Periodic Review Report No. 6
30 January 2022 – 30 January 2025
National Heatset Printing Co. Site (152140)

Town of Babylon
Suffolk County, New York

Prepared for
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau E
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Albany, New York 12233-7017

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May 2025
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EA Project No. 1602518

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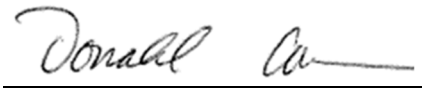

16 May 2025

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LIST OF ACRONYMS AND ABBREVIATIONS

µg/L	Microgram(s) per liter
µg/m^3	Microgram(s) per cubic meter
AWQS	Ambient Water Quality Standard
bgs	Below ground surface
CMT	Continuous multi-channel tubing
CMWP	Corrective Measures Work Plan
CVOC	Chlorinated volatile organic compound
DCE	Dichloroethene
DDC	Density driven convection
DER	Division of Environmental Remediation
EA	EA Engineering and Geology, P.C.
EC	Engineering control
EIT	Engineer-In-Training
EN	Environmental notice
FS	Feasibility study
GAC	Granular activated carbon
GHG	Greenhouse gas
HPT	Hydraulic profiling tool
IC	Institutional control
lb	Pound(s)
MIP	Membrane interface probe
MW	Monitoring well
NHP	National Heatset Printing Co.
No.	Number
NYSDEC	New York State Department of Environmental of Conservation
NYSDOH	New York State Department of Health
O&M	Operation and maintenance
PCE	Tetrachloroethene
PID	Photoionization detection
PE	Professional Engineer

PG	Professional Geologist
ppb	Part(s) per billion
ppm	Part(s) per million
PRR	Periodic Review Report
RA	Remedial action
RD	Remedial design
RI	Remedial investigation
ROD	Record of decision
RSO	Remedial system optimization
SCDHS	Suffolk County Department of Health Services
SCG	Standards, Criteria, and Guidance
Shaw	Shaw Environmental
site	National Heatset Printing Co. site
SMP	Site Management Plan
SVE	Soil vapor extraction
TCE	Trichloroethene
VOC	Volatile organic compound
VP	Vapor point

ES. EXECUTIVE SUMMARY

The New York State Department of Environmental Conservation (NYSDEC) tasked EA Engineering and Geology, P.C. (EA) to provide site management services beginning 18 November 2021 at the National Heatset Printing Co. site ([site] Number 152140) in Babylon, Suffolk County, New York (**Figure 1**). This Work Assignment is being conducted under NYSDEC Standby Engineering Services Contract Number D009806.

Operation, maintenance, and monitoring program activities have been conducted at the National Heatset Printing Co. site since April 2013 in accordance with the New York State Inactive Hazardous Waste Disposal Site Remedial Program and as stipulated in the Record of Decision (NYSDEC 1999) and Site Management Plan (EA 2013a) to attain identified cleanup goals. EA had previously performed site management for the site from 2013 to February 2020 under multiple contracts; Environmental Assessments and Remediation performed site management for the site from March 2020 to December 2020.

The purpose of this Periodic Review Report is to summarize the results of the 30 January 2022 through 30 January 2025 annual groundwater monitoring, system air monitoring, annual site inspections, and monthly operation and maintenance events; evaluate the effectiveness of the remedial actions implemented at the site; and provide sufficient documentation that the remedy remains in place, is performing properly and effectively, and is protective of public health and the environment. Specifically, this report provides the following information:

- Results of annual groundwater monitoring
- Evaluation of the current groundwater quality conditions
- Results of quarterly system air monitoring
- Results of site inspections and operation and maintenance visits
- Maintenance activities performed
- Remedial Site Optimization activities conducted

This report also documents any problems or changes necessary for the site to be in compliance with the Site Management Plan, including removal of Institutional Controls/Engineering Controls that are no longer applicable; modifications in monitoring requirements, as applicable; or a Corrective Action Work Plan and schedule, as necessary.

ES.1 EFFECTIVENESS OF REMEDIAL PROGRAM

Groundwater Monitoring

Groundwater sampling was completed at the on-site and off-site monitoring well networks on an annual basis (every 5 quarters) during the 30 January 2022 through 30 January 2025 reporting period. Groundwater concentrations of total chlorinated volatile organic compounds were generally steady in both on-site and off-site monitoring wells.

System Influent/Effluent Air Monitoring

Influent/effluent system air sampling at the soil vapor extraction (SVE) system was completed on a quarterly basis.

Site Inspection and Maintenance

Site inspections and maintenance were completed on a quarterly basis during site visits associated with system operation and maintenance. A more detailed annual inspection was performed in August 2022, March 2023, and May 2024. The fencing, locks, and access gates/doors were in good condition during each visit. Both the asphalt/concrete areas and the grassy areas were in good condition. There was no evidence of vandalism observed to the density driven convection wells, treatment systems, or utilities, and penetrations (including poles, posts, or stakes) were not observed. Some monitoring wells were filled with soil or bentonite but were cleared out. One monitoring well was paved over.

The SVE system and surrounding areas were generally observed to be in good condition during each annual inspection. No evidence of vandalism to the SVE treatment system and outdoor manifold was observed.

ES.2 COMPLIANCE

The SVE treatment system was generally operational during the reporting period. The majority of the downtime was due to issues with the electric panel, which was repaired in 2024. Density driven convection systems are no longer in operation based on recommendations in the Corrective Measures Work Plan prepared by EA (EA 2022a).

ES.3 RECOMMENDATIONS

Based on this review, EA proposes the following recommendations:

- A Draft Pilot Work Plan was prepared by EA (EA 2025) that details in situ chemical reduction injections to be conducted in the saturated zone down to 85 feet below ground surface both behind and beneath the building at 1 Adams Boulevard.

- Site management tasks as defined in the current version of the SMP should continue during the next period (2025–2028).

1. SITE OVERVIEW

1.1 LOCATION

The National Heatset Printing Co. (NHP) site (site) is currently a Class 4 site listed on the New York State Department of Environmental Conservation (NYSDEC) Registry of Inactive Hazardous Waste Sites (Number [No.] 152140). The site is located at 1 Adams Boulevard in the Hamlet of Farmingdale, Town of Babylon, Suffolk County, New York, and is identified as Block 1.00 and Lot 20.001 on the Town of Babylon Tax Map No. 132.20-1-3.2. A site location map is presented in **Figure 1**. The site is currently owned by 1 Adams Boulevard Realty Corporation, managed by Finkelstein Realty, and is currently unoccupied. The site contains one industrial building and is 4.5 acres in size. The site is located in an industrial area and is bounded by railroad tracks to the north, Adams Boulevard and an industrial property to the south, an industrial property to the east, and an industrial property to the west (**Figure 2**).

NHP occupied a portion of this building from July 1983 to April 1989. NHP operations consisted of lithographic tri-color printing of newspaper and periodical advertisements and the manufacture of lithographic printing plates. NHP had been using organic solvents at the site since 1983. An inspection by the Suffolk County Department of Health Services (SCDHS) in 1983 revealed that NHP was discharging photo-plating waste to the on-site sanitary system. In March 1986, an inspection performed by the SCDHS revealed strong evidence of dumping from staining inks and oils on the ground. The inspection report indicated that drums were being stored improperly both inside and outside the building.

NHP filed for bankruptcy in 1987. The SCDHS discovered that after filing for bankruptcy, NHP disposed of its chemical inventory by dumping the materials onto the soil and into a leaching pool located off the rear of the building in the northeast side of the property.

In February 1988, a water sample collected by SCDHS from the leaching pool off the northeast side of the building contained elevated levels of volatile organic compounds (VOCs) (i.e., 24,000 parts per billion [ppb] of 1,2-dichloroethene [DCE] and 1,000 ppb of p-ethyltoluene). At the request of SCDHS, the leaching pool bottom sediments were excavated to a depth of 15 feet and end-point samples were collected in November 1988. The end-point soil samples indicated that the remaining leaching pool sediment still contained elevated levels of VOCs (i.e., 13,000 parts per million (ppm) of tetrachloroethene [PCE]).

1.2 GEOLOGY AND HYDROGEOLOGY

The geologic formations that underlie Suffolk County are composed of a series of thick deposits of unconsolidated water-bearing sediments of late Cretaceous and Pleistocene age. These unconsolidated deposits are underlain by crystalline bedrock of Precambrian age. The site is located approximately 4 miles north of South Oyster Bay, which is just north of Jones Beach Island and the Atlantic Ocean. The site topography and surrounding area is relatively flat.

There are three primary water-bearing aquifers underlying Suffolk County. These aquifers, from shallow to deep, are the Upper Glacial, Magothy, and Lloyd. The aquifers are considered to be hydraulically connected, with the Glacial and Magothy contributing recharge for the underlying

Lloyd aquifer. Together, they are a federally designated sole source of drinking water for Long Island.

During the glacial retreat, the area was covered with outwash deposits that constitute most of the Upper Glacial aquifer of Long Island. Because these sand and gravel deposits contain virtually no interstitial clay and silt, the Upper Glacial aquifer is the most permeable. The estimated average horizontal hydraulic conductivity of the outwash is from 1,000 to 1,500 gallons per day/square feet. The direction of groundwater movement through Long Island's aquifers is horizontal and is generally more rapid than the movement in the vertical direction. This arises because of an anisotropic effect; the largest dimensions of particles in the interbedded fine- and coarse-grained layers tend to be oriented horizontally.

Groundwater in the Upper Glacial aquifer flows away from two major highs on the main water table divide on Long Island. The general directions of groundwater flow of the island are north toward the Long Island Sound and south toward the Great South Bay. Groundwater has been encountered on-site at depths ranging from approximately 4 to 19 feet below ground surface (bgs). Based on site-specific data, local groundwater flow at the site moves south to southeast toward the Great South Bay with a gradient of 0.0016 foot/foot and velocity of approximately 0.454 feet/day. Overburden groundwater flow is shown on **Figures 3 and 4**.

1.3 NATURE AND EXTENT OF CONTAMINATION – PRE-REMEDIAL ACTION

A remedial investigation (RI)/feasibility study (FS) was performed at the site in 1999 to determine the nature and extent of contamination in on-site soil, determine the on-site and off-site groundwater conditions, evaluate potential qualitative risks to human health and the environment of site-related contaminants, and determine the best remedial technology to remediate soil and groundwater contamination on-site and off-site. The results of the RI are described in detail in the RI/FS Report (H2M 1999). Potential remedial alternatives for the site were identified, screened, and evaluated in the FS. The RI/FS report is summarized as follows:

- Six surface soil samples were obtained from 0 to 6 inches bgs at the leaching pool area and were tested for VOCs. None of the surface soils exhibited concentrations exceeding NYSDEC recommended soil cleanup objectives included in the Technical and Administrative Guidance Memorandum 4046: Determination of Soil Cleanup Objectives and Cleanup Levels (NYSDEC 1994).

- Subsurface soil samples were collected from saturated and unsaturated soils to characterize the extent of contamination from the leaching pool. Prior to the RI, contaminated soils in the source area were excavated down to 15 feet bgs and were backfilled with clean sand under the supervision of the SCDHS. Analytical results revealed no soil contaminants in unsaturated soils, which are above 15 feet bgs. PCE was detected in the saturated soils located directly below the leaching pool at concentrations exceeding the NYSDEC recommended soil cleanup objective. The exceedances ranged from 8.2 to 7,700 ppm.

- Twelve groundwater monitoring wells were sampled including 1 upgradient, 7 on-site, and 4 downgradient wells. Seventy-four in situ groundwater samples were also obtained, including 8 upgradient, 39 on-site, and 27 downgradient. The results are as follows:

  — Elevated concentrations of PCE, trichloroethene (TCE), and 1,2-DCE were detected in the Geoprobe® groundwater samples obtained below the on-site leaching pool. Concentrations of PCE (496–7,690 ppb), TCE (162–9,620 ppb), and 1,2-DCE (124–12,200 ppb) exceeded the NYSDEC groundwater standard of 5 ppb. Samples from shallow and deep monitoring wells below the leaching pool exhibited concentrations ranging from 210 to 330 ppb. Chlorinated volatile organic compound (CVOC)-contaminated groundwater was observed to be migrating off-site in a southeast direction.

- In summary, the RI determined that, based on the Standards, Criteria, and Guidance (SCGs) for the site, subsurface soil and groundwater contained VOCs contamination that was to be addressed in the remedy selection.

Based on the RI and FS (H2M 1999), NYSDEC issued a Record of Decision (ROD) document dated 17 June 1999 (NYSDEC 1999), which identified the selected remedy for the site, cleanup objectives/goals, and site closure criteria.

1.4 REMEDIAL ACTION OBJECTIVES

The overall remedial goal for the site is to meet all SCGs and be protective of human health and the environment.

The remedial goals for this site, as presented in the ROD, are as follows:

- Eliminate, to the extent practicable, the source area contamination by remediating the groundwater directly below the leaching pool.

- Eliminate, to the extent practicable, ingestion of groundwater affected by the site that does not attain New York State Department of Health (NYSDOH) drinking water standards.

- Eliminate, to the extent practicable, further off-site migration of groundwater that does not attain NYSDEC Class GA Ambient Water Quality Criteria (AWQS).

1.5 SUMMARY OF REMEDIAL ACTIONS

Potential remedial alternatives for the site were identified, screened, and evaluated in the FS. Based on the RI and FS (H2M 1999), NYSDEC issued the ROD (NYSDEC 1999), which identified the selected remedy for the site. The remedy included groundwater treatment using pump and treat or alternate technologies (i.e., in situ chemical oxidation, in-well vapor stripping) for three locations: (1) source area, (2) downgradient edge of the site, and (3) downgradient edge of the off-site plume (**Figure 2**). Until 2021, the site was being remediated in accordance with the ROD, which was

implemented via two construction contracts (awarded to EnviroTrac in 2004 and EarthTech/AECOM in 2006) and the SVE work plan (Shaw Environmental [Shaw] 2003) as described below. The following sections describe the remedial design (RD) and remedial action (RA) efforts conducted at the site. A remedial system optimization (RSO) effort is currently in progress, which is also detailed in the subsections below.

1.5.1 On-Site Source Area

The remedy in the ROD was refined during the RD. An additional investigation performed during the RD concluded that injection of sodium and potassium permanganate would be the most effective source area remedy. Therefore, an RD and construction contract (Contract No. D005272) was prepared by Shaw for implementation of this technology. The injection was conducted in 2005 via 24 monitoring wells in 10 locations (nested pairs or trios). CVOC concentrations in groundwater collected from within the treatment area in the year following the injection activities were observed to decrease, as described in the Permanganate Injection System Remedial Action Report (O'Brien and Gere 2007).

Due to the presence of PCE in soil samples collected from beneath the on-site building's slab and indoor air samples collected during the RD (2001), NYSDEC installed a soil vapor extraction (SVE) system to remediate the contaminated soil beneath the building slab and address potential vapor intrusion. This SVE system consisted of a single monitoring well that was converted into an SVE point.

The SVE system ran from 2002 to 2014, when the vertical extraction well was converted to a buried horizontal screen, to accommodate the daily operations of a new building tenant, and to improve the capacity for extraction. In February 2016, sub-slab soil and soil vapor sampling was performed at the 1 Adams Boulevard building as part of an overall RSO program. Five vapor points (VPs) were installed in soil borings advanced through the building foundation based on field screening using a photoionization detector (PID) and laboratory analysis of soil samples for CVOCs. The five sub-slab soil vapor samples and indoor air samples, collected from the new VPs using 8-hour regulated Summa canisters while the SVE system was not running, contained PCE exceeding the NYSDOH Air Guidance Values (NYSDOH 2015) for PCE (30 micrograms per cubic meter [$\mu g/m^3$]); concentrations ranged from 4,600 $\mu g/m^3$ (VP-19) to 36,000 $\mu g/m^3$ (VP-16). PCE was the only contaminant of concern detected in one of the indoor air samples below the NYSDOH guidance standard of 30 $\mu g/m^3$. A full description of the sampling plan and results of the 2016 investigation was presented in the Sampling and Delineation Memorandum for 1 Adams Boulevard (EA 2016a).

The results of the 2016 investigation were incorporated into follow-on modifications to the SVE system, which included five new horizontal wells connected to the SVE system through a manifold mounted to the south side of the treatment trailer in June 2016 (**Figure 5**). The system was restarted in August 2016 using all five wells simultaneously. A description of the construction activities (including as-built drawings) associated with the modification of the SVE system was presented in a Construction Completion Report (EA 2018). Throughout this reporting period, the system was operated using all five horizontal well legs.

1.5.2 Downgradient On-Site Area

Two density driven convection (DDC) systems were installed on the downgradient edge of the on-site groundwater plume. The intent of these two on-site DDC systems was to mitigate further migration of contaminants downgradient.

The previous standby engineer, O'Brien and Gere, managed the in-well stripping pilot test performed in 2006, which was accepted by NYSDEC. Based on the pilot test data, the effectiveness of the DDC system was determined and full scale on-site DDC system construction was implemented. For the two on-site groundwater treatment systems as well as the off-site groundwater treatment system (Section 1.5.3), NYSDEC awarded Contract No. D005539 to EarthTech/AECOM in 2006 to construct in-well vapor stripping systems. The system initially installed as part of the pilot test became known as On-site DDC System #1 (**Figure 2**). In 2010, as part of EarthTech/AECOM's contract, an additional DDC well was added to the pilot study system and a second on-site system (On-site DDC System # 2) was constructed (**Figure 2**). Both on-site treatment systems consist of two DDC wells. Detailed descriptions of the on-site remedial systems can be found in the current version of the Site Management Plan (SMP). The On-site DDC systems were in operation from 2006 and 2010 until 2021, when operations were discontinued based on discussions with NYSDEC and recommendations in the Corrective Measures Work Plan (CMWP) (EA 2022a).

1.5.3 Downgradient Off-Site Area

The intent of the Off-site DDC System was to capture contamination at the end of the plume and mitigate further migration of contaminants to the south-southeast. In 2012, the Off-site DDC System was constructed by EarthTech/AECOM under Contract No. D005539 at the Suffolk County Water Authority–Albany Avenue Well Field (**Figure 2**). The system consists of six DDC wells and two treatment trailers. Detailed descriptions of the above remedial systems can be found in the current version of the SMP. The Off-site DDC system was in operation from 2012 until 2021, when operations were discontinued based on discussions with NYSDEC and recommendations in the CMWP (EA 2022a).

1.5.4 Environmental Notice

NYSDEC prepared an Environmental Notice (EN) for the site, which was issued in lieu of an Environmental Easement/Deed Restriction as referenced in Division of Environmental Remediation (DER)-33. The document includes a map of the property subject to the EN, and identifies certain limitations, presented in Section 3.1.1, which apply to the cleanup of contamination disposed of at the property. The EN was prepared on 28 March 2013, recorded at the Suffolk County Clerk's Office on 16 April 2013, and provided as an attachment to the current version of the SMP.

1.5.5 Final Engineering Report

The Final Engineering Report (EA 2013b) was completed in August 2013 and details the remedial activities conducted at the NHP site.

1.6 REMAINING CONTAMINATION

Remedial work described in the on-site and off-site RA Work Plans (AECOM 2009, 2011) did not include soil removal; therefore, contamination was left in the subsurface soil and groundwater at this site, which is hereafter referred to as remaining contamination. The SMP was prepared to manage remaining contamination at the site.

1.6.1 Soil/Soil Vapor and Indoor Air

As previously mentioned, the SVE system was installed to remediate the remaining contaminated soil beneath the building slab and address potential vapor intrusion. The system has been remediating the soil and vadose zone since 2002 and was modified in 2014 and again in 2016 as described in section 1.5.1.

During the reporting period, VPs within 1 Adams Boulevard that were installed prior to SVE system modification in 2016 were screened quarterly using a PID. In addition, air samples were collected from SVE influent and effluent quarterly during the reporting period. VPs had concentrations of VOCs up to 3.2 ppm at VP-20 (**Figure 5**). Continued concentrations of VOCs in both VPs and SVE system influent indicate remaining contamination within the vadose zone.

1.6.2 Groundwater

Groundwater contamination is present on-site and off-site. The groundwater plume extends approximately 5,700 feet downgradient of the site. Historically, the highest concentrations of PCE in groundwater have been detected at approximately 80 feet bgs. Concentrations of VOCs greater than 1,000 ppb in groundwater have been present in the 75-85-foot sampling interval approximately 4,100 feet downgradient (south-southeast) of the site.

In May 2016, groundwater plume delineation activities were completed using a membrane interface probe (MIP) and hydraulic profiling tool (HPT) as part of an RSO program. The MIP was advanced at 25 sample locations via direct-push technology. Field data and observations from the MIP were used to select locations associated with the subsequent HPT sampling program. The HPT was advanced at 10 locations based on MIP data, and groundwater samples were collected and analyzed for CVOCs (EA 2017a). Data indicated concentrations of CVOCs in groundwater beneath the site from the water table interface down to the Gardiners Clay unit at approximately 80 feet bgs. The highest PCE, TCE, and DCE concentrations were detected in the deepest sampling intervals (75-80 feet bgs). The highest concentration of 670 microgram(s) per liter (µg/L) was in groundwater approximately 4,200 feet downgradient from the source area.

From June 2022 through March 2023, an RSO was conducted on-site due to elevated concentrations of CVOCs that continued to be observed in groundwater samples collected directly downgradient from the building at 1 Adams Boulevard. The RSO was focused on groundwater beneath the building footprint, and included hydraulic profiling, in situ groundwater sampling, continuous multi-channel tubing (CMT) installation, and site-wide groundwater sampling. During soil boring activities, dense non-aqueous phase liquid was identified at 83-85 feet bgs both behind the building (the original source area) and within the building footprint. Concentrations of PCE in in situ water samples collected from behind the building ranged from 140 to 27,400 µg/L;

concentrations of PCE in in situ water samples collected from within the building footprint ranged from 0.57 to 65,200,000 µg/L. An evaluation of technologies was completed, and in situ chemical reduction injections to target the dense non-aqueous phase liquid was recommended (EA 2024). EA is preparing a pilot work plan for in situ chemical reduction injections both behind and beneath the building (EA 2025).

Since contaminated soil, soil vapor, and groundwater remain at the on-site and off-site locations after completion of the RA, engineering controls (ECs) and institutional controls (ICs) are required to protect human health and the environment. The current version of the SMP provides a detailed description of all procedures required to manage remaining contamination at the site after completion of the RA, including: (1) implementation and long-term management of all ECs and ICs, (2) media monitoring, (3) operation and maintenance (O&M) of treatment, collection, containment, or recovery systems, (4) performance of periodic inspections, certification of results, and submittal of this Periodic Review Report (PRR), and (5) defining criteria for termination of treatment system operations. As of December 2021, the only system currently operating at the site is the SVE system.

1.7 SITE MANAGEMENT PLAN

The current version of the SMP details the future management of the NHP site. The SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the EN for contamination that remains at the site. Environmental monitoring points at the NHP site have been maintained and sampled during the monitoring period in accordance with the SMP. This included collection of groundwater and system influent/effluent air samples at various locations across the site, monthly O&M of the systems, annual inspections, and treatment system and monitoring well maintenance. Sampling locations, sampling methodology, list of analytes, analytical methods, inspection methodology, and site maintenance objectives are documented in the SMP.

The objectives of the monitoring and maintenance program are to:

- Collect representative groundwater and system influent/effluent air samples and evaluate the data to confirm that the remedy continues to be effective in protecting public health and the environment.
- Assess compliance with applicable NYSDEC SCGs, particularly ambient groundwater standards and assess achievement of the remedial performance criteria.
- Periodically inspect the site and provide routine maintenance, as necessary.
- Document and report this information to NYSDEC.

The current version of the SMP reflects changes to operation of the treatment systems and associated monitoring.

1.8 CRITERIA FOR COMPLETION OF REMEDIATION/TERMINATION OF REMEDIAL SYSTEM

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remediation goals identified by the ROD (NYSDEC 1999). The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10.

1.8.1 Soil Vapor Extraction System

The SVE system will continue to be monitored quarterly to determine whether the system remains necessary at the site or if the RA objectives were achieved. The decision to terminate operation of the SVE system will be based upon the evaluation of whether soil remediation is complete by assessing system performance/monitoring data, soil sampling results, and soil gas results. The following is a list of factors that may influence the commencement of shut down:

- System off-gas analysis:
  - — Total influent or individual VOCs extracted from area of influence are not evident.
  - — Total influent or individual VOCs extracted from area of influence reach predetermined level.
  - — Total influent or individual VOCs extracted from area of influence reach asymptotic conditions and design deemed adequate.
  - — No rebound is observed in influent concentrations upon system restart, following reasonable system shutdown period.
  - — Operation costs greatly exceed value of continued vapor removal (operator's decision).
- Soil gas analysis:
  - — Soil gas constituents collected from remediation area reach asymptotic conditions and extraction and monitoring system designs deemed adequate.
  - — Soil gas constituents collected from the remediation area indicate levels of non-detection with reasonable detection limits and concentrations.
  - — Soil gas constituents collected from the remediation area indicate low levels of residual mass that is no longer threat to groundwater.
  - — Soil gas concentrations do not significantly rebound following reasonable system shutdown period.

- Soil sample analysis:

  — Soil constituents collected from the area being remediated indicate concentrations below regulatory requirements or are not detected (confirmatory analyses).

The SVE system will not be discontinued unless prior written approval is granted by NYSDEC. If monitoring data indicate that the SVE system is no longer required, a proposal to discontinue the system will be submitted by the property owner.

1.8.2 Density Driven Convection Systems

The on-site and off-site DDC systems have been shut down due to high local water table and operational issues. The systems remain off as determined during meetings held with NYSDEC and as recommended in the Draft CMWP (EA 2022a).

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2. EVALUATION OF REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

This section provides a brief evaluation of remedy performance, effectiveness, and protectiveness at the NHP site, based upon assessment of historical groundwater data, mass removal rates, and system operation. Groundwater data are presented in **Tables 1, 2A,** and **2B**; mass removal data is provided in **Tables 3A** and **3B**. Additional discussions of remedy performance effectiveness in relation to groundwater data, system performance, and mass removal rates are provided in Sections 4 and 5 of this PRR.

2.1 SYSTEM OPERATION

The SVE system was operational 78 percent of the period (**Table 3A**). SVE system downtime was related to electric panel issues that have been repaired. Quarterly monitoring of differential pressures at VPs within 1 Adams Boulevard indicated that the system was effectively mitigating potential for soil vapor intrusion.

The DDC systems were not operational during the reporting period as recommended in the Draft CMWP (EA 2022a).

2.2 GROUNDWATER DATA

During this reporting period, the following data trends were noted:

- Total CVOC concentrations remained consistent in on-site deep groundwater monitoring wells (**Table 2A**).
- Concentrations in off-site nested wells (monitoring well [MW]-1S/MW-1D) upgradient from the Off-site DDC System have remained consistent since 2021 (**Table 2B**).
- Graphs showing CVOC concentration trends in site groundwater are presented in **Figures 6A, 6B, 6C,** and **6D**.

2.3 MASS REMOVAL

SVE system air monitoring/sampling has been continuously performed at the site since August 2008. Summaries of the CVOC mass recovery rates for the SVE system can be found in **Tables 3A** and **3B**. During the 30 January 2022 through 30 January 2025 reporting period, the following mass removal amounts were observed:

- Approximately 8 pounds (lb) of PCE, 0.4 lb of TCE, and 0.2 lb of DCE have been removed from the source area via the SVE system.
- Based upon the groundwater monitoring results, it does not appear that operation of the remedial systems is reducing total CVOC concentrations in source area soil and groundwater.

- Based upon the mass removal results, it appears that the SVE system operation is capable of extracting CVOC mass from on-site soil when the system is operational.

- Mass recovery observed at the SVE system continues to remain consistent with previous years; increased recovery was noted when all five HSVE legs were opened. This is an indication of a remaining source of contamination.

3. INSTITUTIONAL CONTROLS/ENGINEERING CONTROLS PLAN COMPLIANCE REPORT

The current version of the SMP (EA 2022b) presents the following ICs/ECs.

3.1 INSTITUTIONAL CONTROLS/ENGINEERING CONTROLS REQUIREMENTS AND COMPLIANCE

Since contamination remains in on-site soil, soil vapor, and on-site and off-site groundwater, ICs and ECs are required to protect human health and the environment.

3.1.1 Institutional Controls

A series of ICs are required by the ROD (NYSDEC 1999) to: (1) implement, maintain, and monitor EC systems, (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination, and (3) limit the use and development of the site to industrial uses only. ICs consist of the following:

- Compliance with the current version of the SMP (EA 2022b)
- Compliance with the EN. ICs identified in the EN may not be discontinued without an amendment to or extinguishment of the EN. The site has a series of ICs in the form of site restrictions which include the following:
  - The property may only be used for industrial use provided that the long-term ECs and ICs are employed.
  - The property may not to be used for a higher level of use, such as unrestricted, restricted residential, or commercial uses without additional remediation and amendment of the EN, as approved by NYSDEC.
  - There shall be no disturbance or excavation of the property that threatens the integrity of the ECs or that results or may result in a significantly increased threat of harm or damage at any site as a result of exposure to soils.
  - The use of the groundwater underlying the property is prohibited without treatment, rendering it safe for intended use unless the user first obtains permission to do so from NYSDEC.
  - The potential for vapor intrusion must be evaluated for any buildings developed within the site boundaries, and any potential impacts that are identified must be monitored or mitigated.
  - Vegetable gardens and farming on the property are prohibited.

— Site owner or remedial party will submit to NYSDEC a written statement that controls employed at the Controlled Property are unchanged or any changes have approval of NYSDEC.

- Development of an Excavation Work Plan (included as an appendix to the SMP [EA 2022b]), which identifies the procedures and protocols required to be implemented should any remaining contamination be breached, penetrated, or temporarily removed
- Compliance with O&M Plan (as defined in the current version of the SMP [EA 2022b])
- Compliance with Monitoring Plan (as defined in the current version of the SMP [EA 2022b])
- Compliance with IC/EC Plan (as defined in the current version of the SMP [EA 2022b])

3.1.2 Engineering Controls

The on-site SVE system is currently the only EC in place. As of December 2021, the DDC systems have ceased operations, in accordance with meetings held with NYSDEC and CMWP (EA 2022a). A description of each EC, their objective(s), and an explanation of how the performance of each EC is evaluated are provided below.

3.1.2.1 Soil Vapor Extraction System

Objectives

The objective for the SVE system includes soil remediation and mitigation of potential exposure to indoor air impacted with VOCs within the site building. The SVE system was designed to operate continuously. To achieve the remedial objectives, long-term monitoring programs are in place to monitor the effectiveness of the SVE system.

Description

The equipment associated with SVE is housed in an enclosure (20 feet long by 8 feet wide by 8 feet high) located adjacent to the north wall of the site building. Modifications to the system were made in Spring/Summer 2016. In August 2016, five horizontal well legs were installed oriented east to west beneath the 1 Adams Boulevard building. The modified system has been in use since it was installed. The five wells are connected to the SVE system via underground piping to the manifold housed on the exterior of the system enclosure. Inside the enclosure, the 2-inch diameter SVE piping contains a ball valve and gate valve to control the airflow and vacuum, as well as sampling ports for drawing air samples and conducting flow measurements. The 2-inch piping is connected to the existing vacuum blower designed to extract a maximum of 400 cubic feet per minute of airflow from the subsurface. Vapors from the source area are extracted by applying vacuum via the blower system. A 10-horsepower regenerative blower develops a maximum vacuum of approximately 98 inches of water. Vapors extracted from below the building

foundation are treated through two treatment vessels containing granular activated carbon (GAC) before being discharged to the atmosphere.

Evaluation Methods

Performance monitoring data showing mass removal rates versus time is used to evaluate trends for the source area. The SVE system is currently monitored on a quarterly basis to evaluate system performance, to assure that all components are in working order, and to maintain compliance with the requirements of a NYSDEC Air Discharge Permit.

Monitoring the performance of the SVE system (i.e., off-gas samples, air concentration readings) in reducing contaminant concentrations in soils is necessary to determine the effectiveness of the SVE system. The mass removed during long-term monitoring can be calculated using vapor concentration and flow rate measurements taken at the manifold. The instantaneous and cumulative mass removal is then plotted versus time. The contaminant mass removed during an operating period can be calculated using the equation provided below:

$M = C \times Q \times t$

where: M = Cumulative mass removed
C = Vapor concentration
Q = Extraction flow rate
t = Operational period

Remedial progress of SVE systems typically exhibits asymptotic behavior with respect to both vapor concentration reduction and cumulative mass removal as the contaminant mass is removed from the subsurface. At this point, the composition of the vapor should be determined and compared with soil vapor samples. This comparison will enable confirmation that there has been a shift in composition toward less volatile components. Soil vapor samples may indicate the composition and extent of the residual contamination.

If asymptotic behavior is persistent for periods greater than 6 months, and if residual levels are at or below regulatory limits, an evaluation will be performed to assess if termination of operations is appropriate.

Effectiveness

Based upon the results for mass removal, it appears that SVE system operation is continuing to remove some CVOCs from shallow source area soil. Additional discussion of SVE system monitoring and effectiveness is presented in Section 5.

Conclusions and Recommendations for Changes

It is recommended that a new dial-out unit (i.e., Sensaphone) be installed at the SVE system with a cellular-based setup to improve the reliability of these features. The Sensaphone unit for the SVE system is currently inoperable and no longer provides dial-out notifications when alarm conditions

occur. This can lead to periods of system downtime in between monthly O&M visits. To maintain continuous system operation to ensure prevention of CVOC accumulation in indoor air, a new dial-out unit should be installed.

System operation was altered in 2017 to target areas of high CVOC concentrations as identified at vapor monitoring points inside the 1 Adams Boulevard building during RSO activities associated with the SVE system in 2016. The system operations were altered again in December 2021 to include use of all 5 HSVE legs simultaneously.

3.1.3 Institutional Controls/Engineering Controls Compliance

As a result of PRR No. 5 (EA 2022a) EA prepared a CMWP (EA 2022a) to address failure of the DDC systems to function as designed. Upon evaluation of the DDC systems, it was determined that they should no longer be operated and that alternative remedial technologies should be evaluated. This recommendation was accepted by NYSDEC, and the SMP was updated to reflect the change in operations (EA 2022b). An RSO is in progress to identify the appropriate and effective remedial approach.

3.2 INSTITUTIONAL CONTROLS/ENGINEERING CONTROLS CERTIFICATION

The IC/EC certification form has been included as **Appendix A** of this PRR. IC/ECs are not able to be certified because there is currently no active groundwater remediation; however, a CMWP was prepared and submitted in 2022 (EA 2022a), and as a result, alternative remediation technologies were evaluated for the source area as part of an RSO. A pilot study is planned for in situ chemical reduction injections on-site (EA 2025).

4. MONITORING PLAN COMPLIANCE REPORT

This PRR assesses whether the NHP site is being remediated and managed as set forth in the current version of the SMP (EA 2022b) and ROD (NYSDEC 1999). The Monitoring Plan includes a description of the methods and rationale to be used for assessing the remedy effectiveness, and addresses the following elements:

- Sampling and analysis of all appropriate media (e.g., groundwater and SVE system air)
- Assessing compliance with applicable NYSDEC SCGs, particularly ambient groundwater standards
- Assessing achievement of the remedial performance criteria
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment

Sampling and analysis of SVE system air are presented and discussed in Section 5 of this PRR.

4.1 GROUNDWATER MONITORING AND SAMPLING

Groundwater monitoring and sampling was performed quarterly in the vicinity of the on-site system since June 2010, as well as in the vicinity of the off-site system since July 2012 until October 2021. Following the final quarterly sampling event in October 2021, the SMP has been revised to perform groundwater monitoring and sampling on a 5-quarter basis (EA 2022b). During the reporting period (30 January 2022 through 30 January 2025), two groundwater monitoring and sampling events were completed. Prior to groundwater sampling activities, monitoring wells were gauged to measure depth to groundwater, determine potentiometric surface elevations, and evaluate groundwater flow paths.

Exhibit 1 identifies the monitoring well network that is included in the monitoring plan for the site. All monitoring wells identified in this table were sampled during each 5th quarter sampling event for this reporting period. Sampling events took place in March 2023 and May 2024.

Exhibit 1. Monitoring Plan – Monitoring Wells

On-Site System	Well Status/Notes	Off-Site System	Well Status/Notes
MW-1D	Good	MW-1D	Good
MW-1S	Good	MW-1S	Good
MW-2A	Good	MW-2D	Good
MW-2AD	Good	MW-2S	Good
MW-2D	Good	MW-3D	Good
MW-2S	Good	MW-3S	Good
MW-3D	Good	DDC-5-PD	Good
MW-3S	Good	DDC-5-PS	Good
MW-5D	Good	DDC-6-PD	Good
MW-5S	Good	DDC-6-PS	Good
MW-6S	Good	DDC-7-PD	Good
MW-14D	Sediment in casing	DDC-7-PS	Good
MW-14S	Well cap broken	DDC-8-PD	Good
MW-15D	Good	DDC-8-PS	Good
MW-15S	Good	DDC-9-PD	Good
DDC-2-PD	Good	DDC-9-PS	Good
DDC-2-PS	Good	DDC-10-PD	Good
DDC-4-PD	Good	DDC-10-PS	Good
DDC-4-PS	No well cap		

Local groundwater flow direction based on groundwater elevation data collected both historically and during the reporting period is generally in a south-southeast direction towards the Great South Bay. Interpreted groundwater contour maps illustrating the direction of groundwater flow for the latest on-site and off-site groundwater gauging event (May 2024) are shown in Figures 3 and 4, respectively. A summary of groundwater gauging data for both sampling events is provided in Table 1.

Groundwater depth at the site could potentially be influenced by temporal changes and seasonal precipitation events. Groundwater elevations changed within individual on-site shallow monitoring wells across the reporting period an average 2.02 feet. Groundwater elevations changed within individual off-site shallow monitoring wells across the reporting period an average 2.33 feet. A copy of the field forms completed during monitoring and sampling activities are provided in reports submitted to NYSDEC.

4.1.1 Chlorinated Volatile Organic Compounds

The CVOCs detected in on-site monitoring wells and DDC piezometers exceeding their respective NYSDEC AWQS at least once during the reporting period include cis-1,2-DCE, PCE, and carbon tetrachloride. Cis-1,2-DCE was detected exceeding its AWQS of 5 µg/L in 1 on-site deep monitoring well throughout the reporting period. PCE was detected exceeding its AWQS of 5 µg/L within 7 of the 19 on-site monitoring wells and DDC piezometers during both sampling events during the reporting period. Carbon tetrachloride was detected exceeding its AWQS of 5 µg/L within 1 deep monitoring well during both sampling events during the reporting period.

Off-site monitoring wells and DDC piezometers consistently contained concentrations of PCE exceeding its respective AWQS of 5 µg/L within at least 2 of the 18 off-site monitoring wells and DDC piezometers during both sampling events during the reporting period. Exceedances of

CVOCs were generally consistent during the reporting period. A summary of VOCs detected in groundwater samples collected from site monitoring wells and DDC piezometers is provided in Tables 2A and 2B. Trend graphs summarizing CVOC concentrations at each monitoring location and including historical data are presented on Figures 6A through 6D. Full laboratory reports from groundwater sampling are provided in the reports submitted to NYSDEC.

4.1.1.1 On-Site Monitoring Wells

The concentration of PCE exceeded the AWQS of 5 µg/L in on-site monitoring wells during both sampling events throughout the reporting period. Exceedances were recorded in both shallow and deep monitoring wells, with the higher concentrations in the deep monitoring wells. PCE concentrations ranged from 12 µg/L in MW-2S to 4,200 µg/L in MW-2D during the second quarter of 2024.

The concentration of c*is*-1,2-DCE exceeded the AWQS of 5 µg/L in one deep on-site monitoring well, with a concentration of 5.7 µg/L in MW-5D during the first quarter of 2023. The concentration of c*is*-1,2-DCE did not exceed the AWQS in shallow monitoring wells or DDC piezometers during the reporting period.

The concentration of TCE did not exceed the AWQS of 5 µg/L in any on-site monitoring wells during the reporting period.

The concentration of carbon tetrachloride exceeded the AWQS of 5 µg/L in one deep on-site monitoring well MW-2D with a concentration of 10 µg/L during the first quarter of 2023 and a concentration of 9 µg/L during the second quarter of 2024.

Concentrations of CVOCs in the DDC piezometers generally remained consistent throughout the reporting period with the exception of DDC-2-PD, which showed a decrease in PCE concentration from 46 µg/L in the first quarter of 2023 to 4.6 µg/L in the second quarter of 2024.

Trend graphs for on-site shallow and deep monitoring wells and DDC piezometers are provided in **Figures 6A** and **6B**. System operation is discussed further in Section 5.

4.1.1.2 Off-Site Monitoring Wells

The concentration of PCE exceeded the AWQS of 5 µg/L in only deep monitoring wells and DDC piezometers consistently throughout the reporting period. MW-1D contained the highest concentrations, reaching 27 µg/L during the first quarter of 2023.

TCE concentrations did not exceed the AWQS of 5 µg/L in any of the off-site deep or shallow monitoring wells or DDC piezometers during the reporting period. The concentration of cis-1,2-DCE exceeded the AWQS of 5 µg/L in one of the three deep monitoring wells throughout the reporting period, with a concentration of 11 µg/L in MW-1D during the first quarter of 2023.

Trend graphs for off-site shallow and deep monitoring wells and DDC piezometers are provided in **Figures 6C** and **6D**.

4.2 CONFIRM COMPLIANCE WITH MONITORING PLAN

Exhibit 2 identifies the SMP (EA 2022b) requirements on an annual basis and demonstrates that compliance with the monitoring plan has been achieved prior to the end of January 2025.

Exhibit 2. Site Management Monitoring Plan Compliance

Monitoring Program Activity	Required Frequency*		Compliance Dates
	Annual (5-Quarterly)	Monthly	
Groundwater monitoring/sampling	x		30 January 2022 through 30 January 2025
*The frequency of events will be conducted as specified until otherwise approved by NYSDEC.			

4.3 CONFIRM THAT PERFORMANCE STANDARDS ARE BEING MET

As described in Section 2, groundwater data is one of three metrics utilized to evaluate remedy performance. The groundwater monitoring plan provides measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the site and all affected site media. Groundwater monitoring was performed on an annual (5-quarter) basis throughout the reporting period; **Tables 2A** and **2B** provide a summary of groundwater results for the reporting period. On-site groundwater concentration trends are detailed in Section 4.1 and shown on **Figures 6A and 6B**.

Off-site concentrations of individual CVOCs in shallow groundwater wells have remained at or below concentrations previously seen in the wells during previous reporting periods. *Cis*-1,2-DCE was also detected consistently in off-site deep monitoring wells and both deep and shallow DDC piezometers. CVOC concentrations in MW-1S and MW-1D, immediately upgradient of the Off-site DDC System, continued to decrease, suggesting that the high baseline CVOC concentrations seen in MW-1S/1D in 2012 have migrated downgradient. Off-site shallow and deep wells continue to have a total CVOC mass below the baseline CVOC concentrations on-site at 1 Adams Boulevard.

4.4 CONCLUSIONS AND RECOMMEDATIONS FOR CHANGES

Overall, on-site and off-site groundwater CVOC concentrations still exceed NYSDEC AWQS. Groundwater sampling frequency will continue on an annual (5-quarter) basis while RSO activities are conducted to address the on-site source of contamination as recommended in the CMWP (EA 2022a).

5. OPERATION AND MAINTENANCE PLAN COMPLIANCE REPORT

The O&M Plan describes the measures necessary to operate, monitor, and maintain the mechanical components of the remedy in place at the site, and includes the following elements:

- The steps necessary to allow individuals unfamiliar with the site to operate and maintain the SVE system
- An O&M Contingency Plan

The O&M Plan will be updated periodically to reflect changes in site conditions or the manner in which the systems are operated and maintained.

5.1 SITE INSPECTION

The conditions of the overall site and individual systems were noted during groundwater/air monitoring and sampling events. Detailed annual site-wide inspections were completed on 22 August 2022, 20 March 2023, and 16 May 2024.

5.1.1 Soil Vapor Extraction Treatment System

The SVE system and surrounding areas were generally observed to be in good condition during the annual inspections (**Appendix B**). There was no new evidence of vandalism to the SVE treatment system and outdoor manifold. Inside the building, vapor-monitoring points sustained continual wear and tear due to the daily operations of the tenant, who was occupying the building through April 2024.

5.2 SUMMARY OF OPERATION AND MAINTENANCE COMPLETED DURING REPORTING PERIOD

Over the reporting period, 12 quarters of O&M were performed between January 2022 and January 2025. Most system operating parameters were checked and system air samples were collected quarterly for the SVE system.

For the SVE system, these operating parameters include the following:

- Temperature
- Vacuum
- Influent and effluent air CVOC concentrations (laboratory samples collected quarterly for influent and effluent)
- Air flow rates
- Hour meter

- VP PID and Vacuum

The average runtimes for the NHP SVE system over the 12 quarters was 78 percent. A detailed description of site visits is presented in **Exhibit 3**. Summaries of system run-times are presented in **Table 3A**.

Exhibit 3. National Heatset Site Visits and Maintenance

Date	Task/System	Purpose
2/1/22	SVE	EA on-site to check on SVE System following storm. SVE blower shut down due to unusual blower noise.
2/3/22	SVE	EA on-site with D&D Electric to troubleshoot SVE blower.
3/22/22	SVE	EA on-site for blower reinstallation at SVE System following blower overhaul.
4/6/22	SVE	EA conducts quarterly O&M on SVE System and air sampling.
6/2022-2/2023	RSO	EA conducts RSO investigation including HPT, in situ GW sampling, soil borings, CMT well installation, and well development
8/22/22 – 8/23/22	SVE and Off-Site DDC	EA conducts quarterly O&M on SVE System and air sampling. Mowed lawn and trimmed weeds at off-site DDC System.
10/11/22	SVE	EA on-site to take well materials inventory. Inspected and photographed well materials/supplies outside on pallets.
11/30/22	SVE and On-Site RSO	EA conducts quarterly O&M on SVE System and air sampling. Installed Soil Boring CMT-10. Well development of CMT-01 and CMT-10.
2/21/23	SVE	EA conducts quarterly O&M on SVE System and air sampling
3/20/23 – 3/23/23	SVE, On-Site and Off-Site GW	EA performs annual groundwater gauging and sampling of on-site and off-site wells. Performed quarterly O&M on SVE System.
3/29/23	On-Site RSO	EA & MJ Engineering and Land Surveying on-site to search for control points from previous survey. All soil boring and CMT well locations identified and marked out.
4/26/23	SVE	EA conducts quarterly O&M on SVE System and air sampling
7/13/23	SVE	EA conducts quarterly O&M on SVE System and air sampling.
7/27/23 – 7/28/23	On-Site RSO	EA conducts sampling at CMT-9-1, CMT-9-2, CMT-9-3, and CMT-9-4 for RSO.
10/18/23	SVE	D&D on-site to perform annual blower preventative maintenance.
11/20/23	SVE	EA conducts quarterly O&M on SVE System and air sampling.
2/16/24	SVE	EA conducts quarterly O&M on SVE System and air sampling.
5/14/24 – 5/16/24	SVE, On-Site and Off-Site GW	EA performs annual groundwater gauging and sampling of off-site wells. EA collects quarterly air samples from SVE System. Performs quarterly O&M.
9/12/24	SVE	EA conducts quarterly O&M on SVE System and air sampling.
9/24/24	SVE	D&D on-site to troubleshoot electrical panel of SVE blower.
10/28/24	SVE	D&D on-site to repair electric panel of SVE blower and perform annual blower preventative maintenance.
12/18/24	SVE	EA conducts quarterly O&M on SVE System and air sampling.

Notes:
CMT = Continuous multichannel tubing
D&D = D&D Electric
DDC = Density driven convection GW
= Groundwater
HPT = Hydraulic profiling tool
O&M = Operation and maintenance RSO
= Remedial site optimization SVE = Soil
vapor extraction

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5.2.1 Detailed On-Site System Maintenance

5.2.1.1 Detailed On-Site SVE System Maintenance (2022)

Soil Vapor Extraction System

During 2022, the SVE system was operational for a total of 6,411 hours out of an available 7,585 hours (86 percent out of total available) from January 2022 to November 2022. In February 2022, EA observed the blower to be louder than normal. Upon troubleshooting with D&D Electric, the blower was removed to be fully overhauled, returning it to as-new condition. The blower was then re-installed and re-started in March 2022.

5.2.1.2 Detailed On-Site SVE System Maintenance (2023)

Soil Vapor Extraction System

During 2023, the SVE system was operational for a total of 10,521 hours out of an available 10,521 hours (100 percent of total available) from February 2023 to November 2023. Annual preventative maintenance was performed by D&D Electric on the SVE blower in October 2023.

5.2.1.3 Detailed On-Site SVE System Maintenance (2024)

Soil Vapor Extraction System

During 2024c, the SVE system was operational for a total of 4,403 hours out of an available 9,452 hours (47 percent of total available) from February 2024 to December 2024. Downtime was due to electric panel issues. In April 2024, the blower was down upon arrival. EA attempted to re-start the system but could not identify the issue. D&D Electric was able to re-start the system by repairing a tripped circuit protector and damaged connections. In September 2024, the blower was again down upon arrival. D&D diagnosed the panel to have defective relays and a faulty main contactor. The panel was repaired and annual blower preventative maintenance was conducted in October 2024.

5.3 EVALUATION OF REMEDIAL SYSTEMS

SVE system air monitoring and sampling has been continuously performed at the NHP site since August 2008 to ensure that all components are in working order and to maintain compliance with the requirements of a NYSDEC Air Discharge Permit. SVE system sampling switched from monthly to quarterly during the second quarter of 2019. During the most recent reporting period (30 January 2022 through 30 January 2025), 11 air monitoring and sampling events were completed at the SVE system, which is the only remedial system currently in operation. Although the SVE system required repairs during the operating period, the system was able to be returned to service and is operating as designed.

Exhibit 4. Treatment System Sampling Summary

Location Identification	Sampling Date										
	Quarter 1		Quarter 2			Quarter 3			Quarter 4		
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	2022	2022	2022	2022	2022	2022	2022	2022	2022	2022	2022
SVE Influent			X				X			X	
SVE Effluent			X				X			X	

Location Identification	Sampling Date											
	Quarter 1			Quarter 2			Quarter 3			Quarter 4		Quarter 1
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
	2023	2023	2023	2023	2023	2023	2023	2023	2023	2023	2023	2023	2024
SVE Influent		X		X			X				X		
SVE Effluent		X		X			X				X		

Location Identification	Sampling Date										
	Quarter 1		Quarter 2			Quarter 3			Quarter 4		
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024	2024
SVE Influent	X			X				X			X
SVE Effluent	X			X				X			X

Note: “X” indicates that the location was sampled.

5.3.1 Soil Vapor Extraction System

A summary of the field monitoring results, air discharge analytical laboratory results, and estimated mass recovery are presented in **Table 3B**; the laboratory data reports are presented in the quarterly reports submitted to NYSDEC.

Based on the influent sampling results, an estimated 8.0450 lb of PCE, 0.4481 lb of TCE, and 0.2213 lb of DCE have been removed from the source area during the reporting period. Using effluent sampling results, it was determined an estimated 2.5105 lb of PCE was discharged during the reporting period of 30 January 2022 through 30 January 2025 toward the permitted annual discharge limit of 270 lb. An estimated total of 1.0878 lb of TCE has been discharged during the reporting period toward the permitted annual discharge limit of 120 lb. An estimated total of 0.2272 lb of DCE has been discharged during the reporting period (the annual discharge limit is 5,510 lb).

5.4 CONFIRM COMPLIANCE WITH OPERATION & MAINTENANCE PLAN

Exhibit 5 identifies the SMP (EA 2022b) requirements on an annual basis and demonstrates that compliance with the monitoring plan was achieved during the reporting period.

Exhibit 5. Operation & Maintenance Plan Compliance

Monitoring Program Activity	Required Frequency* Quarterly	Compliance Dates
SVE Influent/Effluent Air Sampling	X	30 January 2022 through 30 January 2025
System O&M	X	30 January 2022 through 30 January 2025

5.5 CONFIRM THAT PERFORMANCE STANDARDS ARE BEING MET

System performance standards for the SVE system are being met when the system is operating as designed and effectively removing contaminant mass from the subsurface.

Tables 3A and **3B** provide a summary of the influent/effluent system air sampling results for the SVE systems during the reporting period. The mass removed during long-term monitoring can be calculated using vapor concentration and flow rate measurements taken at the systems. The mass recoveries shown in these tables confirm that while the SVE system is operational, it continues to remove primary CVOCs and daughter compounds.

Quarterly SVE system monitoring (i.e., off-gas samples, system air samples) is conducted to evaluate the effectiveness of the SVE system. As indicated in **Table 3B**, the SVE system continues to remove CVOCs from the vadose zone beneath 1 Adams Boulevard. It is also evident that although the SVE system's GAC units are spent, their use is no longer necessary. Influent mass discharge of CVOCs is consistently below permit requirements. Monitoring of VPs inside the building also indicates that the system is achieving the goal of soil vapor intrusion mitigation by maintaining negative pressures beneath the building slab.

5.6 CONCLUSIONS AND RECOMMENDATIONS FOR IMPROVEMENT

System air monitoring should continue on a quarterly basis at the SVE system but should be reduced to a single sample location. The SVE system is operating as designed, removing CVOCs from vadose zone soils beneath 1 Adams Boulevard, and treatment of extracted air through GAC is not necessary prior to discharging to the environment. RSO activities should continue to address the continuing source of groundwater contamination in saturated soils, as detailed in the RSO report and pilot work plan (EA 2024 and 2025, respectively).

6. COST EVALUATION

Total costs for reporting and site management services, including groundwater monitoring and sampling, site inspection, system air sampling, and RSO activities, was $775,651 for the reporting period. A breakdown of major costs is provided in **Exhibit 6**.

Exhibit 6. Costs Incurred for Current Reporting Period

EA Site Management Activity	Cost Incurred for the period of 30 January 2022 – 30 January 2025
1.EA 30 January 2022 - 30 January 2025 Monitoring, Sampling, Inspection, Oversight, Supplies/Equipment, Travel, and Reporting	$190,197
2. 2022- January 2025 Analytical Laboratory (Chemtech Consulting Group, Inc. and ALS Environmental)	$16,632
3. PRRs	$7,437
4. Utilities	$34,755
5. RSO - Field Activities, Reporting, Work Plans	$526,629
TOTAL	$775,651

EA's site management activities included monitoring, sampling, inspection, and reporting for 30 January 2022 through 30 January 2025. The monitoring, sampling, inspection, oversight, and reporting costs, which are billed by EA, include costs associated with project management, quality assurance, and periodic reporting throughout the reporting period. These monitoring and reporting costs are based on fiscal data generated and tracked by an EA internal financial management system and include travel expenses, equipment/supply costs, and other direct charges. The analytical costs, billed by Chemtech Consulting Group, Inc. of Mountainside, New Jersey, and ALS Environmental of Simi Valley, California, covered annual groundwater and quarterly SVE system air analyses for 30 January 2022 through 30 January 2025. The activities included in item numbers 1 through 4 are primarily reflective of the typical site management services; item number 5 is the cost of RSO efforts, which included on-site drilling activities and groundwater investigation as well as pilot work plan preparation.

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7. GREEN REMEDIATION

7.1 METRICS FOR SITE MANAGEMENT

NYSDEC DER-31, Green Remediation (NYSDEC 2011 [January]) provides concepts and techniques of green remediation and guidance on how to apply them to DER's remedial program and applies to all phases of the site cleanup process from investigation through completion of remediation. It is intended to be a holistic approach, which improves the sustainability of the cleanups by promoting the use of more sustainable practices and technologies. Such practices and technologies are, for example, less disruptive to the environment, generate less waste, increase reuse and recycling, and emit fewer pollutants, including greenhouse gases (GHGs), to the atmosphere.

As with prior PRRs, EA prepared a summary table, which presents green remediation metrics for site management (**Appendix C**). These metrics include energy usage, solid waste generation, transportation/shipping, water usage, and land use/ecosystems. This table is intended to be used to track the quantities established for each metric over time, with the goal of minimizing energy consumption, reducing GHG emissions, and conserving natural resources. This table will be updated in conjunction with future PRR revisions and revised accordingly.

In this PRR, the quantity of electricity utilized by the SVE system was obtained from Public Service Electric & Gas Company utility bills provided by NYSDEC. Only utility bills from March 2023 through December 2024 were available for the preparation of this PRR. Electricity usage for 2022 was estimated based on the 2023 and 2024 usage. The electricity usage during this reporting period was estimated to be 232,785 kilowatt hours.

Metrics for transportation were primarily associated with travel to and from the site for the maintenance of the system, annual groundwater sampling, quarterly O&M, and RSO investigation activities. During the reporting period, there were six additional site visits to perform system repairs/maintenance and troubleshooting outside of the regularly scheduled quarterly visits. Using the site visit and maintenance log presented in Section 5.2, EA estimated the number of miles accrued by EA and local subcontractors during O&M, monitoring, and RSO-related site visits for a total of 9,938 miles.

The GHG emissions during this reporting period totaled approximately 81 metric tons.

7.2 ENVIRONMENTAL FOOTPRINT

In previous PRRs (PRR No. 1 [EA 2015], PRR No. 2 [EA 2016b], PRR No. 3 [EA 2017b], PRR No. 4 [EA 2021], and PRR No. 5 [EA 2022a]), EA also evaluated the environmental impact of the NHP treatment systems and green remediation techniques that could be applied to the site. EA utilized SiteWise Tool for Green and Sustainable Remediation, developed by the U.S. Navy, U.S. Army Corps of Engineers, and Battelle, to calculate the environmental footprint of the overall remedial approach. The tool consists of a series of spreadsheets, which provide a baseline assessment of several quantifiable sustainability metrics including the following: GHG emissions, energy usage, and electricity usage from renewable and non-renewable sources; criteria air

pollutants that include sulfur oxides, oxides of nitrogen, and particulate matter; water usage; resource consumption; and accident risk (Battelle et. al. 2013).

For this reporting period, EA modeled the environmental footprint of routine site management activities conducted during the reporting period. Activities accounted for in the calculation of the environmental footprint include the type of treatment media used on-site (Regenerated GAC), transportation to/from the site, energy sources, and waste generation. The model was developed using run-time hours for the SVE system from 30 January 2022 through 30 January 2025. Appendix C includes the exported table and figures depicting the impact of site management activities conducted at NHP. EA also modeled the environmental footprint of electricity usage on-site during annual groundwater sampling and laboratory analysis and RSO investigation activities.

8. OVERALL PERIODIC REVIEW REPORT CONCLUSIONS AND RECOMMENDATIONS

8.1 SITE INSPECTION AND MAINTENANCE

The SVE system and surrounding areas were observed to be in good condition with no major problems noted. The fencing, locks, and access gates/doors were in good condition during each visit, though the door to the SVE system container is difficult to open and close and should be repaired or replaced. Both the asphalt/concrete areas and the grassy areas were in good condition. There was no evidence of vandalism observed to the DDC wells, treatment systems, or utilities; penetrations (including poles, posts, or stakes) were not observed. The SVE system and surrounding areas were generally observed to be in good condition during each annual inspection.

Site inspection and maintenance of the SVE system will continue to be conducted quarterly. A more detailed inspection will continue to be performed on an annual basis.

8.2 PERFORMANCE AND EFFECTIVENESS OF REMEDY

Remedy performance and effectiveness was evaluated through implementation of the Monitoring Plan, discussed in Section 4, and the O&M Plan, discussed in Section 5. The SVE system had an uptime of 77 percent for the reporting period. Based on quarterly system air monitoring results, the SVE system has been operating as designed, removing VOCs from beneath 1 Adams Boulevard and discharging within permit limits. System operation has also resulted in negative differential pressures between the ambient air of 1 Adams Boulevard and the sub-slab environment, meeting the stated goal of the SVE system to mitigate risk of vapor intrusion.

8.3 SUMMARY OF RECOMMENDATIONS

The following actions are recommended for future site management activities at the NHP site:

- RSO activities should continue to address remaining contamination on-site.

8.3.1 Soil Vapor Extraction System

- EA recommends continuing operation at the SVE system using all legs, to maximize building protectiveness.

8.3.2 Density Driven Convection Systems

- The DDC systems should remain off.

8.4 FUTURE PERIODIC REVIEW REPORT SUBMITTALS

Future PRRs should continue to be prepared and submitted every 3 years until further notice to evaluate the effectiveness of the RAs implemented at the site; to provide sufficient documentation that the remedy remains in place, is performing properly and effectively, and is protective of public health and the environment; and to capture proposed/planned follow-on activities at the site.

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Table 1. Monitoring and DDC Well Groundwater Elevations

	Mar-2023	May-2024
On-Site Shallow Monitoring Wells and DDC Wells (feet amsl)		
MW-1S	40.24	-
MW-2A	40.05	45.01
MW-3S	40.01	45.07
MW-5S	40.07	44.99
MW-6S	57.64	44.97
MW-14S	39.94	44.88
MW-15S	39.78	44.66
DDC-2-PS	40.17	43.78
DDC-4-PS	39.77	44.67
On-Site Deep Monitoring Wells and DDC Wells (feet amsl)		
MW-1D	57.73	45.25
MW-2AD	40.01	44.97
MW-3D	40.08	45.05
MW-5D	39.11	45.71
MW-14D	40.15	45.15
MW-15D	39.76	44.71
DDC-2-PD	39.91	42.37
DDC-4-PD	39.8	44.75

	Mar-2023	May-2024
Off-Site Shallow Monitoring Wells and DDC Wells (feet amsl)		
MW-1S	28.06	31.51
MW-2S	27.23	30.58
MW-3S	27.07	30.25
DDC-5-PS	27.02	30.34
DDC-6-PS	26.97	30.28
DDC-7-PS	27.28	30.69
DDC-8-PS	27.37	30.78
DDC-9-PS	27.42	30.82
DDC-10-PS	27.54	30.91
Off-Site Deep Monitoring Wells and DDC Wells (feet amsl)		
MW-1D	27.40	30.59
MW-2D	27.27	30.37
MW-3D	25.89	30.19
DDC-5-PD	27.06	30.38
DDC-6-PD	26.97	30.27
DDC-7-PD	27.29	30.69
DDC-8-PD	27.37	30.75
DDC-9-PD	27.49	30.81
DDC-10-PD	27.52	30.88

Notes:
amsl = Above mean sea level
DDC = Density driven convection

Table 2A. Summary of Detected Volatile Organic Compounds in On-Site Groundwater Samples (Annual Sampling Events, 2023-2024)

March 2023																				
Parameters List	**Sample ID**	**MW-1D**		**MW-1S**		**MW-2A**		**152140-FD-02**		**MW-2AD**		**MW-2D**		**MW-2S**		**MW-3D**		**MW-3S**		
	Sample Type	**Groundwater**		**Groundwater**		**Groundwater**		**Duplicate**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		
EPA Method 8260B	**Sample Date**	**3/21/2023**		**3/21/2023**		**3/21/2023**		**3/21/2023**		**3/21/2023**		**3/21/2023**		**3/21/2023**		**3/21/2023**		**3/21/2023**		**NYSDEC AWQS (µg/L)**
Acetone	(µg/L)	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<100)	U	(<10)	U	(<10)	U	(<10)	U	50 (s)
cis - 1,2-Dichloroethene	(µg/L)	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<10)	U	(<1)	U	(<1)	U	(<1)	U	5 (s)
Trichloroethene (TCE)	(µg/L)	1.1	J	(<1)	U	(<1)	U	(<1)	U	0.94	J	4.0	J	(<1)	U	1.10	J	(<1)	U	5 (s)
Tetrachloroethene (PCE)	(µg/L)	2.7	J	0.29	J	1.2	J	1.1	J	**21.0**		**3800**		0.83	J	**200**		1.4	J	5 (s)
Carbon Tetrachloride	(µg/L)	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	**10**	J	(<1)	U	0.41	J	(<1)	U	5 (s)
1,4-Dichlorobenzene	(µg/L)	(<1)	U	(<1)	U	0.24	BJ	0.24	BJ	(<1)	U	(<10)	U	(<1)	U	(<1)	U	0.23	BJ	3 (s)
Chloroform	(µg/L)	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	5.8	J	(<1)	U	(<1)	U	(<1)	U	7 (s)
Parameters List	**Sample ID**	**MW-5D**		**MW-5S**		**MW-6S**		**MW-14D**		**MW-14S**		**MW-15D**		**MW-15S**		**DDC-2-PD**		**DDC-2-PS**		
	Sample Type	**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		
EPA Method 8260B	**Sample Date**	**3/21/2023**		**3/21/2023**		**--**		**3/21/2023**		**3/21/2023**		**3/21/2023**		**3/21/2023**		**3/21/2023**		**3/21/2023**		**NYSDEC AWQS (µg/L)**
Acetone	(µg/L)	(<20)	U	(<10)	U	--		(<10)	U	(<10)	U	(<20)	U	(<10)	J	(<10)	U	(<10)	U	50 (s)
cis- 1,2-Dichloroethene	(µg/L)	**5.7**	J	0.62	J	--		(<1)	U	(<1)	U	(<2)	U	(<1)	U	0.85	J	1.2	J	5 (s)
Trichloroethene (TCE)	(µg/L)	4.1	J	(<1)	U	--		1.20	J	(<1)	U	1.5	J	(<1)	U	2.4	J	0.43	J	5 (s)
Tetrachloroethene (PCE)	(µg/L)	**320**		0.30	J	--		**29**		0.90	J	**410**		1.8	J	**46**		1.3	J	5 (s)
Carbon Tetrachloride	(µg/L)	(<2)	U	(<1)	U	--		(<1)	U	(<1)	U	1.1	J	(<1)	U	(<10)	U	(<1)	U	5 (s)
1,4-Dichlorobenzene	(µg/L)	(<2)	U	0.79	BJ	--		(<1)	U	(<1)	U	(<2)	U	(<1)	U	(<10)	U	0.49	BJ	3 (s)
Chloroform	(µg/L)	(<2)	U	(<1)	U	--		(<1)	U	(<1)	U	(<2)	U	(<1)	U	(<10)	U	(<1)	U	7 (s)
Parameters List	**Sample ID**	**DDC-4-PD**		**DDC-4-PS**																
	Sample Type	**Groundwater**		**Groundwater**																
EPA Method 8260B	**Sample Date**	**3/21/2023**		**3/21/2023**																**NYSDEC AWQS (µg/L)**
Acetone	(µg/L)	(<10)	U	(<10)	U															50 (s)
cis- 1,2-Dichloroethene	(µg/L)	(<1)	U	(<1)	U															5 (s)
Trichloroethene (TCE)	(µg/L)	(<1)	U	(<1)	U															5 (s)
Tetrachloroethene (PCE)	(µg/L)	1.80	J	1.6	J															5 (s)
Carbon Tetrachloride	(µg/L)	(<1)	U	(<1)	U															5 (s)
1,4-Dichlorobenzene	(µg/L)	(<1)	U	(<1)	U															3 (s)
Chloroform	(µg/L)	(<1)	U	(<1)	U															7 (s)

Table 2A. Summary of Detected Volatile Organic Compounds in On-Site Groundwater Samples (Annual Sampling Events, 2023-2024)

May 2024

Parameters List EPA Method 8260B	Sample ID	MW-1D		MW-1S		MW-2A		152140-FD-02		MW-2AD		MW-2D		MW-2S		MW-3D		MW-3S		
	Sample Type	Groundwater		Groundwater		Groundwater		Duplicate		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	5/16/2024		--		5/15/2024		5/16/2024		5/16/2024		5/16/2024		5/15/2024		5/16/2024		5/15/2024		NYSDEC AWQS (µg/L)
Acetone	(µg/L)	(<10)	U	--		(<10)	U	(<10)	U	(<10)	U	(<250)	U	(<10)	U	(<10)	U	(<10)	U	50 (s)
cis - 1,2-Dichloroethene	(µg/L)	(<5)	U	--		(<5)	U	(<1)	U	(<5)	U	(<130)	U	(<5)	U	(<5)	U	(<5)	U	5 (s)
Trichloroethene (TCE)	(µg/L)	0.73	J	--		(<5)	U	0.93	J	0.59	J	(<130)	U	(<5)	U	0.75	J	(<5)	U	5 (s)
Tetrachloroethene (PCE)	(µg/L)	0.44	J	--		0.8	J	**5.1**		0.27	J	**4200**		**12**	J	**17**		1.9	J	5 (s)
Carbon Tetrachloride	(µg/L)	(<5)	U	--		(<5)	U	(<5)	U	(<5)	U	**9**	J	(<5)	U	(<5)	U	(<5)	U	5 (s)
1,4-Dichlorobenzene	(µg/L)	(<5)	U	--		(<5)	U	(<5)	U	(<5)	U	(<130)	U	(<5)	U	(<5)	U	(<5)	U	3 (s)
Chloroform	(µg/L)	(<5)	U	--		(<5)	U	(<5)	U	(<5)	U	(<130)	U	(<5)	U	(<5)	U	(<5)	U	7 (s)

Parameters List EPA Method 8260B	Sample ID	MW-5D		MW-5S		MW-6S		MW-14D		MW-14S		MW-15D		MW-15S		DDC-2-PD		DDC-2-PS		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	5/16/2024		5/15/2024		5/16/2024		5/16/2024		5/15/2024		5/15/2024		5/15/2024		5/16/2024		5/16/2024		NYSDEC AWQS (µg/L)
Acetone	(µg/L)	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	50 (s)
cis- 1,2-Dichloroethene	(µg/L)	0.23	J	(<5)	U	(<5)	U	(<5)	U	(<5)	U	0.24	J	(<5)	U	(<5)	U	(<5)	U	5 (s)
Trichloroethene (TCE)	(µg/L)	1.0	J	(<5)	U	(<5)	U	0.81	J	(<5)	U	1.1	J	(<5)	U	0.87	J	(<5)	U	5 (s)
Tetrachloroethene (PCE)	(µg/L)	**240**	E	1.60	J	1.0	J	**32**		0.38	J	**280**	E	1.9	J	4.6	J	0.99	J	5 (s)
Carbon Tetrachloride	(µg/L)	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	0.59	J	(<5)	U	(<5)	U	(<5)	U	5 (s)
1,4-Dichlorobenzene	(µg/L)	(<5)	U	0.35	J	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	0.26	J	3 (s)
Chloroform	(µg/L)	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	7 (s)

Parameters List EPA Method 8260B	Sample ID	DDC-4-PD		DDC-4-PS		
	Sample Type	Groundwater		Groundwater		
	Sample Date	5/16/2024		5/16/2024		NYSDEC AWQS (µg/L)
Acetone	(µg/L)	(<10)	U	(<10)	U	50 (s)
cis- 1,2-Dichloroethene	(µg/L)	(<5)	U	(<5)	U	5 (s)
Trichloroethene (TCE)	(µg/L)	0.4	J	(<5)	U	5 (s)
Tetrachloroethene (PCE)	(µg/L)	**9.40**	J	1.6	J	5 (s)
Carbon Tetrachloride	(µg/L)	(<5)	U	(<5)	U	5 (s)
1,4-Dichlorobenzene	(µg/L)	(<5)	U	(<5)	U	3 (s)
Chloroform	(µg/L)	(<5)	U	(<5)	U	7 (s)

Notes:
EPA = U.S. Environmental Protection Agency
ID = Identification
NYSDEC = New York State Department of Environmental Conservation
AWQS = Ambient Water Quality Standard
µg/L = Microgram(s) per liter (parts per billion)
U = Analyte not detected at the listed laboratory reporting limit.
J = Estimated value
D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
E = Value exceeds calibration range
* = Values outside of quality control limits
152140-FD-02 was a blind field duplicate quality assurance/quality control sample of on-site sample MW-2D (Onsite) for this sampling event.
Bold values indicate that the analyte was detected greater than the NYSDEC AWQS.

Table 2B. Summary of Detected Volatile Organic Compounds in Off-Site Groundwater Samples (Annual Sampling Events, 2023-2024)

March 2023																								
Parameters List EPA Method 8260B	**Sample ID**	**MW-1D**		**MW-1S**		**MW-2D**		**MW-2S**		**152140-FD-01**		**MW-3D**		**MW-3S**		**DDC-5-PD**		**DDC-5-PS**		**DDC-6-PD**		**DDC-6-PS**		**NYSDEC AWQS (µg/L)**
	Sample Type	**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Duplicate**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		
	Sample Date	**3/20/2023**		**3/20/2023**		**3/20/2023**		**3/20/2023**		**3/20/2023**		**3/20/2023**		**3/20/2023**		**3/20/2023**		**3/20/2023**		**3/20/2023**		**3/20/2023**		
Acetone	(µg/L)	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	50 (s)
cis - 1,2-Dichloroethene	(µg/L)	**11**		(<1)	U	(<1)	U	(<1)	U	(<1)	U	3.1	J	(<1)	U	0.87	J	(<1)	U	(<1)	U	(<1)	U	5 (s)
Trichloroethene (TCE)	(µg/L)	3.7	J	(<1)	U	1.4	J	(<1)	U	(<1)	U	1.2	J	(<1)	U	0.46	J	(<1)	U	(<1)	U	(<1)	U	5 (s)
Tetrachloroethene (PCE)	(µg/L)	**27.0**		(<1)	U	0.37	J	(<1)	U	(<1)	U	**9.5**		(<1)	U	**6.1**		(<1)	U	1.5	J	(<1)	U	5 (s)
Chloroform	(µg/L)	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	0.76	J	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	7 (s)
Toluene	(µg/L)	(<1)	U	(<1)	U	0.66	J	(<1)	U	(<1)	U	0.65	J	0.24	J	(<1)	U	(<1)	U	(<1)	U	(<1)	U	5(s)
Parameters List EPA Method 8260B	**Sample ID**	**DDC-7-PD**		**DDC-7-PS**		**DDC-8-PD**		**DDC-8-PS**		**DDC-9-PD**		**DDC-9-PS**		**DDC-10-PD**		**DDC-10-PS**								**NYSDEC AWQS (µg/L)**
	Sample Type	**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**								
	Sample Date	**3/20/2023**		**3/20/2023**		**3/20/2023**		**3/20/2023**		**3/20/2023**		**3/20/2023**		**3/20/2023**		**3/20/2023**								
Acetone	(µg/L)	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U							50 (s)
cis - 1,2-Dichloroethene	(µg/L)	2.4	J	(<1)	U	0.70	J	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U							5 (s)
Trichloroethene (TCE)	(µg/L)	0.48	J	(<1)	U	0.53	J	(<1)	U	0.57	J	(<1)	U	0.86	J	0.73	J							5 (s)
Tetrachloroethene (PCE)	(µg/L)	4.3	J	(<1)	U	3.2	J	(<1)	U	1.3	J	(<1)	U	0.27	J	0.24	J							5 (s)
Chloroform	(µg/L)	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U							7 (s)
Toluene	(µg/L)	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U							5(s)
May 2024																								
Parameters List EPA Method 8260B	**Sample ID**	**MW-1D**		**MW-1S**		**MW-2D**		**MW-2S**		**152140-FD-01**		**MW-3D**		**MW-3S**		**DDC-5-PD**		**DDC-5-PS**		**DDC-6-PD**		**DDC-6-PS**		**NYSDEC AWQS (µg/L)**
	Sample Type	**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Duplicate**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		
	Sample Date	**5/15/2024**		**5/15/2024**		**5/15/2024**		**5/15/2024**		**5/15/2024**		**5/15/2024**		**5/15/2024**		**5/14/2024**		**5/14/2024**		**5/15/2024**		**5/15/2024**		
Acetone	(µg/L)	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	50 (s)
cis - 1,2-Dichloroethene	(µg/L)	4.1	J	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	0.31	J	(<5)	U	(<5)	U	(<5)	U	5 (s)
Trichloroethene (TCE)	(µg/L)	2.0	J	(<5)	U	0.4	J	(<5)	U	0.46	J	0.6	J	(<5)	U	0.27	J	(<5)	U	(<5)	U	(<5)	U	5 (s)
Tetrachloroethene (PCE)	(µg/L)	**20.0**		(<5)	U	0.29	J	(<5)	U	(<5)	U	**6.1**		(<5)	U	4.8	J	0.55	J	0.2	J	(<5)	U	5 (s)
Chloroform	(µg/L)	0.6	J	(<5)	U	(<5)	U	(<5)	U	(<5)	U	0.92	J	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	7 (s)
Toluene	(µg/L)	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	5(s)
Parameters List EPA Method 8260B	**Sample ID**	**DDC-7-PD**		**DDC-7-PS**		**DDC-8-PD**		**DDC-8-PS**		**DDC-9-PD**		**DDC-9-PS**		**DDC-10-PD**		**DDC-10-PS**								**NYSDEC AWQS (µg/L)**
	Sample Type	**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**								
	Sample Date	**5/15/2024**		**5/15/2024**		**5/15/2024**		**5/15/2024**		**5/15/2024**		**5/15/2024**		**5/15/2024**		**5/15/2024**								
Acetone	(µg/L)	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U	(<10)	U							50 (s)
cis - 1,2-Dichloroethene	(µg/L)	0.46	J	(<5)	U	0.41	J	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U							5 (s)
Trichloroethene (TCE)	(µg/L)	(<5)	J	(<5)	U	(<5)	U	(<5)	U	0.20	J	(<5)	U	0.49	J	0.89	J							5 (s)
Tetrachloroethene (PCE)	(µg/L)	3.1	J	(<5)	U	1.3	J	0.21	J	0.6	J	(<5)	U	0.24	J	(<5)	J							5 (s)
Chloroform	(µg/L)	0.52	J	(<5)	U	(<5)	U	0.63	J	(<5)	U	(<5)	U	(<5)	U	(<5)	U							7 (s)
Toluene	(µg/L)	(<1)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U							5(s)

Notes:
EPA = U.S. Environmental Protection Agency
ID = Identification
NYSDEC = New York State Department of Environmental Conservation
AWQS = Ambient Water Quality Standard
µg/L = Microgram(s) per liter (parts per billion)
U = Analyte not detected at the listed laboratory reporting limit.
J = Estimated value
152140-FD-01 was a blind field duplicate quality assurance/quality control sample of on-site sample DDC-10-PS for this sampling event.
Bold values indicate that the analyte was detected greater than the NYSDEC AWQS.

Table 3A. Treatment System Runtime

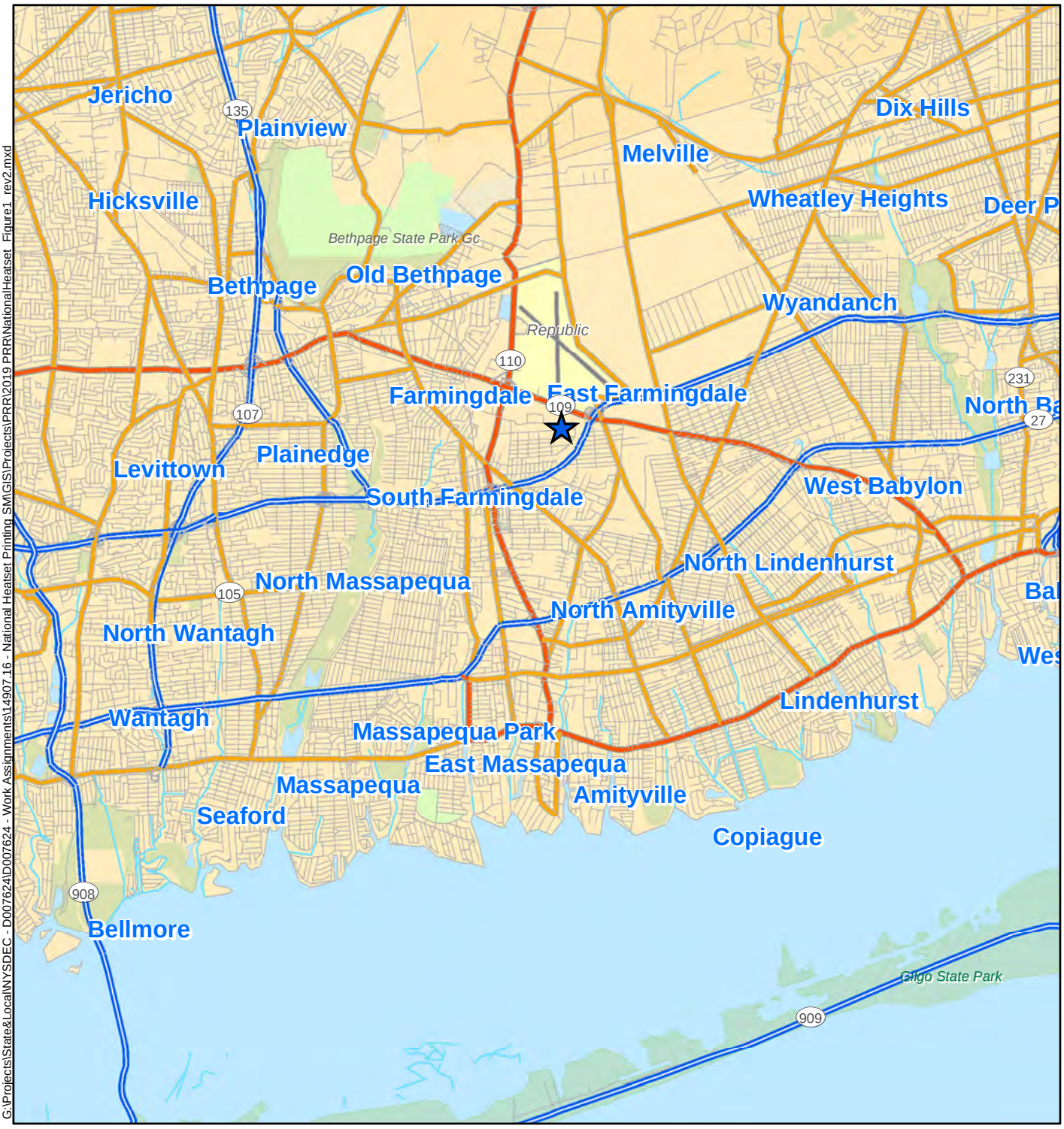
System Readings						
		SVE System				
		SVE Blower				
Date	Notes	Meter Reading (Hrs)	Time	Elapsed Runtime (Hrs)	Elapsed Available (Hrs)	Runtime (%)
04/06/22	A	59401.01	11:10	701	1874.00	37
08/22/22		62717.91	16:48	3317	3318.00	100
11/30/22		65220.00	7:30	2393	2393.00	100
Annual Run-Time				**6411**	**7585**	**85**
02/21/23		67105.41	10:23	1995	1995	100
04/26/23		68644.87	11:00	3532	3532	100
07/13/23		70508.46	11:00	1872	1872	100
11/20/23		73637.21	12:30	3122	3122	100
Annual Run-Time				**10521**	**10521**	**100**
02/16/24		75744.64	8:00	2107	2108	100
05/16/24	B	76749.99	7:30	1005	2159	47
09/12/24	C	76843.65	13:00	94	2861	3
12/18/24	D	78040.25	9:10	1197	2324	52
Annual Run-Time				**4403**	**9452**	**47**
Period Total				**21,335**	**27,558**	**77**

Notes:
A = System shut down for blower repairs
B = System down upon arrival; restarted following repairs
C = System down upon arrival; restarted temporarily, shut down pending repairs
D = System restarted after repairs

Table 3B. Summary of Estimated Recovery Rate via Soil Vapor Extraction System

Date	Field/System Data			Elapsed Run-Time (day)	Laboratory Results						Mass Discharged						Recovery Based on Laboratory Results					
					SYS INFLUENT			SYS EFFLUENT														
	SVE Blower Flow Rate (cfm)	Applied Vacuum (in. H_20)	System Discharge VOC Concentration (ppmv)		PCE (mg/m^3)	TCE (mg/m^3)	*cis* -1,2-DCE (mg/m^3)	PCE (mg/m3)	TCE (mg/m3)	*cis* -1,2-DCE (mg/m3)	PCE Discharge During Period: lb/hr	PCE Discharge During Period (lb)	TCE Discharge During Period (lb/hr)	TCE Discharge During Period (lb)	*cis* -1,2-DCE Discharge During Period (lb/hr)	*cis* -1,2-DCE Discharge During Period (lb)	PCE Recovery During Period: lb/hr	PCE Recovery During Period (lb)	TCE Recovery During Period (lb/hr)	TCE Recovery During Period (lb)	*cis* -1,2-DCE Recovery During Period (lb/hr)	*cis* -1,2-DCE Recovery During Period (lb)
04/06/22	230	58	0.00	29	0.0482	0.0047	0.0044	0.00	0.00	0.02	0.0000	0.0027	0.0000	0.0007	0.00002	0.0120	0.0000	0.0000	0.0000	0.0021	0.0000	-0.0093
08/22/22	241	50	0.00	138	0.3510	0.0564	0.0452	0.0332	0.0699	0.0186	0.0000	0.0995	0.0001	0.2095	0.00002	0.0557	0.0000	0.0360	0.0000	-0.0405	0.0000	0.0797
11/30/22	224	5	0.00	100	0.0319	0.0091	0.0044	0.0610	0.0285	0.0139	0.0001	0.1226	0.0000	0.0573	0.00001	0.0279	0.0000	0.0641	0.0000	0.0183	0.0000	0.0088
02/21/23	323	50	0.00	83	0.0556	0.0037	0.0022	0.0448	0.0274	0.0048	0.0001	0.1082	0.0000	0.0662	0.00001	0.0115	0.0001	0.1343	0.0000	0.0090	0.0000	0.0054
4/26/2023	266	60	0.00	147	0.0089	0.0029	0.0022	0.0330	0.0160	0.0023	0.0000	0.1162	0.0000	0.0564	0.00000	0.0081	0.0000	0.0313	0.0000	0.0102	0.0000	0.0077
7/13/2023	591	60	0.00	78	0.2600	0.0520	0.0150	0.0490	0.0770	0.0120	0.0001	0.2032	0.0002	0.3194	0.00003	0.0498	0.0006	1.0784	0.0001	0.2157	0.0000	0.0622
11/20/2023	205	60	0.00	130	0.0710	0.0170	0.0047	0.0360	0.0520	0.0092	0.0000	0.0866	0.0000	0.1251	0.00001	0.0221	0.0001	0.1708	0.0000	0.0409	0.0000	0.0113
2/16/2024	503	60	0.00	88	1.4000	0.0350	0.0088	0.0490	0.0200	0.0009	0.0001	0.1947	0.0000	0.0795	0.00000	0.0035	0.0026	5.5637	0.0001	0.1391	0.0000	0.0350
5/16/2024	298	30	0.05	42	0.0180	0.0072	0.0012	0.9300	0.0025	0.0000	0.0010	1.0442	0.0000	0.0028	0.00000	0.0000	0.0000	0.0202	0.0000	0.0081	0.0000	0.0013
9/12/2024	232	40	0.00	4	0.0000	0.0000	0.0000	0.0015	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.00000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12/18/2024	376	60	0.40	50	0.5580	0.0216	0.0053	0.3150	0.1020	0.0218	0.0004	0.5315	0.0001	0.1721	0.00003	0.0368	0.0008	0.9415	0.0000	0.0364	0.0000	0.0089
										PERIOD TOTALS =		**2.5096**		**1.0889**		**0.2274**		**8.0403**		**0.4393**		**0.2111**

Notes: SVE = Soil vapor extraction
cfm = Cubic foot (feet) per minute
in. H_20 = Inch(es) of water
ppmv = Part(s) per million (vol./vol.)
mg/m^3 = Milligram(s) per cubic meter
lb = Pound(s)
lb/hr = Pound(s) per hour
PCE = Tetrachloroethylene
TCE = Trichloroethene
cis -1,2-DCE = cis-1,2-Dichloroethene
Mass Recovery (Lab Res., lb/hr) = flow (cfm)*effluent conc. (mg/cu. m.)*1g/1000mg*1lb/453.6g*1cu. m./35.31cu. ft*60min/1 hr
Mass Recovery (Lab Res., lb) = Discharge Rate (lb/hr) * # of days*24hours/day
Permit limit for PCE is 0.031 lb/hr and 270 lb/yr; TCE is 0.014 lb/hr and 120 lb/year; cis-1,2-DCE is 0.63 lb/hr and 5,510 lb/year



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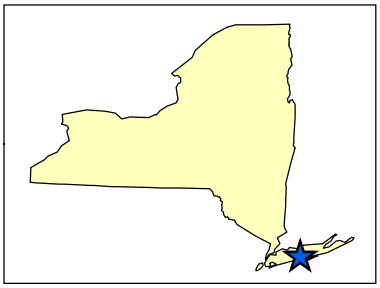

0 0.75 1.5 3
Miles

1 inch = 1.5 miles

N

Legend

★ Site Location

Figure 1
Site Location Map
National Heatset Printing Co. Site
(152140) Babylon, New York
Suffolk County

Map Date: 1/3/2020
Source: ESRI, 2011

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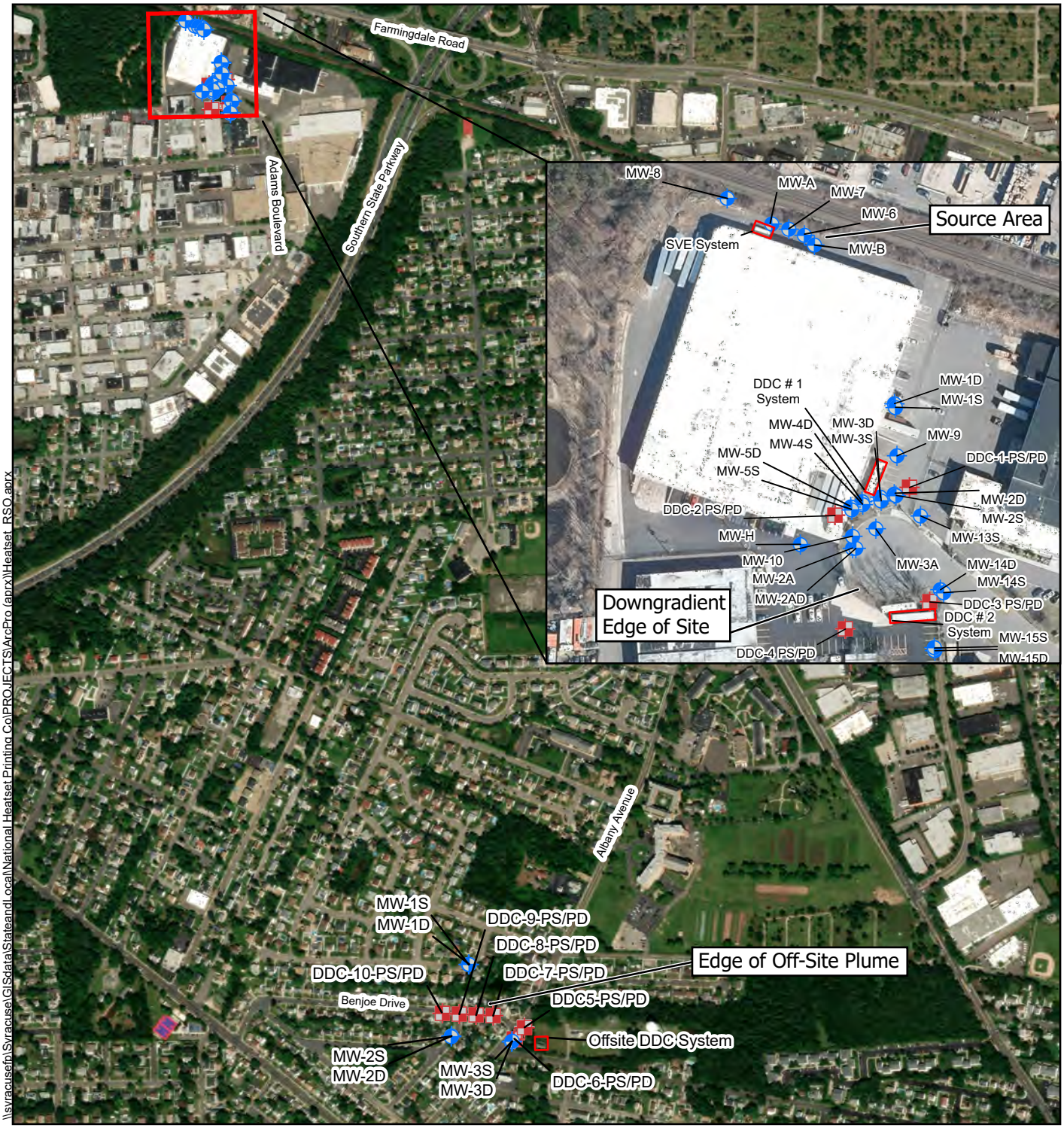

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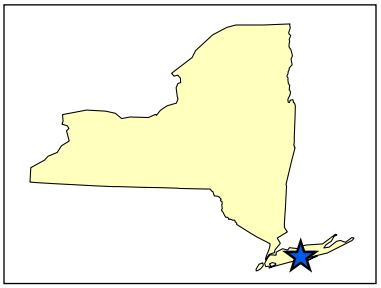

0 0.05 0.1 0.2
Miles

N

Legend

- DDC Well Cluster
- Groundwater Monitoring Well
- Site Location

Figure 2
Site, Surrounding Area, and Monitoring Well Network
National Heatset Site (152140)
Babylon, New York
Suffolk County

Map Date: 3/4/2025
Source: ESRI, 2011

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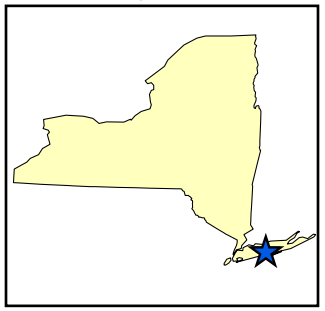
VICINITY MAP



Legend

- Monitoring Wells
- Approximate Groundwater Flow Direction
- Approximate Groundwater Elevation (ft. AMSL)

Note:
Elevations are given in feet (ft.) above mean sea level (AMSL)

N

0 30 60
Feet

Map Date: 1/20/2025

NEW YORK STATE Department of Environmental Conservation

Figure 3
On-Site Groundwater Flow Direction (May 2024)
National Heatset
Site (152140) Babylon,
New York Suffolk County

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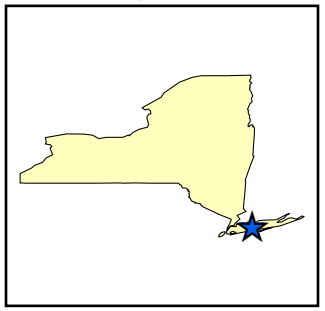
VICINITY MAP



Legend

- Monitoring Wells
- Approximate Groundwater Flow Direction

Note:
Elevations are given in feet (ft.) above mean sea level (AMSL)
Offsite groundwater flow direction is based on historical estimates

N

0 40 80
Feet

Map Date: 1/20/2025

NEW YORK STATE Department of Environmental Conservation

Figure 4
Off-Site Groundwater Flow Direction (May 2024)
National Heatset
Site (152140) Babylon,
New York Suffolk County

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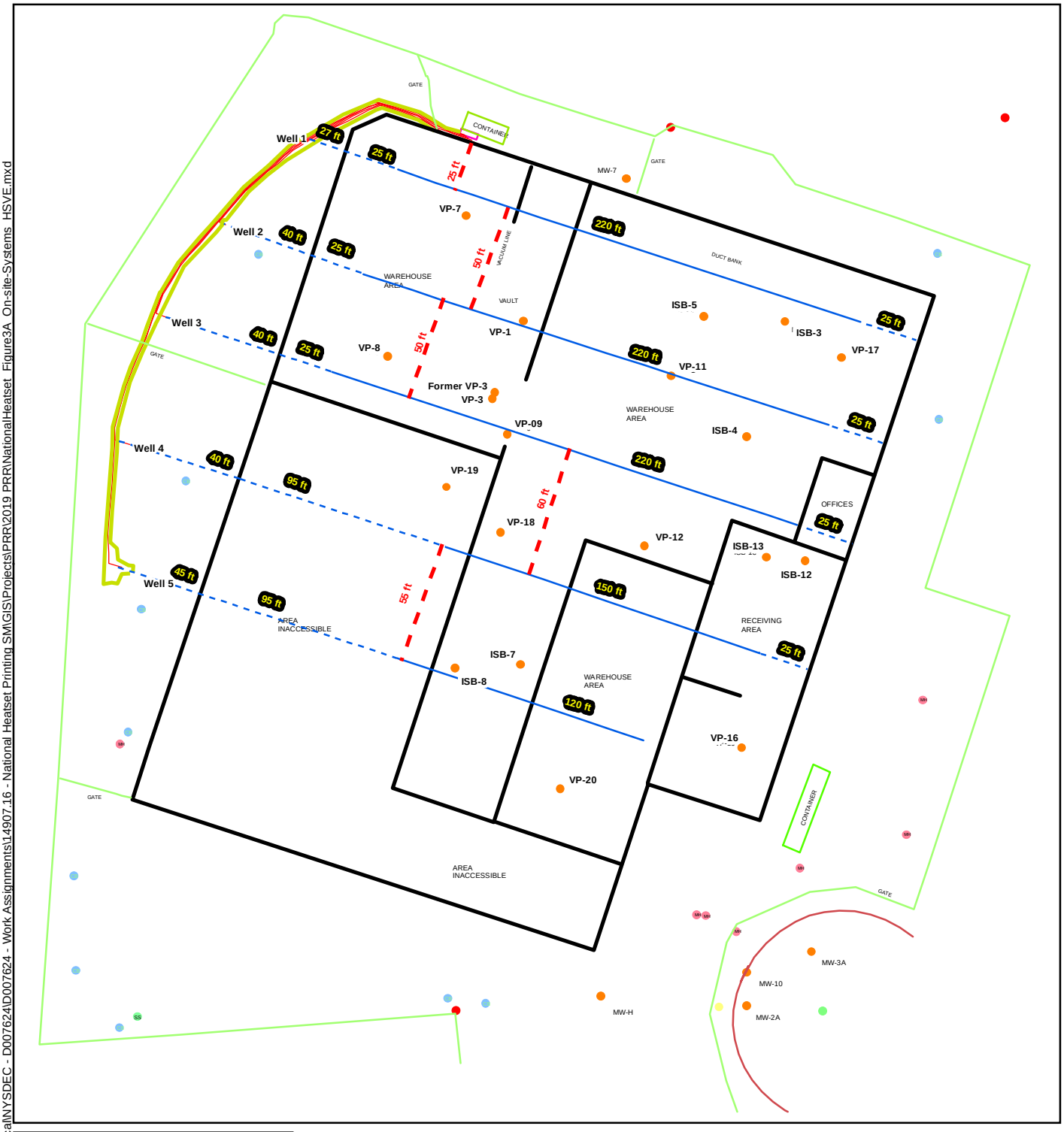

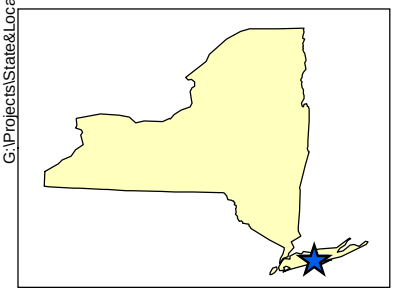

0 15 30 60
Feet

1 inch = 66.67 feet

N

Legend

- HSVE Solid PVC Pipe
- HSVE Well Screen
- HSVE Well Piping (EA Installed)
- HSVE Trench
- HSVE Manifold Shed
- 1 Adams Blvd Building Outline
- Site Location
- [redacted] Catch Basin Square
- [redacted] Catch Basin Round
- [redacted] Manhole
- [redacted] Sanitary Manhole
- [redacted] Soil Boring / Vapor Point
- [redacted] Soil Boring
- [redacted] Monitoring Well
- [redacted] Chainlink Fence

Figure 5
On-Site Treatment System Location (SVE System)

National Heatset Printing Co. Site (152140)

Babylon, New York

Suffolk County

Map Date: 2/7/2022

Source: ESRI, 2011

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[redacted]

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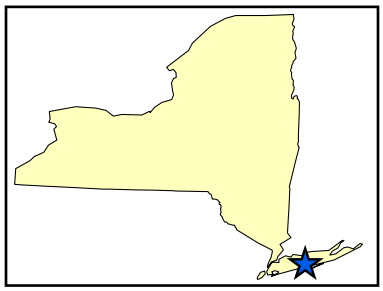

Legend

- DDC Well Cluster
- Groundwater Monitoring Well
- PCE
- TCE
- cis-1,2-DCE

0 20 40 80
Feet

N

Figure 6A
On-Site Shallow Wells
CVOC Trend Graphs

June 2010 - May 2024
National Heatset Site (152140)
Babylon, New York
Suffolk County

Map Date: 3/4/2025
Source: ESRI, 2011

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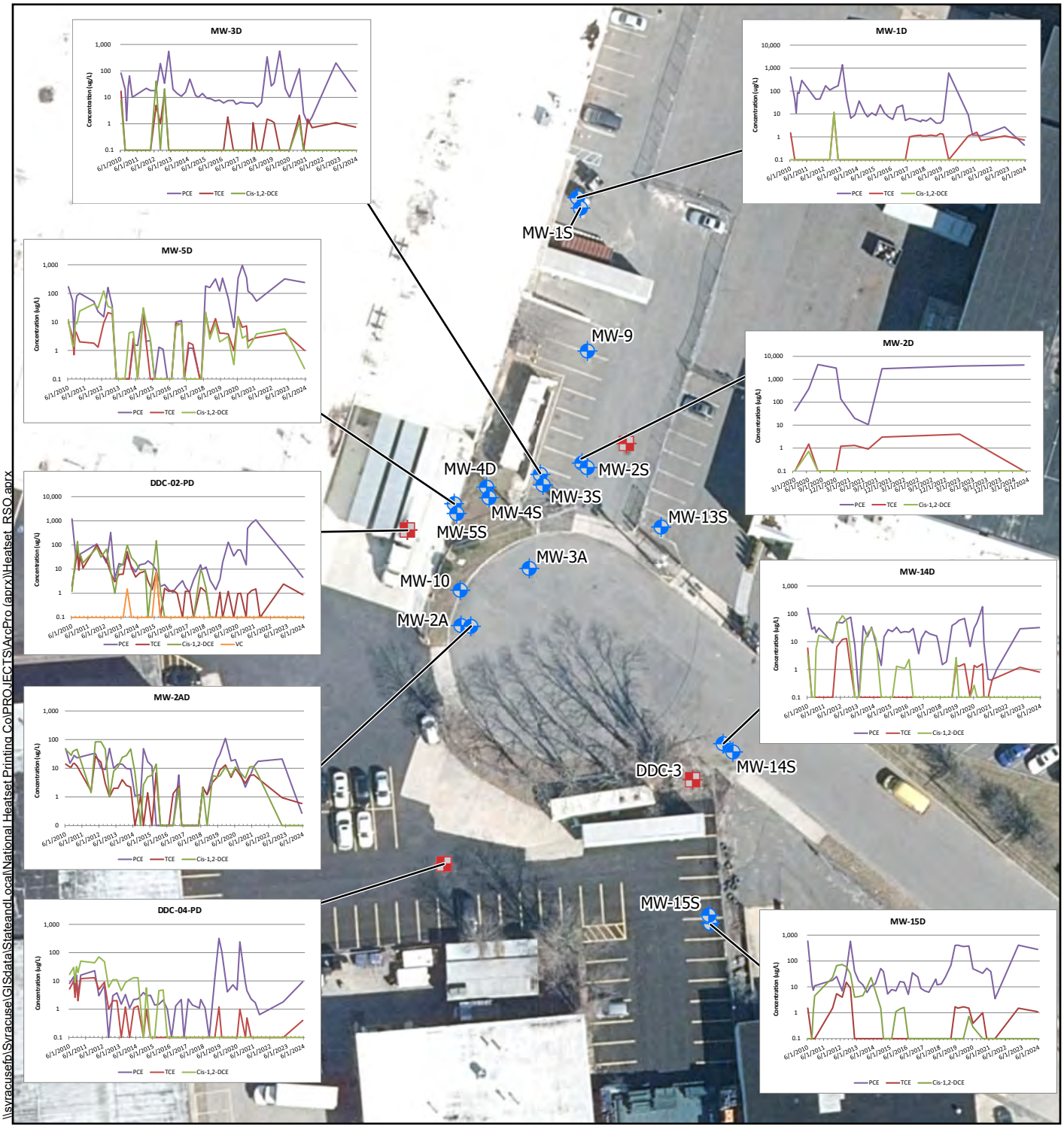

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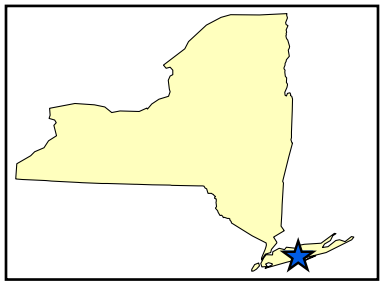

Legend

- DDC Well Cluster
- Groundwater Monitoring Well
- PCE
- TCE
- cis-1,2-DCE

0 20 40 80
Feet

N

Figure 6B
On-Site Deep Wells
CVOC Trend Graphs

June 2010 - May 2024
National Heatset Site (152140)
Babylon, New York
Suffolk County

Map Date: 3/4/2025
Source: ESRI, 2011

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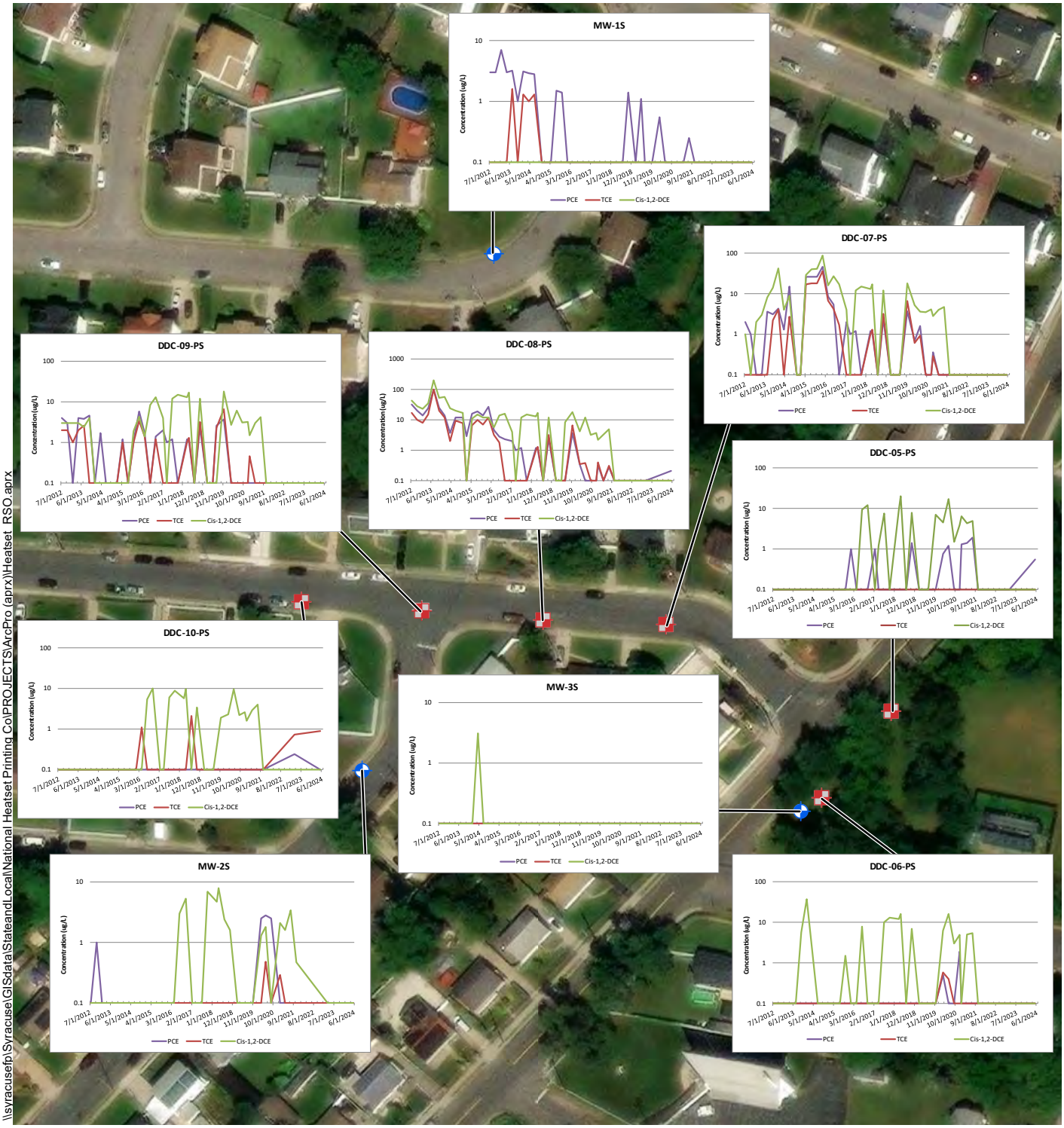

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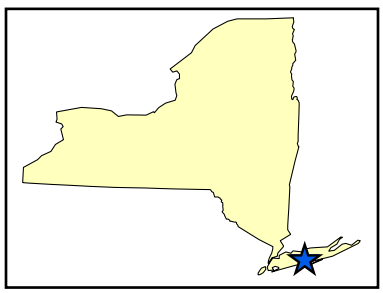

0 37.5 75 150
Feet

N

Legend

- Groundwater Monitoring Well
- DDC Well
- PCE
- TCE
- cis-1,2-DCE

Figure 6C
Off-Site Shallow Wells
CVOC Trend Graphs

July 2012 - May 2024
National Heatset Site (152140)
Babylon, New York
Suffolk County

Map Date: 1/21/2025
Source: ESRI, 2011

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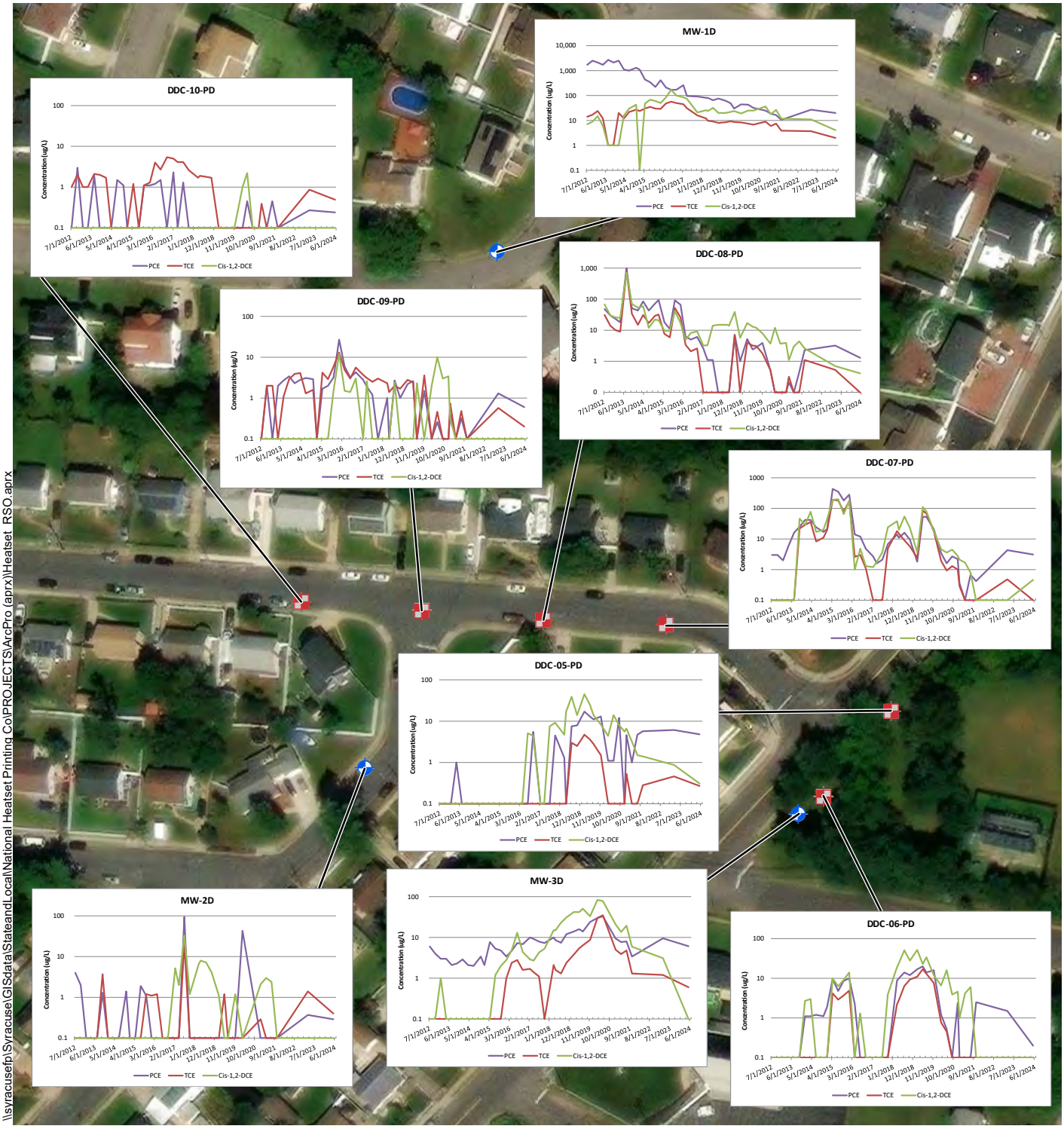

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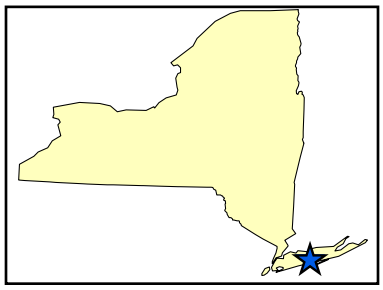

Legend

- DDC Well
- Groundwater Monitoring Well
- PCE
- TCE
- cis-1,2-DCE

0 37.5 75 150
Feet

N

Figure 6D
Off-Site Deep Wells
CVOC Trend Graphs

July 2012 - May 2024
National Heatset Site (152140)
Babylon, New York
Suffolk County

Map Date: 1/22/2025
Source: ESRI, 2011

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Appendix A

Institutional/Engineering Control Certification

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Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. 152140

Site Name National Heatset Printing Co.

Site Address: 1 Adams Boulevard Zip Code: 11735
City/Town: East Farmingdale
County: Suffolk
Site Acreage: 4.340

Reporting Period: January 30, 2022 to January 30, 2025

	YES	NO
1. Is the information above correct?	X	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	X
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	X
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	X
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	X

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Industrial	X	☐
7. Are all ICs in place and functioning as designed?	X	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

_____ _____
Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. 152140 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
100.097-0001-020.001	OE 1 Adams Blvd LLC	Ground Water Use Restriction Monitoring Plan Site Management Plan O&M Plan IC/EC Plan Landuse Restriction

The environmental notice provides an alert that the groundwater use is restricted.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
100.097-0001-020.001	~~Groundwater Treatment System~~ Vapor Mitigation Air Sparging/Soil Vapor Extraction

The site contains a soil vapor extraction system ~~and an in-well vapor stripping system~~. The soil vapor extraction system remediates soil contamination beneath the on-site building and provides vapor mitigation for the building. ~~The in-well vapor stripping system remediates groundwater contamination.~~

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the Engineering Control certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
X	☐

2. For each Engineering control listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

   (a) The Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
X	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

_____ _____

Signature of Owner, Remedial Party or Designated Representative Date

IC CERTIFICATIONS
SITE NO. 152140

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Donald Conan at 333 West Washington Street, Suite 300, Syracuse, New York 13202,

am certifying as a Professional Engineer (Owner or Remedial Party) for the Site named in the Site Details Section of this form.

_____

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

5/16/2025

Date

Appendix B

Annual Inspections
(2022, 2023, and 2024)

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SITE-WIDE INSPECTION **Day: Monday Date: 8/22/2022**

NYSDEC		Temperature: (F)		(am)	80	(pm)
		Wind Direction:		(am)	NE	(pm)
National Heatset Printing Site		Weather:	(am) Sunny			
NYSDEC Site # 152140			(pm) Sunny			
Contract # 1602518		Arrive at site	1430	(pm)		
Babylon, New York		Leave site:	1920	(pm)		

Site Security

Evidence of vandalism (wells, protective cover damage):

MW-9 monitoring well cover missing.

Evidence of penetrations (poles, posts, stakes):

None

General site condition (gates, access, storm drains):

Good.

Additional Comments:

None

SITE-WIDE INSPECTION **Day: Monday Date: 8/22/2022**

SVE System Enclosure

Is there any damage to the system enclosure?

Manifold enclosure in need of repair; plywood hinged cover to be replaced during next quarter.

Does system piping appear to be compromised in any way? If so, describe:

No.

Do gauges and meters read within acceptable levels?

Yes.

Is equipment making any abnormal noises?

No.

Is remote communication equipment functional?

No. Verizon removed wires on 4/19/2021.

Has enclosure heating and ventilation changed since the last inspection?

No

Is there any damage to the well heads?

No.

On-Site DDC Treatment System

Is there any damage to the system enclosure?

No.

Does system piping appear to be compromised in any way? If so, describe:

No

Do gauges and meters read within acceptable levels?

NA- DDC systems off.

Is equipment making any abnormal noises?

NA- DDC systems off.

Is remote communication equipment functional?

NA- DDC systems off.

Has enclosure heating and ventilation changed since the last inspection?

No

Is there any damage to the well heads?

No

Off-site DDC Treatment System

Is there any damage to the system enclosure?

No damage to system enclosure.

Does system piping appear to be compromised in any way? If so, describe:

No

Do gauges and meters read within acceptable levels?

NA- DDC systems off.

Is equipment making any abnormal noises?

NA- DDC systems off.

Is remote communication equipment functional?

NA- DDC systems off.

Has enclosure heating and ventilation changed since the last inspection?

No.

Is there any damage to the well heads?

No.

SITE-WIDE INSPECTION **Day: Wednesday Date: 3/20/2023**

NYSDEC		Temperature: (F)	28	(am)	27	(pm)
		Wind Direction:	WNW	(am)	SE	(pm)
National Heatset Printing Site		Weather:	(am) Sunny			
NYSDEC Site # 152140			(pm) Sunny			
Contract # 1602518		Arrive at site	0700	(pm)		
Babylon, New York		Leave site:	1730	(pm)		

Site Security

Evidence of vandalism (wells, protective cover damage):

MW-9 monitoring well cover missing. MW-6S paved over. MW-7 filled with sediment and water. MW-2AD filled with bentonite. Sediment and bentonite was removed, but MW-2AD well cap could not be removed.

Evidence of penetrations (poles, posts, stakes):

None

General site condition (gates, access, storm drains):

Good.

Additional Comments:

None

SVE System Enclosure

Is there any damage to the system enclosure?

No.

Does system piping appear to be compromised in any way? If so, describe:

No.

Do gauges and meters read within acceptable levels?

Yes.

Is equipment making any abnormal noises?

No.

Is remote communication equipment functional?

No. Verizon removed wires on 4/19/2021.

Has enclosure heating and ventilation changed since the last inspection?

No

Is there any damage to the well heads?

No.

On-Site DDC Treatment System

Is there any damage to the system enclosure?

No.

Does system piping appear to be compromised in any way? If so, describe:

No

Do gauges and meters read within acceptable levels?

NA- DDC systems off.

Is equipment making any abnormal noises?

NA- DDC systems off.

Is remote communication equipment functional?

NA- DDC systems off.

Has enclosure heating and ventilation changed since the last inspection?

No

Is there any damage to the well heads?

No

Off-site DDC Treatment System

Is there any damage to the system enclosure?

No damage to system enclosure. Wires down near entrance, called PSEG.

Does system piping appear to be compromised in any way? If so, describe:

No

Do gauges and meters read within acceptable levels?

NA- DDC systems off.

Is equipment making any abnormal noises?

NA- DDC systems off.

Is remote communication equipment functional?

NA- DDC systems off.

Has enclosure heating and ventilation changed since the last inspection?

No.

Is there any damage to the well heads?

No.

Photograph Log

	
Wires from Telephone pole laying on the ground outside of the offsite area.	Connections of the wires laying on the ground
	
MW-2AD filled with bentonite when opened	MW-7S

	
MW-7S filled in with water and sediment	

SITE-WIDE INSPECTION **Day: Thursday Date: 5/16/2024**

NYSDEC		Temperature: (F)	52	(am)	65	(pm)
		Wind Direction:	NNE	(am)	NNE	(pm)
National Heatset Printing Site		Weather:	(am) Rain			
NYSDEC Site # 152140			(pm) Partly Cloudy			
Contract # 1602518		Arrive at site	0730	(am)		
Babylon, New York		Leave site:	1330	(pm)		

Site Security

Evidence of vandalism (wells, protective cover damage):

MW-9 monitoring well cover missing.

Evidence of penetrations (poles, posts, stakes):

None

General site condition (gates, access, storm drains):

Good.

Additional Comments:

None

SVE System Enclosure

Is there any damage to the system enclosure?

No.

Does system piping appear to be compromised in any way? If so, describe:

No.

Do gauges and meters read within acceptable levels?

Yes.

Is equipment making any abnormal noises?

No.

Is remote communication equipment functional?

No. Verizon removed wires on 4/19/2021.

Has enclosure heating and ventilation changed since the last inspection?

No

Is there any damage to the well heads?

No.

On-Site DDC Treatment System

Is there any damage to the system enclosure?

No.

Does system piping appear to be compromised in any way? If so, describe:

No

Do gauges and meters read within acceptable levels?

NA- DDC systems off.

Is equipment making any abnormal noises?

NA- DDC systems off.

Is remote communication equipment functional?

NA- DDC systems off.

Has enclosure heating and ventilation changed since the last inspection?

No

Is there any damage to the well heads?

No

Off-site DDC Treatment System

Is there any damage to the system enclosure?

No damage to system enclosure.

Does system piping appear to be compromised in any way? If so, describe:

No

Do gauges and meters read within acceptable levels?

NA- DDC systems off.

Is equipment making any abnormal noises?

NA- DDC systems off.

Is remote communication equipment functional?

NA- DDC systems off.

Has enclosure heating and ventilation changed since the last inspection?

No.

Is there any damage to the well heads?

No.

SITE-WIDE INSPECTION **Day: Thursday Date: 5/16/2024**

Photograph Log

	
Onsite location from cudlesac	North west corner of the site
	
East side of the site	South east side of the site building
	
Southeast portion of the site	Offsite location looking to the northeast

Appendix C

Green Remediation

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Remedial Alternatives	GHG Emissions	Total energy Used	Water Consumption	Electricity Usage	Onsite NO_x Emissions	Onsite SO_x Emissions	Onsite PM_{10} Emissions	Total NO_x Emissions	Total SO_x Emissions	Total PM_{10} Emissions	Accident Risk Fatality	Accident Risk Injury
	metric ton	MMBTU	gallons	MWH	metric ton	metric ton	metric ton	metric ton	metric ton	metric ton		
Jan2022-Jan2025_PRR	81.14	1.80E+03	1.19E+05	2.33E+02	1.66E-02	1.70E-03	1.49E-03	9.26E-02	1.01E-01	5.58E-02	5.78E-04	5.14E-02

Additional Sustainability Metrics

Remedial Alternatives	Non-Hazardous Waste Landfill Space	Hazardous Waste Landfill Space	Topsoil Consumption	Costing	Lost Hours - Injury	Percent Electricity from Renewable Sources	Final Cost with Footprint Reduction
	tons	tons	cubic yards	$		%	$
Jan2022-Jan2025_PRR	0.00	0.00E+00	0.00E+00	0.00E+00	4.11E-01	6.1%	0.00E+00

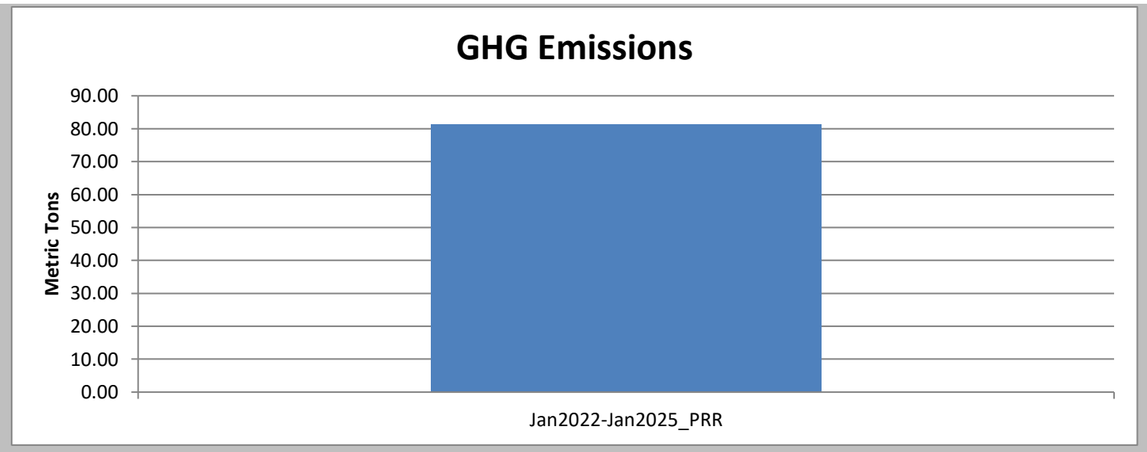
Relative Impact

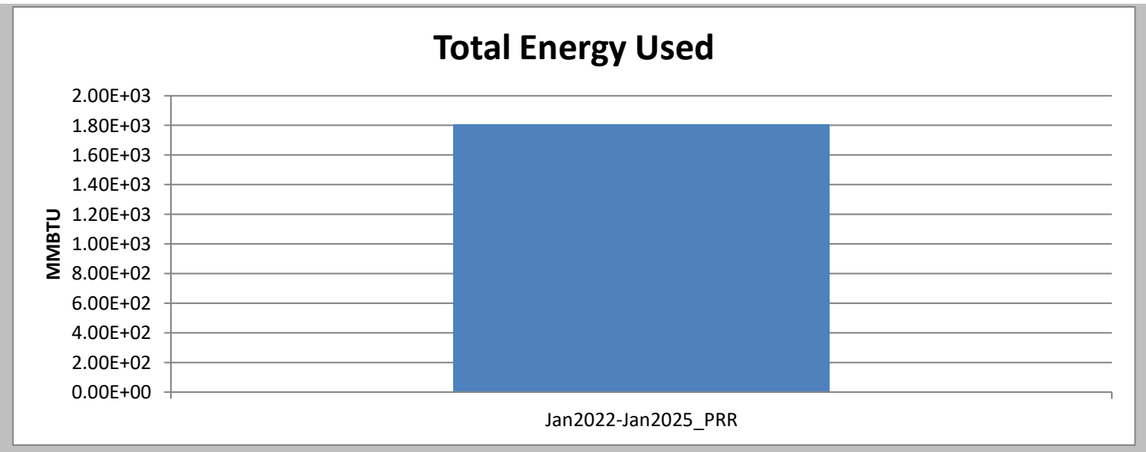
Remedial Alternatives	GHG Emissions	Energy Usage	Water Usage	Electricity Usage	Onsite NOx Emissions	Onsite SOx Emissions	Onsite PM10 Emissions	Total NOx emissions	Total SOx Emissions	Total PM10 Emissions	*Accident Risk Fatality	*Accident Risk Injury	Community Impacts	Resources Lost
Jan2022-Jan2025_PRR	High	High	High	High	High	High	High	High	High	High	Low	Medium	user select	user select

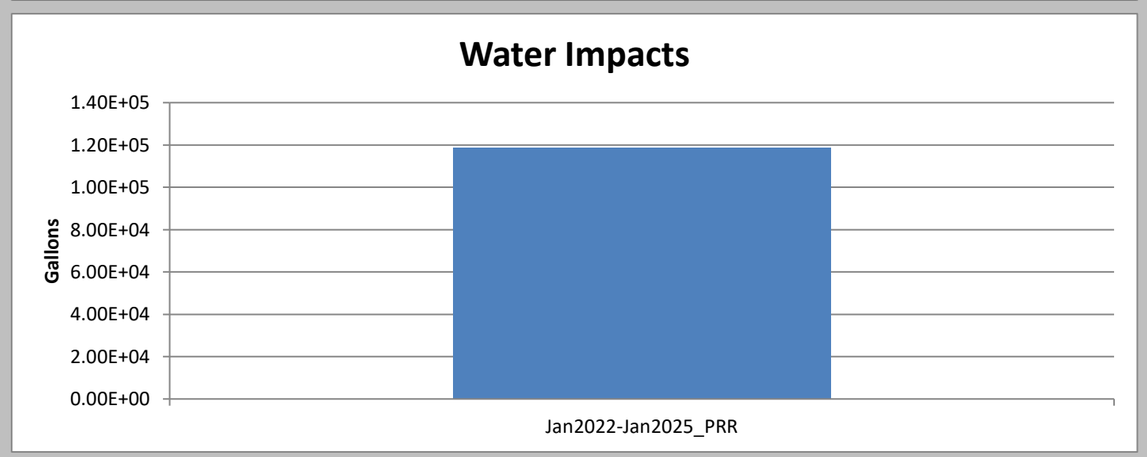
Relative Impact (User Override)

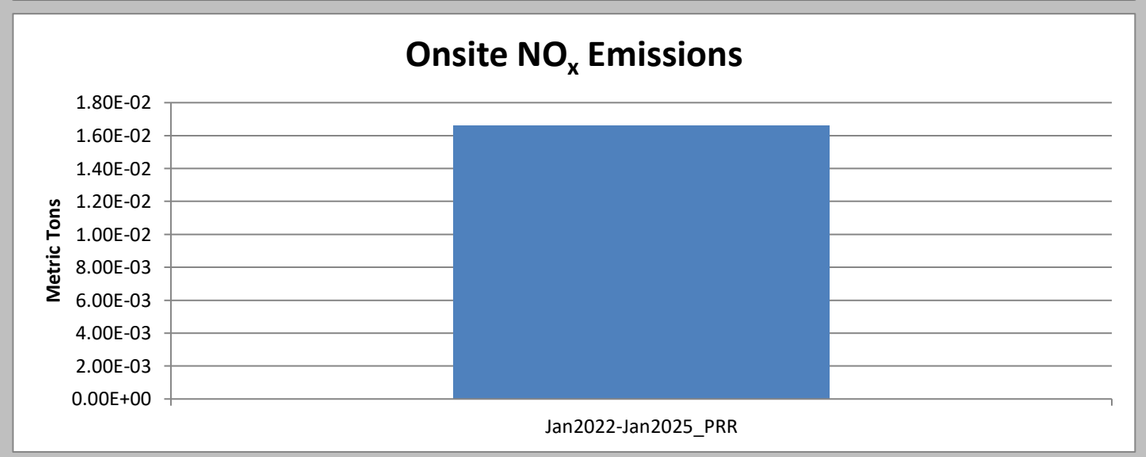
Remedial Alternatives	GHG Emissions	Energy Usage	Water Usage	Electricity Usage	Onsite NOx Emissions	Onsite SOx Emissions	Onsite PM10 Emissions	Total NOx Emissions	Total SOx Emissions	Total PM10 Emissions	*Accident Risk Fatality	*Accident Risk Injury	Community Impacts	Resources Lost
Jan2022-Jan2025_PRR	High	High	High	High	High	High	High	High	High	High	Low	Medium	user select	user select

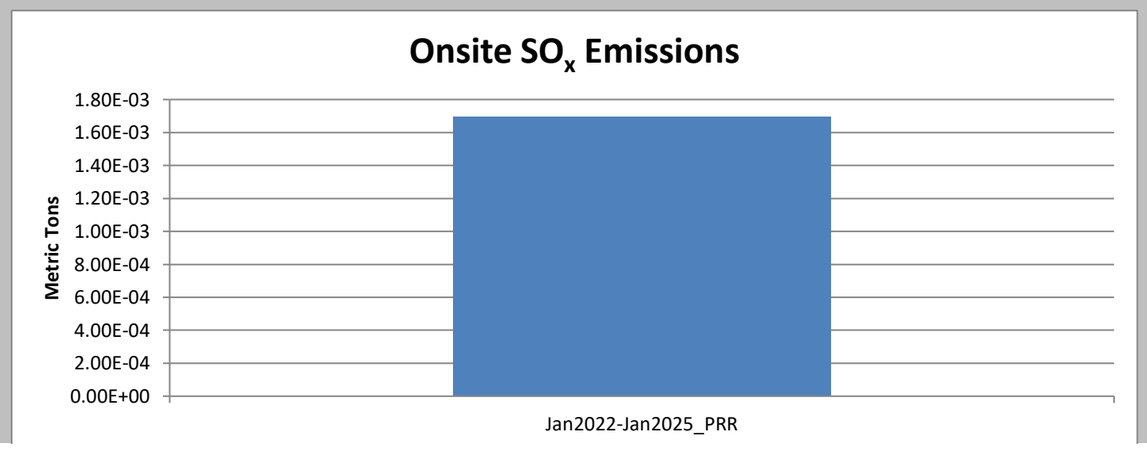
*Accident Risk is an estimate of how many accidents may occur. This risk is not the same as Cancer Risk, which is the probablity (for a single person) of getting cancer. Accident risk is not comparable to Cancer Risk due to inherent fundamental differences.

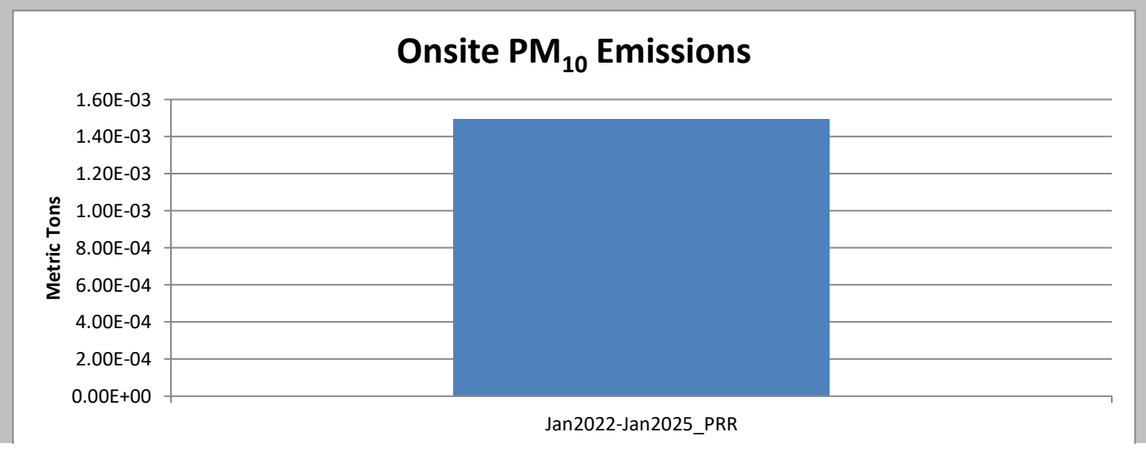

GHG Emissions
Metric Tons
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Jan2022-Jan2025_PRR

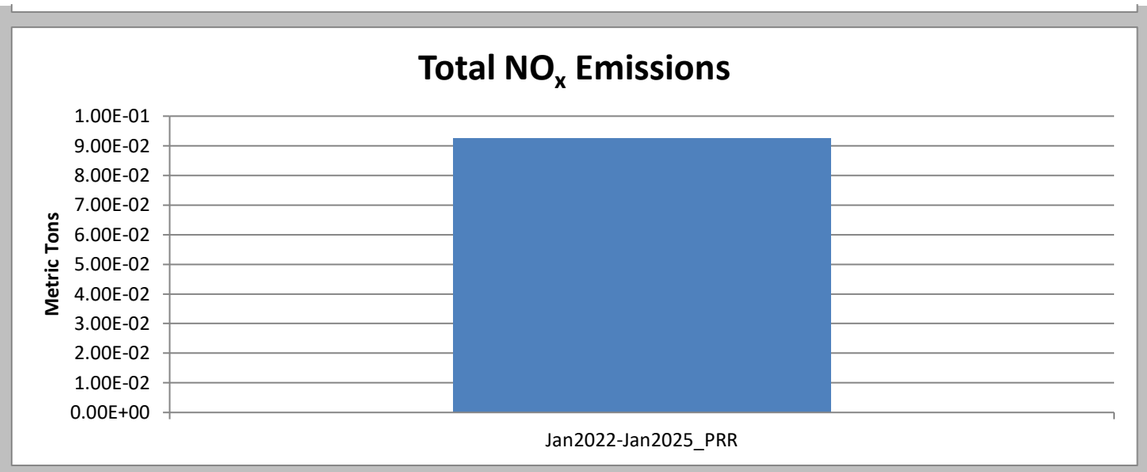

Total Energy Used
MMBTU
2.00E+03
1.80E+03
1.60E+03
1.40E+03
1.20E+03
1.00E+03
8.00E+02
6.00E+02
4.00E+02
2.00E+02
0.00E+00
Jan2022-Jan2025_PRR

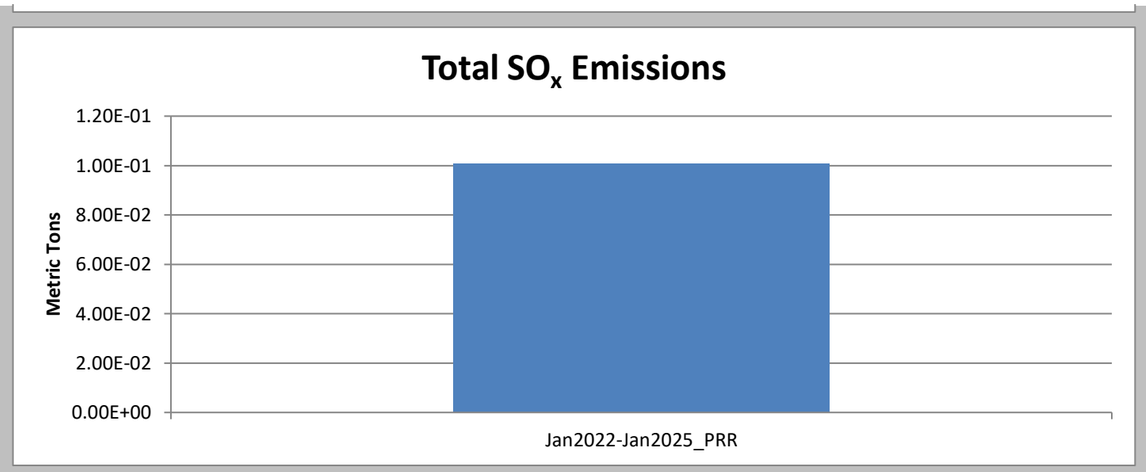

Water Impacts
Gallons
1.40E+05
1.20E+05
1.00E+05
8.00E+04
6.00E+04
4.00E+04
2.00E+04
0.00E+00
Jan2022-Jan2025_PRR

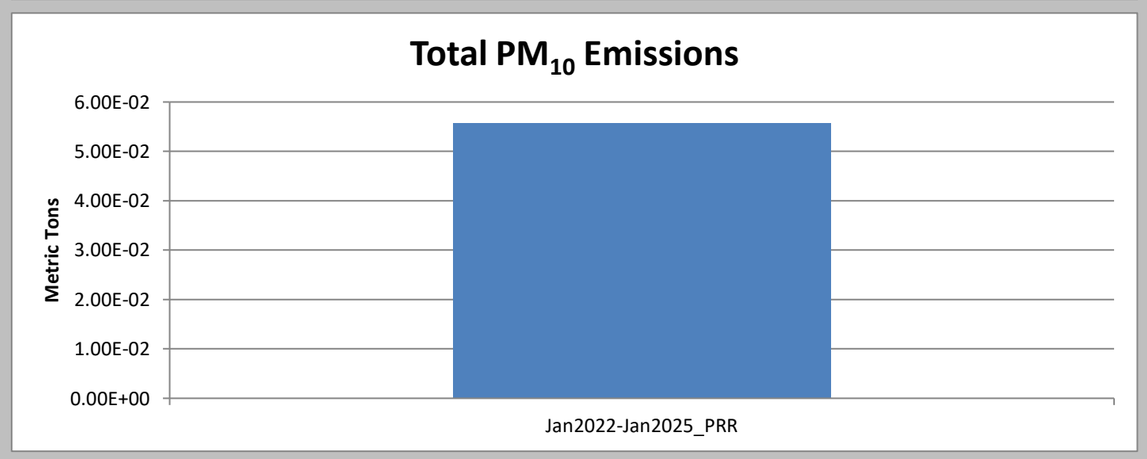

Onsite NOx Emissions
Metric Tons
1.80E-02
1.60E-02
1.40E-02
1.20E-02
1.00E-02
8.00E-03
6.00E-03
4.00E+03
2.00E-03
0.00E+00
Jan2022-Jan2025_PRR

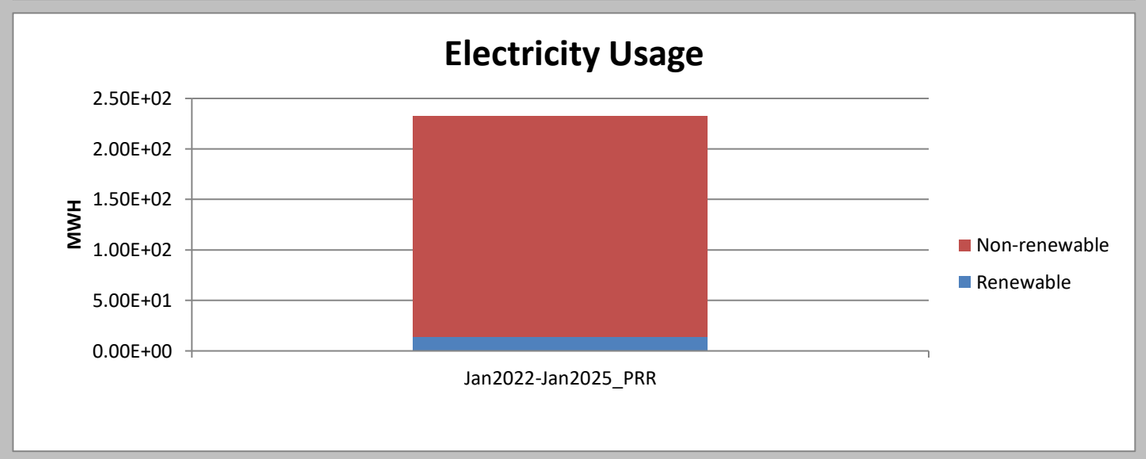

Onsite SOx Emissions
Metric Tons
1.80E-03
1.60E-03
1.40E-03
1.20E-03
1.00E-03
8.00E-04
6.00E-04
4.00E-04
2.00E-04
0.00E+00
Jan2022-Jan2025_PRR

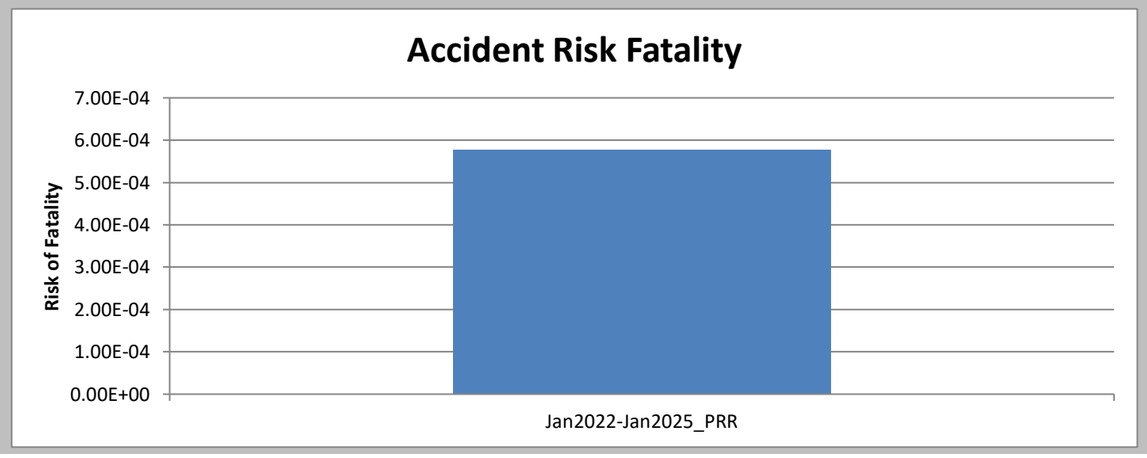

Onsite PM10 Emissions
Metric Tons
1.60E-03
1.40E-03
1.20E-03
1.00E-03
8.00E-04
6.00E-04
4.00E-04
2.00E-04
0.00E+00
Jan2022-Jan2025_PRR

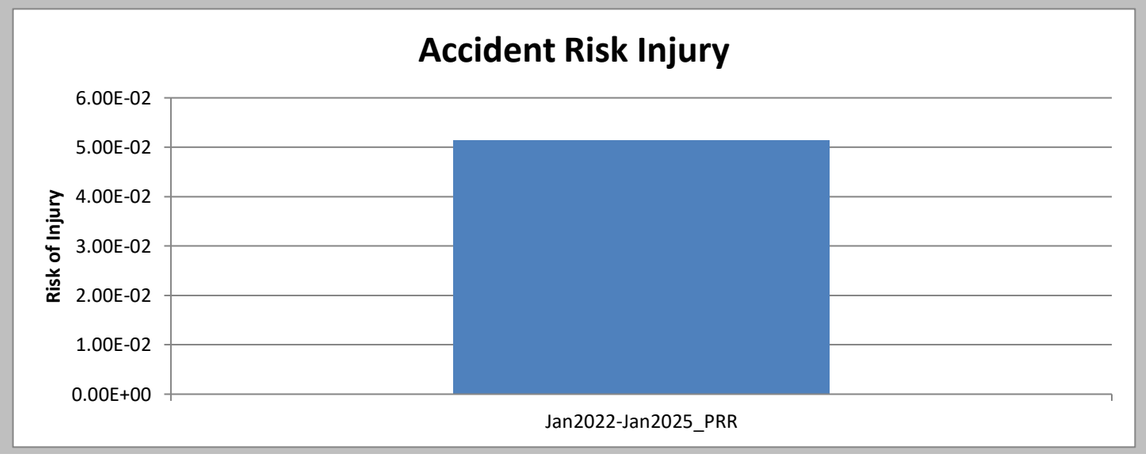

Total NO_x Emissions
Metric Tons
1.00E-01
9.00E-02
8.00E-02
7.00E-02
6.00E-02
5.00E-02
4.00E-02
3.00E-02
2.00E-02
1.00E-02
0.00E+00
Jan2022-Jan2025_PRR


Total SO_x Emissions
Metric Tons
1.20E-01
1.00E-01
8.00E-02
6.00E-02
4.00E-02
2.00E-02
0.00E+00
Jan2022-Jan2025_PRR


Total PM_{10} Emissions
Metric Tons
6.00E-02
5.00E-02
4.00E-02
3.00E-02
2.00E-02
1.00E-02
0.00E+00
Jan2022-Jan2025_PRR


Electricity Usage
MWH
2.50E+02
2.00E+02
1.50E+02
1.00E+02
5.00E+01
0.00E+00
Jan2022-Jan2025_PRR
Non-renewable
Renewable


Accident Risk Fatality
Risk of Fatality
7.00E-04
6.00E-04
5.00E-04
4.00E-04
3.00E-04
2.00E-04
1.00E-04
0.00E+00
Jan2022-Jan2025_PRR


Accident Risk Injury
Risk of Injury
6.00E-02
5.00E-02
4.00E-02
3.00E-02
2.00E-02
1.00E-02
0.00E+00
Jan2022-Jan2025_PRR

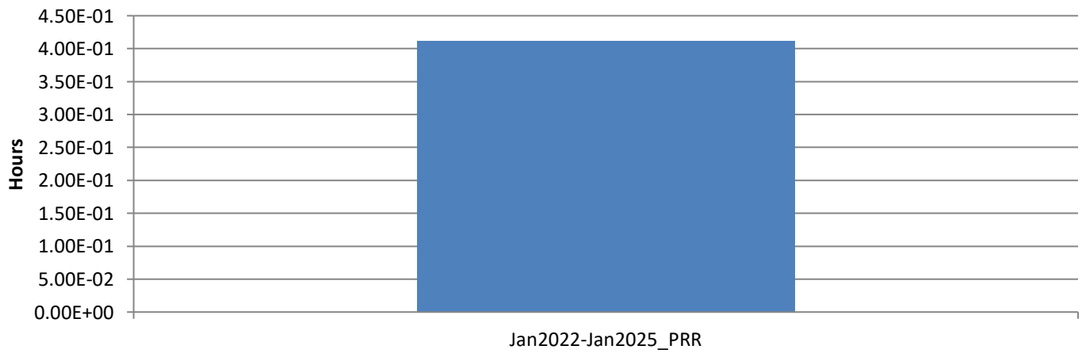
Non-Hazardous Waste Landfill Space

Hazardous Waste Landfill Space

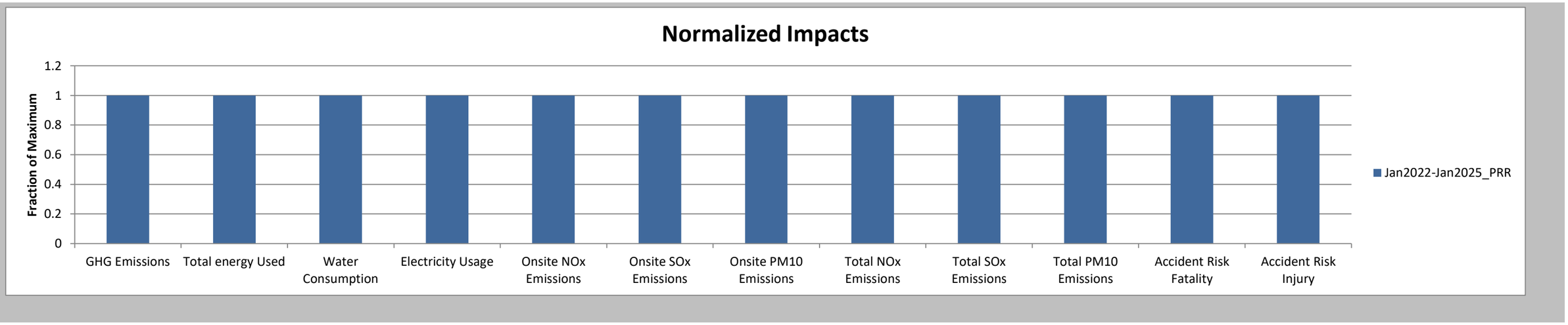
Topsoil Consumption

Costing

Lost Hours - Injury



Final Cost with Footprint Reduction


Normalized Impacts
Fraction of Maximum
1.2
1
0.8
0.6
0.4
0.2
0
GHG Emissions
Total energy Used
Water Consumption
Electricity Usage
Onsite NOx Emissions
Onsite SOx Emissions
Onsite PM10 Emissions
Total NOx Emissions
Total SOx Emissions
Total PM10 Emissions
Accident Risk Fatality
Accident Risk Injury
Jan2022-Jan2025_PRR