PROPOSED REMEDIAL ACTION PLAN

Starlite Dry Cleaners
State Superfund Project
Medina (V), Orleans County
Site No. 837016
December 2019

Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

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SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing a remedy for the above referenced site. The disposal of hazardous wastes at the site has resulted in threats to public health and the environment that would be addressed by the remedy proposed by this Proposed Remedial Action Plan (PRAP). The disposal of hazardous wastes at this site, as more fully described in Section 6 of this document, has contaminated various environmental media. The proposed remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This PRAP identifies the preferred remedy, summarizes the other alternatives considered, and discusses the reasons for the preferred remedy.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York; (6 NYCRR) Part 375. This document is a summary of the information that can be found in the site-related reports and documents in the document repository identified below.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all PRAPs. This is an opportunity for public participation in the remedy selection process. The public is encouraged to review the reports and documents, which are available at the following repository:

Lee-Whedon Library
620 West Ave
Medina, NY 14103
Phone: 585-798-3430

A public comment period has been set from:

January 6, 2020 to February 4, 2020

A public meeting is scheduled for the following date:

Wednesday, January 22, 2020 at 6:30 PM

Public meeting location:

Lee-Whedon Library
620 West Ave.
Medina, NY 14103
Phone: (585) 798-3430

At the meeting, the findings of the remedial investigation (RI) and the feasibility study (FS) will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP.

Written comments may also be sent through to:

Gail Dieter
NYS Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233
gail.dieter@dec.ny.gov

The Department may modify the proposed remedy or select another of the alternatives presented in this PRAP based on new information or public comments. Therefore, the public is encouraged to review and comment on the proposed remedy identified herein. Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The Starlite Dry Cleaners site is located at 331 North Main Street, Orleans County, Village of Medina, Town of Ridgeway, between the street and the Erie Canal in a predominately commercial area.

Site Features: The site is comprised of one approximately 0.2-acre parcel that once held a one story 4,332-square foot stone building with a 3,528-square foot addition. This building was heavily damaged by a fire in 2004 and demolished in 2016. Following demolition of the building, sand was used for filling and grading at the site. Due to the elevation change between the road and the adjacent canal, sand was used to create a slope downwards toward the canal. The site presently remains unimproved.

The site is surrounded by the Erie Canal to the east; a vacant former car dealership/auto repair and collision shop to the south; a bank to the north; and an auto repair facility (formerly a gas station) to the west and across North Main Street.

Current Zoning and Land Use: The site is zoned commercial and is currently a fenced vacant lot.

Past Use of the Site: Prior to demolition the site contained a 4,332 square foot stone building constructed circa 1830 as a produce warehouse and a 3,528 square foot addition to the north built circa 1910 as a livery and hitch barn. The building and addition were subsequently used for automobile sales and storage from approximately 1927-1948, and then as a dry-cleaning operation from 1953 until 2004, when the original stone building was heavily damaged by fire, destroying the dry-cleaning facility. The dry-cleaning operation utilized tetrachloroethene (PCE) from 1953 until the 1990's when the business switched to a petroleum-based solvent. Both a site characterization conducted in November 2009 and a remedial investigation in September 2017 identified chlorinated solvents in soil and groundwater samples with the source location likely proximate to the equipment maintenance area of the dry-cleaning facility, close to the back of the building footprint.

Site Geology and Hydrogeology: The site surface is generally flat to slightly sloping on the western half of the site, with a steep downward slope near the eastern site boundary, then returning to generally flat or slightly sloping topography at the eastern edge of the property. The Erie Canal is located approximately 25-feet east of the site.

Soils encountered along the southwestern portion of the site consists mainly of brown fine sand. The material was imported to the site for fill and grading following the 2016 building demolition. A demarcation layer of polyethylene sheeting underlies the brown fine sand. The depth of the demarcation layer ranges from 5.5 to 15.6 feet below ground surface. Below the demarcation layer, soils generally consist of fine brown sand, little wood and ash (urban fill) and gravel or broken pieces of bedrock.

The top of bedrock was encountered from 9 to 19-ft below ground surface, with bedrock encountered at shallower depths in the western portion of the site and deeper in the eastern portion of the site. Bedrock appears to consist of red Medina sandstone. Overburden groundwater was encountered at depths ranging from 5 to 7 ft. Groundwater in bedrock was encountered at depths ranging from 14-19 ft. Based on bedrock groundwater contours, the direction of groundwater flow appears to be east northeast towards the Erie Canal.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to commercial use (which allows for industrial use) as described in Part 375-1.8(g) are/is being evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site declined to implement a remedial program when requested by the Department. After the remedy is selected, the PRPs will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRPs, the Department will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the state for recovery of all response costs the state has incurred.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,

- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- surface water
- soil
- soil gas
- sediment

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

cis-1,2-dichloroethene
tetrachloroethene (PCE)
polycyclic aromatic hydrocarbons
trichloroethene (TCE)
vinyl chloride

As illustrated in Exhibit A, the contaminant(s) of concern exceed the applicable SCGs for:

- groundwater
- soil

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Record of Decision.

There were no IRMs performed at this site during the RI.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary for OU 01.

Nature and Extent of Contamination: A 2010 Site Characterization identified the presence of volatile organic compounds (VOCs), specifically, chlorinated VOCs (CVOCs) in soil and groundwater. CVOCs are commonly used in dry cleaning operations. In addition, select semi-volatile organic compounds (SVOCs) and metals were identified at elevated concentrations on the eastern end of the site, just outside the former building footprint. The 2010 investigation was limited to the perimeter of the property based on the former presence of the building which was demolished in 2016.

In 2017 NYSDEC conducted a remedial investigation to define the nature and extent of the impacts identified in 2010. Surface soils, subsurface soils, overburden groundwater, bedrock groundwater, surface water, soil gas, and sediments were sampled and analyzed for all or some of the following: VOCs, SVOCs, Metals, PCBs, Pesticides, PFAS, and 1,4-Dioxane.

Based upon investigations to date the primary contaminants of concern on site are PCE and breakdown products including TCE, cis-1,2-DCE, and vinyl chloride in bedrock groundwater, as well as polycyclic aromatic hydrocarbons (PAHs) in localized subsurface soils.

Soil Gas: Total VOC concentrations were greatest in samples located along the northern (5,205 micrograms per cubic meter, or ug/m^3) and eastern (4,462 ug/m^3) property lines. PCE was detected at its greatest concentration (4,200 ug/m^3) in soil gas hydraulically down gradient of the highest concentration of PCE in groundwater and TCE was detected at 200 ug/m^3. The sample at the northern location also had elevated levels of hexane, cyclohexane, and benzene - compounds which are common constituents of gasoline. It is possible that soil gas could find a preferential pathway towards neighboring site buildings; however, site groundwater flow is towards the east, and higher concentrations detected in the soil gas to the east would likely

indicate the vapors will travel in a similar direction and soil gas impacts below slabs of adjacent properties is unlikely.

Erie Canal Surface Water and Sediment: In samples collected immediately east of the site, no VOCs or SVOCs were identified in the surface water samples except for acetone at concentrations between 3.0 parts per billion (ppb) and 3.1 ppb. There is currently no NYSDEC TOGS 1.1.1 Freshwater Standard or Guidance Value for acetone. No VOCs were identified in the sediment. Total PAHs were detected in the sediment at 3.4 parts per million (ppm) and 4.07 ppm. Total PAH concentrations were compared to NYSDEC Freshwater Sediment Guidance Values which designated one sediment sample as Class A (<4 ppm) and the other sediment sample as Class B (4.0 to 35 ppm). Sediment samples were collected from the top approximately 2-inches of sediment. PAH impacts were not identified in surface soil at the site and source of their presence in the sediment samples collected from the canal may be the result of discharge or runoff from another property or properties.

Surface Soil: No detections of VOCs, SVOCs including PAHs, metals, pesticides, herbicides, or PCBs were found above SCOs for Unrestricted Use, except for VOC – acetone at concentration of 0.12 ppm in one surface soil sample.

Subsurface Soil: No VOCs were detected above the Commercial Use SCOs in any of the subsurface soil samples. One VOC – acetone was detected in one off-site soil boring (6.5 – 7.5 bgs) at 0.069 ppm, exceeding SCO for Unrestricted Use (0.05 ppm). PAHs were detected in several of the soil samples above the Commercial Use SCOs and exceeded SCOs for Unrestricted Use in two of the three off-site soil borings at 5.4 – 7.5 bgs. Urban fill materials including cinders, ash, and/or glass were also encountered in these samples. Lead and cadmium were detected above their respective Unrestricted Use SCOs in a sample immediately adjacent to the east of the site. Neither pesticides nor herbicides were detected in any of the samples above the Commercial Use SCOs, but 4,4'-DDE and 4,4'-DDT exceeded Unrestricted Use SCOs in one off-site soil boring sample from 7.7 – 11.2 bgs. PCBs were not detected at the site. The emerging contaminant PFOS was detected in one soil boring sample at 23 parts per billion (ppb).

Overburden Groundwater: Tetrachloroethene (PCE) and its associated breakdown products were detected at concentrations above the NYSDEC TOGS 1.1.1 groundwater standards in both wells that produced groundwater – cis-1,2-Dichloroethene between 43 ppb and 230 ppb; tetrachloroethene between 190 ppb and 240 ppb; trichloroethene between 22 ppb and 27 ppb; and vinyl chloride between 10 ppb and 140 ppb. These wells are located immediately downgradient of the northeastern portion of the former building footprint. SVOCs, metals, pesticides, herbicides, and PCBs were either not detected or detected below their respective groundwater standards. Emerging contaminants PFOA and PFOS were detected in both monitoring wells at concentrations between 290 parts per trillion (ppt) and 305 ppt - exceeding the USEPA Health Advisory Level of 70 ppt.

Bedrock Groundwater: PCE and its associated breakdown products were detected above the NYSDEC TOGS 1.1.1 groundwater standards in two wells located at the edge or downgradient of the building footprint. PCE was detected at concentrations between 2,400 ppb and 78,000 ppb; TCE was detected at concentrations between 420 ppb and 4,800 ppb; cis-1,2-DCE was

detected at concentrations between 630 ppb and 1,600 ppb; and vinyl chloride was detected at a concentration of 190 ppb. No PCE or breakdown products were detected in the well located on the western, upgradient portion of the site. MTBE was detected at a concentration of 50 ppb, slightly exceeding groundwater standards. SVOCs, metals, pesticides, herbicides, and PCBs were either not detected or detected below the groundwater standards. Emerging contaminants PFOA and PFOS were detected in all three of the bedrock monitoring wells with one well at 102 ppt exceeding the USEPA Health Advisory Level.

PCE and its associated breakdown products could potentially be transported by groundwater, which is generally flowing toward the east. These compounds were detected in groundwater samples off-site to the east but not in surface water or sediment samples from the eastern-adjacent Erie Canal collected hydraulically and topographically downgradient of the site.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure.*

Access to the site is currently restricted; however, people may contact contaminated soil or groundwater if they dig below the ground surface. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in the soil vapor (air spaces within the soil) may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Because the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. The potential exists for the inhalation of site contaminants due to soil vapor intrusion in any future on-site redevelopment. Additional investigation of the potential for soil vapor intrusion to occur off-site is needed.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

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

- 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.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

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.

RAOs for Environmental Protection

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

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.

SECTION 7: SUMMARY OF THE PROPOSED REMEDY

To be selected, the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives identified for the site, which are presented in Section 6.5. Potential remedial alternatives for the Site were identified, screened and evaluated in the Feasibility Study (FS) report.

A summary of the remedial alternatives that were considered for this site is presented in Exhibit B. Cost information is presented in the form of present worth, which represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved. A summary of the Remedial Alternatives Costs is included as Exhibit C.

The basis for the Department's proposed remedy is set forth at Exhibit D.

The proposed remedy is referred to as the Excavation, In-Situ Chemical Treatment and On-Site Management Remedy.

The estimated present worth cost to implement the remedy is $457,000. The cost to construct the remedy is estimated to be $283,000 and the estimated average annual cost is $5800.

The elements of the proposed remedy, depicted in Figure 4A and Figure 4B, are as follows:

1). Remedial Design –

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

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiently and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-ml vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2). Excavation –

Excavation and off-site disposal of contaminant source areas, including soils which exceed the protection of groundwater soil cleanup objectives (PGWSCOs), as defined by 6 NYCRR Part 375-6.8 for those contaminants found in site groundwater above standards; and soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G. This remedy element would involve excavation of overburden impacts with sidewall confirmatory samples in the following area:

AOC #1 (former dry cleaner impacts in the northeastern portion of the site): An approximately 300 square foot area would be excavated to depths up to 8-ft below ground surface (bgs). The design phase will determine the final excavation depth which may exceed the currently

anticipated 8-ft terminal depth. An estimated 90 cubic yards (cy) of material would be disposed of off-site as non-hazardous pursuant to a contained-in determination.

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades at the site. Imported backfill would consist of crushed recycled concrete/crushed stone and/or other material that meets Commercial Use SCOs on-site and Unrestricted Use SCOs off-site. Up to 1,000 lbs of zero valent iron (ZVI) may be added to the excavation backfill to promote biodegradation in the overburden.

3). Cover System –

A site cover currently exists in areas not occupied by buildings and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain the existing site cover. The site cover may include paved surface parking areas, sidewalks or soil where the upper two feet of exposed surface soil meets the applicable soil cleanup objectives (SCOs) for commercial use. Any fill material brought to the site will met the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

4). In-Situ Chemical Reduction –

In-situ chemical reduction (ISCR) will be implemented to treat contaminants in overburden soils in AOC #1 and in bedrock groundwater. A chemical reducing agent – zero valent iron (ZVI) will be injected into the subsurface to destroy the contaminants in AOC #1 via injection wells screened from 10-ft above and 10-ft below the top of bedrock within the AOC #1 area. The method and depth of injection will be determined during the remedial design.

Prior to the full implementation of this technology, laboratory and on-site pilot scale studies will be conducted to more clearly define design parameters. Between the pilot and full-scale implementations, it is estimated that up to 11 injection wells would be installed. It is estimated that approximately 5,000 lbs of zero valent iron (ZVI) would be injected per injection site with an assumed radius of influence of 10 feet.

5). Institutional Control –

Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3);
- allow the use and development of the controlled property for commercial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- require compliance with a Site Management Plan (SMP).

The SMP will include monitoring and inspection requirements to assess the performance and effectiveness of the remedy. The plan will include groundwater monitoring requirements and frequency, inspection frequency and period reporting requirements.

6). Site Management Plan –

A Site Management Plan is required for AOC #1 and AOC#2, which includes the following:

a). An Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and any off-site impacts, and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in remedy element above

Engineering Controls: The Cover System referenced above

This plan includes, but may not be limited to:

- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, and occupied buildings adjacent to the site, including provision for implementing actions recommended to address exposures related to vapor intrusion;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b). A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- monitoring groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department; and
- monitoring for vapor intrusion for any building(s) developed on the site, and any occupied buildings adjacent to the site, as may be required by the Institutional and Engineering Control Plan discussed above.

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation for all environmental media that were evaluated. As described in Section 6.1.2, samples were collected from various environmental media to characterize the nature and extent of contamination.

For each medium for which contamination was identified, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into four categories: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics (metals and cyanide). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, if applicable, the Restricted Use SCGs identified in Section 6.1.1 are also presented.

Waste/Source Areas

As described in the RI report, waste/source materials were identified at the site and are impacting groundwater and soil.

Wastes are defined in 6 NYCRR Part 375-1.2 (aw) and include solid, industrial and/or hazardous wastes. Source Areas are defined in 6 NYCRR Part 375 (au). Source areas are areas of concern at a site where substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Wastes and Source areas identified at the site in the 2017 Remedial Investigation are:

- AOC #1 – Former Dry Cleaners Impacts
- AOC #2 – Miscellaneous Historical Impacts
    - AOC #2A – Miscellaneous Groundwater Impacts
    - AOC #2B – Miscellaneous Soil Impacts

See Figure 3 – Remedial Areas of Concern.

The primary contaminants of concern at the site are PCE and breakdown products including TCE, cis-1,2-DCE, and vinyl chloride. These compounds are present in AOC #1. Their presence appears to be the result of former dry-cleaning operations on-site and present a risk to human health and the environment.

Groundwater

Groundwater samples were collected from overburden and bedrock monitoring wells at a depth of 6 to 29 feet below the ground surface. The samples were collected to assess groundwater conditions on-site. The results indicate that contamination in groundwater at the site exceeds the SCGs for volatile organic compounds.

Table 1 - Groundwater

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
VOCs			
1,4-Dioxane	< 0.20 to 0.25	NA	0 of 7
1,1-Dichloroethene	0.73 to < 290	0.7	1 of 7
cis-1,2-Dichloroethene	43 to 630	5	6 of 7
Methyl tert-butyl ether	0.39 to 50	10	1 of 7
Methylene chloride	< 2.2to 23	5	1 of 7
Tetrachloroethene	190 to 78000	5	6 of 7
Trichloroethene	22 to 4800	5	6 of 7
Vinyl chloride	10 to 510	2	5 of 7
SVOCs			
Di-n-butyl phthalate	<0.31 to 0.35	50	0 of 5
Naphthalene	<0.76 to 10	10	0 of 5
Di-n-octyl phthalate	<0.47 to 0.97	50	0 of 5
Inorganics			

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
Arsenic	<5.6 to 6.6	25	0 of 5
Barium	78 to 300	1000	0 of 5
Cadmium	<0.5 to 1.4	5	0 of 5
Chromium	<1.0 to 10	50	0 of 5
Lead	<3.0 to 4.5	25	0 of 5
Pesticides/PCBs			
4,4'-DDD	<0.0092 to 0.012	0.3	0 of 4
alpha-BHC	<0.0086	0.01	0 of 4
gamma-BHC (Lindane)	<0.0089	0.05	0 of 4
delta-BHC	<0.010 to 0.014	0.04	0 to 4
Perfluorinated Compounds			
PFHpA	0.0018 to 0.0095	NA	NA
PFOS	0.003 to 0.22	0.070	3 of 5
PFOA	0.0051 to 0.5	0.070	3 of 5
PFBS	0.0024 to 0.0084	NA	NA
PFHxS	<0.0013 to 0.019	NA	NA
PFNA	0.00055 to 0.0036	NA	NA
Total PFAS	0.0134 to 0.320	0.070	3 of 5

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.
b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).
USEPA Drinking Water Health Advisory Levels for PFOA and PFOS - 2016

The primary groundwater contaminants are tetrachloroethene, trichloroethene, cis-1,2-dichloroethene and vinyl chloride. Their presence appears to be the result of former dry-cleaning operations on-site, specifically, improper disposal, leaking equipment, or leaking sewer lines resulting in subsurface contamination. As noted in Figure 3, the primary groundwater contamination occurs mainly in one location on the site, at AOC #1 proximate to the equipment maintenance areas of the dry-cleaning facility and close to the back of the building footprint in the northeast area of the site.

PFAS compounds were detected in groundwater on the northeastern portion of on-site and off-site at concentrations above the USEPA drinking water guideline. There are currently no NYS groundwater standards for PFAS compounds. PFAS compounds were identified in overburden monitoring wells MW-05 and MW-06 at concentrations between 0.2937 ppb and 0.305 ppb.

Based on the findings of the RI, the disposal of hazardous waste has resulted in the contamination of groundwater. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of groundwater to be addressed by the remedy selection process are: tetrachloroethene, trichloroethene, cis-1,2-dichloroethene, and vinyl chloride.

Soil

Surface and subsurface soil samples were collected at the site during the RI. Surface soil samples were collected off-site from a depth of 0-2 inches to assess direct human exposure. Subsurface soil samples were collected from a depth of 4 – 16 feet to assess soil contamination impacts to groundwater. The results indicate that soils at the site exceed the 6 NYCRR Part 375 unrestricted use soil cleanup objectives (SCOs) for volatile and semi-volatile organic compounds.

Table 2 - Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted
VOCs					
Acetone	<0.0032 to 0.069	0.05	1 of 15	500	0 of 15
Tetrachloroethene	<0.0005 to 3.5	1.3	1 of 15	150	0 of 15
SVOCs					
2-Methylnaphthalene	<0.180 to 48	0.41	2 of 17	0.41	2 of 17
Acenaphthene	<0.023 to 43	20	1 of 17	500	0 of 17
Anthracene	<0.180 to 120	100	1 of 17	500	0 of 17
Benzo(a)anthracene	<0.180 to 170	1	4 of 17	5.6	2 of 17
Benzo(a)pyrene	<0.180 to 110	1	4 of 17	1	4 of 17
Benzo(b)fluoranthene	<0.150 to 130	1	4 of 17	5.6	2 of 17
Benzo(k)fluoranthene	<0.180 to 72	0.8	2 0f 17	56	1 of 17
Chrysene	<0.180to 150	1	4 of 17	56	1 of 17
Dibenz(a,h) anthracene	<0.031 to 24	0.33	1 of 17	0.56	1 of 17
Fluoranthene	<0.032 to 330	100	1 of 17	500	0 of 17

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG[c] (ppm)	Frequency Exceeding Restricted
Fluorene	<0.180 to 71	30	1 of 17	500	0 of 17
Indeno(1,2,3-cd) pyrene	<0.150 to 37	0.5	4 of 17	5.6	2 of 17
Naphthalene	<0.180 to 68	12	1 of 17	500	0 of 17
Phenanthrene	<0.046 to 400	100	1 of 17	500	0 of 17
Phenol	<0.027 to 9.6	0.33	1 of 17	500	0 of 17
Pyrene	<0.038 to 290	100	1 of 17	500	0 of 17
Inorganics					
Arsenic, Total	1.5 to 15.3	13	1 of 9	16	0 of 9
Cadmium, Total	<0.22 to 15.6	2.5	1 of 9	9.3	1 of 9
Lead, Total	1.9 to 1,620	63	6 of 9	1,000	1 of 9
Mercury, Total	<0.022 to 0.96	0.18	6 of 9	2.8	0 of 9
Pesticides/PCBs					
4,4'-DDE	0.00044 to 0.0038	0.0033	1 of 3	62	0 of 3
4,4'-DDD	0.00063 to 0.0048	0.0033	1 of 3	92	0 of 3
4,4'-DDT	0.00085 to 0.016	0.0033	2 of 3	47	0 of 3

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;

b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.

c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use unless otherwise noted

d - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Groundwater.

Surface Soils: Three surface soil samples were collected as part of the 2017 RI. The samples were collected off-site, immediately adjacent to the site's eastern property line and topographically downgradient of the site to assess for the potential migration of impacted material from the site. The surface soil samples were collected from depths between 0 and 2-inches bgs and analyzed for VOCs, SVOCs, metals, pesticides, PCBs and herbicides.

No VOCs, SVOCs, metals, pesticides, herbicides, and PCBs were detected above the unrestricted use or commercial SCOs, except for acetone which was detected in one surface soil sample above the unrestricted use SCO.

Subsurface Soils: Subsurface soil samples were collected via direct-push methods. A total of 19 soil borings were advanced at the site to depths between 7.7-ft and 17.5-ft bgs and were analyzed for one or more of the following parameters: VOCs, SVOCs, PFAS, metals, pesticides, PCBs, and herbicides.

Contaminants detected include metals (lead and mercury), SVOCs (PAHs), and pesticides (DDE, DDD, and DDT). Each of these contaminants were detected below the restricted commercial use, with the exception of lead detected in one sample. These compounds are present in AOC #2. The exact source of these impacts is uncertain but may be related to urban fill and/or historical, industrial use of the site and surrounding area.

Soil Gas

The evaluation of the potential for soil vapor intrusion resulting from the presence of site-related soil or groundwater contamination was evaluated by sampling soil gas at four soil gas points installed at the site along the northern, southern, eastern, and western property lines. Soil gas sampling points were installed using direct push technology to depth of approximately 5-ft bgs. One or more targeted VOCs were detected above the laboratory method detection limits (MDLs) in all soil gas samples, including the ambient air sample. Note that there are currently no regulatory (NYSDEC or NYSDOH) guidance values for soil gas.

Based on the findings of the Remedial Investigation, the presence of PCE has resulted in the contamination of soil vapor. The site contaminant that is considered to be the primary contaminant of concern which will drive the remediation of soil vapor to be addressed by the remedy selection process is PCE.

Table 3 – Soil Gas

Detected Constituents	Concentration Range Detected (ug/m^3)[a]	SCG[b] (ug/m^3)	Frequency Exceeding SCG
VOCs			
1,2,4-Trimethylbenzene	ND to 8.7	NA	NA
1,3,5-Trimethylbenzene	ND to 2.7	NA	NA
2-Butanone	ND to 21	NA	NA
Benzene	ND to 25	NA	NA
Carbon Tetrachloride	ND to 0.49	NA	NA
Chloroform	ND to 21	NA	NA
Chloromethane	ND to 1.2	NA	NA
Cyclohexane	ND to ?	NA	NA
Dichlorodifluoromethane	ND to 2.7	NA	NA
Ethanol	ND to 58	NA	NA

Detected Constituents	Concentration Range Detected (ug/m^3)[a]	SCG[b] (ug/m^3)	Frequency Exceeding SCG
Ethylbenzene	ND to 3.3	NA	NA
Hexane	ND to 3,100	NA	NA
Methyl Isobutyl Ketone	ND to 0.88	NA	NA
Methylene chloride	ND to 1.4	NA	NA
Styrene	ND to 2.3	NA	NA
Tetrachloroethene	ND to 4,200	NA	NA
Toluene	ND to 62	NA	NA
Trichloroethene	ND to 200	NA	NA
Trichlorofluoromethane	ND to 1.4	NA	NA
Trichlorotrifluoroethane	ND to 0.75	NA	NA
Xylene (m,p)	ND to 14	NA	NA
Xylene (o)	ND to 5.8	NA	NA

Tetrachloroethane (PCE) was detected at its greatest concentrations in soil gas hydraulically down gradient of the highest concentrations of PCE in groundwater. It appears that PCE in soil gas is a result of the former dry-cleaning operations on-site that have impacted groundwater and soils. The northern gas point contained elevated levels of hexane, cyclohexane and benzene. These compounds are common constituents of gasoline. Several gasoline constituents were detected in the southern gas point, but at lower levels. Gasoline constituents along the southern edge of the site could be a result of a former use of the site as an automotive repair facility. Constituents may also be related to the former gasoline filling station located west of the site.

There are no SCGs for soil gas; however, given the current site conditions and VOC impacts, additional actions are required to address potential Soil Vapor Intrusion (SVI) prior to constructing a building on-site (i.e. install/activate SSDS components or SVI evaluation). A SSDS will mitigate SVI in all regularly occupied spaces. It is possible that soil gas could find a

preferential pathway towards neighboring site buildings; however, site groundwater flow is towards the east, and higher concentrations detected in the soil gas to the east would likely indicate the vapors will travel in a similar direction and soil gas impacts below slabs of adjacent properties is unlikely.

Exhibit B

Description of Remedial Alternatives

The following alternatives were considered based on the remedial action objectives (see Section 6.5) to address the contaminated media identified at the site as described in Exhibit A.

Alternative 1: No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative leaves the site in its present condition and does not provide any additional protections to public health and the environment. There are no costs associated with this alternative.

Alternative 2: Excavation with Chemical Injections

This technology involves excavation of the most significant overburden impacts. This alternative addresses contaminants in AOC #1. For AOC #1, an approximate 300 square foot area would be excavated to depths up to 8 feet bgs. An estimated 90 cubic yards (150 tons) of material would be disposed of off-site as non-hazardous pursuant to a contained-in determination. Up to eleven injection wells will be installed and screened from approximately 10 feet above and 10 feet below the top of bedrock within the area of AOC #1 as shown on Figure 4A. Approximately 5,000 lbs of ZVI will be injected per injection point with an assumed radius of influence of 10 feet.

Long term groundwater monitoring and site inspections will be performed in accordance with the Site Management Plan to ensure the effectiveness of the remedy.

The projected costs for this alternative are as follows:

Capital Cost:……$283,000
Annual Costs:……..……$5,800
Total Present Worth:…….…..$457,000

Alternative 3: Pump and Treat

This technology consists of a pump and treat system that would continuously pump groundwater to an on-site treatment system, as shown in Figure 5, and treat the contaminated groundwater via activated carbon and air strippers. This alternative would rely on long-term hydraulic containment of the plume. A treatment system building would be constructed, and the necessary utilities would be installed at the site (e.g., electric, sewer, communication, etc.). It is assumed up to 3 pumping wells would be installed approximately 25-feet apart to depths to 10 feet below top of bedrock.

This alternative assumes long term groundwater monitoring to be performed in accordance with the Site Management Plan to ensure the effectiveness of the remedy.

The projected costs for this alternative are as follows:

Capital Cost:……$627,000
Annual Costs:……..……..$54,000
Total Present Worth:……....$2,000,000

Alternative 4: On-Site Management

This alternative will consist of institutional controls (ICs) and engineering controls (ECs) with no active remediation. ICs and ECs would be detailed in a Site Management Plan and anticipate including environmental easement with restrictions on the property as well as requirements for evaluating soil vapor intrusion in any buildings constructed at the site in the future. Although there is no current development plan for the site, an evaluation of soil vapor intrusion (SVI) would be required for future on-site buildings, and sub-slab vapor mitigation systems may be required. Costs currently do not include an SVI evaluation or mitigation systems.

The projected costs for this alternative are as follows:

Capital Cost:……..$10,000
Annual Costs:……..$1,000
Total Present Worth:…….....$40,000

Exhibit C

Remedial Alternative Costs

Remedial Alternative	Capital Costs ($)	Annual Costs ($)	Total Present Worth ($)
Alternative 1 – No Action	$0	$0	$0
Alternative 2 – Excavation with Chemical Injection	$273,000	$5,000	$420,000
Alternative 3 – Pump and Treat	$620,000	$44,000	$2,000,000
Alternative 4 – On-Site Management	$10,000	$1,000	$40,000

Exhibit D

Summary of the Proposed Remedy

The Department is proposing Alternative 2 – Excavation with Chemical Injection and On-Site Management as the remedy for this site. Alternative 2 would achieve the remediation goals for the site by excavating and treating the impacts associated with AOC #1, which represents source material associated with historic dry-cleaning operations. The elements of this remedy are described in Section 7. The proposed remedy is depicted in Figure 4A. Residual impacts associated with AOC #1 as well as impacts associated with AOC #2A and AOC #2B will be managed on-site in accordance with a Site Management Plan (SMP) and environmental easement. Areas being addressed are depicted in Figure 4B. The SMP will detail Institutional Controls (ICs) and Engineering Controls (ECs) required for the site.

Anticipated ICs and ECs are:

An environmental easement for the controlled property which will –

- Require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- Allow the use and development of the controlled property commercial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- Restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- Require compliance with a Site Management Plan.

The SMP will include monitoring and inspection requirements to assess the performance and effectiveness of the remedy. The plan will include groundwater monitoring requirements and frequency, inspection frequency and period reporting requirements.

For engineering controls, a site cover may be required.

Basis for Selection

The proposed remedy is based on the results of the RI and the evaluation of alternatives. The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375. A detailed discussion of the evaluation criteria and comparative analysis is included in the FS report.

The first two evaluation criteria are termed “threshold criteria” and must be satisfied in order for an alternative to be considered for selection.

1). Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative’s ability to protect public health and the environment.

The proposed remedy would satisfy this criterion by removing the source of the soil and groundwater contamination. Alternative 1 (No Action) does not address site contamination and does not provide any protection to public health and the environment and will not be evaluated further. Alternative 3 (Pump and Treat) would be protective of public health and the environment because there would be limited potential exposure to impacted material. An on-site treatment building would be constructed, and the building would be secured to prevent public access. Alternative 4 (On-site Management) would also be protective of public health for the soil because it will prevent exposure to impacted soil and groundwater. However, groundwater impacted with CVOCs may migrate off-site which could impact public health and would not protect the environment. On-site management would not be protective of the environment because it would not reduce the contaminants in the surface. Alternatives 2 through 4 will require that future buildings constructed on the site be required to be evaluated for SVI and mitigated if warranted to protect human health from exposure to contaminated vapors.

2). Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

The proposed remedy would comply with SCGs as it would remove source material contributing to contamination in groundwater. In addition, ZVI injections (for AOC #1 only) would continue to reduce CVOCs in groundwater over time and meet SCGs. Alternative 3 (Pump and Treat) would also comply with SCGs; however, source material would not be removed. Diffusion of contaminants from the aquifer soil matrix would continue to pose a source of CVOCs to groundwater, resulting in a prolonged period of non-compliance with SCGs. The plume would be contained and off-site concentrations of CVOCs may be reduced. Alternative 4 (On-Site Management) would not comply with SCGs because impacted media would not be affected. Since Alternative 4 does not meet this threshold criterion, it will not be discussed further. Because Alternatives 2 and 3 satisfy the threshold criteria, the remaining criteria are particularly important in selecting a final remedy for the site.

The next six “primary balancing criteria” are used to compare the positive and negative aspects of each of the remedial strategies.

3). Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

Long-term effectiveness is best accomplished by those alternatives involving excavation of the contaminated surface and subsurface soils (Alternative 2). Alternative 2 would be effective in the long-term as it would permanently remove the source material and eliminate continued leaching of contaminants. In the long-term, concentrations of contaminants in groundwater would decline. This alternative would be permanent in that concentrations would not return to pre-excavation conditions. Alternative 3 (Pump and Treat) would be effective as long as the

treatment system remains in operation. If the treatment system ceases operation, the alternative may no longer be effective.

4). Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

For the proposed remedy, Alternative 2, the volume of contaminants in soil would be reduced because the source of the contaminants would be removed and disposed of off-site. The volume and mobility of contaminants in groundwater would be further reduced for AOC #1 by the ZVI. For Alternative 3 (Pump and Treat) the volume and mobility of contaminants would be reduced because the treatment system would provide hydraulic control of the plume and prevent further off-site migration, and contaminants would be removed from the aquifer, captured in the activated carbon, and destroyed when the carbon is regenerated.

5). Short-term Impacts and Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

For Alternative 2 (Excavation with Chemical Injection) there may be short-term impacts to the surrounding area due to nuisance conditions associated with the excavation (e.g., dust, noise, truck traffic, etc.). Dust and odor control will be implemented as needed to reduce effects to the surrounding area. This alternative would be effective in the short-term because source material would be removed and disposed of at a landfill. For Alternative 3 (Pump and Treat) this alternative would require additional time to be effective in reducing CVOCs in the aquifer. During construction, there would be limited truck traffic and limited dust, as such, there are fewer significant short-term impacts to the surrounding area than Alternative 2.

6). Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

The excavation alternative – Alternative 2 would be more difficult to implement than some of the other alternatives, however, it is able to be implemented safely and effectively. The pump and treat alternative – Alternative 3 would be easy to implement, however, the necessary infrastructure including the treatment system components, building and utilities would need to be constructed.

7). Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

The excavation alternative – Alternative 2 would be costlier to implement than some of the alternatives but is not the costliest option. Estimated costs to implement this alternative for AOC #1 would be $273,000 with a 30-year operation and maintenance cost of $144,000. The pump and treat alternative – Alternative 3 would be relatively costly to implement. Estimated costs to implement this alternative for AOC #1 would be $618,000 with a 30-year operation and maintenance cost of $1,311,000.

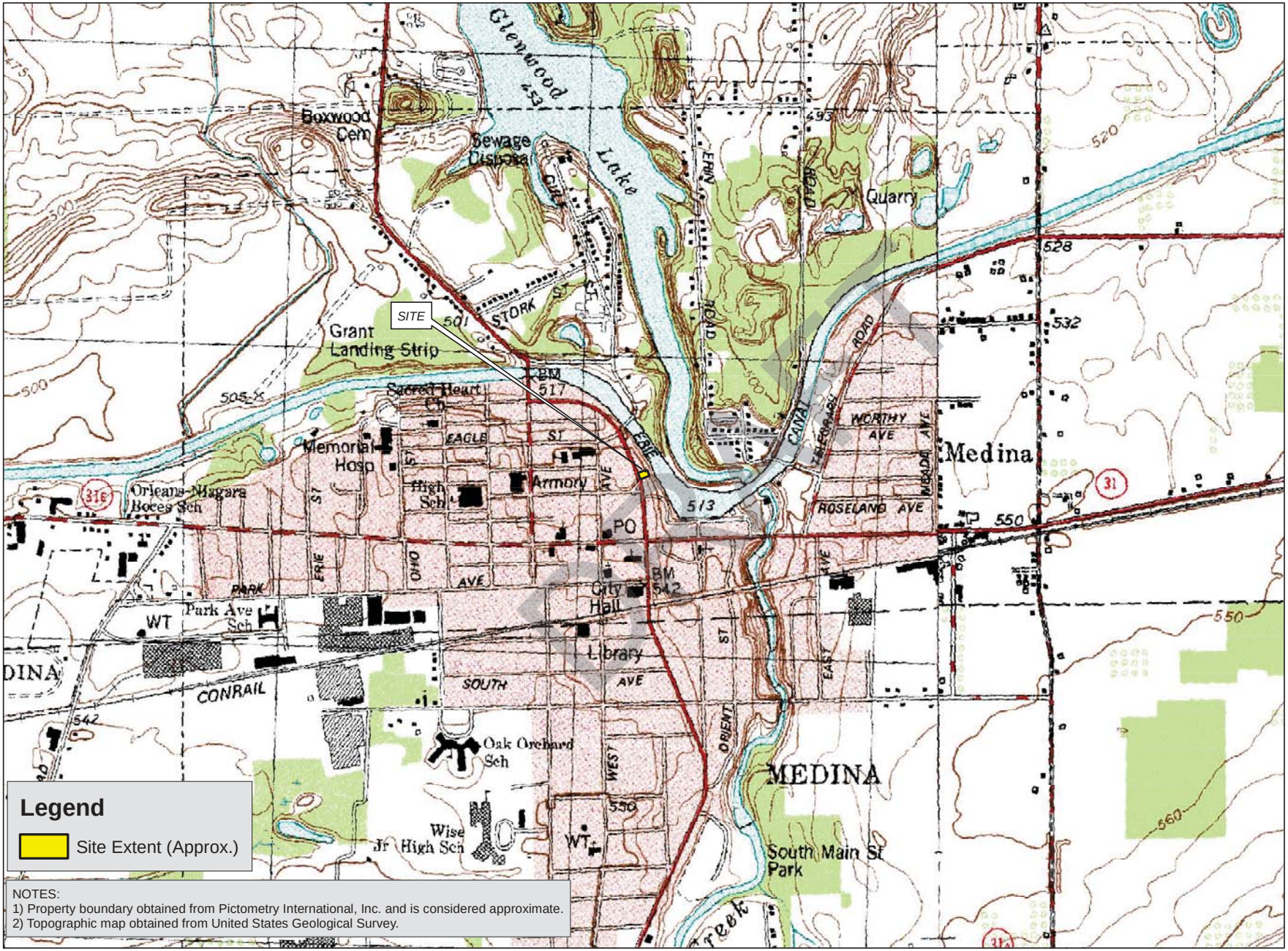
8). Land Use. When clean-up to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

For both Alternatives 2 and 3, the remedy would be consistent with anticipated land use which is commercial.

The final criterion, Community Acceptance, is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

9). Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP are evaluated. A responsiveness summary will be prepared that describes public comments received and the manner in which the Department will address the concerns raised. If the selected remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

Alternative #2 is being proposed because, as described above, it satisfies the threshold criteria and provides the best balance of the balance criterion.



Legend

Site Extent (Approx.)

NOTES:
1) Property boundary obtained from Pictometry International, Inc. and is considered approximate.
2) Topographic map obtained from United States Geological Survey.

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1 inch = 1,000 feet

INTENDED TO PRINT AS: 11" X 17"

CLIENT:

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL
CONSERVATION

PROJECT:

FEASIBILITY STUDY
FORMER STARLITE DRY CLEANERS
NYSDEC #837016
331 MAIN STREET, MEDINA, NEW YORK

DRAWING NAME:

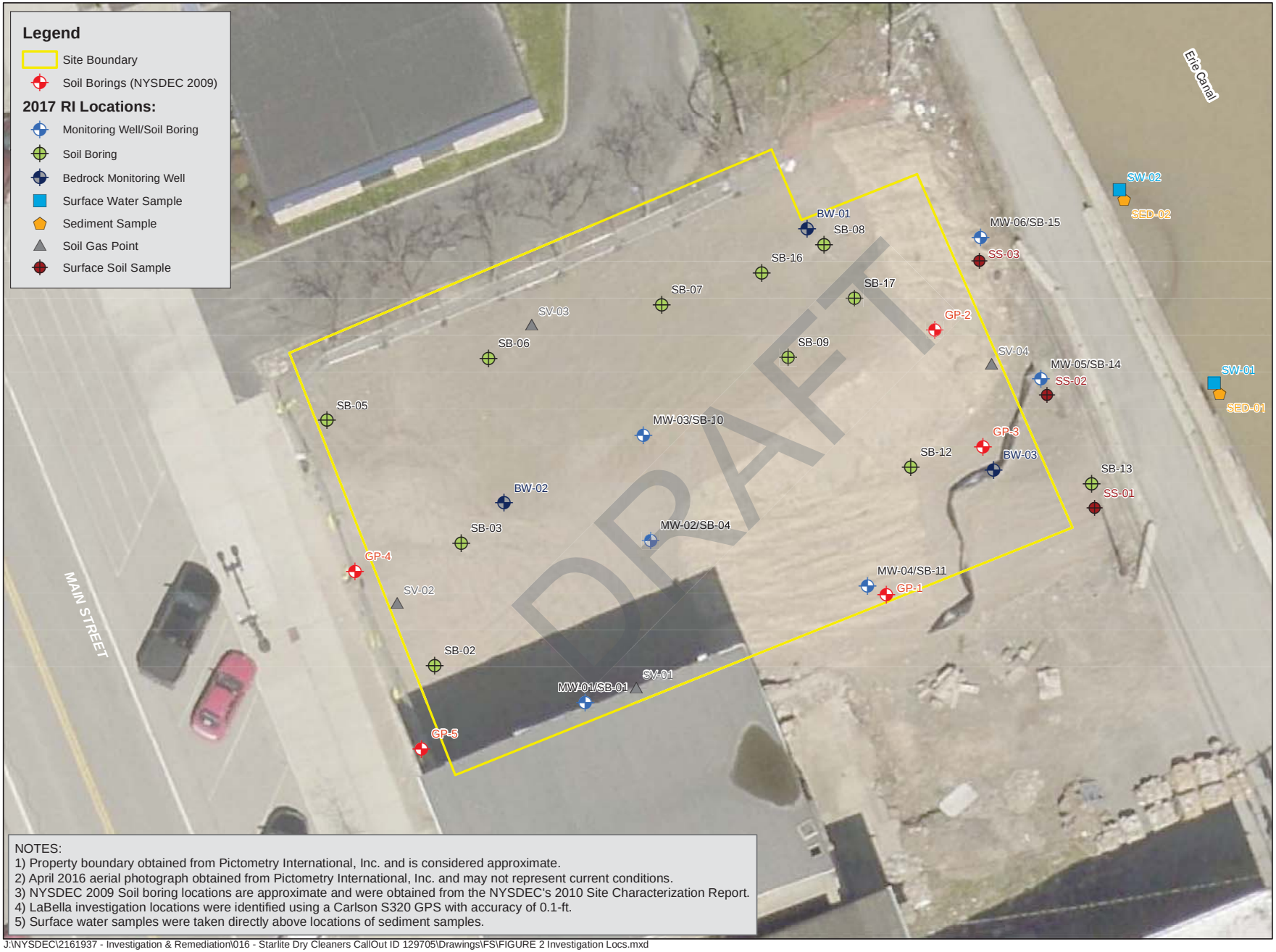
SITE LOCATION

PROJECT/DRAWING NUMBER:

2161937.016

FIGURE 1

J:\NYSDEC\2161937 - Investigation & Remediation\016 - Starlite Dry Cleaners CallOut ID 129705\Drawings\FS\FIGURE 1 Site Map.mxd



NOTES:
1) Property boundary obtained from Pictometry International, Inc. and is considered approximate.
2) April 2016 aerial photograph obtained from Pictometry International, Inc. and may not represent current conditions.
3) NYSDEC 2009 Soil boring locations are approximate and were obtained from the NYSDEC's 2010 Site Characterization Report.
4) LaBella investigation locations were identified using a Carlson S320 GPS with accuracy of 0.1-ft.
5) Surface water samples were taken directly above locations of sediment samples.

J:\NYSDEC\2161937 - Investigation & Remediation\016 - Starlite Dry Cleaners CallOut ID 129705\Drawings\FS\FIGURE 2 Investigation Locs.mxd

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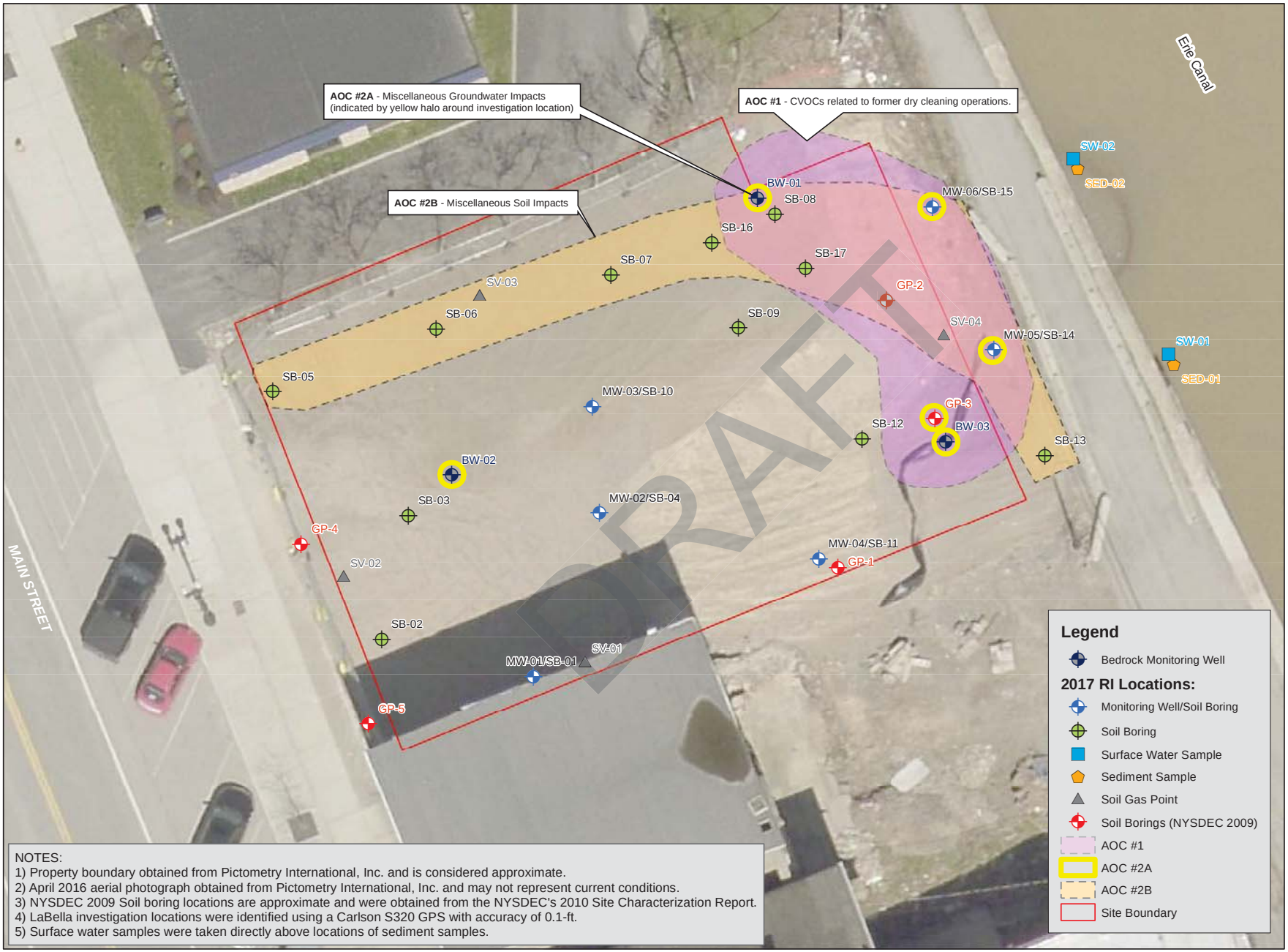
NYSDEC #837016
331 MAIN STREET, MEDINA, NEW YORK

DRAWING NAME:
PREVIOUS
INVESTIGATION
LOCATIONS

PROJECT/DRAWING NUMBER:
2161937.016
FIGURE 2



NOTES:
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2) April 2016 aerial photograph obtained from Pictometry International, Inc. and may not represent current conditions.
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4) LaBella investigation locations were identified using a Carlson S320 GPS with accuracy of 0.1-ft.
5) Surface water samples were taken directly above locations of sediment samples.

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

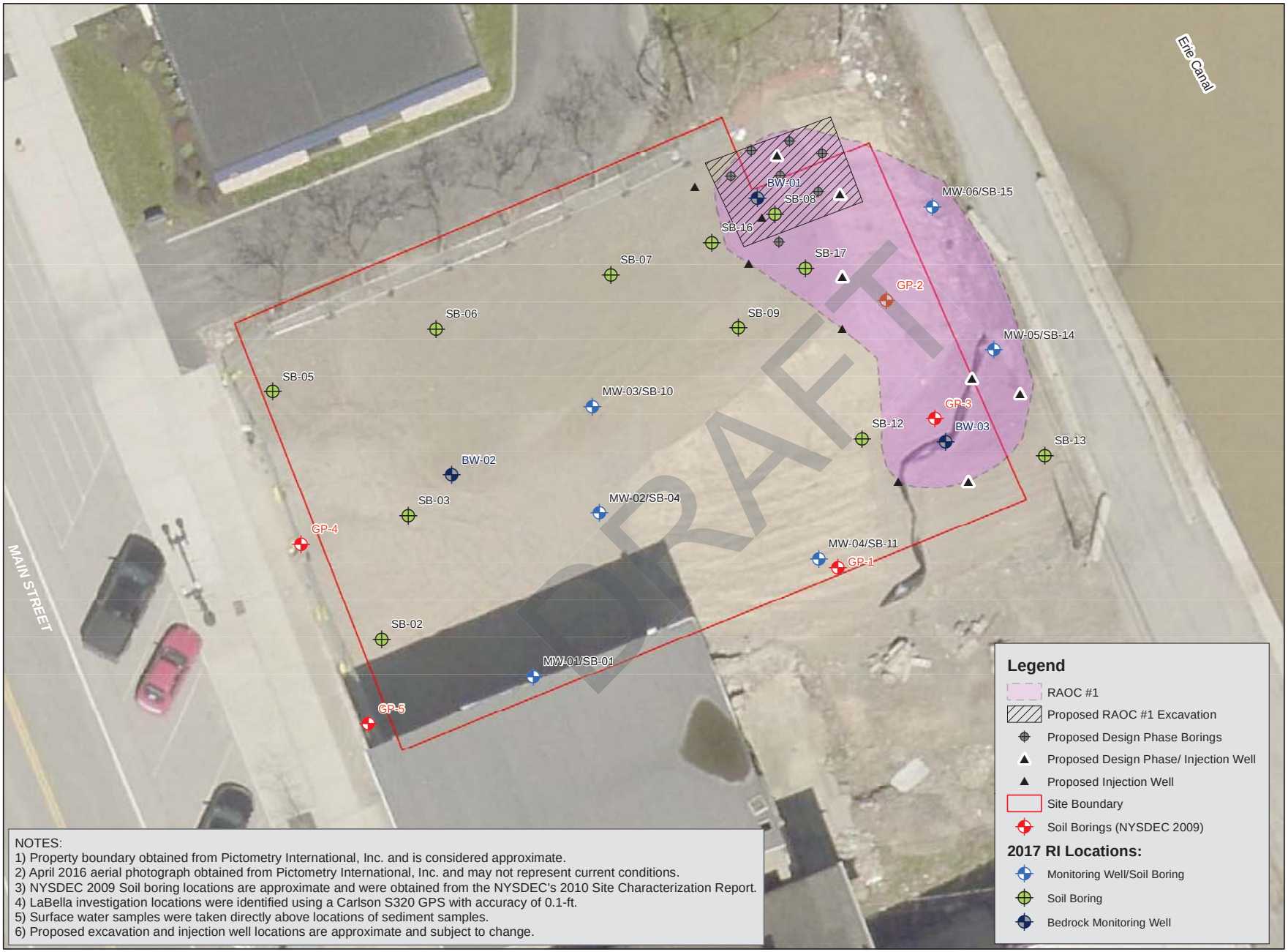
PROJECT:
FEASIBILITY STUDY
FORMER STARLITE DRY CLEANERS
NYSDEC #837016
331 MAIN STREET, MEDINA, NEW YORK

DRAWING NAME:
REMEDIAL AREAS OF CONCERN (RAOCS)

PROJECT/DRAWING NUMBER:
2161937.016

FIGURE 3

J:\NYSDEC\2161937 - Investigation & Remediation\016 - Starlite Dry Cleaners CallOut ID 129705\Drawings\FS\FIGURE 3 AOCs.mxd



NOTES:
1) Property boundary obtained from Pictometry International, Inc. and is considered approximate.
2) April 2016 aerial photograph obtained from Pictometry International, Inc. and may not represent current conditions.
3) NYSDEC 2009 Soil boring locations are approximate and were obtained from the NYSDEC's 2010 Site Characterization Report.
4) LaBella investigation locations were identified using a Carlson S320 GPS with accuracy of 0.1-ft.
5) Surface water samples were taken directly above locations of sediment samples.
6) Proposed excavation and injection well locations are approximate and subject to change.

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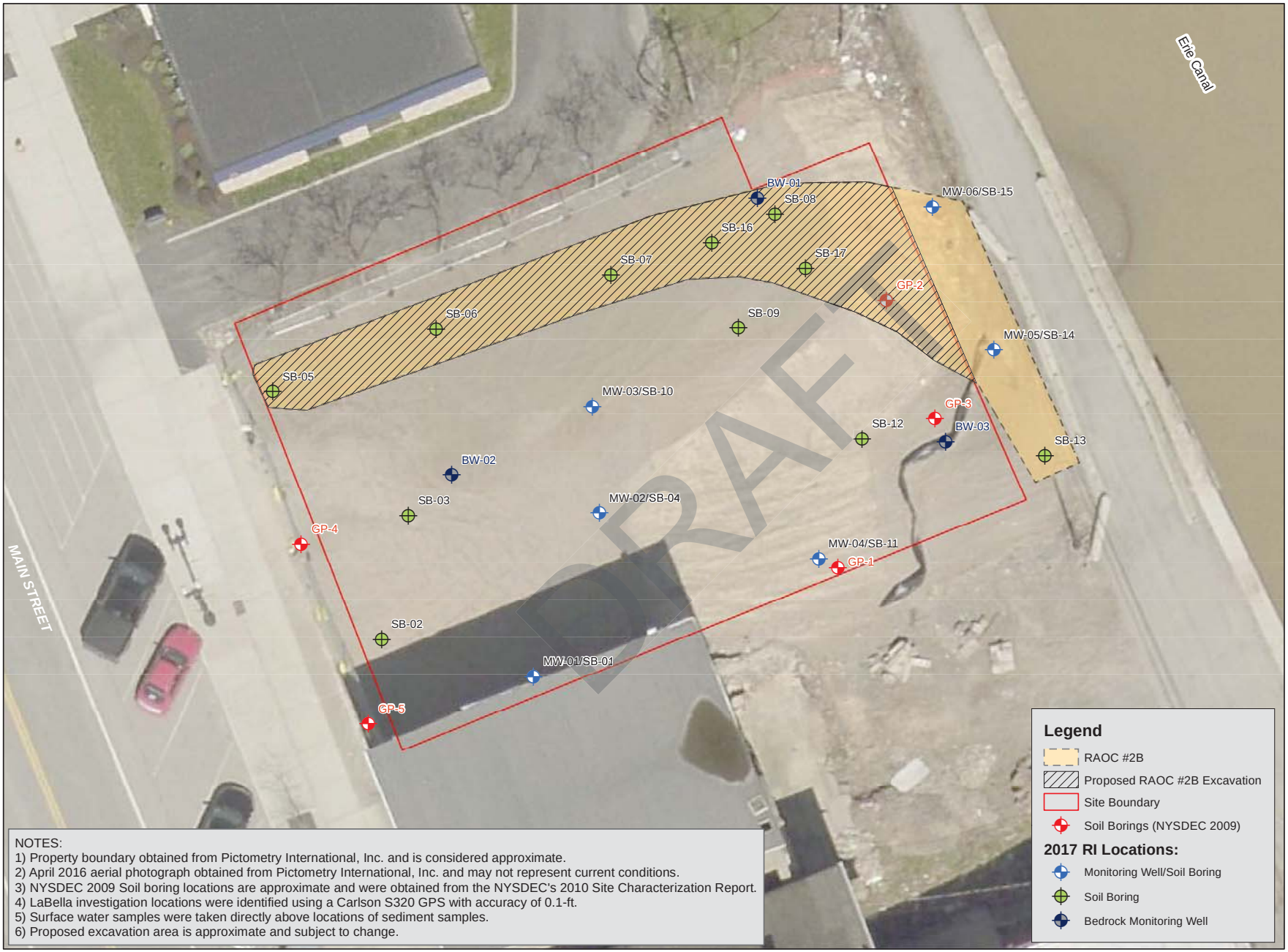
CONSERVATION

PROJECT:
FEASIBILITY STUDY
FORMER STARLITE DRY CLEANERS
NYSDEC #837016
331 MAIN STREET, MEDINA, NEW YORK

DRAWING NAME:
EXCAVATION AND
IN-SITU CHEMICAL
TREATMENT - RAOC #1

PROJECT/DRAWING NUMBER:
2161937.016
FIGURE 4A

J:\NYSDEC\2161937 - Investigation & Remediation\016 - Starlite Dry Cleaners CallOut ID 129705\Drawings\FS\FIGURE 4A Excavation and Injections.mxd



Legend

- RAOC #2B
- Proposed RAOC #2B Excavation
- Site Boundary
- Soil Borings (NYSDEC 2009)

2017 RI Locations:

- Monitoring Well/Soil Boring
- Soil Boring
- Bedrock Monitoring Well

NOTES:
1) Property boundary obtained from Pictometry International, Inc. and is considered approximate.
2) April 2016 aerial photograph obtained from Pictometry International, Inc. and may not represent current conditions.
3) NYSDEC 2009 Soil boring locations are approximate and were obtained from the NYSDEC's 2010 Site Characterization Report.
4) LaBella investigation locations were identified using a Carlson S320 GPS with accuracy of 0.1-ft.
5) Surface water samples were taken directly above locations of sediment samples.
6) Proposed excavation area is approximate and subject to change.

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Feet
1 inch = 15 feet

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CLIENT:

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL
CONSERVATION

PROJECT:

FEASIBILITY STUDY
FORMER STARLITE DRY CLEANERS
NYSDEC #837016
331 MAIN STREET, MEDINA, NEW YORK

DRAWING NAME:

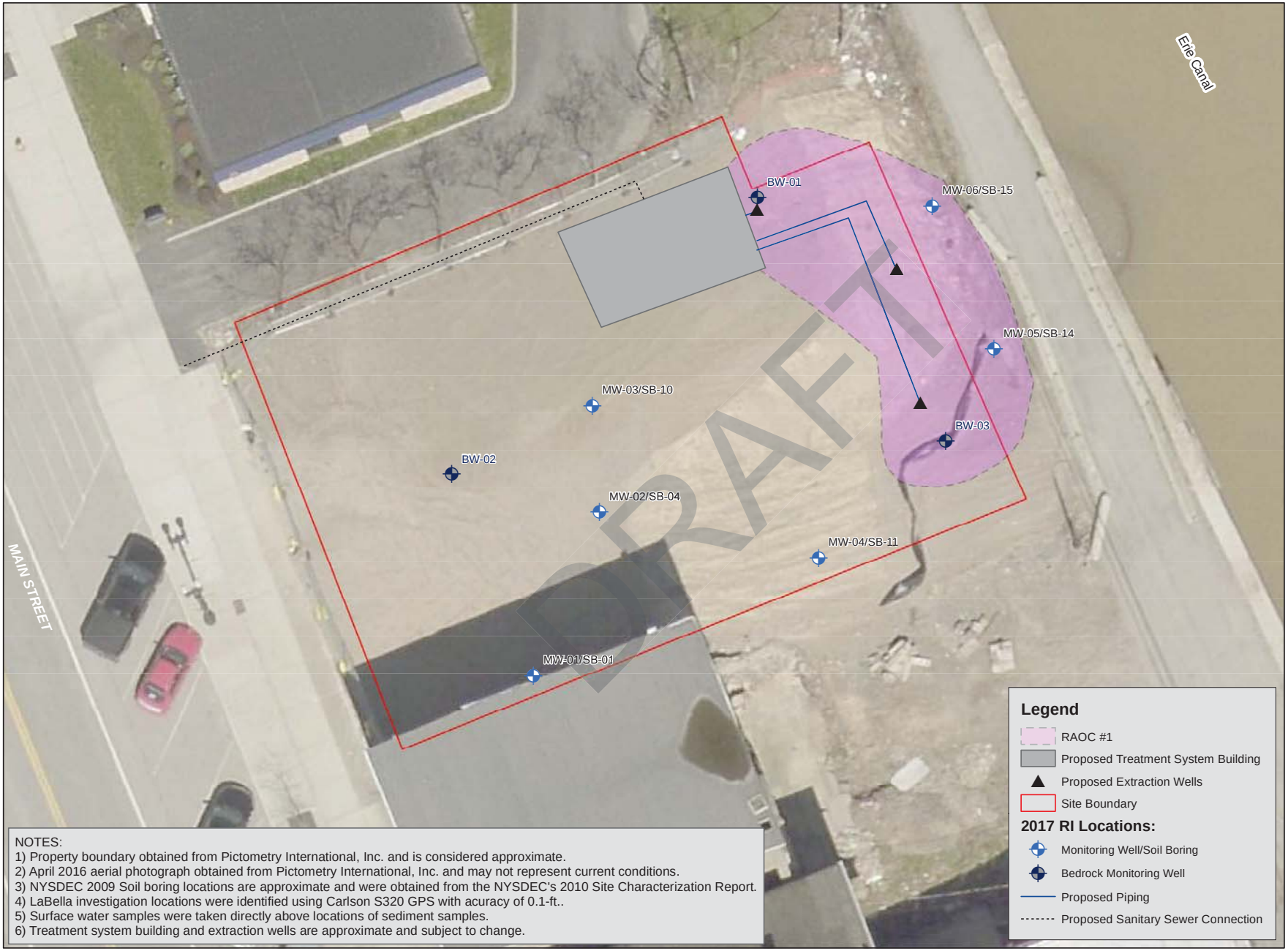
Site Management
AOC #1, AOC #2A, AOC #2B

PROJECT/DRAWING NUMBER:

2161937.016

FIGURE 4B

J:\NYSDEC\2161937 - Investigation & Remediation\016 - Starlite Dry Cleaners CallOut ID 129705\Drawings\FS\FIGURE 4B Excavation and Injections.mxd



NOTES:
1) Property boundary obtained from Pictometry International, Inc. and is considered approximate.
2) April 2016 aerial photograph obtained from Pictometry International, Inc. and may not represent current conditions.
3) NYSDEC 2009 Soil boring locations are approximate and were obtained from the NYSDEC's 2010 Site Characterization Report.
4) LaBella investigation locations were identified using Carlson S320 GPS with acuracy of 0.1-ft..
5) Surface water samples were taken directly above locations of sediment samples.
6) Treatment system building and extraction wells are approximate and subject to change.

LaBella
Powered by partnership.

N
W E
S

0 15
Feet
1 inch = 15 feet

INTENDED TO PRINT AS: 11" X 17"

CLIENT:

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL
CONSERVATION

PROJECT:

FEASIBILITY STUDY
FORMER STARLITE DRY CLEANERS
NYSDEC #837016
331 MAIN STREET, MEDINA, NEW YORK

DRAWING NAME:

PUMP AND TREAT -
RAOC #1 & #2A

PROJECT/DRAWING NUMBER:

2161937.016

FIGURE 5

J:\NYSDEC\2161937 - Investigation & Remediation\016 - Starlite Dry Cleaners CallOut ID 129705\Drawings\FS\FIGURE 5 Pump and Treat.mxd