-build, fast-track schedule for new construction of the amphitheater located on the shores of the cleaned and restored Onondaga Lake.

SUNY Cortland at Bowers Hall, Cortland, NY
$34 Million. Bowers Hall was an expansive project in need of upgrades and building of a 96,310 SF addition for the campus sciences building.

D. AARON WALTER

1872

CORY WILKINS

ASSISTANT PROJECT MANAGER

Cory manages and coordinates large projects with complex and expedited schedules, on budget and on time. He is skilled in coaching and collaborating with project teams and clients.

Cory's Strengths:

- Communication
- Scheduling
- Cost Reporting
- Estimating
- Design Build
- Logistical Solutions

NOTABLE PROJECTS

1153 Fayette Street – New Syracuse Public Safety Building
$21.7 Million. The Renovation/Redevelopment of a six-story CIP concrete frame historic industrial building, an adjacent single story building, and a steel framed "barn" into tenant office and program spaces. Project site area is roughly 3.1 acres. The CIP building is roughly 84,600 GSF, the single story building is roughly 6,700 GSF, and the barn area is roughly 9,700 GSF.
In Progress

EXPERIENCE PRIOR TO HUEBER-BREUER

Bonacio Construction Inc.
$24 Million. Project Manager. Air City Lofts Phase III, Woodhaven Sub-division, North Point Defense at Griffiss Tech Park.

$60 Million. Superintendent. Air City Lofts Phase I - II and Polaris building at Griffiss Tech Park.

Superintendent - Rich & Gardner Construction
$10 Million. Onsite management for HCR renovation projects throughout CNY for Christopher Communities.

$2 Million. "Oh my darling" restaurant

Owner /Operator - JWC Custom Builders LLC.
Founded and managed all operations as a commercial wood framing subcontractor on multi use projects in and around Saratoga and the Capital Region. (25 employees)

Foreman - JWC custom framing
Onsite lead of framing crew (5-20) workers for custom homes and large commercial multi use installs. Other scopes included siding, roofing, interior trim, flooring, general contracting.

EDUCATION
Physical Education coursework
Hudson Valley Community College
Troy, NY

EXPERIENCE
18 years total experience
1 year with Hueber-Breuer Construction

CERTIFICATIONS
Aerial Lift/Telehandler

TRAINING
OSHA 30

CORY WILKINS

1872

JOSH ZONA

DIRECTOR OF SAFETY & SITE READINESS

Josh began his career with Hueber-Breuer as a project laborer and Superintendent. He now serves as our Director of Safety & Site Readiness.

Josh's Strengths:

- Knowledge of Safety Protocols
- Safety Inspections and Compliance
- Enforcing OSHA Safety and Health Standards
- Quality Control and On-Site Standards

JOSH ZONA

SAFETY

- Work with Project Managers and Superintendents to identify potential safety hazards
- Develop controls to reduce or eliminate identified hazards and prepare site specific safety plans
- Prepare and present written and oral safety reports
- Conduct in-depth accident and near-miss investigations
- Conduct jobsite meetings, implement safety controls and maintain client relationships

SITE READINESS

- Organize and implement fire drills and other emergency safety procedures
- Provide training sessions to employees of all trades covering OSHA instruction and general industry standards

EDUCATION

BA Criminal Justice and Criminology
Niagara University
Lewiston, NY

EXPERIENCE

Over 17 years experience
16 years with Hueber-Breuer Construction

CERTIFICATIONS

OSHA 10, 30, 500, 510
HAZWOPER
OSHA Forklift
Aerial lift Certification
Dive Certifications

AFFILIATIONS

Member Laborers Local 633
Diversity Committee
Safety Committee

TRAINING

RIT (7500) Introduction to Safety and Health Management
Permit Required Confined Space Entry
Electrical Standards
Fall Arrest Systems
Lead Awareness
Scaffold Competent Person
Travelers Safety Day Seminar
Travelers Site-Sense Seminar
National Seminars Group Safety Training Techniques and Presentations
OCM BOCES Adult CPR and First Aid
OCM BOCES Supervisory Skills
Adult, Child and Infant CPR
Global Harmonization System Training

1872

Appendix J

Quality Assurance Project Plan

Quality Assurance Project Plan for 1153-69 West Fayette Street

1153-69 West Fayette Street
City of Syracuse, Onondaga County, New York

BCP Site No. C734164

Prepared by:

C&S Engineers, Inc.
499 Col Eileen Collins Blvd.
Syracuse, New York 13212

July 2024
Revised June 2025

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SECTION 1 – INTRODUCTION

C&S' Quality Control (QC) Program is a vital part of its approach to remedial investigations and remedial action. Through our thorough QC program, our firm is able to provide accurate and dependable data. QC also provides safe working conditions for field staff.

The QC program contains procedures, which provide for collected data to be properly evaluated, and which document that quality control procedures have been followed in the collection of samples. The QC program represents the methodology and measurement procedures used in collecting quality field data. This methodology includes the proper use of equipment, documentation of sample collection, and sample handling practices.

Procedures used in the firm's QC program are consistent with federal, state, and local regulations, as well as, appropriate professional and technical standards.

This QC program has been organized into the following areas:

- QC Objectives
- Field Sampling Techniques
    - Procedures
    - Preparation
    - Measurement
    - Decontamination
- Sample Management

SECTION 2 – QUALITY CONTROL OBJECTIVES

2.1 Data Quality Objectives

Data Quality Objectives (DQOs) are statements which describe the desired quality of data necessary to meet the objectives of the sampling program. The DQOs for the site sampling program were formulated during the scoping effort and developed as part of this Plan. The general steps followed in preparation of the DQOs were as follows:

- Identification of the media to be sampled – Identifies the media being investigated (e.g., ground water, surface soil).

- Identification of the data uses – Identifies the intended use of the data according to the following:
    - Site Characterization – Data are used to determine the composition, nature, and extent of contamination.
    - Risk Assessment – Data are used to evaluate the actual or potential risks posed by contaminants determined to be present on-site. Particular attention is given to sampling at locations where human exposure is possible.
    - Health and Safety Plan (HASP) – Data are used to establish the level of protection needed for on-site workers during site characterization activities.
    - Monitoring – Data are used during the monitoring of the remedial action to access the effectiveness of such action.
    - PRP Enforcement – Data are used to help establish potentially responsible parties (PRP's).
    - Evaluation of Alternatives – Data are used to evaluate various proposed remedial technologies and assist in proper design of alternatives.

- Identification of the data types – Identifies what types of analyses are to be performed.

- Sample Collected – Describes the sample types to be collected.
    - Environmental – Refers to a specific media sampled such as water, soil, air, or biological.
    - Source – Refers to sampling an actual contamination source.
    - Grab – A discrete sample representative of a specific location.
    - Composite – A sample that represents a mixture of a number of grab samples that represents the average properties over the extent of areas sampled.
    - Biased – Sampling that focuses on a specific area of expected contamination or uncontaminated area (background).

- Identification of the data quality needs – Identifies the analytical options available to support data collection activities and are identified as follows:
    - Level I: Field Screening – Portable type instruments which provide real-time data.

- Level II: Field Analysis – Portable analytical instruments in an on-site lab or transported to the site.
- Level III: Standard Analytical Protocols – Standard analytical protocols or without the NYSDEC Analytical Services Protocol (ASP) (2000) deliverables / reportables documentation.
- Level IV: NYSDEC ASP Reportables / Deliverables – Rigorous QA / QC protocols and reportables / deliverables documentation; NYSDEC ASP (2000) Category B deliverables.
- Level V: Non-Standard – Methods which have been modified to meet specific site study or remediation needs or by use of some other specialized analytical methods that cannot be obtained through standard or typical avenues of analytical support.

- Identification of Data Quality Factors – Describes factors which influence the quality or quantity of data to be collected. Primary contaminants and associated levels of concern are identified concerning ARARs or potential risks. The required detection limit are also given or referenced.

- Identification of QA / QC Samples – Specifies additional samples to be collected to support Quality Assurance / Quality Control (QA / QC) procedures. Additional samples to be collected could include:
  - Matrix Spike / Matrix Spike Duplicates – Matrix spike and matrix spike duplicate samples are collected as a duplicate sample to which the analytical laboratory will add known amounts of target analytes. These QA / QC samples are intended to assess the extraction procedure used by the laboratory.
  - Blind Duplicates – Blind duplicates are a duplicate of another sample submitted for analysis. The location of the sample is recorded in the field book and not disclosed on the chain of custody. These QA / QC samples are intended to assess the repeatability of analysis by the laboratory.
  - Equipment Blanks – Equipment blanks are samples which are obtained by running analyte-free water through the sample collection equipment in a way that is identical to the sample collection procedures. Equipment blanks may be used during QA / QC procedures to evaluate if sampling equipment has contributed contaminants to the samples.
  - Trip Blanks – Trip blanks are samples which are prepared prior to the sampling event in the same type of sample container and are kept with the collected samples throughout the sampling event unit analysis. Trip blank vials are not opened in the field and are analyzed for volatile organics only.

2.2 Sampling Procedures

All sampling objectives, locations, and procedures have been included in respective Work Plans and are further described in Section 3. Items including Field Measurement Techniques, General Field Decontamination, and Sample Management have also been included in Sections 3 and 4.

2.3 Laboratory Certification and Coordination

The Environmental Laboratory Approval Program (ELAP) certification is an accreditation issued by the New York State Department of Health (NYSDOH). Such laboratories have demonstrated that they consistently ensure the accuracy and reliability of samples analyzed. All chemical analyses for samples from the site will be completed by an ELAP laboratory capable of performing project specific analyses as indicated in this QA / QC plan. The project QA / QC Officer will also be responsible for all project related laboratory coordination.

Supporting documentation related to per- and polyfluoroalkyl substances (PFAS) analysis, such as standard operating procedures (SOPs), analyte lists, and method detection limits (MDLs) are provided in **Attachment A**.

2.4 Analytical Methodologies

Sampling and analysis will be performed for the Target Compound List (TCL) parameters including volatiles and total petroleum hydrocarbons (TPH). The specific analyses will be conducted according to the following NYSDEC ASP 2000 methodologies:

Parameter Group	USEPA Analysis Method
TPH	8015
Volatiles	8260 or TO-15 for air
Semivolatiles	8270 and 8270-SIM
PCBs	8082
Pesticides	8081
Herbicides	8151
Metals / Inorganics	6010, 6020, 7470, 7471, 9010 / 9012, 7196
1,4-Dioxane	8270-SIM
PFAS	1633

Samples will be analyzed by Alpha Analytical, Inc. (Alpha) or SGS North America, Inc. (SGS), and the data will be presented in Category B reportables / deliverables format.

2.5 Analytical Quality Control

Analytical quality control for this Project will be consistent with the methodology and QA / QC requirements in the NYSDEC ASP 2000.

The tables on the following page detail sample volumes, containers, preservation, and holding time for typical analytes.

2.6 Data Usability Summary Report

A Data Usability Summary Report (DUSR) will be prepared by Environmental Data Validation, Inc. (EDV) or Vali-Data of WNY, LLC (Vali-Data), consistent with NYSDECs Guidance for the Development of Quality Assurance Plans and Data Usability Summary Reports as given in DER-10. The main objective of the DUSR is to determine whether the data presented meets the project specific needs for data quality and data use.

Table 2-1
Soil Sample Collection Requirements

Matrix	Analytical Group	Sample Volume	Containers	Preservation Requirements	Maximum Holding Time
Soil	TPH	4 oz.	4-ounce amber glass, Teflon-lined	Cool to 4°C	14 Days (Extraction)
	VOCs	5-15 grams	40 mL VOA vial	MeOH Cool to 4°C	14 Days
		(2) 5 grams	40 mL VOA vial	Water Cool to 4°C	48 Hours (Freeze) 14 Days (Analysis)
	SVOCs	4 oz.	4-ounce amber glass, Teflon-lined	Cool to 4°C	14 Days (Extraction)
	PCBs	4 oz	4-ounce amber glass, Teflon-lined	Cool to 4°C	365 Days (Extraction)
	Pesticides	4 oz	4-ounce amber glass, Teflon-lined	Cool to 4°C	14 Days (Extraction)
	Herbicides	4 oz	4-ounce amber glass, Teflon-lined	Cool to 4°C	14 Days (Extraction)
	Metals, including Hg	4 oz.	4-ounce amber glass	Cool to 4°C	180 Days (28 Days for Hg)
	Hexavalent Chromium	4 oz.	4-ounce amber glass	Cool to 4°C	30 Days
	Cyanide	4 oz.	4-ounce amber glass	Cool to 4°C	14 Days
	1,4-Dioxane	4 oz.	4-ounce amber glass, Teflon-lined	Cool to 4°C	14 Days (Extraction)
	PFAS	8 oz.	8-ounce plastic	Cool to 4°C	90 Days (Extraction)

Table 2-2
Water Sample Collection Requirements

Matrix	Analytical Group	Sample Volume	Containers	Preservation Requirements	Maximum Holding Time
Groundwater	VOCs	(3) 40 mL	40 mL VOA vial	HCl, pH < 2 Cool to 4°C	14 Days
	SVOCs	(2) 250 mL	250 mL amber glass, Teflon-lined	Cool to 4°C	7 Days (Extraction)
	PCBs	(2) 125 mL	125 mL amber glass, Teflon-lined	Cool to 4°C	365 Days (Extraction)
	Pesticides	(2) 125 mL	125 mL amber glass, Teflon-lined	Cool to 4°C	7 Days (Extraction)
	Herbicides	(2) 1000 mL	1000 mL amber glass, Teflon-lined	Cool to 4°C	7 Days (Extraction)
	Total / Dissolved Metals, including Hg	(2) 250 mL	250 mL plastic	HNO3, pH<2 Cool to 4°C	180 Days (28 Days for Hg)
	Hexavalent Chromium	500 mL	500 mL plastic	Cool to 4°C	24 Hours
	Cyanide	250 mL	250 mL plastic	NaOH, pH>12 Cool to 4°C	14 Days
	1,4-Dioxane	(2) 250 mL	250 mL amber glass, Teflon-lined	Cool to 4°C	7 Days (Extraction)
	PFAS	(2) 250 mL	250 mL plastic	Cool to 4°C	28 Days (Extraction)

SECTION 3 – FIELD SAMPLING PLAN

3.1 Sampling Procedures

The following sections provide procedures for collecting a variety of samples, not all of which will be needed at this site.

3.1.1 Preparation for Sampling

The sample collection technique is of prime importance to assure the integrity of the collected sample. The following techniques include provisions so that:

- A representative sample is obtained;
- Contamination of the sample is minimized;
- The sample is properly preserved; and
- An acceptable Chain-of-Custody record is maintained.

The QA / QC Sampling Component of the Plan includes:

- Incorporation of accepted sampling techniques referenced in the sampling plan;
- Procedures for documenting any field actions contrary to the QA / QC Plan;
- Documentation of all preliminary activities such as equipment check-out, calibrations, and container storage and preparation;
- Documentation of field measurement quality control data (quality control procedures for such measurements shall be equivalent to corresponding QC procedures);
- Documentation of field activities;
- Documentation of post-field activities including sample shipment and receipt, field team debriefing, and equipment check-in;
- Generation of quality control samples including duplicate samples, equipment blanks, and trip blanks;
- The use of these samples in the context of data evaluation with details of the methods employed (including statistical methods) and of the criteria upon which the information generated will be judged; and
- The number of QA / QC samples generally required are shown in the following table. When there is a disagreement with QA / QC sample numbers and types, between this document and a Work Plan, the Work Plan shall prevail.

Table 3-1
QA / QC Samples

Sample Type	Analysis	Number	Note
MS / MSD	Full Suite	Every sample batch, or minimum of 5% (1 per 20)	Two additional samples at a given location
Blind Duplicate	Full Suite	Every sample batch, or minimum of 5% (1 per 20)	An additional sample at a given location
Trip Blank (Groundwater Only)	VOC	One per day or 5% (1 per 20), whichever is more frequent	Vials of clean water provided by laboratory. Packed with collected samples.
Equipment Blank (Groundwater Only)	PFAS	One per day or 5% (1 per 20), or whichever is more frequent	Clean water passed through / over decontaminated sample collection equipment / tubing.

The personnel responsible for collection of groundwater, soil, air, miscellaneous media, and petroleum spill remediation / verification samples will be familiar with standard sampling procedures and follow the appropriate protocol. Field records will be maintained in bound notebooks with numbered pages to document daily instrument calibration, locations sampled, field observations, and weather conditions. Each page will be dated and signed by the sampler. Each notebook will be numbered and a log of notebooks will be maintained by the project manager.

Prior to sampling, all equipment must be procured and accommodations for sample container delivery, and sample shipment must be made. The following is a list of general equipment that would be on hand for sampling events. Special equipment for each sampling event is presented in the section describing that specific sampling event.

3.1.2 General Field Sampling Equipment

- Field Data Sheets
- Chain-of-Custody forms
- Engineers tape and folding ruler with 0.01-foot intervals
- Field Record Sheets
- Latex gloves
- Face-safety shield
- Tyvek coveralls
- Respirators
- Photoionization detector
- Bio-degradable phosphate free detergent
- Coolers and ice (no blue ice)
- Drums
- Sample bottles
- Aluminum foil
- Duct and filament tape
- Tap water
- Distilled water
- Laboratory grade methanol and hexane
- Wash buckets
- Decontamination towels / cloths
- Large disposal containers
- Large plastic sheets

3.2 Sample Collection Techniques

3.2.1 Surface Soil Sampling

Surface soil samples will be collected at the locations and depths indicated in the Work Plan. When sampling is conducted in areas where a vegetative turf has been established, a pre-cleaned trowel or shovel will be used to remove the turf so that it may be replaced at the conclusion of sampling. Samples will then be collected using a pre-cleaned, stainless-steel spoon. When the sample is obtained, it will be deposited into a pre-cleaned stainless-steel bowl or plastic pail for mixing prior to filling the sample containers. The soil will be mixed thoroughly until the material is homogenized. At that point, the soil will be placed into the laboratory provided containers.

Once removed from the ground the soil will immediately be observed for soil characteristics, including general soil type (sand, silt, clay), moisture, and evidence of impairment (e.g. petroleum or chemical odors, staining, volatile organic vapors as measured by a photoionization detector (PID)). The PID will be calibrated daily (and more often as required by the manufacturer's data) prior to use in the field, using calibration test gases.

When PFAS sampling / testing is required, no sampling equipment components or sample containers should come into contact with aluminum foil, LDPE, glass, or Teflon tape. Acceptable equipment includes stainless steel spoons and bowl, HDPE containers, and steel shovels or augers that are not coated.

3.2.2 Subsurface Soil Sampling – Direct Push Drilling

Generally, soil borings will be advanced with a Geoprobe direct push sampling system. The use of direct push technology allows for rapid sampling, observation, and characterization of relatively shallow overburden soils. The Geoprobe utilizes a four to five-foot MacroCore® sampler, with disposable polyethylene sleeves. Soil cores will be retrieved in four or five-foot sections and can be easily cut from the polyethylene sleeves for observation and sampling. The MacroCore® sampler will be decontaminated between boring locations using an Alconox and water solution.

Prior to initiating drilling activities, the MacroCore®, drive rods, and pertinent equipment, will be steam cleaned or washed with an Alconox and water solution. This cleaning procedure will also be used between each boring. Throughout and after the cleaning processes, direct contact between the equipment and the ground surface will be avoided. Plastic sheeting and/or clean support structures (e.g., pallets, sawhorses) will be used.

Test borings will be advanced with 2-inch (or larger) inside diameter (ID) direct push MacroCore® through overburden soils. Drilling fluids, other than potable water will not be allowed without special consideration and agreement from NYSDEC. The use of lubricants is also not allowed unless approved by the NYSDEC representative.

3.2.3 Subsurface Soil Sampling – Hollow Stem Auger

The drilling and installation of monitoring wells will be performed using a rotary drill rig which will have sufficient capacity to perform 4 1/4-inch ID hollow-stem auger drilling in the overburden, retrieve MacroCore® or split-spoon samples. Equipment sizes and diameters may vary based on project-specific criteria. Any investigative derived waste generated during the advancement of soil borings and monitoring well installations will be containerized and characterized for proper disposal.

Prior to initiating drilling activities, the augers, rods, MacroCore®, split spoons, and other pertinent equipment will be steam cleaned or washed with an Alconox and water solution. This cleaning procedure will also be used between each boring. Steam cleaning activities will be performed in a designated on-site decontamination area. During and after the cleaning processes, direct contact between the equipment and the ground surface will be avoided. Plastic sheeting and/or clean support structures (e.g., pallets, sawhorses) will be used.

Test borings will be advanced with 4 1/4-inch ID hollow stem augers through overburden, driven by truck-, track-, or trailer-mounted drilling equipment. Alternative methods of drilling or equipment may be allowed or requested for project specific criteria but must be approved by the NYSDEC. Drilling fluids, other than water from a NYSDEC-approved source, will not be allowed without special consideration and agreement from NYSDEC. The use of lubricants is also not allowed unless approved by the NYSDEC representative.

Hollow stem auger advanced groundwater-monitoring wells typically utilize minimum 2-inch threaded flush joint PVC pipe with 0.010-in. slotted screen or pre-packed well screens. PVC piping used for risers and screens will conform to the requirements of ASTM-D 1785 Schedule 40 pipe. All materials used to construct the wells will be NSF / ASTM approved. Solvent PVC glue shall not be used at any time in the construction of the wells. The bottom of the screen shall be sealed with a treated wood cap or plastic plug. No lead shot or lead wool is to be employed in sealing the bottom of the well or for sealant at any point in the well.

3.2.4 Subsurface Soil Sample Screening and Collection

When polyethylene sleeves or split spoons are removed from borings, the soil will immediately be observed for soil characteristics, including general soil type (sand, silt, clay), moisture, confining layers, and evidence of impairment (e.g. petroleum or chemical odors, staining, volatile organic vapors as measured by a PID – ex-situ and headspace). Generally, sample selection is based on evidence of impairment, depth, spatial distribution, or for delineation purposes. Normally, sample locations will not be known until the end of each day in the field. Therefore, samples for potential analysis will be placed in new Ziploc bags and placed on ice until they are placed into laboratory provided glassware.

When PFAS sampling / testing is required, no sampling equipment components or sample containers should come into contact with aluminum foil, LDPE, glass, or Teflon tape. Acceptable

equipment includes stainless steel spoons and bowl, HDPE containers, and steel tools that are not coated.

3.2.5 Groundwater Monitoring Well Construction / Completion

Artificial Sand Pack
When utilized, granular backfill will be chemically and texturally clean, inert, siliceous, and of appropriate grain size for the screen slot size and the host environment. The sand pack will be installed using a tremie pipe, when possible (i.e., a tremie pipe may not fit into smaller, 2-inch diameter boreholes). When utilized, the well screen and casing will be installed, and the sand pack placed around the screen and casing to a depth extending at least 2 feet above the top of the screen. A pre-packed well screen may be used if pre-approved by the NYSDEC.

Bentonite Seal
A minimum 2-foot-thick seal will be placed directly on top of the sand pack, and care will be taken to avoid bridging. In the event that Site geology does not allow for a 2-foot seal (e.g., only 1-foot of space remains between the top of the sand pack and ground surface), the remaining space in the annulus will be filled with bentonite.

Grout Mixture
Upon completion of the bentonite seal, the well may be grouted with a 30% solids pure bentonite grout, a non-shrinking cement grout, a cement / bentonite grout mix, or a bentonite / soil mix as indicated in the Work Plan. The grout will be placed from the top of the bentonite seal to the ground surface.

Surface Protection
At all times during the progress of the work, precautions shall be used to prevent tampering with or the entrance of foreign material into the well. Upon completion of the well, a suitable cap shall be installed to prevent material from entering the well. Where permanent wells are to be installed, the well riser shall be protected by a flush mounted road box set into a concrete pad or locking well cap for stick-up wells. A concrete pad, sloped away from the well, shall be constructed around the flush mount road box or stick-up casing at ground level.

Any well that is to be temporarily removed from service or left incomplete due to delay in construction shall be capped with a watertight cap.

Surveying
Coordinates and elevations will be established for each monitoring well and sampling location. Elevations to the closest 0.01 foot shall be used for the survey. These elevations shall be referenced to a regional, local, or project-specific datum. The location, identification, coordinates, and elevations of the wells will be plotted on maps with a scale large enough to show their location with reference to other structures at each site.

Well Development

After completion of the well, but not sooner than 48 hours after grouting is completed, development will be accomplished using pumping, bailing, and / or surge blocking. No dispersing agents, acids, disinfectants, or other additives will be used during development or introduced into the well at any other time. During development, water will be removed throughout the entire water column by periodically lowering and raising the pump intake (or bailer stopping point).

Water elevations will be taken on all wells prior to development, purging, and sampling. All measurements will be taken within a 24-hour period to obtain consistent elevations and recorded on well data sheets. The procedure for measuring water levels in the monitoring wells is:

- Unlock and remove well cap;
- Test the atmosphere of the well with the calibrated PID. If the gases from the well have caused the air in the breathing zone to read greater than 5 ppm, stop work and refer to the HASP
- Measure water level to nearest 0.01 foot with a water level indicator (electronic).
- Water level indicators will be decontaminated before moving to next well. The tape and cable are decontaminated by washing in a bucket of distilled water-biodegradable phosphate free-detergent solution, followed by a rinse with distilled water.

Development water will either be properly contained and treated as waste until the results of chemical analysis of samples are obtained or discharged on Site as determined by the Site-specific work plans and / or consultation with the NYSDEC representatives on Site.

The development process will continue until removal of a minimum of three well volumes, and when water quality monitoring demonstrates stabilization of the effluent. The water quality meter will be calibrated prior to each sampling event (and more often as required by the manufacturer's data), using calibration fluids. Stabilization criteria is shown in the table below. In the event that limited recharge does not allow for the removal of three well volumes, the well will be allowed to stabilize to conditions deemed representative of groundwater conditions. Stabilization periods will vary by project but will be confirmed with the NYSDEC prior to sampling.

Table 3-2
Well Development Stabilization Criteria

Parameter	Units	Stabilization Criteria
pH	Standard Units (s.u.)	±0.1
Specific Electric Conductance	mS/cm	3%
Temperature	°C / °F	3%
Turbidity	NTU	10% or <10 NTU
Oxidation Reduction Potential (ORP)	mV	±10
Dissolved Oxygen (DO)	mg/L	10% or <0.5 mg/L

3.2.6 Groundwater Sample Collection

Groundwater samples will be collected using a dedicated low flow pump. When PFAS sampling / testing is required, only the following equipment will be permitted:

- Stainless steel inertia pump with HDPE tubing
- Peristaltic pump with HDPE and silicone tubing
- Stainless steel bailer with stainless steel ball
- Bladder pump (identified as PFAS-free) with HDPE tubing

All sampling equipment will be properly decontaminated in the field (see Section 3.4). The following equipment will be available for sampling of monitoring wells in addition to the general sampling equipment list:

- Well Data Sheets
- Pump
- Electronic water level indicator
- Water Quality Meter
- Acid resistant gloves

The following activities will be completed before going into the field every day before the start of sampling:

1. Fill out appropriate section on Well Data Sheet for the wells to be sampled;
2. Obtain the sampling schedule for each well to be sampled;
3. Calibrate the PID with the calibration gas;
4. Determine the amount of sampling to be done for the day and prepare the necessary number of coolers;
5. Each well to be sampled will have designated coolers containing the pre-labeled, certified clean, sample bottles. The groundwater samples will be placed in the cooler labeled for the well from which they were taken. The bottle shall be labeled with large distinguishable letters, so that the groundwater samples will be placed in the proper cooler; and
6. Select the appropriate sample bottles for the day's sampling. The bottles shall be pre-marked with a sample parameter and preservatives. Reusable glass bottles will have been cleaned and prepared at the laboratory. The bottles for the various parameters to be analyzed from each well location will then be placed in a cooler.

The following steps describe the sample collection of groundwater:

1. Unlock and remove the well cap.
2. When VOCs are a contaminant of concern, test the air at the wellhead with the calibrated PID. If the gases from the well have caused the air in the breathing zone to read greater than 5 ppm, stop work and refer to the HASP. Record the reading on the Well Data Sheet.
3. In order to obtain a representative sample of the formation water, the well must be purged of the static water within the well. Prior to purging, the static water level within

the well must be measured and the measurement recorded on the Well Data Sheet.

4. Lower the pump or tubing slowly into the well until it is below the water surface.
5. Connect the pump output to an in-line water quality device (i.e., flow-through cell). Purge the well at a low-flow rate (0.1 – 0.5 L/min). In accordance with the Work Plan, purge waters will either be disposed within the vicinity of the respective well or containerized.
6. Water level measurement should be recorded periodically to monitor drawdown in the well and guide flow rate adjustment. The goal is to minimize drawdown in the well to less than 0.33 feet. The flow rate should be stabilized as soon as possible.
7. Periodically record the pumping rate, drawdown, and the volume of water purged.
8. Water quality indicator parameters (pH, specific conductance, temperature, turbidity, ORP, and DO) should be recorded every three to five minutes or after one flow-through cell volume has been purged, whichever is greater.
9. The well is ready to be sampled once the water quality indicator parameters have stabilized in accordance with Table 3-2. If the well goes dry during pumping, allow for full recovery (measure the water level), and then sample. If recovery takes more than twenty minutes, proceed to next well but return to sample within 24 hours.
10. Fill the appropriate sample bottles according to the sampling schedule for each well. While filling the sample bottles, record the well number, type, volume of container, and the preservatives used on the Ground Water Sampling Analyses form.
11. The preservatives for the various sampling parameters were previously added to the clean sample bottles by the laboratory. Some parameters may require additional special handling.
12. Volatile organics analyses sample vials must be free of air bubbles. When a bubble-free sample has been obtained, it must be immediately chilled.
13. Collect the MS / MSD, duplicates, equipment blanks, and trip blanks, as applicable. Take samples according to sampling schedule presented in the Work Plan.
14. Record all pertinent information in field logbook and on the Well Data Sheet (include color, odor, sediment content of sample, etc.). Any situations at the site that have the potential to interfere with the analytical results should also be recorded here.
15. Lock well, inspect well site, and note any maintenance required.
16. Dispose of potentially contaminated materials in designated container.

3.2.7 Air Sample Collection

Indoor Air Sampling

Indoor air samples will be collected using a Summa™ canister (6-Liter capacity) equipped with a critical orifice flow regulation device sized to allow an air sample to be collected over a 24-hour sampling period. Care is taken to deploy the canisters away from the direct influence of any forced air emanating from air conditioning units, central air conditioning vents, furnaces or heaters. The indoor air sampling procedure is as follows:

- Building spaces are examined to determine a location for deploying the sample. The canister is deployed in areas not subject to disturbances and which will not interfere with the occupant's normal activities.

- Building occupants are requested to keep out of the sampling area during the sampling event.
- Air sample canisters are labeled with a unique sample designation number. The sample number and location is recorded in the field log book.
- The canister vacuum is measured using an integrated vacuum gauge immediately prior to canister deployment, and recorded in the field log book. The critical orifice flow controller is installed, as supplied by the laboratory, on the canister, the canister is opened fully at the beginning of sample collection period, and the start time is recorded.
- The canister valve is closed fully at the end of the sample period by disconnecting the regulator from the canister (after 24-hours) and the end time recorded. Any evidence of canister disturbance during the sample collection will be recorded.
- The canister vacuum is measured and recorded immediately after canister retrieval at the end of the sample period. Once the vacuum is measured, the canisters are returned to their sampling boxes for safe storage and shipping. Field data is verified as correctly entered into field books prior to shipment; and canisters are shipped to the laboratory under a chain-of-custody.

Sub-Slab Soil Gas Sampling

Sub-slab sampling points will be installed to collect soil gas immediately below the slab. The sub-slab samples will be co-located with a corresponding indoor air sample to evaluate the potential from exposure. Sub-slab gas samples will be collected using a 6-Liter Summa™ canister fitted with a flow orifice pre-calibrated to collect a 6-Liter sample over a 24-hour period. Once the 24-hour sampling period has been completed, the canister will be boxed and shipped to the laboratory for analysis. A brief summary of the sampling protocol is provided below. The sub-slab vapor points will be installed by first advancing a small diameter hole (approximately 3/8-inches in diameter) through the floor slab to determine thickness. The holes will be drilled via a hammer drill. The hole will extend through the slab and terminate at the interface with underlying material (i.e. gravel base or soil). A sample point consisting of a length of tubing will be placed into the boring. The cored slab annulus will be filled with clay placed around the sub-slab vapor point. The bottom of the sub-slab vapor point will extend to the bottom of slab. Prior to sub-slab soil gas sample collection, the monitoring point and above grade tubing will be purged at a rate not exceeding 200 ml/min. The total volume purged prior to sample collection will equal three volumes of air in the open space of tubing and the sample point. At the end of the sampling event, a pressure gauge reading will be recorded. The 6-Liter canister with a calibrated 24-hour orifice will be connected to the tubing. The following summarizes the above:

- The sub-slab sampling point construction will be temporary, with the sampling points securely mounted through the concrete slab and grouted in place using pottery clay.
- Prior to sub-slab soil gas sample collection, the monitoring point and above grade tubing will be purged at a rate not exceeding 200 ml/min.
- Samples will be collected over a 24-hour period at a flow rate not greater than 200 mL/min.

- Helium will be used as a field tracer during sampling. The Helium will be introduced into a dome next to the above grade sampling train and Summa™ canister. The helium concentration will be read using a helium meter that is capable to read down to 1-2%.
- Field documentation will be maintained in a field notebook and on field data forms.

Crawl Space Air Sampling

Crawl space sampling points will be installed to collect air in the crawl space, immediately below the ground floor. The crawl space air samples will be co-located with a corresponding indoor air sample to evaluate the potential from exposure. Crawl space air samples will be collected using a 6-Liter Summa™ canister fitted with a flow orifice pre-calibrated to collect a 6-Liter sample over a 24-hour period. Once the 24-hour sampling period has been completed, the canister will be boxed and shipped to the laboratory for analysis. A brief summary of the sampling protocol is provided below. The crawl space sampling points will be installed by first advancing a small diameter hole (approximately 3/8-inches in diameter) through the ground floor slab to determine thickness. The holes will be drilled via a hammer drill. The hole will extend through the slab and terminate in the crawl space. A sample point consisting of a length of tubing will be placed into the hole. The cored slab annulus will be filled with clay placed around the crawl space sampling point. The bottom of the crawl space point will extend one to two feet into the crawl space. Prior to crawl space air sample collection, the monitoring point and above grade tubing will be purged at a rate not exceeding 200 ml/min. The total volume purged prior to sample collection will equal three volumes of air in the open space of tubing and the sample point. At the end of the sampling event, a pressure gauge reading will be recorded. The 6-Liter canister with a calibrated 24-hour orifice will be connected to the tubing. The following summarizes the above:

- The crawl space sampling point construction will be temporary, with the sampling points securely mounted through the concrete slab and grouted in place using pottery clay.
- Prior to crawl space air sample collection, the monitoring point and above grade tubing will be purged at a rate not exceeding 200 ml/min.
- Samples will be collected over a 24-hour period at a flow rate not greater than 200 mL/min.
- Helium will be used as a field tracer during sampling. The Helium will be introduced into a dome next to the above grade sampling train and Summa™ canister. The helium concentration will be read using a helium meter that is capable to read down to 1-2%.
- Access doors to the crawl space will remain closed throughout the sample collection duration.
- Field documentation will be maintained in a field notebook and on field data forms.

Ambient Air Sampling

Ambient air samples are collected in the same manner as the indoor air samples. The sampling device will be located upwind of the structure and will be placed approximately three to five feet off the ground for sample collection purposes. The outdoor air samples will be collected using a Summa canister equipped with a laboratory calibrated regulator over a 24-hour period.

3.3 General Decontamination

The following procedures will be performed for the decontamination of exploration equipment, sampling equipment, and personnel after each drilling / sampling event:

Drill rig, backhoe, and excavator – The drill rig, direct-push rig, backhoe, and / or excavator will be cleaned prior to their entrance and exit of the site. Greases and oils will not be used on any down hole equipment during drilling or exploration activities.

Exploration equipment – To avoid cross contamination, use of a PID meter and cleaning between each sampling site will be employed on backhoe arms, buckets, hollow stem augers, casing drill rods, down-hole tools, and appurtenant equipment.

Split spoon sampler – The split spoon sampler will be scrubbed, cleaned, and put through a series of rinses between each sampling event. A number of split spoon samplers will be used so that one can be utilized for sampling while the others are being cleaned.

Reusable equipment – The following steps will be employed to decontaminate reusable equipment:

- Rinse equipment of soil or foreign material with potable water;
- Immerse and scrub equipment with bio-degradable phosphate-free detergent and potable water;
- Immerse and scrub in a potable water rinse without detergent;
- Immerse and scrub in deionized/distilled water;
- Saturate by spraying or immersion in laboratory-grade hexane;
- Air dry and wrap cleaned equipment in foil to carry to next monitoring site to prevent contamination of equipment during transfer; and
- The decontamination wash and rinse water will not be considered hazardous unless visual inspection or monitoring by the PID and other equipment indicate that contaminants may be present. The rinse waters can be discharged on-site if they are not contaminated. If contaminants are expected to be present, the rinsate waters should be placed in 55-gallon drums and stored on-site.

Disposable equipment – The following steps will be employed to decontaminate disposable equipment:

- Rinse with potable water;
- Remove all standing liquid from the piece of equipment;
- Dispose of the equipment in a dedicated container for contaminated solids; and
- Dispose of rinse water in 55-gallon drums if contaminants are found to be present.

Sample containers – Upon filling and capping sample bottles, the outside of the bottle will be wiped off with a clean paper towel. These towels will be disposed of in a dedicated container

for contaminated solids.

Personnel decontamination – The following procedures will be used to decontaminate sampling personnel.

- After each sampling event chemical resistant gloves will be disposed of in a dedicated container for contaminated solids;
- At the end of each sampling day, Tyvek™ coveralls will be disposed of in a dedicated container for contaminated solids;
- Boots will be rinsed off with water to remove mud, clay, or any other contaminants; and
- Personnel will be required to follow procedures outlined in the HASP.

3.3.1 Special Considerations When Sampling for PFAS

- Clothing that contains PTFE material, including Gore-Tex or that have been water-proofed with PFAS materials should be avoided. All clothing worn by sampling personnel should first be laundered multiple times. Acceptable rain gear includes PVC, polyurethane, or rubber. If such materials are required because site conditions warrant additional protection for samplers, their use will be documented in the field notes.
- Decontamination water shall be verified in advance to be PFAS-free through laboratory analysis or certification. Previous results of non-detect for PFAS are acceptable.

SECTION 4 – SAMPLE MANAGEMENT PLAN

4.1 Sample Management

This Sample Management Plan provides procedures to document and track samples and results obtained during this work effort. A series of pre-printed forms with the appropriate information serves as a vehicle for documentation and tracking.

In order to accomplish this task, the documentation materials will include sample labels, sample characterization and Chain-of-Custody sheets, daily field reports, and a sample log.

Sample Label – A sample label will be completed for each sample obtained and will be affixed to the sample container. The label is configured in a way to address various types of mediums. Information on the label includes, at a minimum, client name, location, sample description, sample number, date, time, grab sample, composite sample, notes, and sampler's name.

Sample Characterization & Chain-of-Custody Sheet – All pertinent field information will be entered onto the sample characterization and chain-of-custody sheets including client name, sample ID, sample description, location of sample, sampling method, number of containers, container type, analysis required, and preservation. The monitoring well form has space allotted for entering information regarding the well including depth to water, well volume, sample pH, temperature, color, etc. The Chain-of-Custody section of the form will document the sample's pathway of sample shipment which will include names of persons delivering/receiving, dates, and times. The reverse side of this form will be used by the laboratory to document analysis performed on the sample. Copies of the completed forms will be retained by the Engineer and the analytical laboratory. The original sample characterization and Chain-of-Custody sheets will be submitted in applicable reports along with the laboratory results.

Daily Field Reports – Daily activities will be recorded on the Inspection Report form. The purpose of this form will be to summarize the work performed on the site each day. The completed forms will be submitted to the Project Manager on a daily basis for short term site activity and on a weekly basis for site activities of a longer duration.

Sample Log – The sample log will be utilized to track each individual sample obtained at the site. The upper portion, "Field Identification" will be completed the day the sample is taken. The form will accompany the sample characterization and Chain-of-Custody form to the laboratory. Personnel at the laboratory will complete the middle section of this form and return it to the Engineer, who will use the document to track incoming results. The bottom of the sheet has space allocated to enter "Recommended Actions" based on laboratory results.

4.2 Sample Handling

Each collected sample will be dispensed into the appropriate sample containers for the type of analysis to be performed. Sampling staff will wear nitrile gloves at all times when handling

samples. Appropriate sample preservatives will be added to the sample containers by the contracted analytical laboratory prior to the delivery into the field, except in cases where the sample preservative must be added after sample collection. All samples that require cool storage will be immediately placed in coolers with appropriate packaging materials so as to protect the breakage of sample containers during shipment. The sample coolers will be filled with cubed ice (no "Blue Ice") prior to leaving the sample collection location. In the instance that a local analytical laboratory is contracted, the samples will be hand delivered to the laboratory each sampling day. The chain-of-custody forms will be signed by the laboratory personnel picking up the samples and placed within the coolers. In the instance that an analytical laboratory is contracted which is not based locally and a common carrier is used for sample shipment, the chain-of-custody forms will be signed by the sampler and the carrier personnel and placed inside of the coolers. Careful packaging techniques will be used to prevent sample containers from breakage during shipment. Materials such as cardboard, foam wrap, or Styrofoam may be used as packaging materials. All samples will be delivered to the contracted analytical laboratory on the day they were collected and will be received by the laboratory within 24 hours of sample collection. The samples will be collected with sufficient time allowed at the end of the day for the analytical laboratory to properly process the sample chain-of-custody form.

Attachment A

SUPPORTING DOCUMENTATION FOR PFAS ANALYSIS

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

SAMPLING, ANALYSIS, AND ASSESSMENT OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)

Under NYSDEC's Part 375 Remedial Programs

April 2023

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ERRATA SHEET for

SAMPLING, ANALYSIS, AND ASSESSMENT OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) Under NYSDEC's Part 375 Remedial Programs Issued January 17, 2020

Citation and Page Number	Current Text	Corrected Text	Date
Title of Appendix I, page 32	Appendix H	Appendix I	2/25/2020
Document Cover, page 1	Guidelines for Sampling and Analysis of PFAS	Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs	9/15/2020
Data Assessment and Application to Site Cleanup Page 3	Until such time as Ambient Water Quality Standards (AWQS) and Soil Cleanup Objectives (SCOs) for PFOA and PFOS are published	Until such time as Soil Cleanup Objectives (SCOs) for PFOA and PFOS are published	3/28/2023
Water Sample Results Page 3	PFOA and PFOS should be further assessed and considered as potential contaminants of concern in groundwater or surface water if PFOA or PFOS is detected in any water sample at or above 10 ng/L (ppt) and is determined to be attributable to the site, either by a comparison of upgradient and downgradient levels, or the presence of soil source areas, as defined below.	NYSDEC has adopted ambient water quality guidance values for PFOA and PFOS. Groundwater samples should be compared to the human health criteria of 6.7 ng/l (ppt) for PFOA and 2.7 ng/l (ppt) for PFOS. These guidance values also include criteria for surface water for PFOS applicable for aquatic life, which may be applicable at some sites. Drinking water sample results should be compared to the NYS maximum contaminant level (MCL) of 10 ng/l (ppt).Analysis to determine if PFOA and PFOS concentrations are attributable to the site should include a comparison between upgradient and downgradient levels, and the presence of soil source areas, as defined below.	3/28/2023
Soil Sample Results Page 3	Soil cleanup objectives for PFOA and PFOS have been proposed in an upcoming revision to 6 NYCRR Part 375-6. Until SCOs are in effect, the following are to be used as guidance values:	NYSDEC will delay adding soil cleanup objectives for PFOA and PFOS to 6 NYCRR Part 375-6 until the PFAS rural soil background study has been completed. Until SCOs are in effect, the following are to be used as guidance values:	3/28/2023
Protection of Groundwater Page 3	PFOA (ppb) 1.1 PFOS (ppb) 3.7	PFOA (ppb) 0.8 PFOS (ppb) 1.0	3/28/2023

Citation and Page Number	Current Text	Corrected Text	Date
Footnote 2 Page 3	The movement of PFAS in the environment is being aggressively researched at this time; that research will eventually result in more accurate models for the behaviors of these chemicals. In the meantime, DEC has calculated the guidance value for the protection of groundwater using the same procedure used for all other chemicals, as described in Section 7.7 of the Technical Support Document (http://www.dec.ny.gov/docs/remediation_hudson_pdf/techsuppdoc.pdf).	The Protection of Groundwater values are based on the above referenced ambient groundwater guidance values. Details on that calculation are available in the following document, prepared for the February 2022 proposed changes to Part 375 (https://www.dec.ny.gov/docs/remediation_hudson_pdf/part375techsupport.pdf). The movement of PFAS in the environment is being aggressively researched at this time; that research will eventually result in more accurate models for the behaviors of these chemicals. In the meantime, DEC has calculated the guidance value for the protection of groundwater using the same procedure used for all other chemicals, as described in Section 7.7 of the Technical Support Document (http://www.dec.ny.gov/docs/remediation_hudson_pdf/techsuppdoc.pdf).	3/28/2023
Testing for Imported Soil Page 4	If the concentrations of PFOA and PFOS in leachate are at or above 10 ppt (the Maximum Contaminant Levels established for drinking water by the New York State Department of Health), then the soil is not acceptable.	If the concentrations of PFOA and PFOS in leachate are at or above the ambient water quality guidance values for groundwater, then the soil is not acceptable.	3/28/2023
Routine Analysis, page 9	"However, laboratories analyzing environmental samples…PFOA and PFOS in drinking water by EPA Method 537, 537.1 or ISO 25101."	"However, laboratories analyzing environmental samples…PFOA and PFOS in drinking water by EPA Method 537, 537.1, ISO 25101, or Method 533."	9/15/2020
Additional Analysis, page 9, new paragraph regarding soil parameters	None	"In cases where site-specific cleanup objectives for PFOA and PFOS are to be assessed, soil parameters, such as Total Organic Carbon (EPA Method 9060), soil pH (EPA Method 9045), clay content (percent), and cation exchange capacity (EPA Method 9081), should be included in the analysis to help evaluate factors affecting the leachability of PFAS in site soils."	9/15/2020

Citation and Page Number	Current Text	Corrected Text	Date
Data Assessment and Application to Site Cleanup Page 10	Until such time as Ambient Water Quality Standards (AWQS) and Soil Cleanup Objectives (SCOs) for PFAS are published, the extent of contaminated media potentially subject to remediation should be determined on a case-by-case basis using the procedures discussed below and the criteria in DER-10. Target levels for cleanup of PFAS in other media, including biota and sediment, have not yet been established by the DEC.	Until such time as Ambient Water Quality Standards (AWQS) and Soil Cleanup Objectives (SCOs) for PFOA and PFOS are published, the extent of contaminated media potentially subject to remediation should be determined on a case-by-case basis using the procedures discussed below and the criteria in DER-10. Preliminary target levels for cleanup of PFOA and PFOS in other media, including biota and sediment, have not yet been established by the DEC.	9/15/2020
Water Sample Results Page 10	PFAS should be further assessed and considered as a potential contaminant of concern in groundwater or surface water (…) If PFAS are identified as a contaminant of concern for a site, they should be assessed as part of the remedy selection process in accordance with Part 375 and DER-10.	PFOA and PFOS should be further assessed and considered as potential contaminants of concern in groundwater or surface water (…) If PFOA and/or PFOS are identified as contaminants of concern for a site, they should be assessed as part of the remedy selection process in accordance with Part 375 and DER-10.	9/15/2020

Citation and Page Number	Current Text	Corrected Text	Date
Soil Sample Results, page 10	"The extent of soil contamination for purposes of delineation and remedy selection should be determined by having certain soil samples tested by Synthetic Precipitation Leaching Procedure (SPLP) and the leachate analyzed for PFAS. Soil exhibiting SPLP results above 70 ppt for either PFOA or PFOS (individually or combined) are to be evaluated during the cleanup phase."	"Soil cleanup objectives for PFOA and PFOS will be proposed in an upcoming revision to 6 NYCRR Part 375-6. Until SCOs are in effect, the following are to be used as guidance values. " [Interim SCO Table] "PFOA and PFOS results for soil are to be compared against the guidance values listed above. These guidance values are to be used in determining whether PFOA and PFOS are contaminants of concern for the site and for determining remedial action objectives and cleanup requirements. Site-specific remedial objectives for protection of groundwater can also be presented for evaluation by DEC. Development of site-specific remedial objectives for protection of groundwater will require analysis of additional soil parameters relating to leachability. These additional analyses can include any or all the parameters listed above (soil pH, cation exchange capacity, etc.) and/or use of SPLP. As the understanding of PFAS transport improves, DEC welcomes proposals for site-specific remedial objectives for protection of groundwater. DEC will expect that those may be dependent on additional factors including soil pH, aqueous pH, % organic carbon, % Sand/Silt/Clay, soil cations: K, Ca, Mg, Na, Fe, Al, cation exchange capacity, and anion exchange capacity. Site-specific remedial objectives should also consider the dilution attenuation factor (DAF). The NJDEP publication on DAF can be used as a reference: https://www.nj.gov/dep/srp/guidance/rs/daf.pdf. "	9/15/2020

Citation and Page Number	Current Text	Corrected Text	Date
Testing for Imported Soil Page 11	Soil imported to a site for use in a soil cap, soil cover, or as backfill is to be tested for PFAS in general conformance with DER-10, Section 5.4(e) for the PFAS Analyte List (Appendix F) using the analytical procedures discussed below and the criteria in DER-10 associated with SVOCs. If PFOA or PFOS is detected in any sample at or above 1 µg/kg, then soil should be tested by SPLP and the leachate analyzed for PFAS. If the SPLP results exceed 10 ppt for either PFOA or PFOS (individually) then the source of backfill should be rejected, unless a site-specific exemption is provided by DER. SPLP leachate criteria is based on the Maximum Contaminant Levels proposed for drinking water by New York State's Department of Health, this value may be updated based on future Federal or State promulgated regulatory standards. Remedial parties have the option of analyzing samples concurrently for both PFAS in soil and in the SPLP leachate to minimize project delays. Category B deliverables should be submitted for backfill samples, though a DUSR is not required.	Testing for PFAS should be included any time a full TAL/TCL analyte list is required. Results for PFOA and PFOS should be compared to the applicable guidance values. If PFOA or PFOS is detected in any sample at or above the guidance values then the source of backfill should be rejected, unless a site-specific exemption is provided by DER based on SPLP testing, for example. If the concentrations of PFOA and PFOS in leachate are at or above 10 ppt (the Maximum Contaminant Levels established for drinking water by the New York State Department of Health), then the soil is not acceptable. PFOA, PFOS and 1,4-dioxane are all considered semi-volatile compounds, so composite samples are appropriate for these compounds when sampling in accordance with DER-10, Table 5.4(e)10. Category B deliverables should be submitted for backfill samples, though a DUSR is not required.	9/15/2020

Citation and Page Number	Current Text	Corrected Text	Date
Footnotes	None	[1] TOP Assay analysis of highly contaminated samples, such as those from an AFFF (aqueous film-forming foam) site, can result in incomplete oxidation of the samples and an underestimation of the total perfluoroalkyl substances. [2] The movement of PFAS in the environment is being aggressively researched at this time; that research will eventually result in more accurate models for the behaviors of these chemicals. In the meantime, DEC has calculated the soil cleanup objective for the protection of groundwater using the same procedure used for all other chemicals, as described in Section 7.7 of the Technical Support Document (http://www.dec.ny.gov/docs/remediation_hudson_pdf/techsuppdoc.pdf).	9/15/2020
Additional Analysis, page 9	In cases… soil parameters, such as Total Organic Carbon (EPA Method 9060), soil…	In cases… soil parameters, such as Total Organic Carbon (Lloyd Kahn), soil…	1/8/2021
Appendix A, General Guidelines, fourth bullet	List the ELAP-approved lab(s) to be used for analysis of samples	List the ELAP- certified lab(s) to be used for analysis of samples	1/8/2021
Appendix E, Laboratory Analysis and Containers	Drinking water samples collected using this protocol are intended to be analyzed for PFAS by ISO Method 25101.	Drinking water samples collected using this protocol are intended to be analyzed for PFAS by EPA Method 537, 537.1, 533, or ISO Method 25101	1/8/2021
Water Sample Results Page 9	"In addition, further assessment of water may be warranted if either of the following screening levels are met: a. any other individual PFAS (not PFOA or PFOS) is detected in water at or above 100 ng/L; or b. total concentration of PFAS (including PFOA and PFOS) is detected in water at or above 500 ng/L"	Deleted	6/15/2021

Citation and Page Number	Current Text	Corrected Text	Date
Routine Analysis, Page XX	Currently, New York State Department of Health's Environmental Laboratory Approval Program (ELAP)… criteria set forth in the DER's laboratory guidelines for PFAS in non-potable water and solids (Appendix H - Laboratory Guidelines for Analysis of PFAS in Non-Potable Water and Solids).	Deleted	5/31/2022
Analysis and Reporting, Page XX	As of October 2020, the United States Environmental Protection Agency (EPA) does not have a validated method for analysis of PFAS for media commonly analyzed under DER remedial programs (non-potable waters, solids). DER has developed the following guidelines to ensure consistency in analysis and reporting of PFAS.	Deleted	5/31/2022
Routine Analysis, Page XX	LC-MS/MS analysis for PFAS using methodologies based on EPA Method 537.1 is the procedure to use for environmental samples. Isotope dilution techniques should be utilized for the analysis of PFAS in all media.	EPA Method 1633 is the procedure to use for environmental samples.	
Soil Sample Results, Page XX	Soil cleanup objectives for PFOA and PFOS will be proposed in an upcoming revision to 6 NYCRR Part 375-6	Soil cleanup objectives for PFOA and PFOS have been proposed in an upcoming revision to 6 NYCRR Part 375-6	
Appendix A	"Include in the text… LC-MS/MS for PFAS using methodologies based on EPA Method 537.1"	"Include in the text ….EPA Method 1633"	
Appendix A	"Laboratory should have ELAP certification for PFOA and PFOS in drinking water by EPA Method 537, 537.1, EPA Method 533, or ISO 25101"	Deleted	
Appendix B	"Samples collected using this protocol are intended to be analyzed for PFAS using methodologies based on EPA Method 537.1"	"Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633"	

Citation and Page Number	Current Text	Corrected Text	Date
Appendix C	"Samples collected using this protocol are intended to be analyzed for PFAS using methodologies based on EPA Method 537.1"	"Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633"	
Appendix D	"Samples collected using this protocol are intended to be analyzed for PFAS using methodologies based on EPA Method 537.1"	"Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633"	
Appendix G		Updated to include all forty PFAS analytes in EPA Method 533	
Appendix H		Deleted	
Appendix I	Appendix I	Appendix H	
Appendix H	"These guidelines are intended to be used for the validation of PFAS analytical results for projects within the Division of Environmental Remediation (DER) as well as aid in the preparation of a data usability summary report."	"These guidelines are intended to be used for the validation of PFAS using EPA Method 1633 for projects within the Division of Environmental Remediation (DER)."	
Appendix H	"The holding time is 14 days…"	"The holding time is 28 days…"	
Appendix H, Initial Calibration	"The initial calibration should contain a minimum of five standards for linear fit…"	"The initial calibration should contain a minimum of six standards for linear fit…"	
Appendix H, Initial Calibration	Linear fit calibration curves should have an R^2 value greater than 0.990.	Deleted	
Appendix H, Initial Calibration Verification	Initial Calibration Verification Section	Deleted	
Appendix H	secondary Ion Monitoring Section	Deleted	
Appendix H	Branched and Linear Isomers Section	Deleted	

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

Objective

New York State Department of Environmental Conservation's Division of Environmental Remediation (DER) performs or oversees sampling of environmental media and subsequent analysis of PFAS as part of remedial programs implemented under 6 NYCRR Part 375. To ensure consistency in sampling, analysis, reporting, and assessment of PFAS, DER has developed this document which summarizes currently accepted procedures and updates previous DER technical guidance pertaining to PFAS.

Applicability

All work plans submitted to DEC pursuant to one of the remedial programs under Part 375 shall include PFAS sampling and analysis procedures that conform to the guidelines provided herein.

As part of a site investigation or remedial action compliance program, whenever samples of potentially affected media are collected and analyzed for the standard Target Analyte List/Target Compound List (TAL/TCL), PFAS analysis should also be performed. Potentially affected media can include soil, groundwater, surface water, and sediment. Based upon the potential for biota to be affected, biota sampling and analysis for PFAS may also be warranted as determined pursuant to a Fish and Wildlife Impact Analysis. Soil vapor sampling for PFAS is not required.

Field Sampling Procedures

DER-10 specifies technical guidance applicable to DER's remedial programs. Given the prevalence and use of PFAS, DER has developed "best management practices" specific to sampling for PFAS. As specified in DER-10 Chapter 2, quality assurance procedures are to be submitted with investigation work plans. Typically, these procedures are incorporated into a work plan, or submitted as a stand-alone document (e.g., a Quality Assurance Project Plan). Quality assurance guidelines for PFAS are listed in Appendix A - Quality Assurance Project Plan (QAPP) Guidelines for PFAS.

Field sampling for PFAS performed under DER remedial programs should follow the appropriate procedures outlined for soils, sediments, or other solids (Appendix B), non-potable groundwater (Appendix C), surface water (Appendix D), public or private water supply wells (Appendix E), and fish tissue (Appendix F).

QA/QC samples (e.g. duplicates, MS/MSD) should be collected as specified in DER-10, Section 2.3(c). For sampling equipment coming in contact with aqueous samples only, rinsate or equipment blanks should be collected. Equipment blanks should be collected at a minimum frequency of one per day per site or one per twenty samples, whichever is more frequent.

Analysis and Reporting

The investigation work plan should describe analysis and reporting procedures, including laboratory analytical procedures for the methods discussed below. As specified in DER-10 Section 2.2, laboratories should provide a full Category B deliverable. In addition, a Data Usability Summary Report (DUSR) should be prepared by an independent, third-party data validator. Electronic data submissions should meet the requirements provided at: https://www.dec.ny.gov/chemical/62440.html.

DER has developed a *PFAS Analyte List* (Appendix G) for remedial programs to understand the nature of contamination at sites. It is expected that reported results for PFAS will include, at a minimum, all the compounds listed. If lab and/or matrix specific issues are encountered for any analytes, the DER project manager, in consultation with the DER chemist, will make case-by-case decisions as to whether certain analytes may be temporarily or permanently discontinued from analysis at each site. As with other contaminants that are analyzed for at a site, the *PFAS Analyte List* may be refined for future sampling events based on investigative findings.

Routine Analysis

EPA Method 1633 is the procedure to use for environmental samples. Reporting limits for PFOA and PFOS in aqueous samples should not exceed 2 ng/L. Reporting limits for PFOA and PFOS in solid samples should not exceed 0.5 µg/kg. Reporting limits for all other PFAS in aqueous and solid media should be as close to these limits as possible. If laboratories indicate that they are not able to achieve these reporting limits for the entire *PFAS Analyte List*, site-specific decisions regarding acceptance of elevated reporting limits for specific PFAS can be made by the DER project manager in consultation with the DER chemist. Data review guidelines were developed by DER to ensure data comparability and usability (Appendix H - Data Review Guidelines for Analysis of PFAS in Non-Potable Water and Solids).

Additional Analysis

Additional laboratory methods for analysis of PFAS may be warranted at a site, such as the Synthetic Precipitation Leaching Procedure (SPLP) and Total Oxidizable Precursor Assay (TOP Assay).

In cases where site-specific cleanup objectives for PFOA and PFOS are to be assessed, soil parameters, such as Total Organic Carbon (Lloyd Kahn), soil pH (EPA Method 9045), clay content (percent), and cation exchange capacity (EPA Method 9081), should be included in the analysis to help evaluate factors affecting the leachability of PFAS in site soils.

SPLP is a technique used to determine the mobility of chemicals in liquids, soils and wastes, and may be useful in determining the need for addressing PFAS-containing material as part of the remedy. SPLP by EPA Method 1312 should be used unless otherwise specified by the DER project manager in consultation with the DER chemist.

Impacted materials can be made up of PFAS that are not analyzable by routine analytical methodology. A TOP Assay can be utilized to conceptualize the amount and type of oxidizable PFAS which could be liberated in the environment, which approximates the maximum concentration of perfluoroalkyl substances that could be generated if all polyfluoroalkyl substances were oxidized. For example, some polyfluoroalkyl substances may degrade or transform to form perfluoroalkyl substances (such as PFOA or PFOS), resulting in an increase in perfluoroalkyl substance concentrations as contaminated groundwater moves away from a source. The TOP Assay converts, through oxidation, polyfluoroalkyl substances (precursors) into perfluoroalkyl substances that can be detected by routine analytical methodology.[1]

[1] TOP Assay analysis of highly contaminated samples, such as those from an AFFF (aqueous film-forming foam) site, can result in incomplete oxidation of the samples and an underestimation of the total perfluoroalkyl substances.

Commercial laboratories have adopted methods which allow for the quantification of targeted PFAS in air and biota. The EPA's Office of Research and Development (ORD) is currently developing methods which allow for air emissions characterization of PFAS, including both targeted and non-targeted analysis of PFAS. Consult with the DER project manager and the DER chemist for assistance on analyzing biota/tissue and air samples.

Data Assessment and Application to Site Cleanup

Until such time as Soil Cleanup Objectives (SCOs) for PFOA and PFOS are published, the extent of contaminated media potentially subject to remediation should be determined on a case-by-case basis using the procedures discussed below and the criteria in DER-10. Preliminary target levels for cleanup of PFOA and PFOS in other media, including biota and sediment, have not yet been established by the DEC.

Water Sample Results

NYSDEC has adopted ambient water quality guidance values for PFOA and PFOS. Groundwater samples should be compared to the human health criteria of 6.7 ng/l (ppt) for PFOA and 2.7 ng/l (ppt) for PFOS. These human health criteria should also be applied to surface water that is used as a water supply. This guidance also includes criteria for surface water for PFOS applicable for aquatic life, which may be applicable at some sites. Drinking water sample results should be compared to the NYS maximum contaminant level (MCL) of 10 ng/l (ppt). Analysis to determine if PFOA and PFOS concentrations are attributable to the site should include a comparison between upgradient and downgradient levels, and the presence of soil source areas, as defined below.

If PFOA and/or PFOS are identified as contaminants of concern for a site, they should be assessed as part of the remedy selection process in accordance with Part 375 and DER-10.

Soil Sample Results

NYSDEC will delay adding soil cleanup objectives for PFOA and PFOS to 6 NYCRR Part 375-6 until the PFAS rural soil background study has been completed. Until SCOs are in effect, the following are to be used as guidance values:

Guidance Values for Anticipated Site Use	PFOA (ppb)	PFOS (ppb)
Unrestricted	0.66	0.88
Residential	6.6	8.8
Restricted Residential	33	44
Commercial	500	440
Industrial	600	440
Protection of Groundwater[2]	0.8	1.0

PFOA and PFOS results for soil are to be compared against the guidance values listed above. These guidance values are to be used in determining whether PFOA and PFOS are contaminants of concern for the site and for determining remedial action objectives and cleanup requirements. Site-specific remedial objectives for protection of groundwater can also be presented for evaluation by DEC. Development of site-specific remedial objectives for protection of groundwater will require analysis of additional soil parameters relating to leachability. These

[2] The Protection of Groundwater values are based on the above referenced ambient groundwater guidance values. Details on that calculation are available in the following document, prepared for the February 2022 proposed changes to Part 375 (https://www.dec.ny.gov/docs/remediation_hudson_pdf/part375techsupport.pdf). The movement of PFAS in the environment is being aggressively researched at this time; that research will eventually result in more accurate models for the behaviors of these chemicals. In the meantime, DEC has calculated the guidance value for the protection of groundwater using the same procedure used for all other chemicals, as described in Section 7.7 of the Technical Support Document (http://www.dec.ny.gov/docs/remediation_hudson_pdf/techsuppdoc.pdf).

additional analyses can include any or all the parameters listed above (soil pH, cation exchange capacity, etc.) and/or use of SPLP.

As the understanding of PFAS transport improves, DEC welcomes proposals for site-specific remedial objectives for protection of groundwater. DEC will expect that those may be dependent on additional factors including soil pH, aqueous pH, % organic carbon, % Sand/Silt/Clay, soil cations: K, Ca, Mg, Na, Fe, Al, cation exchange capacity, and anion exchange capacity. Site-specific remedial objectives should also consider the dilution attenuation factor (DAF). The NJDEP publication on DAF can be used as a reference: https://www.nj.gov/dep/srp/guidance/rs/daf.pdf.

Testing for Imported Soil

Testing for PFAS should be included any time a full TAL/TCL analyte list is required. Results for PFOA and PFOS should be compared to the applicable guidance values. If PFOA or PFOS is detected in any sample at or above the guidance values then the source of backfill should be rejected, unless a site-specific exemption is provided by DER based on SPLP testing, for example. If the concentrations of PFOA and PFOS in leachate are at or above the ambient water quality guidance values for groundwater, then the soil is not acceptable.

PFOA, PFOS and 1,4-dioxane are all considered semi-volatile compounds, so composite samples are appropriate for these compounds when sampling in accordance with DER-10, Table 5.4(e)10. Category B deliverables should be submitted for backfill samples, though a DUSR is not required.

Appendix A - Quality Assurance Project Plan (QAPP) Guidelines for PFAS

The following guidelines (general and PFAS-specific) can be used to assist with the development of a QAPP for projects within DER involving sampling and analysis of PFAS.

General Guidelines in Accordance with DER-10

- Document/work plan section title – Quality Assurance Project Plan
- Summarize project scope, goals, and objectives
- Provide project organization including names and resumes of the project manager, Quality Assurance Officer (QAO), field staff, and Data Validator
    - The QAO should not have another position on the project, such as project or task manager, that involves project productivity or profitability as a job performance criterion
- List the ELAP certified lab(s) to be used for analysis of samples
- Include a site map showing sample locations
- Provide detailed sampling procedures for each matrix
- Include Data Quality Usability Objectives
- List equipment decontamination procedures
- Include an "Analytical Methods/Quality Assurance Summary Table" specifying:
    - Matrix type
    - Number or frequency of samples to be collected per matrix
    - Number of field and trip blanks per matrix
    - Analytical parameters to be measured per matrix
    - Analytical methods to be used per matrix with minimum reporting limits
    - Number and type of matrix spike and matrix spike duplicate samples to be collected
    - Number and type of duplicate samples to be collected
    - Sample preservation to be used per analytical method and sample matrix
    - Sample container volume and type to be used per analytical method and sample matrix
    - Sample holding time to be used per analytical method and sample matrix
- Specify Category B laboratory data deliverables and preparation of a DUSR

Specific Guidelines for PFAS

- Include in the text that sampling for PFAS will take place
- Include in the text that PFAS will be analyzed by EPA Method 1633
- Include the list of PFAS compounds to be analyzed (*PFAS Analyte List*)
- Include the laboratory SOP for PFAS analysis
- List the minimum method-achievable Reporting Limits for PFAS
    - Reporting Limits should be less than or equal to:
        - Aqueous – 2 ng/L (ppt)
        - Solids – 0.5 µg/kg (ppb)
- Include the laboratory Method Detection Limits for the PFAS compounds to be analyzed
-
- Include detailed sampling procedures
    - Precautions to be taken
    - Pump and equipment types
    - Decontamination procedures
    - Approved materials only to be used
- Specify that regular ice only will be used for sample shipment
- Specify that equipment blanks should be collected at a minimum frequency of 1 per day per site for each matrix

Appendix B - Sampling Protocols for PFAS in Soils, Sediments and Solids

General

The objective of this protocol is to give general guidelines for the collection of soil, sediment and other solid samples for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

Laboratory Analysis and Containers

Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633.

The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

Equipment

Acceptable materials for sampling include stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in to contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials including sample bottle cap liners with a PTFE layer.

A list of acceptable equipment is provided below, but other equipment may be considered appropriate based on sampling conditions.

- stainless steel spoon
- stainless steel bowl
- steel hand auger or shovel without any coatings

Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

Sampling Techniques

Sampling is often conducted in areas where a vegetative turf has been established. In these cases, a pre-cleaned trowel or shovel should be used to carefully remove the turf so that it may be replaced at the conclusion of sampling. Surface soil samples (e.g. 0 to 6 inches below surface) should then be collected using a pre-cleaned, stainless steel spoon. Shallow subsurface soil samples (e.g. 6 to ~36 inches below surface) may be collected by digging a hole using a pre-cleaned hand auger or shovel. When the desired subsurface depth is reached, a pre-cleaned hand auger or spoon shall be used to obtain the sample.

When the sample is obtained, it should be deposited into a stainless steel bowl for mixing prior to filling the sample containers. The soil should be placed directly into the bowl and mixed thoroughly by rolling the material into the middle until the material is homogenized. At this point the material within the bowl can be placed into the laboratory provided container.

Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- Request appropriate data deliverable (Category B) and an electronic data deliverable

Documentation

A soil log or sample log shall document the location of the sample/borehole, depth of the sample, sampling equipment, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate. Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

Appropriate rain gear (PVC, polyurethane, or rubber rain gear are acceptable), bug spray, and sunscreen should be used that does not contain PFAS. Well washed cotton coveralls may be used as an alternative to bug spray and/or sunscreen.

PPE that contains PFAS is acceptable when site conditions warrant additional protection for the samplers and no other materials can be used to be protective. Documentation of such use should be provided in the field notes.

Appendix C - Sampling Protocols for PFAS in Monitoring Wells

General

The objective of this protocol is to give general guidelines for the collection of groundwater samples for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

Laboratory Analysis and Container

Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633.

The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

Equipment

Acceptable materials for sampling include: stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials including plumbers tape and sample bottle cap liners with a PTFE layer.

A list of acceptable equipment is provided below, but other equipment may be considered appropriate based on sampling conditions.

- stainless steel inertia pump with HDPE tubing
- peristaltic pump equipped with HDPE tubing and silicone tubing
- stainless steel bailer with stainless steel ball
- bladder pump (identified as PFAS-free) with HDPE tubing

Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

Sampling Techniques

Monitoring wells should be purged in accordance with the sampling procedure (standard/volume purge or low flow purge) identified in the site work plan, which will determine the appropriate time to collect the sample. If sampling using standard purge techniques, additional purging may be needed to reduce turbidity levels, so samples contain a limited amount of sediment within the sample containers. Sample containers that contain sediment may cause issues at the laboratory, which may result in elevated reporting limits and other issues during the sample preparation that can compromise data usability. Sampling personnel should don new nitrile gloves prior to sample collection due to the potential to contact PFAS containing items (not related to the sampling equipment) during the purging activities.

Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- Collect one equipment blank per day per site and minimum 1 equipment blank per 20 samples. The equipment blank shall test the new and decontaminated sampling equipment utilized to obtain a sample for residual PFAS contamination. This sample is obtained by using laboratory provided PFAS-free water and passing the water over or through the sampling device and into laboratory provided sample containers
- Additional equipment blank samples may be collected to assess other equipment that is utilized at the monitoring well
- Request appropriate data deliverable (Category B) and an electronic data deliverable

Documentation

A purge log shall document the location of the sample, sampling equipment, groundwater parameters, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate. Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

Appropriate rain gear (PVC, polyurethane, or rubber rain gear are acceptable), bug spray, and sunscreen should be used that does not contain PFAS. Well washed cotton coveralls may be used as an alternative to bug spray and/or sunscreen.

PPE that contains PFAS is acceptable when site conditions warrant additional protection for the samplers and no other materials can be used to be protective. Documentation of such use should be provided in the field notes.

Appendix D - Sampling Protocols for PFAS in Surface Water

General

The objective of this protocol is to give general guidelines for the collection of surface water samples for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

Laboratory Analysis and Container

Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633.

The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

Equipment

Acceptable materials for sampling include: stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials including sample bottle cap liners with a PTFE layer.

A list of acceptable equipment is provided below, but other equipment may be considered appropriate based on sampling conditions.

- stainless steel cup

Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

Sampling Techniques

Where conditions permit, (e.g. creek or pond) sampling devices (e.g. stainless steel cup) should be rinsed with site medium to be sampled prior to collection of the sample. At this point the sample can be collected and poured into the sample container.

If site conditions permit, samples can be collected directly into the laboratory container.

Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- Collect one equipment blank per day per site and minimum 1 equipment blank per 20 samples. The equipment blank shall test the new and decontaminated sampling equipment utilized to obtain a sample for residual PFAS contamination. This sample is obtained by using laboratory provided PFAS-free water and passing the water over or through the sampling device and into laboratory provided sample containers
- Request appropriate data deliverable (Category B) and an electronic data deliverable

Documentation

A sample log shall document the location of the sample, sampling equipment, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate. Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

Appropriate rain gear (PVC, polyurethane, or rubber rain gear are acceptable), bug spray, and sunscreen should be used that does not contain PFAS. Well washed cotton coveralls may be used as an alternative to bug spray and/or sunscreen.

PPE that contains PFAS is acceptable when site conditions warrant additional protection for the samplers and no other materials can be used to be protective. Documentation of such use should be provided in the field notes.

Appendix E - Sampling Protocols for PFAS in Private Water Supply Wells

General

The objective of this protocol is to give general guidelines for the collection of water samples from private water supply wells (with a functioning pump) for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

Laboratory Analysis and Container

Drinking water samples collected using this protocol are intended to be analyzed for PFAS by EPA Method 537, 537.1, 533, or ISO Method 25101. The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

Equipment

Acceptable materials for sampling include stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials (e.g. plumbers tape), including sample bottle cap liners with a PTFE layer.

Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

Sampling Techniques

Locate and assess the pressure tank and determine if any filter units are present within the building. Establish the sample location as close to the well pump as possible, which is typically the spigot at the pressure tank. Ensure sampling equipment is kept clean during sampling as access to the pressure tank spigot, which is likely located close to the ground, may be obstructed and may hinder sample collection.

Prior to sampling, a faucet downstream of the pressure tank (e.g., washroom sink) should be run until the well pump comes on and a decrease in water temperature is noted which indicates that the water is coming from the well. If the homeowner is amenable, staff should run the water longer to purge the well (15+ minutes) to provide a sample representative of the water in the formation rather than standing water in the well and piping system including the pressure tank. At this point a new pair of nitrile gloves should be donned and the sample can be collected from the sample point at the pressure tank.

Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- If equipment was used, collect one equipment blank per day per site and a minimum 1 equipment blank per 20 samples. The equipment blank shall test the new and decontaminated sampling equipment utilized to obtain a sample for residual PFAS contamination. This sample is obtained by using laboratory provided PFAS-free water and passing the water over or through the sampling device and into laboratory provided sample containers.
- A field reagent blank (FRB) should be collected at a rate of one per 20 samples. The lab will provide a FRB bottle containing PFAS free water and one empty FRB bottle. In the field, pour the water from the one bottle into the empty FRB bottle and label appropriately.
- Request appropriate data deliverable (Category B) and an electronic data deliverable
- For sampling events where multiple private wells (homes or sites) are to be sampled per day, it is acceptable to collect QC samples at a rate of one per 20 across multiple sites or days.

Documentation

A sample log shall document the location of the private well, sample point location, owner contact information, sampling equipment, purge duration, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate and available (e.g. well construction, pump type and location, yield, installation date). Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

Appendix F - Sampling Protocols for PFAS in Fish

This appendix contains a copy of the current SOP developed by the Division of Fish and Wildlife (DFW) entitled "General Fish Handling Procedures for Contaminant Analysis" (Ver. 8). This SOP should be followed when collecting fish for contaminant analysis. Note, however, that the Bureau of Ecosystem Health will not be supplying bags or tags. All supplies are the responsibility of the collector

Procedure Name: General Fish Handling Procedures for Contaminant Analysis

Number: FW-005

Purpose: This procedure describes data collection, fish processing and delivery of fish collected for contaminant monitoring. It contains the chain of custody and collection record forms that should be used for the collections.

Organization: Environmental Monitoring Section
Bureau of Ecosystem Health
Division of Fish and Wildlife (DFW)
New York State Department of Environmental Conservation (NYSDEC)
625 Broadway
Albany, New York 12233-4756

Version: 8

Previous Version Date: 21 March 2018

Summary of Changes to this Version: Updated bureau name to Bureau of Ecosystem Health. Added direction to list the names of all field crew on the collection record. Minor formatting changes on chain of custody and collection records.

Originator or Revised by: Wayne Richter, Jesse Becker

Date: 26 April 2019

Quality Assurance Officer and Approval Date: Jesse Becker, 26 April 2019

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

GENERAL FISH HANDLING PROCEDURES FOR CONTAMINANT ANALYSES

A. Original copies of all continuity of evidence (i.e., Chain of Custody) and collection record forms must accompany delivery of fish to the lab. A copy shall be directed to the Project Leader or as appropriate, Wayne Richter. All necessary forms will be supplied by the Bureau of Ecosystem Health. Because some samples may be used in legal cases, it is critical that each section is filled out completely. Each Chain of Custody form has three main sections:

   1. The top box is to be filled out **and signed** by the person responsible for the fish collection (e.g., crew leader, field biologist, researcher). This person is responsible for delivery of the samples to DEC facilities or personnel (e.g., regional office or biologist).

   2. The second section is to be filled out **and signed** by the person responsible for the collections while being stored at DEC, before delivery to the analytical lab. This may be the same person as in (1), but it is still required that they complete the section. Also important is the **range of identification numbers** (i.e., tag numbers) included in the sample batch.

   3. Finally, the bottom box is to record any transfers between DEC personnel and facilities. Each subsequent transfer should be **identified, signed, and dated**, until laboratory personnel take possession of the fish.

B. The following data are required on each **Fish Collection Record** form:

   1. Project and Site Name.

   2. DEC Region.

   3. All personnel (and affiliation) involved in the collection.

   4. Method of collection (gill net, hook and line, etc.)

   5. Preservation Method.

C. The following data are to be taken on each fish collected and recorded on the **Fish Collection Record** form:

   1. Tag number - Each specimen is to be individually jaw tagged at time of collection with a unique number. Make sure the tag is turned out so that the number can be read without opening the bag. Use tags in sequential order. For small fish or composite samples place the tag inside the bag with the samples. The Bureau of Ecosystem Health can supply the tags.

   2. Species identification (please be explicit enough to enable assigning genus and species). Group fish by species when processing.

   3. Date collected.

   4. Sample location (waterway and nearest prominent identifiable landmark).

   5. Total length (nearest mm or smallest sub-unit on measuring instrument) and weight (nearest g or

smallest sub-unit of weight on weighing instrument). Take all measures as soon as possible with calibrated, protected instruments (e.g. from wind and upsets) and prior to freezing.

6. Sex - fish may be cut enough to allow sexing or other internal investigation, but do not eviscerate. Make any incision on the right side of the belly flap or exactly down the midline so that a left-side fillet can be removed.

D. General data collection recommendations:

1. It is helpful to use an ID or tag number that will be unique. It is best to use metal striped bass or other uniquely numbered metal tags. If uniquely numbered tags are unavailable, values based on the region, water body and year are likely to be unique: for example, R7CAY11001 for Region 7, Cayuga Lake, 2011, fish 1. If the fish are just numbered 1 through 20, we have to give them new numbers for our database, making it more difficult to trace your fish to their analytical results and creating an additional possibility for errors.

2. Process and record fish of the same species sequentially. Recording mistakes are less likely when all fish from a species are processed together. Starting with the bigger fish species helps avoid missing an individual.

3. If using Bureau of Ecosystem Health supplied tags or other numbered tags, use tags in sequence so that fish are recorded with sequential Tag Numbers. This makes data entry and login at the lab and use of the data in the future easier and reduces keypunch errors.

4. Record length and weight as soon as possible after collection and before freezing. Other data are recorded in the field upon collection. An age determination of each fish is optional, but if done, it is recorded in the appropriate “Age” column.

5. For composite samples of small fish, record the number of fish in the composite in the Remarks column. Record the length and weight of each individual in a composite. All fish in a composite sample should be of the same species and members of a composite should be visually matched for size.

6. Please submit photocopies of topographic maps or good quality navigation charts indicating sampling locations. GPS coordinates can be entered in the Location column of the collection record form in addition to or instead for providing a map. These records are of immense help to us (and hopefully you) in providing documented location records which are not dependent on memory and/or the same collection crew. In addition, they may be helpful for contaminant source trackdown and remediation/control efforts of the Department.

7. When recording data on fish measurements, it will help to ensure correct data recording for the data recorder to call back the numbers to the person making the measurements.

E. Each fish is to be placed in its own individual plastic bag. For small fish to be analyzed as a composite, put all of the fish for one composite in the same bag but use a separate bag for each composite. It is important to individually bag the fish to avoid difficulties or cross contamination when processing the fish for chemical analysis. Be sure to include the fish’s tag number inside the bag, preferably attached to the fish with the tag number turned out so it can be read. Tie or otherwise secure the bag closed. **The Bureau of Ecosystem Health will supply the bags.** If necessary, food grade bags may be procured from a suitable vendor (e.g., grocery store). It is preferable to redundantly label each bag with a manila tag tied between the knot and the body of the bag. This tag should be labeled with the project name, collection location, tag number, collection date, and fish species. If scales are collected, the scale envelope should be labeled with

the same information.

F. Groups of fish, by species, are to be placed in one large plastic bag per sampling location. **The Bureau of Ecosystem Health will supply the larger bags.** Tie or otherwise secure the bag closed. Label the site bag with a manila tag tied between the knot and the body of the bag. The tag should contain: project, collection location, collection date, species and **tag number ranges**. Having this information on the manila tag enables lab staff to know what is in the bag without opening it.

G. Do not eviscerate, fillet or otherwise dissect the fish unless specifically asked to. If evisceration or dissection is specified, the fish must be cut along the exact midline or on the right side so that the left side fillet can be removed intact at the laboratory. If filleting is specified, the procedure for taking a standard fillet (SOP PREPLAB 4) must be followed, including removing scales.

H. Special procedures for PFAS: Unlike legacy contaminants such as PCBs, which are rarely found in day to day life, PFAS are widely used and frequently encountered. Practices that avoid sample contamination are therefore necessary. While no standard practices have been established for fish, procedures for water quality sampling can provide guidance. The following practices should be used for collections when fish are to be analyzed for PFAS:

No materials containing Teflon.
No Post-it notes.
No ice packs; only water ice or dry ice.
Any gloves worn must be powder free nitrile.
No Gore-Tex or similar materials (Gore-Tex is a PFC with PFOA used in its manufacture).
No stain repellent or waterproof treated clothing; these are likely to contain PFCs.
Avoid plastic materials, other than HDPE, including clipboards and waterproof notebooks.
Wash hands after handling any food containers or packages as these may contain PFCs.
Keep pre-wrapped food containers and wrappers isolated from fish handling.
Wear clothing washed at least six times since purchase.
Wear clothing washed without fabric softener.
Staff should avoid cosmetics, moisturizers, hand creams and similar products on the day of sampling as many of these products contain PFCs (Fujii et al. 2013). Sunscreen or insect repellent should not contain ingredients with “fluor” in their name. Apply any sunscreen or insect repellent well downwind from all materials. Hands must be washed after touching any of these products.

I. All fish must be kept at a temperature <45° F (<8° C) immediately following data processing. As soon as possible, freeze at -20° C ± 5° C. Due to occasional freezer failures, daily freezer temperature logs are required. The freezer should be locked or otherwise secured to maintain chain of custody.

J. In most cases, samples should be delivered to the Analytical Services Unit at the Hale Creek field station. Coordinate delivery with field station staff and send copies of the collection records, continuity of evidence forms and freezer temperature logs to the field station. For samples to be analyzed elsewhere, non-routine collections or other questions, contact Wayne Richter, Bureau of Ecosystem Health, NYSDEC, 625 Broadway, Albany, New York 12233-4756, 518-402-8974, or the project leader about sample transfer. Samples will then be directed to the analytical facility and personnel noted on specific project descriptions.

K. A recommended equipment list is at the end of this document.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF FISH AND WILDLIFE
FISH COLLECTION RECORD

Project and Site Name _____ DEC Region _____

Collections made by (include all crew) _____

Sampling Method: □Electrofishing □Gill netting □Trap netting □Trawling □Seining □Angling □Other _____

Preservation Method: □Freezing □Other _____ Notes (SWFDB survey number): _____

FOR LAB USE ONLY- LAB ENTRY NO.	COLLECTION OR TAG NO.	SPECIES	DATE TAKEN	LOCATION	AGE	SEX &/OR REPROD. CONDIT	LENGTH ( )	WEIGHT ( )	REMARKS

richter: revised 2011, 5/7/15, 10/4/16, 3/20/17; becker: 3/23/17, 4/26/19

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CHAIN OF CUSTODY

I, _____, of _____ collected the
(Print Name) (Print Business Address)

following on _____, 20____ from _____
(Date) (Water Body)

in the vicinity of _____
(Landmark, Village, Road, etc.)

Town of _____, in _____ County.

Item(s) _____

_____

Said sample(s) were in my possession and handled according to standard procedures provided to me prior to collection. The sample(s) were placed in the custody of a representative of the New York State Department of Environmental Conservation on _____, 20_____.

_____ _____
Signature Date

I, _____, received the above mentioned sample(s) on the date specified and assigned identification number(s) _____ to the sample(s). I have recorded pertinent data for the sample(s) on the attached collection records. The sample(s) remained in my custody until subsequently transferred, prepared or shipped at times and on dates as attested to below.

_____ _____
Signature Date

SECOND RECIPIENT (Print Name)	TIME & DATE	PURPOSE OF TRANSFER
SIGNATURE	UNIT	
THIRD RECIPIENT (Print Name)	TIME & DATE	PURPOSE OF TRANSFER
SIGNATURE	UNIT	
FOURTH RECIPIENT (Print Name)	TIME & DATE	PURPOSE OF TRANSFER
SIGNATURE	UNIT	
RECEIVED IN LABORATORY BY (Print Name)	TIME & DATE	REMARKS
SIGNATURE	UNIT	
LOGGED IN BY (Print Name)	TIME & DATE	ACCESSION NUMBERS
SIGNATURE	UNIT	

richter: revised 21 April 2014; becker: 23 March 2017, 26 April, 2019

NOTICE OF WARRANTY

By signature to the chain of custody (reverse), the signatory warrants that the information provided is truthful and accurate to the best of his/her ability. The signatory affirms that he/she is willing to testify to those facts provided and the circumstances surrounding the same. Nothing in this warranty or chain of custody negates responsibility nor liability of the signatories for the truthfulness and accuracy of the statements provided.

HANDLING INSTRUCTIONS

On day of collection, collector(s) name(s), address(es), date, geographic location of capture (attach a copy of topographic map or navigation chart), species, number kept of each species, and description of capture vicinity (proper noun, if possible) along with name of Town and County must be indicated on reverse.

Retain organisms in manila tagged plastic bags to avoid mixing capture locations. Note appropriate information on each bag tag.

Keep samples as cool as possible. Put on ice if fish cannot be frozen within 12 hours. If fish are held more than 24 hours without freezing, they will not be retained or analyzed.

Initial recipient (either DEC or designated agent) of samples from collector(s) is responsible for obtaining and recording information on the collection record forms which will accompany the chain of custody. This person will seal the container using packing tape and writing his signature, the time and the date across the tape onto the container with indelible marker. Any time a seal is broken, for whatever purpose, the incident must be recorded on the Chain of Custody (reason, time, and date) in the purpose of transfer block. Container then is resealed using new tape and rewriting signature, with time and date.

EQUIPMENT LIST

Scale or balance of appropriate capacity for the fish to be collected.

Fish measuring board.

Plastic bags of an appropriate size for the fish to be collected and for site bags.

Individually numbered metal tags for fish.

Manila tags to label bags.

Small envelops, approximately 2” x 3.5”, if fish scales are to be collected.

Knife for removing scales.

Chain of custody and fish collection forms.

Clipboard.

Pens or markers.

Paper towels.

Dish soap and brush.

Bucket.

Cooler.

Ice.

Duct tape.

Appendix G – PFAS Analyte List

Group	Chemical Name	Abbreviation	CAS Number
Perfluoroalkyl sulfonic acids	Perfluorobutanesulfonic acid	PFBS	375-73-5
	Perfluoropentanesulfonic acid	PFPeS	2706-91-4
	Perfluorohexanesulfonic acid	PFHxS	355-46-4
	Perfluoroheptanesulfonic acid	PFHpS	375-92-8
	Perfluorooctanesulfonic acid	PFOS	1763-23-1
	Perfluorononanesulfonic acid	PFNS	68259-12-1
	Perfluorodecanesulfonic acid	PFDS	335-77-3
	Perfluorododecanesulfonic acid	PFDoS	79780-39-5
Perfluoroalkyl carboxylic acids	Perfluorobutanoic acid	PFBA	375-22-4
	Perfluoropentanoic acid	PFPeA	2706-90-3
	Perfluorohexanoic acid	PFHxA	307-24-4
	Perfluoroheptanoic acid	PFHpA	375-85-9
	Perfluorooctanoic acid	PFOA	335-67-1
	Perfluorononanoic acid	PFNA	375-95-1
	Perfluorodecanoic acid	PFDA	335-76-2
	Perfluoroundecanoic acid	PFUnA	2058-94-8
	Perfluorododecanoic acid	PFDoA	307-55-1
	Perfluorotridecanoic acid	PFTrDA	72629-94-8
	Perfluorotetradecanoic acid	PFTeDA	376-06-7
Per- and Polyfluoroether carboxylic acids	Hexafluoropropylene oxide dimer acid	HFPO-DA	13252-13-6
	4,8-Dioxa-3H-perfluorononanoic acid	ADONA	919005-14-4
	Perfluoro-3-methoxypropanoic acid	PFMPA	377-73-1
	Perfluoro-4-methoxybutanoic acid	PFMBA	863090-89-5
	Nonafluoro-3,6-dioxaheptanoic acid	NFDHA	151772-58-6
Fluorotelomer sulfonic acids	4:2 Fluorotelomer sulfonic acid	4:2-FTS	757124-72-4
	6:2 Fluorotelomer sulfonic acid	6:2-FTS	27619-97-2
	8:2 Fluorotelomer sulfonic acid	8:2-FTS	39108-34-4
Fluorotelomer carboxylic acids	3:3 Fluorotelomer carboxylic acid	3:3 FTCA	356-02-5
	5:3 Fluorotelomer carboxylic acid	5:3 FTCA	914637-49-3
	7:3 Fluorotelomer carboxylic acid	7:3 FTCA	812-70-4
Perfluorooctane sulfonamides	Perfluorooctane sulfonamide	PFOSA	754-91-6
	N-methylperfluorooctane sulfonamide	NMeFOSA	31506-32-8
	N-ethylperfluorooctane sulfonamide	NEtFOSA	4151-50-2
Perfluorooctane sulfonamidoacetic acids	N-methylperfluorooctane sulfonamidoacetic acid	N-MeFOSAA	2355-31-9
	N-ethylperfluorooctane sulfonamidoacetic acid	N-EtFOSAA	2991-50-6
Perfluorooctane sulfonamide ethanols	N-methylperfluorooctane sulfonamidoethanol	MeFOSE	24448-09-7
	N-ethylperfluorooctane sulfonamidoethanol	EtFOSE	1691-99-2

Group	Chemical Name	Abbreviation	CAS Number
Ether sulfonic acids	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (F-53B Major)	9Cl-PF3ONS	756426-58-1
	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (F-53B Minor)	11Cl-PF3OUdS	763051-92-9
	Perfluoro(2-ethoxyethane) sulfonic acid	PFEESA	113507-82-7

Appendix H - Data Review Guidelines for Analysis of PFAS in Non-Potable Water and Solids

General

These guidelines are intended to be used for the validation of PFAS using EPA Method 1633 for projects within the Division of Environmental Remediation (DER). Data reviewers should understand the methodology and techniques utilized in the analysis. Consultation with the end user of the data may be necessary to assist in determining data usability based on the data quality objectives in the Quality Assurance Project Plan. A familiarity with the laboratory's Standard Operating Procedure may also be needed to fully evaluate the data. If you have any questions, please contact DER's Quality Assurance Officer, Dana Barbarossa, at dana.barbarossa@dec.ny.gov.

Preservation and Holding Time

Samples should be preserved with ice to a temperature of less than 6°C upon arrival at the lab. The holding time is 28 days to extraction for aqueous and solid samples. The time from extraction to analysis for aqueous samples is 28 days and 40 days for solids.

Temperature greatly exceeds 6ºC upon arrival at the lab*	Use professional judgement to qualify detects and non-detects as estimated or rejected
Holding time exceeding 28 days to extraction	Use professional judgement to qualify detects and non-detects as estimated or rejected if holding time is grossly exceeded

*Samples that are delivered to the lab immediately after sampling may not meet the thermal preservation guidelines. Samples are considered acceptable if they arrive on ice or an attempt to chill the samples is observed.

Initial Calibration

The initial calibration should contain a minimum of six standards for linear fit and six standards for a quadratic fit. The relative standard deviation (RSD) for a quadratic fit calibration should be less than 20%.

The low-level calibration standard should be within 50% - 150% of the true value, and the mid-level calibration standard within 70% - 130% of the true value.

%RSD >20%	J flag detects and UJ non detects

Continuing Calibration Verification

Continuing calibration verification (CCV) checks should be analyzed at a frequency of one per ten field samples. If CCV recovery is very low, where detection of the analyte could be in question, ensure a low level CCV was analyzed and use to determine data quality.

CCV recovery <70 or >130%	J flag results

Blanks

There should be no detections in the method blanks above the reporting limits. Equipment blanks, field blanks, rinse blanks etc. should be evaluated in the same manner as method blanks. Use the most contaminated blank to evaluate the sample results.

Blank Result	Sample Result	Qualification
Any detection	<Reporting limit	Qualify as ND at reporting limit
Any detection	>Reporting Limit and >10x the blank result	No qualification
>Reporting limit	>Reporting limit and <10x blank result	J+ biased high

Field Duplicates

A blind field duplicate should be collected at rate of one per twenty samples. The relative percent difference (RPD) should be less than 30% for analyte concentrations greater than two times the reporting limit. Use the higher result for final reporting.

RPD >30%	Apply J qualifier to parent sample

Lab Control Spike

Lab control spikes should be analyzed with each extraction batch or one for every twenty samples. In the absence of lab derived criteria, use 70% - 130% recovery criteria to evaluate the data.

Recovery <70% or >130% (lab derived criteria can also be used)	Apply J qualifier to detects and UJ qualifier to non detects

Matrix Spike/Matrix Spike Duplicate

One matrix spike and matrix spike duplicate should be collected at a rate of one per twenty samples. Use professional judgement to reject results based on out of control MS/MSD recoveries.

Recovery <70% or >130% (lab derived criteria can also be used)	Apply J qualifier to detects and UJ qualifier to non detects of parent sample only
RPD >30%	Apply J qualifier to detects and UJ qualifier to non detects of parent sample only

Extracted Internal Standards (Isotope Dilution Analytes)

Problematic analytes (e.g. PFBA, PFPeA, fluorotelomer sulfonates) can have wider recoveries without qualification. Qualify corresponding native compounds with a J flag if outside of the range.

Recovery <50% or >150%	Apply J qualifier
Recovery <25% or >150% for poor responding analytes	Apply J qualifier
Isotope Dilution Analyte (IDA) Recovery <10%	Reject results

Signal to Noise Ratio

The signal to noise ratio for the quantifier ion should be at least 3:1. If the ratio is less than 3:1, the peak is discernable from the baseline noise and symmetrical, the result can be reported. If the peak appears to be baseline noise and/or the shape is irregular, qualify the result as tentatively identified.

Reporting Limits

If project-specific reporting limits were not met, please indicate that in the report along with the reason (e.g. over dilution, dilution for non-target analytes, high sediment in aqueous samples).

Peak Integrations

Target analyte peaks should be integrated properly and consistently when compared to standards. Ensure branched isomer peaks are included for PFAS where standards are available. Inconsistencies should be brought to the attention of the laboratory or identified in the data review summary report.

Appendix K

Stormwater Pollution Prevention Plan

STORMWATER POLLUTION PREVENTION PLAN

Proposed Public Safety Building
1153 W. Fayette Street
Syracuse, New York 13204

CHA Project Number: 088543

August 2024

Prepared for:
1153 Owner, LLC
PO Box 515
Syracuse, New York 13205

Prepared by:
CHA Consulting, Inc.
300 South State Street, Suite 600
Syracuse, New York 13202
Phone: (315) 471-3920

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1.0 PROJECT INFORMATION

1.1 Project Name and Location

Proposed Public Safety Building
1153 W. Fayette Street
Syracuse, New York 13204

1.2 Owner Name and Address

Charlie Breuer
Executive Vice President
1153 Owner, LLC
PO Box 515
Syracuse, New York 13205
(315) 476-7917
cbreuer@hb1872.build

2.0 PROJECT DESCRIPTION

2.1 Purpose and Extent of Proposed Development

The proposed project is located on the south side of West Fayette Street between South Geddes Street and Magnolia Street in the City of Syracuse, Onondaga County, New York (see Figure 1 – Location Plan). The project area is comprised of one parcel encompassing approximately 2.656 acres and is generally bounded by commercial properties to the east and south, athletic fields and residential properties to the west and railroad tracks to the north.

This Stormwater Pollution Prevention Plan (SWPPP) covers all site development, scheduled to be completed by Fall 2026. More specifically, site development includes the renovation of existing buildings, reconstruction of parking areas and installation/rerouting of associated utilities.

Since site disturbance will be greater than 1 acre of land and runoff from the property will be tributary to Harbor Brook, NYSDEC SPDES coverage is required. Therefore, stormwater facilities will be designed in accordance with the NYS Stormwater Management Design Manual.

2.2 Project Disturbance Area

Total Disturbance Area:	±1.90 ac
Existing Impervious Area:	±1.44 ac
Proposed Impervious Area:	±1.53 ac
Net Impervious Area:	+0.09 ac

2.3 Description and Limitations of On-Site Soils

The soil disturbance for the proposed work is limited to 1.90± acres within the property boundary and adjacent right of way. According to the USDA Soil Survey of Onondaga County, New York, the area of disturbance consists of Urban land (Ub).

Additional information for this soil type is located in Appendix A – Soils Information.

The Natural Resource Conservation Service (NRCS, formerly known as the SCS), as part of their soil classification system, assigns each soil series to a Hydrologic Soil Group (HSG). The HSG is a four-letter index intended to indicate the minimum rate of infiltration obtained after prolonged wetting, and to indicate the relative potential for a soil type to generate runoff. The infiltration rate is the rate at which water enters the soil at the soil surface. The HSG also indicates the transmission rate – the rate at which water moves within the soil. Soil scientists define the four groups as follows:

- HSG 'A' (sand, loamy sand, or sandy loam): Soils have low runoff potential and high infiltration rates even when thoroughly wetted. They consist chiefly of deep, well to excessively drained sands or gravels and have a high rate of water transmission (> than 0.30 inches/hour).

- HSG 'B' (silt loam or loam): Soils have moderate infiltration rates when thoroughly wetted, and consist chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to fine texture. These soils have a moderate rate of water transmission (0.15 to 0.30 inches/hour).

- HSG 'C' (sandy clay loam): Soils have low infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water, and soils with moderately fine to fine texture. These soils have a low rate of water transmission (0.05 to 0.15 inches/hour).

- HSG 'D' (clay loam, silty clay loam, sandy clay, silty clay, or clay): Soils have high runoff potential. They have very low infiltration rates when thoroughly wetted, and consist chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a clay pan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very low rate of water transmission (< 0.05 inches/hour).

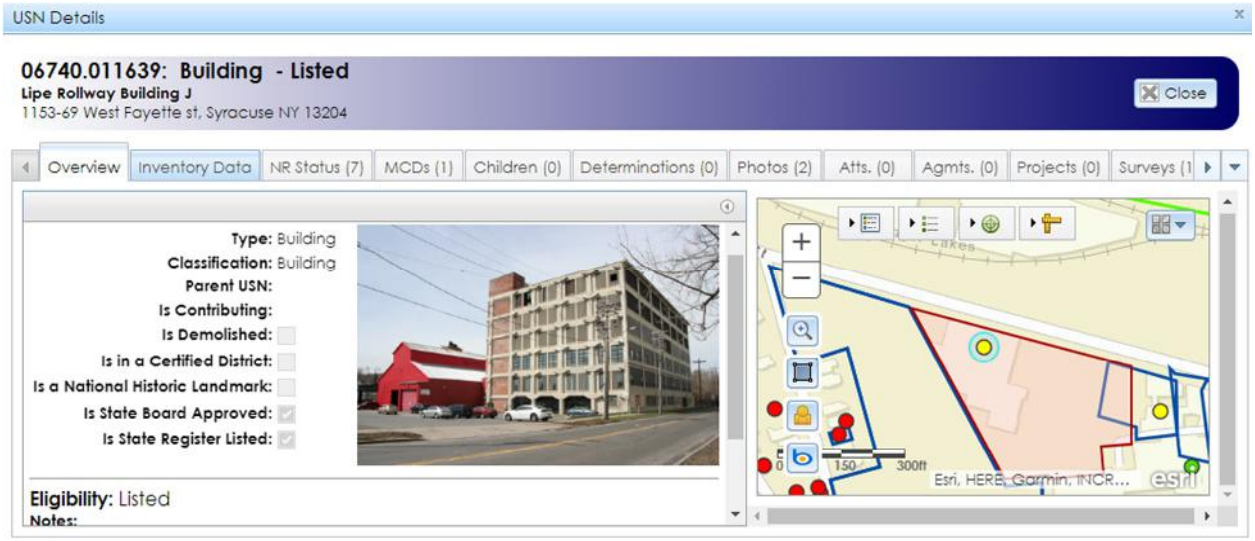
- If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in Group D are assigned to dual classes.

Since Urban land is not classified in any soil group, HSG D soils are assumed for calculation purposes.

2.4 Historic Places

The existing building is listed on the National Register for Historic Places. A historic tax credit application has been submitted to the New York State Parks, Recreation & Historic Preservation Office which includes details of the proposed renovation. Approval documentation will be included in Appendix B upon receipt.

Figure A. Cultural Resource Information System Information



3.0 SEQUENCE OF MAJOR ACTIVITIES

This SWPPP presents erosion and sediment controls, both temporary and permanent, to assist the operator in compliance with the project's SPDES General Permit for construction activity. To the degree practicable, all temporary erosion and sediment control mitigation measures shall be installed immediately before associated project areas are disturbed in anticipation of all soil disturbing activities to follow. Based upon NYS DEC regulations, the owner or operator of a construction activity shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a regulated, traditional landuse control MS4, the MS4 (provided the MS4 is not the owner or operator of the construction activity). At a minimum, the owner or operator must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

1. The owner or operator shall have a qualified inspector conduct at least two (2) site inspections in accordance with Part IV.C. every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. When performing just two (2) inspections every seven (7) calendar days, the inspections shall be separated by a minimum of two (2) full calendar days.
2. In areas where soil disturbance activity has been temporarily or permanently ceased, temporary and/or permanent soil stabilization measures shall be installed and/or implemented within seven (7) days from the date the soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control.

3. The owner or operator shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
4. The owner or operator shall install any additional site-specific practices needed to protect water quality.
5. The owner or operator shall include the requirements above in their SWPPP.

It is the responsibility of the Contractor to ensure that all soils removed from the project site are spoiled in a manner consistent with all local, state, and federal regulations. Appropriate erosion and sediment controls shall be installed at all spoil sites. Additionally, the Contractor is responsible for coordinating the application for a GP-0-20-001 permit (and development of an associated SWPPP) if disturbance associated with any soil spoils area is greater than 0.4 hectares (1 acre). GP-0-20-001 applications must be signed by the owner of the lands on which soils are spoiled. Disturbances associated with offsite spoil areas do not contribute to the total disturbances associated with onsite activities.

It is not anticipated that 5 acres or more will be disturbed at one time for this project.

3.1 Name of Receiving Waters

Stormwater runoff from the property drains to Harbor Brook which flows through a culvert through the central portion of the property. Harbor Brook is a 303(d) listed waterbody and ultimately discharges to Onondaga Lake. Therefore, the site is located within the Onondaga Lake TMDL Watershed.

4.0 CONTROLS

4.1 Timing of Controls/Measures

The erosion and sediment control measures shall be constructed prior to clearing or grading of any portion of the project. Where land disturbance is necessary, temporary seeding or mulching must be used on areas which will be exposed for more than 7 days. Permanent stabilization should be performed as soon as possible after completion of grading. After the entire project area is stabilized, the accumulated sediment shall be removed from the project area. Erosion control devices shall remain in place until disturbed areas are permanently stabilized. For projects where soil disturbance is greater than five (5) acres, and construction activity has temporarily or permanently ceased, temporary and/or permanent soil stabilization measures shall be installed and/or implemented within seven (7) days from the date the soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control.

4.2 Erosion and Sediment Controls / Stabilization Practice

4.2.1 Temporary Stabilization

Topsoil stockpiles, staging areas and disturbed pervious portions of the project area where construction activity temporarily ceases for at least 7 days shall be stabilized with temporary seed and mulch no later than 7 days from the last construction activity in that area.
Temporary seed shall be ryegrass applied at the rates specified below:

- If seeding in spring, summer or early fall then seed with annual or perennial rye at a rate of 30 lbs per acre. If area is to remain stabilized over the winter into the following spring use perennial rye only.

- If seeding in late fall or early winter, use certified Aroostook winter rye (cereal rye) at a rate of 90 lbs per acre.

Any seeding method may be used that will provide uniform application of seed to the area and result in relatively good soil to seed contact. Area must be free of large rocks and debris and seeded within 24 hours of disturbance or scarification of the soil surface will be necessary prior to seeding. Fertilizer or lime is not typically used for temporary plantings.

Mulch shall be applied in conjunction with seeding and applied at the rate of 90 lbs per 1,000 square feet. Mulch shall be reapplied as necessary. Areas of the project area, which are to be paved, shall be temporarily stabilized by applying temporary gravel subbase until pavement can be applied.

Proposed grades which will have slopes steeper than 3:1 shall be stabilized with erosion control fabric.

Temporary diversion swales shall be installed on site as necessary to provide positive drainage. The diversion swales are designed to divert runoff around active construction areas to a point of discharge. Check dams shall be installed in swales per plan.

Temporary sediment traps/basins shall be constructed per Blue Book guidelines as necessary. Sediment control fencing and filter sock shall be installed around the site where depicted on the attached plan. Additional silt fence/sock may need to be installed to protect adjacent undisturbed areas from sediment transport.

Prior to commencing any earthwork, a stabilized construction entrance shall be installed as indicated on the attached plan. This entrance shall be utilized as the exclusive construction entrance and exit to the construction areas. Construction traffic shall be limited to the construction entrance.

4.2.2 Permanent Stabilization

Disturbed portions of the project area where construction activities permanently cease shall be stabilized with permanent seed no later than 7 days after the last construction activity. The permanent seed mix shall be in accordance with the project specifications and plans. Construction and maintenance of erosion and siltation control measures are in accordance with the New York Standards and Specifications for Erosion and Sediment Control.

Where construction activity is complete over areas to be permanently vegetated, stabilize with permanent seeding. Verify seeding dates with engineer. If engineer determines that seed cannot be applied due to climate, topsoil shall not be spread and mulching shall be applied to the exposed surface to stabilize soils until the next recommended seeding period. Other project areas shall be permanently stabilized with pavement, concrete, gravel or building structures.

4.2.3 Soil Restoration

According to the New York State Stormwater Management Design Manual (NYSSMDM), Soil Restoration is a required practice applied across areas of a development site where soils have been disturbed and will be vegetated in order to recover the original properties and porosity of the soil. A deep, well-drained soil, rich in organic matter, absorbs rainwater, helps prevent flooding and soil erosion, filters out water pollutants, and promotes vigorous plant growth that requires less

irrigation, pesticides and fertilizer.

Due to the soil types onsite, Full Soil Restoration is required in any area where existing impervious surface will be converted to pervious area. As outlined in the NYSSMDM, during periods of relatively low to moderate subsoil moisture, the disturbed subsoils are returned to rough grade and the following Soil Restoration steps are applied:

1. Apply 3 inches of compost over subsoil
2. Till compost into subsoil to a depth of at least 12 inches using a cat-mounted ripper, tractor-mounted disc, or tiller, mixing, and circulating air and compost into subsoils
3. Rock-pick until uplifted stone/rock materials of four inches and larger size are cleaned off the site
4. Apply topsoil to a depth of 6 inches
5. Vegetate as required by approved plan

See Chapter 5 Section 5.1.6 of the NYSSMDM for additional requirements.

4.3 Winter Operations

If construction activities proceed through the winter season, access points should be enlarged and stabilized to provide for snow stockpiling. Drainage structures should be kept open and free of potential snow and ice dams. Inspection and maintenance are necessary to ensure the function of these practices during runoff events. For sites where construction activities temporarily cease, temporary and/or permanent soil stabilization measures shall be installed within seven (7) days from the date the soil disturbing activity ceased. Disturbed areas should be stabilized with seed and mulch, or other approved methods, even if the ground is covered by significant amounts of snow.

4.3.1 Winter Shutdown

Site inspections (by the qualified inspector) may be decreased to a minimum of one (1) time every thirty (30) days for sites where soil disturbing activities have ceased and the site has been completely stabilized with an approved method. Inlet protection should be installed and/or repaired before shutdown of the site. The owner or operator shall provide written notification to the respective DEC regional office prior to reducing the frequency of any site inspections.

4.4 Other Controls

4.4.1 Waste Disposal

Waste materials – Foreign waste materials shall be collected and stored in a secured area until removal and disposal by a licensed solid waste management company. All trash and construction debris from the project area shall be disposed of in a portable container unit. No foreign waste materials shall be buried within the project area. All personnel shall be instructed regarding the correct procedure for waste disposal. Notices stating these practices shall be posted in the project trailer and the individual who manages day-to-day project operations will be responsible for seeing that these procedures are followed.

Petroleum Impacted Waste – During the excavation activities, there is the potential that petroleum impacted soils may be encountered. In the event that field evidence of contamination is identified during the project, potentially contaminated soils will be segregated and stockpiled on polyethylene sheeting and covered in a predetermined staging area. The potentially impacted,

stockpiled soils will then be sampled to determine if the soils are suitable for use as clean backfill. In the event that the soils are not suitable for re-use, the contaminated soil will be properly characterized and disposed of at an off-site NYSDEC permitted facility. The excavation will then be backfilled with clean, imported fill.

Hazardous Waste - All hazardous waste materials shall be disposed of in a manner specified by local or state regulations or by the manufacturer. Project personnel shall be instructed in these practices and the individual who manages day-to-day project operations shall be responsible for seeing that these practices are followed.

Sanitary Waste - Any sanitary waste from portable units shall be collected from the portable units by a licensed sanitary waste management contractor, as required by NYS DEC regulations.

4.4.2 Sediment tracking by Vehicles

A stabilized construction entrance shall be installed (where depicted on attached plan) and maintained as necessary to help reduce vehicular tracking of sediment. The entrance shall be cleaned of sediment and redressed when voids in the crushed stone become filled and vehicular tracking of sediment is occurring. Dump trucks hauling materials to and from the construction project area shall be covered with a tarpaulin to reduce dust. Any sediment and debris tracked from work area along project adjacent roadways shall be immediately removed with a street sweeper or equivalent sweeping method. Further, sweeping of streets adjacent to disturbed areas shall be performed prior to the end of each work day (at a minimum) when tracking of sediment is occurring.

4.4.3 Non-Stormwater Discharges

Non-stormwater discharges are not expected to exit the project area during construction.

4.5 Certification of Compliance with Federal, State, and Local Regulations

The stormwater pollution prevention plan reflects the New York State requirements for stormwater management and erosion and sediment control. To ensure compliance, this plan was prepared in accordance with New York State Standards. There are no other applicable State or Federal requirements for sediment and erosion plans (or permits), or stormwater management plans (or permits).

5.0 POST-CONSTRUCTION STORMWATER MANAGEMENT

5.1 Design Criteria

The proposed project has been designed in accordance with the New York State Stormwater Management Design Manual (January 2015) and the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities (GP-0-20-001). CHA proposes to utilize the unified approach for sizing stormwater management practices to reduce channel erosion, prevent overbank flooding, and help control extreme floods.

In order to evaluate the potential impacts associated with the development of the site, existing and proposed condition hydrographs were generated using a Type II rainfall distribution. Rainfall amounts were referenced from the Northeast Regional Climate Center. The 24-hour rainfall amounts for the 1, 10, and 100-year design storms for the project site are 2.20, 3.80, and 5.80 inches respectively.

Runoff curve numbers and times of concentration were computed using standard NRCS TR-55 methodology. Additionally, peak stormwater flows and hydrographs for the existing and proposed conditions were computed using the Hydraflow Hydrographs Extension for AutoCAD Civil 3D 2020 hydrology program by Autodesk, Inc.

5.2 Existing Conditions

The existing property is currently vacant, occupying approximately 100,000 SF of the former industrial complex that is listed on the National Register. The property contains the original 6-story Lipe-Rollway building, 1 story attached structures, and associated parking area. The majority of the property is impervious with small areas of deteriorated grass. Runoff generally drains toward the central portion of the property where it is collected via catch basins which discharge to the underground culvert carrying Harbor Brook through the property (see Figure 2 – Existing Conditions).

For detailed hydrologic analyses output for the existing conditions see Appendix C. For a summary of the existing conditions hydrologic analysis see Table 1 below.

Table #1. Existing Conditions Analysis Summary

Drainage Area	Area (ac)	Tc (min)	Curve Number	Peak Flow Rate (cfs)		
				1-yr	10-yr	100-yr
EXDA	2.66	5.0	96	7.37	13.37	20.76

5.3 Proposed Conditions

The proposed project will transform the existing distressed and vacant structures into a public safety facility for the City of Syracuse Police and Fire Departments which include office and operations space, employee wellness facilities, training facilities, indoor parking and secured storage (see Figure 3 – Proposed Conditions). The existing 6 story and attached 1 story structures will be renovated while the adjacent brick silos and covered garage area will be demolished. A surface parking lot, fencing, sidewalks and utilities will also be installed.

Runoff will continue to drain to the central portion of the site and discharge to the Harbor Brook culvert. See Peak Flow Attenuation section below for further detail.

For detailed hydrologic analyses output for the proposed conditions see Appendix C. For a summary of the proposed conditions hydrologic analysis see Table 2 below.

Table #2. Proposed Conditions Analysis Summary

Drainage Area	Area (ac)	Tc (min)	Curve Number	Peak Flow Rate (cfs)		
				1-yr	10-yr	100-yr
PRPDA	2.66	5.0	95	7.10	13.15	20.59

5.4 Peak Flow Attenuation

The project will increase impervious surfaces by approximately 4,050 SF, however, based on a comparison between the existing condition and the unmitigated proposed condition peak flow rates, the proposed development will slightly decrease peak rates of runoff in all storm events due to the poor condition of the existing grass within the property. Therefore, peak flow attenuation is not required.

A comparison of the results of the existing condition and proposed condition hydrologic analysis is shown in the following table. Detailed computations are included in Appendix C.

Table #3. Existing Condition and Post-Development Peak Flow Comparison

Peak Flow Rate (cfs)								
1-Year Storm			10-Year Storm			100-Year Storm		
Existing	Proposed	Δ	Existing	Proposed	Δ	Existing	Proposed	Δ
7.37	7.10	-0.27	13.37	13.15	-0.22	20.76	20.59	-0.17

As can be seen in the above table, proposed condition peak flow rates are below existing peak flow rates as required.

5.4.1 Water Quality Volume

Due to the project's location within the Onondaga Lake TMDL Watershed, water quality volume (WQv) treatment will be designed to capture and treat the 1-year storm event. Treatment practices need to be capable of 80% Total Suspended Solids (TSS) removal and 40% Total Phosphorous (TP) removal, have an accepted longevity in the field and have a pretreatment mechanism.

According to Chapter 9 of the New York State Stormwater Management Design Manual (NYSSMDM), 100% of new impervious surfaces must be treated, while only 25% of existing impervious surfaces are required to be treated (if using a standard practice). Existing impervious surfaces treated via proprietary devices must treat 75% of the existing impervious surfaces.

The proposed development will create an approximately 0.09 ac of additional impervious surfaces while approximately 1.44 ac of existing impervious surface will be disturbed.

Therefore, per the NYSSMDM, the required Water Quality Volume (WQv) is calculated as follows:

WQv = (P x Rv x A)/12, where
- P = 1-year rainfall event number, from NYSSMDM Figure 4.1, P=2.20
- Rv = Impervious coefficient, based on % impervious cover (I)
  - Rv = 0.05 + 0.009*(I)
- A = Drainage area in acres

Therefore,

New Impervious Surfaces:

WQv = 2.2 x (0.05 + (0.009 x 100)) x 0.09 / 12 = 0.016 acft

Existing Impervious Surfaces:

WQv = (2.2 x (0.05 + (0.009 x 100)) x 1.44 / 12) x 25% = 0.251 acft

Total WQv Required = 0.016 + 0.251 = 0.267 acft

5.4.2 Runoff Reduction

The goal of runoff reduction is to provide infiltration, groundwater recharge, reuse, recycle evaporation/evapotranspiration of 100 percent of the post-development water quality volumes to replicate pre-development hydrology by maintaining pre-construction infiltration, peak runoff flow, discharge volume, as well as minimizing concentrated flow by using runoff control techniques to provide treatment in a distributed manner before runoff reaches the collection system. This requirement can be accomplished by application of on-site green infrastructure techniques, standard stormwater management practices with runoff reduction capacity, and good operation and maintenance. Runoff reduction can be achieved by three methods: reduction of contributing drainage area, reduction of runoff volume through practice storage, and using standard stormwater practices with runoff reduction capacity.

Due to brownfield conditions, traditional infiltration is not permitted. Therefore, a bioretention area containing underdrain and an impermeable liner is proposed to treat approximately 4,691 SF (0.11 ac) of roof area. The bioretention area will be oversized to accommodate the 40% maximum allowable RRv in order to provide 100% of the required RRv. The bioretention area will be located along the south side of the building. See Figure 4 – WQv/RRv Areas as well as the calculations provided in Appendix C.

5.4.3 Floodplains

The property is not located within a floodplain, therefore, floodplain impacts are not applicable.

6.0 MAINTENANCE/INSPECTION PROCEDURES

6.1 Erosion and Sediment Control Inspection and Maintenance Practices

These are the minimum required inspection and maintenance practices that shall be used to maintain erosion and sediment controls:

6.1.1 Owner/Operator Inspection Requirements

- Prior to construction activity the owner/operator shall have contractors and sub-contractors identify a trained individual responsible for the implementation of the SWPPP. The trained individual must be on-site on a daily basis when soil disturbing activities are occurring.
- The owner/operator shall inspect the erosion and sediment control measures as identified in the SWPPP to ensure that they are being maintained in effective operating conditions at all times.

Where soil disturbing activities temporarily cease (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the owner/operator can stop conducting inspections. The owner/operator shall resume inspections when soil disturbing activities begin again.

- Where soil disturbing activities have ceased with partial project completion, the owner/operator can stop conducting inspections when disturbed areas have reached final stabilization. All post construction stormwater management practices required for the completed areas shall have been constructed in conformance with the SWPPP and be fully operational. Final stabilization means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.
- The owner/operator shall notify the MS4's stormwater contact person prior to any reduction in the frequency of site inspections.
- The owner/operator shall retain copies of the NOI, NOI acknowledgment letter, SWPPP, MS4 SWPPP acceptance forms and any inspection reports submitted in conjunction with this permit and records or all data used to complete the NOI to be covered by this permit for a period of at least five (5) years from the date that the site is finally stabilized.

6.1.2 Qualified Inspector Inspection Requirements

- The qualified inspector is defined as a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), licensed Landscape Architect, or other Department endorsed individual(s). It may also mean someone working under the direct supervision of the licensed Professional Engineer or licensed Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means the person has received four (4) hours of training endorsed by the Department and shall receive four (4) hours of training every three (3) years after the initial training.
- A site inspection shall be conducted at least once every seven (7) days by the qualified inspector when soil disturbing activities are occurring. **Electronic reports in PDF format shall be emailed to the City Engineer within 24 hours of inspection**. A copy of the "Construction Duration Inspection Form" is included in the "inspection forms" section of this plan.
- All measures shall be maintained in good working order; if any repairs or corrective actions are necessary, it is the responsibility of the qualified inspector to notify the owner/operator and appropriate contractor within one business day. The contactor shall begin implementing the corrective action within one business day of being notified.
- During construction activities where soil disturbances exceed the five (5) acre maximum, and the owner/operator has received prior authorization, the qualified inspector shall conduct at least two (2) site inspections every seven (7) calendar days. Inspections shall be separated by a minimum of two (2) full calendar days.
- All inspection forms must be signed by a qualified inspector.
- For construction sites where soil disturbing activities are temporarily suspended, temporary stabilization measures shall be applied and the qualified inspector shall conduct a site inspection at least once every thirty (30) calendar days.
- Where soil disturbing activities have ceased with partial project completion the qualified inspector can stop conducting inspections when disturbed areas have reached final stabilization and all post construction stormwater management practices required for the completed areas have been constructed in conformance with the SWPPP and are fully operational.
- Where soil disturbing activities are not resumed within two (2) years, from the date of shut down of partial project completion, the qualified inspector shall perform a final inspection and certify that

all disturbed areas have achieved final stabilization, all temporary and permanent erosion control measures have been removed, and post-construction stormwater management practices have been constructed in conformance with the SWPPP. Qualified inspector shall sign the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the Notice of Termination (NOT).

6.1.3 General Requirements

- A copy of the SPDES General Permit (GP-0-20-001), the signed Notice of Intent (NOI), NOI acknowledgement letter, SWPPP, MS4 SWPPP Acceptance Forms, and inspection reports shall be maintained onsite until the site has achieved final stabilization.
- Built up sediment shall be removed from any silt fence when it has reached one-third the height of the fence / dike.
- Sediment fencing and wetland protection barrier shall be inspected for depth of sediment, and tears, to see if fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- The construction entrances shall be cleaned of sediment and redressed when voids in the crushed stone become filled and vehicular tracking of sediment is occurring.
- Dust shall be controlled on access points and other disturbed areas subject to surface dust movement and blowing.
- Stabilization fabric and check dams shall be inspected to ensure that slopes and swales are not being eroded. Fabric shall be replaced / reinstalled and check dams added as necessary to prevent any such erosion.
- Inspection of diversion swales shall be conducted to check condition of swale.
- Temporary sediment basins shall be inspected to check condition of basin. They shall be cleaned immediately once accumulated sediment reaches a depth of 1/3 the depth of the basin.
- Inspection must verify that all practices are adequately operational, maintained properly and that sediment is removed from all control structures.
- Inspection must look for evidence of soil erosion on the site, potential of pollutants entering drainage systems, problems at the discharge points, and signs of soil and mud transport from the site to the public road.

6.2 Post-Construction Stormwater Inspection and Maintenance Practices

The property owner is responsible for maintenance of the proposed stormwater treatment facilities. Long-term inspection forms (included in Appendix F of this plan) are referenced from the NYSDEC Maintenance Guidance for Stormwater Management Practices dated March 31, 2017.

7.0 INVENTORY FOR POLLUTION PREVENTION PLAN

The materials or substances listed below are expected to be within the project area during construction:

- Portland cement concrete.
- Fertilizers / seeding materials.
- Stone.
- Bituminous asphalt.
- Petroleum based products.
- Silt fence fabric.
- Lumber.
- Pavement marking paint.

- HDPE pipe and PVC pipe.
- Bonded fiber matrix material.
- HDPE Geomembrane material.

8.0 SPILL PREVENTION

The following are the material management practices that shall be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

8.1 Good Housekeeping

The following good housekeeping practices shall be followed within project areas during construction:

- An effort shall be made to store only enough products required to do the job.
- All materials stored within project areas shall be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
- Products shall be kept in their original containers with the original manufacturer's label.
- Substances shall not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product shall be used up before disposing of the container.
- Manufacturers' recommendations for proper use and disposal shall be followed.
- The project superintendent shall inspect daily to ensure proper use and disposal of materials.

8.2 Hazardous Products

These practices are used to reduce the risks associated with hazardous materials:

- Products shall be kept in original containers unless they are not resealable.
- Original labels and material safety data shall be retained.
- If surplus product must be disposed of, manufacturers' or local and state recommended methods of proper disposal shall be followed.
- Material Safety Data Sheets for all hazardous products shall be within the project area for the duration of construction.

8.3 Product Specific Practices

The following product-specific practices shall be followed within the project areas:

8.3.1 Petroleum Products

All project related vehicles shall be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products shall be stored in tightly sealed containers which are clearly labeled. Any asphalt substances used during construction shall be applied according to the manufacturer's recommendations.

8.3.2 Fertilizers

Fertilizers used shall be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer shall be worked into the soil to limit exposure to stormwater. Fertilizers shall be stored in a covered or other contained area.

8.3.3 Paints

All containers shall be tightly sealed and stored when not required for use. Excess paint shall not be discharged to the storm sewer system but shall be properly disposed of according to manufacturer's instructions or State regulations.

8.3.4 Concrete Trucks

Concrete trucks shall be allowed to wash out within project areas provided that the contractor provides an area which collects and contains any concrete / slurry material washed from trucks (concrete washout) for recovery and disposal at a later time. No concrete / slurry shall be discharged from the property at any time of construction. If such washing is anticipated, the contractor shall submit a plan detailing the control of concrete / slurry to the engineer for approval.

8.3.5 Watercourse Protection

Construction operations shall be conducted in such a manner as to prevent damage to watercourses from pollution of debris, sediment, or other foreign material, or from manipulation, from equipment and/or materials in or near the watercourse. The contractor shall not return directly to the watercourse any water used for wash purposes or other similar operations which may cause the water to become polluted with sand, silt, cement, oil or other impurities. If the contractor uses water from the water course, the contractor shall construct an intake or temporary dam to protect and maintain watercourse water quality.

8.4 Spill Control Practices

The contractor will be responsible for preparing a project area specific spill control plan in accordance with local and NYS DEC regulations. At a minimum this plan should:

- Reduce stormwater contact if there is a spill.
- Contain the spill.
- Stop the source of the spill.
- Dispose of contaminated material in accordance with manufactures procedures, and NYS DEC regulations.
- Identify responsible and trained personnel.
- Ensure spill area is well ventilated.

9.0 UPDATING THE SWPPP

The SWPPP shall be updated/revised as conditions merit or as directed by the regulating authority. The attached inspection forms included with this document allows for the certification of any updates/revisions.

10.0 SWPPP CERTIFICATION

10.1 Contracting Firm Information

Contracting Firm
Address
City/Town *State* *Zip*

10.2 Site Location

1153 West Fayette Street
Syracuse, New York 13204

10.3 Contractor's Certification

I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System (SPDES) general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations.

Signature (Contractor/Subcontractor) *Date*

For

Responsible For

Signature (Trained Contractor) *Date*

For

Responsible For

Signature (Contractor/Subcontractor) *Date*

For

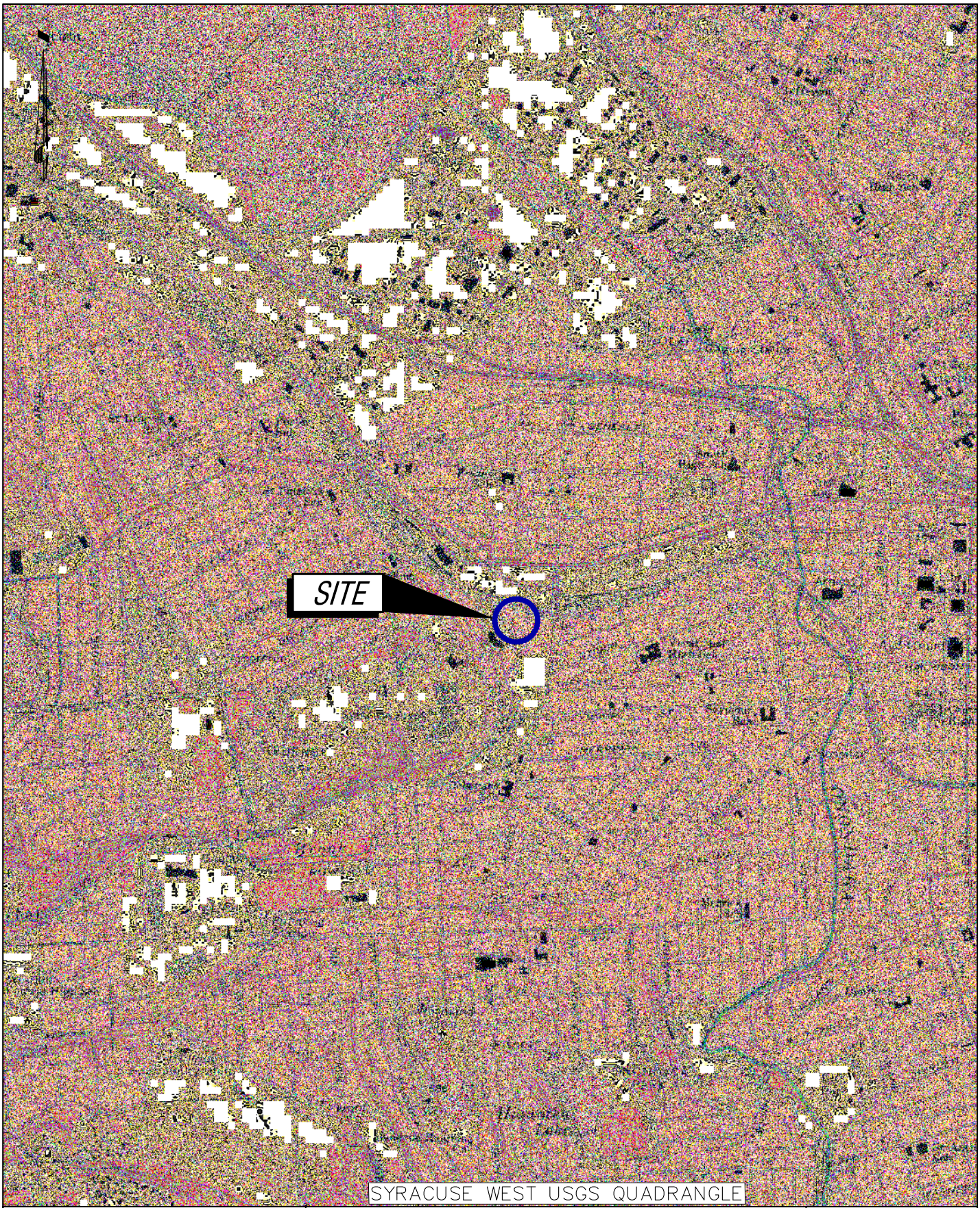
Responsible For

Signature (Trained Contractor) *Date*

For

Responsible For

FIGURES



SYRACUSE WEST USGS QUADRANGLE

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Syracuse, NY 13202
315.471.3920 . www.chasolutions.com

LOCATION PLAN

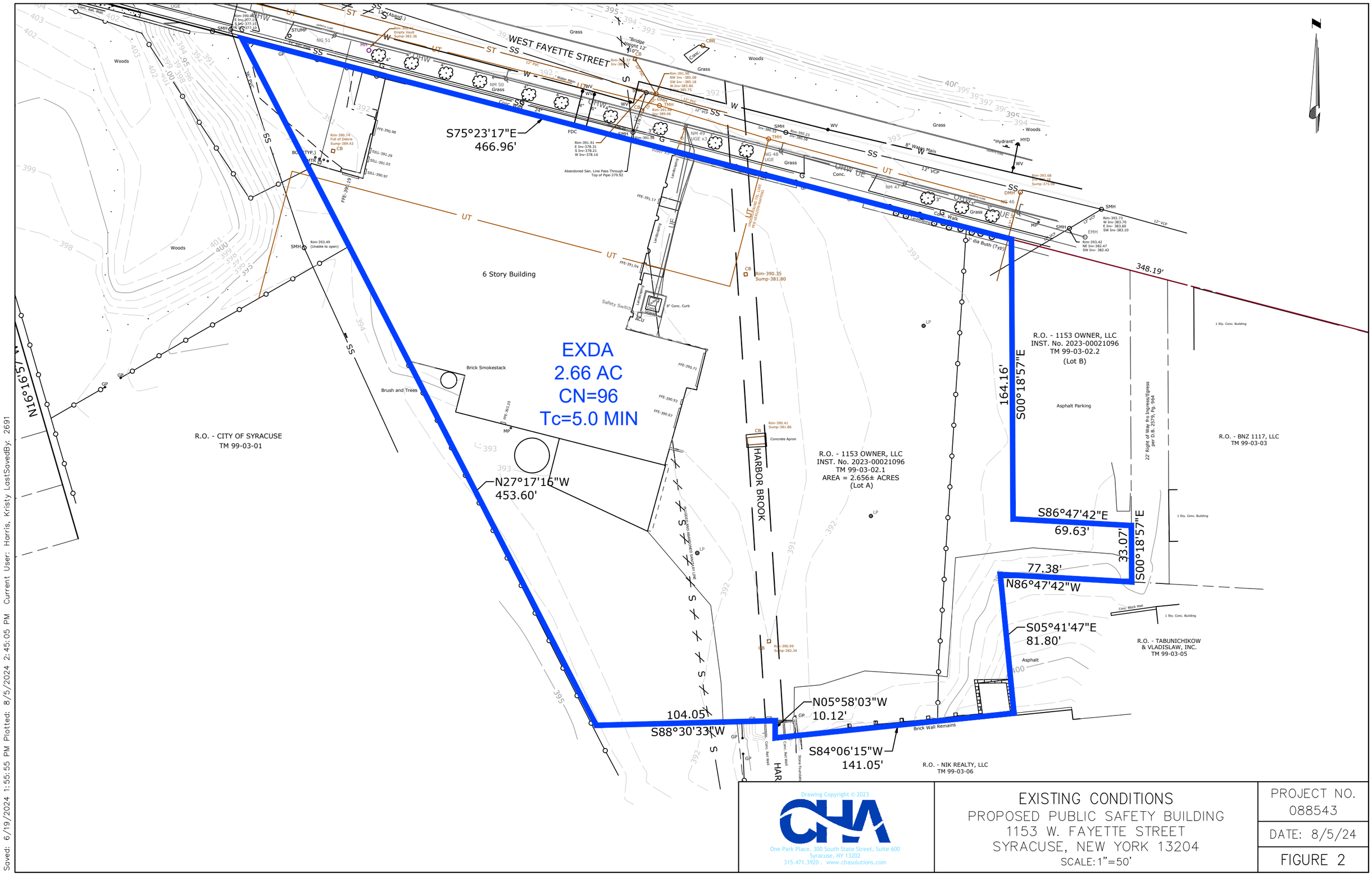
PROPOSED PUBLIC SAFETY BUILDING
1153 W. FAYETTE STREET
CITY OF SYRACUSE, NY 13205
SCALE: 1"=2,000'

PROJECT NO. 088543

DATE: 8/5/24

FIGURE 1

File: V:\PROJECTS\ANY\K7\088543.000\09_DESIGN\EXHIBITS\STORMWATER\FIGURE 1 - LOCATION.DWG Saved: 8/1/2024 7:04:49 PM Plotted: 8/5/2024 2:47:32 PM Current User: Harris, Kristy LastSavedBy: 2691



File: V:\PROJECTS\ANY\K7\088543.000\09_DESIGN\EXHIBITS\STORMWATER\FIGURE 2 – EXISTING CONDITIONS.DWG
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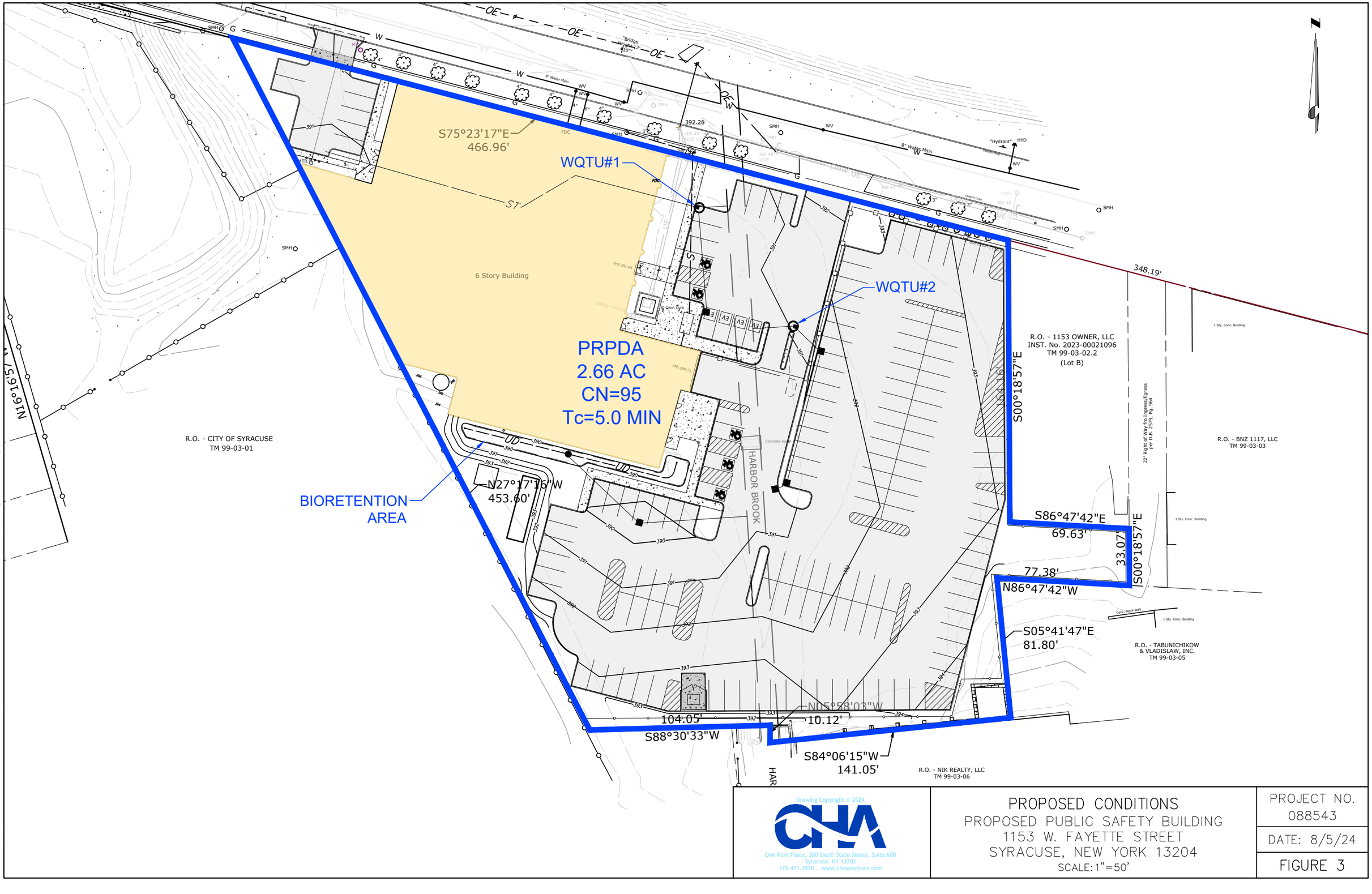

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PROPOSED CONDITIONS

PROPOSED PUBLIC SAFETY BUILDING
1153 W. FAYETTE STREET
SYRACUSE, NEW YORK 13204
SCALE: 1"=50'

PROJECT NO. 088543

DATE: 8/5/24

FIGURE 3

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WEST FAYETTE STREET

WQTU #1
37,538SF

6 Story Building

BIORETENTION
4,691SF

WQTU #2
32,514 SF

S75°23'17"E
466.96'

N27°17'16"W
453.60'

S88°30'33"W
104.05'

N05°58'03"W
10.12'

S84°06'15"W
141.05'

S00°18'57"E
348.19'

S86°47'42"E
69.63'

S00°18'57"E
33.07'

N86°47'42"W
77.38'

S05°41'47"E
81.80'

N16°16'57"W

392.28

R.O. - CITY OF SYRACUSE
TM 99-03-01

R.O. - 1153 OWNER, LLC
INST. No. 2023-00021096
TM 99-03-02.2
(Lot B)

R.O. - BNZ 1117, LLC
TM 99-03-03

R.O. - TABUNICHIKOW
& VLADISLAW, INC.
TM 99-03-05

R.O. - NIK REALTY, LLC
TM 99-03-06

HARBOR BROOK

Woods
Grass
Conc. Walk
Asphalt Parking
Asphalt
Brush and Trees
Brick Wall Remains
Conc. Block Wall
Conc. Ret. Wall
Stone Foundation
1 Sty. Conc. Building
22' Right of Way fro Ingress/Egress per D.B. 2579, Pg. 964
8" Water Main
"Hydrant"
"Bridge Weight 12-110"
Rim-393.73
W Inv-383.70
E Inv- 383.60
SW Inv-383.10
Rim-393.42
NE Inv-382.47
SW Inv- 382.42
Rim-393.49
(Unable to open)

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WQv/RRv AREAS
PROPOSED PUBLIC SAFETY BUILDING
1153 W. FAYETTE STREET
SYRACUSE, NEW YORK 13204
SCALE: 1"=50'

PROJECT NO.
088543

DATE: 8/5/24

FIGURE 4

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APPENDIX A

Soils Information

76° 10' 28" W
76° 10' 17" W
43° 2' 47" N
43° 2' 42" N
404330
404350
404370
404390
404410
404430
404450
404470
404490
404510
404530
404550
404570
4766650
4766630
4766610
4766590
4766570
4766550
4766530
4766510
W Fayette St
Ub
Soil Map may not be valid at this scale.
Map Scale: 1:1,120 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 15 30 60 90
Feet
0 50 100 200 300
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Most limited

Somewhat limited

Least limited

Not rated or not available

Soil Rating Lines

Most limited

Somewhat limited

Least limited

Not rated or not available

Soil Rating Points

Most limited

Somewhat limited

Least limited

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Onondaga County, New York
Survey Area Data: Version 18, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 3, 2021—Nov 7, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Stormwater Management - Infiltration (NY)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Ub	Urban land	Not rated	Urban land (70%)		3.7	100.0%
			Dunkirk (5%)			
			Appleton (5%)			
			Howard (5%)			
			Lamson (5%)			
			Fredon (5%)			
			Mardin (5%)			
Totals for Area of Interest					**3.7**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Null or Not Rated	3.7	100.0%
Totals for Area of Interest	**3.7**	**100.0%**

Description

Proper management of stormwater runoff from construction sites and developed areas is an issue of growing importance in New York State. During construction, exposed soil is subject to a greater risk of erosion, resulting in a greater potential for sedimentation in waterways. Stormwater runoff increases on the rooftops of buildings, paved parking lots, and other impervious surfaces, and thus increases the potential for flooding and discharge of polluted runoff into open water. Management of stormwater runoff can prevent or reduce the availability, release, or transport of substances that can degrade surface and ground waters. Guidelines and design criteria for stormwater management practices have been established by the New York State Department of Environmental Conservation (2008).

This interpretation is designed to evaluate the limitations of soils for stormwater management practices. The purpose of the interpretation is to help decision makers use soil survey information in the selection and implementation of the stormwater management practices best suited to a particular location. The information in the interpretations is intended for planning purposes and does not eliminate the need for on-site investigation of the soil.

Rating class terms indicate the extent to which the soils are limited by the soil features that influence the design, construction, and performance of stormwater management practices. "Least limited" indicates that the soil has features that are very favorable for this practice. Good performance and low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the practice. The limitations can be overcome or minimized by special planning, design, or construction. Fair performance and moderate maintenance can be expected. "Most limited" indicates that the soil has one or more features that are unfavorable for the practice. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive construction procedures. Poor performance and high maintenance can be expected.

The rating class is based on the maximum value of the rating indices generated for each soil feature considered. Where the rating value is:

equal to 0.0, the rating class is "least limited."

greater than 0 and less than 1.0, the rating class is "somewhat limited."

equal to 1.0, the rating class is "most limited."

Design criteria in the "New York State Stormwater Management Design Manual" (New York State Department of Environmental Conservation, 2008) were used to guide the selection of potentially limiting soil properties. Additional limiting features incorporated into the interpretations are based on soil function for the specific practice.

Infiltration Practices

This interpretation evaluates the limitations of soils for stormwater management infiltration practices. Infiltration practices collect stormwater runoff in basins (or trenches) for storage prior to filtration through undisturbed soil in the basin (or trench) floor and sides. Deep, well drained, and permeable soils are required for implementing infiltration practices. Following is a synopsis of the soil features considered in this interpretation.

Excessive permeability: Excessive permeability in one or more layers may allow stormwater to move rapidly through the soil without sufficient filtering, resulting in a potential for groundwater contamination. Additional pretreatment or soil amendments may be required as part of an infiltration practice. The interpretation evaluates the range (low to high) of permeability values for the most transmissive layer in the soil.

Low permeability: Low permeability restricts movement of water through the soil, impeding the infiltration function. The interpretation evaluates the range (low to high) of permeability values for the least transmissive layer in the soil.

Slope gradient: Excessive slope limits the functionality of an infiltration practice. The representative slope gradient percent for the soil component is the property evaluated.

Depth to bedrock: Limited depth to bedrock impedes excavation and restricts infiltration. The minimum depth to bedrock is the property evaluated.

Depth to manufactured layer: In urban areas, some anthropogenic (human-altered) soils have a restrictive layer, such as pavement, below the surface. Limited depth to this feature impedes excavation and restricts infiltration. The minimum depth to a manufactured layer is the property evaluated.

Depth to saturation: A seasonal high water table in the upper part of the soil limits the storage capacity of an infiltration practice. The interpretation evaluates the minimum depth to a zone of saturation.

Excessive fines: Soils with a high content of silt and clay may become plugged with sediment from stormwater, resulting in restricted infiltration. The interpretation evaluates the weighted average of the percent clay and percent silt, for depths greater than 36 inches.

In addition to soil characteristics, other attributes of the site and the surrounding area are important factors in planning and implementing stormwater management practices. For example, proximity and slope direction from the installation practice to a drinking water well are important considerations when sites for infiltration practices are selected.

The components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen, which is displayed in the report. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as the one listed for the map unit. The percent composition of these components is described. As a result, the percentage of the rating class in the map unit is indicated.

Other components with different ratings may occur in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the "Stormwater Management (NY)" report from the Soil Reports tab in Web Soil Survey.

References:

New York State Department of Environmental Conservation. April 2008. New York State Stormwater Management Design Manual.

New York State Department of Environmental Conservation. June 2000. Urban/ Stormwater Runoff Management Practices Catalogue for Nonpoint Source Pollution Prevention in New York State.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Onondaga County, New York

Ub—Urban land

Map Unit Setting

National map unit symbol: 9vkw
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Fredon

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Mardin

Percent of map unit: 5 percent
Hydric soil rating: No

Dunkirk

Percent of map unit: 5 percent
Hydric soil rating: No

Appleton

Percent of map unit: 5 percent
Hydric soil rating: No

Howard

Percent of map unit: 5 percent
Hydric soil rating: No

Lamson

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Onondaga County, New York
Survey Area Data: Version 18, Sep 5, 2023

APPENDIX B

Historic Preservation Information

NEW YORK
STATE OF
OPPORTUNITY.

Parks, Recreation and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

February 7, 2018

Ms. Joanne Mitchell
Regional Director

Re: Lipe-Rollway Corporation
1153 W. Lafayette Street
Syracuse, NY 13204
Onondaga County

Dear Ms. Mitchell:

I am pleased to inform you that the above referenced property was listed **February 2, 2018** on the National Register of Historic Places. As you may know, the National Register is the nation's official list of properties worthy of preservation. Listing on the National Register recognizes the importance of these properties to the history of our country and provides them with a measure of protection. ***In addition, owners of income producing properties may qualify for federal and/or state income tax benefits. Homeowners in qualifying census tracts may qualify for state income tax benefits for approved work.*** Properties owned by municipalities and not-for-profit organizations are eligible to apply for state historic preservation matching grants.

If you would like more information about any of these programs, please contact your field representative, in this case, Virginia Bartos, at the ***Division for Historic Preservation*** at (518) 268-2161. Division staff maintains a continuing interest in all registered properties and will be happy to answer any questions you may have.

Sincerely,

R. Daniel Mackay
Deputy Commissioner for Historic Preservation and
Deputy State Historic Preservation Officer

APPENDIX C

Hydrologic Analysis

CN CALCULATIONS

EXISTING CONDITIONS

USE	AREA	CN	AREA * CN
IMPERVIOUS	2.13	98	208.26
OPEN SPACE (FAIR COND)	0.05	84	4.20
OPEN SPACE (POOR COND)	0.48	89	42.72
TOTALS	2.66		255.18
WEIGHTED CN			96

PROPOSED CONDITIONS

USE	AREA	CN	AREA * CN
IMPERVIOUS	2.22	98	217.36
OPEN SPACE	0.44	80	35.13
TOTALS	2.66		252.49
WEIGHTED CN			95

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (acft)	Hydrograph Description
1	SCS Runoff	7.369	2	716	0.368	------	------	------	EXDA
3	SCS Runoff	7.104	2	716	0.348	------	------	------	PRPDA

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (acft)	Hydrograph Description
1	SCS Runoff	13.37	2	716	0.695	------	------	------	EXDA
3	SCS Runoff	13.15	2	716	0.672	------	------	------	PRPDA

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (acft)	Hydrograph Description
1	SCS Runoff	20.76	2	716	1.107	------	------	------	EXDA
3	SCS Runoff	20.59	2	716	1.083	------	------	------	PRPDA

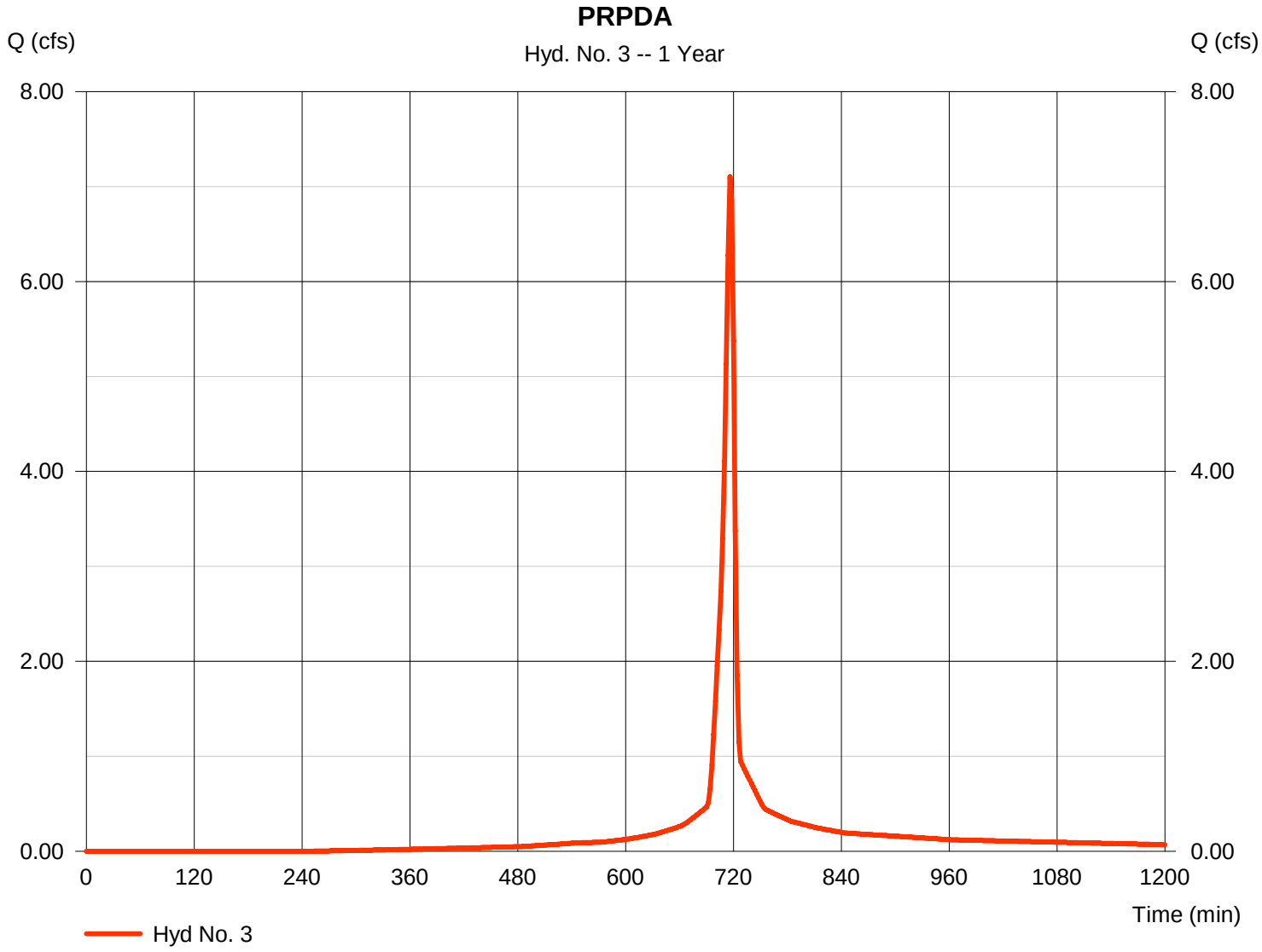
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 Monday, 08 / 5 / 2024

Hyd. No. 3

PRPDA

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.104 cfs
Storm frequency	=	1 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	0.348 acft
Drainage area	=	2.660 ac	Curve number	=	95
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	2.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



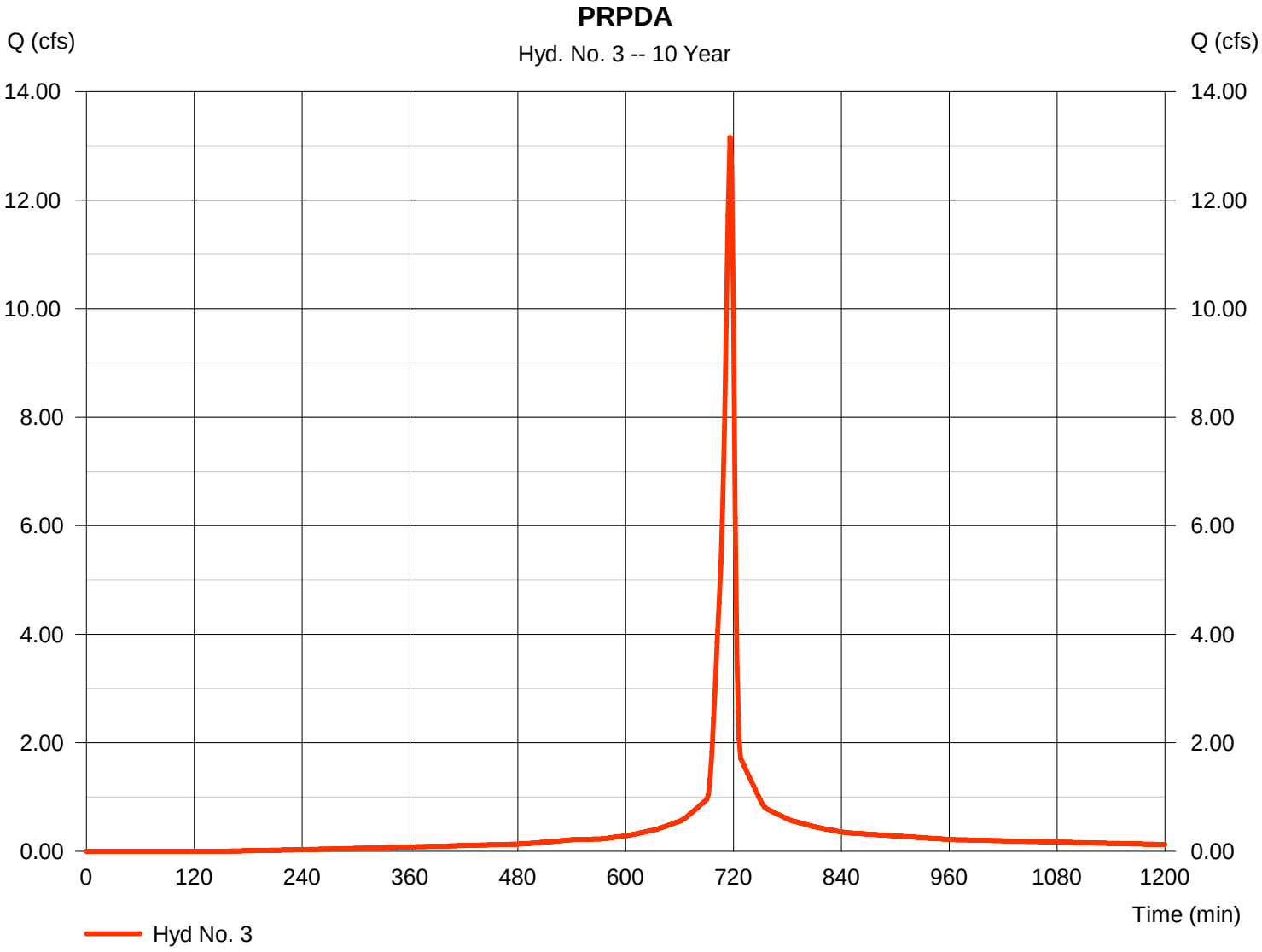
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 Monday, 08 / 5 / 2024

Hyd. No. 3

PRPDA

Hydrograph type	=	SCS Runoff	Peak discharge	=	13.15 cfs
Storm frequency	=	10 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	0.672 acft
Drainage area	=	2.660 ac	Curve number	=	95
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	3.80 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



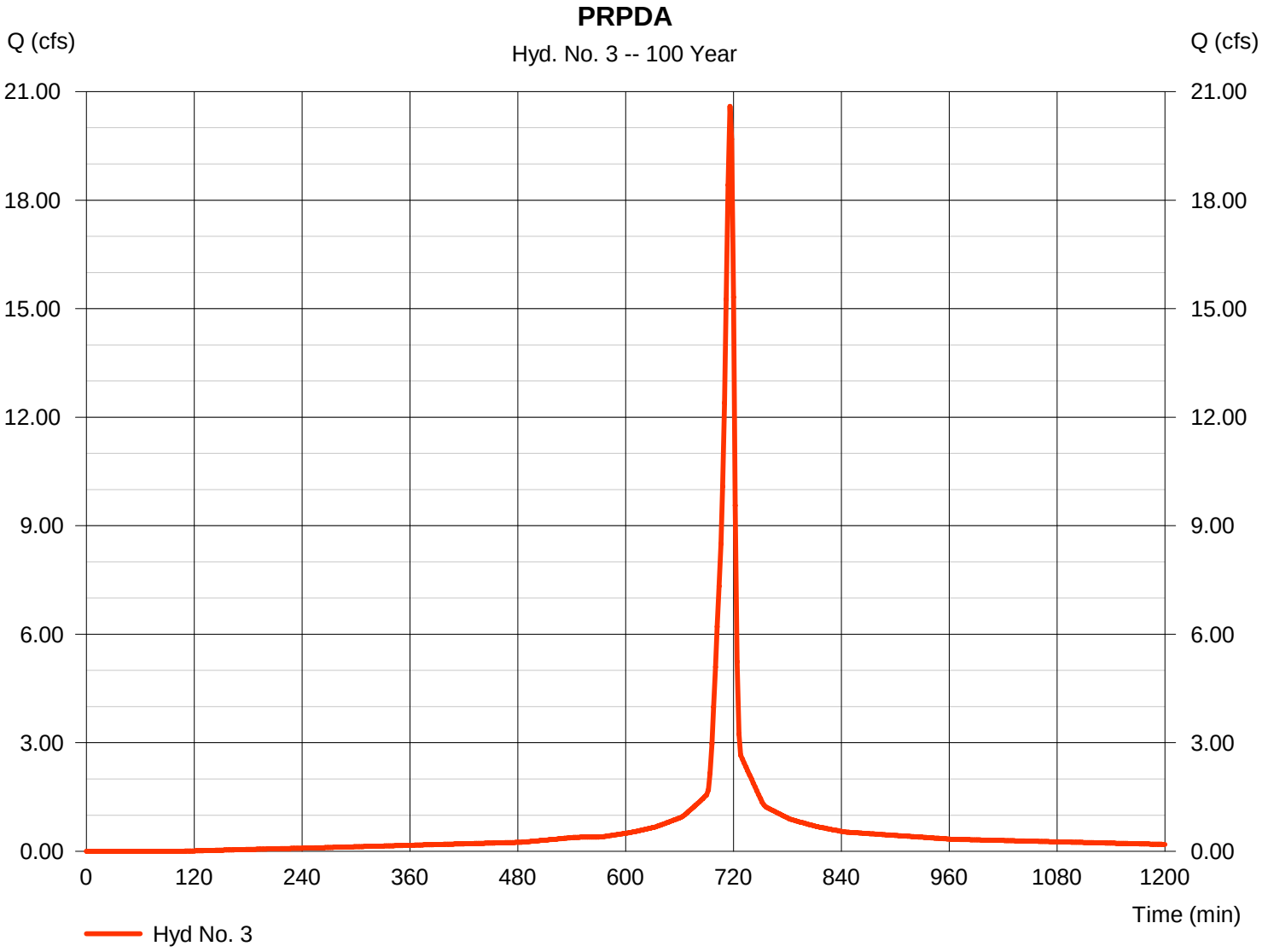
Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 Monday, 08 / 5 / 2024

Hyd. No. 3

PRPDA

Hydrograph type	=	SCS Runoff	Peak discharge	=	20.59 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	1.083 acft
Drainage area	=	2.660 ac	Curve number	=	95
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.80 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484



Hydrograph Report

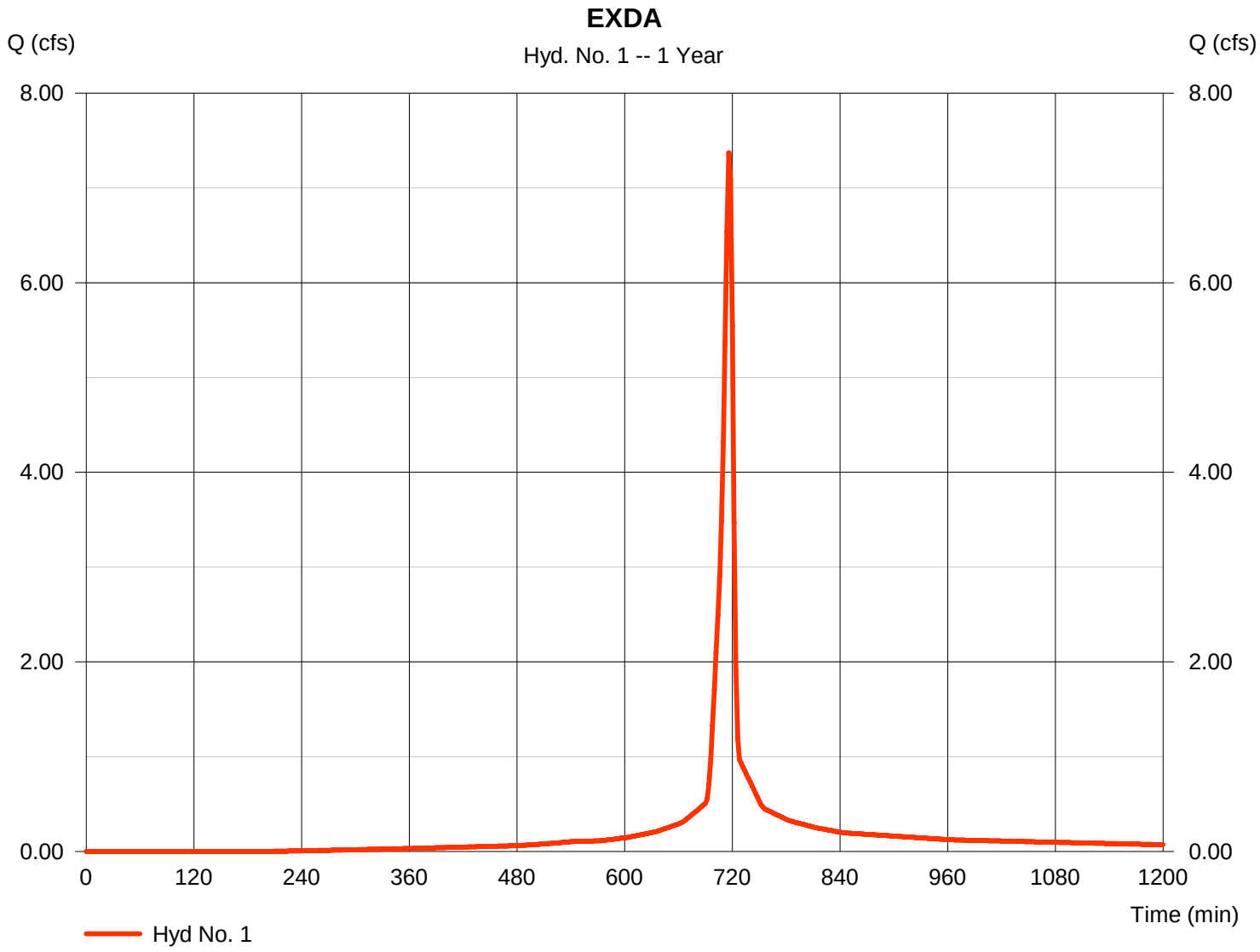
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 Monday, 08 / 5 / 2024

Hyd. No. 1

EXDA

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.369 cfs
Storm frequency	=	1 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	0.368 acft
Drainage area	=	2.660 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	2.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.390 x 80) + (1.620 x 98)] / 2.660



Hydrograph Report

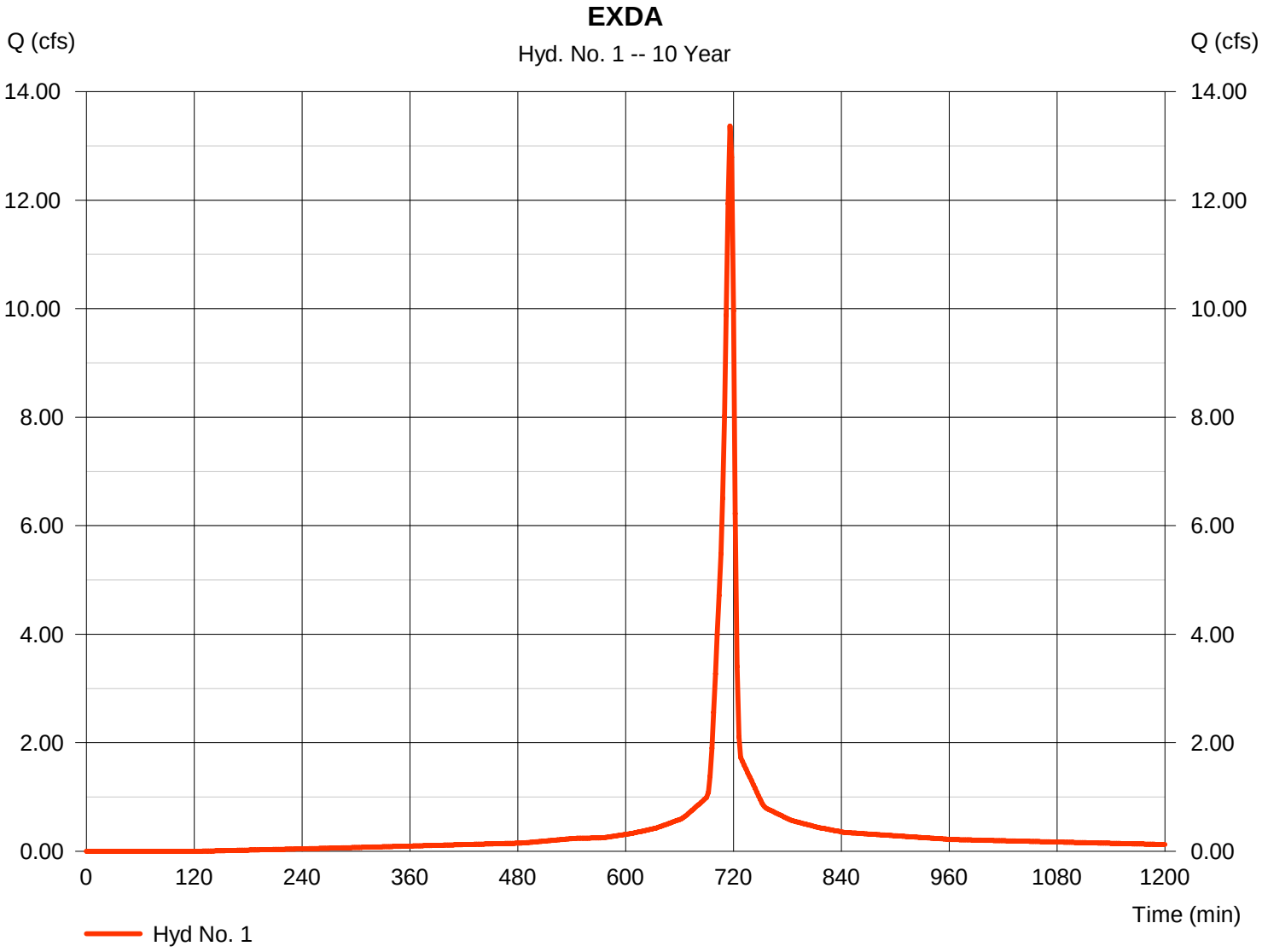
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 Monday, 08 / 5 / 2024

Hyd. No. 1

EXDA

Hydrograph type	=	SCS Runoff	Peak discharge	=	13.37 cfs
Storm frequency	=	10 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	0.695 acft
Drainage area	=	2.660 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	3.80 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.390 x 80) + (1.620 x 98)] / 2.660



Hydrograph Report

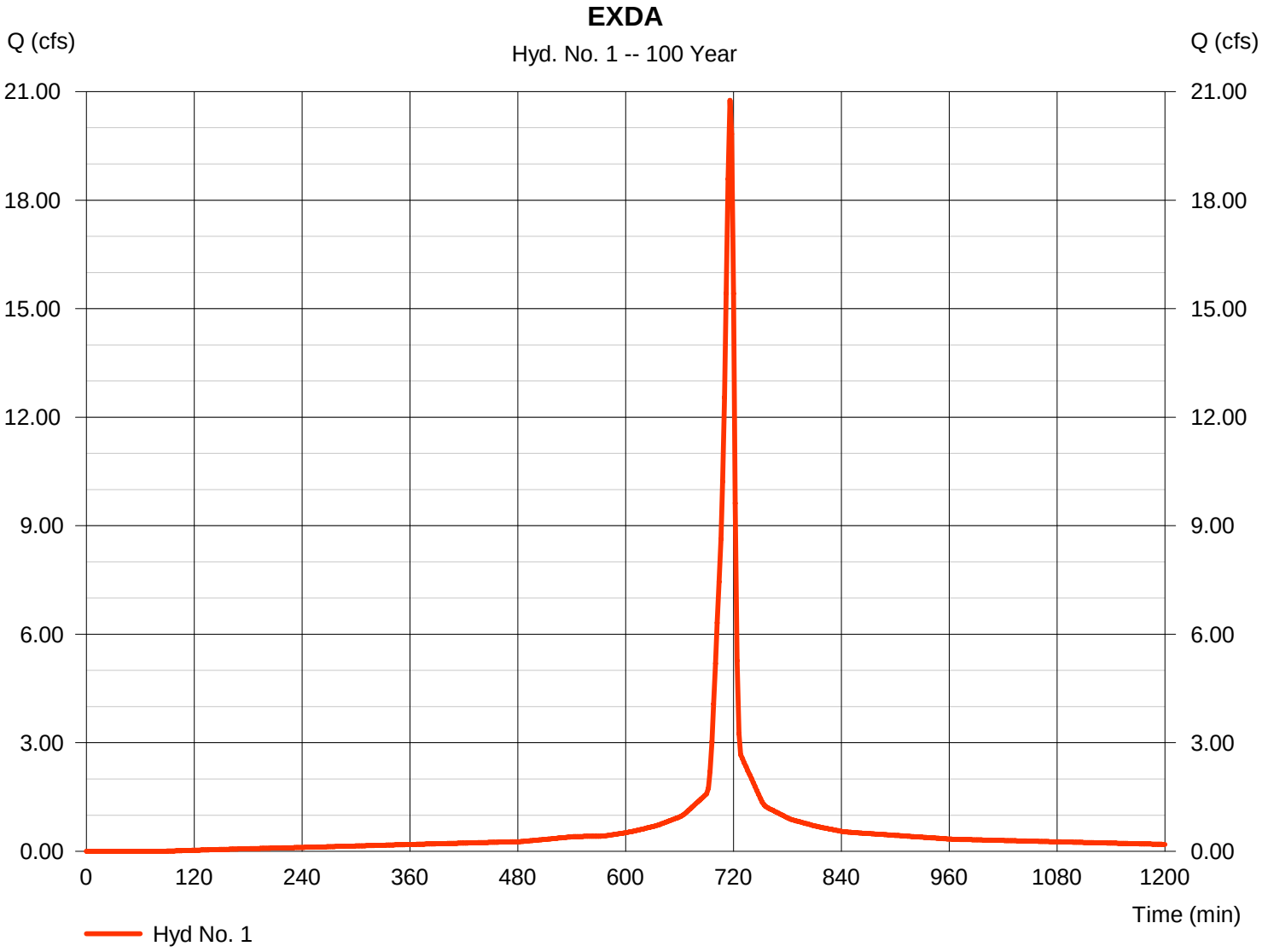
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020.4 Monday, 08 / 5 / 2024

Hyd. No. 1

EXDA

Hydrograph type	=	SCS Runoff	Peak discharge	=	20.76 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	1.107 acft
Drainage area	=	2.660 ac	Curve number	=	96*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.80 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.390 x 80) + (1.620 x 98)] / 2.660



APPENDIX D

WQv Sizing Calculations & WQTU Product Documentation

Bioretention Sizing Worksheet
Bioretention Area

$$Af = WQv \times (df) / [k \times (hf + df)(tf)]$$

where:

Af = the required surface area (square feet)

WQv = water quality volume (cubic feet)

df = depth of soil medium (feet)

k = the hydraulic conductivity (ft/day), usually set at 4 ft/day when soil is loosely placed in the planter, but can be varied depending on the properties of the soil media. Some other reported conductivity values are:

Sand:	3.5 ft/day (Claytor and Schueler, 1996)
Peat:	2.0 ft/day (Galli 1990)
Leaf Compost:	8.7 ft/day (Claytor and Schueler, 1996)
Bioretention Soil:	0.5 ft/day (Claytor and Schueler, 1996)

hf = average height of water above the planter bed

tf = the design time to filter the treatment volume through the filter media

Step 1 - Determine WQv for Drainage to Bioretention Area

		value	units		*Restrictions*	
Enter Design Storm	P	2.2	in			
Enter Impervious Area	I	4,691	sq-ft			
Enter Area	A	4,691	sq-ft			
Percent Impervious Area	%I	100%				
Runoff Volume	Rv	0.95				
WQv	WQv	817	cu-ft	=	0.019	ac-ft

Step 2 - Calculate Minimum Filter Area

		value	units	*Restrictions*
Enter WQv	WQv	817	cu-ft	
Enter depth of soil media	df	2.5	ft	*2.5-4.0 feet*
Enter hydraulic conductivity	k	1	ft/day	
Enter average height of ponding	hf	0.5	ft	*6 inch maximum*
Enter filter time	tf	2	days	
Required Area of Filter	Af	340	sq-ft	

Step 3 - Determine Actual Bioretention Area

Measured Filter Area	893	sq-ft		
Maximum Treatment Volume	2,143	cu-ft	=	0.049 ac-ft

Step 4 - Determine Runoff Reduction

			Restrictions
Maximum Allowable RRv	0.020	ac-ft	
(Based on 40% for use of underdrains)			*- underdrains required for C/D soil types*
Actual Total Runoff Reduction Provided	0.019	ac-ft	
(Based on tributary area)			

WQTU #1

New York State Department of Environmental Conservation (NYSDEC)
Water Quality Volume (WQv) & Water Quality Peak Flow (Qp) Calculation Worksheet

Project:	**Public Safety Building**
Location:	**Syracuse, NY**
Date:	**August 1, 2024**
Designer:	**Kristy Harris**

TR-55 AND TR-20 RAINFALL DISTRIBUTION TYPE=	II			
($R=I_a/P$) $C_i = A*R^2 + B*R + C$		A	B	C
Coefficients for unit peak discharge equation	C_0	-2.2349	0.4759	2.5273
Coefficients for unit peak discharge equation	C_1	1.5555	-0.7081	-0.5584
Coefficients for unit peak discharge equation	C_2	0.6041	0.0437	-0.1761

INPUT CRITERIA:

	ABBREVIATION	UNITS	TRIBUTARY (TREATED) AREA
TOTAL DEVELOPED (GREATER OF DISTURBED OR TRIBUTARY) AREA	A	acres	0.86
IMPERVIOUS SURFACE AREA	I	acres	0.86
NYSDEC 90th PERCENTILE RAINFALL EVENT NUMBER	P	inches	2.20
TIME OF CONCENTRATION	T_c	hours	0.08

CALCULATIONS:

WATER QUALITY VOLUME (2)(3)

REQUIRED WATER QUALITY VOLUME $WQ_v = 3630*P(0.05*A+0.9*I)$	WQ_v	acres-ft	0.150
REQUIRED WATER QUALITY VOLUME (PRETREATMENT 25%)	WQ_v	cu. ft.	1,631

WATER QUALITY PEAK FLOW (4)

RUNOFF VOLUME $Q=WQ_v/(A*3600)$	Q	inches	2.09
$CN=1000/(10+5*P+10*Q-10(Q^2+1.25*Q*P)^{½})$	CN		99.02
CN ROUNDED	CN		99
CN < or = 98	CN		98
INITIAL ABSTRACTION, $I_a = 200/CN-2$	I_a	inches	0.04
RATIO, $R = I_a/P$	R		0.02
$C_0 = A*R^2 + B*R + C$	C_0		2.54
$C_1 = A*R^2 + B*R + C$	C_1		-0.57
$C_2 = A*R^2 + B*R + C$	C_2		-0.18
UNIT PEAK DISCHARDGE, $qu = 10^{(C_0+C_1*Log(T_c)+C_2*(log(T_c))^2)}$	q_u	$cfs/mi^2/in$	887.17
REQUIRED WATER QUALITY PEAK FLOW, $Q_p=qu*A*Q/640$ (100%)	Q_p	cfs	2.49

References:

(1) Refer to Section 10.3 "Stormwater Sizing Criteria" in the New York State Stormwater Design Manual, last revised 1/2015.

(2) Refer to Sections 4.1 and 4.2 for Water Quality Volume (WQv) calculations in the New York State Stormwater Design Manual, last revised 1/2015.

(3) Refer to Section 9.3.2 "Sizing Criteria" for Water Quality Volume (WQv) calculations for Redevelopment Projects in the New York State Stormwater Design Manual, last revised 1/2015.

(4) Refer to Appendix B.2 "Water Quality Peak Flow Calculation" in the New York State Stormwater Design Manual, last revised 1/2015.

WQTU #2

New York State Department of Environmental Conservation (NYSDEC)
Water Quality Volume (WQv) & Water Quality Peak Flow (Qp) Calculation Worksheet

Project:	**Public Safety Building**
Location:	**Syracuse, NY**
Date:	**August 1, 2024**
Designer:	**Kristy Harris**

TR-55 AND TR-20 RAINFALL DISTRIBUTION TYPE=	II			
($R=I_a/P$) $C_i = A*R^2 + B*R + C$		A	B	C
Coefficients for unit peak discharge equation	C_0	-2.2349	0.4759	2.5273
Coefficients for unit peak discharge equation	C_1	1.5555	-0.7081	-0.5584
Coefficients for unit peak discharge equation	C_2	0.6041	0.0437	-0.1761

INPUT CRITERIA:

	ABBREVIATION	UNITS	TRIBUTARY (TREATED) AREA
TOTAL DEVELOPED (GREATER OF DISTURBED OR TRIBUTARY) AREA	A	acres	0.75
IMPERVIOUS SURFACE AREA	I	acres	0.75
NYSDEC 90th PERCENTILE RAINFALL EVENT NUMBER	P	inches	2.20
TIME OF CONCENTRATION	T_c	hours	0.08

CALCULATIONS:

WATER QUALITY VOLUME (2)(3)

REQUIRED WATER QUALITY VOLUME $WQ_v = 3630*P(0.05*A+0.9*I)$	WQ_v	acres-ft	0.131
REQUIRED WATER QUALITY VOLUME (PRETREATMENT 25%)	WQ_v	cu. ft.	1,422

WATER QUALITY PEAK FLOW (4)

RUNOFF VOLUME $Q=WQ_v/(A*3600)$	Q	inches	2.10
$CN=1000/(10+5*P+10*Q-10(Q^2+1.25*Q*P)^{½})$	CN		99.14
CN ROUNDED	CN		99
CN < or = 98	CN		98
INITIAL ABSTRACTION, $I_a = 200/CN-2$	I_a	inches	0.04
RATIO, $R = I_a/P$	R		0.02
$C_0 = A*R^2 + B*R + C$	C_0		2.54
$C_1 = A*R^2 + B*R + C$	C_1		-0.57
$C_2 = A*R^2 + B*R + C$	C_2		-0.18
UNIT PEAK DISCHARDGE, $qu = 10^{(C_0+C_1*Log(T_c)+C_2*(log(T_c))^2)}$	q_u	$cfs/mi^2/in$	887.17
REQUIRED WATER QUALITY PEAK FLOW, $Q_p=qu*A*Q/640$ (100%)	Q_p	cfs	2.17

References:

(1) Refer to Section 10.3 "Stormwater Sizing Criteria" in the New York State Stormwater Design Manual, last revised 1/2015.

(2) Refer to Sections 4.1 and 4.2 for Water Quality Volume (WQv) calculations in the New York State Stormwater Design Manual, last revised 1/2015.

(3) Refer to Section 9.3.2 "Sizing Criteria" for Water Quality Volume (WQv) calculations for Redevelopment Projects in the New York State Stormwater Design Manual, last revised 1/2015.

(4) Refer to Appendix B.2 "Water Quality Peak Flow Calculation" in the New York State Stormwater Design Manual, last revised 1/2015.

CASCADE separator®

The Cascade Separator®

Advanced Sediment Capture Technology

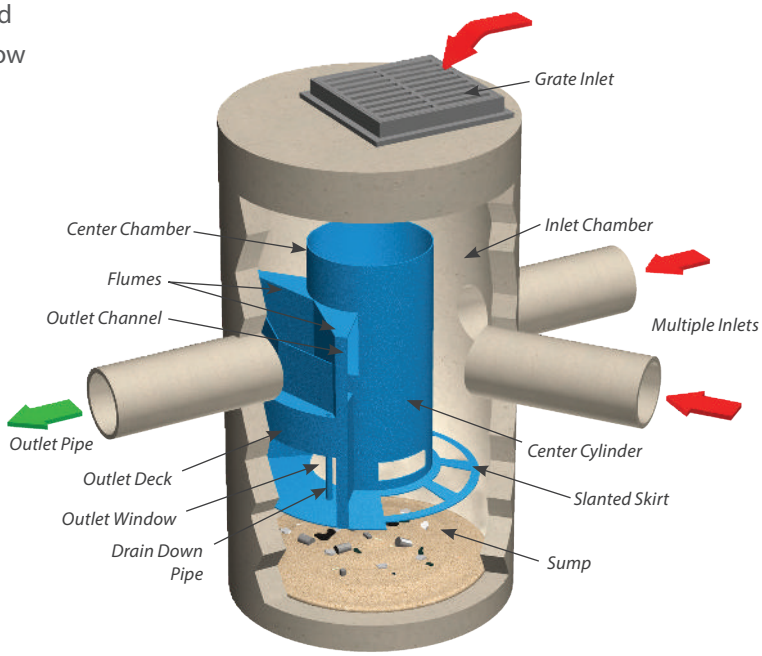
The **Cascade Separator®** is the newest innovation in stormwater treatment from Contech. The Cascade Separator was developed by Contech's stormwater experts using advanced modeling tools and Contech's industry leading stormwater laboratory.

This innovative hydrodynamic separator excels at sediment capture and retention while also removing hydrocarbons, trash, and debris from stormwater runoff. What makes the Cascade Separator unique is the use of opposing vortices that enhance particle settling and a unique skirt design that allows for sediment transport into the sump while reducing turbulence and resuspension of previously captured material. These two factors allow the Cascade Separator to treat high flow rates in a small footprint, resulting in an efficient and economical solution for any site.

Learn More:
www.ContechES.com/cascade

FEATURE	BENEFIT
Unique skirt design & opposing vortices	Superior TSS removal; reduced system size and costs
Inlet area accepts wide range of inlet pipe angles	Design and installation flexibility
Accepts multiple inlet pipes*	Eliminates the need for separate junction structure
Grate inlet option*	Eliminates the need for a separate grate inlet structure
Internal bypass	Eliminates the need for a separate bypass structure
Clear access to sump and stored pollutants	Fast, easy maintenance

** NJDEP testing based on Cascade Separator with one inlet pipe and no grate inlet*



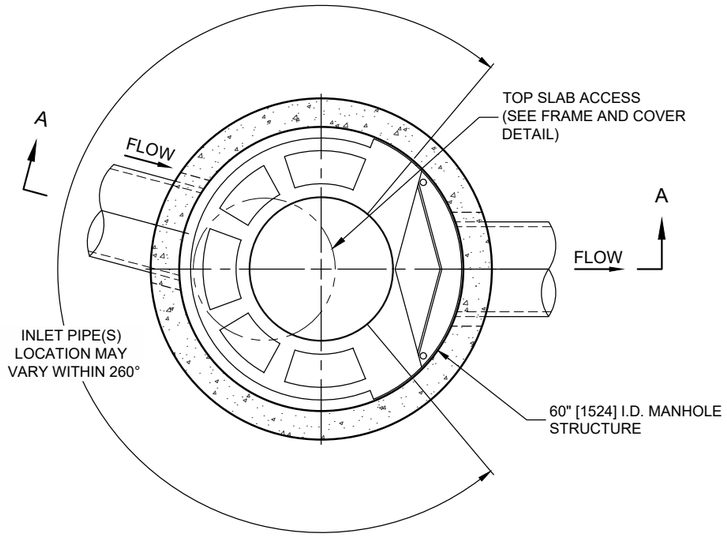
CASCADE MAINTENANCE

Cascade provides unobstructed access to stored pollutants, making it easy to maintain using a vacuum truck, with no requirement to enter the unit.

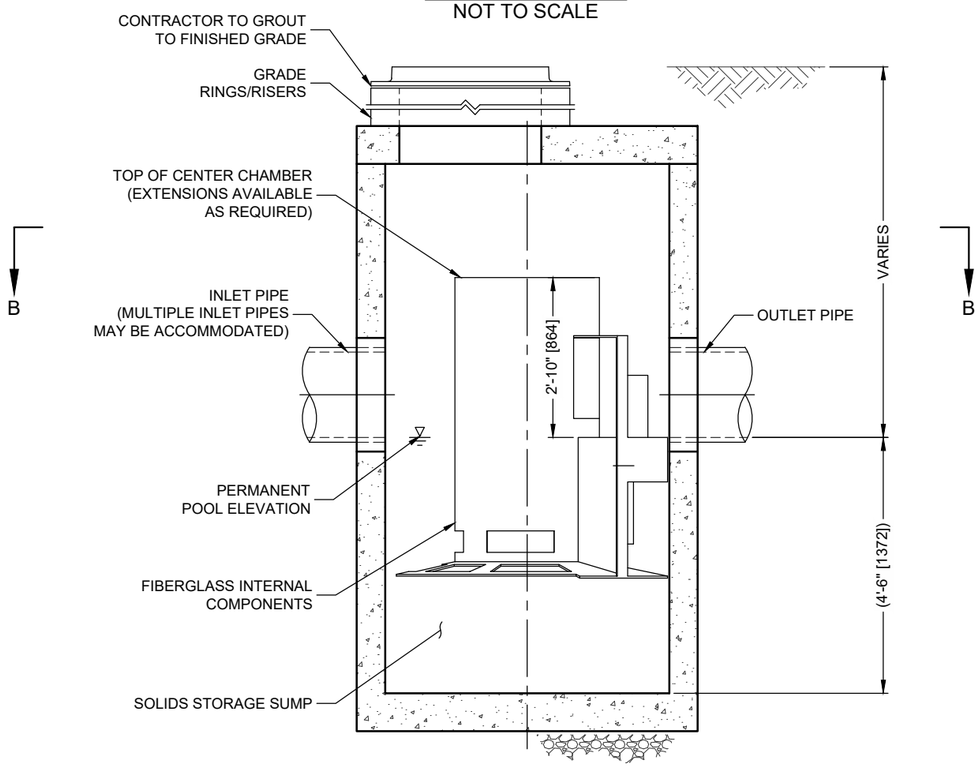
The Cascade Separator has received New Jersey Department of Environmental Protection (NJDEP) Certification*

An efficient and economical solution

CONTECH® ENGINEERED SOLUTIONS



PLAN VIEW B-B
NOT TO SCALE



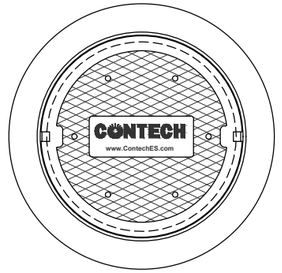
ELEVATION A-A
NOT TO SCALE

CASCADE
separator™

CASCADE SEPARATOR DESIGN NOTES

THE STANDARD CS-5 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY FLOW RATE (cfs [L/s])	
PEAK FLOW RATE (cfs [L/s])	
RETURN PERIOD OF PEAK FLOW (yrs)	
RIM ELEVATION	

PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			

NOTES / SPECIAL REQUIREMENTS:

APPROVED TREATMENT FLOW: 2.81 CFS

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' [610], AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

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800-338-1122 513-645-7000 513-645-7993 FAX

CS-5
CASCADE SEPARATOR
STANDARD DETAIL

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APPENDIX E

NYSDEC Deep Ripping and Decompaction Manual

New York State
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water

Deep-Ripping and Decompaction

April 2008

New York State
Department of Environmental Conservation

Document Prepared by:

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Land Resource Consultant and Environmental Compliance Monitor
(Formerly with the Division of Agricultural Protection and Development Services,
NYS Dept. of Agriculture & Markets)

Alternative Stormwater Management
Deep-Ripping and Decompaction

Description

The two-phase practice of 1) “Deep Ripping;” and 2) “Decompaction” (deep subsoiling), of the soil material as a step in the cleanup and restoration/landscaping of a construction site, helps mitigate the physically induced impacts of soil compression; i.e.: soil compaction or the substantial increase in the bulk density of the soil material.

Deep Ripping and Decompaction are key factors which help in restoring soil pore space and permeability for water infiltration. Conversely, the physical actions of cut-and-fill work, land grading, the ongoing movement of construction equipment and the transport of building materials throughout a site alter the architecture and structure of the soil, resulting in: the mixing of layers (horizons) of soil materials, compression of those materials and diminished soil porosity which, if left unchecked, severely impairs the soil’s water holding capacity and vertical drainage (rainfall infiltration), from the surface downward.

In a humid climate region, compaction damage on a site is virtually guaranteed over the duration of a project. Soil in very moist to wet condition when compacted, will have severely reduced permeability. Figure 1 displays the early stage of the deep-ripping phase (Note that all topsoil was stripped prior to construction access, and it remains stockpiled until the next phase – decompaction – is complete). A heavy-duty tractor is pulling a three-shank ripper on the first of several series of incrementally deepening passes through the construction access corridor's densely compressed subsoil material. Figure 2 illustrates the approximate volumetric composition of a loam surface soil when conditions are good for plant growth, with adequate natural pore space for fluctuating moisture conditions.

Fig. 1. A typical deep ripping phase of this practice, during the first in a series of progressively deeper “rips” through severely compressed subsoil.

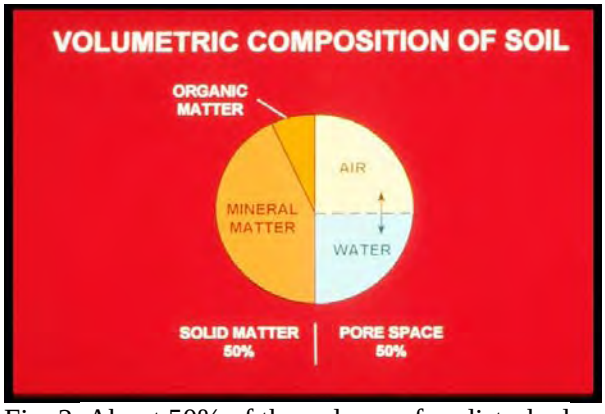


Fig. 2. About 50% of the volume of undisturbed loam surface soil is pore space, when soil is in good condition for plant growth. Brady, 2002.

Recommended Application of Practice

The objective of Deep Ripping and Decompaction is to effectively fracture (vertically and laterallly) through the thickness of the physically compressed subsoil material (see Figure 3), restoring soil porosity and permeability and aiding infiltration to help reduce runoff. Together with topsoil stripping, the "two-phase" practice of Deep Ripping and Decompaction first became established as a "best management practice" through ongoing success on commercial farmlands affected by heavy utility construction right-of-way projects (transmission pipelines and large power lines).

Fig. 3. Construction site with significant compaction of the deep basal till subsoil extends 24 inches below this exposed cut-and-fill work surface.

Soil permeability, soil drainage and cropland productivity were restored. For broader construction application, the two-phase practice of Deep Ripping and Decompaction is best adapted to areas impacted with significant soil compaction, on contiguous open portions of large construction sites and inside long, open construction corridors used as temporary access over the duration of construction. Each mitigation area should have minimal above-and-below-ground obstructions for the easy avoidance and maneuvering of a large tractor and ripping/decompacting implements. Conversely, the complete two-phase practice is not recommended in congested or obstructed areas due to the limitations on tractor and implement movement.

Benefits

Aggressive "deep ripping" through the compressed thickness of exposed subsoil before the replacement/respreading of the topsoil layer, followed by "decompaction," i.e.: "sub-soiling," through the restored topsoil layer down into the subsoil, offers the following benefits:

- Increases the project (larger size) area's direct surface infiltration of rainfall by providing the open site's mitigated soil condition and lowers the demand on concentrated runoff control structures

- Enhances direct groundwater recharge through greater dispersion across and through a broader surface than afforded by some runoff-control structural measures

- Decreases runoff volume generated and provides hydrologic source control

- May be planned for application in feasible open locations either alone or in

conjunction with plans for structural practices (e.g., subsurface drain line or infiltration basin) serving the same or contiguous areas

- Promotes successful long-term revegetation by restoring soil permeability, drainage and water holding capacity for healthy (rather than restricted) root-system development of trees, shrubs and deep rooted ground cover, minimizing plant drowning during wet periods and burnout during dry periods.

Feasibility / Limitations

The effectiveness of Deep Ripping and Decompaction is governed mostly by site factors such as: the original (undisturbed) soil's hydrologic characteristics; the general slope; local weather/timing (soil moisture) for implementation; the space-related freedom of equipment/implement maneuverability (noted above in **Recommended Application of Practice**), and by the proper selection and operation of tractor and implements (explained below in **Design Guidance**). The more notable site-related factors include:

Soil

In the undisturbed condition, each identified soil type comprising a site is grouped into one of four categories of soil hydrology, Hydrologic Soil Group A, B, C or D, determined primarily by a range of characteristics including soil texture, drainage capability when thoroughly wet, and depth to water table. The natural rates of infiltration and transmission of soil-water through the undisturbed soil layers for Group A is "high" with a low runoff potential while soils in Group B are moderate in infiltration and the transmission of soil-water with a moderate runoff potential, depending somewhat on slope. Soils in Group C have slow rates of infiltration and transmission of soil-water and a moderately high runoff potential influenced by soil texture and slope; while soils in Group D have exceptionally slow rates of infiltration and transmission of soil-water, and high runoff potential.

In Figure 4, the profile displays the undisturbed horizons of a soil in Hydrologic Soil Group C and the naturally slow rate of infiltration through the subsoil. The slow rate of infiltration begins immediately below the topsoil horizon (30 cm), due to the limited amount of macro pores, e.g.: natural subsoil fractures, worm holes and root channels. Infiltration after the construction-induced mixing and compression of such subsoil material is virtually absent; but can be restored back to this natural level with the two-phase practice of deep ripping and decompaction, followed by the permanent establishment of an appropriate, deep taproot

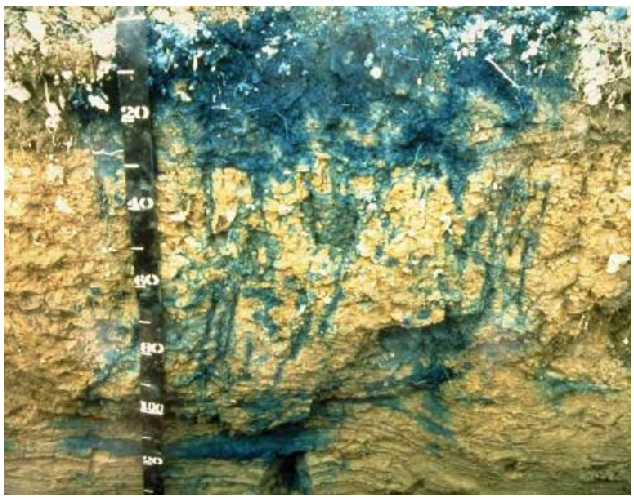


Fig. 4. Profile (in centimeters) displaying the infiltration test result of the natural undisturbed horizons of a soil in Hydrologic Soil Group C.

lawn/ground cover to help maintain the restored subsoil structure. Infiltration after construction-induced mixing and compression of such subsoil material can be notably rehabilitated with the Deep Ripping and Decompaction practice, which prepares the site for the appropriate long-term lawn/ground cover mix including deep taproot plants such as clover, fescue or trefoil, etc. needed for all rehabilitated soils.

Generally, soils in Hydrologic Soil Groups A and B, which respectively may include deep, well-drained, sandy-gravelly materials or deep, moderately well-drained basal till materials, are among the easier ones to restore permeability and infiltration, by deep ripping and decompaction. Among the many different soils in Hydrologic Soil Group C are those unique glacial tills having a natural fragipan zone, beginning about 12 to 18 inches (30 – 45cm), below surface. Although soils in Hydrologic Soil Group C do require a somewhat more carefully applied level of the Deep Ripping and Decompaction practice, it can greatly benefit such affected areas by reducing the runoff and fostering infiltration to a level equal to that of pre-disturbance.

Soils in Hydrologic Soil Group D typically have a permanent high water table close to the surface, influenced by a clay or other highly impervious layer of material. In many locations with clay subsoil material, the bulk density is so naturally high that heavy trafficking has little or no added impact on infiltration; and structural runoff control practices rather than Deep Ripping and Decompaction should be considered.

The information about Hydrologic Soil Groups is merely a general guideline. Site-specific data such as limited depths of cut-and-fill grading with minimal removal or translocation of the inherent subsoil materials (as analyzed in the county soil survey) or, conversely, the excavation and translocation of deeper, unconsolidated substratum or consolidated bedrock materials (unlike the analyzed subsoil horizons' materials referred to in the county soil survey) should always be taken into account.

Sites made up with significant quantities of large rocks, or having a very shallow depth to bedrock, are not conducive to deep ripping and decompation (subsoiling); and other measures may be more practical.

Slope

The two-phase application of 1) deep ripping and 2) decompaction (deep subsoiling), is most practical on flat, gentle and moderate slopes. In some situations, such as but not limited to temporary construction access corridors, inclusion areas that are moderately steep along a project's otherwise gentle or moderate slope may also be deep ripped and decompacted. For limited instances of moderate steepness on other projects, however, the post-construction land use and the relative alignment of the potential ripping and decompaction work in relation to the lay of the slope should be reviewed for safety and practicality. In broad construction areas predominated by moderately steep or steep slopes, the practice is generally not used.

Local Weather/Timing/Soil Moisture

Effective fracturing of compressed subsoil material from the exposed work surface, laterally and vertically down through the affected zone is achieved only when the soil material is moderately dry to moderately moist. Neither one of the two-phases, deep ripping nor decompaction (deep

subsoiling), can be effectively conducted when the soil material (subsoil or replaced topsoil) is in either a “plastic” or “liquid” state of soil consistency. Pulling the respective implements legs through the soil when it is overly moist only results in the “slicing and smearing” of the material or added “squeezing and compression” instead of the necessary fracturing. Ample drying time is needed for a “rippable” soil condition not merely in the material close to the surface, but throughout the material located down to the bottom of the physically compressed zone of the subsoil.

The “poor man’s Atterberg field test” for soil plasticity is a simple “hand-roll” method used for quick, on-site determination of whether or not the moisture level of the affected soil material is low enough for: effective deep ripping of subsoil; respreading of topsoil in a friable state; and final decompaction (deep subsoiling). Using a sample of soil material obtained from the planned bottom depth of ripping, e.g.: 20 - 24 inches below exposed subsoil surface, the sample is hand rolled between the palms down to a 1/8-inch diameter thread. (Use the same test for stored topsoil material before respreading on the site.) If the respective soil sample crumbles apart in segments no greater than 3/8 of an inch long, by the time it is rolled down to 1/8 inch diameter, it is low enough in moisture for deep ripping (or topsoil replacement), and decompaction. Conversely, as shown in Figure 5, if the rolled sample stretches out in increments greater than 3/8 of an inch long before crumbling, it is in a “plastic” state of soil consistency and is too wet for subsoil ripping (as well as topsoil replacement) and final decompaction.

Fig. 5. Augered from a depth of 19 inches below the surface of the replaced topsoil, this subsoil sample was hand rolled to a 1/8-inch diameter. The test shows the soil at this site stretches out too far without crumbling; it indicates the material is in a plastic state of consistence, too wet for final decompaction (deep subsoiling) at this time.

Design Guidance

Beyond the above-noted site factors, a vital requirement for the effective Deep Ripping and Decompaction (deep subsoiling), is implementing the practice in its distinct, two-phase process:

1) Deep rip the affected thickness of exposed subsoil material (see Figure 10 and 11), aggressively fracturing it before the protected topsoil is reapplied on the site (see Figure 12); and

2) Decompact (deep subsoil), simultaneously through the restored topsoil layer and the upper half of the affected subsoil (Figure 13). The second phase, “decompaction,” mitigates the partial recompaction which occurs during the heavy process of topsoil spreading/grading. Prior to deep ripping and decompacting the site, all construction activity, including construction equipment and material storage, site cleanup and trafficking (Figure 14), should be finished; and the site closed off to further disturbance. Likewise, once the practice is underway and the area’s soil permeability and

rainfall infiltration are being restored, a policy limiting all further traffic to permanent travel lanes is maintained.

The other critical elements, outlined below, are: using the proper implements (deep, heavy-duty rippers and subsoilers), and ample pulling-power equipment (tractors); and conducting the practice at the appropriate speed, depth and pattern(s) of movement.

Note that an appropriate plan for the separate practice of establishing a healthy perennial ground cover, with deep rooting to help maintain the restored soil structure, should be developed in advance. This may require the assistance of an agronomist or landscape horticulturist.

Implements

Avoid the use of all undersize implements. The small-to-medium, light-duty tool will, at best, only "scarify" the uppermost surface portion of the mass of compacted subsoil material. The term "chisel plow" is commonly but incorrectly applied to a broad range of implements. While a few may be adapted for the moderate subsoiling of non-impacted soils, the majority are less durable and used for only lighter land-fitting (see Figure 6).

Fig. 6. A light duty chisel implement, not adequate for either the deep ripping or decompaction (deep subsoiling) phase.

Fig. 7. One of several variations of an agricultural ripper. This unit has long, rugged shanks mounted on a steel V-frame for deep, aggressive fracturing through Phase 1.

Use a "heavy duty" agricultural-grade, deep ripper (see Figures 7,9,10 and 11) for the first phase: the lateral and vertical fracturing of the mass of exposed and compressed subsoil, down and through, to the bottom of impact, prior to the replacement of the topsoil layer. (Any oversize rocks which are uplifted to the subsoil surface during the deep ripping phase are picked and removed.) Like the heavy-duty class of implement for the first phase, the decompaction (deep subsoiling) of Phase 2 is conducted with the heavy-duty version of the deep subsoiler. More preferable is the angled-leg variety of deep subsoiler (shown in Figures 8 and 13). It minimizes the inversion of the subsoil and topsoil layers while laterally and vertically fracturing the upper half of the previously ripped subsoil layer and all of the topsoil layer by delivering a momentary, wave-like "lifting and shattering" action up through the soil layers as it is pulled.

Pulling-Power of Equipment

Use the following rule of thumb for tractor horsepower (hp) whenever deep ripping and decompacting a significantly impacted site: For both types of implement, have at least 40 hp of tractor pull available for each mounted shank/ leg.

Using the examples of a 3-shank and a 5-shank implement, the respective tractors should have 120 and 200 hp available for fracturing down to the final depth of 20-to-24 inches per phase. Final depth for the deep ripping in Phase 1 is achieved incrementally by a progressive series of passes (see Depth and Patterns of Movement, below); while for Phase 2, the full operating depth of the deep subsoiler is applied from the beginning.

The operating speed for pulling both types of implement should not exceed 2 to 3 mph. At this slow and managed rate of operating speed, maximum functional performance is sustained by the tractor and the implement performing the soil fracturing. Referring to Figure 8, the implement is the 6-leg version of the deep angled-leg subsoiler. Its two outside legs are "chained up" so that only four legs will be engaged (at the maximum depth), requiring no less than 160 hp, (rather than 240 hp) of pull. The 4-wheel drive, articulated-frame tractor in Figure 8 is 174 hp. It will be decompacting this unobstructed, former construction access area simultaneously through 11 inches of replaced topsoil and the upper 12 inches of the previously deep-ripped subsoil. In constricted areas of Phase 1) Deep Ripping, a medium-size tractor with adequate hp, such as the one in Figure 9 pulling a 3-shank deep ripper, may be more maneuverable.

Fig. 8. A deep, angled-leg subsoiler, ideal for Phase 2 decompaction of after the topsoil layer is graded on top of the ripped subsoil.

Fig. 9. This medium tractor is pulling a 3-shank deep ripper. The severely compacted construction access corridor is narrow, and the 120 hp tractor is more maneuverable for Phase 1 deep ripping (subsoil fracturing), here.

Some industrial-grade variations of ripping implements are attached to power graders and bulldozers. Although highly durable, they are generally not recommended. Typically, the shanks or "teeth" of these rippers are too short and stout; and they are mounted too far apart to achieve the well-distributed type of lateral and vertical fracturing of the soil materials necessary to restore soil permeability and infiltration. In addition, the power graders and bulldozers, as pullers, are far less maneuverable for turns and patterns than the tractor.

Depth and Patterns of Movement

As previously noted both Phase 1 Deep Ripping through significantly compressed, exposed subsoil and Phase 2 Decompaction (deep subsoiling) through the replaced topsoil and upper subsoil need to be performed at maximum capable depth of each implement. With an implement's guide wheels attached, some have a "normal" maximum operating depth of 18 inches, while others may go deeper. In many situations, however, the tractor/implement operator must first remove the guide wheels and other non essential elements from the implement. This adapts the ripper or the deep subsoiler for skillful pulling with its frame only a few inches above surface, while the shanks or legs, fracture the soil material 20-to-24 inches deep.

There may be construction sites where the depth of the exposed subsoil's compression is moderate, e.g.: 12 inches, rather than deep. This can be verified by using a ¾ inch cone penetrometer and a shovel to test the subsoil for its level of compaction, incrementally, every three inches of increasing depth. Once the full thickness of the subsoil's compacted zone is finally "pieced" and there is a significant drop in the psi measurements of the soil penetrometer, the depth/thickness of compaction is determined. This is repeated at several representative locations of the construction site. If the thickness of the site's subsoil compaction is verified as, for example, ten inches, then the Phase 1 Deep Ripping can be correspondingly reduced to the implement's minimum operable depth of 12 inches. However, the Phase 2 simultaneous Decompation (subsoiling) of an 11 inch thick layer of replaced topsoil and the upper subsoil should run at the subsoiling implements full operating depth.

Fig. 10. An early pass with a 3-shank deep ripper penetrating only 8 inches into this worksite's severely compressed subsoil.

Fig. 11. A repeat run of the 3-shank ripper along the same patterned pass area as Fig. 9; here, incrementally reaching 18 of the needed 22 inches of subsoil fracture.

Typically, three separate series (patterns) are used for both the Phase 1 Deep Ripping and the Phase 2 Decompaction on significantly compacted sites. For Phase 1, each series begins with a moderate depth of rip and, by repeat-pass, continues until full depth is reached. Phase 2 applies the full depth of Decompation (subsoiling), from the beginning.

Every separate series (pattern) consists of parallel, forward-and-return runs, with each progressive

pass of the implement's legs or shanks evenly staggered between those from the previous pass. This compensates for the shank or leg-spacing on the implement, e.g., with 24-to-30 inches between each shank or leg. The staggered return pass ensures lateral and vertical fracturing actuated every 12 to 15 inches across the densely compressed soil mass.

Large, Unobstructed Areas

For larger easy areas, use the standard patterns of movement:

- The first series (pattern) of passes is applied lengthwise, parallel with the longest spread of the site; gradually progressing across the site's width, with each successive pass.

- The second series runs obliquely, crossing the first series at an angle of about 45 degrees.

- The third series runs at right angle (or 90 degrees), to the first series to complete the fracturing and shattering on severely compacted sites, and avoid leaving large unbroken blocks of compressed soil material. (In certain instances, the third series may be optional, depending on how thoroughly the first two series loosen the material and eliminate large chunks/blocks of material as verified by tests with a ¾-inch cone penetrometer.)

Fig. 12. Moderately dry topsoil is being replaced on the affected site now that Phase 1 deep ripping of the compressed subsoil is complete.

Fig. 13. The same deep, angled-leg subsoiler shown in Fig. 7 is engaged at maximum depth for Phase 2, decompaction (deep soiling), of the replaced topsoil and the upper subsoil materials.

Corridors

In long corridors of limited width and less maneuverability than larger sites, e.g.: along compacted areas used as temporary construction access, a modified series of pattern passes are used.

- First, apply the same initial lengthwise, parallel series of passes described above.

● A second series of passes makes a broad “S” shaped pattern of rips, continually and gradually alternating the “S” curves between opposite edges inside the compacted corridor.

● The third and final series again uses the broad, alternating S pattern, but it is “flip-flopped” to continually cross the previous S pattern along the corridor’s centerline. This final series of the S pattern curves back along the edge areas skipped by the second series.

Maintenance and Cost

Once the two-phase practice of Deep Ripping and Decompation is completed, two items are essential for maintaining a site’s soil porosity and permeability for infiltration. They are: planting and maintaining the appropriate ground cover with deep roots to maintain the soil structure (see Figure 15); and keeping the site free of traffic or other weight loads.

Note that site-specific choice of an appropriate vegetative ground-cover seed mix, including the proper seeding ratio of one or more perennial species with a deep taproot system and the proper amount of lime and soil nutrients (fertilizer mix) adapted to the soil-needs, are basic to the final practice of landscaping, i.e: surface tillage, seeding/planting/fertilizing and culti-packing or mulching is applied. The "maintenance" of an effectively deep-ripped and decompacted area is generally limited to the successful perennial (long-term) landscape ground cover; as long as no weight-bearing force of soil compaction is applied.

Fig. 14. The severely compacted soil of a temporary construction yard used daily by heavy equipment for four months; shown before deep ripping, topsoil replacement, and decompaction.

Fig. 15. The same site as Fig. 14 after deep ripping of the exposed subsoil, topsoil replacement, decompaction through the topsoil and upper subsoil and final surface tillage and revegetation to maintain soil permeability and infiltration.

The Deep Ripping and Decompaction practice is, by necessity, more extensive than periodic subsoiling of farmland.The cost of deep ripping and decompacting (deep subsoiling), will vary according to the depth and severity of soil-material compression and the relative amount of tractor and implement time that is required. In some instances, depending on open maneuverability, two-to-three acres of compacted project area may be deep-ripped in one day. In other situations of more severe compaction and - or less maneuverability, as little as one acre may be fully ripped in a day. Generally, if the Phase 1) Deep Ripping is fully effective, the Phase 2) Decompaction should be completed in 2/3 to 3/4 of the time required for Phase 1.

Using the example of two acres of Phase 1) Deep Ripping in one day, at $1800 per day, the net cost is $900 per acre. If the Phase 2) Decompacting or deep subsoiling takes 3/4 the time as Phase 1, it costs $675 per acre for a combined total of $1575 per acre to complete the practice (these figures do not include the cost of the separate practice of topsoil stripping and replacement). Due to the many variables, it must be recognized that cost will be determined by the specific conditions or constraints of the site and the availability of proper equipment.

Resources

Publications:

- American Society of Agricultural Engineers. 1971. *Compaction of Agricultural Soils.* ASAE.

- Brady, N.C., and R.R. Weil. 2002. *The Nature and Properties of Soils. 13th ed.* Pearson Education, Inc.

- Baver, L.D. 1948. *Soil Physics.* John Wiley & Sons.

- Carpachi, N. 1987 (1995 fifth printing). *Excavation and Grading Handbook, Revised. 2nd ed.* Craftsman Book Company
- Ellis, B. (Editor). 1997. Safe & Easy Lawn Care: The Complete Guide to Organic Low Maintenance Lawn. Houghton Mifflin.

- Harpstead, M.I., T.J. Sauer, and W.F. Bennett. 2001. *Soil Science Simplified. 4th ed.* Iowa State University Press.

- Magdoff, F., and H. van Es. 2000. *Building Soils for Better Crops. 2nd ed.* Sustainable Agricultural Networks

- McCarthy, D.F. 1993. *Essentials of Soil Mechanics and Foundations, Basic Geotechnics 4th ed.* Regents/Prentice Hall.

- Plaster, E.J. 1992. *Soil Science & Management. 3rd ed.* Delmar Publishers.

- Union Gas Limited, Ontario, Canada. 1984. *Rehabilitation of Agricultural Lands, Dawn-Kerwood Loop Pipeline; Technical Report*. Ecological Services for Planning, Ltd.; Robinson, Merritt & Devries, Ltd. and Smith, Hoffman Associates, Ltd.

- US Department of Agriculture in cooperation with Cornell University Agricultural Experiment Station. Various years. *Soil Survey of (various names) County, New York.* USDA.

Internet Access:

- Examples of implements:

V-Rippers. Access by internet search of *John Deere Ag -New Equipment for 915* (larger-frame model) *V-Rippe*; and, *for 913* (smaller-frame model) *V-Ripper*. Deep, angled-leg subsoiler. Access by internet search of: B*igham Brothers Shear Bolt Paratill-Subsoiler.* http://salesmanual.deere.com/sales/salesmanual/en_NA/primary_tillage/2008/feature/rippers/915v_pattern_frame.html?sbu=ag&link=prodcat Last visited March 08.

- Soils data of USDA Natural Resources Conservation Service. *NRCS Web Soil Survey.* http://websoilsurvey.nrcs.usda.gov/app/ and *USDA-NRCS Official Soil Series Descriptions; View by Name.* http://ortho.ftw.nrcs.usda.gov/cgi-bin/osd/osdname.cgi . *Last visited Jan. 08.*

- Soil penetrometer information. Access by internet searches of: *Diagnosing Soil Compaction using a Penetrometer (soil compaction tester), PSU Extension;* as well as *Dickey-john Soil Compaction Tester*. http://www.dickey-johnproducts.com/pdf/SoilCompactionTest.pdf and http://cropsoil.psu.edu/Extension/Facts/uc178pdf Last visited Sept. 07

APPENDIX F

Notice of Intent and SWPPP Acceptance Form

0806372691

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR _____
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-15-002

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-
RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
1153 OWNER LLC

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
BREUER

Owner/Operator Contact Person First Name
CHARLIE

Owner/Operator Mailing Address
PO BOX 515

City
SYRACUSE

State
NY

Zip
13205 -

Phone (Owner/Operator)
315 - 476 - 7917

Fax (Owner/Operator)
___ - ___ - ____

Email (Owner/Operator)
CBREUER@HUEBER-BREUER.COM

FED TAX ID
__ - _____ (not required for individuals)

Project Site Information

Project/Site Name
PROPOSED PUBLIC SAFETY BUILDING

Street Address (NOT P.O. BOX)
1153 W FAYETTE STREET

Side of Street
○ **North** ● **South** ○ **East** ○ **West**

City/Town/Village (THAT ISSUES BUILDING PERMIT)
SYRACUSE

State
NY

Zip
13204 -

County
ONONDAGA

DEC Region
7

Name of Nearest Cross Street
HENCLE BOULEVARD

Distance to Nearest Cross Street (Feet)
550

Project In Relation to Cross Street
○ **North** ○ **South** ● **East** ○ **West**

Tax Map Numbers
Section-Block-Parcel
99-03-02.1

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)
404462

Y Coordinates (Northing)
4766579

2. What is the nature of this construction project?

○ **New Construction**

● **Redevelopment with increase in impervious area**

○ **Redevelopment with no increase in impervious area**

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use

- ○ FOREST
- ○ PASTURE/OPEN LAND
- ○ CULTIVATED LAND
- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ● COMMERCIAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY
- ○ PARKING LOT
- ○ OTHER

Post-Development Future Land Use

- ○ SINGLE FAMILY HOME — Number of Lots
- ○ SINGLE FAMILY SUBDIVISION
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ● COMMERCIAL
- ○ MUNICIPAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY (water, sewer, gas, etc.)
- ○ PARKING LOT
- ○ CLEARING/GRADING ONLY
- ○ DEMOLITION, NO REDEVELOPMENT
- ○ WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
- ○ OTHER

***Note**: for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area
2.7	1.9	1.4	1.5

5. Do you plan to disturb more than 5 acres of soil at any one time? ○ **Yes** ● **No**

6. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	B	C	D
0%	0%	0%	100%

7. Is this a phased project? ○ **Yes** ● **No**

8. Enter the planned start and end dates of the disturbance activities.

Start Date 10/01/2024 - **End Date** 10/31/2026

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.

Name

HARBOR BROOK

9a. Type of waterbody identified in Question 9?

- ○ Wetland / State Jurisdiction On Site (Answer 9b)
- ○ Wetland / State Jurisdiction Off Site
- ○ Wetland / Federal Jurisdiction On Site (Answer 9b)
- ○ Wetland / Federal Jurisdiction Off Site
- ● Stream / Creek On Site
- ○ Stream / Creek Off Site
- ○ River On Site
- ○ River Off Site
- ○ Lake On Site
- ○ Lake Off Site
- ○ Other Type On Site
- ○ Other Type Off Site

9b. How was the wetland identified?

- ○ Regulatory Map
- ○ Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ○ Other (identify)

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-15-002? ● **Yes** ○ **No**

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-15-002? ● **Yes** ○ **No**

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? ○ **Yes** ● **No**
If no, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ○ **Yes** ○ **No**
If Yes, what is the acreage to be disturbed?

.

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area? ○ **Yes** ● **No**

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ◉ **Yes** ○ **No** ○ **Unknown**

16. What is the name of the municipality/entity that owns the separate storm sewer system?

CITY OF SYRACUSE

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ **Yes** ◉ **No** ○ **Unknown**

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law? ○ **Yes** ◉ **No**

19. Is this property owned by a state authority, state agency, federal government or local government? ○ **Yes** ◉ **No**

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) ◉ **Yes** ○ **No**

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)? ◉ **Yes** ○ **No**

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? ◉ **Yes** ○ **No**
If No, skip questions 23 and 27-39.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual? ◉ **Yes** ○ **No**

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ○ **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ● **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer
CHA CONSULTING, INC.

Contact Name (Last, Space, First)
HARRIS, KRISTY

Mailing Address
300 SOUTH STATE STREET SUITE 600

City
SYRACUSE

State NY Zip 13202-

Phone 315-257-6901

Fax 315-471-3569

Email
KHARRIS@CHASOLUTIONS.COM

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-15-002. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name
KRISTY

MI
M

Last Name
HARRIS

Signature

Date
08/05/2024

25. Has a construction sequence schedule for the planned management practices been prepared? ● Yes ○ No

26. Select **all** of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

- ○ Check Dams
- ○ Construction Road Stabilization
- ● Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ○ Sediment Basin
- ○ Sediment Traps
- ● Silt Fence
- ○ Stabilized Construction Entrance
- ● Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ● Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ● Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ● Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ○ Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ○ Rock Outlet Protection
- ○ Streambank Protection

Other

FILTER SOCK

Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- ○ **Preservation of Undisturbed Areas**
- ○ **Preservation of Buffers**
- ○ **Reduction of Clearing and Grading**
- ● **Locating Development in Less Sensitive Areas**
- ○ **Roadway Reduction**
- ○ **Sidewalk Reduction**
- ○ **Driveway Reduction**
- ○ **Cul-de-sac Reduction**
- ○ **Building Footprint Reduction**
- ○ **Parking Reduction**

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- ● All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- ○ Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

0.267 **acre-feet**

29. Identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

	Total Contributing Area (acres)		Total Contributing Impervious Area(acres)
RR Techniques (Area Reduction)			
○ Conservation of Natural Areas (RR-1)		and/or	
○ Sheetflow to Riparian Buffers/Filters Strips (RR-2)		and/or	
○ Tree Planting/Tree Pit (RR-3)		and/or	
○ Disconnection of Rooftop Runoff (RR-4)		and/or	
RR Techniques (Volume Reduction)			
○ Vegetated Swale (RR-5)			
○ Rain Garden (RR-6)			
○ Stormwater Planter (RR-7)			
○ Rain Barrel/Cistern (RR-8)			
○ Porous Pavement (RR-9)			
○ Green Roof (RR-10)			
Standard SMPs with RRv Capacity			
○ Infiltration Trench (I-1)			
○ Infiltration Basin (I-2)			
○ Dry Well (I-3)			
○ Underground Infiltration System (I-4)			
● Bioretention (F-5)			0.11
○ Dry Swale (O-1)			
Standard SMPs			
○ Micropool Extended Detention (P-1)			
○ Wet Pond (P-2)			
○ Wet Extended Detention (P-3)			
○ Multiple Pond System (P-4)			
○ Pocket Pond (P-5)			
○ Surface Sand Filter (F-1)			
○ Underground Sand Filter (F-2)			
○ Perimeter Sand Filter (F-3)			
○ Organic Filter (F-4)			
○ Shallow Wetland (W-1)			
○ Extended Detention Wetland (W-2)			
○ Pond/Wetland System (W-3)			
○ Pocket Wetland (W-4)			
○ Wet Swale (O-2)			

Table 2 - Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Alternative SMP	Total Contributing Impervious Area(acres)
● Hydrodynamic	1.61
○ Wet Vault	
○ Media Filter	
○ Other	

Provide the name and manufacturer of the Alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Name: CASCADE

Manufacturer: CONTECH

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29.

Total RRv provided

0.019 **acre-feet**

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28).

○ **Yes** ● **No**

If Yes, go to question 36.
If No, go to question 32.

32. Provide the Minimum RRv required based on HSG.
[Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)]

Minimum RRv Required

0.003 **acre-feet**

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?

● **Yes** ○ **No**

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29.

WQv Provided

0.280 **acre-feet**

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a). 0.299

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? ◉ **Yes** ○ **No**

If Yes, go to question 36.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.

CPv Required

0.0 **acre-feet**

CPv Provided

0.0 **acre-feet**

36a. The need to provide channel protection has been waived because:

○ Site discharges directly to tidal waters or a fifth order or larger stream.

○ Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.

Total Overbank Flood Control Criteria (Qp)

Pre-Development

13.37 **CFS**

Post-development

13.15 **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development

20.76 **CFS**

Post-development

20.59 **CFS**

37a. The need to meet the Qp and Qf criteria has been waived because:

- ○ Site discharges directly to tidal waters or a fifth order or larger stream.
- ○ Downstream analysis reveals that the Qp and Qf controls are not required

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ● **Yes** ○ **No**

If Yes, Identify the entity responsible for the long term Operation and Maintenance

PROPERTY OWNER

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required(#28). (See question 32a) This space can also be used for other pertinent project information.

Question #31: The total required WQv includes redeveloped areas which are not subject to RRv. Greater than 100% of the required RRv is provided within bioretention. RRv is required for 0.09 ac of impervious surface while 0.11 ac is actually treated.

Question #33a: WQv treatment is required for 1.08 ac of impervious surface (75% of impervious area within existing disturbed area). 1.61 ac of impervious surface is actually captured and treated by the proprietary devices.

40. Identify other DEC permits, existing and new, that are required for this project/facility.

- ○ Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ○ Solid Waste
- ○ Navigable Waters Protection / Article 15
- ○ Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ○ Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ○ Stream Bed or Bank Protection / Article 15
- ○ Endangered or Threatened Species(Incidental Take Permit)
- ○ Individual SPDES
- ○ SPDES Multi-Sector GP [N][Y][R][ ][ ][ ][ ][ ][ ]
- ○ Other [ ]
- ● None

41. Does this project require a US Army Corps of Engineers Wetland Permit? ○ **Yes** ● **No**
If Yes, Indicate Size of Impact. [ ][ ][ ][ ][ ].[ ]

42. Is this project subject to the requirements of a regulated, traditional land use control MS4? ● **Yes** ○ **No**
(If No, skip question 43)

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ● **Yes** ○ **No**

44. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned. [N][Y][R][ ][ ][ ][ ][ ][ ]

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name

CHARLIE

MI

Print Last Name

BREUER

Owner/Operator Signature

Date

/ /

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information
1. Owner/Operator Name: 1153 Owner, LLC
2. Contact Person: Charlie Breuer
3. Street Address: PO Box 515
4. City/State/Zip: Syracuse, NY 13205
II. Project Site Information
5. Project/Site Name: Proposed Public Safety Building
6. Street Address: 1153 W. Fayette Street
7. City/State/Zip: Syracuse, NY 13204
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information
8. SWPPP Reviewed by: Mirza Malkoc
9. Title/Position: Facilities Engineer
10. Date Final SWPPP Reviewed and Accepted:
IV. Regulated MS4 Information
11. Name of MS4: City of Syracuse
12. MS4 SPDES Permit Identification Number: NYR20A 186
13. Contact Person: John Kivlehan
14. Street Address: 233 E Washington Street, Room 401
15. City/State/Zip: Syracuse, NY 13202
16. Telephone Number: (315) 448-8205

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name: Mary Robison

Title/Position: City Engineer

Signature:

Date:

VI. Additional Information

(NYS DEC - MS4 SWPPP Acceptance Form - January 2015)

APPENDIX G

SPDES General Permit GP-0-20-001

APPENDIX H

Inspection Forms and Maintenance Requirements

PERMIT NUMBER: NYR-

PRE-CONSTRUCTION MEETING DOCUMENTS

Project Name _____

GP-0-20-001 Permit No. _____ **Date of Authorization** _____

Name of Owner/Operator _____

General Contractor _____

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

Site Assessment and Inspections -

a. The Owner or Operator agrees to have a Qualified Inspector[1] conduct an assessment of the site prior to the commencement of construction. The Qualified Inspector shall certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

b. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the owner or operator can stop conducting inspections. The owner or operator shall resume inspections as soon as soil disturbance activities are reinitiated.

c. For construction sites where soil disturbance activities have been shut down with partial project completion, the owner or operator can stop conducting inspections if all areas disturbed (as of the project shutdown date) have achieved final stabilization and all post-construction stormwater management practices, required for the completed portion of the project, have been constructed in conformance with the SWPPP and are operational.

d. Following the commencement of construction, site inspections shall be conducted by the Qualified Inspector to ensure that erosion and sediment controls are being maintained in effective operating condition at all times. Inspections shall occur at least: (i) once every 7 calendar days for construction sites where soil disturbance activities are occurring; (ii) twice every 7 calendar days for construction sites where soil disturbance activities are occurring and the Owner/Operator has received authorization to disturb greater than five (5) acres of soil at any one time, the site is located within a TMDL watershed, or the site directly discharges to a 303(d) listed water; (iii) once every thirty (30) calendar days for construction sites where soil disturbance activities have been temporarily suspended and temporary stabilization measures have been applied to all disturbed areas; and (iv) for construction sites where soil disturbance activities have been shut down with partial project completion, the Qualified Inspector can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved final stabilization, and all post-construction stormwater management practices for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

e. The owner or operator shall notify the Regional Office and/or the MS4 stormwater contact person in writing prior to reducing the frequency of any inspections.

f. The Owner/Operator shall maintain a record of all inspection reports in the site log book. The site log book shall be maintained on site and be made available to the permitting authorities upon request. Prior to the commencement of construction,[2] the Owner/Operator shall certify in the site log book that the SWPPP is prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements.

g. Prior to filing of the Notice of Termination or the end of permit term, the Owner/Operator shall have the Qualified Inspector perform a final site inspection. The Qualified Inspector shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed.

[1]"Qualified Inspector" means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a Certified Professional in Erosion and Sediment Control (CPESC), soil scientist, licensed Professional Engineer (PE), licensed Landscape Architect, or other Department endorsed individual(s). It may also mean someone working under the direct supervision of a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), or soil scientist provided that person has training in the principles and practices of erosion and sediment control. Training means that person has received four (4) hours of training endorsed by the Department and shall receive four (4) hours of training every three (3) years after the initial training session.

[2]"Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

[3]"Final stabilization" means that all soil disturbance activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established, or equivalent stabilization measures (such as the use of mulches or geotextiles, rock rip-rap or washed/crushed stone) have been employed on all disturbed areas that are not covered by permanent structures, concrete or pavement.

PRE-CONSTRUCTION SITE ASSESSMENT FORM

Inspector Name and Title _____ **Date and Time of Inspection** _____

Qualified Inspector _____ **Qualified Inspector Signature** _____

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the following forms is accurate and complete.

a. Notice of Intent, SWPPP, and Contractors' Certification:

Yes	No	NA	
☐	☐	☐	Has a Notice of Intent been filed with the NYS Department of Conservation?
☐	☐	☐	Is the SWPPP on-site? Where? _____
☐	☐	☐	Is the Plan current? What is the latest revision date? _____
☐	☐	☐	Have all contractors involved with implementing the erosion and sediment control portions of the SWPPP signed the contractor's certification?

b. Resource Protection

Yes	No	NA	
☐	☐	☐	Are construction limits clearly flagged or fenced?
☐	☐	☐	Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, etc. have been flagged for protection.
☐	☐	☐	Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

c. Surface Water Protection

Yes	No	NA	
☐	☐	☐	Clean stormwater runoff has been diverted away from areas to be disturbed.
☐	☐	☐	Bodies of water located either on site or in the vicinity of the site have been identified and protected.
☐	☐	☐	Appropriate practices to protect on-site or downstream surface waters are installed.

d. Stabilized Construction Entrance

Yes	No	NA	
☐	☐	☐	A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
☐	☐	☐	Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
☐	☐	☐	Sediment tracked onto public streets is removed or cleaned on a regular basis.

e. Perimeter Sediment Controls

Yes	No	NA	
☐	☐	☐	Silt fence material and installation comply with the standard drawing and specifications.
☐	☐	☐	Silt fences are installed at appropriate spacing intervals
☐	☐	☐	Sediment/detention basin was installed
☐	☐	☐	Sediment traps and barriers are installed.

PERMIT NUMBER: NYR **INSPECTION REPORT #__:**

Location	**Date and Time of Inspection**
Qualified Inspector (name and title)	**Qualified Inspector Signature**

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the following forms is accurate and complete.

☐ **Weekly Inspection**
☐ **2x/Week Inspection (TMDL or +5 ac)**
☐ **Monthly Inspection**

Current Phase of Construction (if applicable):

Estimated Current Total Disturbed Area:

IMMEDIATE ACTION ITEMS / INSPECTION SUMMARY:

It is the responsibility of the Qualified Inspector to notify the owner/operator and appropriate contractor of any corrective actions that need to be taken within one (1) business day of the completion of an inspection. It is the responsibility of the contractor (subcontractor) to begin implementing the corrective actions within one (1) business day of this notification and complete the corrective action within a reasonable time frame. If there are action items from the previous inspection which have not been addressed, so note.

Per the GP-0-20-001, Digital photographs with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions shall be included with each inspection report. The qualified inspector shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The qualified inspector shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. Paper color copies of these digital photographs shall be attached to the inspection report, documenting the completion of the corrective action work within seven (7) calendar days of that inspection.

1. GENERAL HOUSEKEEPING

Includes description of the weather and soil conditions (e.g. dry, wet, saturated) during the time of the inspection, a description of the condition of the runoff at all points of discharge from the construction site (including identification of any discharges of sediments from construction site), inspection for stream/pond turbidity, oil and floating substances, visible oil film, or globules or grease, contractor preparedness for implementation of erosion and sediment control, impact on adjacent property, and dust control.

Yes **No**

☐ ☐ Is there immediate action required regarding General Housekeeping?

Notes:

2. EXCAVATION DEWATERING

Includes inspection ensuring that clean water from upstream pool is being pumped to the downstream pool, that sediment laden water from work area is being discharged to a silt-trapping device, and that constructed upstream berm has one-foot minimum freeboard.

Yes **No**

☐ ☐ Is there immediate action required regarding Excavation Dewatering?

Notes:

3. INTERCEPTOR DIKES AND SWALES

Includes inspection ensuring that dikes and swales are installed per plan with minimum side slopes 2H:1V or flatter, are stabilized by geotextile fabric, seed, or mulch with no erosion occurring, and that sediment-laden runoff is directed to sediment trapping structure.

Yes **No**

☐ ☐ Is there immediate action required regarding an Interceptor Dike or Swale?

Notes:

4. EROSION & SEDIMENT CONTROL

Includes inspection ensuring that erosion and sediment control practices are located and installed correctly, BMPs are maintained per specifications, stockpiles are stabilized and contained, de-watering operations prevent direct discharges to sensitive features, and that clearing and grading operations are divided into stages for large areas. Identification of all erosion and sediment control practices that need repair or maintenance.

Yes	No	
☐	☐	Is there immediate action required regarding Erosion & Sediment Control?

Notes:

5. AREAS OF DISTURBANCE

Includes description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since last inspection.

Yes	No	
☐	☐	Is there immediate action required regarding stabilizing disturbed areas?

Notes:

6. STABILIZED CONSTRUCTION ENTRANCE

Includes inspection ensuring that stone is clean enough to effectively remove mud from vehicles, is installed per standards and specifications, that all traffic use the stabilized entrance to enter and leave site, and that adequate drainage is provided to prevent ponding at entrance.

Yes	No	
☐	☐	Is there immediate action required regarding a Stabilized Construction Entrance?

Notes:

7. REINFORCED SILT FENCE

Includes inspection ensuring that silt fence is installed on contour, 10 feet from toe of slope, joints are constructed by wrapping the two ends together for continuous support, steel posts installed (if applicable), installed on downstream side of slope, maximum 6' intervals with 6 x 6 inch 14 gage wire, fabric is buried minimum of 6 inches, posts are stable, fabric is tight and without rips or frayed areas, and that sediment accumulation is less than 1/3 the height of the silt fence.

Yes **No**

☐ ☐ Is there immediate action required regarding Silt Fence?

Notes:

8. STONE CHECK DAM

Includes inspection ensuring that stone check dam channels are without erosion (i.e., flow is not eroding soil underneath or around the structure), that check dam is in good condition (i.e., rocks have not been displaced and no permanent pools behind the structure), and that sediment accumulation is less than design capacity.

Yes **No**

☐ ☐ Is there immediate action required regarding a Stone Check Dam?

Notes:

9. FILTER FABRIC (DROP) INLET PROTECTION

Includes inspection ensuring that protection is installed with 2-inch x 4-inch wood frame and wood posts, with maximum 3-foot spacing, is buried a minimum of 8 inches and secured to frame/posts with staples at max 8-inch spacing, has posts with 3-foot maximum spacing between posts, has posts that are stable, fabric is tight and without rips or frayed areas, and that sediment accumulation is within design capacity.

Yes **No**

☐ ☐ Is there immediate action required regarding Filter Fabric (Drop) Inlet Protection?

Notes:

10. SILTSACK® INLET PROTECTION

Includes inspection ensuring that protection is installed per manufacturers specifications and is maintained per manufacturers recommendations.

Yes	No	
☐	☐	Is there immediate action required regarding the Inlet Protection?

Notes:

11. TEMPORARY SEDIMENT TRAP

Includes inspection ensuring that outlet structure is constructed per the approved plan or drawing, that geotextile fabric has been placed beneath rock fill, and that sediment accumulation is within design capacity.

Yes	No	
☐	☐	Is there immediate action required regarding Temporary Sediment Traps?

Notes:

12. CONCRETE WASHOUT

Includes inspection ensuring that the concrete washout is constructed and maintained per the approved plan or drawing.

Yes	No	
☐	☐	Is there immediate action required regarding Concrete Washouts?

Notes:

13. STORMWATER BASIN

Includes inspection ensuring that Permanent Stormwater Basins are installed per plans and specifications.

Yes	No	
☐	☐	Is there immediate action required regarding Stormwater Basins?

Notes:

14. CURRENT PHASE OF POST-CONSTRUCTION STORMWATER PRACTICES

Includes inspection of current phase of all post-construction stormwater management practices, identification of all construction that is not in conformance with the SWPPP and technical standards, identify corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices, and to correct deficiencies identified with the construction of post-construction stormwater management practice(s).

Yes	No	
☐	☐	Is there immediate action required regarding the current phase of post-construction stormwater management practices?

Notes:

ADDITIONAL NOTES / MODIFICATIONS

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Bioretention Stormwater Management Practices Level 1 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

BR Drainage Area

Look for areas that are uphill from the Bioretention cell.

Problem (Check if Present)	**Follow-Up Actions**
☐ Bare soil, erosion of the ground (rills washing out the dirt)	☐ Seed and mulch areas of bare soil to establish vegetation. ☐ Fill in erosion areas with soil, compact, and seed and straw to establish vegetation. ☐ If a rill or small channel is forming, try to redirect water flowing to this area by creating a small berm or adding topsoil to areas that are heavily compacted. ☐ Other:

BR Drainage Area

Look for areas that are uphill from the Bioretention cell.

Problem (Check if Present)	Follow-Up Actions
	☐ Kick-Out to Level 2 Inspection: Large areas of soil have been eroded, or larger channels are forming. May require rerouting of flow paths.
☐ Piles of grass clippings, mulch, dirt, salt, or other materials	☐ Remove or cover piles of grass clippings, mulch, dirt, etc. ☐ Other:
☐ Open containers of oil, grease, paint, or other substances	☐ Cover or properly dispose of materials; consult your local solid waste authority for guidance on materials that may be toxic or hazardous. ☐ Other:

BR Inlets

Stand in the Bioretention cell itself and look for all the places where water flows in. Often there will be multiple points of inflow to the practice.

Problem (Check if Present)	Follow-Up Actions
 ☐ Inlets collect grit and debris or grass/weeds. Some water may not be getting into the Bioretention cell. The objective is to have a clear pathway for water to flow into the cell.	☐ Use a flat shovel to remove grit and debris (especially at curb inlets or openings). Parking lots generate fine grit that will accumulate at these spots. ☐ Pull out clumps of growing grass or weeds and scoop out the soil or grit that the plants are growing in. ☐ Remove any grass clippings, leaves, sticks, and other debris that is collecting at inlets. ☐ For pipes and ditches, remove sediment and debris that is partially blocking the pipe or ditch opening where it enters the Bioretention cell. ☐ Dispose of all material properly where it will not re-enter the Bioretention cell. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Inlets are blocked to the extent that most of the water does not seem to be entering the Bioretention cell.
 ☐ Some or all of the inlets are eroding so that rills, gullies, and other erosion is present, or there is bare dirt that is washing into the Bioretention cell.	☐ For small areas of erosion, smooth out the eroded part and apply rock or stone (e.g., river cobble) to prevent further erosion. Usually, filter fabric is placed under the rock or stone. ☐ In some cases, reseeding and applying erosion-control matting can be used to prevent further erosion. Some of these materials may be available at a garden center, but it may be best to consult a landscape contractor. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Erosion is occurring at most of the inlets, and it looks like there is too much water that is concentrating at these points. The inlet design may have to be modified.

BR Ponding Area

Examine the entire Bioretention surface and side slopes

Problem (Check if Present)	Follow-Up Actions
 ☐ Mulch (if used) needs to be replaced or replenished. The mulch layer had decomposed or is less than 1-inch thick.	☐ Add new mulch to a total depth (including any existing mulch that is left) of 2 to 3 inches. The mulch should be shredded hardwood mulch that is less likely to float away during rainstorms. ☐ Avoid adding too much mulch so that inlets are obstructed or certain areas become higher than the rest of the Bioretention surface. ☐ Other:
 ☐ Minor areas of sediment, grit, trash, or other debris are accumulating on the bottom.	☐ Use a shovel to scoop out minor areas of sediment or grit, especially in the spring after winter sanding materials may wash in and accumulate. Dispose of the material where it cannot re-enter the Bioretention cell . ☐ If removing the material creates a hole or low area, fill with soil mix that matches original mix and cover with mulch so that the Bioretention surface area is as flat as possible. ☐ Remove trash, vegetative debris, and other undesirable materials. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Sediment has accumulated more than 2-inches deep and covers 25% or more of the Bioretention surface. ☐ Kick-Out to Level 2 Inspection: The Bioretention cell is too densely vegetated to assess sediment accumulation or ponding; see BR-4, Vegetation.

BR Ponding Area

Examine the entire Bioretention surface and side slopes

Problem (Check if Present)	Follow-Up Actions
 ☐ There is erosion in the bottom or on the side slopes. Water seems to be carving out rills as it flows across the Bioretention surface or on the slopes, or sinkholes are forming in certain areas. ☐ Source: Stormwater Maintenance, LLC.	☐ Try filling the eroded areas with clean topsoil or sand, and cover with mulch. ☐ If the problem recurs, you may have to use stone (e.g., river cobble) to fill in problem areas. ☐ If the erosion is on a side slope, fill with clay that can be compacted and seed and mulch the area. ☐ Other: ☐ Kick-Out to Level 2 Inspection: The problem persists or the erosion is more than 3-inches deep and seems to be an issue with how water enters and moves through the Bioretention cell. ☐ Kick-Out to Level 2 Inspection: The problem does not seem to be caused by flowing water, but a collapse or sinking of the surface (e.g., “sinkhole”) due to some underground problem.
 ☐ The bottom of the Bioretention cell is not flat, and the water pools at one end, along an edge, or in certain pockets. The whole bottom is not uniformly covered with water. See design plan to verify that bioretention surface is intended to be flat. Check during or immediately after a rainstorm.	☐ If the problem is minor (just small, isolated areas are not covered with water), try raking the surface OR adding mulch to low spots to create a more level surface. You may need to remove and replace plantings in order to properly even off the surface. ☐ Check the surface with a string and bubble level to get the surface as flat as possible. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Ponding water is isolated to less than half of the Bioretention surface area, and there seem to be elevation differences of more than a couple of inches across the surface.

BR Ponding Area

Examine the entire Bioretention surface and side slopes

Problem (Check if Present)	Follow-Up Actions
 ☐ Water stands on the surface more than 72 hours after a rainstorm and /or wetland-type vegetation is present. The Bioretention cell does not appear to be draining properly.	☐ Kick-Out to Level 2 Inspection: This is generally a serious problem, and it will be necessary to activate a Level 2 Inspection.

BR Vegetation

Examine all Bioretention cell vegetation.

Problem (Check if Present)	Follow-Up Actions
 ☐ Vegetation requires regular maintenance—pulling weeds, removing dead and diseased plants, replacing mulch around plants, adding plants to fill in areas that are not well vegetated, etc.	☐ If you can identify which plants are weeds or not intended to be part of the planting plan, eliminate these, preferably by hand pulling. ☐ If weeds are widespread, check with the local stormwater authority and/or Extension Office about proper use of herbicides for areas connected with the flow of water. ☐ Even vegetation that is intended to be present can become large, overgrown, and/or crowd out surrounding plants. Prune and thin accordingly. ☐ If weeds or invasive plants have overtaken the whole Bioretention cell , bush-hog the entire area before seedheads form in the spring. It will be necessary to remove the root mat manually or with appropriate herbicides, as noted above. ☐ Re-plant with species that are aesthetically pleasing and seem to be doing well in the Bioretention cell. ☐ Other: ☐ Kick-Out to Level 2 Inspection: You are unsure of the original planting design, or the vegetation maintenance task is beyond your capabilities of time, expertise, or resources. If you are unsure of the health of the vegetation (e.g. salt damage, invasives, which plants are undesirable) or the appropriate season to conduct vegetation management, consult a landscape professional before undertaking any cutting, pruning, mowing, or brush hogging.

BR Vegetation

Examine all Bioretention cell vegetation.

Problem (Check if Present)	Follow-Up Actions
 ☐ Vegetation is too thin, is not healthy, and there are many spots that are not well vegetated.	☐ The original plants are likely not suited for the actual conditions within the Bioretention cell . If you are knowledgeable about plants, select and plant more appropriate vegetation (preferably native plants) so that almost the entire surface area will be covered by the end of the second growing season. ☐ Other: ☐ Kick-Out to Level 2 Inspection: For all but small practices (e.g., rain gardens), this task will likely require a landscape design professional or horticulturalist.

BR Outlets

Examine outlets that release water out of the Bioretention cell.

Problem (Check if Present)	Follow-Up Actions
☐ Erosion at outlet	☐ Add stone to reduce the impact from the water flowing out of the outlet pipe or weir during storms. ☐ Other: ☐ Kick-Out to Level 2 Inspection: Rills have formed and erosion problem becomes more severe.
 ☐ Outlet obstructed with mulch, sediment, debris, trash, etc.	☐ Remove the debris and dispose of it where it cannot re-enter the Bioretention cell . ☐ Other: ☐ Kick-Out to Level 2 Inspection: Outlet is completely clogged or obstructed; there is too much material to remove by hand or with simple hand tools.

Additional Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Bioretention Stormwater Management Practices Level 2 Inspection Checklist

SMP ID #		**SMP Owner**		☐ Private ☐ Public
SMP Location (Address; Latitude & Longitude)				
	Latitude		**Longitude**	

Party Responsible for Maintenance	**System Type**		**Type of Site**
☐ Same as SMP Owner ☐ Other _____	☐ Seasonal ☐ Continuous Use ☐ Other	☐ Above Ground ☐ Below Ground	☐ Commercial ☐ Industrial ☐ Residential ☐ State

Inspection Date		**Inspection Time**	
Inspector			
Date of Last Inspection			

Level 2 Inspection: BIORETENTION NOTE: Key Source for this Information *(CSN, 2013)*	
Recommended Repairs	**Triggers for Level 3 Inspection**
Observed Condition: Water Stands on Surface for More than 72 Hours after Storm	
☐ Condition 1: Small pockets of standing water Use a soil probe or auger to examine the soil profile. If isolated areas have accumulated grit, fines, or vegetative debris or have bad soil media, try scraping off top 3 inches of media and replacing with clean material. Also check to see that surface is level and water is not ponding selectively in certain areas. ☐ Condition 2: Standing water is widespread or covers entire surface Requires diagnosis and resolution of problem: • Clogged underdrain? • Filter fabric between soil media and underdrain stone? • Need to install underdrain if not present? • Too much sediment/grit washing in from drainage area? • Too much ponding depth? • Improper soil media?	• Soil media is clogged and problem is not evident from Level 2 inspection. • Level 2 inspection identifies problem, but it cannot be resolved easily or is associated with the original design of the practice. ☐ Level 3 inspection necessary
Observed Condition: Vegetation is sparse or out of control	
☐ Condition 1: Original design planting plan seems good but has not been maintained, so there are many invasives and/or dead plants Will require some horticultural experience to restore vegetation to intended condition by weeding, pruning, removing plants, and adding new plants. ☐ Condition 2: Original design planting plan is unknown or cannot be actualized A landscape architect or horticulturalist will be needed to redo the planting plan. Will likely require analysis of soil pH, moisture, organic content, sun/shade, and other conditions to make sure plants match conditions. Plan should include invasive plant management and maintenance plan to include mulching, watering, disease intervention, periodic thinning/pruning, etc.	• Vegetation deviates significantly from original planting plan; Bioretention has been neglected and suffered from deferred maintenance. • Owner/responsible party does not know how to maintain the practice. ☐ Level 3 inspection necessary
Observed Condition: Bioretention does not conform to original design plan in surface area or storage	
☐ Condition 1: Level 2 Inspection reveals that practice is too small based on design dimension, does not have adequate storage (e.g., ponding depth) based on the plan, and/or does not treat the drainage area runoff as indicated on the plan Small areas of deviation can be corrected by the property owner or responsible party, but it is likely that a Qualified Professional will have to revisit the design and attempt a redesign that meets original objectives or that can be resubmitted to the municipality for approval.	• More than a 25% departure from the approved plan in surface area, storage, or drainage area; sometimes less than this threshold at the discretion of the Level 2 inspector. ☐ Level 3 inspection necessary

Level 2 Inspection: BIORETENTION NOTE: Key Source for this Information *(CSN, 2013)*	
Recommended Repairs	**Triggers for Level 3 Inspection**
Observed Condition: Severe erosion of filter bed, inlets, or around outlets	
☐ Condition 1: Erosion at inlets The lining (e.g., grass, matting, stone, rock) may not be adequate for the actual flow velocities coming through the inlets. First line of defense is to try a more non-erosive lining and/or to extend the lining further down to where inlet slopes meet the Bioretention surface. If problem persists, analysis by a Qualified Professional is warranted. ☐ Condition 2: Erosion of Bioretention filter bed This is often caused by "preferential flow paths" through and along the Bioretention surface. The source of flow should be analyzed and methods employed to dissipate energy and disperse the flow (e.g., check dams, rock splash pads). ☐ Condition 3: Erosion on side slopes Again, the issue is likely linked with unanticipated flow paths down the side slopes (probably overland flow that concentrates as it hits the edge of the slope). For small or isolated areas, try filling, compacting, and re-establishing healthy ground cover vegetation. If the problem is more widespread, further analysis is required to determine how to redirect the flow.	• Erosion (rills, gullies) is more than 12 inches deep at inlets or the filter bed or more than 3 inches deep on side slopes. • If the issue is not caused by moving water but some sort of subsurface defect. This may manifest as a sinkhole or linear depression and be associated with problems with the underdrain stone or pipe or underlying soil. ☐ Level 3 inspection necessary
Observed Condition: Significant sediment accumulation, indicating an uncontrolled source of sediment	
☐ Condition 1: Isolated areas of sediment accumulation, generally less than 3-inches deep Sediment source may be from a one-time or isolated event. Remove accumulated sediment and top 2 to 3 inches of Bioretention soil media; replace with clean material. Check drainage area for any ongoing sources of sediment. ☐ Condition 2: Majority of the surface is caked with "hard pan" (thin layer of clogging material) or accumulated sediment that is 3-inches deep or more This can be caused by an improper construction sequence (drainage area not fully stabilized prior to installation of Bioretention soil media) or another chronic source of sediment in the drainage area. Augering several holes down through the media can indicate how severe the problem is; often the damage is confined to the first several inches of soil media. Removing and replacing this top layer (or to the depth where sediment incursion is seen in auger holes) can be adequate, as long as the problem does not recur.	• More than 2 inches of accumulated sediment cover 25% or more of the Bioretention surface area. • "Hard pan" of thin, crusty layer covers majority of Bioretention surface area and seems to be impeding flow of water down through the soil media. • New sources of sediment seem to be accumulating with each significant rainfall event. ☐ Level 3 inspection necessary

Notes:

Inspector:_____ Date: _____

Complete the following if follow-up/corrective actions were identified during this inspection:

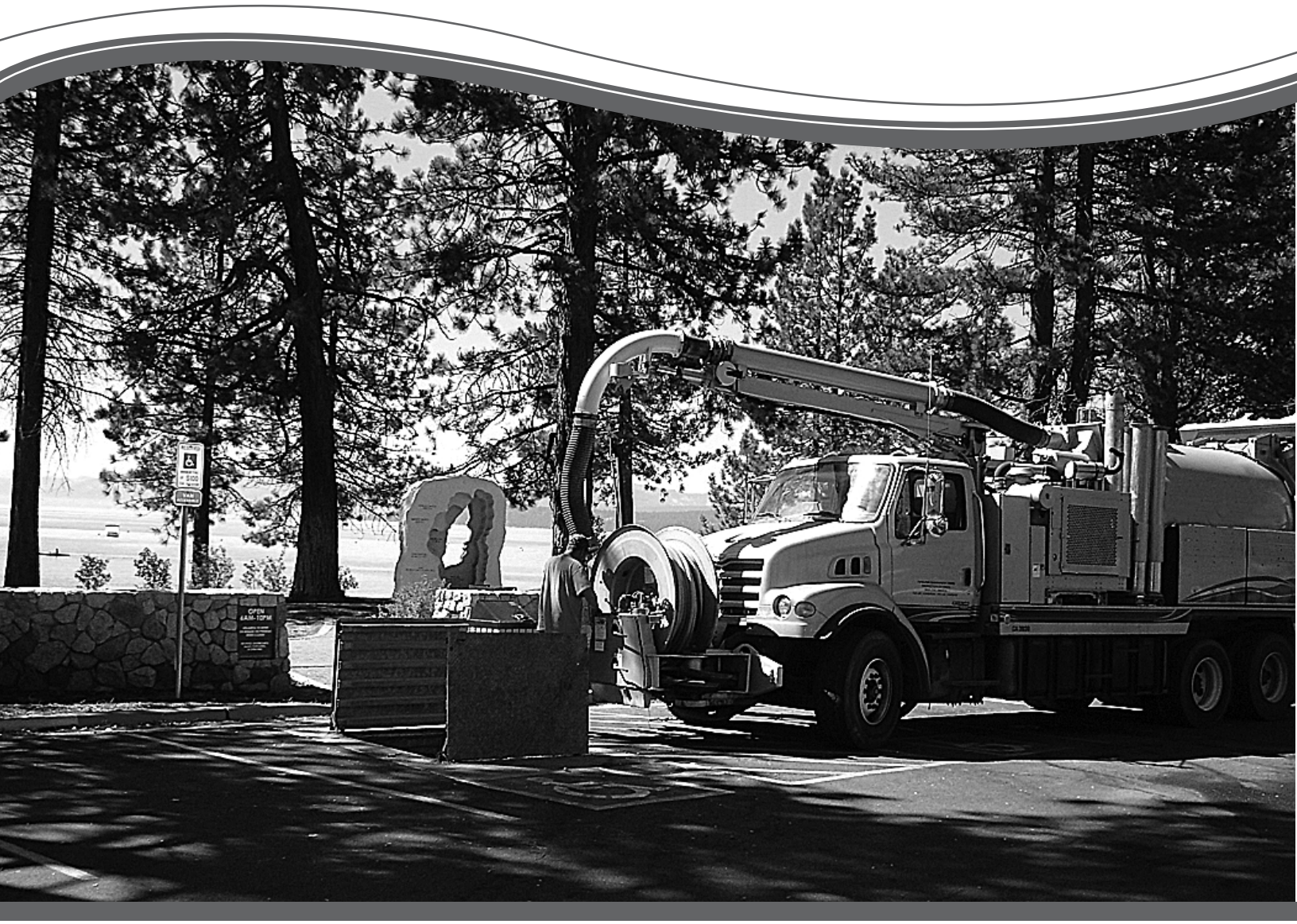
Certified Completion of Follow-Up Actions:

"I hereby certify that the follow-up/corrective actions identified in the inspection performed on _____ (DATE) have been completed and any required maintenance deficiencies have been adequately corrected."

Inspector/Operator: _____ Date: _____

CONTECH®
ENGINEERED SOLUTIONS

Cascade Separator® Inspection and Maintenance Guide



CASCADE
separator®

Maintenance

The Cascade Separator® system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects sediment and debris will depend upon on-site activities and site pollutant characteristics. For example, unstable soils or heavy winter sanding will cause the sediment storage sump to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (i.e. spring and fall). However, more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment wash-down areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

A visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet chamber, flumes or outlet channel. The inspection should also quantify the accumulation of hydrocarbons, trash and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided in this Inspection and Maintenance Guide.

Access to the Cascade Separator unit is typically achieved through one manhole access cover. The opening allows for inspection and cleanout of the center chamber (cylinder) and sediment storage sump, as well as inspection of the inlet chamber and slanted skirt. For large units, multiple manhole covers allow access to the chambers and sump.

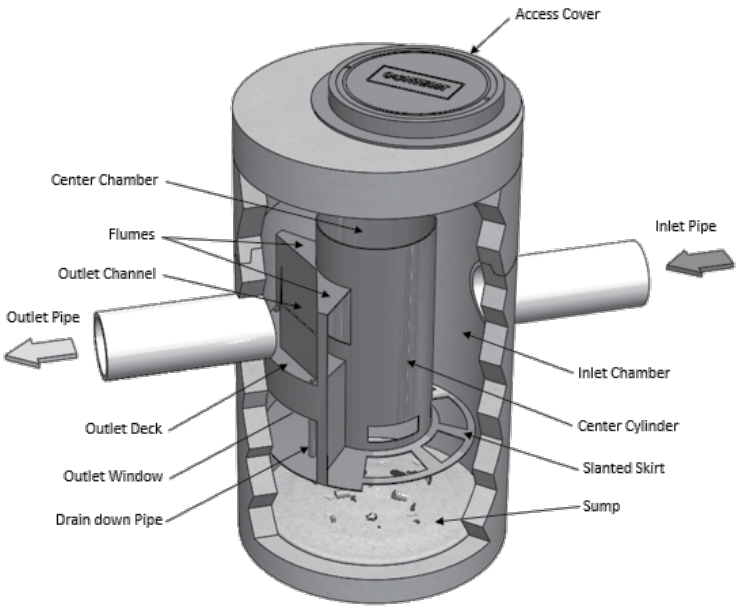
The Cascade Separator system should be cleaned before the level of sediment in the sump reaches the maximum sediment depth and/or when an appreciable level of hydrocarbons and trash has accumulated. If sorbent material is used, it must be replaced when significant discoloration has occurred. Performance may be impacted when maximum sediment storage capacity is exceeded. Contech recommends maintaining the system when sediment level reaches 50% of maximum storage volume. The level of sediment is easily determined by measuring the distance from the system outlet invert (standing water level) to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Finer, silty particles at the top of the pile typically offer less resistance to the end of the rod than larger particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the chart in this document to determine if the height of the sediment pile off the bottom of the sump floor exceeds 50% of the maximum sediment storage.

Cleaning

Cleaning of a Cascade Separator system should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole cover and insert the vacuum tube down through the center chamber and into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The areas outside the center chamber and the slanted skirt should also be washed off if pollutant build-up exists in these areas.

In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. Then the system should be power washed to ensure it is free of trash and debris.

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and to ensure proper safety precautions. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the Cascade Separator system must be done in accordance with local regulations. In many locations, disposal of evacuated sediments may be handled in the same manner as disposal of sediments removed from catch basins or deep sump manholes. Check your local regulations for specific requirements on disposal. If any components are damaged, replacement parts can be ordered from the manufacturer.



Cascade Separator® Maintenance Indicators and Sediment Storage Capacities

Model Number	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	y^3	m^3
CS-3	3	0.9	1.5	0.5	0.4	0.3
CS-4	4	1.2	2.5	0.8	0.7	0.5
CS-5	5	1.3	3	0.9	1.1	0.8
CS-6	6	1.8	3.5	1	1.6	1.2
CS-8	8	2.4	4.8	1.4	2.8	2.1
CS-10	10	3.0	6.2	1.9	4.4	3.3
CS-12	12	3.6	7.5	2.3	6.3	4.8

Note: The information in the chart is for standard units. Units may have been designed with non-standard sediment storage depth.

A Cascade Separator unit can be easily cleaned in less than 30 minutes.

A vacuum truck excavates pollutants from the systems.

Cascade Separator® Inspection & Maintenance Log

Cascade Model:			Location:		
Date	Depth Below Invert to Top of Sediment[1]	Floatable Layer Thickness[2]	Describe Maintenance Performed	Maintenance Personnel	Comments

1. The depth to sediment is determined by taking a measurement from the manhole outlet invert (standing water level) to the top of the sediment pile. Once this measurement is recorded, it should be compared to the chart in the maintenance guide to determine if the height of the sediment pile off the bottom of the sump floor exceeds 50% of the maximum sediment storage. Note: to avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile.
2. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.

SUPPORT

- Drawings and specifications are available at www.ContechES.com.
- Site-specific design support is available from our engineers.

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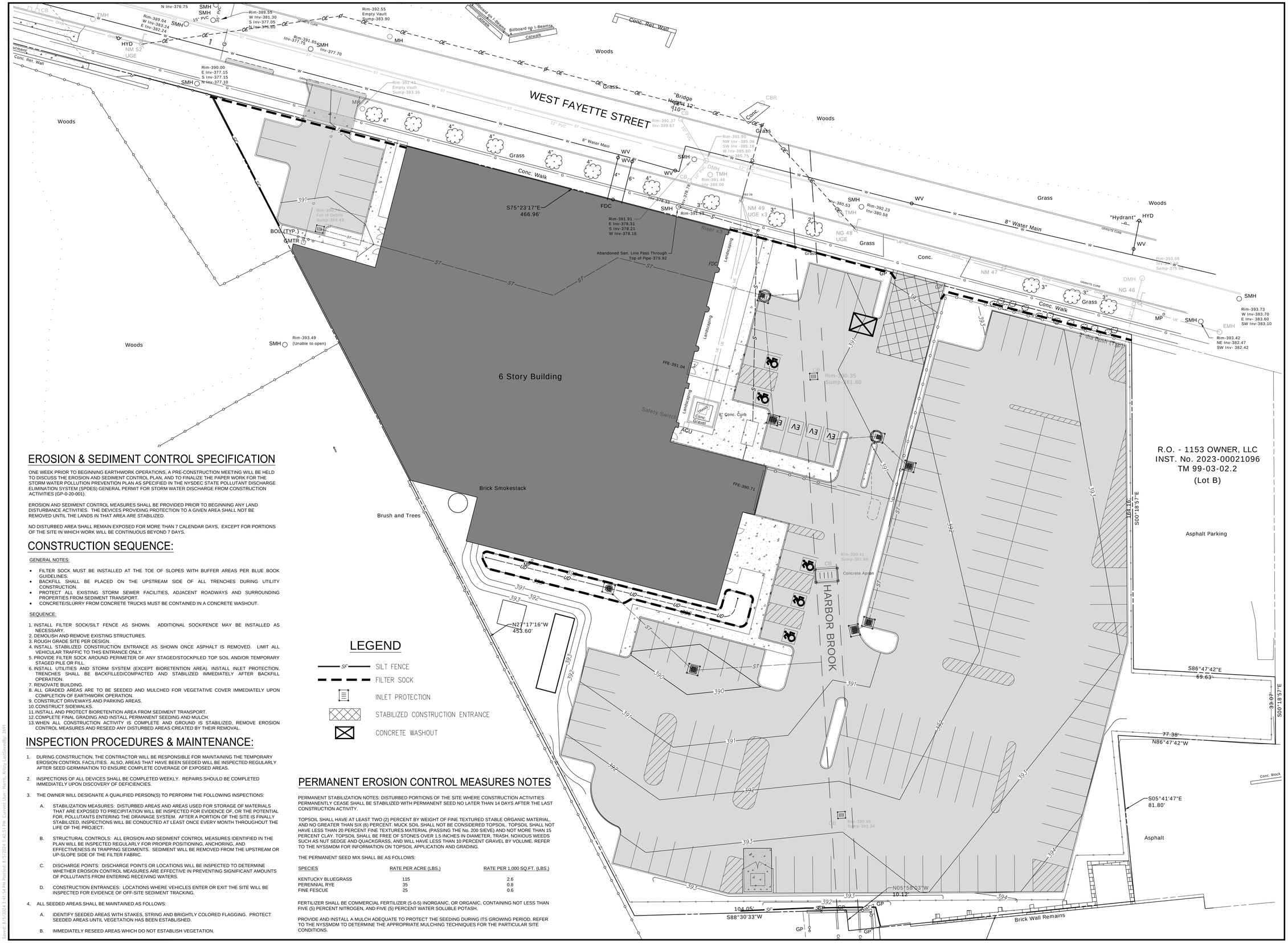
APPENDIX I

Erosion and Sediment Control Plan and Details



EROSION & SEDIMENT CONTROL SPECIFICATION

ONE WEEK PRIOR TO BEGINNING EARTHWORK OPERATIONS, A PRE-CONSTRUCTION MEETING WILL BE HELD TO DISCUSS THE EROSION AND SEDIMENT CONTROL PLAN, AND TO FINALIZE THE PAPER WORK FOR THE STORM WATER POLLUTION PREVENTION PLAN AS SPECIFIED IN THE NYSDEC STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM (SPDES) GENERAL PERMIT FOR STORM WATER DISCHARGE FROM CONSTRUCTION ACTIVITIES (GP-0-20-001).

EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROVIDED PRIOR TO BEGINNING ANY LAND DISTURBANCE ACTIVITIES. THE DEVICES PROVIDING PROTECTION TO A GIVEN AREA SHALL NOT BE REMOVED UNTIL THE LANDS IN THAT AREA ARE STABILIZED.

NO DISTURBED AREA SHALL REMAIN EXPOSED FOR MORE THAN 7 CALENDAR DAYS, EXCEPT FOR PORTIONS OF THE SITE IN WHICH WORK WILL BE CONTINUOUS BEYOND 7 DAYS.

CONSTRUCTION SEQUENCE:

GENERAL NOTES:

- FILTER SOCK MUST BE INSTALLED AT THE TOE OF SLOPES WITH BUFFER AREAS PER BLUE BOOK GUIDELINES.
- BACKFILL SHALL BE PLACED ON THE UPSTREAM SIDE OF ALL TRENCHES DURING UTILITY CONSTRUCTION.
- PROTECT ALL EXISTING STORM SEWER FACILITIES, ADJACENT ROADWAYS AND SURROUNDING PROPERTIES FROM SEDIMENT TRANSPORT.
- CONCRETE/SLURRY FROM CONCRETE TRUCKS MUST BE CONTAINED IN A CONCRETE WASHOUT.

SEQUENCE:

1. INSTALL FILTER SOCK/SILT FENCE AS SHOWN. ADDITIONAL SOCK/FENCE MAY BE INSTALLED AS NECESSARY.
2. DEMOLISH AND REMOVE EXISTING STRUCTURES.
3. ROUGH GRADE SITE PER DESIGN.
4. INSTALL STABILIZED CONSTRUCTION ENTRANCE AS SHOWN ONCE ASPHALT IS REMOVED. LIMIT ALL VEHICULAR TRAFFIC TO THIS ENTRANCE ONLY.
5. PROVIDE FILTER SOCK AROUND PERIMETER OF ANY STAGED/STOCKPILED TOP SOIL AND/OR TEMPORARY STAGED PILE OR FILL.
6. INSTALL UTILITIES AND STORM SYSTEM (EXCEPT BIORETENTION AREA). INSTALL INLET PROTECTION. TRENCHES SHALL BE BACKFILLED/COMPACTED AND STABILIZED IMMEDIATELY AFTER BACKFILL OPERATION.
7. RENOVATE BUILDING.
8. ALL GRADED AREAS ARE TO BE SEEDED AND MULCHED FOR VEGETATIVE COVER IMMEDIATELY UPON COMPLETION OF EARTHWORK OPERATION.
9. CONSTRUCT DRIVEWAYS AND PARKING AREAS.
10. CONSTRUCT SIDEWALKS.
11. INSTALL AND PROTECT BIORETENTION AREA FROM SEDIMENT TRANSPORT.
12. COMPLETE FINAL GRADING AND INSTALL PERMANENT SEEDING AND MULCH.
13. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND GROUND IS STABILIZED, REMOVE EROSION CONTROL MEASURES AND RESEED ANY DISTURBED AREAS CREATED BY THEIR REMOVAL.

INSPECTION PROCEDURES & MAINTENANCE:

1. DURING CONSTRUCTION, THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THE TEMPORARY EROSION CONTROL FACILITIES. ALSO, AREAS THAT HAVE BEEN SEEDED WILL BE INSPECTED REGULARLY AFTER SEED GERMINATION TO ENSURE COMPLETE COVERAGE OF EXPOSED AREAS.

2. INSPECTIONS OF ALL DEVICES SHALL BE COMPLETED WEEKLY. REPAIRS SHOULD BE COMPLETED IMMEDIATELY UPON DISCOVERY OF DEFICIENCIES.

3. THE OWNER WILL DESIGNATE A QUALIFIED PERSON(S) TO PERFORM THE FOLLOWING INSPECTIONS:

   A. STABILIZATION MEASURES: DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION WILL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. AFTER A PORTION OF THE SITE IS FINALLY STABILIZED, INSPECTIONS WILL BE CONDUCTED AT LEAST ONCE EVERY MONTH THROUGHOUT THE LIFE OF THE PROJECT.

   B. STRUCTURAL CONTROLS: ALL EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN WILL BE INSPECTED REGULARLY FOR PROPER POSITIONING, ANCHORING, AND EFFECTIVENESS IN TRAPPING SEDIMENTS. SEDIMENT WILL BE REMOVED FROM THE UPSTREAM OR UP-SLOPE SIDE OF THE FILTER FABRIC.

   C. DISCHARGE POINTS: DISCHARGE POINTS OR LOCATIONS WILL BE INSPECTED TO DETERMINE WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT AMOUNTS OF POLLUTANTS FROM ENTERING RECEIVING WATERS.

   D. CONSTRUCTION ENTRANCES: LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE WILL BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING.

4. ALL SEEDED AREAS SHALL BE MAINTAINED AS FOLLOWS:

   A. IDENTIFY SEEDED AREAS WITH STAKES, STRING AND BRIGHTLY COLORED FLAGGING. PROTECT SEEDED AREAS UNTIL VEGETATION HAS BEEN ESTABLISHED.

   B. IMMEDIATELY RESEED AREAS WHICH DO NOT ESTABLISH VEGETATION.

LEGEND

- SF — SILT FENCE
- FILTER SOCK
- INLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT

PERMANENT EROSION CONTROL MEASURES NOTES

PERMANENT STABILIZATION NOTES: DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES PERMANENTLY CEASE SHALL BE STABILIZED WITH PERMANENT SEED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY.

TOPSOIL SHALL HAVE AT LEAST TWO (2) PERCENT BY WEIGHT OF FINE TEXTURED STABLE ORGANIC MATERIAL, AND NO GREATER THAN SIX (6) PERCENT. MUCK SOIL SHALL NOT BE CONSIDERED TOPSOIL. TOPSOIL SHALL NOT HAVE LESS THAN 20 PERCENT FINE TEXTURES MATERIAL (PASSING THE No. 200 SIEVE) AND NOT MORE THAN 15 PERCENT CLAY. TOPSOIL SHALL BE FREE OF STONES OVER 1.5 INCHES IN DIAMETER, TRASH, NOXIOUS WEEDS SUCH AS NUT SEDGE AND QUACKGRASS, AND WILL HAVE LESS THAN 10 PERCENT GRAVEL BY VOLUME. REFER TO THE NYSSMDM FOR INFORMATION ON TOPSOIL APPLICATION AND GRADING.

THE PERMANENT SEED MIX SHALL BE AS FOLLOWS:

SPECIES	RATE PER ACRE (LBS.)	RATE PER 1,000 SQ.FT. (LBS.)
KENTUCKY BLUEGRASS	115	2.6
PERENNIAL RYE	35	0.8
FINE FESCUE	25	0.6

FERTILIZER SHALL BE COMMERCIAL FERTILIZER (5-0-5) INORGANIC, OR ORGANIC, CONTAINING NOT LESS THAN FIVE (5) PERCENT NITROGEN, AND FIVE (5) PERCENT WATER SOLUBLE POTASH.

PROVIDE AND INSTALL A MULCH ADEQUATE TO PROTECT THE SEEDING DURING ITS GROWING PERIOD. REFER TO THE NYSSMDM TO DETERMINE THE APPROPRIATE MULCHING TECHNIQUES FOR THE PARTICULAR SITE CONDITIONS.

R.O. - 1153 OWNER, LLC
INST. No. 2023-00021096
TM 99-03-02.2
(Lot B)

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CHA
One Park Place, 300 South State Street, Suite 600
Syracuse, NY 13202
315.471.3920 . www.chasolutions.com

0 20 40
Scale in feet

APPLICANT:
1153 OWNER, LLC
PO BOX 515
SYRACUSE, NY 13205

STATE OF NEW YORK · FRANCIS BRUCE FISHER · No 08 15784 · LICENSED PROFESSIONAL ENGINEER

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PROJECT:
SYRACUSE PUBLIC SAFETY BUILDING
1153 WEST FAYETTE STREET
SYRACUSE NY 13204

No.	Submittal / Revision	Apv	By	Date

EROSION & SEDIMENT CONTROL PLAN

Designed By:	Drawn By:	Checked By:
BFB	BGH	BFB
Issue Date:	Project No.:	Scale:
6/18/24	088543	AS SHOWN

Drawing No.:
C-501

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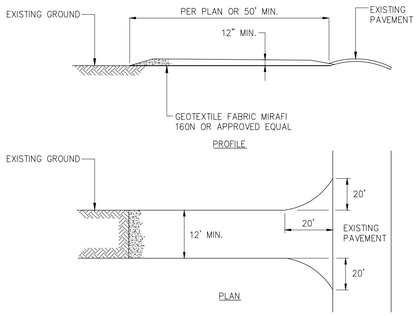

NOTES:

1. STONE SIZE–USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. THICKNESS–NOT LESS THAN 12".
3. WOVEN GEOTEXTILE FABRIC WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
4. EXISTING ROAD SIDE DRAINAGE SHALL BE MAINTAINED.
5. MAINTENANCE–THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT OR STONE SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
6. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

1 STABILIZED CONSTRUCTION ENTRANCE

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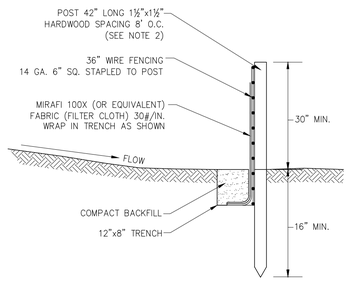
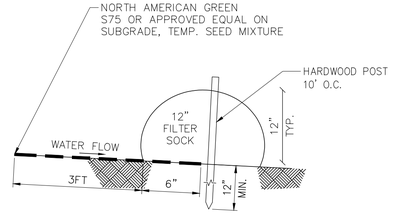


NOTES:

1. TIE FABRIC TO WIRE FENCE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
2. IF EXTRA STRENGTH FABRIC (GREATER THAN 50#/INCH) IS USED, WIRE CAN BE DELETED IF POST SPACING IS REDUCED TO 6' O.C.
3. AT THE ENDS OF THE FENCING THE FIRST 20' SHALL BE TURNED UP THE SLOPE 2'.
4. POSTS SHOULD BE INCLINED TOWARD THE DIRECTION FLOW CAME FROM.
5. OVERLAP FABRIC A MINIMUM OF 6" AND FOLDED AT JOINTS. ATTACH FILTER FABRIS TO STAKES ALLOWING EXTENSION INTO TRENCH AS SHOWN; SECURE TO STAKES AS NOTED.
6. THE MAXIMUM AREA OF RUNOFF PER 100LF. OF FENCE SHALL NOT EXCEED 0.25 ACRES.
7. MAINTENANCE SHALL BE PERFORMED AS NECESSARY. THE FENCING SHALL BE CHECKED AFTER EVERY STORM TO ENSURE THEIR PROPER FUNCTIONING.
8. WHEN FENCE IS NO LONGER NEEDED, THE ACCUMULATED SILT, THE POSTS AND FABRIC SHALL BE REMOVED AND TRENCH BACK FILLED WITH TOPSOIL AND SEEDED.
9. FENCING SHOULD BE PLACED AS SHOWN ON THE DRAWING OR IF NOT SHOWN, 10' BEYOND THE TOE OF THE SLOPE.
10. EXCAVATE TRENCH AS PER DETAIL AND SET POSTS AT 10' O.C.
11. BACKFILL WITH COMPACTED, EXCAVATED SOIL FROM TRENCH.

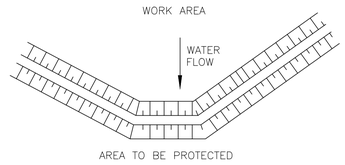
2 SILT FENCE

SCALE: N.T.S.



NOTES:

1. ALL MATERIAL TO MEET MANUFACTURER SPECIFICATIONS.
2. ALL FILTER SOCKS SHALL BE 12" DIAMETER.
3. INSTALL PERPENDICULAR TO FLOW.
4. THE CONTRACTOR SHALL MAINTAIN SOCK IN A FUNCTIONAL CONDITION AT ALL TIMES AND IT SHALL BE ROUTINELY INSPECTED.
5. DAMAGED SOCKS SHALL BE REPAIRED IN THE MANNER REQUIRED BY THE MANUFACTURER OR REPLACED WITHIN 24 HOURS OF INSPECTION NOTIFICATION.
6. THE CONTRACTOR SHALL REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE SOCK WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OF THE SOCK, OR AS DIRECTED BY THE REPRESENTATIVE.
7. UPON STABILIZATION OF THE AREA CONTRIBUTORY TO THE SOCK, STAKES SHALL BE REMOVED. THE INTERNAL COMPOST MATERIAL WITHIN THE SOCK SHALL BE DISPERSED ON SITE.



AT GRADE PLACEMENT

3 COMPOST FILTER SOCK DETAIL

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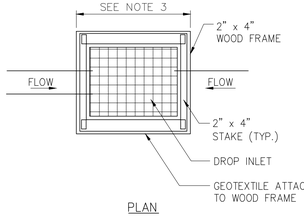
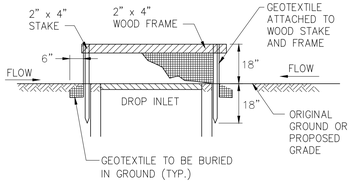


PLAN



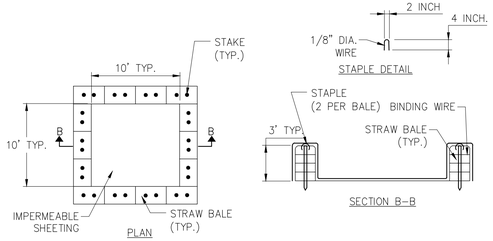
ELEVATION

NOTES:

1. GEOTEXTILE SHALL BE CUT FROM A CONTINOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NECESSARY THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
2. STAKE MATERIAL WILL BE STANDARD 2"x4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3 FEET.
3. SPACE STAKES EVENLY AROUND INLET WITH A MAXIMUM SPACING OF 3 FEET DRIVE STAKES 18" MINIMUM INTO GROUND. WIRE MESH MAY BE REQUIRED BEHIND GEOTEXTILE TO PROVIDE SUPPORT.
4. GEOTEXTILE SHALL BE EMBEDDED 12" BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO STAKES AND FRAME.
5. GEOTEXTILE FABRIC SHALL HAVE EOS OF 40–85.
6. A 2"x 4" WOOD FRAME SHALL BE FORMED AROUND THE CREST OF FABRIC FOR OVERFLOW STABILITY.
7. INLET PROTECTION TO REMAIN IN–PLACE UNTIL AREA IS STABILIZED.

4 FILTER FABRIC DROP INLET PROTECTION

SCALE: N.T.S.



NOTE: CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT. DEPTH

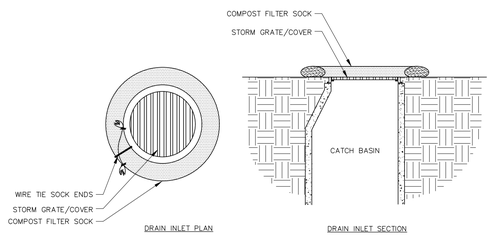
WASHOUT STRUCTURE WITH STRAW BALES

CONSTRUCTION SPECIFICATIONS:

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 30 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLAND,S BUFFERS, AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEET, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGE (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET–VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

5 CONCRETE WASHOUT

SCALE: N.T.S.



6 COMPOST FILTER SOCK INLET PROTECTION

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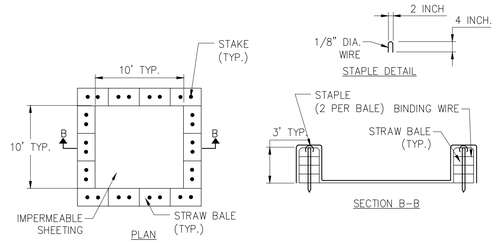

NOTE: CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT. DEPTH

WASHOUT STRUCTURE WITH STRAW BALES

CONSTRUCTION SPECIFICATIONS:

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 30 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLAND,S BUFFERS, AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEET, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGE (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET–VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

7 CONCRETE WASHOUT

SCALE: N.T.S.

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PO BOX 515
SYRACUSE, NY 13205

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLOUE THE NOTATION 'ALTERED BY' FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

PROJECT:
SYRACUSE PUBLIC SAFETY BUILDING
1153 WEST FAYETTE STREET
SYRACUSE NY 13204

No.	Submittal / Revision	Apv	By	Date

DETAILS

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Appendix L

Community Air Monitoring Plan

Community Air Monitoring Plan for 1153-69 West Fayette Street

1153-69 West Fayette Street
City of Syracuse, Onondaga County, New York

BCP Site No. C734164

Prepared by:

C&S Engineers, Inc.
499 Col Eileen Collins Blvd.
Syracuse, New York 13212

July 2024
Revised November 2024

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.

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and / or particulate levels at the perimeter of the exclusion zone or work area will be necessary.

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

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling / purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

Daily CAMP reports will be provided to New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) project managers. The reports will consist of figures showing work zones and monitoring stations and downloaded CAMP data. The daily reports will summarize any CAMP exceedances and the corrective actions taken. Any CAMP exceedances will be reported to NYSDEC and NYSDOH project managers within one business day.

<u>VOC Monitoring, Response Levels, and Actions</u>

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically

thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate, such as isobutylene. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below:

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

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

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

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

Particulate Monitoring, Response Levels, and Actions

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

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter ($\mu g/m^3$) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10

particulate levels do not exceed 150 µg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

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

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

Fugitive Dust and Particulate Monitoring

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

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

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

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

    a. Objects to be measured: Dust, mists or aerosols;
    b. Measurement Ranges: 0.001 to 400 mg/m^3 (1 to 400,000 µg/m^3);
    c. Precision (2-sigma) at constant temperature: +/- 10 g/m^3 for one second averaging; and +/- 1.5 g/m^3 for sixty second averaging;
    d. Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 m, g= 2.5, as aerosolized);
    e. Resolution: 0.1% of reading or 1 g/m^3, whichever is larger;
    f. Particle Size Range of Maximum Response: 0.1-10;
    g. Total Number of Data Points in Memory: 10,000;

h. Logged Data: Each data point with average concentration, time / date and data point number;
i. Run Summary: overall average, maximum concentrations, time / date of maximum, total number of logged points, start time / date, total elapsed time (run duration), STEL concentration and time / date occurrence, averaging (logging) period, calibration factor, and tag number;
j. Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
k. Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
l. Operating Temperature: -10 to 50°C (14 to 122°F); and
m. Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

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

5. The action level will be established at 150 µg/m^3 (15 minutes average). While conservative, this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 µg/m^3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 µg/m^3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 µg/m^3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM-10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed.

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

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

Experience has shown that the chance of exceeding the 150 µg/m^3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

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

9. CAMP action level exceedances and corrective actions will be reported to the Department within one business day.

Special Requirements:

In addition, or in combination with the above, the following special requirements apply for work within 20 feet of potentially exposed individuals or structures:

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates will reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor / dust barriers, temporary negative-pressure enclosures, or special ventilation devices will be considered to prevent exposures related to the work activities and to control dust and odors. Consideration will be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring will occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient

sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels (response actions should also be pre-determined). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.

- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 µg/m^3, work activities will be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 µg/m^3 or less at the monitoring point.

- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements are as stated above under "Special Requirements for Work within 20 Feet of Potentially Exposed Individuals or Structures" except that in this instance "nearby / occupied structures" would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, shall be understood and the monitoring locations established accordingly. In these situations, exhaust fans or other engineering controls will be used to create negative air pressure within the work area during remedial activities. Additionally, the planned work will be implemented during hours (e.g. weekends or evenings) when building occupancy is at a minimum.

Appendix M

Citizen Participation Plan

NEW YORK STATE | Department of Environmental Conservation

Brownfield Cleanup Program

Citizen Participation Plan
for
1153-69 West Fayette Street

June 2024

Site No. C734164
1153-69 West Fayette Street
City of Syracuse
Onondaga County, New York

Contents

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* * * * *

Note: The information presented in this Citizen Participation Plan was current as of the date of its approval by the New York State Department of Environmental Conservation. Portions of this Citizen Participation Plan may be revised during the site's investigation and cleanup process.

Applicant: **1153 Owner LLC ("Applicant")**
Site Name: **1153-69 West Fayette Street ("Site")**
Site Address: **1153-69 West Fayette Street, Syracuse, New York**
Site County: **Onondaga County**
Site Number: **C734164**

1. What is New York's Brownfield Cleanup Program?

New York's Brownfield Cleanup Program (BCP) works with private developers to encourage the voluntary cleanup of contaminated properties known as "brownfields" so that they can be reused and developed. These uses include recreation, housing, and business.

A *brownfield* is any real property that is difficult to reuse or redevelop because of the presence or potential presence of contamination. A brownfield typically is a former industrial or commercial property where operations may have resulted in environmental contamination. A brownfield can pose environmental, legal, and financial burdens on a community. If a brownfield is not addressed, it can reduce property values in the area and affect economic development of nearby properties.

The BCP is administered by the New York State Department of Environmental Conservation (NYSDEC) which oversees Applicants who conduct brownfield site investigation and cleanup activities. An Applicant is a person who has requested to participate in the BCP and has been accepted by NYSDEC. The BCP contains investigation and cleanup requirements, ensuring that cleanups protect public health and the environment. When NYSDEC certifies that these requirements have been met, the property can be reused or redeveloped for the intended use.

For more information about the BCP, go online at:
http://www.dec.ny.gov/chemical/8450.html.

2. Citizen Participation Activities

Why NYSDEC Involves the Public and Why It Is Important

NYSDEC involves the public to improve the process of investigating and cleaning up contaminated sites, and to enable citizens to participate more fully in decisions that affect their health, environment, and social well-being. NYSDEC provides opportunities for citizen involvement and encourages early two-way communication with citizens before decision makers form or adopt final positions.

Involving citizens affected and interested in site investigation and cleanup programs is important for many reasons. These include:

- Promoting the development of timely, effective site investigation and cleanup programs that protect public health and the environment

- Improving public access to, and understanding of, issues and information related to a particular site and that site's investigation and cleanup process

- Providing citizens with early and continuing opportunities to participate in NYSDEC's site investigation and cleanup process

- Ensuring that NYSDEC makes site investigation and cleanup decisions that benefit from input that reflects the interests and perspectives found within the affected community

- Encouraging dialogue to promote the exchange of information among the affected/interested public, State agencies, and other interested parties that strengthens trust among the parties, increases understanding of site and community issues and concerns, and improves decision making.

This Citizen Participation (CP) Plan provides information about how NYSDEC will inform and involve the public during the investigation and cleanup of the site identified above. The public information and involvement program will be carried out with assistance, as appropriate, from the Applicant.

Project Contacts

Appendix A identifies NYSDEC project contact(s) to whom the public should address questions or request information about the site's investigation and cleanup program. The public's suggestions about this CP Plan and the CP program for the site are always welcome. Interested people are encouraged to share their ideas and suggestions with the project contacts at any time.

Locations of Reports and Information

The locations of the reports and information related to the site's investigation and cleanup program also are identified in **Appendix A**. These locations provide convenient access to important project documents for public review and comment. Some documents may be placed on the NYSDEC web site. If this occurs, NYSDEC will inform the public in fact sheets distributed about the site and by other means, as appropriate.

Site Contact List

Appendix B contains the site contact list. This list has been developed to keep the community informed about, and involved in, the site's investigation and cleanup process. The site contact list will be used periodically to distribute fact sheets that provide updates about the status of the project. These will include notifications of upcoming activities at

the site (such as fieldwork), as well as availability of project documents and announcements about public comment periods. The site contact list includes, at a minimum:

- chief executive officer and planning board chairperson of each county, city, town and village in which the site is located;
- residents, owners, and occupants of the site and properties adjacent to the site;
- the public water supplier which services the area in which the site is located;
- any person who has requested to be placed on the site contact list;
- the administrator of any school or day care facility located on or near the site for purposes of posting and/or dissemination of information at the facility;
- location(s) of reports and information.

The site contact list will be reviewed periodically and updated as appropriate. Individuals and organizations will be added to the site contact list upon request. Such requests should be submitted to the NYSDEC project contact(s) identified in **Appendix A**. Other additions to the site contact list may be made at the discretion of the NYSDEC project manager, in consultation with other NYSDEC staff as appropriate.

Note: The first site fact sheet (usually related to the draft Remedial Investigation Work Plan) is distributed both by paper mailing through the postal service and through DEC Delivers, its email listserv service. The fact sheet includes instructions for signing up with the appropriate county listserv to receive future notifications about the site. See http://www.dec.ny.gov/chemical/61092.html .

Subsequent fact sheets about the site will be distributed exclusively through the listserv, except for households without internet access that have indicated the need to continue to receive site information in paper form. Please advise the NYSDEC site project manager identified in **Appendix A** if that is the case. Paper mailings may continue during the investigation and cleanup process for some sites, based on public interest and need.

CP Activities

The table at the end of this section identifies the CP activities, at a minimum, that have been and will be conducted during the site's investigation and cleanup program. The flowchart in **Appendix D** shows how these CP activities integrate with the site investigation and cleanup process. The public is informed about these CP activities through fact sheets and notices distributed at significant points during the program. Elements of the investigation and cleanup process that match up with the CP activities are explained briefly in Section 5.

- **Notices and fact sheets** help the interested and affected public to understand contamination issues related to a site, and the nature and progress of efforts to investigate and clean up a site.

- **Public forums, comment periods and contact with project managers** provide opportunities for the public to contribute information, opinions and perspectives that have potential to influence decisions about a site's investigation and cleanup.

The public is encouraged to contact project staff at any time during the site's investigation and cleanup process with questions, comments, or requests for information.

This CP Plan may be revised due to changes in major issues of public concern identified in Section 3 or in the nature and scope of investigation and cleanup activities. Modifications may include additions to the site contact list and changes in planned citizen participation activities.

Technical Assistance Grant

NYSDEC must determine if the site poses a significant threat to public health or the environment. This determination generally is made using information developed during the investigation of the site, as described in Section 5.

If the site is determined to be a significant threat, a qualifying community group may apply for a Technical Assistance Grant (TAG). The purpose of a TAG is to provide funds to the qualifying group to obtain independent technical assistance. This assistance helps the TAG recipient to interpret and understand existing environmental information about the nature and extent of contamination related to the site and the development/implementation of a remedy.

An eligible community group must certify that its membership represents the interests of the community affected by the site, and that its members' health, economic well-being or enjoyment of the environment may be affected by a release or threatened release of contamination at the site.

As of the date the declaration (page 2) was signed by the NYSDEC project manager, the significant threat determination for the site had not yet been made.

To verify the significant threat status of the site, the interested public may contact the NYSDEC project manager identified in **Appendix A**.

For more information about TAGs, go online at
http://www.dec.ny.gov/regulations/2590.html

Note: The table identifying the citizen participation activities related to the site's investigation and cleanup program follows on the next page:

Citizen Participation Activities	Timing of CP Activity(ies)
Application Process:	
• Prepare site contact list • Establish document repository(ies)	At time of preparation of application to participate in the BCP.
• Publish notice in Environmental Notice Bulletin (ENB) announcing receipt of application and 30-day public comment period • Publish above ENB content in local newspaper • Mail above ENB content to site contact list • Conduct 30-day public comment period	When NYSDEC determines that BCP application is complete. The 30-day public comment period begins on date of publication of notice in ENB. End date of public comment period is as stated in ENB notice. Therefore, ENB notice, newspaper notice, and notice to the site contact list should be provided to the public at the same time.
After Execution of Brownfield Site Cleanup Agreement (BCA):	
• Prepare Citizen Participation (CP) Plan	Before start of Remedial Investigation **Note:** Applicant must submit CP Plan to NYSDEC for review and approval within 20 days of the effective date of the BCA.
Before NYSDEC Approves Remedial Investigation (RI) Work Plan:	
• Distribute fact sheet to site contact list about proposed RI activities and announcing 30-day public comment period about draft RI Work Plan • Conduct 30-day public comment period	Before NYSDEC approves RI Work Plan. If RI Work Plan is submitted with application, public comment periods will be combined and public notice will include fact sheet. Thirty-day public comment period begins/ends as per dates identified in fact sheet.
After Applicant Completes Remedial Investigation:	
• Distribute fact sheet to site contact list that describes RI results	Before NYSDEC approves RI Report
Before NYSDEC Approves Remedial Work Plan (RWP):	
• Distribute fact sheet to site contact list about draft RWP and announcing 45-day public comment period • Public meeting by NYSDEC about proposed RWP (if requested by affected community or at discretion of NYSDEC project manager) • Conduct 45-day public comment period	Before NYSDEC approves RWP. Forty-five day public comment period begins/ends as per dates identified in fact sheet. Public meeting would be held within the 45-day public comment period.
Before Applicant Starts Cleanup Action:	
• Distribute fact sheet to site contact list that describes upcoming cleanup action	Before the start of cleanup action.
After Applicant Completes Cleanup Action:	
• Distribute fact sheet to site contact list that announces that cleanup action has been completed and that NYSDEC is reviewing the Final Engineering Report • Distribute fact sheet to site contact list announcing NYSDEC approval of Final Engineering Report and issuance of Certificate of Completion (COC)	At the time the cleanup action has been completed. **Note:** The two fact sheets are combined when possible if there is not a delay in issuing the COC.

3. Major Issues of Public Concern

This section of the CP Plan identifies major issues of public concern that relate to the site. Additional major issues of public concern may be identified during the course of the site's investigation and cleanup process.

Based on the pre-Brownfield investigation results (data generated in June / September 2023 for entry into the BCP), contaminated urban fill appears to have been deposited at the site at some point in its history. The urban fill extends to approximately six to nine feet below ground surface and contains assorted materials, including brick, coal, and ash. Past uses of the site (see Section 4) and placement of urban fill has resulted in contamination by metals, as well as byproducts of fuels / combustion.

Evidence of residual petroleum contamination in sub-surface soil and groundwater was identified in the vicinity of the former oil house and coal silo. Past uses of the site may have resulted in contamination by petroleum products.

Based on the nature of site contaminants, direct contact with contaminated soil or inhalation of airborne dust originating from contaminated areas of the site pose the primary exposure risk to the local public. Potential for petroleum impacts to migrate off-site through groundwater flow or through soil vapor also present potential concerns to nearby properties. The remedial program will eliminate or reduce the potential for exposure.

4. Site Information

Appendix C contains a map identifying the location of the site.

Site Description

Location: 1153-69 West Fayette Street, Syracuse, Onondaga County, New York
Setting: Urban
Site Size: 2.65 acres
Adjacent Properties: Mix of residential, commercial, and industrial

- **North** – West Fayette Street, Forested Land, Syracuse City School District Supply Center, Rail Line
- **South** – Commercial Stores, George Fowler High School
- **West** – Residences, George Fowler High School baseball diamond
- **East** – Lofts at 1117 BCP Site (C734160), Commercial Stores

History of Site Use, Investigation, and Cleanup

Since at least 1892, the site was occupied by residences, a machine shop, and a lumber shed. The site was first developed for industrial purposes around 1911 for the Kemp &

Burpee Manufacturing Company, a producer of manure spreaders. In the mid-1900s, the Kemp & Burpee manufacturing facility was demolished and the adjoining buildings that exist today were constructed. The buildings operated as the Morris Distributing Company, an electrical supplies wholesaler, between 1951 and 1988. Throughout the 1990s and 2000s, the buildings housed a variety of industrial and commercial tenants, including but not limited to Command Services (computer sales and services), Tegmen (electronic circuit manufacturer), Selco Graphics (printing), and PEACE Inc (non-profit organization). The Applicant purchased the Site in June 2023 and the buildings are currently vacant.

The June / September 2023 pre-Brownfield investigation identified contaminated urban fill across the site. The urban fill extends to approximately six to nine feet below ground surface and contains assorted materials, including brick, coal, and ash. The urban fill is impacted by metals, as well as byproducts of fuels / combustion. Residual petroleum contamination, likely associated with historical uses of the Site, was also identified in the vicinity of the former oil house and coal silo.

No known remedial activities have been completed at the site to date. No active or passive remediation has taken place on-site.

5. Investigation and Cleanup Process

Application

The Applicant has applied for and been accepted into New York's Brownfield Cleanup Program as a Volunteer. This means that the Applicant was not responsible for the disposal or discharge of the contaminants or whose ownership or operation of the site took place after the discharge or disposal of contaminants. The Volunteer must fully characterize the nature and extent of contamination onsite, and must conduct a "qualitative exposure assessment," a process that characterizes the actual or potential exposures of people, fish and wildlife to contaminants on the site and to contamination that has migrated from the site.

The Applicant in its Application proposes that the site will be used for commercial purposes.

To achieve this goal, the Applicant will conduct investigation and cleanup activities at the site with oversight provided by NYSDEC. The Brownfield Cleanup Agreement executed by NYSDEC and the Applicant sets forth the responsibilities of each party in conducting these activities at the site.

Investigation

The Applicant will conduct an investigation of the site officially called a "remedial investigation" (RI). This investigation will be performed with NYSDEC oversight. The Applicant must develop a remedial investigation workplan, which is subject to public

comment.

The site investigation has several goals:

1) define the nature and extent of contamination in soil, surface water, groundwater and any other parts of the environment that may be affected;
2) identify the source(s) of the contamination;
3) assess the impact of the contamination on public health and the environment; and
4) provide information to support the development of a proposed remedy to address the contamination or the determination that cleanup is not necessary.

The Applicant submits a draft "Remedial Investigation Work Plan" to NYSDEC for review and approval. NYSDEC makes the draft plan available to the public review during a 30-day public comment period.

When the investigation is complete, the Applicant will prepare and submit a report that summarizes the results. This report also will recommend whether cleanup action is needed to address site-related contamination. The investigation report is subject to review and approval by NYSDEC.

NYSDEC will use the information in the investigation report to determine if the site poses a significant threat to public health or the environment. If the site is a "significant threat," it must be cleaned up using a remedy selected by NYSDEC from an analysis of alternatives prepared by the Applicant and approved by NYSDEC. If the site does not pose a significant threat, the Applicant may select the remedy from the approved analysis of alternatives.

Interim Remedial Measures

An Interim Remedial Measure (IRM) is an action that can be undertaken at a site when a source of contamination or exposure pathway can be effectively addressed before the site investigation and analysis of alternatives are completed. If an IRM is likely to represent all or a significant part of the final remedy, NYSDEC will require a 30-day public comment period.

Remedy Selection

When the investigation of the site has been determined to be complete, the project likely would proceed in one of two directions:

1. The Applicant may recommend in its investigation report that no action is necessary at the site. In this case, NYSDEC would make the investigation report available for public comment for 45 days. NYSDEC then would complete its review, make any necessary revisions, and, if appropriate, approve the investigation report. NYSDEC would then issue a "Certificate of Completion" (described below) to the Applicant.

or

2. The Applicant may recommend in its investigation report that action needs to be taken to address site contamination. After NYSDEC approves the investigation report, the Applicant may then develop a cleanup plan, officially called a “Remedial Work Plan”. The Remedial Work Plan describes the Applicant’s proposed remedy for addressing contamination related to the site.

When the Applicant submits a draft Remedial Work Plan for approval, NYSDEC would announce the availability of the draft plan for public review during a 45-day public comment period.

Cleanup Action

NYSDEC will consider public comments, and revise the draft cleanup plan if necessary, before approving the proposed remedy. The New York State Department of Health (NYSDOH) must concur with the proposed remedy. After approval, the proposed remedy becomes the selected remedy. The selected remedy is formalized in the site Decision Document.

The Applicant may then design and perform the cleanup action to address the site contamination. NYSDEC and NYSDOH oversee the activities. When the Applicant completes cleanup activities, it will prepare a final engineering report that certifies that cleanup requirements have been achieved or will be achieved within a specific time frame. NYSDEC will review the report to be certain that the cleanup is protective of public health and the environment for the intended use of the site.

Certificate of Completion

When NYSDEC is satisfied that cleanup requirements have been achieved or will be achieved for the site, it will approve the final engineering report. NYSDEC then will issue a Certificate of Completion (COC) to the Applicant. The COC states that cleanup goals have been achieved, and relieves the Applicant from future liability for site-related contamination, subject to certain conditions. The Applicant would be eligible to redevelop the site after it receives a COC.

Site Management

The purpose of site management is to ensure the safe reuse of the property if contamination will remain in place. Site management is the last phase of the site cleanup program. This phase begins when the COC is issued. Site management incorporates any institutional and engineering controls required to ensure that the remedy implemented for the site remains protective of public health and the environment. All significant activities are detailed in a Site Management Plan.

An *institutional control* is a non-physical restriction on use of the site, such as a deed restriction that would prevent or restrict certain uses of the property. An institutional control may be used when the cleanup action leaves some contamination that makes the site suitable for some, but not all uses.

An *engineering control* is a physical barrier or method to manage contamination. Examples include: caps, covers, barriers, fences, and treatment of water supplies.

Site management also may include the operation and maintenance of a component of the remedy, such as a system that pumps and treats groundwater. Site management continues until NYSDEC determines that it is no longer needed.

Appendix A -
Project Contacts and Locations of Reports and Information

Project Contacts

For information about the site's investigation and cleanup program, the public may contact any of the following project staff:

New York State Department of Environmental Conservation (NYSDEC):

Christopher Eighmey
Project Manager
NYSDEC Region 7
Division of Environmental Remediation
5786 Widewaters Parkway
Syracuse, NY 13214
(315) 426-7400
Christopher.Eighmey@dec.ny.gov

Karry McElroy
Public Participation Specialist
NYSDEC Region 7
5786 Widewaters Parkway
Syracuse, NY 13214-1867
(315) 426-7400
Info.r7@dec.ny.gov

New York State Department of Health (NYSDOH):

Christine Vooris
Project Manager
NYSDOH
Bureau of Environmental Exposure Investigation
Empire State Plaza – Corning Tower Room 1787
Albany, NY 12237
(518) 402-7860
christine.vooris@health.ny.gov

Locations of Reports and Information

The facilities identified below are being used to provide the public with convenient access to important project documents:

DEC Info Locater Link for Site Information:
https://extapps.dec.ny.gov/cfmx/extapps/derexternal/haz/details.cfm?ProgNo=C734164

Mundy Branch Library
1204 S Geddes Street
Syracuse, NY 13204
Attn: Annemarie Gregory
Phone: **(315) 435-3797**
Hours: 9am to 5pm (call for appointment)

NYSDEC Region 7
5786 Widewaters Parkway
Syracuse, NY 13214
Attn: Christopher Eighmey
Phone: (315) 426-7400
Hours: 8am to 5pm (call for appointment)

Appendix B - Site Contact List

Local Government

City of Syracuse:

Ben Walsh
City of Syracuse Mayor
City Hall
233 East Washington Street
Syracuse, NY 13202
Tel: (315) 448-8005
Fax: (315) 448-8067
Email: mayor@syrgov.net

Owen Kerney
City of Syracuse Planning and Sustainability
City Hall Commons
201 East Washington Street, Suite 512
Syracuse, NY 13202
Tel: (315) 448-8160
Email: planning@syr.gov

Onondaga County:

J. Ryan McMahon, II
Onondaga County Executive
John H. Mulroy Civic Center
421 Montgomery Stret, 14th Floor
Syracuse, New York 13202
Tel: (315) 435-3516
Fax: (315) 435-8582

Dan Kwasnowski, AICP, Planning Director
Syracuse-Onondaga County Planning Agency
John H. Mulroy Civic Center
421 Montgomery Street, 11th Floor
Syracuse, New York 13202
Tel: (315) 435-2611
Fax: (315) 435-2439

Katelyn Wright, Executive Director
Greater Syracuse Land Bank
431 E. Fayette Street, Suite 375
Syracuse, NY 13202
Tel: (315) 422-2301

Residents, Owners, and Occupants of the Property and Adjacent Properties

Please note that the names, addresses, and email addresses of adjacent property owners and residents are not placed in versions of this document available to the public. Instead, they are maintained confidentially in the NYSDEC Project Manager's files.

Tax Parcel 099.-03-02.1 & 02.2
1153 Owner LLC

Tax Parcel 099.-03-06.0
Nik Realty LLC

Tax Parcel 099.-03-01.0
City of Syracuse

Tax Parcel 109.-09-20.0
Syr/Bing/NY Railroad Corp

Tax Parcel 099.-03-05.0
Tabunichikow & Vladislaw Inc

Tax Parcel 099.-03-03.0
BNZ1117, LLC, Dannan Realty LLC, and Case1117 LLC

Local Media

Local Newspaper:

Syracuse Post Standard
220 South Warren Street
Syracuse, New York 13202
Tel: (315) 470-0011
Web: http://www.syracuse.com

Local Television:

WSYR – TV Channel 9
1000 Hiawatha Boulevard
Syracuse, New York 13204
Tel: (315) 446-9900
Web: http://www.localsyr.com

WSTM, WSTQ, WTVH – TV Channel 3, 5, CW6
1030 James Street
Syracuse, New York 13203
Tel: (315) 477-9400
Web: http://www.cnycentral.com

Radio:

WSYR 570 AM Radio
500 Plum Street
Syracuse, New York 13204
Tel: (315) 472-9797
Web: http://www.wsyr.iheart.com

WCNY 91.3 FM Radio
P.O. Box 2400
Syracuse, New York 13220-2400
Tel: (315) 453-2424
Web: http://www.wcny.org

Local Water Supplier

Onondaga County Water Authority
P.O. Box 4949
Syracuse, New York 13221-4949

Persons Requesting to be Placed on Contact List

To be completed as necessary.

School and Day Care Facilities

There are several schools or day care facilities located on or in the vicinity (1 mile) of the proposed BCP Site.

Schools:

Public Service Leadership Academy at Fowler
Syracuse CSD
227 Magnolia Street
Syracuse, NY 13204
Principal: Richard Romeo
Tel: (315) 435-4376

Syracuse STEM at Blodgett Middle School
Syracuse CSD
312 Oswego Street
Syracuse, New York 13204
Principal: Harry Valentin, Ph.D.
Tel: (315) 435-6431

Seymour Dual Language Academy
Syracuse CSD
108 Shonnard Street
Syracuse, New York 13204
Principal: James Nieves
Tel: (315) 435-4645

Bellevue Elementary School
Syracuse CSD
530 Stolp Avenue
Syracuse, New York 13207
Principal: Lessie Williams
Tel: (315) 435-4520

SAS High School
Private School
1001 Park Avenue
Syracuse, New York 13204
Superintendent: Dr. Tolga Hayali, Ed.D.
Tel: (315) 428-8997

Most Holy Rosary School
Private School
1031 Bellevue Avenue
Syracuse, New York 13207
Principal: Sherri Stone
Tel: (315) 476-6035

Delaware Primary School
Syracuse CSD
900 South Geddes Street
Syracuse, New York 13204
Principal: Moshiena Faircloth
Tel: (315) 435-4540

Frazer Pre-K-8 School
Syracuse CSD
741 Park Avenue
Syracuse, New York 13204
Principal: Latrina Brumfield
Tel: (315) 435-4555

Porter Elementary School
Syracuse CSD
512 Emerson Avenue
Syracuse, New York 13204
Principal: Lisa Quinones-Sherman
Tel: (315) 435-4625

All Saints Elementary School
Private School
112 South Wilbur Avenue
Syracuse, New York 13204
Principal: Grace Glennon
Tel: (315) 422-3140

Parkview Junior Academy
Private School
412 Avery Avenue
Syracuse, New York 13219
Principal: Unknown
Tel: (315) 468-0117

Vincent House Preschool
Private School
500 Seymour Street
Syracuse, New York 13204
Principal: Unknown
Tel: (315) 475-9844

Daycares:

Yahel's Day Care Home
815 South Wilbur Avenue
Syracuse, New York 13204
Director: Unknown
Tel: (315) 423-9151

Tiny Giants Daycare
315 Kellogg Street
Syracuse, New York 13204
Director: Unknown
Tel: (315) 218-6428

PEACE, Inc. Genesee Head Start
1125 West Genesee Street
Syracuse, New York 13204
Executive Director: Carolyn D. Brown
Tel: (315) 488-0987

Cosby WeeCare Daycare
310 Midland Avenue
Syracuse, New York 13202
Director: Lartesha
Tel: (845) 254-0284

It Takes a Village, Syracuse LLC
146 Lakeview Avenue
Syracuse, New York 13204
Director: Unknown
Telephone: (315) 516-2235

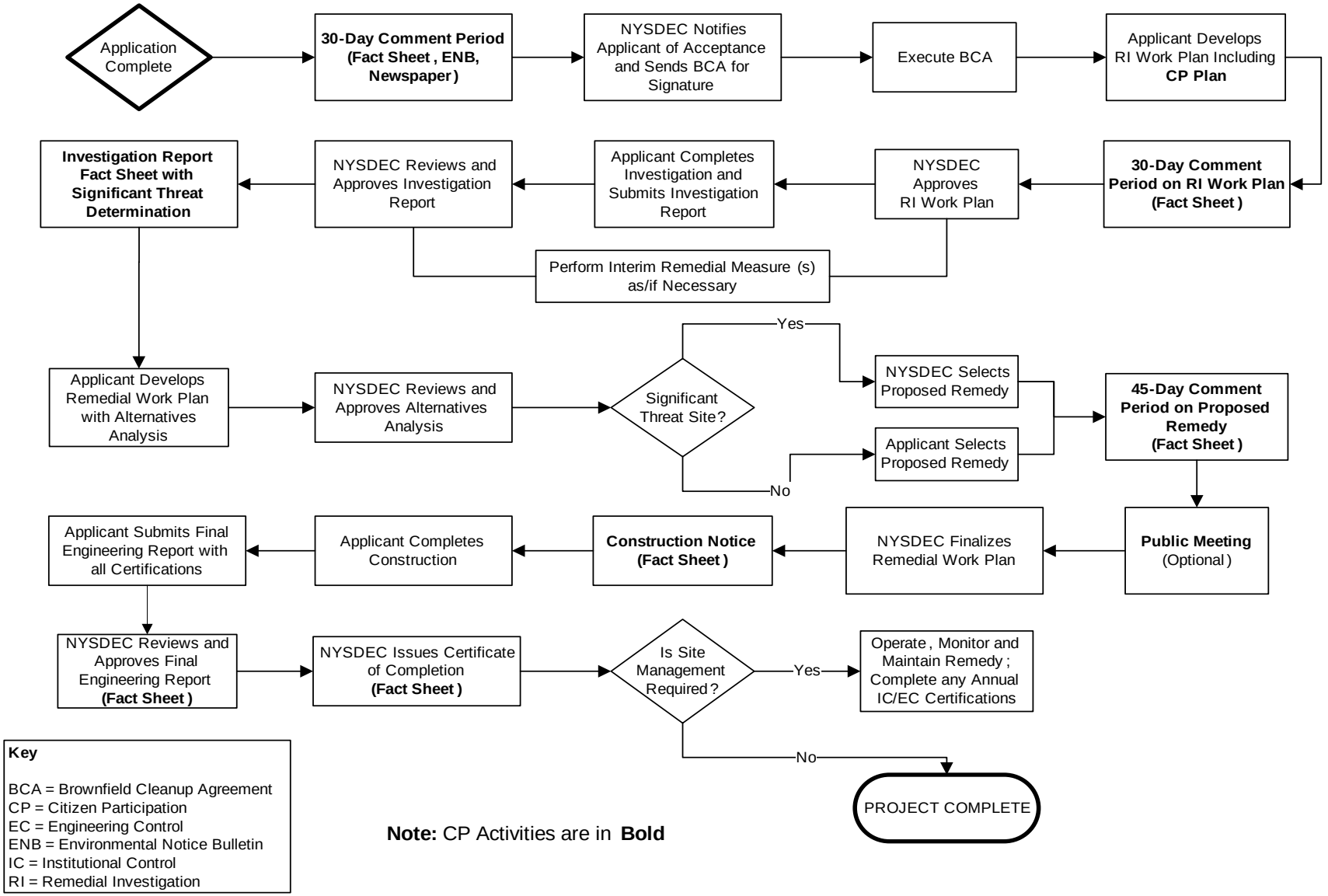
Jessica's Daycare
310 Hartson Street
Syracuse, New York 13204
Director: Unknown
Tel: (315) 439-3342

All About Me Childcare Center
422 West Onondaga Street
Syracuse, New York 13202
Director: Unknown
Tel: (315) 913-3990

Children's Beginnings
100 South Clinton Street, Suite 169
Syracuse, NY 13261
Director: Unknown
Tel: (315) 448-0980

Appendix C - Site Location Map

Appendix D– Brownfield Cleanup Program Process



Note: CP Activities are in **Bold**

Appendix N

Remedial Action Costs

Summary of Estimated Costs - Remedial Action

1153-69 West Fayette Street BCP Site (No. C734164)

1153-69 West Fayette Street, Syracuse, New York

Category	Unit Rate	Number	Units	Estimated Cost	Notes
Site Mobilization	$29,334.00	1	LS	$29,334	- Mobilization of equipment and personnel
Erosion, Sediment, Dust Control	$22,824.00	1	LS	$22,824	- Erosion control material and silt fence
Site Demolition & Clearing	$59,830.00	1	LS	$59,830	- Loading dock demolition and site removals
Site Control / Security	$20,000.00	1	LS	$20,000	- Temporary fencing around the perimeter
Soil Disposal Composite Sampling	$950.00	3	Sample	$2,850	- Characterization samples for estimated 1400 CY of soil disposal
Soil Disposal Discrete Sampling	$100.00	9	Sample	$900	- Characterization samples for estimated 1400 CY of soil disposal
Stone Base Characterization Composite Sampling	$950.00	3	Sample	$2,850	- Characterization samples for estimated 1200 CY of stone import
Stone Base Characterization Discrete Sampling	$100.00	9	Sample	$900	- Characterization samples for estimated 1200 CY of stone import
Imported Soil Characterization Composite Sampling	$950.00	2	Sample	$1,900	- Characterization samples for estimated 350 CY of topsoil import
Imported Soil Characterization Discrete Sampling	$100.00	4	Sample	$400	- Characterization samples for estimated 350 CY of topsoil import
Site Excavation	$15.00	1400	CY	$21,000	- Removal of paving, curbing, sidewalks and disposal at recycling facility
Contaminated Soil Transport and Disposal	$120.00	1400	CY	$168,000	- Haul and disposal of contaminated soil and disposal at permitted landfill
Stone Base Procurement and Placement	$30.00	1200	CY	$36,000	- Import of stone base for pervious and impervious cover systems
Fine Grade Procurement and Placement	$1.00	25760	SF	$25,760	- Import of fine grade for pervious cover system
Demarcation Fabric	$1.00	25760	SF	$25,760	- Demarcation fabric for pervious cover system
Impervious Cover System Elements (Pavement)	$252,000.00	1	LS	$252,000	- Asphalt pavement for impervious parking lots
Impervious Cover System Elements (Sidewalks and Curbs)	$137,000.00	1	LS	$137,000	- Concrete for impervious sidewalks and curbs
Pervious Cover System Elements (Soil)	$73.50	350	CY	$25,725	- Import of topsoil for pervious cover system
Pervious Cover System Elements (Seeding)	$0.10	17500	SF	$1,750	- Seeding for pervious cover system
Site Survey	$20,000.00	1	LS	$20,000	- Survey of site and cover systems following throughout construction
Inspections of Remedy	$15,000.00	1	LS	$15,000	- Yearly inspections of remedy following construction
SVE System IRM	$50,000.00	1	LS	$50,000	- Installation, monitoring, and end-point sampling for SVE system
SSDS (if needed)	$50,000.00	1	LS	$50,000	- SSDS only required for soil vapor mitigation if SVE system fails
C&S Construction Oversight	$20,000.00	3	Months	$60,000	- Three months of C&S oversight during intrusive work
C&S Reporting	$35,000.00	1	LS	$35,000	- Preparation of SMP and FER for submission to NYSDEC
Subtotal				**$1,064,783**	
Contingency	20 percent			$212,956.60	
Construction Subtotal				**$1,277,739.60**	
Annual Certification	$3,000.00	Year	30	$90,000.00	
TOTAL				**$1,367,739.60**	

Appendix O

Request to Import / Reuse Fill Material

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Request to Import/Reuse Fill or Soil

This form is based on the information required by DER-10, Section 5.4(e) and 6NYCRR Part 360.13. Use of this form is not a substitute for reading the applicable regulations and Technical Guidance document.

SECTION 1 – SITE BACKGROUND

The allowable site use is: Choose an item

Have Ecological Resources been identified? Choose an item

Is this soil originating from the site? Choose an item

How many cubic yards of soil will be imported/reused? Choose an item

If greater than 1000 cubic yards will be imported, enter volume to be imported:

SECTION 2 – MATERIAL OTHER THAN SOIL

Is the material to be imported gravel, rock or stone? Choose an item

Does it contain less than 10%, by weight, material that passes a size 100 sieve? Choose an item

Is this virgin material from a permitted mine or quarry? Choose an item

Is this material recycled concrete or brick from a DEC registered processing facility? Choose an item

SECTION 3 - SAMPLING

Provide a brief description of the number and type of samples collected in the space below:

Example Text: 5 discrete samples were collected and analyzed for VOCs. 2 composite samples were collected and analyzed for SVOCs, Inorganics & PCBs/Pesticides.

If the material meets requirements of DER-10 section 5.4(e)5 (other material), no chemical testing needed.

SECTION 3 CONT'D - SAMPLING

Provide a brief written summary of the sampling results or attach evaluation tables (compare to DER-10, Appendix 5):

Example Text: Arsenic was detected up to 17 ppm in 1 (of 5) samples; the allowable level is 16 ppm.

If Ecological Resources have been identified use the "If Ecological Resources are Present" column in Appendix 5.

SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

Location where fill was obtained:

Identification of any state or local approvals as a fill source:

If no approvals are available, provide a brief history of the use of the property that is the fill source:

Provide a list of supporting documentation included with this request:

The information provided on this form is accurate and complete.

_____ _____

Signature Date

_____

Print Name

_____

Firm

Revised April 2023