

ALTERNATIVES ANALYSIS REPORT

**71 TONAWANDA STREET SITE
BUFFALO, NEW YORK 14209
NYSDEC SITE # C915024**

Prepared for:

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CERTIFICATION

I, Jason M. Brydges, certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375 and that this Alternative Analysis Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

Jason M. Brydges, PE

1.0 INTRODUCTION

Fedder Lofts, LLC owner of the 71 Tonawanda Street Site (NYSDEC Site #C915024) located at 71 Tonawanda Street, Buffalo, New York 14209 (See **Figure 1**) has entered into a Brownfield Cleanup Agreement (BCA) with the NYSDEC under the Voluntary section of the “Brownfield Cleanup Program (BCP)”. Fedder Lofts, LLC has contracted BE3 Corp (BE3) to conduct a Remedial Investigation (RI) and prepare an Alternatives Analysis Report (AAR) as required by the BCA and complete remedial measures, as necessary. The BCA was amended on March 10, 2022, to remove the 57 Tonawanda parcel from the original BCA resulting in the NYSDEC Site #C915024 that includes only the 71 Tonawanda parcel (See **Appendix B** Survey Map). The RI for both the 71 and 57 Tonawanda Street properties (see **Figure 2**) was completed between December 2019 and March 2020 and the initial RI/AAR for both properties dated May 2020 was approved by NYSDEC on June 10, 2020. This document presents the revised AAR for the 71 Tonawanda Site only.

This AAR is being completed in accordance with BCP requirements as defined in section 375-3.8 of the 6 NYCRR Part 375 Environmental Remediation Program Regulations. It is anticipated that the remedial measure selected will lead to a Site remedy as defined in Part 375-1.8(g)(2)(ii); achieve, at a minimum, restricted-residential use Soil Cleanup Objectives (SCOs) as defined in Part 375-6.8(b); and mitigate any environmental impacted media issues at the Site. The owner plans to redevelop the Site resulting in the renovation of the existing building for residential housing with ancillary commercial and retail uses.

CONSTITUENTS OF CONCERN (COCs)

Based on the findings related to the historic use of the Site and the RI, contaminants of concern (COCs) in the soils, which exceed Part 375 Restricted Residential SCOs, are semi-volatile organic compounds (SVOCs), primarily polycyclic aromatic hydrocarbons (PAHs) and metals volatile organic compound (VOC) (See **Figure 3**). The volatile organic compound (VOC) TCE detected in the building sub-slab soil is also a COC (See **Figure 6**). COCs in the groundwater that exceed TOGs values include a few metals and several solvent related VOCs (see **Figure 4**). The solvent TCE is also a COC in the soil vapor beneath the building as indicated by the results of the RI building sub-slab vapor assessment (See **Figure 5**). **Tables 1-11** summarize the analytical results for the 71 Tonawanda Site for all media sampled and tested during the RI.

2.0 REMEDIAL ALTERNATIVES ANALYSIS

2.1 REMEDIAL ACTION OBJECTIVES

The final remedial measures for the Site must satisfy Remedial Action Objectives (RAOs), which are site-specific statements that convey the goals for minimizing or eliminating substantial risks to public health and the environment. The primary RAOs identified for the Site are the following:

Groundwater

RAOs for Public Health Protection

- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

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

practicable.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

Soil Vapor

RAOs for Public Health Protection

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

2.2 ALTERNATIVE SELECTION FACTORS

In addition to achieving RAOs, NYSDEC's Brownfield Cleanup Program requires an evaluation of remedial alternatives in accordance with 6 NYCRR Part 375-3 and DER-10 Technical Guidance for Site Investigation and Remediation. The analysis of the remedial alternatives developed for the site uses the following selection factors:

- **Overall Protection of Public Health and the Environment.** This criterion is an evaluation of the remedy's ability to achieve each of the RAOs, and protect public health and the environment, assessing how each existing or potential pathway of exposure is eliminated, reduced, or controlled through removal, treatment, engineering controls, or institutional controls.
- **Compliance with Standards, Criteria, and Guidance (SCGs).** Compliance with SCGs addresses whether a remedy will meet applicable environmental laws, regulations, standards, and guidance.
- **Long-Term Effectiveness and Permanence.** This criterion is an evaluation of how effective or permanent the remedy performs in the long term after implementation.
- **Reduction of Toxicity, Mobility or Volume with Treatment.** This criterion evaluates how a remedy can reduce the toxicity, mobility, or volume of contamination with preference given to remedies that significantly reduce the contamination.
- **Short-Term Effectiveness.** Short-term effectiveness is an evaluation of a remedy's impact on human exposures and nuisance conditions during implementation. This includes an assessment of the control of adverse conditions during remediation including engineering controls (e.g., dust control) and an estimate of the length of time needed to achieve the remedial objectives. Sustainability is also evaluated.
- **Implementability.** The implementability criterion evaluates the technical and administrative feasibility of implementing the remedy. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc.
- **Cost.** This criterion evaluates the overall cost effectiveness of an alternative or remedy.
- **Community Acceptance.** This criterion evaluates the public's comments, concerns, and overall perception of the remedy.

2.3 LAND USE EVALUATION

In developing and screening remedial alternatives, NYSDEC's Part 375 regulations require that the reasonableness of the anticipated future land use be factored into the evaluation. The future land use will meet the Part 375 Restricted-residential site use category.

The property is in a Brownfield Opportunity Area (BOA) – the City of Buffalo Tonawanda Street Corridor BOA – that has completed the nomination stage of the BOA process. The anticipated planned use of the property is residential with some mixed commercial, which adheres to the land use plan described in the BOA nomination document. The proposed use is consistent with the N-1S District. The property, when redeveloped, will comply with the City requirements.

The project area and scope comply within The Buffalo Green Codes' Land Use Plan as it meets the expanding area need to support residential and student needs and for cross border traffic. The Land Use Plan serves as a bridge between the city's comprehensive plan and zoning code by recommending the appropriate type, intensity, and character of development. It envisions a future for Buffalo built around the restoration of walkable, mixed-use, transit-served neighborhoods and economic centers.

The plan focuses on three core strategies: fuel economic generators, restore neighborhoods, and repair environmental assets. This Project will help the area capitalize on its strategic assets; an opportunity to start a process aimed at repairing neighborhood edges that have been disproportionately impacted by industrial uses over time and creating new opportunities for working and living within the area. The population and growth in Western NY and in the Black Rock section of Buffalo has been declining and or remaining static in recent years. The planned re-development should enhance the potential growth as it will offer residential living with water views and access to water recreational areas in a designated BOA area.

2.4 SELECTION OF ALTERNATIVES FOR EVALUATION

The results of the RI indicate the following:

- Soils in the parking lot east of the building (mostly fill material) contain elevated PAHs and metal compounds in the surface and subsurface soils above Part 375 restricted-residential SCOs.
- Building sub-slab soils contain TCE concentrations in excess of the SCOs at select locations and various depths ("hot spots").
- A majority of the building will remain and be renovated with installation of a sub-slab depressurization system (SSDS) to mitigate soil vapors from entering the building interior.
- The universal waste inspection indicated the presence of asbestos, LBP and PCB containing material in the building.
- Solvent related VOCs and a couple metals were detected at concentrations that exceeded TOGs guidance values in groundwater.

Based on the results of the RI program the following two remedial alternatives have been selected for evaluation:

- **Alternative 1 – Track 4 - Restricted Residential Use**
- **Alternative 2 – Track 1 - Unrestricted Use**

2.4.1 Alternative 1 - Track 4 – Restricted Residential Use

The details of this alternative are illustrated in **Figure 7** and primarily include the following remedial activities:

1. Remove and dispose sediment from building trenches/drains, as applicable.
2. Remove and dispose asphalt and subsurface soil (approximately one-foot bgs and 200 feet east of the building) and replace with hardscape for a parking lot (4" asphalt and 8" clean stone).
3. Remove and dispose a minimum of one foot of rubble and soil from the collapsed building on the north side of the property and replace with hardscape for the new foundation and concrete courtyard.
4. Remove and dispose a "hot spot" area within the main building near SSB-4 boring that is approximately 10 feet wide by 10 feet long by 12 feet deep (See **Figure 7**) and backfill with compliant imported material.
5. Remove and dispose a minimum of two feet of soil and asphalt east of the proposed parking lot and west of the bike trail and backfill with compliant imported material.
6. Install an SSDS throughout the renovated building and verify that the vacuum created in the interior is sufficiently effective at removing contaminant vapors through sampling and analyses and comparison to NYSDOH guidance for soil vapor intrusion.
7. Treat groundwater through the installation of a permeable Reactive Barrier (PRB) along the eastern fence line of the property at the bike path, the southern end of the site that extends to the bike path, and the east side of the south half of the building exterior.
8. Treat groundwater through the placement of amendment in the "hot spot" area near boring SSB-4. The following treatment systems are currently being considered that are effective for the complete mineralization (degradation) of chlorinated solvents.
 - a. Anaerobic BioChem Plus (ABC +).
 - b. Anaerobic Reductive Dechlorination (ARD) process.
 - c. 3-D Microemulsion (3DME).
 - d. Electron Donor Sustainable Bioremediation.

This alternative also includes provisions for managing the Site upon completion of remediation through an Environmental Easement (EE), Institutional Controls (ICs), and Engineering Controls (ECs) such as the following:

- Completion and submission of a periodic certification to the NYSDEC for ICs/ECs operating at the site in accordance with NYSDEC Part 375-1.8(h)(3);
- Allowance for use of the property for residential, commercial, and industrial purposes as defined by Part 375-1.8(g), subject to local zoning laws;
- Restricted use of groundwater as a source of potable or process water without necessary water quality treatment as determined by the NYSDOH or County DOH;
- Compliance with the approved Site Management Plan (SMP).

An SMP is required that includes, but is not limited to the following:

- Identification of all use restrictions and ECs for the Site and details the steps and media specific requirements necessary to ensure the ICs/ECs remain in place and effective;
- An Excavation Plan that details provisions for management of future excavations in areas of remaining or residual contamination;
- A monitoring plan for groundwater;
- Provisions of the EE including any land use or groundwater use restrictions;
- Provisions for the management and inspection of the identified ECs;
- Maintenance of site access and NYSDEC notifications; and,

- Administration of periodic reviews and certifications of the IC/ECs.

The following text presents the Alternative 1 analysis based upon the previously defined selection factors.

Overall Protection of Public Health and the Environment – Alternative 1 is protective of human health and the environment based upon the removal of approximately one foot of impacted material and replacement with a new hardscape (asphalt/stone base) parking lot, and removal of approximately two feet of impacted material and replacement with a minimum of two feet imported “clean” material in all exterior areas. An SSDS will be installed beneath the existing and new building floor slab to mitigate soil vapor intrusion into the building, and groundwater will be treated throughout the site (See **Figure 7**).

The site cover system consisting of imported clean soil and hardscape will be incorporated into the SMP as an engineering control. Institutional controls will be implemented to prevent less restrictive future site uses (e.g., unrestricted, residential) and restrict any use of the groundwater at the Site. The groundwater will be monitored and the cover system will be inspected, monitored, and maintained, and the SMP Excavation Work Plan will apply to any future disturbance of soils beneath the cover system. The SMP also requires the implementation of an approved health and safety plan for all future work.

Compliance with SCGs – Alternative 1 adheres to a Part 375 Track 4 remedy with implementation of an approved cover system throughout the site that acts as a barrier between residual contamination in soil and future occupants. As a result of solvent exceedances in site groundwater (i.e., TCE > TOGS), this alternative will require groundwater treatment to prevent the offsite migration of contamination via groundwater and to comply with corresponding TOGS cleanup values.

Long-Term Effectiveness and Permanence – The remedial measure will effectively achieve RAOs and meet restricted residential criteria. The removal of impacted soil backfill and implementation of a hardscape and greenscape cover system across the site meets the RAOs for soil. The SMP requires periodic inspection and monitoring of the cover system including applicability to any future disturbance of the cover to assure its integrity. The installation and maintenance of an SSDS in the building with ongoing monitoring through the SMP will meet the RAOs for soil vapor. The groundwater treatment proposed will reduce or eliminate impacts to the groundwater leaving the property; while attenuation of remaining impacts to the groundwater will be monitored over time through a monitoring well sampling program.

Reduction of Toxicity, Mobility, or Volume with Treatment – Alternative one will either permanently or significantly reduce the mobility of contamination in site soils at the Site through the removal of impacted material and installing the cover system. The volume and toxicity of impacted groundwater will be reduced by the treatment system. The volume and mobility of contaminated soil vapor from beneath the building will be reduced through the removal of “hot spot” soils and installation of an SSDS. This alternative will not, however, reduce the toxicity of the residual soil contamination left in place upon completion of the remedial measure.

Short-Term Effectiveness – Potential short-term adverse impacts and human exposures may occur during remediation and redevelopment; however, these impacts should be minimal. A Remedial Action Work Plan (RAWP) will be implemented prior to remediation that requires the implementation of a site-specific health and Safety plan for all workers. The SSDS, once

installed, will eliminate impacts from soil vapor intrusion on workers within building. It is assumed that cleanup levels will be achievable in less than five years. Periodic inspections of the cover system per the SMP requirements will prevent ingestion/direct contact with contaminated soil and prevent inhalation of contaminants in soil that may remain below the cover system. This alternative is sustainable through the environmental easement and the implementation of the SMP.

Implementability – There are no implementation issues related to the proposed remediation or related to the Institutional and Engineering Controls placed on the Site under this alternative. Soil excavation, groundwater treatment, and soil vapor intrusion activities are common remedial measures and easily implementable.

Community Acceptance – Community acceptance will be evaluated based upon comments from the public in response to Fact Sheets, documents released to public, and other planned Citizen Participation activities. To-date there have been no public comments and no significant comments that would alter or prevent this alternative are anticipated.

Cost – The values used in estimating alternatives are order-of-magnitude estimates for comparing alternatives and are not meant to be a specific remedial criterion. The estimated cost for this Alternative is \$1.4M. The cost summaries for this alternative are provided in **Appendix A**.

2.4.2 Alternative 2 - Unrestricted Use

The details of this alternative are illustrated in **Figure 8** and primarily included the following remedial activities:

1. Removal and disposal of material throughout the site where contaminant concentrations exceed Unrestricted SCOs or removal of material to bedrock, whichever is shallowest. Based on RI data it is estimated that this would require soil removal of approximately eight feet bgs across the site. The site would be backfilled with imported “clean” material meeting Unrestricted-Use SCOs.
2. Installation of an SSDS and subsequent indoor air sampling and analysis to assess the reliability of the soil and groundwater remediation.
3. Treatment of groundwater using a permeable reactive barrier along the west, east, and south limits of the property. Groundwater would also be treated in the hot spot area proximate to boring SSB-4 where the soil sample indicated elevated concentrations of TCE. Similar treatment technologies and applications as those listed in Alternative 1 would also apply to this alternative.
4. Implementation of a groundwater monitoring program to assess attenuation of impacts to the groundwater over a five-year period. No EE or SMP will be required for this alternative except for the monitoring of groundwater and indoor soil vapor.

The following text presents the Alternative 2 analysis based upon the previously defined selection factors.

Overall Protection of Public Health and the Environment – The Unrestricted Use alternative would achieve the corresponding Part 375 SCOs, which are designed to be protective of human health and the environment under any reuse scenario.

Compliance with SCGs – This alternative would comply with SCOs, NYSDOH soil vapor guidelines, and groundwater cleanup guidelines as specified in TOGs.

Long-Term Effectiveness and Permanence – This alternative would employ the removal of all contamination across the site in soil, groundwater, and vapor; therefore, this Track 1 unrestricted use alternative would provide long-term effectiveness and permanence. Accordingly, post-remedial monitoring and certifications would not be required other than groundwater and soil vapor for up to 5 years to assess the effectiveness of treatment.

Reduction of Toxicity, Mobility, or Volume with Treatment – Through removal of contaminate sources across the site, this alternative would permanently reduce the toxicity, mobility, and volume of contamination in soil, groundwater, and soil vapor.

Short-Term Effectiveness – The short-term adverse impacts and risks to the community, workers, and environment during implementation of the Unrestricted Use alternative would increase due to the volume of material requiring treatment and the extended time to implement the remedy. The HASP in the RAWP, however, is designed to mitigate these exposures.

Implementability – Technical implementability of the Unrestricted Use alternative would be more difficult compared to Alternative 1; however, still not too complex. Shoring measures along the building and creek could be warranted that would decrease this alternative's implementability.

Community Acceptance – Community acceptance will be evaluated based on comments to be received from the public in response to Fact Sheets, public comment periods on documents and other planned Citizen Participation activities. However, it would be anticipated that this alternative would be more accepted than Alternative 1.

Cost - The capital cost of implementing an Unrestricted Use alternative is estimated at approximately \$2.1M. (see **Appendix A**).

3.0 CONCLUSIONS

ALTERNATIVES ASSESSMENT

Based on the analysis completed, Alternative 1 is the recommended remedy for the site. Both alternatives are protective of human health and the environment, and while Alternative 2 is more comprehensive, the additional remedial measures do not translate into additional effectiveness or protection of future occupants. Alternative 1 generally includes the following remedial concepts to protect human health and the environment:

1. Remove asphalt and subbase/soil and replace with hardscape for the redevelopment parking lot (4" asphalt and 8" clean stone).
2. Remove rubble and soil from the collapsed building area and replace with hardscape (rebuilt building foundation and concrete courtyard)
3. Excavate "hot spot" area within the main building (SSB-4 boring); approximately 10 feet x 10 feet x 12 feet deep (See **Figure 7**).
4. Remove and dispose soil and asphalt east of the proposed new parking area and backfill with a minimum of two (2) feet of clean soil/stone/topsoil.
5. Install an SSDS in the renovated building.

6. Treat groundwater through installing an injection point reactive barrier along the west side of the south half of the building exterior (8 to 10 points estimated) and install a permeable Reactive Barrier (PRB)
7. Remove and properly dispose of sediment from building trenches/drains.
8. Manage the Site upon completion of remediation with implementation, through an Environmental Easement (EE) of Institutional Controls (ICs) and Engineering Controls (ECs)
9. Generate a Site Management Plan (SMP) that identifies all use restrictions and ECs for the Site, contains an Excavation Plan which details provisions for management of future excavations in areas of remaining contamination, contains a monitoring plan for groundwater, maintains site access controls and NYSDEC notifications; and provides the steps necessary for the periodic reviews and certifications of the IC/EC.

Alternative 1 fully satisfies the remedial action objectives and is protective of human health and the environment. Therefore, this alternative is the recommended final remedial approach for the Site.

71 TONAWANDA PROPERTY REMEDIAL INVESTIGATION TABLES

TABLE 1 Pg 1 of 2
71 TONAWANDA STREET - RI SOIL BORING/TEST PIT SAMPLE ANALYTICAL RESULTS SUMMARY

Contaminants	PART 375 Soil Cleanup Objectives			Unrestricted Use	Residential	Restricted Residential
	BH-03 (1 -4')	BH-05 (1 -4')	BH-06 (1-4')			
Sample Date	12/18/2019	12/18/2019	12/18/2019			
METALS						
Arsenic	3.22	9.25	4.78	13	16	16
Barium	30.00	65.00	59.40	350	350	400
Beryllium	0.27	0.41	0.38	7.2	14	72
Cadmium	1.21	2.14	1.03	2.5	2.5	4.3
Chromium	12.20	35.70	14.60	30	36	180
Copper	92.70	1090.00	151.00	50	270	270
Lead	1390.00	273.00	161.00	63	400	400
Manganese	483.00	2150.00	661.00	1600	2,000	2,000
Total Mercury	0.07	0.22	0.05	0.18	0.81	0.81
Nickel	11.60	27.40	11.10	30	140	310
Selenium	ND	0.93	ND	3.9	36	180
Silver	10.00	1.20	0.48	2	36	180
Zinc	157.00	394.00	218.00	109	2200	10,000
Cyanide	4.30	ND	ND	27	27	27
PCBs						
PCB-1254	ND	ND	0.034	0.1	1	1
PCB-1260	0.031	ND	ND	0.1	1	1
PESTICIDES						
4,4-DDT	0.006	0.010	0.007	0.0033	1.7	7.9
4,4-DDD	ND	0.011	ND	0.0033	2.6	13
4,4-DDE	ND	0.002	ND	0.0033	1.8	8.9
delta-BHC	ND	ND	ND	0.04	100	100
Endosulfan II	ND	0.002	ND	2.4	4.8	24
Endosulfan Sulfate	0.003	0.014	0.002	2.4	4.8	24
Lindane	ND	ND	ND	0.1	0.28	1.3
Endrin	0.002	0.003	ND	0.014	2.2	11
SEMIVOLATILE ORGANIC COMPOUNDS						
Acenaphthene	1.83	3.61	ND	20	100	100
Acenaphthylene	ND	ND	ND	100	100	100
Anthracene	0.76	8.9	0.31	100	100	100
Benz(a)anthracene	2.58	16.6	1.05	1	1	1
Benzo(a)pyrene	2.25	12.5	0.97	1	1	1
Benzo(b)fluoranthene	2.44	10.9	1.08	1	1	1
Benzo(g,h,i)perylene	1.32	6.23	0.71	100	100	100
Benzo(k)fluoranthene	1.43	10.1	0.6	0.8	1	3.9
Chrysene	2.17	13.9	1.05	1	1	3.9
Dibenz(a,h)anthracene	0.41	1.85	ND	0.33	0.33	0.33
Fluoranthene	5.01	37	2.38	100	100	100
Fluorene	0.2	4.02	ND	30	100	100
Indeno(1,2,3-cd)pyrene	1.55	7.71	0.71	0.5	0.5	0.5
Naphthalene	0.23	1.71	ND	12	100	100
Phenanthrene	2.57	36.2	1.44	100	100	100
Pyrene	3.32	25.1	1.55	100	100	100
VOLATILE ORGANIC COMPOUNDS						
Acetone	ND	ND	ND	0.05	100	100
Toluene	ND	ND	ND	0.7	100	100
Ethylbenzene	ND	ND	ND	1	30	41
m,p-Xylene	ND	ND	ND	0.26	100	100
Methylene chloride	ND	ND	ND	0.05	51	100
cis-1,2-Dichloroethene	0.038	ND	ND	0.25	59	100
Trichloroethene	0.077	0.089	0.004	0.47	10	21
trans-1,2-Dichloroethene	0.043	0.043	0.007	0.19	100	100
Vinyl chloride	ND	ND	ND	0.02	0.21	0.9
1,2,4-Trimethylbenzene	ND	ND	ND	3.6	47	52
1,3,5- Trimethylbenzene	ND	ND	ND	8.4	47	52

ND - Non-Detect NA - Not Applicable

All values in ppm
 Data Validation is Complete

TABLE 1
57-71 TONAWANDA STREET - RI SOIL BORING/TEST PIT SAMPLE ANALYTICAL RESULTS SUMMARY

Contaminants	PART 375 Soil Cleanup Objectives					Unrestricted Use	Residential	Restricted Residential
	BH-13 (1-2')	TP-14 (8-9')	TP-16 (1-3')	TP-17 (3-4')	MW-4 Soil Sample (12-13')			
	12/18/2019	1/8/2020	1/8/2020	1/8/2020	1/14/2020			
METALS								
Arsenic	3.45	2.97	2.55	3.55	NA	13	16	16
Barium	17.9	33.8	44.4	171	NA	350	350	400
Beryllium	0.173	ND	0.181	0.897	NA	7.2	14	72
Cadmium	0.698	0.467	0.248	0.523	NA	2.5	2.5	4.3
Chromium	10.4	5.82	7.95	25.1	NA	30	36	180
Copper	345	297	21.8	23.3	NA	50	270	270
Lead	165	52.5	74.5	11.7	NA	63	400	400
Manganese	187	133	175	520	NA	1600	2,000	2,000
Total Mercury	0.023	0.0638	0.0332	0.0145	NA	0.18	0.81	0.81
Nickel	11.6	7.02	8.43	28.8	NA	30	140	310
Selenium	ND	1.94	1.08	0.673	NA	3.9	36	180
Silver	ND	ND	ND	ND	NA	2	36	180
Zinc	0.86	92.4	129	64.5	NA	109	2200	10,000
Cyanide	ND	ND	ND	ND	NA	27	27	27
PCBs								
PCB-1254	ND	ND	ND	ND	NA	0.1	1	1
PCB-1260	ND	ND	ND	ND	NA	0.1	1	1
PESTICIDES								
4,4-DDT	ND	0.004	0.004	ND	NA	0.0033	1.7	7.9
4,4-DDD	ND	ND	ND	ND	NA	0.0033	2.6	13
4,4-DDE	ND	ND	ND	ND	NA	0.0033	1.8	8.9
delta-BHC	ND	ND	ND	ND	NA	0.04	100	100
Endosulfan II	ND	ND	ND	ND	NA	2.4	4.8	24
Endosulfan Sulfate	0.002	0.003	0.004	ND	NA	2.4	4.8	24
Lindane	ND	0.005	ND	ND	NA	0.1	0.28	1.3
Endrin	ND	ND	ND	ND	NA	0.014	2.2	11
SEMIVOLATILE ORGANIC COMPOUNDS								
Acenaphthene	ND	ND	ND	ND	NA	20	100	100
Acenaphthylene	ND	0.23 J	0.5 J	ND	NA	100	100	100
Anthracene	ND	0.31 J	0.96 J	ND	NA	100	100	100
Benzo(a)anthracene	2.46	0.71 J	1.95 J	ND	NA	1	1	1
Benzo(a)pyrene	2.48	0.94 J	1.6 J	ND	NA	1	1	1
Benzo(b)fluoranthene	3.26	0.87 J	1.63 J	ND	NA	1	1	1
Benzo(g,h,i)perylene	ND	0.73 J	1.05 J	ND	NA	100	100	100
Benzo(k)fluoranthene	ND	0.7 J	1.28 J	ND	NA	0.8	1	3.9
Chrysene	2.67	0.77 J	1.78 J	ND	NA	1	1	3.9
Dibenz(a,h)anthracene	ND	0.22 J	0.36 J	ND	NA	0.33	0.33	0.33
Fluoranthene	5.53	1.4 J	4.55 J	ND	NA	100	100	100
Fluorene	ND	ND	0.27 J	ND	NA	30	100	100
Indeno(1,2,3-cd)pyrene	ND	0.59 J	0.9 J	ND	NA	0.5	0.5	0.5
Naphthalene	ND	ND	ND	ND	NA	12	100	100
Phenanthrene	2.57	0.65 J	2.94 J	ND	NA	100	100	100
Pyrene	4	1.1 J	3.12 J	ND	NA	100	100	100
VOLATILE ORGANIC COMPOUNDS								
Acetone	0.022	ND	ND	ND	ND	0.05	100	100
Toluene	ND	ND	ND	ND	ND	0.7	100	100
Ethylbenzene	ND	ND	ND	ND	ND	1	30	41
m,p-Xylene	ND	ND	ND	ND	ND	0.26	100	100
Methylene chloride	ND	ND	ND	ND	ND	0.05	51	100
cis-1,2-Dichloroethene	0.004	ND	ND	ND	ND	0.25	59	100
Trichloroethene	0.014	ND	ND	0.038	36.1	0.47	10	21
trans-1,2-Dichloroethene	0.01	0.003	0.003	ND	ND	0.19	100	100
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	3.6	47	52
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	8.4	47	52

ND - Non-Detect NA - Not Applicable

All values in ppm

Data Validation is Complete

TABLE 2
71 TONAWANDA STREET - RI SURFACE SOIL SAMPLE ANALYTICAL RESULTS SUMMARY

Contaminants				PART 375 Soil Cleanup Objectives		
	SS-01 (1) (0-0.5')	SS-02 (1) (0-0.5')	SS-03 (1) (0-0.5')	Unrestricted Use	Residential	Restricted Residential
	12/18/2019	12/18/2019	12/18/2019			
METALS						
Arsenic	10	2.61	5.02	13	16	16
Barium	140	33.5	157	350	350	400
Beryllium	0.647	ND	ND	7.2	14	72
Cadmium	1.99	0.83	5.26	2.5	2.5	4.3
Chromium	22.5	16.1	68.3	30	36	180
Copper	73.3	41.4	243	50	270	270
Lead	353	50.5	442	63	400	400
Manganese	337	551	808	1600	2,000	2,000
Total Mercury	0.206	0.0222	0.104	0.18	0.81	0.81
Nickel	22.7	15.5	61.9	30	140	310
Selenium	0.727	ND	6.1	3.9	36	180
Silver	0.472	0.387	2.27	2	36	180
Zinc	322	469	1100	109	2200	10,000
Cyanide	ND	ND	0.952	27	27	27
PCBs						
PCB-1254	ND	ND	ND	0.1	1	1
PCB-1260	ND	ND	ND	0.1	1	1
PESTICIDES						
4,4-DDT	0.007	0.003	ND	0.0033	1.7	7.9
4,4-DDD	0.002	0.002	ND	0.0033	2.6	13
4,4-DDE	0.005	ND	ND	0.0033	1.8	8.9
Dieldrin	0.002	ND	ND	0.005	0.039	0.2
delta-BHC	ND	0.002	ND	0.04	100	100
Endosulfan II	ND	ND	ND	2.4	4.8	24
Endosulfan Sulfate	ND	0.005	0.006	2.4	4.8	24
Lindane	0.002	0.002	0.009	0.1	0.28	1.3
Endrin	ND	ND	ND	0.014	2.2	11
SEMIVOLATILE ORGANIC COMPOUNDS						
Acenaphthene	ND	ND	ND	20	100	100
Acenaphthylene	ND	ND	ND	100	100	100
Anthracene	ND	1.27	2.07	100	100	100
Benz(a)anthracene	0.33	6.71 J	14.8 J	1	1	1
Benzo(a)pyrene	0.31	8.35 J	16.8 J	1	1	1
Benzo(b)fluoranthene	0.37	9.97 J	21.3 J	1	1	1
Benzo(g,h,i)perylene	ND	6.52 J	13.6 J	100	100	100
Benzo(k)fluoranthene	ND	4.24 J	11.3 J	0.8	1	3.9
Chrysene	0.32	7.31 J	17.6 J	1	1	3.9
Dibenz(a,h)anthracene	ND	1.99 J	4.32 J	0.33	0.33	0.33
Fluoranthene	0.63	15.6 J	36.3 J	100	100	100
Fluorene	ND	ND	ND	30	100	100
Indeno(1,2,3-cd)pyrene	ND	7.98 J	14.3 J	0.5	0.5	0.5
Naphthalene	ND	ND	ND	12	100	100
Phenanthrene	0.32	6.35 J	11.9 J	100	100	100
Pyrene	0.39	10.7 J	0.78 J	100	100	100

ND - Non-Detect NA - Not Applicable All data in ppm
>/= to Residential/Restricted-Residential S All values in ppm
>Unrestricted Use SCO but <Residential/Restricted-Residential SCO.
>Unrestricted Use & Residential SCO but <Restricted-Residential SCO

(1) SS-01 - Surface soil sample collected with shovel

TABLE 3

71 TONAWANDA STREET - RI SOIL BORING/TEST PIT SAMPLE ANALYTICAL RESULTS SUMMARY - PFAS & 1,4 DIOXANE

Sample Number	BH-03 (1 -4')	BH-05 (1 -4')	BH-06 (1-4')	NYSDEC Guideline
Sample Date	12/18/2019	12/18/2019	12/18/2019	
1,4 Dioxane by 8270D				
1,4 Dioxane	ND	ND	ND	1 ppm
Perfluorinated Alkyl Acids by Isotope Dilution EPA 537				
Perfluorobutanoic Acid (PFBA)	ND	0.026	0.042	
Perfluoropentanoic Acid (PFPeA)	ND	ND	ND	
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ND	
Perfluorohexanoic Acid (PFHxA)	ND	0.074	0.063	
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ND	
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ND	
Perfluorooctanoic Acid (PFOA)	ND	0.090	0.0840	
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ND	
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ND	
Perfluorononanoic Acid (PFNA)	ND	ND	ND	
Perfluorooctanesulfonic Acid (PFOS)	0.310	1.080	0.656	
Perfluorodecanoic Acid (PFDA)	ND	ND	ND	
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ND	
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ND	
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ND	
Perfluorodecanesulfonic Acid (PFDS)	ND	ND	ND	
Perfluorooctanesulfonamide (FOSA)	ND	ND	ND	
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.136	ND	ND	
Perfluorododecanoic Acid (PFDoA)	ND	ND	ND	
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ND	
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ND	

PFAS Values in ppb

N/A - Not Applicable ND - Non-detect

TABLE 3

71 TONAWANDA STREET - RI SOIL BORING/TEST PIT SAMPLE ANALYTICAL RESULTS SUMMARY - PFAS & 1,4 DIOXANE

Sample Number	BH-13 (1 -2')	TP-14 (8-9')	TP-16 (1-3')	TP-17 (3 -4')	NYSDEC Guideline
Sample Date	12/18/2019	1/8/2020	1/8/2020	1/8/2020	
1,4 Dioxane by 8270D					
1,4 Dioxane	ND	ND	ND	ND	1 ppm
Perfluorinated Alkyl Acids by Isotope Dilution EPA 537					
Perfluorobutanoic Acid (PFBA)	ND	0.07900	0.047	ND	
Perfluoropentanoic Acid (PFPeA)	ND	0.10200	ND	ND	
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ND	ND	
Perfluorohexanoic Acid (PFHxA)	0.049	0.10800	0.073	ND	
Perfluoroheptanoic Acid (PFHpA)	ND	0.05100	ND	ND	
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ND	ND	
Perfluorooctanoic Acid (PFOA)	ND	0.10200	0.057	ND	
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ND	ND	
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ND	ND	
Perfluorononanoic Acid (PFNA)	ND	ND	ND	ND	
Perfluorooctanesulfonic Acid (PFOS)	ND	0.27700	0.155	ND	
Perfluorodecanoic Acid (PFDA)	ND	ND	ND	ND	
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ND	ND	
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ND	ND	
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ND	ND	
Perfluorodecanesulfonic Acid (PFDS)	ND	ND	ND	ND	
Perfluorooctanesulfonamide (FOSA)	ND	ND	ND	ND	
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ND	ND	
Perfluorododecanoic Acid (PFDoA)	ND	ND	ND	ND	
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ND	ND	
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ND	ND	

PFAS Values in ppb

N/A - Not Applicable ND - Non-detect

TABLE 4
71 TONAWANDA STREET - RI SOIL SURFACE SAMPLE ANALYTICAL RESULTS SUMMARY - PFAS & 1,4 DIOXANE

Sample Number	SS-01 (0-0.5')	SS-02 (1) (0-0.5')	SS-03 (1) (0-0.5')	NYSDEC Guideline
Sample Date	12/18/2019	12/18/2019	12/18/2019	
1,4 Dioxane by 8270D				
1,4 Dioxane	ND	ND	ND	1 ppm
Perfluorinated Alkyl Acids by Isotope Dilution EPA 537				
Perfluorobutanoic Acid (PFBA)	0.1750	0.049	0.258	
Perfluoropentanoic Acid (PFPeA)	0.454	ND	0.159	
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ND	
Perfluorohexanoic Acid (PFHxA)	0.327	0.075	0.164	
Perfluoroheptanoic Acid (PFHpA)	0.194	ND	0.104	
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ND	
Perfluorooctanoic Acid (PFOA)	0.5690	0.0960	0.2570	
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ND	
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ND	
Perfluorononanoic Acid (PFNA)	0.1940	ND	0.2460	
Perfluorooctanesulfonic Acid (PFOS)	2.2400	0.173	0.866	
Perfluorodecanoic Acid (PFDA)	0.3210	0.089	0.358	
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ND	
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ND	
Perfluoroundecanoic Acid (PFUnA)	0.132	0.064	0.362	
Perfluorodecanesulfonic Acid (PFDS)	ND	ND	ND	
Perfluorooctanesulfonamide (FOSA)	ND	ND	ND	
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.180	ND	ND	
Perfluorododecanoic Acid (PFDoA)	0.249	0.084	0.330	
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ND	
Perfluorotetradecanoic Acid (PFTA)	0.126	0.068	0.211	

PFAS Values in ppb

N/A - Not Applicable ND - Non-detect

Exceeds Guideline

(1) SS-01 - Surface soil sample collected with shovel

TABLE 5
71 TONAWANDA STREET - RI GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY

Contaminants	MW-2	MW-4	MW-5	NYSDEC TOGS 1.1.1. GA
Sample Date	1/22/2020	1/23/2020	1/23/2020	
DISSOLVED METALS				
Arsenic	ND	24.3	12.6	25
Barium	144	ND	ND	1000
Beryllium	ND	ND	ND	3
Chromium	ND	ND	ND	50
Copper	ND	ND	ND	200
Cyanide	ND	ND	ND	200
Lead	ND	ND	ND	25
Manganese	694	321	365	300
Nickel	ND	ND	ND	100
Total Mercury	ND	ND	0.14	0.7
Zinc	ND	ND	ND	2000
Selenium	15.4	16.3	ND	10
PCBs				
PCBs	ND	ND	ND	NA
PESTICIDES				
Dieldrin	ND	ND	ND	0.004
Heptachlor	ND	ND	ND	0.04
Heptachlor Epoxide	ND	ND	ND	0.03
SEMIVOLATILE ORGANIC COMPOUNDS				
SVOCs	ND	ND	ND	NA
Volatile Organic Compounds				
Acetone	408	409	9.73	50
1,1,1-Trichloroethane	14.7	ND	ND	5
1,1-Dichloroethane	57	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	5
cis-1,2-Dichloroethene	55.4	ND	ND	5
1,2,4-Trimethylbenzene	ND	ND	ND	5
1,3,5-Trimethylbenzene	ND	ND	ND	5
1,4-Dioxane	52.1	0.473	ND	1
Trichloroethene	22.5	7370	1.28	5
trans-1,2-Dichloroethene	ND	ND	ND	5
Vinyl chloride	35.3	ND	ND	2
Well Development Field Parameters				
Turbidity (NTU)	19.5	27.5	ND	NA
pH	7.28	7.16	ND	NA
Dissolved Oxygen	7.25	4.33	ND	NA
Temp (degrees C)	8.29	9.36	ND	NA
Conductivity	0.92	5.84	ND	NA

All values in ppb

"J" = Result estimated between the quantitation limit and half the quantitation limit.

L = Laboratory Control Sample recovery outside accepted QC limits.

N/A - Not Applicable ND - I

(1) - TOGs 1.1.1 GA - Technical and Operational Guidance Series (1.1.1) Source of Drinking Water (Groundwater)



TABLE 6
71 TONAWANDA STREET - PFAS AND 1,4 DIOXANE IN GROUNDWATER ANALYTICAL RESULTS SUMMARY

Sample Number	MW-2	MW-4	MW-5	NYSDEC
Sample Date	8/7/2019	8/6/2019	8/6/2019	Guideline
1,4 Dioxane by 8270D				
1,4 Dioxane	ND	ND	ND	1
Perfluorinated Alkyl Acids by Isotope Dilution EPA 537				
Perfluorobutanoic Acid (PFBA)	0.0110	0.0050	0.0030	
Perfluoropentanoic Acid (PFPeA)	0.002	0.00080	0.00200	
Perfluorobutanesulfonic Acid (PFBS)	0.0020	ND	ND	
Perfluorohexanoic Acid (PFHxA)	0.00200	0.00060	0.00200	
Perfluoroheptanoic Acid (PFHpA)	0.001	0.0002	0.0005	
Perfluorohexanesulfonic Acid (PFHxS)	0.00	ND	ND	
Perfluorooctanoic Acid (PFOA)	0.0040	0.00050	0.00300	0.01
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ND	
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ND	
Perfluorononanoic Acid (PFNA)	0.0003	ND	ND	
Perfluorooctanesulfonic Acid (PFOS)	0.0007	ND	ND	0.01
Perfluorodecanoic Acid (PFDA)	ND	ND	ND	
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ND	
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ND	
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ND	
Perfluorodecanesulfonic Acid (PFDS)	ND	ND	ND	
Perfluorooctanesulfonamide (FOSA)	ND	ND	ND	
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.001	ND	ND	
Perfluorododecanoic Acid (PFDoA)	ND	ND	ND	
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ND	
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ND	
PFOA/PFOS Total	0.0040	0.00050	0.00300	0.50

All Values in ppb

0.0040 Exceeds NYSDEC Guidance Value

N/A - Not Applicable ND - Non-detect

TABLE 7		
71 Tonawanda Street - RI Sample Coordinates		
Sample Identification	Coordinates-North American Datum 1983	
	Latitude	Longitude
<u>Surface Soil</u>		
SS01	42.931215	-78.896439
SS02	42.931006	-78.895721
SS03	42.930955	-78.895119
<u>GeoProbe</u>		
BH-03	42.930909	-78.895107
BH-05	42.930959	-78.895565
BH-06	42.930997	-78.895728
BH-07	42.930872	-78.895858
BH-13	42.931031	-78.896354
TP-14	42.931126	-78.896426
TP-15	42.931193	-78.896596
TP-16	42.931248	-78.896751
TP-17	42.931064	-78.896837
TP-18	42.931065	-78.896622
<u>Monitoring Wells</u>		
MW- 2	42.930842	-78.895239
MW- 4	42.930704	-78.897129
MW- 5	42.931266	-78.897054

**TABLE 8
71 TONAWANDA STREET SITE - GROUNDWATER ELEVATIONS**

Well Number	T of C Elevation (ft)	Water Level January 2020	Water Level May 2020	Groundwater
				Elevation (5-20)
MW - 2	578.33	3.06	3.2	575.13
MW - 4	582.75	4.11	5.4	577.35
MW - 5	584.00	N/A (1)	4.6	579.40

(1) - MW-05 is an extremely slow recharging well and the measured GW level is not representative of the surrounding GW elevation

TABLE 9
71 TONAWANDA BUILDING - SUB SLAB VAPOR ANALYTICAL RESULTS SUMMARY
EPA Air Method Toxic Organics -15 (TO-15)

Contaminants					NYSDOH (1)
	SSV-03	SSV-04	SSV-05	SSV-06	Sub Slab Vapor Concentration
	Sub Slab 3/5/2020	Sub Slab 3/5/2020	Sub Slab 3/5/2020	Sub Slab 3/5/2020	Decision Matrix - Min Action Level ug/m3
Volatile Organic Compounds (2)					
1,1,1-Trichloroethane	0.65	25	ND	15	100
1,1,2-Trichloroethane	0.93	ND	ND	ND	
1,1-Dichloroethane	ND	1.3	ND	ND	6
1,2,4-Trimethylbenzene	ND	ND	ND	ND	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	
2,2,4-trimethylpentane	ND	ND	ND	ND	
1,2-Dichloropropane	ND	7.2	ND	ND	
1,3-butadiene	ND	7.1	ND	ND	
1,4-Dioxane	ND	ND	ND	2.7	
4-ethyltoluene	ND	ND	ND	ND	
Acetone	15	31	17	110	
Benzene	1.8	2.6	26	2.10	
Carbon disulfide	1.3	0.3	1.7	17	
Carbon tetrachloride	ND	ND	ND	ND	6
Chloroethane	ND	ND	ND	ND	
Chloroform	8.0	3.7	14	ND	
Chloromethane	ND	ND	ND	ND	
cis-1,2-Dichloroethene	4.0	38	ND	1.0	6
Cyclohexane	8.3	10	ND	14	
Ethyl acetate	ND	0.54	ND	ND	
Ethylbenzene	ND	ND	ND	ND	
Freon 11	1.2	1.1	1.1	1.2	
Freon 12	2.5	2.4	2.3	2.5	
Heptane	23	ND	420	11	
Hexane	41	12	720	13	
Isopropyl alcohol	ND	2.6 J	ND	8.4 J	
m&p-Xylene	0.43	0.61	2.4	0.5	
Methyl Ethyl Ketone	2.4	3.0	ND	6	
Methylene chloride	3.2	3	3.5	4.6	100
Propylene	ND	6.7	ND	ND	
o-Xylene	ND	ND	ND	ND	
Styrene	ND	ND	ND	ND	
Tetrachloroethylene	ND	1.2	1.8	0.68	100
Toluene	2.9	5	18	3.4	
trans-1,2-Dichloroethene	ND	4	ND	0.9	
Trichloroethene (TCE)	7400 (3)	4700 (3)	19000 (3)	93 (3)	6
Vinyl chloride	ND	ND	ND	ND	6

N/A - Not Applicable ND - Non-detect

(1) New York State Department of Health (NYSDOH), Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006 and subsequent updates (select matrix comp)

(2) Compounds with detected concentrations in ug/m3

(3) - The values noted for TCE in the sub slab vapor samples would automatically require mitigation (DOH Matrices) no mater what indoor air values are received once building See Soil Vapor/Indoor Air Matrix A (May 2017) NYSDOH Guidance titled "Evaluating Soil Vapor Intrusion in the State of New York", October 2006 (and subsequent updates)

TABLE 10
71 TONAWANDA STREET - RI BUILDING SUB-SLAB SOIL SAMPLE ANALYTICAL RESULTS SUMMARY

Contaminants	Sample Identification						PART 375 Soil Cleanup Objectives		
	SSB-1 Sub-Slab (0-4')	SSB-2 Sub-Slab (6-8')	SSB-2 Sub-Slab (9-16')	SSB-3 Sub-Slab (10-11')	SSB-4 Sub-Slab (10-12')	SSB-5 Sub-Slab (6-7')	Unrestricted Use	Residential	Restricted Residential
	3/18/2020	3/18/2020	3/18/2020	3/19/2020	3/19/2020	3/19/2020			
METALS									
Arsenic	17.3	NA	NA	NA	NA	NA	13	16	16
Barium	132	NA	NA	NA	NA	NA	350	350	400
Beryllium	ND	NA	NA	NA	NA	NA	7.2	14	72
Cadmium	2.52	NA	NA	NA	NA	NA	2.5	2.5	4.3
Chromium	20.7	NA	NA	NA	NA	NA	30	36	180
Copper	3390	NA	NA	NA	NA	NA	50	270	270
Lead	2240	NA	NA	NA	NA	NA	63	400	400
Manganese	518	NA	NA	NA	NA	NA	1600	2,000	2,000
Total Mercury	0.34	NA	NA	NA	NA	NA	0.18	0.81	0.81
Nickel	36.7	NA	NA	NA	NA	NA	30	140	310
Selenium	2.98	NA	NA	NA	NA	NA	3.9	36	180
Zinc	4940	NA	NA	NA	NA	NA	109	2200	10,000
Cyanide	NA	NA	NA	NA	NA	NA	27	27	27
PCBs									
PCB-1254	ND	NA	NA	NA	NA	NA	0.1	1	1
PCB-1260	ND	NA	NA	NA	NA	NA	0.1	1	1
PESTICIDES									
4,4-DDT	ND	NA	NA	NA	NA	NA	0.0033	1.7	7.9
4,4-DDE	ND	NA	NA	NA	NA	NA	0.0033	1.8	8.9
Endosulfan Sulfate	0.002	NA	NA	NA	NA	NA	2.4	4.8	24
Endrin	ND	NA	NA	NA	NA	NA	0.014	2.2	11
SEMIVOLATILE ORGANIC COMPOUNDS									
Acenaphthene	ND	NA	NA	NA	NA	NA	20	100	100
Acenaphthylene	ND	NA	NA	NA	NA	NA	100	100	100
Anthracene	0.27	NA	NA	NA	NA	NA	100	100	100
Benz(a)anthracene	0.83	NA	NA	NA	NA	NA	1	1	1
Benzo(a)pyrene	0.79	NA	NA	NA	NA	NA	1	1	1
Benzo(b)fluoranthene	0.73	NA	NA	NA	NA	NA	1	1	1
Benzo(g,h,i)perylene	0.59	NA	NA	NA	NA	NA	100	100	100
Benzo(k)fluoranthene	0.65	NA	NA	NA	NA	NA	0.8	1	3.9
Chrysene	0.95	NA	NA	NA	NA	NA	1	1	3.9
Dibenz(a,h)anthracene	ND	NA	NA	NA	NA	NA	0.33	0.33	0.33
Fluoranthene	1.9	NA	NA	NA	NA	NA	100	100	100
Fluorene	ND	NA	NA	NA	NA	NA	30	100	100
Indeno(1,2,3-cd)pyrene	0.48	NA	NA	NA	NA	NA	0.5	0.5	0.5
Naphthalene	0.25	NA	NA	NA	NA	NA	12	100	100
Phenanthrene	1.7	NA	NA	NA	NA	NA	100	100	100
Pyrene	1.7	NA	NA	NA	NA	NA	100	100	100
VOLATILE ORGANIC COMPOUNDS									
Acetone	ND	ND	ND	ND	ND	ND	0.05	100	100
Toluene	ND	ND	ND	ND	ND	ND	0.7	100	100
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	0.044	0.25	59	100
Ethylbenzene	ND	ND	ND	ND	ND	ND	1	30	41
m,p-Xylene	ND	ND	ND	ND	ND	ND	0.26	100	100
Methylene chloride	ND	ND	ND	ND	ND	ND	0.05	51	100
Trichloroethene	1.7	0.8	4.57	4.85	1980	0.63	0.47	10	21
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	ND	3.6	47	52
1,3,5- Trimethylbenzene	ND	ND	ND	ND	ND	ND	8.4	47	52

ND - Non-Detect NA - Not Applicable

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

>= to Residential/Restricted-Residential SCO and Unrestricted Use SCO

>Unrestricted Use SCO but <Residential/Restricted-Residential SCO.

>Unrestricted Use & Residential SCO but <Restricted-Residential SCO

TABLE 11
71 TONAWANDA - RI BUILDING SUB-SLAB SOIL SAMPLE ANALYTICAL RESULTS - PFAS & 1,4 DIOXANE

Sample Number	SSB-1 Sub-Slab (0-4')	NYSDEC Guideline
Sample Date	3/18/2020	
1,4 Dioxane by 8270D		
1,4 Dioxane	ND	1 ppm
Perfluorinated Alkyl Acids by Isotope Dilution EPA 537		
Perfluorobutanoic Acid (PFBA)	ND	
Perfluoropentanoic Acid (PFPeA)	ND	
Perfluorobutanesulfonic Acid (PFBS)	ND	
Perfluorohexanoic Acid (PFHxA)	0.097	
Perfluoroheptanoic Acid (PFHpA)	ND	
Perfluorohexanesulfonic Acid (PFHxS)	ND	
Perfluorooctanoic Acid (PFOA)	ND	
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	
Perfluoroheptanesulfonic Acid (PFHpS)	ND	
Perfluorononanoic Acid (PFNA)	ND	
Perfluorooctanesulfonic Acid (PFOS)	ND	
Perfluorodecanoic Acid (PFDA)	ND	
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	
Perfluoroundecanoic Acid (PFUnA)	ND	
Perfluorodecanesulfonic Acid (PFDS)	ND	
Perfluorooctanesulfonamide (FOSA)	ND	
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	
Perfluorododecanoic Acid (PFDoA)	ND	
Perfluorotridecanoic Acid (PFTTrDA)	ND	
Perfluorotetradecanoic Acid (PFTA)	ND	

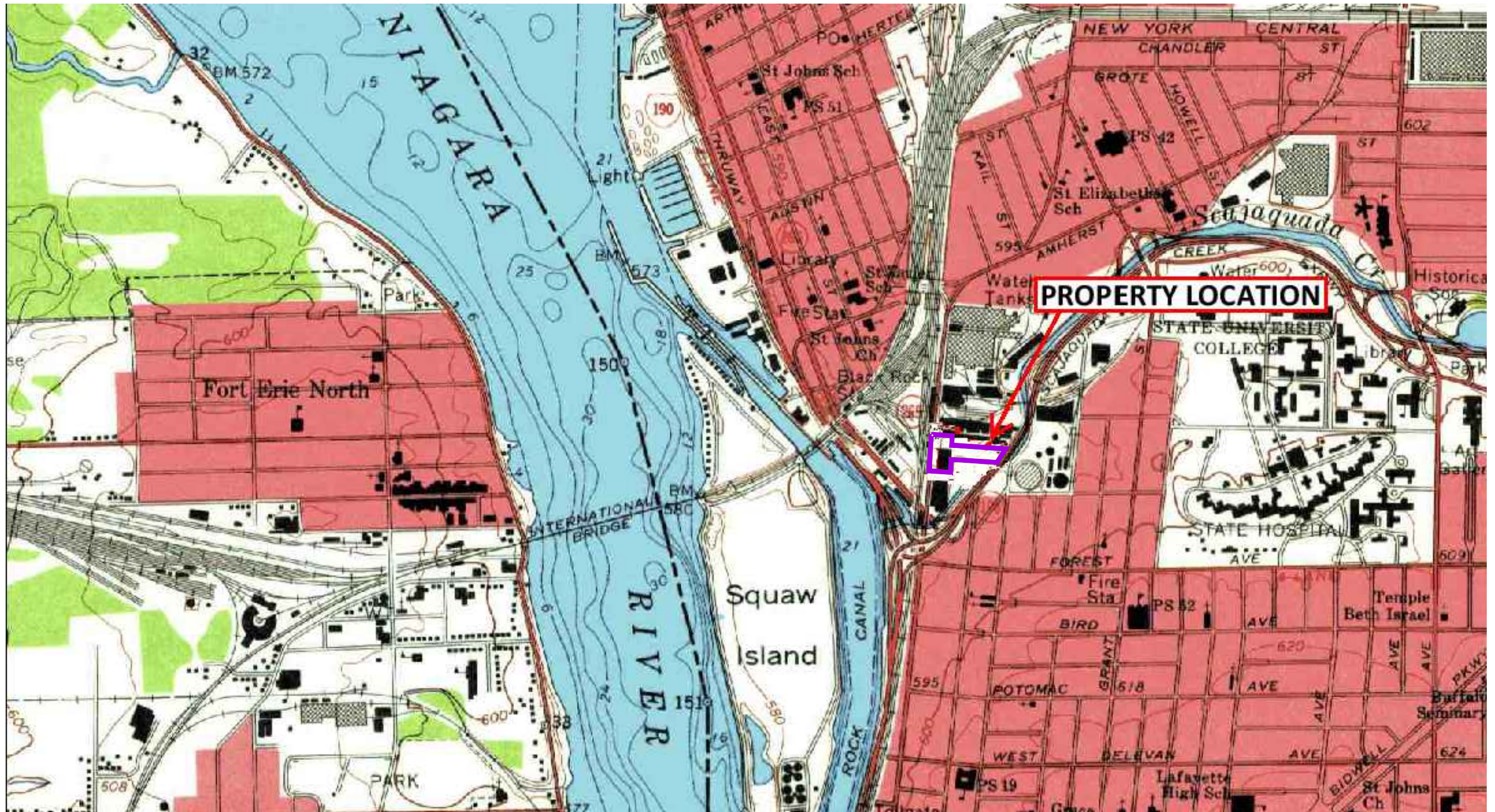
PFAS Values in ppb


N/A - Not Applicable ND - Non-detect

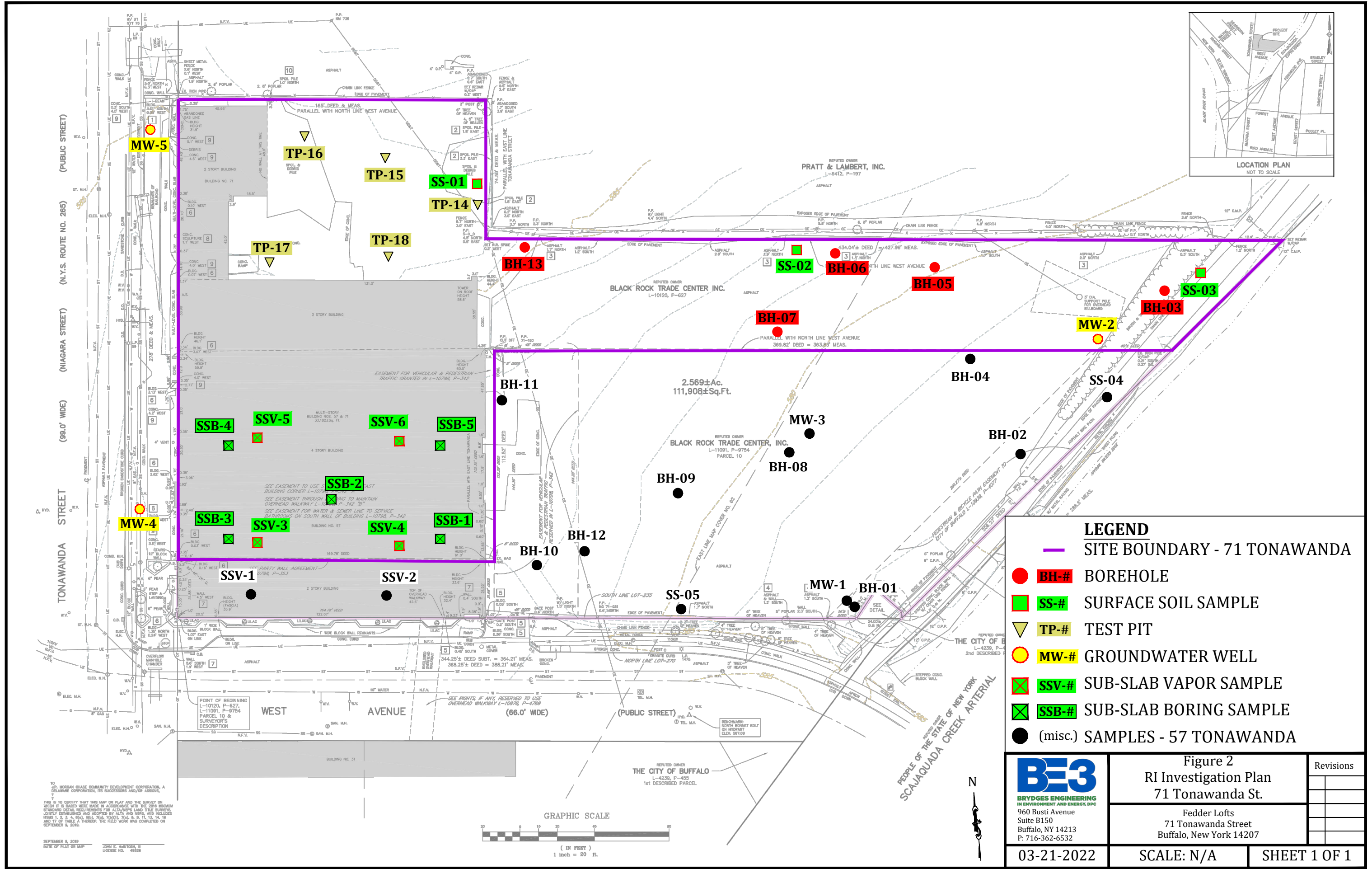
Exceeds Guideline

71 TONAWANDA PROPERTY

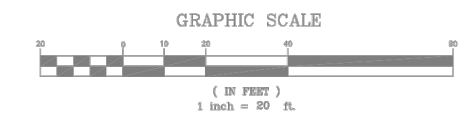
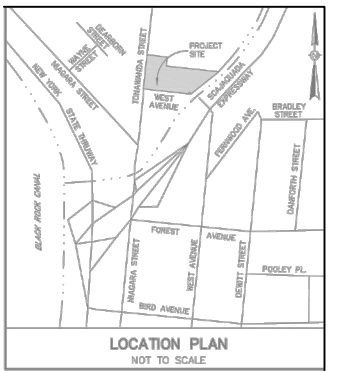
REMEDIAL INVESTIGATION FIGURES



 BE3 BRYDGES ENGINEERING <small>IN ENVIRONMENT AND ENERGY, DPC</small> 960 Busti Avenue Suite B150 Buffalo, NY 14213 P: 716-362-6532	Figure 1 Property Location Map 71 Tonawanda St.		Revisions			
	Fedder Lofts 71 Tonawanda Street Buffalo, New York 14207		<table border="1"> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table>			
03-21-2022	SCALE: N/A	SHEET 1 OF 1				



(PUBLIC STREET) (N.Y.S. ROUTE NO. 265) (NIAGARA STREET) (99.0' WIDE) TONAWANDA STREET



TO: J.P. MORRAN CHASE COMMUNITY DEVELOPMENT CORPORATION, A DELAWARE CORPORATION, ITS SUCCESSORS AND/OR ASSIGNS,
 THIS IS TO CERTIFY THAT THIS MAP OR PLAN AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/SURVEY LAND SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND SURVEYORS INCLUDING ITEMS 1, 2, 3, 4, 6(a), 6(b), 7(a), 7(b), 7(c), 7(d), 8, 9, 11, 13, 14, 18 AND 19 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON SEPTEMBER 9, 2019.

DATE OF PLAN OR MAP: SEPTEMBER 9, 2019
 SURVEYOR: JOHN E. MANTON III
 LICENSE NO.: 49698

POINT OF BEGINNING
 L-11091, P-827
 PARCEL 10 &
 SURVEYOR'S
 DESCRIPTION

THE CITY OF BUFFALO
 L-4239, P-455
 1st DESCRIBED PARCEL

PEOPLE OF THE STATE OF NEW YORK
 SCAJAJUADA CREEK ARTERIAL



TP-16	1 - 3'	RR SCO
-Benz(a)anthracene	1.95	1
-Benzo(a)pyrene	1.6	1
-Benzo(b)fluoranthene	1.63	1
-Dibenz(a,h)anthracene	0.36	0.33
-Indeno(1,2,3-c-d)pyrene	0.9	0.5

SS-02	0 - 0.5'	RR SCO
-Benz(a)anthracene	6.71	1
-Benzo(a)pyrene	8.35	1
-Benzo(b)fluoranthene	9.97	1
-Benzo(k)fluoranthene	4.24	3.9
-Chrysene	7.31	3.9
-Dibenz(a,h)anthracene	1.99	0.33
-Indeno(1,2,3-c-d)pyrene	7.98	0.5

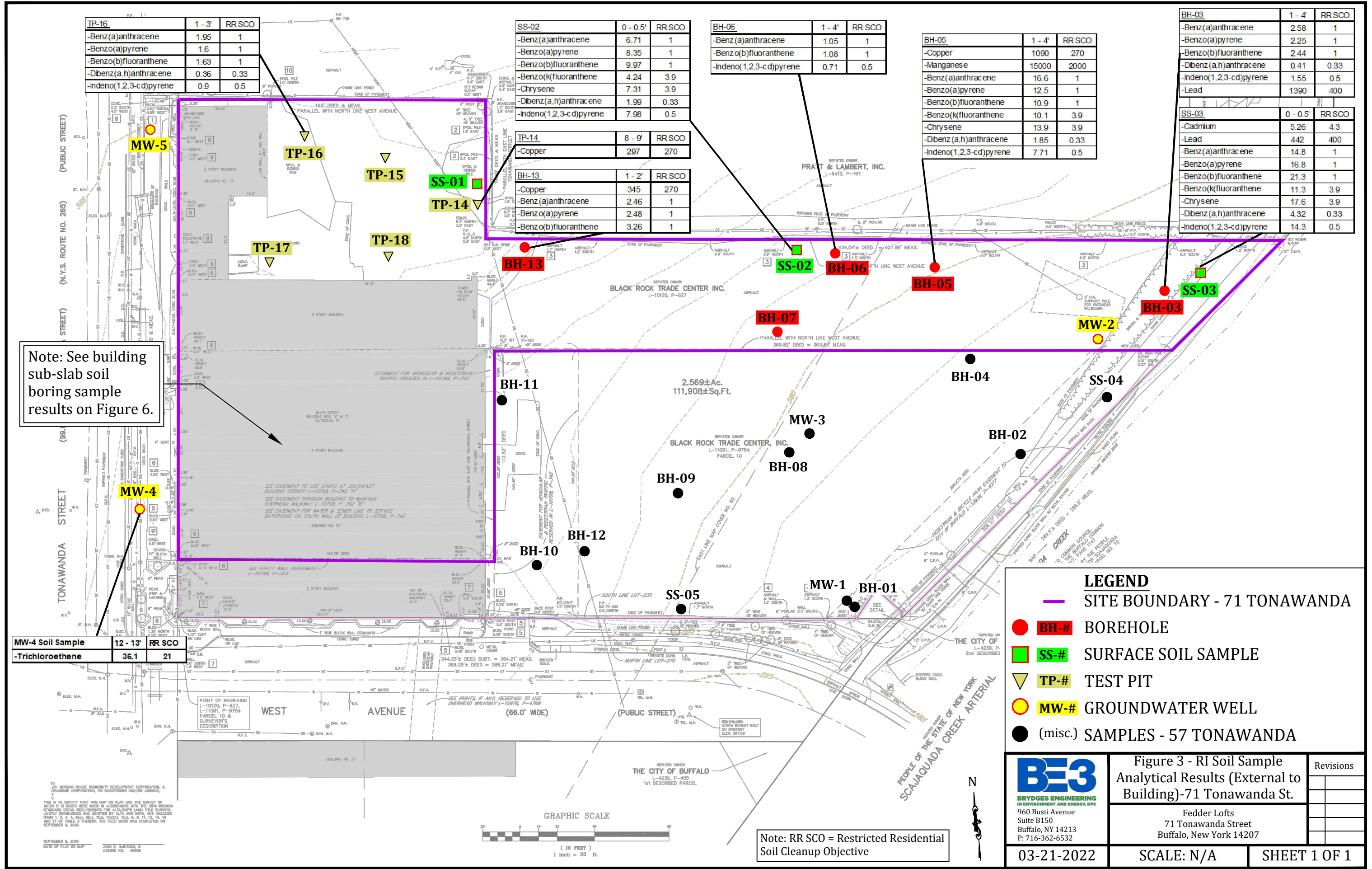
BH-06	1 - 4'	RR SCO
-Benz(a)anthracene	1.05	1
-Benzo(b)fluoranthene	1.08	1
-Indeno(1,2,3-c-d)pyrene	0.71	0.5

BH-05	1 - 4'	RR SCO
-Copper	1090	270
-Manganese	15000	2000
-Benz(a)anthracene	16.6	1
-Benzo(a)pyrene	12.5	1
-Benzo(b)fluoranthene	10.9	1
-Benzo(k)fluoranthene	10.1	3.9
-Chrysene	13.9	3.9
-Dibenz(a,h)anthracene	1.85	0.33
-Indeno(1,2,3-c-d)pyrene	7.71	0.5

BH-03	1 - 4'	RR SCO
-Benz(a)anthracene	2.58	1
-Benzo(a)pyrene	2.25	1
-Benzo(b)fluoranthene	2.44	1
-Dibenz(a,h)anthracene	0.41	0.33
-Indeno(1,2,3-c-d)pyrene	1.55	0.5
-Lead	1390	400

SS-03	0 - 0.5'	RR SCO
-Cadmium	5.26	4.3
-Lead	442	400
-Benz(a)anthracene	14.8	1
-Benzo(a)pyrene	16.8	1
-Benzo(b)fluoranthene	21.3	1
-Benzo(k)fluoranthene	11.3	3.9
-Chrysene	17.6	3.9
-Dibenz(a,h)anthracene	4.32	0.33
-Indeno(1,2,3-c-d)pyrene	14.3	0.5

Note: See building sub-slab soil boring sample results on Figure 6.



LEGEND

- SITE BOUNDARY - 71 TONAWANDA
- **BH-#** BOREHOLE
- **SS-#** SURFACE SOIL SAMPLE
- ▼ **TP-#** TEST PIT
- **MW-#** GROUNDWATER WELL
- (misc.) SAMPLES - 57 TONAWANDA

MW-4 Soil Sample	12 - 13'	RR SCO
-Trichloroethene	36.1	21

960 Busti Avenue
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P: 716-362-6532

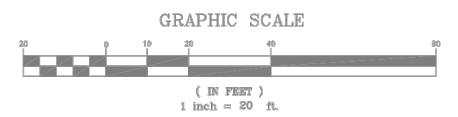
Figure 3 - RI Soil Sample Analytical Results (External to Building)-71 Tonawanda St.

Fedder Lofts
71 Tonawanda Street
Buffalo, New York 14207

Revisions

03-21-2022
SCALE: N/A
SHEET 1 OF 1

Note: RR SCO = Restricted Residential Soil Cleanup Objective

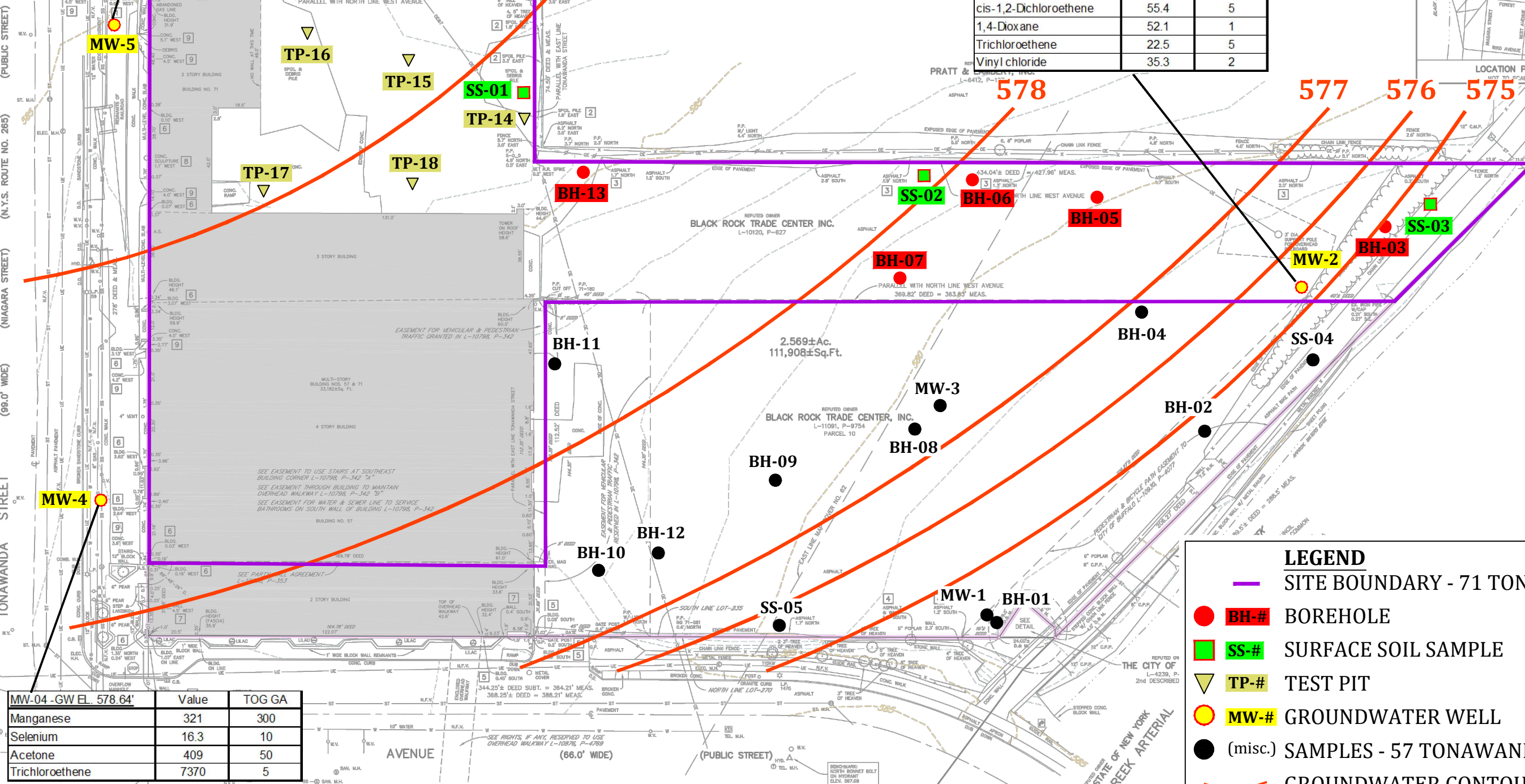


SEPTEMBER 9, 2019
DATE OF PLAT OR MAP

TO: J.P. MORRIS CHASE COMMUNITY DEVELOPMENT CORPORATION, A DELAWARE CORPORATION, ITS SUCCESSORS AND/OR ASSIGNS,
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MICHIGAN STANDARD DETAIL REQUIREMENTS FOR ALTA/SURVEY LAND SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND SURVEYORS INCLUDING ITEMS 1, 2, 3, 4, 6(a), 6(b), 7(a), 7(b), 7(c), 7(d), 8, 9, 11, 13, 14, 18 AND 19 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON SEPTEMBER 9, 2019.

MW-05	Value	TOG GA
Manganese	321	300

MW-02 - GW EL. 575.27'	Value	TOG GA
Manganese	694	300
Selenium	15.4	10
Acetone	408	50
1,1,1-Trichloroethane	14.7	5
1,1-Dichloroethane	57	5
cis-1,2-Dichloroethane	55.4	5
1,4-Dioxane	52.1	1
Trichloroethene	22.5	5
Vinyl chloride	35.3	2



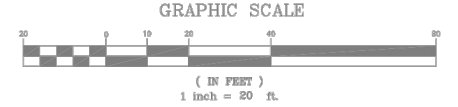
MW-04 - GW EL. 578.64'	Value	TOG GA
Manganese	321	300
Selenium	16.3	10
Acetone	409	50
Trichloroethene	7370	5

LEGEND

- SITE BOUNDARY - 71 TONAWANDA
- BH-# BOREHOLE
- SS-# SURFACE SOIL SAMPLE
- ▽ TP-# TEST PIT
- MW-# GROUNDWATER WELL
- (misc.) SAMPLES - 57 TONAWANDA
- GROUNDWATER CONTOUR

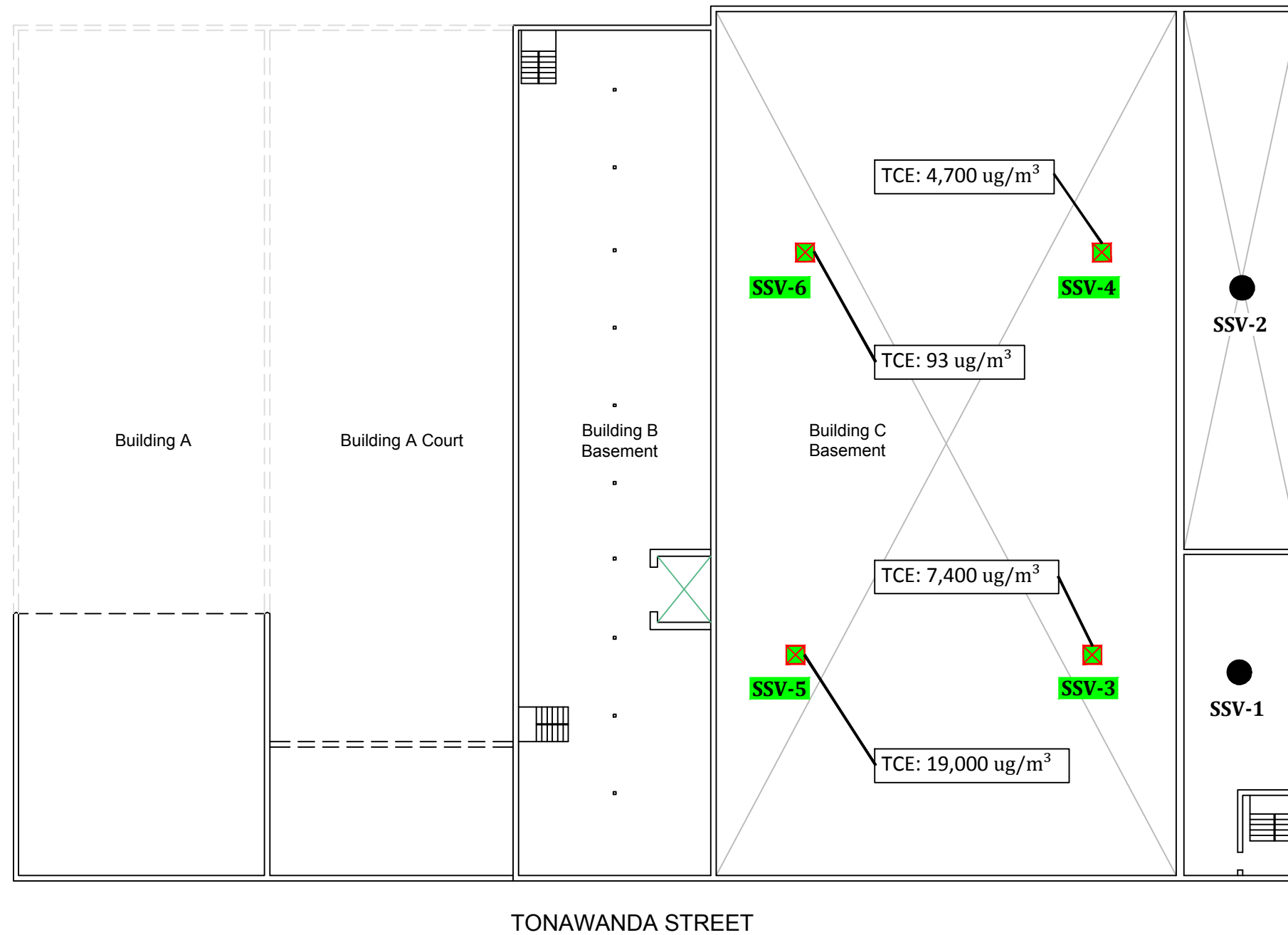
<p>960 Busti Avenue Suite B150 Buffalo, NY 14213 P: 716-362-6532</p>	<p>Figure 4 - RI GW Contours and Analytical Results 71 Tonawanda St.</p> <p>Fedder Lofts 71 Tonawanda Street Buffalo, New York 14207</p>		Revisions
	03-21-2022	SCALE: N/A	SHEET 1 OF 1

Note: MW-5 extremely slow recharging well. Groundwater elevation not representative and not used for contours.



TO: J.P. MORRAN CHASE COMMUNITY DEVELOPMENT CORPORATION, A DELAWARE CORPORATION, ITS SUCCESSORS AND/OR ASSIGNS, WHICH IS TO BE BOUND HEREIN BY ACCORDANCE WITH THE 2018 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/SURVEYOR LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS AND INCLUDES ITEMS 1, 2, 3, 4, 6(a), 6(b), 7(a), 7(b), 7(c), 7(d), 8, 9, 11, 13, 14, 18 AND 19 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON SEPTEMBER 9, 2019.


DATE OF PLAT OR MAP: SEPTEMBER 9, 2019
 SURVEYOR: JOHN E. MANTOUIL II
 LICENSE NO.: 49698




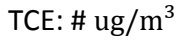
EXISTING BASEMENT PLAN

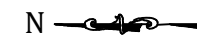
NOTE: MINIMUM ACTION LEVEL REQUIRING MITIGATION IS 60 ug/m³ FOR SUB-SLAB VAPOR, REGARDLESS OF INDOOR AIR CONCENTRATION, AS PER NYSDOH SOIL VAPOR/INDOOR AIR MATRIX A FOR TCE.


LEGEND

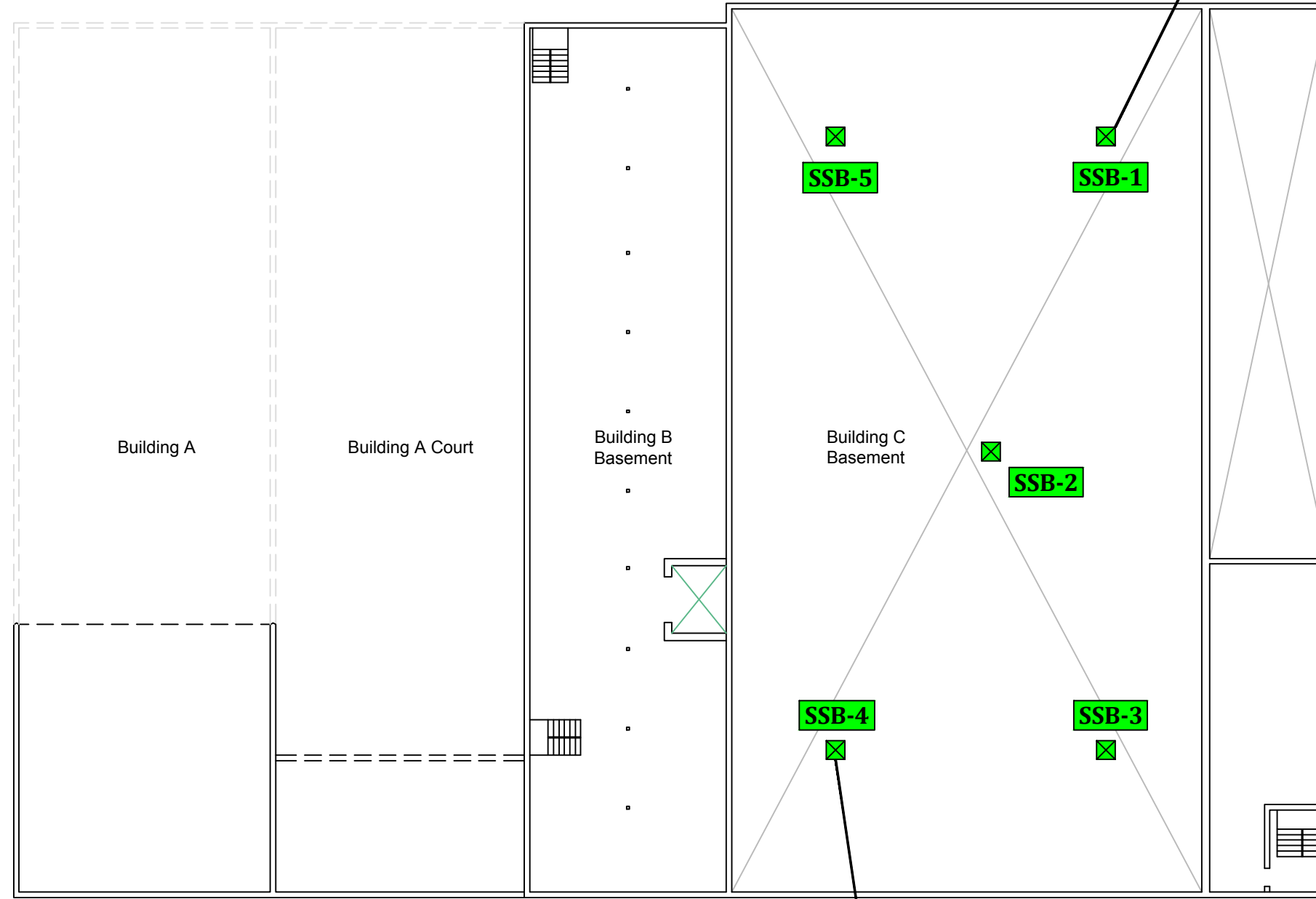
 **SSV-#** SUB-SLAB VAPOR PROBE SAMPLE LOCATION

 **SSV-#** SUB-SLAB VAPOR PROBE SAMPLE - 57 TONAWANDA

 LAB ANALYTICS RESULT FROM TCE IN SAMPLE



 BRYDGES ENGINEERING <small>IN ENVIRONMENT AND ENERGY, DPC</small> 960 Busti Avenue Suite B150 Buffalo, NY 14213 P: 716-362-6532	Figure 5 - Sub-Slab Vapor Sample Locations 71 Tonawanda St.	Revisions <table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>								
Fedder Lofts 71 Tonawanda Street Buffalo, New York 14207	03-21-2022	SCALE: N/A	SHEET 1 OF 1							



EXISTING BASEMENT PLAN

SSB-1	0 - 4'	RR SCO
Arsenic	17.3	16
Copper	3390	270
Lead	2240	400

SSB-4	10 - 12'	RR SCO
Trichloroethene	1980	21

WEST AVENUE

TONAWANDA STREET

NOTE:
RR SCO = RESTRICTED RESIDENTIAL
SOIL CLEANUP OBJECTIVE



SSB-#

LEGEND
SUB-SLAB SOIL BORING SAMPLE
LOCATION



Figure 6 - Sub-Slab Soil
Sample Locations / Results
71 Tonawanda St.

Fedder Lofts
71 Tonawanda Street
Buffalo, New York 14207

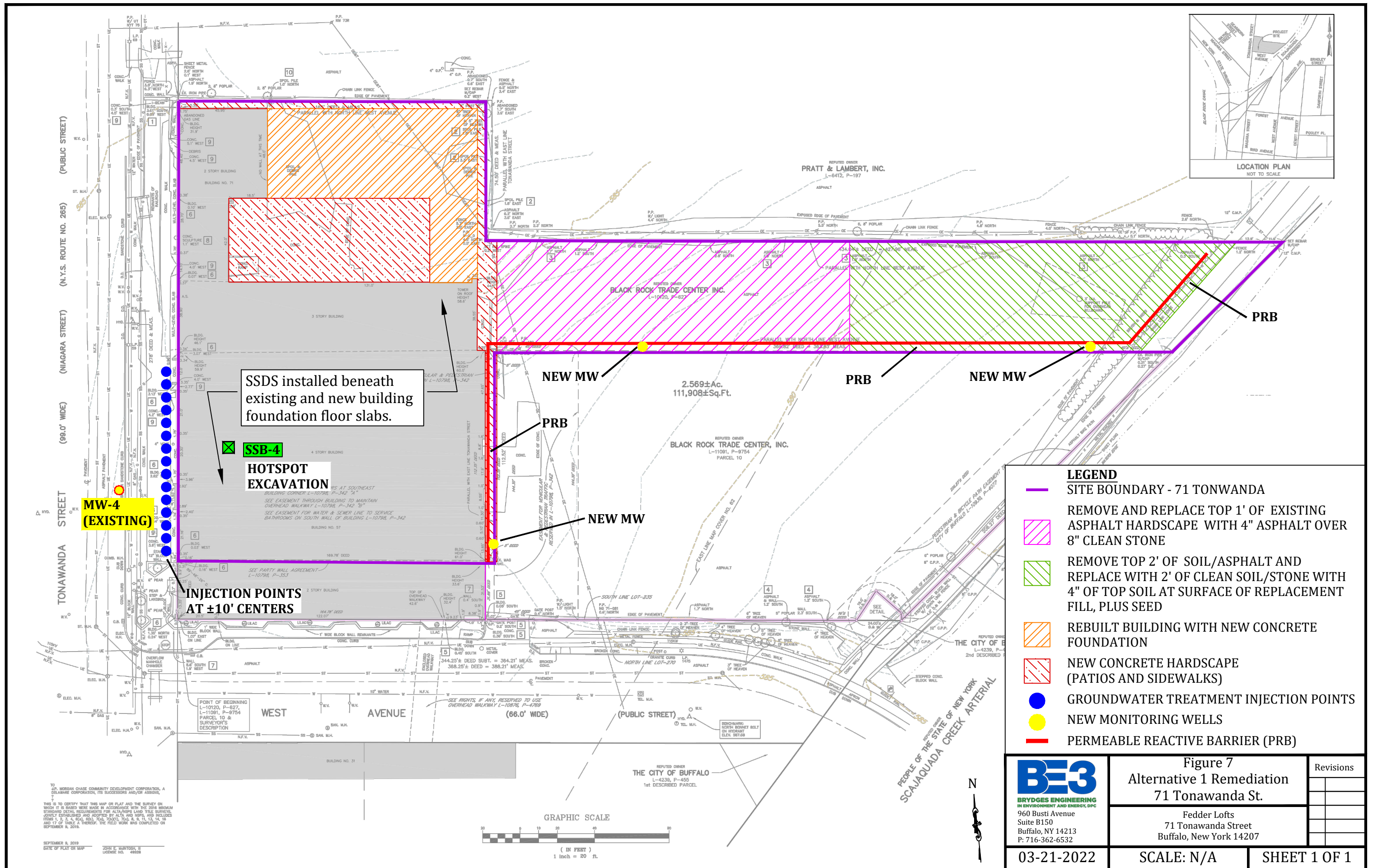
Revisions



03-21-2022

SCALE: N/A

SHEET 1 OF 1



SSDS installed beneath existing and new building foundation floor slabs.

SSB-4
HOTSPOT EXCAVATION

MW-4 (EXISTING)

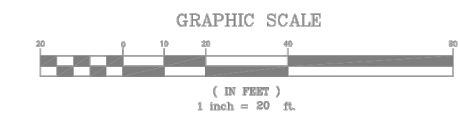
INJECTION POINTS AT ±10' CENTERS

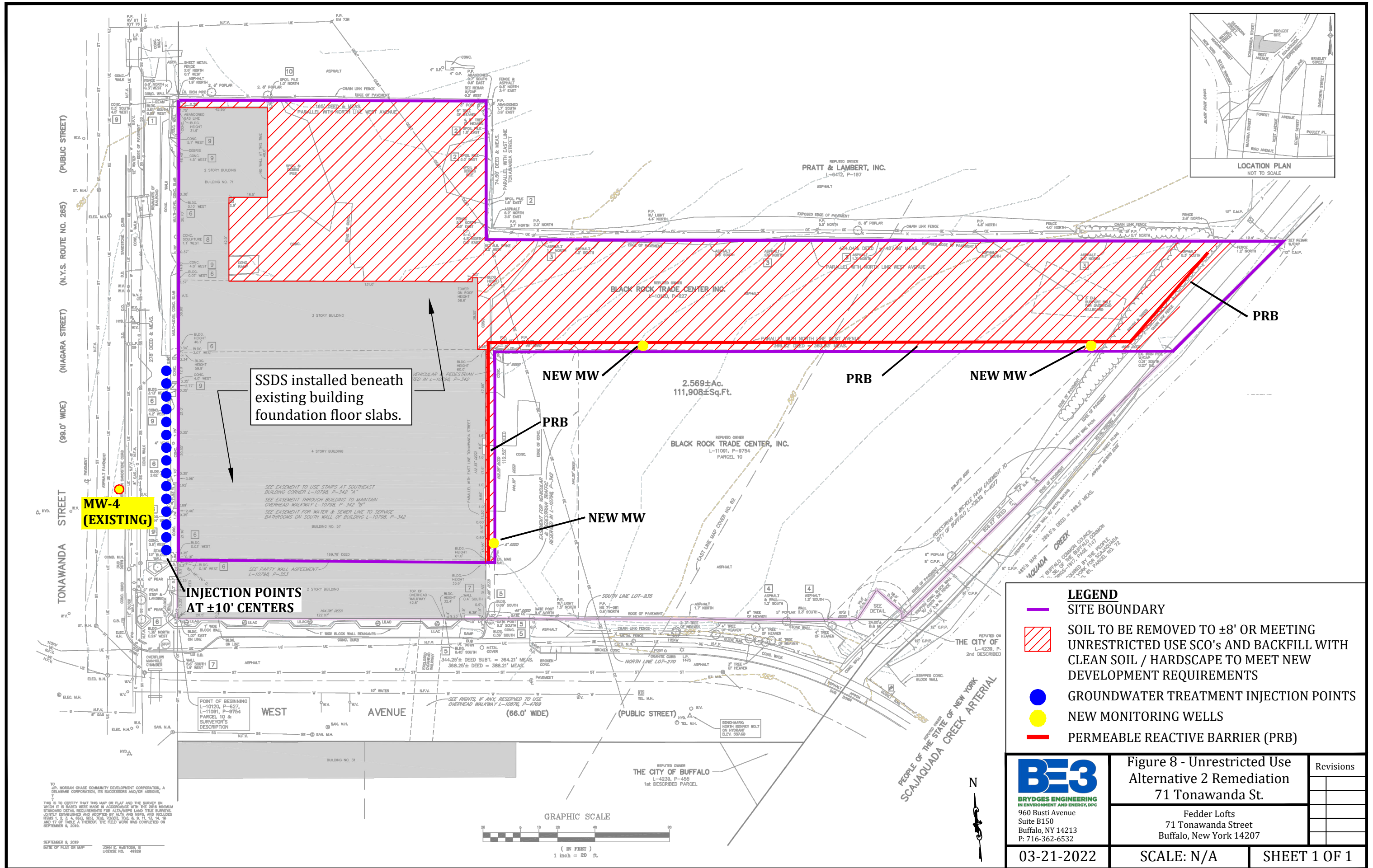
LEGEND	
	SITE BOUNDARY - 71 TONAWANDA
	REMOVE AND REPLACE TOP 1' OF EXISTING ASPHALT HARDSCAPE WITH 4" ASPHALT OVER 8" CLEAN STONE
	REMOVE TOP 2' OF SOIL/ASPHALT AND REPLACE WITH 2' OF CLEAN SOIL/STONE WITH 4" OF TOP SOIL AT SURFACE OF REPLACEMENT FILL, PLUS SEED
	REBUILT BUILDING WITH NEW CONCRETE FOUNDATION
	NEW CONCRETE HARDSCAPE (PATIOS AND SIDEWALKS)
	GROUNDWATER TREATMENT INJECTION POINTS
	NEW MONITORING WELLS
	PERMEABLE REACTIVE BARRIER (PRB)

 BE3 BRYDGES ENGINEERING IN ENVIRONMENT AND ENERGY, DPC 960 Busti Avenue Suite B150 Buffalo, NY 14213 P: 716-362-6532	Figure 7 Alternative 1 Remediation 71 Tonawanda St. Fedder Lofts 71 Tonawanda Street Buffalo, New York 14207	Revisions <table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>								
03-21-2022	SCALE: N/A	SHEET 1 OF 1								

TO: J.P. MORRAN CHASE COMMUNITY DEVELOPMENT CORPORATION, A DELAWARE CORPORATION, ITS SUCCESSORS AND/OR ASSIGNS, AND TO ALL OTHERS WHO MAY BE AFFECTED BY THIS MAP OR PLAN AND THE SURVEY ON WHICH IT IS BASED. THESE MAPS AND PLANS AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/SURVEY LAND SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND SURVEYING AND INCLUDING ITEMS 1, 2, 3, 4, 6(a), 6(b), 7(a), 7(b), 7(c), 8, 9, 11, 13, 14, 18 AND 19 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON SEPTEMBER 9, 2019.

DATE OF PLAT OR MAP: SEPTEMBER 9, 2019
 LICENSE NO.: 49698





SSDS installed beneath existing building foundation floor slabs.

MW-4 (EXISTING)

INJECTION POINTS AT ±10' CENTERS

NEW MW

PRB

NEW MW

PRB

NEW MW

PRB

- LEGEND**
- SITE BOUNDARY
 - SOIL TO BE REMOVED TO ±8' OR MEETING UNRESTRICTED USE SCO'S AND BACKFILL WITH CLEAN SOIL / HARDSCAPE TO MEET NEW DEVELOPMENT REQUIREMENTS
 - GROUNDWATER TREATMENT INJECTION POINTS
 - NEW MONITORING WELLS
 - PERMEABLE REACTIVE BARRIER (PRB)

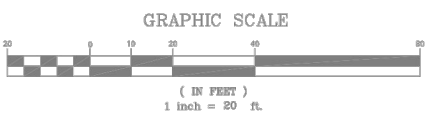
BE3
 BRYDGES ENGINEERING
 IN ENVIRONMENT AND ENERGY, DPC
 960 Busti Avenue
 Suite B150
 Buffalo, NY 14213
 P: 716-362-6532

Figure 8 - Unrestricted Use
 Alternative 2 Remediation
 71 Tonawanda St.
 Fedder Lofts
 71 Tonawanda Street
 Buffalo, New York 14207

Revisions

TO: J.P. MORRIS CHASE COMMUNITY DEVELOPMENT CORPORATION, A DELAWARE CORPORATION, ITS SUCCESSORS AND/OR ASSIGNS, WHICH IT IS HEREBY CERTIFIED THAT THIS MAP OR PLAN AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/SURVEY LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND SURVEYING AND INCLUDES ITEMS 1, 2, 3, 4, 6(a), 6(b), 7(a), 7(b), 7(c), 8, 9, 11, 13, 14, 18 AND 19 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON SEPTEMBER 9, 2019.

DATE OF PLAN OR MAP: SEPTEMBER 9, 2019
 SURVEY NO.: 49898



APPENDIX A

REMEDIAL ALTERNATIVES COST ESTIMATES

**71 TONAWANDA STREET SITE
REMEDIAL ALTERNATIVE COST ESTIMATES**

Assumptions:

1) - Conversion factor of cubic yards of soil/stone to tons is 1.5

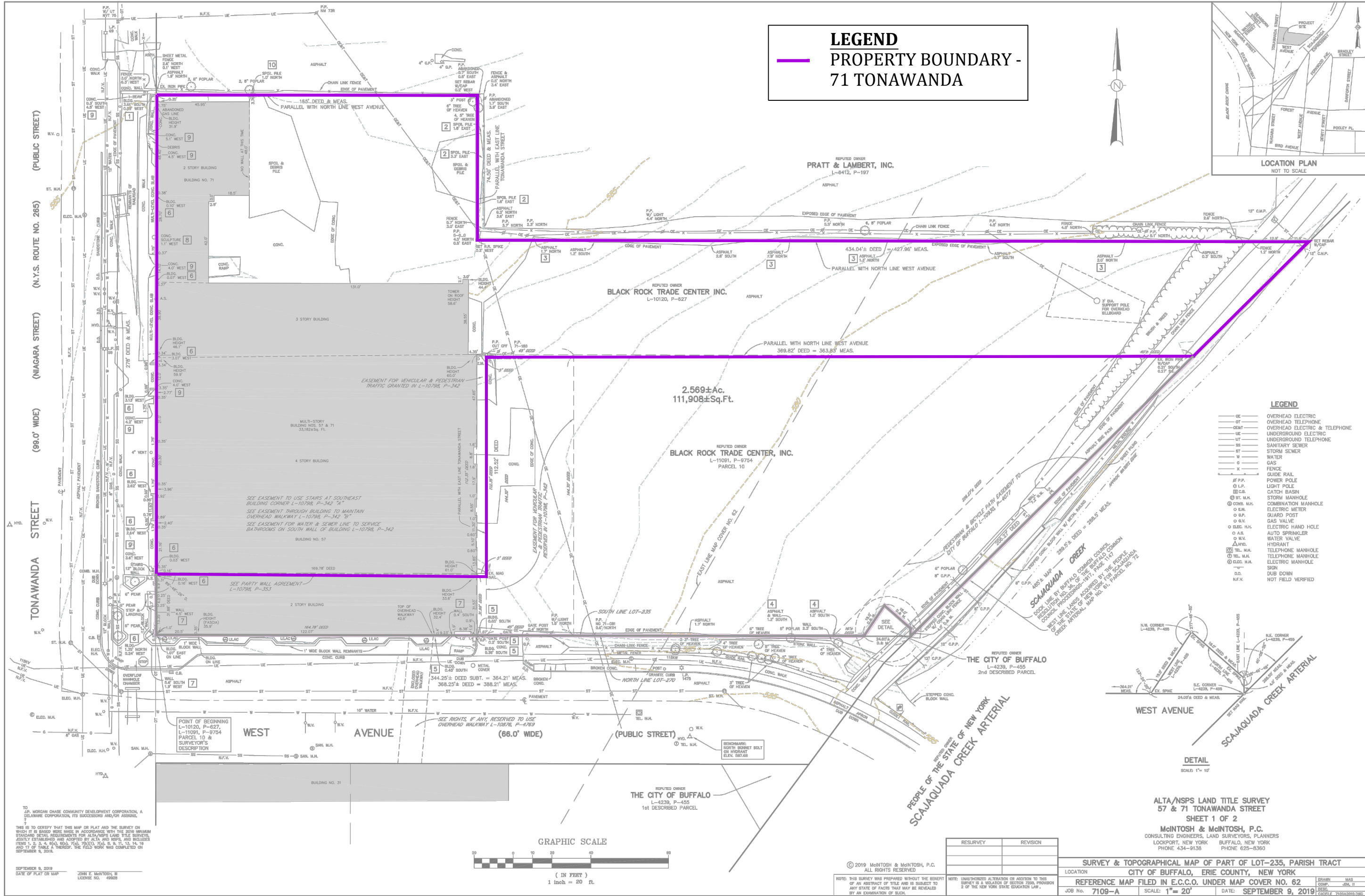
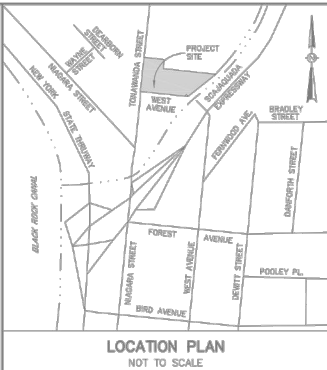
ALTERNATIVE 1 - REMEDIATE TO TRACK 4 - RESTRICTED RESIDENTIAL			
Item	Unit Cost	Quantity	Total
Mobilization/Demobilization	\$10,000.00	1	\$10,000.00
Excavate/dispose- open areas-top 1' to 2'(tons)	\$50.00	3000	\$150,000.00
Disposal Sampling	\$1,200.00	12	\$14,400.00
8" Stone placement - New parking & Concrete slabs (tons)	\$25.00	1560	\$39,000.00
Open Area - 4" asphalt placement (SF)	\$4.00	12400	\$49,600.00
Deliniation fabric (SY)	\$1.50	2700	\$4,050.00
Clean fill East Area (2')	\$15.00	1335	\$20,025.00
Place new concrete foundation/slab for rebuilt Section/patio (LS)	\$225,000.00	1	\$225,000.00
Vapor Mitigation System (LS)	\$200,000.00	1	\$200,000.00
Groundwater Treatment & 3 MWs (LS)	\$350,000.00	1	\$350,000.00
Confirmation sampling (LS)	\$10,000.00	1	<u>\$10,000.00</u>
Sub-Total			\$1,072,075.00
Engineering Oversight (3 months) (LS)	\$80,000.00	1	<u>\$80,000.00</u>
Subtotal			\$1,152,075.00
Contingency (10%)			<u>\$115,207.50</u>
Estimated Capital CostTotal			\$1,267,282.50
Annual Inspection/Monitoring/Maintenance (per Yr.)	\$8,000.00	1.0	\$8,000.00
Present Worth Annual Inspection, Monitoring and Reporting			
Number of Years - 30			30
Interest Rate - 5%			5%
Present Worth (PW)			\$120,000.00
Total Present Worth: Capital Cost + Annual Costs/PW			\$1,395,282.50

ALTERNATIVE 2 - UNRESTRICTED USE			
Item	Unit Cost	Quantity	Total
Mobilization/Demobilization (LS)	\$10,000.00	1	\$10,000.00
Excavate/dispose- open area -8' deep (tons)	\$50.00	12000	\$600,000.00
Replacement Clean fill 7+/- feet	\$15.00	10600	\$159,000.00
Disposal Sampling	\$1,200.00	34	\$40,800.00
Open Area 8" Stone placement (tons)	\$25.00	1560	\$39,000.00
Open Area 4" asphalt placement (SF)	\$4.00	12400	\$49,600.00
Place new concrete foundation/slab for rebuilt Section/patio (LS)	\$225,000.00	1	\$225,000.00
Deliniation fabric (SY)	\$1.50	2700	\$4,050.00
Vapor Mitigation System (LS)	\$200,000.00	1	\$200,000.00
Groundwater Treatment & 3-MWs (LS)	\$350,000.00	1	\$350,000.00
Confirmation sampling (ea)	\$1,200.00	80	<u>\$96,000.00</u>
Sub-Total			\$1,773,450.00
GW andIndoor Air Sampling (5 years)	\$12,000.00	5	\$60,000.00
Engineering Oversight (4 months) (LS)	\$100,000.00	1	<u>\$100,000.00</u>
Sub-Total			<u>\$1,933,450.00</u>
Contingency (10%)			<u>\$193,345.00</u>
Estimated Total			\$2,126,795.00
Total Capital Cost			\$2,126,795.00

APPENDIX B

SITE BOUNDARY AND TOPOGRAPHIC SURVEY MAP

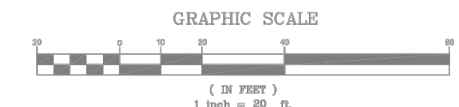
LEGEND
 — PROPERTY BOUNDARY - 71 TONAWANDA



- LEGEND**
- OVERHEAD ELECTRIC
 - OVERHEAD TELEPHONE
 - OVERHEAD ELECTRIC & TELEPHONE
 - UNDERGROUND ELECTRIC
 - UNDERGROUND TELEPHONE
 - SANITARY SEWER
 - STORM SEWER
 - WATER
 - GAS
 - FENCE
 - GUIDE RAIL
 - POWER POLE
 - LIGHT POLE
 - CATCH BASIN
 - ST. M.H.
 - COMB. M.H.
 - E.M.
 - G.P.
 - G.V.
 - E.H.H.
 - A.S.
 - H.V.
 - TEL. M.H.
 - TEL. M.H.
 - ELEC. M.H.
 - SIGN
 - D.D.
 - N.F.V.



POINT OF BEGINNING
 L-11091, P-9754
 PARCEL 10 &
 SURVEYOR'S
 DESCRIPTION



TO:
 J.P. MORGAN CHASE COMMUNITY DEVELOPMENT CORPORATION, A
 DELAWARE CORPORATION, ITS SUCCESSORS AND/OR ASSIGNS,
 5
 THIS IS TO CERTIFY THAT THIS MAP OR PLAN AND THE SURVEY ON
 WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MICHIGAN
 STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS,
 ADULTY ESTABLISHED AND ADOPTED BY ALTA AND NSPS AND INCLUDES
 ITEMS 1, 2, 3, 4, 6(a), 6(b), 7(a), 7(b), 8, 9, 11, 13, 14, 16
 AND 17 OF TABLE THEREOF. THE FIELD WORK WAS COMPLETED ON
 SEPTEMBER 9, 2019.

SEPTEMBER 9, 2019
 DATE OF PLAN OR MAP
 JOHN E. MCINTOSH, III
 LICENSE NO. 49689

THE CITY OF BUFFALO
 L-4239, P-455
 1st DESCRIBED PARCEL

PEOPLE OF THE STATE OF NEW YORK
 SCAJQUADA CREEK ARTERIAL

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NOTE: THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT
 OF AN ABSTRACT OF TITLE AND IS SUBJECT TO
 ANY STATE OF FACTS THAT MAY BE REVEALED
 BY AN EXAMINATION OF SUCH.

RESURVEY	REVISION

SURVEY & TOPOGRAPHICAL MAP OF PART OF LOT-235, PARISH TRACT			
LOCATION	CITY OF BUFFALO, ERIE COUNTY, NEW YORK		
REFERENCE MAP FILED IN E.C.C.O. UNDER MAP COVER NO. 62			
JOB No.	7109-A	SCALE: 1"= 20'	DATE: SEPTEMBER 9, 2019

ALTA/NSPS LAND TITLE SURVEY
 57 & 71 TONAWANDA STREET
 SHEET 1 OF 2
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