**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

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November 5, 2015

Mr. Paul Hogan, Jr.
3021-3041 Orchard Park, LLC
48 Oakland Place
Buffalo, New York 14222
paulfhoganjr@gmail.com

Mr. Christopher Jerzewski
Comprehensive Cancer Services Oncology, P.C.
45 Spindrift Drive, Suite 102
Buffalo, New York 14221
chris.jerzewski@ccsoncology.com

RE: 3021 Orchard Park Road, Site ID No. C915289
Town of Orchard Park, Erie County
Remedial Work Plan & Decision Document

Dear Messrs. Hogan and Jerzewski:

The New York State Department of Environmental Conservation (Department) and the New York State Department of Health (NYSDOH) have reviewed the Remedial Work Plan (RWP) a.k.a. the Remedial Investigation/Alternatives Analysis Report (RI/AAR) for the 3021 Orchard Park Road site dated April 2015 and prepared by Benchmark Environmental Engineering & Science, PLLC on behalf of 3021-3041 Orchard Park Road, LLC and CCS Oncology, P.C. The RWP is hereby approved. Please ensure that a copy of the approved RWP is placed in the document repository.

Enclosed is a copy of the Department's Decision Document for the site. The remedy is to be implemented in accordance with this Decision Document. Please ensure that a copy of the Decision Document is placed in the document repository.

Please contact the Department's Project Manager, David Locey, at david.locey@dec.ny.gov at your earliest convenience to discuss next steps.

Sincerely,

Michael J. Cruden, P.E.
Director
Remedial Bureau E
Division of Environmental Remediation

Enclosure

ec: R. Schick, DER
M. Ryan, DER
C. Staniszewski, Region 9
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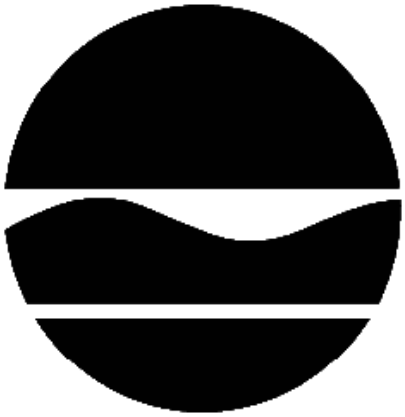
# DECISION DOCUMENT

3021 Orchard Park Road Site
Brownfield Cleanup Program
Orchard Park, Erie County
Site No. C915289
November 2015



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

# DECLARATION STATEMENT - DECISION DOCUMENT

3021 Orchard Park Road Site
Brownfield Cleanup Program
Orchard Park, Erie County
Site No. C915289
November 2015

**Statement of Purpose and Basis**

This document presents the remedy for the 3021 Orchard Park Road 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 3021 Orchard Park Road 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. 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 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;
- 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. Catch Basin/Storm Sewer Removal
Soil from catch basin CB-1, located in the southeast corner of the site, will be removed and disposed off-site as a characteristic hazardous waste. An estimated 70 linear feet of storm sewer pipe and bedding stone from catch basin CB-1 will also be removed and, based on the findings of the RI, disposed off-site as a non-hazardous waste. The catch basin and storm sewer drain pipe will be replaced and a new catch basin added to the system, to re-route the existing configuration away from a new building addition and avoid structural issues,

3. Cover System
A site cover will be required to allow for restricted residential use of the site. The cover will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted residential 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).

Sampling will be completed in unpaved areas to document an appropriate cover system exists in these areas.

4. Groundwater Treatment
In-situ chemical reduction (ISCR) and enhanced biodegradation will be implemented to treat chlorinated VOCs in the groundwater. Chemical reducing agents will be injected into the subsurface to destroy the contaminants in an approximately 3,147 square foot area between the existing building and catch basin CB-1, found in the southeast corner of the site. Approximately twelve injection points will deliver the agents to an interval of 4 to 14 feet below ground surface.

In the excavation for a new addition to the building, to be located in the area of groundwater impact, the chemical reducing agents may be added directly to the bottom of the excavation and mixed into the soils with the excavation equipment before backfilling with structural fill. Alternatively, the reducing agents will be injected outside the perimeter of the building addition if structural stability is a concern.

5. Institutional Control
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 restricted residential, 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 County DOH; and
- requires compliance with the Department approved Site Management Plan.

6. Site Management Plan

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 above.

Engineering Controls: the cover system discussed in item 3 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 groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any new 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;
- 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 new buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:

- compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
- maintaining site access controls and Department notification; and
- providing the Department access to the site and O&M records.

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.

Michael J Cruden

Digitally signed by Michael J Cruden
DN: cn=Michael J Cruden, o=DER, ou=RBE, email=mjcruden@gw.dec.state.ny.us, c=US
Date: 2015.11.04 16:36:41 -05'00'

Date

Michael Cruden, Director
Remedial Bureau E

# DECISION DOCUMENT

3021 Orchard Park Road Site
Orchard Park, Erie County
Site No. C915289
October 2015

## 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 repository:

Buffalo & Erie County Public Library
Attn: Peggy Errington
Orchard Park Branch
4570 S Buffalo Street
Orchard Park, NY 14127

### 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 site is located in a moderately developed, mixed-use commercial and residential area of the Town of Orchard Park, Erie County, New York. The site is bordered by Orchard Park and Michael Roads on the west and north respectively, and commercial properties and Union Road to the south and east.

Site Features:
The site occupies 4.61 acres of a 5.06 acre tax parcel; the excluded 0.45-acre portion in the northwest corner of the parcel is covered with asphalt pavement and landscaped grass. A single story, multiple-tenant, commercial building occupies the eastern half of the site. The building and an asphalt parking lot cover nearly the entire site.

Current Zoning and Land Use:
The site is zoned Business 2, for commercial use; a convenience store and credit union office currently occupy the north and south ends of the building, respectively. These two units will remain occupied throughout the site remediation and building redevelopment. Only commercial properties are located adjacent to the site. The nearest residential areas are located approximately 300 to 400 feet from the site boundaries, to the west (on Eaglebrook Drive) and northeast (on Union Road).

Past Use of the Site:
Between 1979 and 2008, the building housed a dry cleaning shop in two of the building units, addressed as 3035 and 3039 Orchard Park Road, near the south end of the building. The dry cleaning operations appear to have led to the site contamination. Other current and former tenants included discount, grocery, pharmacy, paint and antique stores as well as a bank, credit union, hair salon and a photocopy/printing shop.

Site Geology and Hydrogeology:
The site is generally flat and slopes gently to the north-northeast. Much of the site is covered with asphalt underlain with a poorly graded gravel and sand sub-base. Beneath the asphalt and sub-base, the native soil across the site is generally described as a brown to dark grey sandy clay (till). Bedrock is 11.5 to 17 feet below ground surface (fbgs). The upper 3 to 6.5 feet of bedrock is a very weathered, fissile shale followed by a more competent shale bedrock unit.

Shallow groundwater was encountered generally between 1.7 and 7.3 fbgs. The shallow groundwater flow is dominated by the existing storm sewer/underdrain system present beneath the asphalted areas across the site. The invert elevations of the underdrain are generally 2 to 2.5 fbgs. The shallow groundwater is intercepted and directed by the underdrain system toward the northeast

corner of the site where it exits through a single catch basin (CB-3) and connects to the Orchard Park storm sewer system on Michael Road. A localized (and possibly natural) groundwater mound extends from the southeast corner of the site, beneath the on-site building, toward and intercepted by the western portion of the underdrain system. Subsequent groundwater flow from this mound is west-northwest. In addition, the underdrain system has created a localized groundwater sink in the western portion of the site. Shallow groundwater flow associated with this sink is inward toward the underdrain system.

The deeper, bedrock groundwater, flows in a northwesterly direction and is not apparently affected by the underdrain system. The elevation of the deeper groundwater varies from 4.1 to 6.7 fbgs, and the vertical gradient between shallow and deeper groundwater is variable.

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 restricted-residential use (which allows for commercial use and 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 Applicant(s) under the Brownfield Cleanup Agreement is a/are Volunteer(s). The Applicant(s) does/do not have an obligation to address off-site contamination. However, the Department has determined that this site does not pose a significant threat to public health or the environment; accordingly, no 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
- indoor air
- sub-slab vapor

### 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:

trans-1,2-dichloroethene
cis-1,2-dichloroethene
trichloroethene (TCE)
tetrachloroethene (PCE)
vinyl chloride
methyl ethyl ketone
acetone
toluene
xylene (mixed)

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.

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

Nature and Extent of Contamination

Two environmental investigations were completed on the site in 2014, prior to the BCP application and the site Remedial Investigation (RI). Both investigations focused on the south end of the building where the dry cleaning shop was once located. Soil, groundwater, sub-slab vapor and indoor air and outdoor air samples were analyzed for volatile organic compounds (VOCs). The RI expanded the sampling to include the entire property and expanded the list of contaminants analyzed to include: VOCs, semi-volatile organic compounds (SVOCs), PCBs, pesticides, herbicides and metals. The RI confirmed the earlier findings, that the primary contaminants of concern include the VOCs: tetrachloroethene (PCE), trichloroethene (TCE), cis 1,2 dichloroethene (DCE) and vinyl chloride. As there was no indication from the results of the on-site soil and groundwater samples that the contamination extended off-site, no off-site samples were collected.

Soil
Three sample locations (SB-5, SB-6, B-24) within the building footprint and up to 4 feet below the floor, contained concentrations of PCE of up to 9.9 parts per million (ppm); the unrestricted use and protection of groundwater SCO is 1.3 ppm PCE. One other location (B-6), outside of the building footprint and beneath the asphalt parking lot, contained other chlorinated VOCs (TCE, cis and trans 1,2 DCE) at concentrations above the unrestricted use and protection of groundwater SCOs (0.47, 0.25 and 0.19 ppm, respectively); the total chlorinated VOC concentration at this location was 4.08 ppm.

Non-chlorinated VOCs (2-butanone, acetone, toluene and xylenes) were found at two locations beneath the parking lot (B-1 and BH6) above the unrestricted use and protection of groundwater SCOS (which range from 0.05 to 0.26 ppm). The total VOC concentrations at these locations ranged from 0.05 to 10.1 ppm.

There were no soil samples from the site that contained VOCs, either chlorinated or non-chlorinated, at concentrations above the restricted residential SCOs.

Three sample locations, beneath the building floor, detected concentrations of arsenic (B-19, B-20, B-22) and nickel (B-19) above the unrestricted use SCOs. Other compounds exceeding the unrestricted use SCOs outside the building footprint included: arsenic (B-9, B-10, B-15); mercury (B-5); and nickel (B-15, MW-1B, MW-2B, MW-3B); two of these samples containing nickel above the SCO were collected from 12 to 14 fbgs. Arsenic was the only inorganic contaminant to exceed its restricted residential SCO (16 ppm), and in only two locations (B-20 and B-15), where the concentrations found were 17 and 19 ppm.

SVOCs, PCBs and pesticides/herbicides were either not detected or found at concentrations below the unrestricted use SCOs.

Samples of near surface (top 0.5 feet) and shallow sub-surface soils (0.5 to 2 foot interval) were collected from the few areas of the site where soils were exposed, along the perimeters of the site and in the western parking lot of the site where the asphalt had been removed for building and planting landscaped islands. The samples were analyzed for VOCs, SVOCs, PCBs, pesticides/herbicides and metals. VOCs, PCBs, pesticides/herbicides and metals were either not detected or were found at concentrations below the restricted residential use SCOs. Six SVOCs were found at concentrations exceeding restricted residential SCOs in the surface and near surface soils along the site perimeters. Benzo(b)fluoranthene was found at a concentrations of 1.4 and 4.5 ppm in the near surface soils along Orchard Park and Michael Roads respectively, its restricted residential SCO is 1 ppm. Indeno(1,2,3-cd)pyrene was found in the surface soils along Orchard Park Road at a concentration of 1.2 ppm, its restricted residential SCO is 0.5 ppm. SVOCs detected in the soils exposed beneath the asphalt parking lot were at concentrations below the restricted residential SCOs.

Groundwater

PCE and its associated degradation products were detected in the groundwater, primarily in the southeast corner of the site, at concentrations exceeding groundwater standards. The maximum PCE concentration was 71.6 parts per billion (ppb), the groundwater standard is 5 ppb. The total concentration of VOCs detected ranged from 22 to 210 ppb.

No SVOCs were detected in groundwater at concentrations above standards. PCBs, pesticides and herbicides were not detected in any of the groundwater samples.

Although shallow groundwater is being controlled via the site-wide underdrain system, RI results indicate VOC impacts within the area of concern (i.e., the southeast corner of the site) are not migrating from this area at concentrations above regulatory limits via this pathway.

Storm Water and Catch Basin Soil

Only three catch basins were examined for possible surface water and soil sampling; catch basins CB-1, -2 and -3, located along the eastern side of the site, flowing northwards from the southeast corner of the site. Water was not found in CB-1 or CB-2. VOCs found in the surface water sampled from CB-3 were at concentrations well below groundwater standards, the total concentration of cVOCs was 2.1 ppb.

The soil sample collected from catch basin CB-1, in the southeast corner of the site, detected concentrations of VOCs, silver, and zinc above the unrestricted use SCOs. The sample contained 3,800 ppm of PCE, a higher concentration than any of the soil samples tested and well above the restricted residential SCO of 19 ppm.

The soil in CB-2 also contained PCE, TCE and cis 1,2 DCE but the concentrations were well below the restricted residential and protection of groundwater SCOs. There was no soil to sample in CB-3.

Soil Vapor and Indoor Air
PCE was found in the soil vapor beneath the building and in the indoor air at one of the two store units where the dry cleaner was once located, at concentrations which did not indicate a concern for soil vapor intrusion to impact the indoor air of the building. The concentration of PCE detected in the sub-slab soil vapor was 0.58 micrograms per cubic meter. PCE was detected in the indoor air at a concentration of 0.47 micrograms per cubic meter, well below the NYSDOH indoor air guideline of 30 micrograms per cubic meter and typical background concentrations.

## 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.*

The site is generally covered by asphalt, landscaped areas and a building, people will not come into contact with contaminated groundwater or soil unless they dig below these surfaces. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains its water from a different source that is not affected by this contamination. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into the overlying buildings and affect the indoor air quality. This process similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Sampling indicated that soil vapor intrusion is not a concern for the existing on-site building. In addition, sampling indicated that vapor intrusion was not a concern for adjacent 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: Restricted use with site-specific soil cleanup objectives remedy.

The elements of the selected remedy, as shown in Figure 2, 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 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;

- 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. Catch Basin/Storm Sewer Removal
Soil from catch basin CB-1, located in the southeast corner of the site, will be removed and disposed off-site as a characteristic hazardous waste. An estimated 70 linear feet of storm sewer pipe and bedding stone from catch basin CB-1 will also be removed and, based on the findings of the RI, disposed off-site as a non-hazardous waste. The catch basin and storm sewer drain pipe will be replaced and a new catch basin added to the system, to re-route the existing configuration away from a new building addition and avoid structural issues.

3. Cover System
A site cover will be required to allow for restricted residential use of the site. The cover will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted residential 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).

Sampling will be completed in unpaved areas to document an appropriate cover system exists in these areas.

4. Groundwater Treatment
In-situ chemical reduction (ISCR) and enhanced biodegradation will be implemented to treat chlorinated VOCs in the groundwater. Chemical reducing agents will be injected into the subsurface to destroy the contaminants in an approximately 3,147 square foot area between the existing building and catch basin CB-1, found in the southeast corner of the site. Approximately twelve injection points will deliver the agents to an interval of 4 to 14 feet below ground surface.

In the excavation for a new addition to the building, to be located in the area of groundwater impact, the chemical reducing agents may be added directly to the bottom of the excavation and mixed into the soils with the excavation equipment before backfilling with structural fill. Alternatively, the reducing agents will be injected outside the perimeter of the building addition if structural stability is a concern.

5. Institutional Control
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 restricted residential, 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 County DOH; and
- requires compliance with the Department approved Site Management Plan.

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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 above.
Engineering Controls: the cover system discussed in item 3 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 groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any new 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;
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

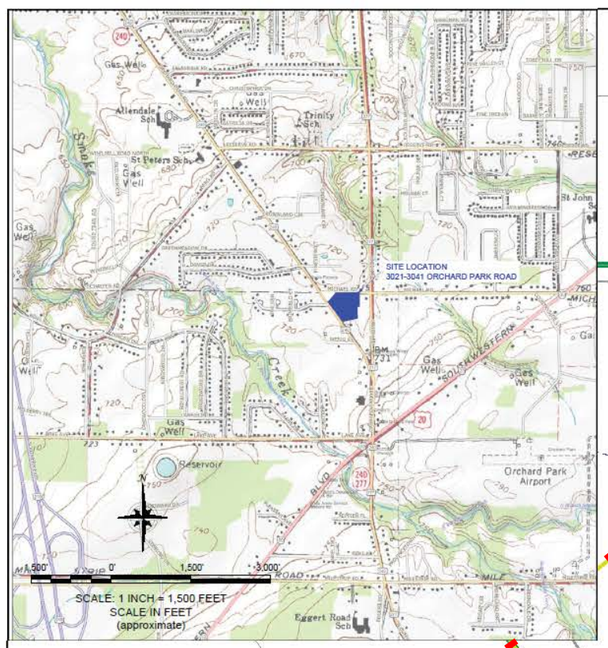
b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- 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 new buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:

- compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
- maintaining site access controls and Department notification; and
- providing the Department access to the site and O&M records.

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.




PLAZA (COMMERCIAL)

BOWLING ALLEY (VACANT LAND AT BACK)

PLAZA (COMMERCIAL)

MICHAEL ROAD

WALGREENS PHARMACY/STORE

KEY BANK

RITE AID PHARMACY/STORE

DENTAL OFFICES

EAGLEBROOK DRIVE

ORCHARD PARK ROAD

(# 3027) FAMILY DOLLAR

(# 3025) FMR. TOPS, FMR. ANTIQUE MALL

(# 3031) FMR. CVS PHARMACY

(# 3035) FMR. HAIR SALON & DRY CLEANER

(# 3033) FMR. PAINT SHOP

(# 3039) FMR. DRY CLEANER & FMR. INKTYPRINTS PRINTING CTR

(# 3041) FMR. BANK & FMR. CREDIT UNION

PLANNED PORTE COCHERE

PLANNED NEW VAULT

ASPHALT PARKING

GRASS COVERED EASEMENT

CONCRETE PAD

CONCRETE SIDEWALK

CONCRETE LOADING RAMP

SUBSLAB VAPOR

INDOOR AIR

OUTDOOR AIR

B-10 B-11 B-12 B-13 B-14 B-15 B-16 B-17 B-18 B-19 B-20 B-21 B-22 B-24 B-25

MW-6A MW-4A MW-3A MW-3B MW-1A MW-1B MW-2A MW-2B

BH-1 TPMW-1 BH-2 TPMW-2 BH-3 TPMW-3 BH-4 TPMW-4 BH-5 BH-6 TPMW-6 BH-7 TPMW-5 BH-8 TPMW-8 BH-9 BH-10 TPMW-7 BH-11 TPMW-4 BH-12 TPMW-9 BH-13 TPMW-10 BH-14 TPMW-11

SB-1 SB-2 SB-5 SB-6

SV-3 BV-2

SED-1 SED-2

CB-1 CB-2 CB-3 CB-4 CB-5 CB-6 CB-7 CB-8

LEGEND:

- PROPERTY BOUNDARY
- BCP BOUNDARY
- PARCEL BOUNDARY
- EXISTING BUILDING (INTERIOR & FACIA REDEVELOPMENT)
- PLANNED NEW REDEVELOPMENT
- CB-1 UTILITY - STORM SEWER CATCH BASIN
- UTILITY - STORM SEWER
- UTILITY - STORM SEWER (SUSPECTED)
- UTILITY - EXISTING SANITARY SEWER
- UTILITY - SANITARY SEWER MANHOLE
- UTILITY - POLE
- UTILITY - ELECTRIC
- SURVEY BENCHMARK
- MW-3A RI OVERBURDEN MONITORING WELL (5)
- MW-3B RI BEDROCK MONITORING WELL (3)
- BH-10 TPMW-7 BORE HOLE / TEMPORARY WELL (TURNKEY)
- BH-06 TPMW-06 BOREHOLE / TEMPORARY WELL (LCS)
- SB-1 SOIL BORING (TURNKEY)
- BH-1 BORE HOLE (LCS)
- B-1 GEOTECHNICAL BORING (BY OTHERS) (5)
- B-22 RI SOIL BORING (20)
- SUB-1 AIR SAMPLE LOCATION (TURNKEY) (SUBSLAB VAPOR, INDOOR, & OUTDOOR AIR)
- SV01 RI SOIL VAPOR SAMPLE LOCATION (2)
- SED-1 SEDIMENT SAMPLE (2)

BCP Site Bounary

SCALE: 1 INCH = 30 FEET
SCALE IN FEET
(approximate)

3021 ORCHARD PARK ROAD
SITE #c915289
**FIGURE 1**

PAPPAS'S RESTAURANT

PLAZA (COMMERCIAL)

BOWLING ALLEY (VACANT LAND AT BACK)

PLAZA (COMMERCIAL)

MICHAEL ROAD

EAGLEBROOK DRIVE

ORCHARD PARK ROAD

DENTAL OFFICES

WALGREENS PHARMACY/STORE

RITE AID PHARMACY/STORE

GRASS COVERED EASEMENT

ASPHALT PARKING

CB-1

CB-2

CB-3

CB-4

CB-5

CB-6

CB-7

CB-8

MW-1A

MW-1B

MW-2A

MW-2B

MW-3A

MW-3B

MW-4A

MW-5A

MW-6

(# 3027) FAMILY DOLLAR

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(# 3041) FMR. BANK & FMR. CREDIT UNION

PLANNED PORTE COCHERE

NEW VAULT

GREEN SPACE

Commercial spaces currently occupied

CB-1 REMEDIATION:
- Remove approx 70 feet of perforated drain tile and bedding stone for off-site disposal
- Remove catchbasin CB-1, sediment and bedding stone for off-site disposal (sediment to be disposed as hazardous waste)
-Replace CB-1 with new catchbasin, add a new catchbasin (CB-7) to system and approx 93 feet of new perforated drain tile and bedding stone set to match existing invert elevations.
-Replace asphalt to match existing grade.

PLANNED GROUNDWATER REMEDIATION AREAS (± 4,058 SF)
(±1,764 SF - VAULT)
(±2,294 SF - OUTSIDE VAULT)

LEGEND:

- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- EXISTING BUILDING (INTERIOR & FACIA REDEVELOPMENT)
- PLANNED NEW REDEVELOPMENT
- CB-1 UTILITY - STORM SEWER CATCH BASIN
- UTILITY - STORM SEWER
- UTILITY - STORM SEWER (SUSPECTED)
- UTILITY - EXISTING SANITARY SEWER
- UTILITY - SANITARY SEWER MANHOLE
- UTILITY - POLE
- UTILITY - ELECTRIC
- UTILITY - POLE (PLANNED)
- UTILITY - ELECTRIC (PLANNED)
- MW-3A RI OVERBURDEN MONITORING WELL (5)
- MW-3B RI BEDROCK MONITORING WELL (3)
- PLANNED DIRECT APPLICATION AREA (VAULT EXCAVATION) (±1,764 SF)
- PLANNED AMENDMENT INJECTION AREA (±2,294 SF)
- MW-6 PLANNED IRM MONITORING WELL (1)
- INJ-1 PLANNED IRM GROUNDWATER AMENDMENT INJECTION WELL (12)

BCP Site Bounary

N

30' 0' 30' 60'

SCALE: 1 INCH = 30 FEET
SCALE IN FEET
(approximate)

3021 ORCHARD PARK ROAD
SITE #c915289
**FIGURE 2**