

March 11, 2019
Revised April 23, 2019

Mr. Aaron Fischer
Assistant Environmental Engineer
Remedial Bureau B/ Section D
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway, Albany, NY 12233-7016

*Re: 2019 Additional ISCO Infusion Program Work Plan
New Lots Avenue, Borough of Brooklyn, Kings County, NY
Ebenezer Plaza 1; BCP # C224240
Chazen Project # 20918.06*

Dear Mr. Fischer:

On behalf of the Site owner, BCP Volunteer Procida Development Group, LLC, The Chazen Companies (Chazen) has prepared this Supplemental ISCO Infusion Work Plan (WP) for your review and approval. The WP was developed based on the findings of the 2018 ISCO Infusion Program completed by Chazen, and subsequent review, discussions, and correspondence with the New York State Department of Environmental Conservation (NYSDEC) to evaluate effectiveness of the 2018 ISCO program.

As previously reported, the previous ISCO infusion event successfully mitigated approximately 80% of the of the impacts in approximately 4,200 yd³ of soils in an area approximately 18,000 ft². This confirmed a significant bulk reduction of the contamination of concern. However, two pockets of soils measuring approximately 2,400 ft² each containing a total of approximately 550 yd³ (770 ton) with an average concentration of 275 mg/kg of total VOCs. were identified for additional mitigation These pockets of residual impacts are depicted on **Figure 1**.

This additional remedial activity will be performed in accordance with the existing approved Site's Health and Safety Plan (HASP), Community Air Monitoring Plan (CAMP), Field Sampling Plan (FSP), Quality Assurance Project Plan (QAPP), and the procedures described below.

Site Preparation

As previously approved by NYSDEC in your email dated January 24, 2019, construction of the foundation walls and footing for support of the new slab-on grade buildings over the impacted areas has been completed. Imported backfill materials approved for on-site use by NYSDEC in your email dated February 6, 2019 has been placed and the area restored to construction grades. The placement of walls, footings, and clean fill does not interfere with or obstruct the placement of injection or monitoring borings or of the ISCO materials. The location of newly constructed walls, footings, and fill areas are included on **Figure 2**.

Mobilization for this final remedial action measure will include, placement of necessary construction fencing, traffic controls, support equipment and/or structures, and any or all other non-intrusive activities necessary to

secure the work zone(s) and prepare the Site. Site contractors shall ensure drilling equipment or other necessary equipment be free of contamination upon arrival at the Site.

The Site-Specific HASP has previously been submitted. It is specific to the remediation activities to be performed, and includes directions to the nearest hospital, identifies Site hazards and potential Site contaminant exposures, and specifies personal protective equipment (PPE) to be used to safeguard against the identified Site hazards.

A copy of the approved CAMP included in the RAWP is attached. Continuous air monitoring will be performed during the ISCO boring installations and subsequent sampling events whenever intrusive activities are being performed on-Site. Periodic monitoring will be performed when during non-intrusive work is being conducted for the duration of the ISCO program. Daily field reports including the air monitoring data will be prepared in the field and provided to NYSDEC digitally on a weekly basis or more frequently when warranted

No additional permits are required from federal or state agencies to perform this work. However:

- A notification to the USEAP and an updated/modified UIC Injection Well Form must be submitted; and,
- Notification and approval of the Office of Homeland Security prior to purchase and transportation of the Hydrogen Peroxide due to the nature and volume of material. The manufacturer/supplier is responsible/liable for compliance.

A sidewalk/roadway opening, and/or temporary occupancy permit from the City of New York will be required for the installation of groundwater monitoring wells placed on City property. If drilling is performed concurrent with the necessary reconstruction of the sidewalks (already included in the approved plans) no additional permit would be needed.

Installations

The approximate limits of the area of residual impacts where soil sampling results reported concentrations of TMBs that exceed 10 mg/kg is included as **Figure 3**. The area of the site where the concentration of total VOCs exceed 50 mg/kg is included on **Figure 4**.

All of the observations and data collected to date for the site indicate that the residual impacts to the on-site soils and associated impacts to the groundwater are the result of a release over time or series of releases from the distribution piping beneath the floor of the former dry cleaner facility. The piping connected the four turpentine and six benzene USTs to the above grade equipment. Based on the 2010 UST closure report from Eastern Environmental (attached to the RIR), and the recently completed removal action performed under Chazen's oversight, there is no data or evidence that indicates any residual impacts remain on-site above the water table. Additionally, the data indicates that VOC concentrations that exceed PGWSCOs are present in the interval from 14-17 feet below original site grades, assumed to be the natural zone of fluctuation of the water table. The infusion points target this zone.

A total of fifteen additional ISCO infusion wells, identified as E-1 to E-8 and W-1 to W-7, will be installed with a Geoprobe direct push drilling rig. The infusion points will be advanced by driving a geoprobe SP-11 deployable screen sampler to the target depth of 17 feet below the base grade elevation, and then retracting the drive rods

to deploy the three-foot screen over the interval from 14-17 feet below grade and the borehole sealed around at the surface the drive rods to prevent blowback.

At each infusion point, the SP-11 screen would be installed and the infusion at that location completed in a single event. The screen will then be withdrawn and the boring allowed to collapse. The location of each point will be surveyed with a hand-held GPS unit and added to the existing site map and a level used to determine the elevation of the ground surface for accurate placement of the well screen.

The pre-determined locations of the infusion wells and the radius of volume-based displacement of the infusions at each well point are included in **Figure 4**. The radius of influence included on Figure 4 is based on the volume of materials to be infused at a 25% soil porosity and assumes a 100% displacement of the groundwater, with laminar flow (no turbulence, and no mixing). Based on observations during the last infusion event, the actual radius of influence will be much greater. An estimate of the approximate composite zone of influence is also included on Figure 4. Given the robust nature of the overall infusion program, this final measure is expected to address the limited remaining volume of soils that require active treatment prior to the long-term monitoring and natural attenuation that will be implemented at the commercial site during the SMP Phase of the project.

Infusion Process

A variable speed pump capable of 1-10 gpm and engineered for optimal use with the injection chemicals will be used to inject the chemical oxidant and activator through the drive rods and out into the formation through the screen sampler. The optimal infusion flow rate (assumed to be approximately 5 gpm) necessary to prevent blowback at the surface, will be determined in the field for each location. Blowback occurs when the pumping rate is faster than the head-driven seepage rate away from the well screen, causing material to rise up the annular space outside the drive rods and breakout at the surface.

Iron Sulfate

The ferrous sulfate heptahydrate will be delivered to the site in 50 lb bags on shipping pallets. The material will be staged in a secure area and covered under tarps when not in use. The material will be mixed at the infusion well by partially immersing a new unopened 50 pound bag of powder into a drum of potable water and opening the bag under water to minimize dust generation. A hand operated paddle mixer will be used to stir the mixture until no free powder remains. The material will then be injected into the infusion point using the transfer pump.

A total of 1,350 pounds of Ferrous Sulfate Heptahydrate [$\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$] (~1 lb. FeSO_4 per gallon of water) will be injected. The volume at each location is included in the table in the next section. A final drum of water will be pumped into the infusion point to help spread and dilute the iron slurry mix.

Hydrogen Peroxide

Immediately following the iron sulfate slurry and chase water infusion, a factory premixed solution of 15% Hydrogen Peroxide (prepared at the chemical supplier and delivered in 50-gallon drums or two 7,500 gallon tanker-trailers) will be injected into the infusion well at a rate that the formation will accept the material. The pressurized pumping system will generate pressures of 10 to 50 pounds per square inch (psi) and deliver material at a maximum rate of approximately 3 to 5 gallons per minute (GPM).

Based on the hydraulic conductivity of the soils (5×10^{-3} centimeters per second [cm/sec]) and the pressure gradient and turbulent flow (mixing) created by the infusion, the FeSO_4 and H_2O_2 should spread laterally up to a maximum distance of 12.5-feet (for 1,000 gallons) from the infusion points before complete dissipation. The radii depicted on Figure 1 are more conservative. The infusions will be performed with 100% of the FeSO_4 and 100% of the H_2O_2 injected at each well location in order in one continuous stage.

Stoichiometric Balance

The quantities of Iron Sulfate Heptahydrate and Hydrogen Peroxide to be used in this infusion process were based on review of published case studies using the following site parameters and assumptions:

- Estimated mass of impacted soils = 770 tons (at 1.4 tn/yd^3) at an assumed soil porosity of 25%
- Residual impacts (total VOCs reported in last sampling event) within the target area range from > 50 mg/kg to 711 mg/kg with an average concentration of 275 mg/kg. The pockets contain approximately equal volumes with the western area at an average concentration of 228 mg/kg and the eastern pocket at an average concentration of 325 mg/kg.

The volume of iron sulfate and peroxide calculated for each infusion point is included in the table below.

ID	Total VOCs (mg/kg)	H2O2		FeSO11H14	
		Balancing Volume (gal)	+20% (gal)	Calculated (lbs)	Use (lbs)
West Area					
W-1	300	800	960	79.0	100
W-2	300	800	960	79.0	100
W-3	100	300	360	29.6	50
W-4	350	1000	1200	98.7	100
W-5	350	1000	1200	98.7	100
W-6	100	300	360	29.6	50
W-7	100	300	360	29.6	50
Totals	228 (avg)	4500	5400	444.3	550
East Area					
E-1	450	1300	1560	128.4	150
E-2	450	1300	1560	128.4	150
E-3	400	1100	1320	108.6	100
E-4	400	1100	1320	108.6	100
E-5	350	1000	1200	98.7	100
E-6	350	1000	1200	98.7	100
E-7	100	300	360	29.6	50
E-8	100	300	360	29.6	50
Totals	325 (avg)	7400	8880	730.7	800

Volumes are based on the average concentration of total VOCs anticipated within the zone of influence of each specific infusion point round to the nearest hundred gallons. An additional 25% volume included in the calculated volume for each location. These volumes were calculated as follows:

Approximately 48 gallons of 35% hydrogen peroxide and from 1.1 lbs to 4.4 lbs of dissolved ferrous iron is required to completely oxidize 2000 mg/kg of a mixture of GRO/DRO (C₆-C₂₈) compounds in one ton of soil.

- Adjusting for 15% peroxide (multiply volume by 35%/15% = 2.33) and adjusting to 275 mg/kg (multiply by 275/2000 = 0.118) results in a total of 13.12 gallons of 15% peroxide per ton of soil times 770 tons for a total 11,585 gallons of 15% peroxide. The actual quantity to be used will be 15,000 gallons (+20%) to accommodate localized variability in concentrations, improve overall areal coverage, and satisfy demand from potential competition (if any) for the peroxide.
- Ferrous Sulfate Heptahydrate is 20% iron by weight requiring 5 lbs of the compound to deliver 1 lbs of dissolved iron. Adjusting for the reduced average concentration of impacts in the soil (multiplying by 0.118 as with the peroxide), results in a range of 499 lbs to 1964 lbs of ferrous sulfate to catalyze the treatment of 770 tons of soil impacted with 235 mg/kg. The middle of the range (1,200 lbs) is a reasonable estimate based on observed soil conditions and previous injection results.

The infusion process will commence at the southeastern most point and proceed northward along the east wall completing the row nearest the property boundary first and then move westward completing each subsequent row from north to south. The order of injection is intended to force gradient inward from the boundary and upgradient toward the presumed historical source area. This is intended to help minimize mobilization and force displaced impacted groundwater away from the the eastern boundary and back upgradient toward the source area.

Reaction Monitoring

Based on the results of the previous infusion event, reaction kinematic monitoring is not necessary as no violent or potentially violent reactions were observed or recorded during the previous injection when higher concentrations were present.

Performance Monitoring

To document the performance of the mitigation effort, soil samples will be collected immediately prior to and after the ISCO infusion event for comparison of individual and total VOCs in the soils. Six previously collected Post-ISCO soil samples are located within the projected area of influence of the fifteen supplemental infusion points. The data from these locations plus six newly installed points will be used as the baseline for comparative purposes. Upon completion of the supplemental infusion event, a new collocated boring will be installed at each of the 16 pre-ISCO boring locations and discreet interval samples collected. The results of the pre and post ISCO samples will be compared to evaluate the effect of the infusion on the concentrations of individual and total VOCs in the soils at each location. The boring and sampling locations are included on **Figure 5**.

For baseline borings, continuous split spoon samples will be collected with the Geoprobe Macro Core spoon sampler. Cores will be screened with a photoionization detector (PID), examined for visual or olfactory evidence of impacts, and a descriptive log prepared for each boring. Borings will be advanced from existing grade to a

maximum depth of 20 feet. One soil grab sample will be collected from each boring location for each three-foot core collected from beneath the water table interval that exhibits evidence of impacts

Samples will be collected with Encore or Terra Core sampling devices and submitted at the end of the day to the laboratory for analysis of the ASP TCL List of Volatile Organic Compounds (VOCs). The samples will be submitted with full quality assurance and control (QA/QC) and Category B data deliverables.

Two of the baseline borings in each infusion area will be converted to temporary piezometers and used to measure the depth to the water table. The elevation will be determined from a fixed site elevation using a level. At each infusion point, the elevation of the ground surface will be determined, and the screen set such the top of the screen is at 4" to 6" below the calculated water table and the base of the screen at three or four feet below the water table. This should ensure that the target zone at each location is receiving the maximum dosage of ISCO reactants.

Not less than 7 days after completion of the peroxide infusion event, post-ISCO borings will be advanced immediately adjacent to the pre-ISCO sample locations. A geoprobe Large Bore spoon sampler will be used to collect a discreet interval sample from the same intervals as the previously collect sample. All soil samples will be submitted for analysis of the ASP TCL List of Volatile Organic Compounds (VOCs). The samples will be submitted with full quality assurance and control (QA/QC) and Category B data deliverables.

Sample Results Comparison

The post supplemental infusion sample results will be summarized and compared to the pre-ISCO sample results and the relative effectiveness of the ISCO infusions determined for these residually impacted areas. An interim report with Chazen's analysis and conclusions will be provided to NSYDEC with our recommendation.

The calculated volumes and anticipated distribution of the additional ISCO chemicals should be sufficient to confirm that the remedial action goals of the ISCO program within the delineated areas have been substantially achieved.

As discussed in the original work plan for the ISCO remedy, the program will result in significant reduction of residual impacts existing prior to the Volunteer's ownership of the property. Although all residual concentrations may not achieve PGWSCOs everywhere within the original 4,200 yd³ volume in the 18,000 ft² area of impact identified in the RIR, the impacted area will meet restricted residential SCOs for protection of public health. The program will be sufficient to effectively, substantially, and permanently reduce on-site groundwater impacts to the point where off-site migration, to areas all served by the municipal water supply, is no longer a significant concern and will, over time, naturally attenuate.

A contingency is included in the work plan to provide additional long-term reduction in soil impacts and effectively prevent off-site migration of impacted groundwater along the eastern property boundary in the event that PGWSCOs are not achieved

Groundwater Monitoring

Up to four groundwater monitoring wells will be installed to provide post-ISCO water quality monitoring and long-term groundwater monitoring points. The tentative locations of the proposed permanent wells discussed

with NYSDEC are included on **Figure 6**. The current status and serviceability of monitoring well MW-10, located in the sidewalk along Powell Street will be assessed to determine its potential future use as a monitoring point. MW-10 will be used for monitoring if serviceable or replaced if necessary. If replacement is needed, it will be relocated approximately 50 feet to the north along the property boundary to adjacent to the eastern injection area and PetroFix barrier. A fourth well will be located along the southern property boundary near the intersection of Powell and Hegeman Streets.

The locations and timing of the placement and sampling of these permanent wells will be selected in consultation with NYSDEC after review and comparison of the post-ISCO soil data. Side walk reconstruction along Powell and Hegeman are included in the site redevelopment plans but not expected to be performed before June 2020. It may not be practical to install permanent wells before that time. Temporary sampling points could be used to collect groundwater data need before the installation of the permanent wells.

Once installed, the wells will be surveyed, and water level data used to develop a groundwater elevation contour map of the site.

ISCO Goals and Contingencies

Due to the limitations inherent in an in-situ oxidation remedy, caused by variations in soil characteristics such as grain size, density, hydraulic conductivity, distribution of chemical concentrations, and organic carbon content, it may not be practicable or feasible to achieve the PGWSCOs for every compound at every location throughout the injection areas. Isolated pockets of impacts may remain with one or more residual petroleum compounds at concentrations that exceed PGWSCOs.

As stated in the NYS DEC approved RAWP, Decision Document, & ESD, the goal of the ISCO program is to substantially reduce the concentrations of petroleum compounds in the on-site soil with the intention of reducing soil impacts to concentrations sufficient to curtail the off-site migration of impacted groundwater.

Although the injection quantities have been stoichiometrically balanced (+20%) for the concentrations of petroleum compounds at each injection point, competition for the reactants, reduction in reactant concentration by dilution effects, variability in the relative concentrations of individual compounds, and diminishing returns in effectiveness as the concentrations of available target compounds reduce, it is anticipated that a reduction of 70-90% of total VOCs can be achieved in this single event.

The results of the ten pre and post-ISCO soil samples will be used to calculate the reduction in individual and total contaminant concentrations achieved at each location. Remediation would be considered complete if a reduction of 70% or more for each individual compound AND a 70% a reduction of the total VOC concentration is achieved.

If PGWSCOs are achieved for all sample locations, no additional remedial action will be performed. Groundwater monitoring wells would be installed and sampled at four locations to be determined in consultation with NYSDEC. It is assumed that the wells would be installed and sampled in not less than 30 days after the infusion event or greater than 120 days after the event. Subsequent sampling of these wells would be included in the Site Management Plan.

If one or more of the sampling locations fail to achieve the anticipated 70% - 90% reduction results, an injection Regensis Petrofix® will be performed at each of those locations. Per consultation with Regensis, 200 lbs of Petrofix® (a proprietary solution of activated micro-carbon that eliminates hydrocarbons in the groundwater and a biostimulant that promotes the desorption and biological decay of hydrocarbons adsorbed to the soils). 40 lbs of material will be injected into each of five injection points located in a 10-foot diameter ring around each sample location that failed to achieve the target results. An additional 2400 lbs will be infused in two parallel rows of 20 points each located between the south wall of the north tower and the north wall of the south tower, parallel to the eastern site boundary. The infusions into the two rows, located 10 feet apart, will create a permeable barrier wall 100 feet long, 20 feet wide, extending to five feet below the water table that will effectively remove any dissolved petroleum compounds in the groundwater before they can migrate off-site.

This additional work, if necessary, will be performed immediately after review of the comparative sampling results

Schedule

The projected field time for these activities is 10-16 days. We will notify you several days in advance of the start so you can arrange your schedule to be present if you wish.

An approximate schedule with estimated dates of sampling and infusion events are included in the table below:

Event	Date		Days
	Start	End	
NYSDEC Approval of WP	18-Mar	18-Mar	0
Mobilization	18-Mar	1-Apr	14
Pre-ISCO Boring/Sampling Event	1-Apr	2-Apr	1
ISCO Grid Installations and Infusions	2-Apr	16-Apr	14
Post-Infusion Borings/Sampling	16-Apr	18-Apr	2
Submit Sample Result Comparison	18-Apr	28-Apr	10
Petrofix® infusions	28-Apr	3-May	5
Well Installations	3-May	5-May	2
Well Sampling Event	19-May	20-May	15
Initial GW Sample Result Summary	30-May	1-Jun	12
Data validation	1-Jun	7-Jul	36
Interim Report	7-Jul	22-Jul	15
Complete	22-Jul	6-Aug	15

Schedule update will be submitted once the start date is determined and as needed to accommodate changes during the implementation.

Per NYSDEC’s request, no floor slabs will be poured within the defined Supplemental ISCO grid areas until post soils and groundwater sampling results have been reviewed and approved by NYSDEC.

Duration of events should not alter significantly, however coordination with other trades necessary to not interfere/conflict with other on-going construction activities could delay start of field tasks.

We would appreciate your timely review and approval of this Supplemental Work Plan. Please feel free to contact me at kmcgrath@chazencompanies.com or at (518) 527-7165 if you have any questions, comments or concerns.

Sincerely,

A handwritten signature in black ink that reads "Kevin P. McGrath, C.P.G." with a stylized flourish at the end.

Kevin McGrath, P.G., C.P.G
Senior Scientist, Hydrogeologist

Enclosures:

- Figure 1 – Site Location and Feature Map
- Figure 2 - Location of Walls, Footings, and Fill areas
- Figure 3 - 2018 Post-ISCO sampling Results
- Figure 4 – Supplemental Injection Zones, Points, Displacement Radii, and Composite Cones
- Figure 5 – Pre and Post ISCO Sampling Points
- Figure 6 – Proposed Permanent Monitoring well Locations Map

Legend

- December 2018 Chazen Post-ISCO Soil Sample Location
- December 2018 4UST Sample Locations
- ◆ September/October 2018 Chazen Post-ISCO Soil Sample Location
- December 2017 Chazen Soil Sample Locations
- 2011 Chazen RI Soil and GW Sample Locations
- 2009-2010 Eastern PIIESA Soil and GW Sample Locations
- 2009 Chazen PIIESA Soil and GW Sample Locations
- Approximate Site Boundary



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Ebenezer Plaza 1 - BCP Site No. C224240

Site Layout and Data Points

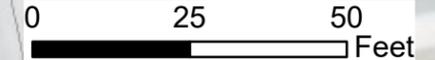
Hegeman and New Lots Avenues
Borough of Brooklyn, Kings County, New York

Source: NYS Department of Transportation 2008 Roads Dataset; NYS Office of Technology 2015 Orthophoto Imagery

Drawn:	BF
Date:	01/09/2019
Scale:	1 inch = 29 feet
Project:	20918.06
Figure:	1

Legend

-  September 2018 ISCO Infusion Well Locations
-  Pre-ISCO VOC Delineation (approximate)
-  Approximate Building Tower Foundation Extents
-  Building Foundation Wall
-  Backfill
-  Approximate Site Boundary



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Ebenezer Plaza 1 - BCP Site No. C224240

**Pre-ISCO VOC Delineation Plume and September 2018 ISCO Injection Grid
With Existing Slabs and walls**

Hegeman and New Lots Avenues
Borough of Brooklyn, Kings County, New York

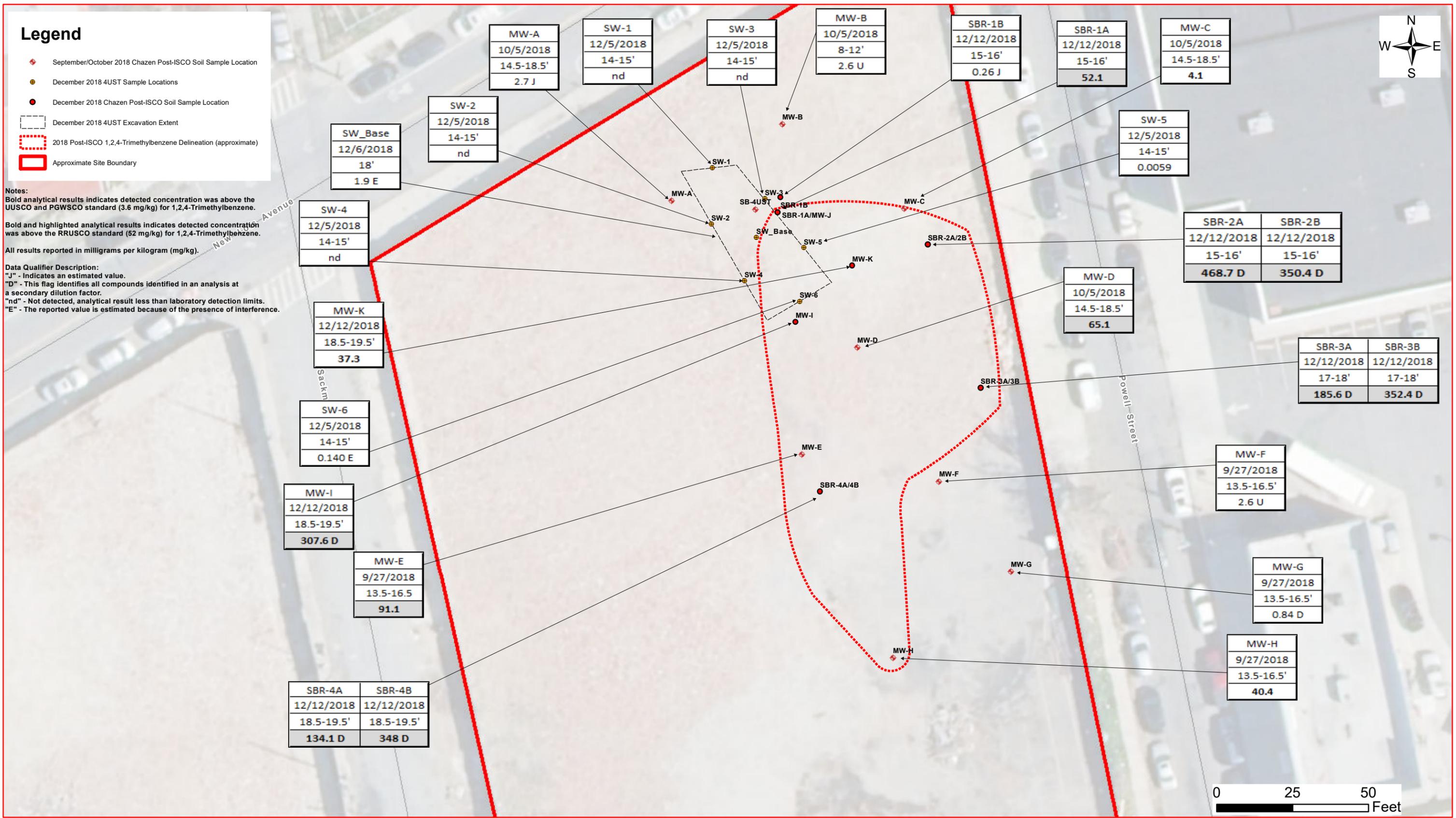
Source: NYS Department of Transportation 2008 Roads Dataset; NYS Office of Technology 2015 Orthophoto Imagery

Drawn:	BF
Date:	01/09/2019
Scale:	1 inch = 29 feet
Project:	20918.06
Figure:	2

Legend

- ◆ September/October 2018 Chazen Post-ISCO Soil Sample Location
- December 2018 4UST Sample Locations
- December 2018 Chazen Post-ISCO Soil Sample Location
- December 2018 4UST Excavation Extent
- 2018 Post-ISCO 1,2,4-Trimethylbenzene Delineation (approximate)
- Approximate Site Boundary

Notes:
Bold analytical results indicates detected concentration was above the UUSCO and PGWSCO standard (3.6 mg/kg) for 1,2,4-Trimethylbenzene.
Bold and highlighted analytical results indicates detected concentration was above the RRUSCO standard (52 mg/kg) for 1,2,4-Trimethylbenzene.
 All results reported in milligrams per kilogram (mg/kg).
Data Qualifier Description:
 "J" - Indicates an estimated value.
 "D" - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
 "nd" - Not detected, analytical result less than laboratory detection limits.
 "E" - The reported value is estimated because of the presence of interference.



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Ebenezer Plaza 1 - BCP Site No. C224240

2018 Post ISCO and UST Excavation: 1,2,4-TMB Soil Analytical Results and 1,2,4-TMB Delineation Plume

Hegeman and New Lots Avenues
Borough of Brooklyn, Kings County, New York

Source: NYS Department of Transportation 2008 Roads Dataset; NYS Office of Technology 2015 Orthophoto Imagery

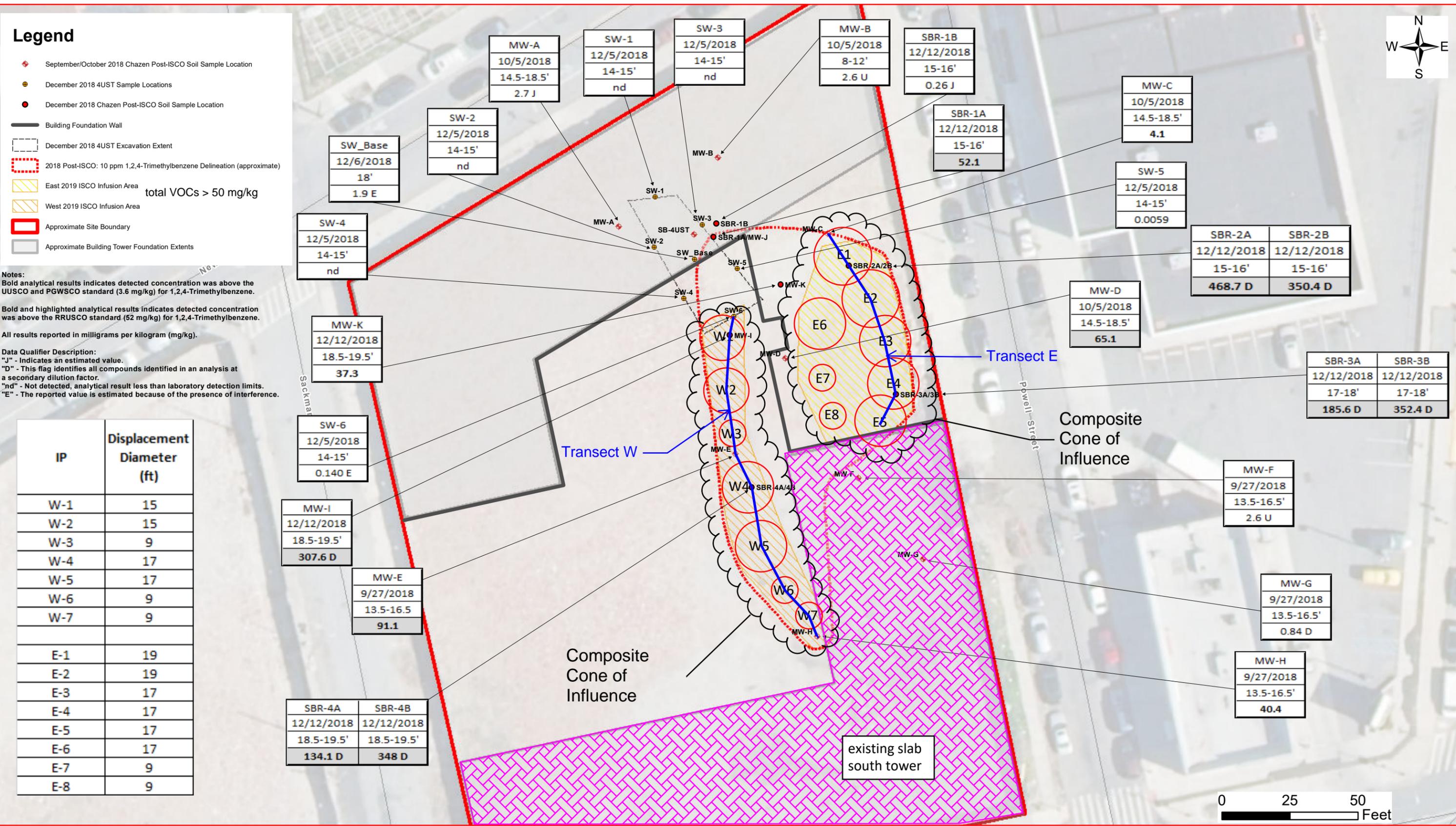
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- ◆ September/October 2018 Chazen Post-ISCO Soil Sample Location
- December 2018 4UST Sample Locations
- December 2018 Chazen Post-ISCO Soil Sample Location
- Building Foundation Wall
- - - December 2018 4UST Excavation Extent
- ⋯ 2018 Post-ISCO: 10 ppm 1,2,4-Trimethylbenzene Delineation (approximate)
- ▨ East 2019 ISCO Infusion Area total VOCs > 50 mg/kg
- ▨ West 2019 ISCO Infusion Area
- ▭ Approximate Site Boundary
- ▭ Approximate Building Tower Foundation Extents

Notes:
Bold analytical results indicates detected concentration was above the UUSCO and PGWSCO standard (3.6 mg/kg) for 1,2,4-Trimethylbenzene.
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 "D" - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
 "nd" - Not detected, analytical result less than laboratory detection limits.
 "E" - The reported value is estimated because of the presence of interference.

IP	Displacement Diameter (ft)
W-1	15
W-2	15
W-3	9
W-4	17
W-5	17
W-6	9
W-7	9
E-1	19
E-2	19
E-3	17
E-4	17
E-5	17
E-6	17
E-7	9
E-8	9



SW_Base	12/6/2018	18'	1.9 E
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SW-2	12/5/2018	14-15'	nd
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MW-A	10/5/2018	14.5-18.5'	2.7 J
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SW-1	12/5/2018	14-15'	nd
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SW-3	12/5/2018	14-15'	nd
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MW-B	10/5/2018	8-12'	2.6 U
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SBR-1B	12/12/2018	15-16'	0.26 J
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MW-C	10/5/2018	14.5-18.5'	4.1
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SW-5	12/5/2018	14-15'	0.0059
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SBR-2A	12/12/2018	15-16'	468.7 D
SBR-2B	12/12/2018	15-16'	350.4 D

MW-D	10/5/2018	14.5-18.5'	65.1
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SBR-3A	12/12/2018	17-18'	185.6 D
SBR-3B	12/12/2018	17-18'	352.4 D

MW-K	12/12/2018	18.5-19.5'	37.3
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SW-6	12/5/2018	14-15'	0.140 E
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MW-I	12/12/2018	18.5-19.5'	307.6 D
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MW-E	9/27/2018	13.5-16.5'	91.1
------	-----------	------------	------

SBR-4A	12/12/2018	18.5-19.5'	134.1 D
SBR-4B	12/12/2018	18.5-19.5'	348 D

MW-F	9/27/2018	13.5-16.5'	2.6 U
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MW-G	9/27/2018	13.5-16.5'	0.84 D
------	-----------	------------	--------

MW-H	9/27/2018	13.5-16.5'	40.4
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 Capital District Office: 547 River Street, Troy, NY. 12180, Phone: (518) 237-0055
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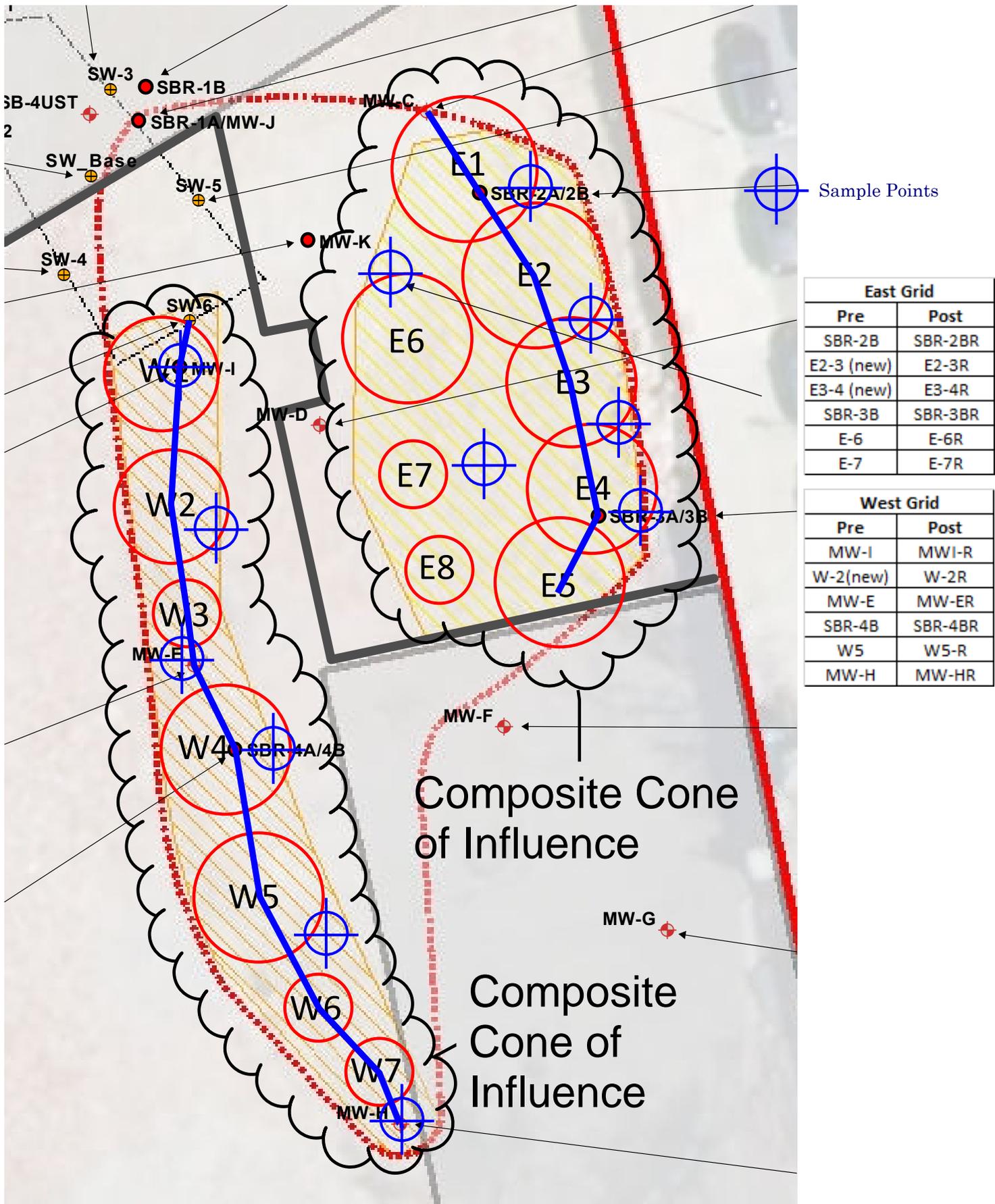
Ebenezer Plaza 1 - BCP Site No. C224240

Supplemental Injection Points and Volume Displacement and Anticipated Cone of Influence Existing New Construction

Hegeman and New Lots Avenues
 Borough of Brooklyn, Kings County, New York

Source: NYS Department of Transportation 2008 Roads Dataset; NYS Office of Technology 2015 Orthophoto Imagery

Drawn:	BF
Date:	01/09/2019
Scale:	1 inch = 33 feet
Project:	20918.06
Figure:	4



Ebenezer Plaza 1 - C224240
 Supplemental ISCO Infusion Event
 FIGURE 5
 Soil Sample Locations

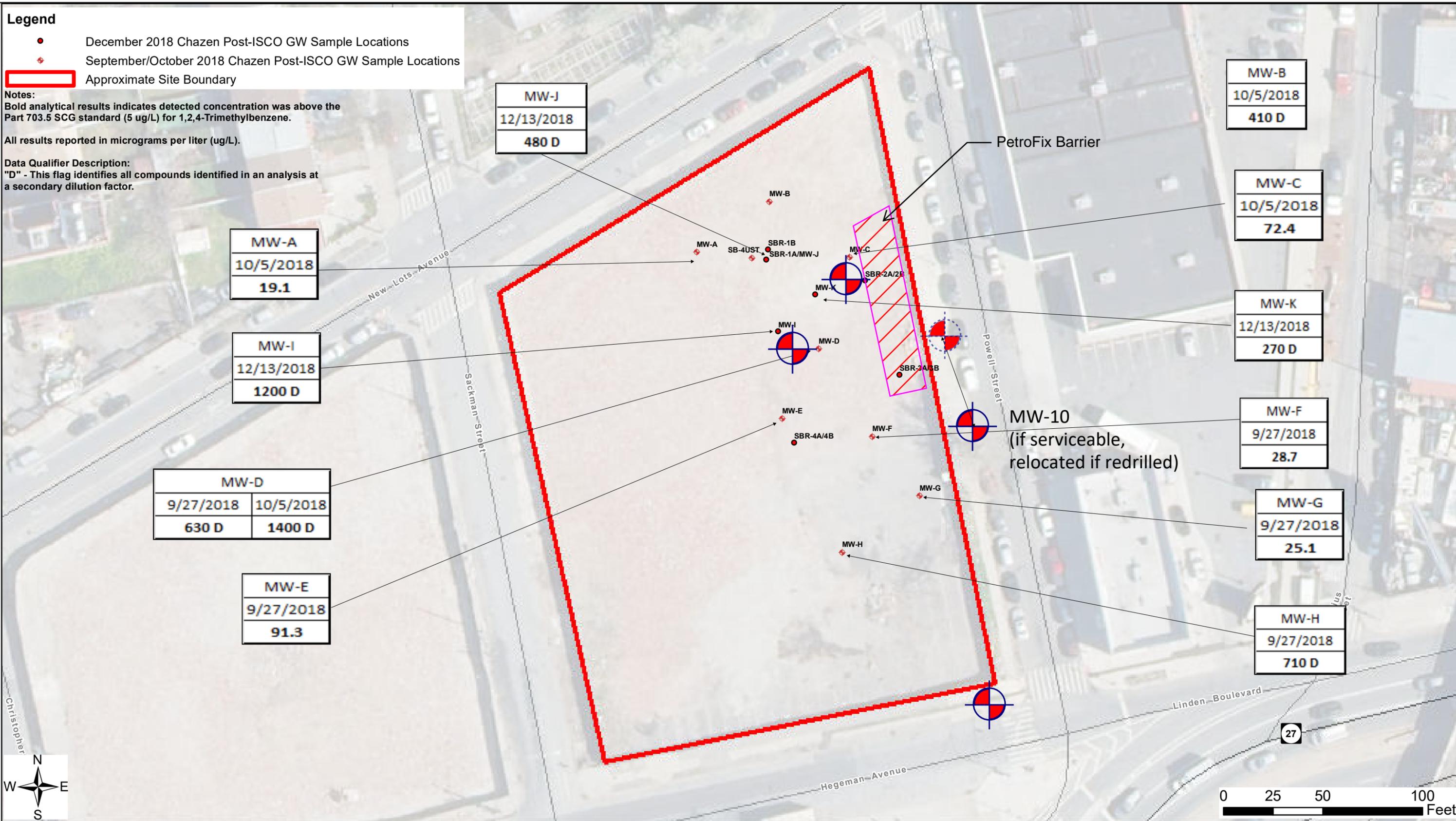
Legend

- December 2018 Chazen Post-ISCO GW Sample Locations
- ◆ September/October 2018 Chazen Post-ISCO GW Sample Locations
- ▭ Approximate Site Boundary

Notes:
Bold analytical results indicates detected concentration was above the Part 703.5 SCG standard (5 ug/L) for 1,2,4-Trimethylbenzene.

All results reported in micrograms per liter (ug/L).

Data Qualifier Description:
"D" - This flag identifies all compounds identified in an analysis at a secondary dilution factor.



MW-A
10/5/2018
19.1

MW-I
12/13/2018
1200 D

MW-D
9/27/2018
630 D
10/5/2018
1400 D

MW-E
9/27/2018
91.3

MW-J
12/13/2018
480 D

MW-B
10/5/2018
410 D

MW-C
10/5/2018
72.4

MW-K
12/13/2018
270 D

MW-F
9/27/2018
28.7

MW-G
9/27/2018
25.1

MW-H
9/27/2018
710 D

MW-10
 (if serviceable,
 relocated if redrilled)



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Ebenezer Plaza 1 - BCP Site No. C224240

POST RAWP SMP GW MONITORING WELL LOCATIONS

Hegeman and New Lots Avenues
 Borough of Brooklyn, Kings County, New York

Source: NYS Department of Transportation 2008 Roads Dataset; NYS Office of Technology 2015 Orthophoto Imagery

Drawn:	BF
Date:	01/09/2019
Scale:	1 inch = 45 feet
Project:	20918.06
Figure:	6