DECISION DOCUMENT

Oil City/Carousel Center - Site 7
Brownfield Cleanup Program
Syracuse, Onondaga County
Site No. C734135
May 2017

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

DECLARATION STATEMENT - DECISION DOCUMENT

Oil City/Carousel Center - Site 7
Brownfield Cleanup Program
Syracuse, Onondaga County
Site No. C734135
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Statement of Purpose and Basis

This document presents the remedy for the Oil City/Carousel Center - Site 7 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 Oil City/Carousel Center - Site 7 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. In-Situ Chemical Oxidation
ISCO will be implemented to treat petroleum contamination in soil and groundwater. A chemical oxidant will be injected into the subsurface in three Areas of Concern (AOCs) covering approximately 11,000-square feet located in the northwestern portion of the site where petroleum compounds were detected at elevated concentrations in soil and groundwater. The chemical oxidant will be injected into the subsurface at depths ranging from 4 to 12 feet via temporary injection points installed using a direct-push drill rig. Approximately 37 injection points will be necessary. The injection point spacing will be determined during the initial injection phase. Additional injections may be necessary based on groundwater monitoring results.

3. Cover System
A site cover will be required to allow for restricted residential use of the site. The site cover will consist of either structures such as buildings, paved surface parking areas, drainage structures and sidewalks comprising site redevelopment, or a soil cover 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 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 6NYCRR part 375-6.7(d).

4. Vapor Mitigation
Prior to occupancy, the newly constructed, on-site building will be required to have a sub-slab vapor mitigation system, or other similar engineered system, installed to mitigate the migration of vapors into the building from soil and groundwater. At a minimum, indoor air monitoring will be required to evaluate the effectiveness of the mitigation system.

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

- require the remedial party or site owner to complete and submit to the Department a periodic certification that institutional and engineering controls are in place;
- allow the use and development of the controlled property for restricted-residential use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- require compliance with 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 that 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 soil cover and sub-slab mitigation system discussed in Paragraphs 3 and 4 above, and the fenced in stormwater drainage swale as discussed in Section 3 and illustrated in Figure 3

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 future buildings developed on the site, including a provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision that should a building foundation, building slab, or pavement be removed in the future, a cover system consistent with that described in Paragraph 3 above will be placed in areas where the upper two feet of exposed surface soil exceed the applicable SCOs;
- 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; and
- monitoring for vapor intrusion of any future 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, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system(s). The plan includes, but is not limited to:

- procedures for operating and maintaining the system(s); and
- compliance inspection of the system(s) to ensure proper O&M as well as providing the data for any necessary reporting.

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.

5/17/2017
Date

William L Daigle
William Daigle, Director
Remedial Bureau D

DECISION DOCUMENT

Oil City/Carousel Center - Site 7
Syracuse, Onondaga County
Site No. C734135
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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:

Robert P. Kinchen Central Library
The Galleries of Syracuse
Syracuse, NY 13204-2494
Phone: 315-435-1900

NYSDEC Region 7
Attn: Karen Cahill
615 Erie Blvd West
Syracuse, NY 13204
Phone: 315-426-7432

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 Oil City/Carousel Center Site 7 is located in an urban area of Onondaga County at 311-71 West Hiawatha Boulevard in the City of Syracuse in the northeastern portion of the area generally referred to as "Oil City", south of Hiawatha Boulevard. Site 7 is within the overall boundaries of the Destiny BCP Project Area which is generally bounded by Interstate 81 to the north, Bear Street to the east, the NYS Barge Canal to the south, and Onondaga Lake to the west. The Destiny BCP Project Area consists of eight additional contiguous BCP sites. Site 7 is located within this area and is bounded to the northwest by Hiawatha Blvd, to the northeast by Route 81, to the southeast by Destiny USA BCP Site 9 (C734137), and to the west by Solar Street. Destiny USA BCP Sites 6 and 8 (C734136 and C734137) are located to the south of Site 7 across Solar Street. A site location map and site plan are attached as Figures 1 and 2.

Site Features: The site currently consists of approximately 890,000 square-feet of paved auxiliary parking lots for the Destiny USA mall and a 45,000 square-foot hotel currently under construction on the SUN-1 parcel. The site also contains one fenced-in stormwater drainage swale and a covered shuttle bus canopy.

Current Zoning/Use: The site is zoned Class B industrial use by the City of Syracuse, which allows for most commercial uses. Land uses surrounding the site include a mix of commercial and retail with the Destiny USA mall complex located across Hiawatha Blvd to the west. The nearest residential area is located approximately ¼ mile northeast of the site.

Past Use of the Site:
Since 2008, Site 7 had been used as a group of surface parking lots and associated driveway areas for the Destiny USA mall. Prior to that the three parcels comprising the site were used as major oil storage facilities by Sunoco (SUN-1 parcel), Atlantic Oil (SUN-2 parcel), and Alaskan Oil (Alaskan-22 parcel). Numerous aboveground petroleum storage tanks and underground piping were removed from the site (circa 1989-2005), and property-specific investigations and remedial actions were subsequently conducted by the oil companies.

The investigations revealed contamination primarily consisting of petroleum-related compounds and metals. The remediation efforts generally conducted between 2000 and 2005 included property-specific excavations at depths ranging from 2 to 8 feet below grade, and the injection of air and/or ozone into the subsurface to break down the organic contaminants in soil and

groundwater. In 2000, approximately 13,000 cubic yards of soil were excavated from the Sunoco and Atlantic parcels. These soils were stockpiled on BCP Site C734136 (Site 9) where they were subsequently partially treated by bioremediation (the treatment of contaminated soil with microorganisms that breakdown the contaminants).

In June 2005, a Stipulation Agreement was executed between Destiny USA Land Company, LLC and the Department for a number of the Oil City parcels, including a portion of Site 7. The agreement included an Interim Remedial Plan (IRP) which identified measures to be taken to address petroleum contamination. Activities completed on Site 7 as part of the IRP included pipeline removal, free product removal and monitoring, and shallow soil treatment on the SUN-1 parcel. The majority of the site was also paved under the IRP as an Interim Remedial Measure.

Geology and Hydrogeology: Surface deposits below the asphalt consist of up to 4 feet of gravel fill intermixed with sand and silt grading to fine silt and sands down to approximately 12 feet. A layer of Solvay Process Waste (a calcium-rich white to grey soft deposit generated from the production of Soda Ash in the early 1900s) was encountered at approximately 8 to 10 feet on the western side of the SUN-1 parcel. Unconsolidated deposits underlying the fill materials include salt marsh deposits consisting of marl, shells, and peat; sand, gravel and Lacustrine (Lake) fine-grained silt and clay deposits ranging from 40 to 200 feet in thickness; glacial outwash sand and gravel; and a relatively thin (less than 30 feet) glacial till deposit consisting of silt, sand, gravel, and cobbles. The till is underlain by bedrock consisting of aged weathered Vernon shale located at depths up to 200 feet below ground surface.

Groundwater beneath the site is generally shallow, encountered at depths of 1.5 to 7 feet, and flows in a southwesterly direction towards the NYS Barge Canal, with a west-northwesterly component on the northern end of the site.

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 under the Brownfield Cleanup Agreement is a Participant. The Applicant has 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. Existing data indicate that petroleum impacts may extend offsite onto the Route 81 corridor, however this area is below the highway and not readily

accessible. The Department will work with the New York State Department of Transportation and NYSDOH to ensure human exposures to contaminated materials are minimized should areas of contamination become accessible.

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
- soil 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 of concern identified at this site are:

benzene	benzo[b]fluoranthene
ethylbenzene	chrysene
xylene (mixed)	indeno(1,2,3-cd)pyrene
isopropylbenzene	arsenic
n-propylbenzene	cadmium
1,2,4-trimethylbenzene	copper
benzo(a)anthracene	mercury
benzo(a)pyrene	zinc

The contaminant(s) of concern exceed the applicable SCGs for:

- groundwater
- soil
- soil vapor intrusion

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.

Subsurface soil and groundwater samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs). With the exception of the drainage swale, the majority of the site is currently paved, therefore no surface soil samples were collected during the investigation. Based on the analytical results from the soil and groundwater samples, soil vapor samples were collected on the SUN-1 parcel and analyzed for VOCs.

Based upon investigations conducted to date, the primary contaminants of concern include: petroleum-related VOCs (including benzene, ethylbenzene, xlyenes, isopropylbenzene, n-propylbenzene, and 1,2,4-trimethylbenzene (TMB)); metals (including arsenic, cadmium, copper, mercury, and zinc); and polycyclic aromatic hydrocarbons (PAHs) including benzo(a)anthracene,

benzo(a)pyrene, benzo(b)flouranthene, chrysene, and indeno(1,2,3-cd)pyrene.

Soil:
SUN-1 Parcel (see Figure 2) - An area of gross petroleum contamination was encountered during the RI in the subsurface soil in the northern portion of the SUN-1 parcel, between the hotel footprint and the Route 81 corridor. The impacts were identified in the field through heavy staining of the soil, strong petroleum odors, sheens, and elevated readings on a photoionization detector (up to 3,000 parts per million at boring location P1-5); and were present at depths ranging from approximately 4 feet to 12 feet below grade. Within this area, petroleum-related VOCs were detected in 15 locations at concentrations greater than the applicable soil cleanup objectives (SCOs) for restricted residential (RR) use; and in 20 locations at concentrations greater than the applicable protection of groundwater SCOs. The majority of these exceedances occur 4 feet to 12 feet below grade in the area immediately surrounding monitoring wells SP-MW-41 and SP-MW-43. Total xylenes were detected at concentrations up to 492 parts per million (ppm) in this area, compared to its RR use SCO of 100 ppm. Similarly, 1,2,4-TMB was detected up to 415 ppm as compared its RR use SCO of 52 ppm. Metals were also detected in sub-surface soils within this area at concentrations that exceeded their RR use SCOs. Arsenic, cadmium, copper, lead and zinc were detected at concentrations up to 71 ppm, 53 ppm, 1,400 ppm, 1,600 ppm, and 16,000 ppm, respectively, as compared to their RR use SCOs of 16 ppm, 4.3 ppm, 270 ppm, 400 ppm, and 10,000 ppm, respectively. PAHs were detected in soils at less than 6 feet within this area at five locations above RR use SCOs at concentrations ranging from approximately 5 to 39 ppm.

Metals and PAHs were also detected above RR use SCOs on the SUN-1 parcel in the area of the hotel footprint. The majority of these exceedances occurred a depths ranging from 4 to 8 feet. Arsenic, cadmium, copper, and zinc were detected at concentrations up to 137 ppm, 56 ppm, 6,300 ppm and 17,000 ppm, respectively. Mercury was also detected at a maximum concentration of 6.3 ppm at 4 to 8 feet below grade at S1-17 location, as compared to its RR use SCO of 0.81 ppm.

The data from boring S1-3 located on the northern boundary of the SUN-1 parcel indicate that petroleum impacts may extend off the BCP site to the northwest, however, the Route 81 corridor is located immediately adjacent to this boring location, therefore any potentially-related petroleum contamination would be in the subsurface beneath the highway and not readily accessible. The Department will work with the New York State Department of Transportation and NYSDOH to ensure human exposures to contaminated materials are minimized should areas of contamination become accessible.

SUN-2 and Alaskan Parcels (see Figure 2) - There were no VOCs detected in soil at concentrations greater than the RR use SCOs on either of these parcels. Arsenic and mercury were detected in one location slightly above the RR use SCO.

Groundwater:
Groundwater beneath the site is predominantly contaminated with petroleum-related VOC compounds. VOC compounds that exceed NYS groundwater standards include benzene, ethylbenzene, butylbenzenes, propylbenzenes, trimethlybenzenes, toluene, xylenes, and naphthalene. VOCs exceeded their respective groundwater standards in 9 of the 15 onsite wells. The highest VOC concentrations were detected in monitoring wells SP-MW-41 and SP-MW-43

located in the area of gross petroleum soil contamination on the SUN-1 parcel. Arsenic, barium, and/or lead were also detected at concentrations slightly above groundwater standards in three onsite wells. Contaminated groundwater is not known or suspected to be migrating offsite.

Soil Vapor:
As stated above, based on the analytical results from the soil and groundwater sampling, soil vapor samples were only collected on the SUN-1 parcel and analyzed for VOCs. Petroleum-related VOCs, including benzene, toluene, hexane and 2,2,4-trimethylpentane (aka iso-octane, a gasoline additive) were detected in the six soil vapor points installed on the SUN-1 parcel. Benzene was detected in all six soil vapor points at a maximum concentration of 690 µg/m3. Contamination in soil vapor associated with this site is not known or suspected to be present offsite.

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.*

People are not drinking the contaminated groundwater because the area is served by a public water supply that is not contaminated by the site. People are not likely to come into contact with contaminated soil unless they dig below the ground surface. Volatile organic compounds in the groundwater 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 or buildings, is referred to as soil vapor intrusion. There are no current on-site occupied buildings. The potential exists for the inhalation of contaminants due to soil vapor intrusion for any future on-site development. There are no off-site soil vapor concerns associated with this site. However, there is the potential for soil vapor intrusion concerns on adjacent and nearby Destiny USA BCP Sites also part of the area's past use as a petroleum storage facility.

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 selected remedy is referred to as the In-Situ Chemical Oxidation, Cover System, and Vapor Mitigation remedy.

The elements of the selected remedy, as shown in Figure 3, 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. In-Situ Chemical Oxidation

ISCO will be implemented to treat petroleum contamination in soil and groundwater. A chemical oxidant will be injected into the subsurface in three Areas of Concern (AOCs) covering approximately 11,000-square feet located in the northwestern portion of the site where petroleum compounds were detected at elevated concentrations in soil and groundwater. The chemical oxidant will be injected into the subsurface at depths ranging from 4 to 12 feet via temporary injection points installed using a direct-push drill rig. Approximately 37 injection points will be necessary. The injection point spacing will be determined during the initial injection phase. Additional injections may be necessary based on groundwater monitoring results.

3. Cover System

A site cover will be required to allow for restricted residential use of the site. The site cover will consist of either structures such as buildings, paved surface parking areas, drainage structures and sidewalks comprising site redevelopment, or a soil cover 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 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 6NYCRR part 375-6.7(d).

4. Vapor Mitigation

Prior to occupancy, the newly constructed, on-site building will be required to have a sub-slab vapor mitigation system, or other similar engineered system, installed to mitigate the migration of vapors into the building from soil and groundwater. At a minimum, indoor air monitoring will be required to evaluate the effectiveness of the mitigation system.

5. Environmental Easement

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

- require the remedial party or site owner to complete and submit to the Department a periodic certification that institutional and engineering controls are in place;
- allow the use and development of the controlled property for restricted-residential use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- require compliance with 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 that 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 soil cover and sub-slab mitigation system discussed in Paragraphs 3 and 4 above, and the fenced in stormwater drainage swale as discussed in Section 3 and illustrated in Figure 3

This plan includes, but may not be limited to:

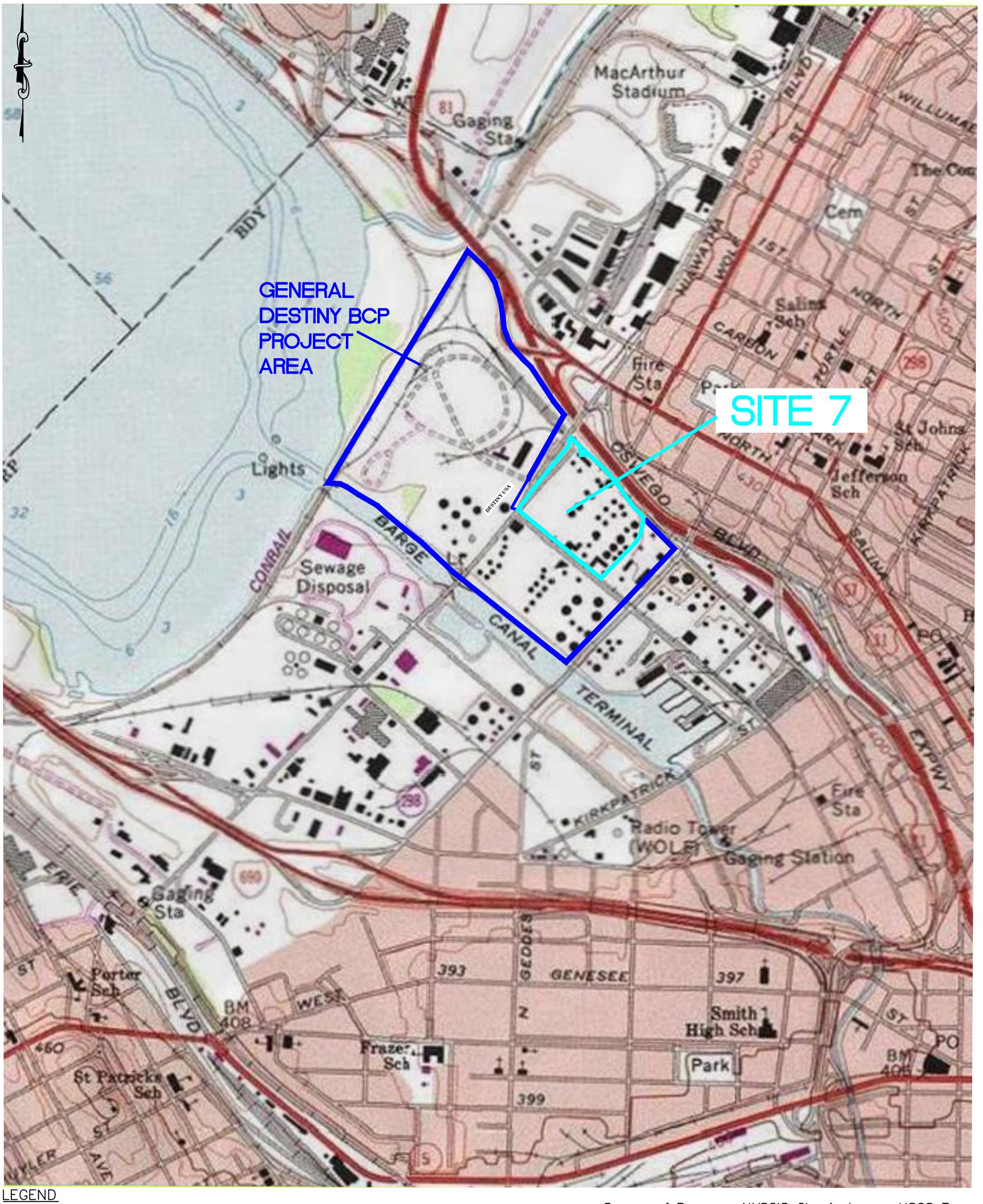
- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for future buildings developed on the site, including a provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision that should a building foundation, building slab, or pavement be removed in the future, a cover system consistent with that described in Paragraph 3 above will be placed in areas where the upper two feet of exposed surface soil exceed the applicable SCOs;
- 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; and
- monitoring for vapor intrusion of any future 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, inspection, and reporting of any mechanical or physical components of the active vapor mitigation system(s). The plan includes, but is not limited to:

- procedures for operating and maintaining the system(s); and
- compliance inspection of the system(s) to ensure proper O&M as well as providing the data for any necessary reporting.



LEGEND

GENERAL DESTINY BCP PROJECT AREA

DESTINY BCP PROJECT AREA

Source of Basemap: NYSGIS Clearinghouse, USGS Topo
Locations on map are approximate.

PROJECT	
PROJ. MGR:	FRP
PROJ. NO.:	15209
PREPARED BY:	JCK
DRAFTED BY:	JCK
CHECKED BY:	
APPROVED BY:	
DATUM:	
CONTOUR INTERVAL =	FEET

0 250 500 1000 2000

1"=1000'

SITE 7

BCP PROJECT AREA

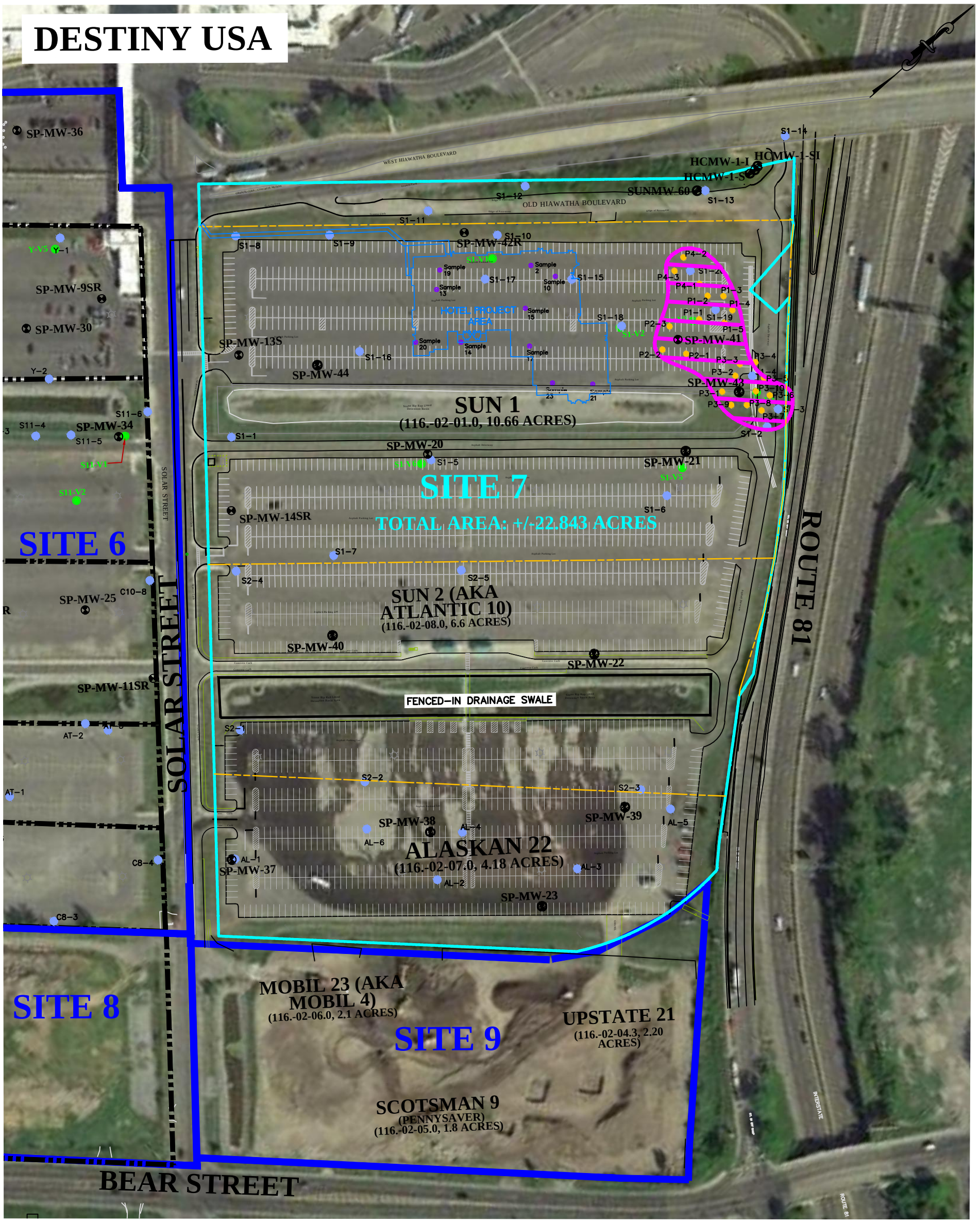
DESINTY USA

CITY OF SYRACUSE — ONONDAGA CO., NY

SPECTRA ENVIRONMENTAL GROUP, INC.
19 British American Blvd
Latham, N.Y. 12110

DATE: 3/17/2017	SCALE: 1"=1000'	DWG. NO. 15209G	FIGURE: 1

DESTINY USA



LEGEND

- DESTINY BCP SITE 7
- ADJACENT DESTINY BCP SITES
- CURRENT TAX PARCEL BOUNDARY
- MONITORING WELL
- SOIL BORINGS
- PRE-DESIGN BORING (JUNE 2016)
- HOTEL IN PLACE SOIL SAMPLE LOCATIONS
- VAPOR POINTS
- GENERAL AOC (PRE JUNE 2016 INVESTIGATION)

BASEMAP: 2017 AERIAL

PROJECT	
PROJ. MGR:	FRP
PROJ. NO.:	15209
PREPARED BY:	JCK
DRAFTED BY:	JCK
CHECKED BY:	
APPROVED BY:	
DATUM:	
CONTOUR INTERVAL =	FEET

0 75 150 300

1"=150'

SITE 7

SITE PLAN

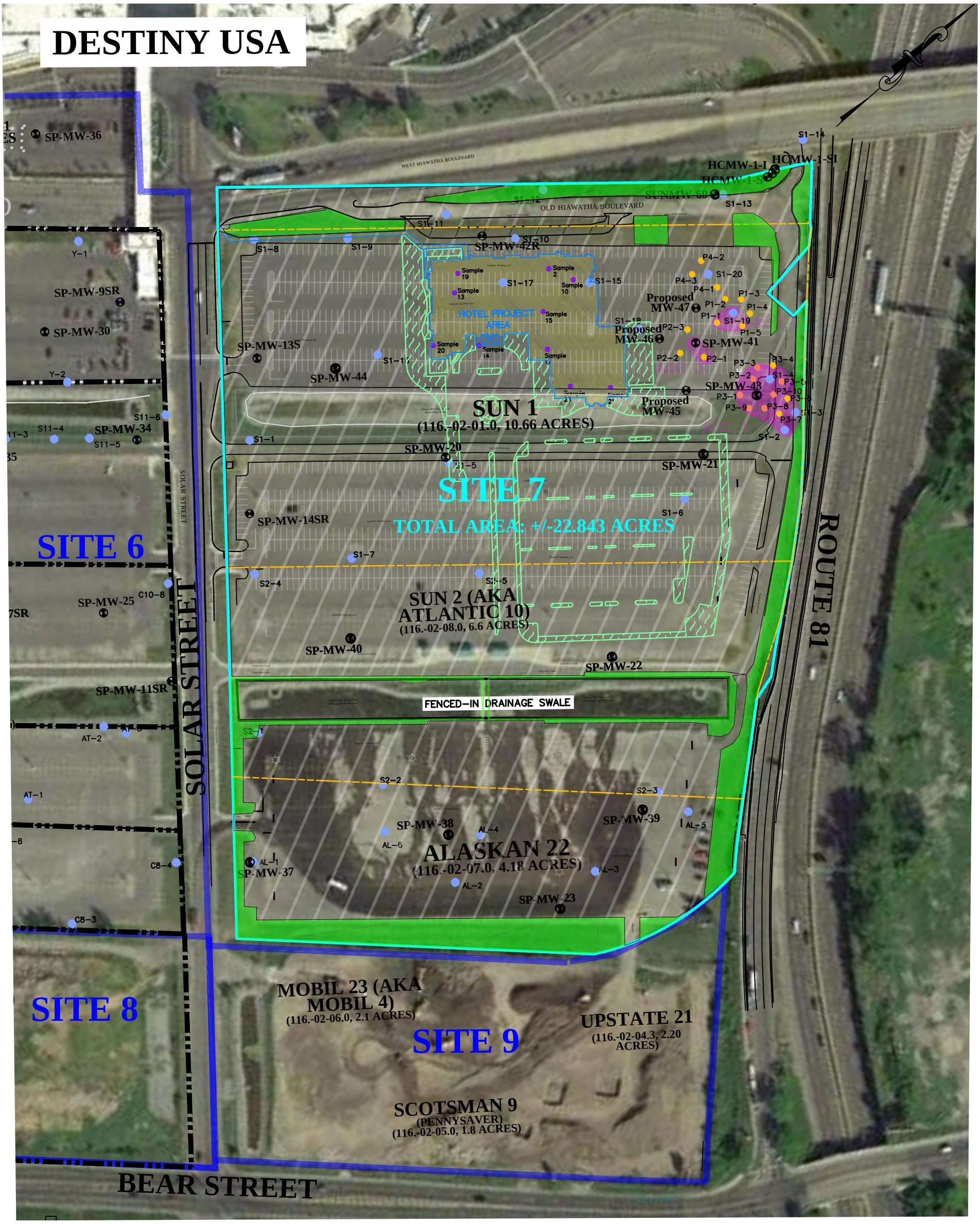
DESTINY USA

CITY OF SYRACUSE — ONONDAGA CO., NY

SPECTRA ENVIRONMENTAL GROUP, INC.
19 British American Blvd
Latham, N.Y. 12110

DATE: 5/11/17	SCALE: 1"=150'	DWG. NO. 15209G	FIGURE: 2

DESTINY USA



LEGEND

- DESTINY BCP SITE 7
- ADJACENT DESTINY BCP SITES
- CURRENT TAX PARCEL BOUNDARY
- MONITORING WELL
- SOIL BORINGS
- PRE-DESIGN BORING (JUNE 2016)
- HOTEL IN PLACE SOIL SAMPLE LOCATIONS
- VAPOR SYSTEM FOOTPRINT
- GENERAL ASPHALT CAP AREA
- GENERAL LANDSCAPE AREA – 2FT OF CLEAN FILL THAT MEETS RESTRICTED RESIDENTIAL SCOs
- APPROXIMATE GRASSY AREAS – 2FT OF CLEAN FILL THAT MEETS RESTRICTED RESIDENTIAL SCOs
- INJECTION AREA (POST JUNE 2016 INVESTIGATION)

BASEMAP: 2017 AERIAL

PROJECT

PROJ. MGR:	FRP
PROJ. NO.:	15209
PREPARED BY:	JCK
DRAFTED BY:	JCK
CHECKED BY:	
APPROVED BY:	
DATUM:	
CONTOUR INTERVAL =	FEET

0 75 150 300

1"=150'

SITE 7

SELECTED REMEDY

DESTINY USA

CITY OF SYRACUSE ONONDAGA CO., NY

SPECTRA ENVIRONMENTAL GROUP, INC.
19 British American Blvd
Latham, N.Y. 12110

DATE:	SCALE:	DWG. NO.	FIGURE:
5/16/17	1"=150'	15209G	3