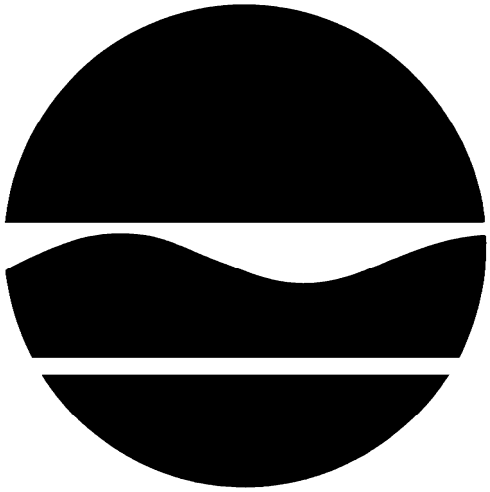
PROPOSED REMEDIAL ACTION PLAN
CAMAROTA CLEANERS
State Superfund Project
City of Mechanicville, Saratoga County, New York
Site No. 546044
February 2010



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 waste 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 Sections 5 of this document, have contaminated various environmental media. The proposed remedy, discussed in detail in Section 8, is intended to attain the remedial action objectives identified for this site in Section 6 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 Department will select a final remedy for the site only after careful consideration of all comments received during the public comment period.

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 PRAP 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 which are available for review at the document repositories. The public is encouraged to review the reports and documents, which are available at the following repositories:

Mechanicville District Public Library
190 North Main Street
Mechanicville, NY 12118
(518) 664-4646
Hours: M&W 11 am to 8 pm
Tu, Th, F 11 am to 6 pm
Sa 11 am to 3 pm

NYSDEC
625 Broadway, 11th Floor
Albany, NY 12233-7015
(518) 402-9620
Hours: M-F 8 am to 4 pm
Contact: Mr. Brian Jankauskas

The Department seeks input from the community on all PRAPs. A public comment period has been set from February 17th to March 19th to provide an opportunity for public participation in the remedy selection process. A public meeting is scheduled for March 4, 2010 at the Mechanicville Senior Center located at 178 North Main Street, Mechanicville, New York beginning at 7 pm.

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 to Mr. Jankauskas at the following address 625 Broadway, 11th Floor, Albany, NY 12233-7015 through March 19, 2010.

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 all of the alternatives identified here. 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.

SECTION 2: SITE DESCRIPTION AND HISTORY

2.1: Location and Description

The Camarota Cleaners site is a former dry cleaning facility located at 325-327 Park Avenue in the City of Mechanicville, Saratoga County, New York, See Figure 1. The site covers 0.11 acres and is located at the southeast corner of the intersection of Park Avenue and Second Avenue in a primarily residential area. The property is zoned residential. At the site, a single-story building without a basement is situated on a soil supported concrete slab. The building was constructed in the mid- to late-1970s and is presently being renovated. The building is surrounded by grass on all sides.

Site geology consists of 6 to 12 feet of silty sand with gravel overlying bedrock, which dips to the northeast. Groundwater is approximately 7 feet below ground surface and flows east towards the Hudson River, See Figure 2.

2.2: Operational/Disposal History

Dry cleaning operations were initiated shortly after construction of the building in the 1970's and ceased in 1991. In conducting a site audit for use in selling the property, the site owner discovered chlorinated volatile organic compounds, primarily tetrachloroethene (PCE), in the soil vapor in July 1991. Dry cleaning and spot removal processes are believed to have utilized PCE, which is a typical chemical used in the dry cleaning industry. In 1999, elevated concentrations of PCE were detected within a container located in the boiler room of the building. Improper handling of PCE/PCE waste or sloppy housekeeping is the likely cause of the environmental impacts.

2.3: Remedial History

The site remedial program is being performed by the New York State Department of Environmental Conservation under the State Superfund Program. As a result of identified hazardous waste disposal, the Department listed the site as a Class 2 site in the Registry of Inactive Hazardous Waste Disposal Sites in New York in January 2007. A Class 2 site is a site where hazardous waste presents a significant threat to the public health or the environment and action is required. A list of remedial activities conducted at the site by the Department and the property owners is provided below.

- Site Contamination was initially detected in July 1991
- Preliminary Site Assessment was conducted by the Department in 1999, which was documented in an April 2000 report
- Soil Vapor Evaluation was conducted by the Department in November 2006
- Twenty seven hybrid poplar trees were planted by the property owner at the site in April 2007
- A sub-slab depressurization system was installed by the property owner at the site in May 2007

SECTION 3: LAND USE

The Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings when assessing the nature and extent of contamination. City records indicate that the land is presently zoned for residential use.

SECTION 4: 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.

- Mr. Fred Camarota
- Dyer Construction

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 5: SITE CONTAMINATION

A remedial investigation has been conducted to determine the nature and extent of contamination and to evaluate the alternatives for addressing the significant threats to human health and the environment.

5.1: Summary of the Remedial Investigation

The purpose of the Remedial Investigation (RI) was to define the nature and extent of any contamination resulting from previous activities at the site. The RI was conducted between March 2008 and August 2009. The field activities and findings of the investigation are described in the RI Report.

The following general activities were conducted during the RI:

- Sewer line camera survey,
- Soil borings, and monitoring well installations,
- Sampling of soils, groundwater, sub-slab soil vapor, indoor air, ambient air, and flora,
- Evaluated remedial activities performed by the property owner, and
- Ecological and Human Health Exposure Assessments.

5.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform with 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 surface and subsurface soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in the following Sections list the applicable SCG in the footnotes. For a full listing of all SCGs see:

http://www.dec.ny.gov/regulations/61794.html

Based on the RI results, in comparison to the SCGs and potential public health and environmental exposure routes, certain media and areas of the site require remediation. These are summarized in Section 5.1.2. More complete information can be found in the RI Report.

5.1.2: Nature and Extent of Contamination

This section describes the findings for all environmental media that were evaluated. As described in the RI report, groundwater, soil, and soil vapor intrusion samples were collected to characterize the nature and extent of contamination.

For each media, 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 site related contaminants fall in one category: volatile organic compounds (VOCs). For comparison purposes the SCGs are provided for each medium that allows for unrestricted use.

Groundwater

Five groundwater sampling events were conducted quarterly to assess groundwater conditions on-site and off-site. Groundwater samples were collected from overburden and bedrock monitoring wells. Site contamination was detected in the shallow groundwater on-site at concentrations that exceeded the SCGs for volatile organic compounds. Site contaminants were not detected above SCGs at the two down-gradient monitoring wells, located approximately 100 feet east of the site. Contaminant levels in on-site bedrock groundwater exceeded the SCG for one volatile organic compound during one of the five sampling events. Table 1 and Figures 3 through 6 present a summary of RI analytical data for groundwater.

Table 1 – Groundwater

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)	Frequency Exceeding SCG
VOCs			
tetrachloroethene (PCE)	ND to 130	5	19 of 45
trichloroethene (TCE)	ND to 39	5	15 of 45
cis-1,2 dichloroethene (DCE)	ND to 180	5	15 of 45
trans – 1,2 dichloroethene	ND to 7.4	5	2 of 45
vinyl chloride (VC)	ND to 62	2	11 of 45
chloroform	ND to 11	7	1 of 45

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).
c – ND is non-detect.

The primary groundwater contaminants are PCE and associated breakdown products trichloroethene (TCE), cis-1,2 dichloroethene (DCE), trans-1,2 dichloroethene, and vinyl chloride (VC) are known as chlorinated volatile organic compounds. The detection of the breakdown products is due to microbial degradation of PCE. The chlorinated volatile organic compounds are focused towards the northern and southern ends of the site, as illustrated on Figure 6.

RI activities did evaluate the hybrid poplar trees planted in April 2007 by the property owner and their impact on groundwater conditions. The hybrid poplar trees planted at the site were sampled and found to be taking up PCE and TCE from the ground. The poplar trees have had a limited impact on groundwater conditions, but they may have a greater impact as they continue to grow and rates of groundwater uptake increase.

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: PCE, TCE, DCE, and VC.

Soil

Three subsurface soil samples from approximately 4 feet below ground surface were collected at the eastern side of the site during the RI to fill in data gaps from previous investigations, which collected 43 subsurface soil samples at the site from depths ranging from 2 inches below ground surface to 11 feet below ground surface. The RI results indicate that soils at the site do not exceed the unrestricted SCOs for volatile organics, See Table 2.

Table 2 - Soil

Detected Constituents	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG
Tetrachloroethene (PCE)	ND to 0.0041	1.3	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 – ND is non-detect.

No site-related soil contamination of concern was identified during the RI. Therefore, no remedial alternatives need to be evaluated for soil.

Soil Vapor Intrusion

The potential for soil vapor intrusion resulting from the presence of site related soil or groundwater contamination was evaluated by the sampling of sub-slab soil vapor under structures and indoor air inside structures. At this site due to the presence of buildings in the impacted area a full suite of samples were collected to evaluate whether soil vapor intrusion was occurring.

Soil vapor intrusion evaluations were performed at the on-site structure and six adjacent properties. Outdoor air samples were also collected as part of the soil vapor intrusion evaluation. The results indicate that site related contaminants, PCE and TCE, were detected in an on-site sub-slab soil vapor sample and at decreased concentrations in off-site sub-slab soil vapor samples. PCE was detected in the indoor air of four structures at concentrations within the range of typical indoor air background concentrations. The sub-slab depressurization system that was installed by the property owner was evaluated and found to be operating appropriately based on site conditions. Concentrations beneath the on-site structure have reduced due to operation of the sub-slab depressurization system. Table 3 presents a summary of RI analytical data for outdoor air, indoor air, and sub-slab soil vapor.

Elevated concentrations of TCE were detected in the indoor air at one structure located off-site. The pre-sampling survey indicated the storage of TCE in the building. Further, the indoor air concentrations are higher than the sub-slab soil vapor concentrations.

Table 3 - Outdoor Air, Indoor Air, and Sub-slab Soil Vapor			
Detected Constituents	Outdoor Air Concentration Range Detected (ug/m^3)[a]	Indoor Air Concentration Range Detected (ug/m^3)[a]	Sub-Slab Soil Vapor Concentration Range Detected (ug/m^3)[a]
Tetrachloroethene (PCE)	ND	ND to 2.3	0.9 to 120
Trichloroethene (TCE)	ND	ND to 62	ND to 3.1

a – ug/m^3: micrograms per cubic meter;
b – ND is non-detect.

Based on the findings of the Remedial Investigation, the disposal of hazardous waste 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.

5.2: 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.

5.3: Summary of Human Exposure Pathways:

This section describes the current or potential human exposures (the way people may come in contact with contamination) that may result from the site contamination. A more detailed discussion of the human exposure pathways can be found in the RI report available at the document repository. An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

Exposure to contaminated groundwater is not expected because the area is served by public water. Adjacent off-site residential structures have been evaluated for soil vapor intrusion and are not affected. A mitigation system has reduced the potential for soil vapor intrusion to impact the indoor air of the on-site building.

5.4: 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. The Fish and Wildlife Impact Analysis (FWIA), which is included in the RI report, presents a detailed discussion of the existing and potential impacts that the site poses to fish and wildlife receptors.

There are no wildlife habitats or wildlife resources at the site. Site contaminants have not migrated to environmentally sensitive areas where they would pose a threat to off-site fish or wildlife resources.

The FWIA did not identify any current or potential impacts to ecological resources.

Surface water resources at or near the site include, the Anthony Kill (located approximately 0.2 miles northeast) and the Hudson River (located approximately 0.34 miles to the east). Site contaminants do not pose a threat to surface water as the down-gradient monitoring wells, located approximately 100 feet to the east, did not detect site contaminants above SCGs.

No current or potential site-related surface water impacts have been identified.

Groundwater resources at the site include overburden and bedrock aquifers. Groundwater is approximately 7 feet below ground surface and flows east towards the Hudson River. A private well is not present at the site.

Site related contamination is impacting groundwater. Protection of the groundwater resource will be addressed in the remedy selection process.

SECTION 6: 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 objectives for this site are:

Public Health Protection

Groundwater

- Prevent people from drinking groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with contaminated groundwater.
- Prevent inhalation of contaminants from groundwater.

Soil

- Prevent inhalation of contaminants volatilizing from the soil.

Soil Vapor

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

Environmental Protection

Groundwater

- Restore the groundwater aquifer to meet ambient groundwater quality criteria, to the extent feasible.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

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. Potential remedial alternatives for the Site were identified, screened and evaluated in the feasibility study which is available at the document repositories established for this site.

A summary of the remedial alternatives that were considered for this site is presented below. 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.

7.1: Description of Remedial Alternatives

The following alternatives were considered to address the contaminated media identified at the site as described in Section 5:

Alternative 1: No Further Action

The No Further Action Alternative recognizes the previous work completed by the property owner described in Section 5.1.2. This alternative leaves the site in its present condition and does not provide any additional protection of the environment. The sub-slab depressurization system will not be maintained as part of this alternative.

Alternative 2: No Further Action with Site Management

The No Further Action with Site Management Alternative recognizes the previous work completed by the property owner described in Section 5.1.2. Site Management and Engineering Controls and Institutional Control is necessary to confirm the effectiveness of the previous work. This alternative maintains engineering controls which were part of the previous work and includes institutional controls, in the form of an environmental easement and site management plan, necessary to protect public health and the environment from contamination remaining at the site. This alternative would include: collection of periodic groundwater sampling for site contaminants to evaluate the anaerobic dechlorination that is naturally occurring, continued operation and maintenance of the sub-slab depressurization system at the site, and preparation of an environmental easement and site management plan. Ten years of site management is anticipated before site contamination in groundwater meets standards and the sub-slab depressurization system can be shutdown. This alternative requires six months to coordinate prior to initiation of the alternative.

Present Worth:.....*$75,000*
Capital Cost:.....*$28,000*
Annual Costs:.....*$47,000*

Alternative 3: In-Situ Enhanced Bioremediation or Bioaugmentation

This alternative achieves all of the SCGs discussed in Section 5.1.1. In-situ enhanced bioremediation or bioaugmentation utilizes microbes to clean up harmful chemicals in the environment, such as those found in gasoline and petroleum releases. When microbes completely digest these chemicals under the optimum temperature, nutrients and oxygen, the contaminants are changed into water and harmless gases such as carbon dioxide. This alternative includes: collection of soil samples for bench scale tests to determine the most appropriate additives to encourage bioremediation, baseline groundwater sampling to evaluate site contaminants and natural attenuation parameters, injection of selected additives to stimulate biological activity, collection of semi-annual groundwater samples for site contaminants and natural attenuation parameters, continued operation and maintenance of the sub-slab depressurization system at the site, and preparation of an environmental easement and site management plan. Four years of site management is anticipated before site contamination in groundwater meets standards and the

sub-slab depressurization system can be shutdown. This alternative requires 18 months to coordinate and design prior to injection of selected additives.

Present Worth:.....*$149,000*
Capital Cost:.....*$91,000*
Annual Costs:.....*$58,000*

7.2 Evaluation of Remedial Alternatives

The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375, which sets forth the requirements for the remediation of inactive hazardous waste disposal sites in New York. A detailed discussion of the evaluation criteria and comparative analysis is included in the feasibility study.

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.

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 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.

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.

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.

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.

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 costs for each alternative are presented in the Remedial Alternatives Cost Table 4.

Table 4
Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
No Further Action	$0	$0	$0
No Further Action with Site Management	$28,000	$47,000	$75,000
In-Situ Enhanced Bioremediation or Bioaugmentation	$91,000	$58,000	$149,000

8. Land Use. When cleanup 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.

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.

SECTION 8: SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternative 2, No Further Action with Site Management as the remedy for this site. The elements of this remedy are described at the end of this section.

8.1 Basis for Selection

The proposed remedy is based on the results of the RI and the evaluation of alternatives.

Alternative 2 is being proposed because, as described below, it satisfies the threshold criteria and provides the best balance of the primary balancing criteria described in Section 7.2. It would achieve the remediation goals for the site by managing the site in a manner that maintains the sub-slab depressurization system and monitors groundwater conditions until conditions are restored to the extent practicable. Alternative 2 requires minimal effort to maintain the on-site sub-slab depressurization system and monitor groundwater conditions, which will alert the Department to conditions that may threaten public health. Alternative 2 requires additional time when compared to Alternative 3, but is as effective and would be implemented at a considerably lower cost.

Alternative 1 does not provide any protection to public health and the environment and will not be evaluated further. Alternatives 2 and 3 met the threshold criteria. Because Alternatives 2 and 3 satisfy the threshold criteria, the remaining criteria are particularly important in selecting a final remedy for the site.

Long-term effectiveness is best accomplished by Alternative 3 as the anticipated duration of the monitoring activities is decreased when compared to Alternative 2.

Alternatives 2 and 3 would rely on biological microbes to reduce the toxicity and volume of contamination in the environment. Neither alternative would reduce mobility of the contamination; however, mobility appears limited as contamination does not extend far beyond the property boundary.

Alternative 2 has no short term impacts to the community; whereas implementation of Alternative 3 will impact the community (i.e. traffic and noise) for approximately a week as the nutrients are injected into the subsurface.

Alternatives 2 and 3 are technically and administratively implementable.

Alternative 2 has a low cost when compared to Alternative 3, which requires additional funds to design and inject the additives into the subsurface.

Alternatives 2 and 3 meet the unrestricted use soil cleanup objectives. Alternatives 2 and 3 require restrictions on groundwater use.

The estimated present worth cost to implement the remedy is $75,000. The cost to construct the remedy is estimated to be $28,000 and the estimated average annual costs for 10 years is $47,000.

8.2 **Elements of the Proposed Remedy**

The elements of the proposed restricted use remedy are as follows:

1. The operation of the sub-slab depressurization system would continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.

2. Conduct periodic groundwater sampling for site contaminants to evaluate the anaerobic dechlorination that is naturally occurring.

3. To maximize the net environmental benefit, Green remediation and sustainability efforts are considered in the design and implementation of the remedy to the extent practicable, including;
   - reducing green house gas emissions
   - encouraging low carbon technologies

4. Imposition of an institutional control in the form of an environmental easement for the controlled property that:

   (a) requires 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).

   (b) land use is subject to local zoning laws, the remedy allows the use and development of the controlled property for
   X residential use X restricted residential use X commercial use X industrial use
   (c) restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the Department, NYSDOH or County DOH;
   (d) requires compliance with the Department approved Site Management Plan;

5. Since the remedy results in contamination remaining at the site that does not allow for unrestricted use, a Site Management Plan is required, which includes the following:

   (a) an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to assure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 4 above.

Engineering Controls: The sub-slab depressurization system discussed in Paragraph 1 above.

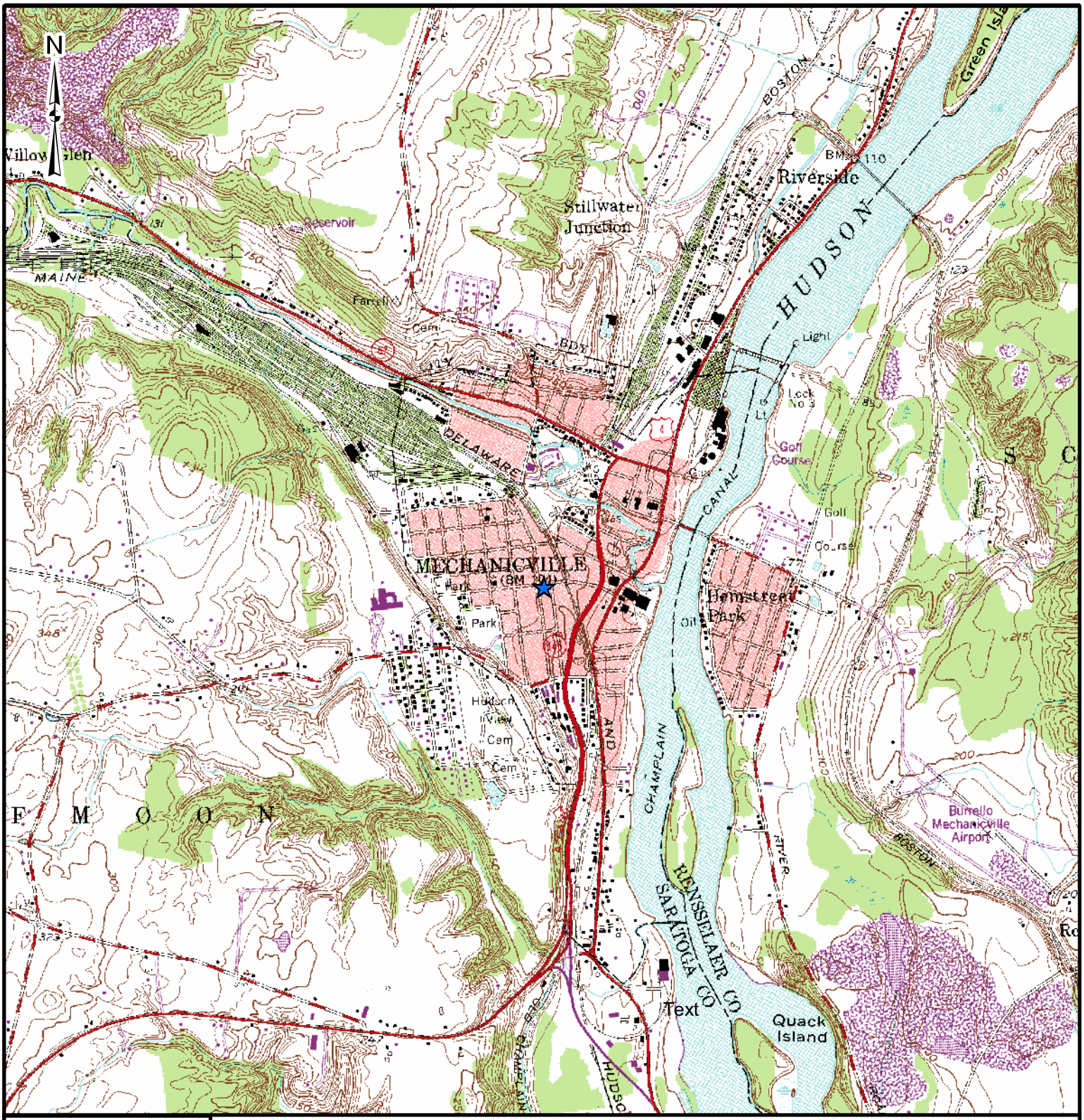
This plan includes, but may not be limited to:

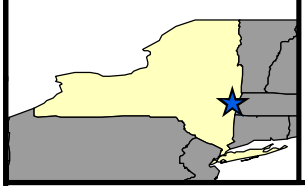
(i) descriptions of the provisions of the environmental easement including groundwater use restrictions;
(ii) provisions for the management and inspection of the identified engineering controls;
(iii) maintaining site access controls and Department notification; and
(iv) the steps necessary for the periodic 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 not be limited to:

(i) monitoring of groundwater to assess the performance and effectiveness of the remedy;
(ii) a schedule of monitoring and frequency of submittals to the Department;

6. A site management program would be implemented to provide the details necessary for the operation, maintenance, and monitoring of the remedial program.





LEGEND

★ Site Location

Miles

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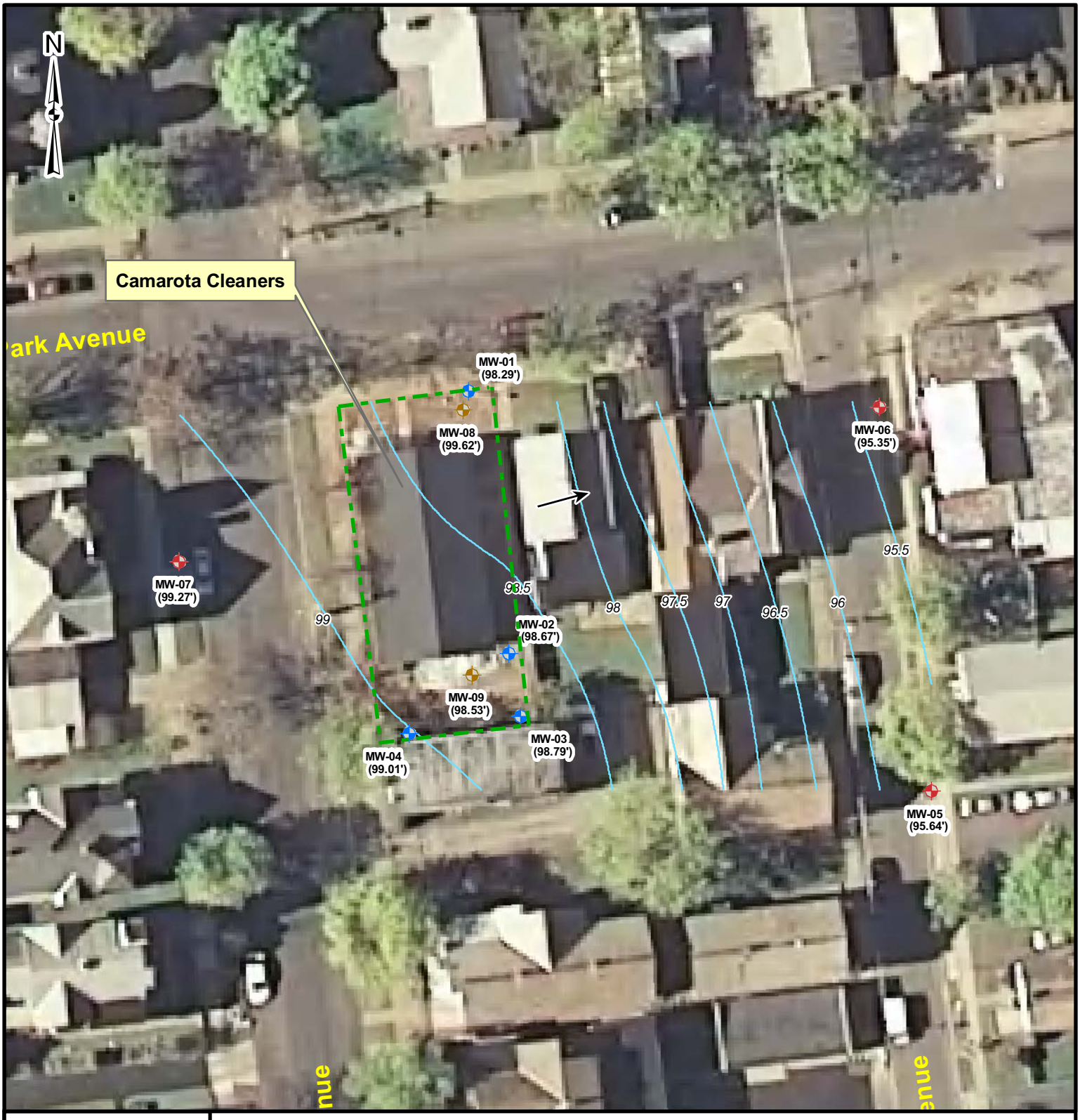
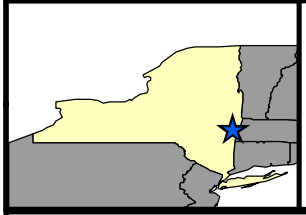
Source: NYSDEC, USGS Seamless Data Distribution

CAMAROTA CLEANERS (546044)
SITE LOCATION PLAN
FIGURE 1





Legend

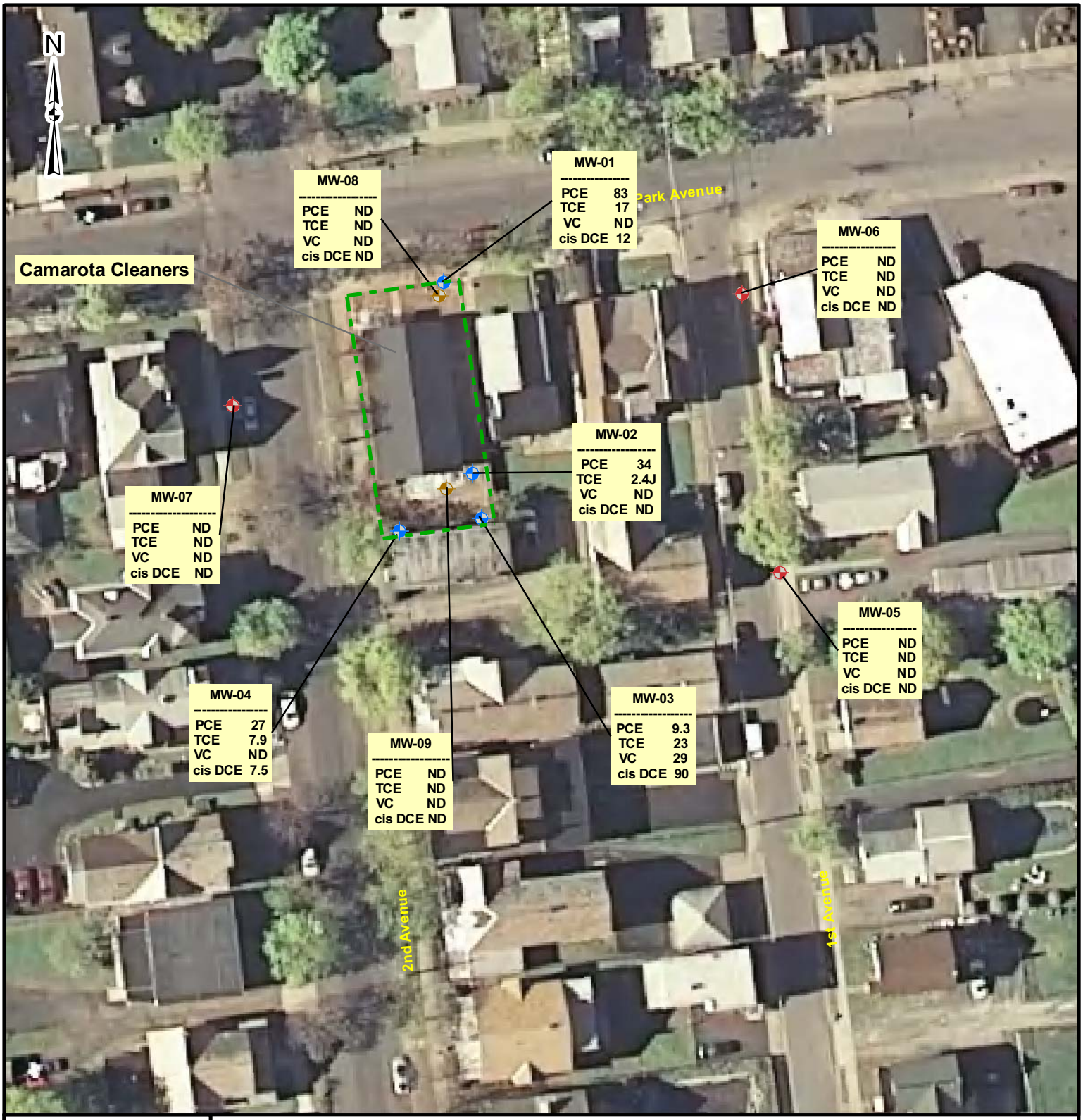
- Sept 2008 Groundwater Contour
- MW-04 - Monitoring Well ID (98.72') - Corrected Groundwater Elevation (ft AMSL)
- Estimated Groundwater Flow Path
- Approximate Site Boundary
- Existing Overburden Monitoring Well
- New Overburden Monitoring Well
- New Bedrock Monitoring Well (not included in groundwater flow estimation)

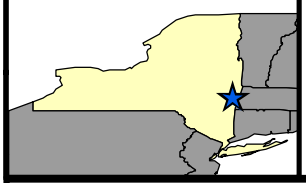
Feet

0 25 50 100

Source: NYS Office of Cyber Security and Critical Infrastructure Coordination (CSCIC)

CAMAROTA CLEANERS (546044)
GROUNDWATER FLOW CONTOURS (SEPTEMBER 25, 2008)
FIGURE 2





Legend

- Existing Overburden Monitoring Well
- New Overburden Monitoring Well
- New Bedrock Monitoring Well
- Approximate Site Boundary

Well ID-01

PCE	999
TCE	999
VC	999
cisDCE	999

	SCG
Tetrachloroethene	5
Trichloroethene	5
Vinyl Chloride	2
cis-1,2-Dichloroethene	5

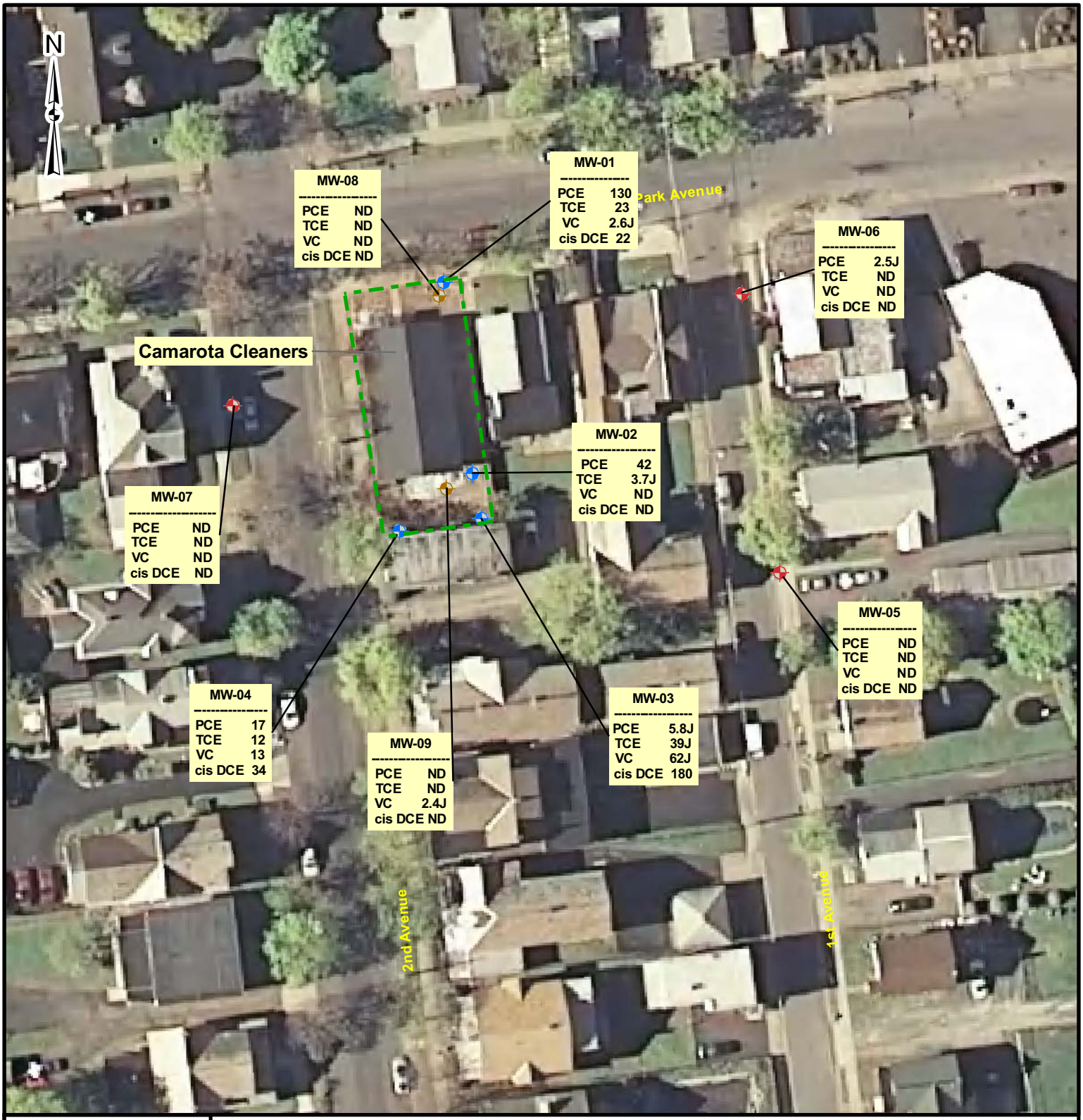
units (ug/L)

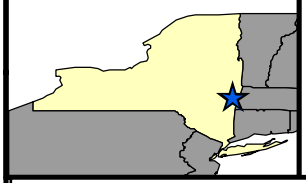
Feet

0 50 100

Source: NYS Office of Cyber Security and Critical Infrastructure Coordination (CSCIC)

CAMAROTA CLEANERS (546044)
GROUNDWATER CONCENTRATIONS
CHLORINATED VOLATILE ORGANICS (APRIL 2008)
FIGURE 3





Legend

- Existing Overburden Monitoring Well
- New Overburden Monitoring Well
- New Bedrock Monitoring Well
- Approximate Site Boundary

Well ID-01

PCE	999
TCE	999
VC	999
cisDCE	999

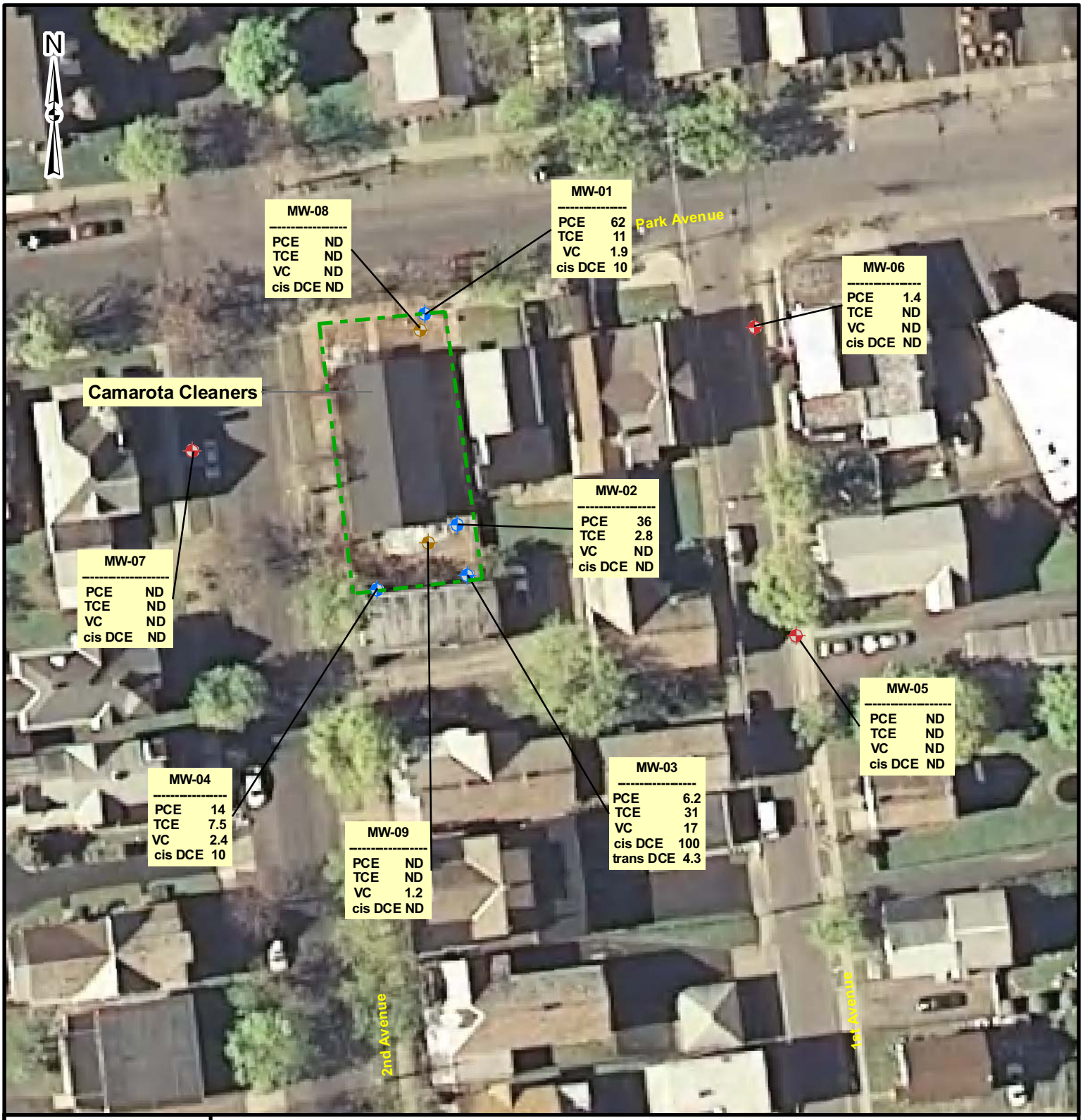
	SCG
Tetrachloroethene	5
Trichloroethene	5
Vinyl Chloride	2
cis-1,2-Dichloroethene	5
units (ug/L)	

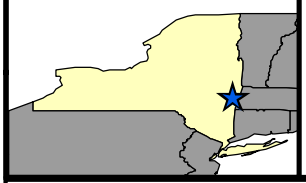
Feet

0 50 100

Source: NYS Office of Cyber Security and Critical Infrastructure Coordination (CSCIC)

CAMAROTA CLEANERS (546044)
GROUNDWATER CONCENTRATIONS
CHLORINATED VOLATILE ORGANICS (SEPTEMBER 2008)
FIGURE 4





Legend

- Existing Overburden Monitoring Well
- New Overburden Monitoring Well
- New Bedrock Monitoring Well
- Approximate Site Boundary

Well ID-01

PCE	999
TCE	999
VC	999
cisDCE	999

	SCG
Tetrachloroethene	5
Trichloroethene	5
Vinyl Chloride	2
cis-1,2-Dichloroethene	5

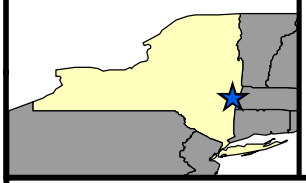
units (ug/L)

Feet

0 50 100

Source: NYS Office of Cyber Security and Critical Infrastructure Coordination (CSCIC)

CAMAROTA CLEANERS (546044)
GROUNDWATER CONCENTRATIONS
CHLORINATED VOLATILE ORGANICS (APRIL 2009)
FIGURE 5



Legend

- Existing Monitoring Well
- New Overburden Monitoring Well
- New Bedrock Monitoring Well (Analytical data not used to develop isopleth)

Total CVOC Contour

- Data Supported
- Interpolated
- Approximate Site Boundary

Feet

0 25 50 100

Source: NYS Office of Cyber Security and Critical Infrastructure Coordination (CSCIC)

CAMAROTA CLEANERS (546044)
GROUNDWATER CONCENTRATIONS
TOTAL CHLORINATED VOLATILE ORGANICS (APRIL 2009)
FIGURE 6