DECISION DOCUMENT

Former M. Argueso and Co., Inc
Brownfield Cleanup Program
Mamaroneck, Westchester County
Site No. C360108
December 2012

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

DECLARATION STATEMENT - DECISION DOCUMENT

Former M. Argueso and Co., Inc
Brownfield Cleanup Program
Mamaroneck, Westchester County
Site No. C360108
December 2012

Statement of Purpose and Basis

This document presents the remedy for the Former M. Argueso and Co., Inc site, a brownfield cleanup site. The remedial program was chosen in accordance with the 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 decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Former M. Argueso and Co., Inc site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction and implementation of the remedial program. A remedial design program will be implemented to provide the details necessary for the construction, operation, 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 gas and other emissions;
- Increasing energy efficiency 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; and
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals and integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. A site cover currently exists and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures

such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

3. Implementation of in-situ groundwater treatment technology in the form of hydrogen release compound injection or similar technology. The treatment will be implemented as follows:

- The aquifer's parameters will be characterized to ensure conditions to promote contaminant breakdown;
- A conceptual site model for contaminant fate and transport will be developed based on an understanding of groundwater gradient and flow; and testing to determine hydraulic conductivity and soil permeability;
- the conceptual model will be used to estimate the quantity of injection compound necessary to achieve the desired radius of influence and reduce groundwater contaminant levels to meet remedial cleanup goals; and
- hydrogen release compound, or a similar compound, will be injected into the groundwater through wells, installed at a sufficient spacing and in the areas of the site necessary to achieve sufficient distribution of the chemical compound to accomplish the remedial program.

4. Evaluation of the potential for soil vapor intrusion to occur within the occupied on-site building, including provisions for implementing actions recommended to address exposures.

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

- 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);
- allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or Westchester County DOH;
- requires compliance with the Department approved Site Management Plan.

6. 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 ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 5 above.

Engineering Controls: The site cover discussed in Paragraph 2 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and/or groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil 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 of groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings occupied or developed on the site, as may be required by the Institutional and Engineering Control Plan discussed in item 6a above.

c) the operation of the components of the remedy will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

December 7, 2012

Date

Michael Ryan, Director
Remedial Bureau C

DECISION DOCUMENT

Former M. Argueso and Co., Inc
Mamaroneck, Westchester County
Site No. C360108
December 2012

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repositories:

Mamaroneck Village Office
Attn: Village Manager
Village Hall
123 Mamaroneck Avenue
Mamaroneck, NY 10543
Phone: 914-777-7703

Mamaroneck Public Library
136 Prospect Avenue
Mamaroneck, NY 10543

Phone: 914-698-1250

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 Former M. Argueso and Co., Inc. site is located in an urban area at 441 and 442 Waverly Avenue, Mamaroneck, Westchester County.

Site Features: The two properties are located on opposite sides of Waverly Avenue. This site is approximately 1.03 acres (0.3 and 0.73 acres) in size. The main site features were two buildings and parking areas. The building at 442 Waverly was demolished in 2010.

Current Zoning and Uses: Both parcels are zoned for commercial use. The 441 portion of the site is rented to a local business which installs telecommunications cable and the 442 portion is used as a parking lot. The nearest residential property is directly adjacent to the site. Other residential properties are located within 400 feet of the site.

Historic Uses: The M. Argueso and Company purchased the two parcels sometime in the 1930s and 1960s, respectively, and operations included wax refining and manufacturing. Wax manufacturing ceased in 2005, and the site (both parcels) was purchased by New Waverly Avenue Associates in 2006.

Site Geology and Hydrogeology: The soils at the site include urban fill overlying sands. The fill was observed from 3.5 to 9 feet in thickness. Groundwater is between 2.3 feet and 9 feet below the ground surface. The groundwater flow direction is generally northeast to northwest.

10/30/12-DEC signed the Environmental Easement for this site.

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) were/was evaluated in addition to an

alternative which would allow for unrestricted use of the site.

A comparison of the results of the Remedial Investigation (RI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The cleanup agreement is with a Volunteer. The Volunteer does not have an obligation to address off-site contamination. The Department has determined that this site poses a significant threat to human health and the environment and there are off-site impacts that require remedial activities; accordingly, enforcement actions are necessary.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil

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. 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 contaminant 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 below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

TRICHLOROETHENE (TCE)	N-PROPYLBENZENE
TETRACHLOROETHYLENE (PCE)	Butylbenzene
ETHENE, 1,2, Cis-Dichloro	Sec-Butylbenzene
N-PROPYLBENZENE	Tert-Butylbenzene

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 Decision Document.

The following IRM(s) has/have been completed at this site based on conditions observed during the RI.

IRM - Tanks and Discharge Pit Removals

The IRM consisted of soil excavation and removal of two underground storage tanks (UST), a three chamber settling tank, an internal discharge pit and a sump pit at the 442 Waverly Avenue parcel.

The 8,000 gallon fuel oil UST was excavated and removed in August 2009. The three chamber settling tank, a 1,000 gallon UST, the internal discharge pit and sump pit were excavated and removed in October 2010.

Excavated soils were segregated into stockpiles based on visual and field measurements. The side wall and bottom of the excavation sample results were all less than the SCOs for Commercial Use and were slightly above SCOs for the protection of groundwater.

Approximately 150 cubic yards of petroleum (including VOCs) impacted soil were disposed of off-site.

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. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Based upon investigations conducted, the primary contaminants of concern are petroleum, volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs). Soil samples did not contain levels exceeding 6 NYCRR Part 375 Commercial use soil cleanup objectives (SCOs) on either property, but slightly exceed the SCOs for groundwater protection for the VOCs butylbenzene (12 ppm), sec-butylbenzene (11 ppm), tert-butylbenzene (5.9 ppm), and propylbenzene (3.9 ppm) with maximum values of 81 ppm, 99 ppm, 16 ppm, 68 ppm, respectively. Contaminants impacting the groundwater at this site are VOCs. The groundwater monitoring wells are screened in the shallow and deeper portion of the sand aquifer. The deep groundwater contains higher levels of VOCs with a significant fraction of chlorinated VOCs. The primary groundwater contaminants of concern with their maximum values are tetrachloroethene (9,700 ppb), trichlorothene (730 ppb), cis-1,2 dichloroethene (780 ppb), and n-propylbenzene (280 ppb). The chlorinated solvent source appears to be the former loading dock area near monitoring well MW GZ-23. There was a former stormwater catch basin at the loading dock which may have acted as a migration pathway into the groundwater from spills during loading and unloading at the facility (former 442 Waverly building). Metals concentrations were below the Commercial use SCOs.

A Fish and Wildlife Impact Analysis (FWIA) was not performed due to the surrounding urban area and lack of potential receptors at or near 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.*

Contact with contaminated soil is unlikely as the site is covered by buildings and pavement. Contaminated groundwater at the site is not used for drinking or other purposes and the area is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in the groundwater or soil may move into the soil vapor (air spaces within the soil), which in turn 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. The potential exists for soil vapor intrusion to occur at the one on-site building and for any future on-site development. In addition, sampling indicates that elevated concentrations of site-related

contaminants in groundwater at the site perimeter are present; therefore, soil vapor intrusion may be a concern for off-site buildings.

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.
- 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: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation and 6 NYCRR Part 375.

The selected remedy is a Track 4 remedy.

The selected remedy is referred to as the Groundwater Treatment with Restricted Use remedy.

The elements of the selected remedy, as shown in Figure 2, are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction and implementation of the remedial program. A remedial design program will be implemented to provide the details necessary for the construction, operation, 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 gas and other emissions;
- Increasing energy efficiency 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; and
- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals and integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. A site cover currently exists and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

3. Implementation of in-situ groundwater treatment technology in the form of hydrogen release compound injection or similar technology. The treatment will be implemented as follows:

- The aquifer's parameters will be characterized to ensure conditions to promote contaminant breakdown;
- A conceptual site model for contaminant fate and transport will be developed based on an understanding of groundwater gradient and flow; and testing to determine hydraulic conductivity and soil permeability;
- the conceptual model will be used to estimate the quantity of injection compound necessary to achieve the desired radius of influence and reduce groundwater contaminant levels to meet remedial cleanup goals; and

• hydrogen release compound, or a similar compound, will be injected into the groundwater through wells, installed at a sufficient spacing and in the areas of the site necessary to achieve sufficient distribution of the chemical compound to accomplish the remedial program.

4. Evaluation of the potential for soil vapor intrusion to occur within the occupied on-site building, including provisions for implementing actions recommended to address exposures.

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

• 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);
• allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
• restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or Westchester County DOH;
• requires compliance with the Department approved Site Management Plan.

6. 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 ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 5 above.
Engineering Controls: The site cover discussed in Paragraph 2 above.

This plan includes, but may not be limited to:
• an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
• descriptions of the provisions of the environmental easement including any land use and/or groundwater use restrictions;
• a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil 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 of groundwater to assess the performance and effectiveness of the remedy;
• a schedule of monitoring and frequency of submittals to the Department;

• monitoring for vapor intrusion for any buildings occupied or developed on the site, as may be required by the Institutional and Engineering Control Plan discussed in item 6a above.

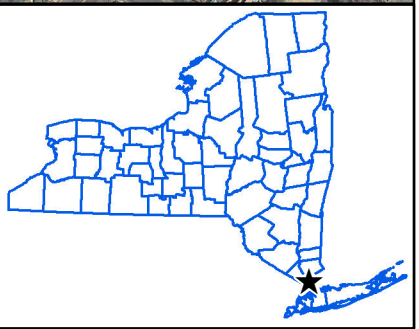
c) the operation of the components of the remedy will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is technically impracticable or not feasible.

DEPARTMENT OF ENVIRONMENTAL CONSERVATION • NEW YORK STATE •

Figure 1:
Site Location Map

Former M. Argueso and Company, Inc.
Site No. C360108
Town of Mamaroneck, Westchester County, NY

August 24, 2012



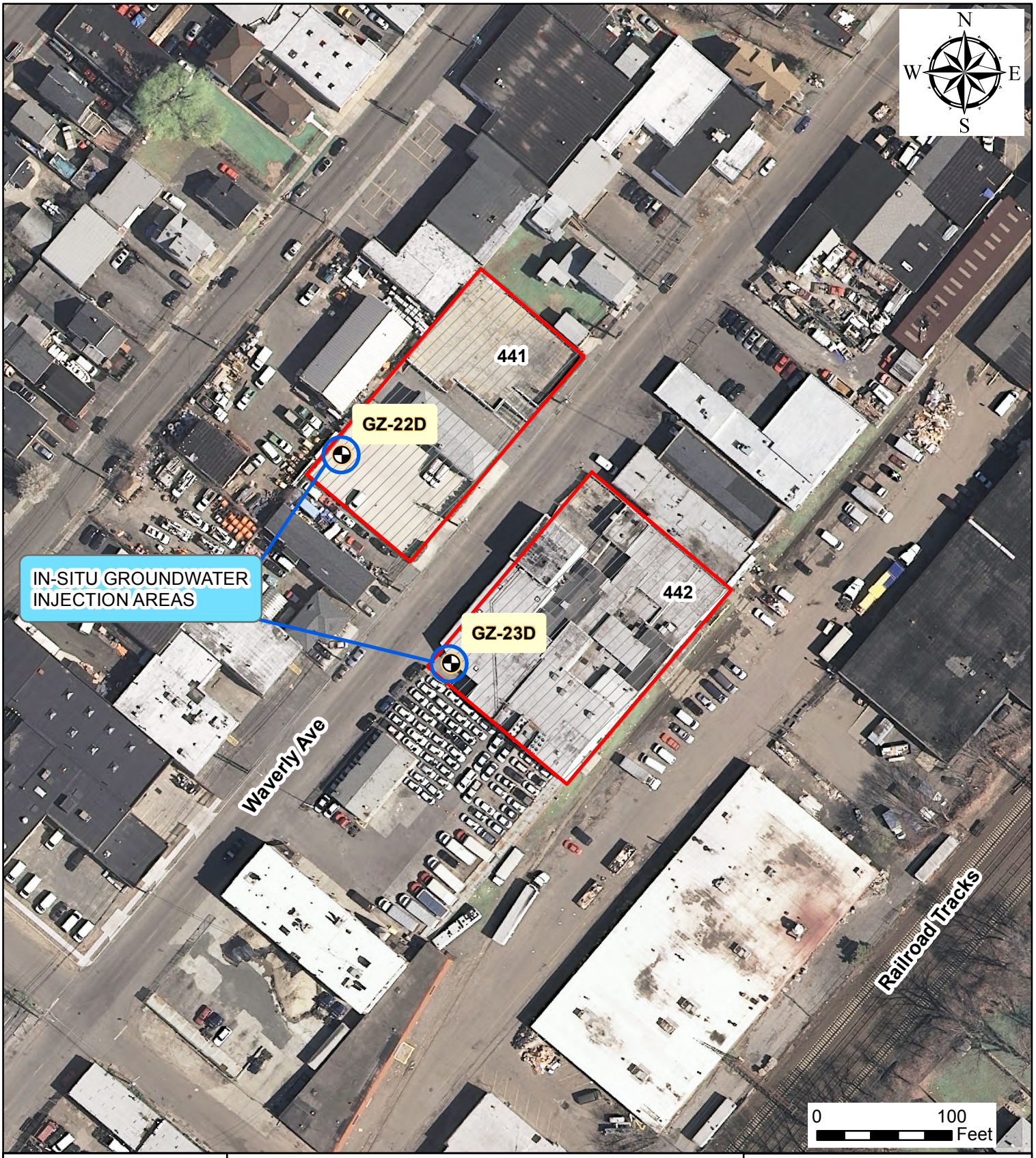


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Figure 2

IN-SITU Treatment of Groundwater

Former M. Argueso and Company, Inc.
Site No. C360108
Town of Mamaroneck, Westchester County, NY

August 29, 2012