

DECISION DOCUMENT

Former Wollensack Optical
Brownfield Cleanup Program
Rochester, Monroe County
Site No. C828209
February 2021



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

DECLARATION STATEMENT - DECISION DOCUMENT

Former Wollensack Optical
Brownfield Cleanup Program
Rochester, Monroe County
Site No. C828209
February 2021

Statement of Purpose and Basis

This document presents the remedy for the Former Wollensack Optical 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 Wollensack Optical 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. Green Remediation:
Green remediation principals and techniques will be implemented to the extent feasible in the 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; and
 - Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.
2. Site Cover:
A site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of two feet of soil placed

over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, and building slabs.

3. Vapor Mitigation:

Any on-site buildings will be required to have a sub-slab depressurization system, or other acceptable measures, to mitigate the migration of vapors into the building from soil and/or groundwater.

4. In-Situ Groundwater Treatment:

In-situ chemical oxidation (ISCO) has been implemented to treat contaminants in soil, bedrock, and groundwater. The chemical oxidant was injected into the subsurface to destroy the contaminants in an approximately 2,800 square foot area located in the overburden and an approximately 1,400 square foot area located in the bedrock of the southern portion of the site, underneath the on-site building. The treatment zone addresses chlorinated volatile organic compounds that exceed the groundwater standards and guidance values. Additional ISCO injection events will be performed to further treat site contamination. In the event the ISCO groundwater treatment technology is unsuccessful and/or a polishing phase of the contaminated groundwater plume is required to achieve groundwater standards and guidance values, then alternative in-situ groundwater treatment technologies such as, but not limited to, enhanced bioremediation will be evaluated and implemented using the existing injection monitoring well network.

5. Institutional Control:

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

- Require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- Allow the use and development of the controlled property for 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:

1. 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 6 above.

Engineering Controls: The soil cover discussed in Paragraph 2 and the sub-slab depressurization system discussed in Paragraph 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;
 - A provision should redevelopment occur to ensure no soil exceeding protection of groundwater concentrations will remain below storm water retention basin or infiltration structures;
 - A provision for removal or treatment of the source area located below the on-site building if and when the building is demolished or becomes vacant;
 - Descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
 - A provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 2 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (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.
2. 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 on the site, as may be required by the Institutional and Engineering Control Plan discussed above.
 - An additional round of indoor air sampling and pressure extension field testing will be required during the 2020/2021 heating season to assess the effectiveness and performance of the sub-slab depressurization system.
3. An Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
- Procedures for operating and maintaining the remedy;
 - 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.

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.

2/1/2021

Michael Cruden

Date

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

Former Wollensack Optical
Rochester, Monroe County
Site No. C828209
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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 repository:

DECInfo Locator - Web Application
<https://gisservices.dec.ny.gov/gis/dil/index.html?rs=C828209>

Phillis Wheatley Library
Attn: Lori Frankunas
33 Dr. Samuel McCree Way
Rochester, NY 14608
Phone: 585-428-8212

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 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 an urban area in the City of Rochester bounded by Hudson Avenue to the west, Roycroft Drive to the north, residential properties to the east, and Avenue D to the south. The area surrounding and adjacent to the site is a mix of residential and commercial properties. The site is located at the intersection of Avenue D and Hudson Avenue on the northeastern side of the intersection.

Site Features: The site is comprised of a total of approximately 0.491-acres with a renovated 26,000 square foot, four-story former manufacturing facility with a partial basement in the southeastern corner of the site building. The on-site building has been renovated into low-income apartments that are currently occupied. The remainder of the site consists of asphalt parking lot, landscaped areas, and concrete sidewalks.

Current Zoning and Land Use: The site is currently zoned C 1, Neighborhood Center District. Adjacent properties are zoned C 1 and R 1, Low Density Residential District. Nearby properties of the site are also zoned M 1, Industrial District. The nearest residential properties are located directly adjacent to the site to the north and the east and directly across Hudson Avenue west of the site.

Past Use(s) of the Site: The site was historically utilized for residential purposes and an electric motor shop up to 1911. The site building located on the 872 Hudson Avenue parcel served as a manufacturing site since its construction in 1930. Various optical companies occupied the site including Wollensack Optical, Anson Instrument, Minnesota Mining and Manufacturing, Virginville Lens Company, and Surplus Shed. J.S. Graham Co., manufacturers of Photo Mounts, was located on the 886 Hudson Avenue parcel starting in the 1950s. The former building on the 886 Hudson Avenue parcel was recently demolished by the City of Rochester.

A Phase I Environmental Site Assessment (ESA) was conducted in September 2017 for the Urban League of Rochester Development Corporation. The Phase I ESA identified one recognized environmental condition (REC): seven fuel storage tanks, each estimated to be 275 gallons in capacity, in a vault beneath the sidewalk adjacent to the building. This tank arrangement reportedly served the building and was the source of a spill.

Site Geology and Hydrogeology: Soils at the site are generally comprised of tightly packed brown

silt, sandy silts and fine to coarse subangular and sub rounded gravel. Trace amounts of fill including cinders and ash were observed near the surface of a limited number of borings, particularly on the eastern side of the site. This urban fill material was encountered to depths of approximately 3 ft below ground surface (bgs). Top of bedrock at the site ranges from 22.5 ft to 24 ft bgs. The depth to groundwater ranges from 5.69 to 12.39 ft bgs. Groundwater flow direction appears to be in a northwesterly direction.

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 under the Brownfield Cleanup Agreement is 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.

The Department will seek to identify any parties (other than the Volunteer(s)) known or suspected to be responsible for contamination at or emanating from the site, referred to as Potentially Responsible Parties (PRPs). The Department will bring an enforcement action against the PRPs. If an enforcement action cannot be brought or does not result in the initiation of a remedial program by any PRPs, the Department will evaluate the off-site contamination for action under the State Superfund. The PRPs are subject to legal actions by the State for recovery of all response costs the State incurs or has incurred.

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 and screening data collected on this site includes data for:

- Groundwater
- Soil
- Soil vapor
- Indoor air
- Radiation

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:

cis-1,2-dichloroethene	1,3,5-trimethylbenzene
trichloroethene (TCE)	ethylbenzene
tetrachloroethene (PCE)	n-propylbenzene
xylene (mixed)	1,1-dichloroethene
vinyl chloride	naphthalene
1,2,4-trimethylbenzene	benzene

trans-1,2-dichloroethene
radium

thorium

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.

Interim Remedial Measure – ISCO:

Permanent overburden and bedrock injection wells were installed during the winter of 2020 for the injection of a chemical oxidant to breakdown the contamination in groundwater, subsurface soil, and bedrock. The chemical oxidant, sodium permanganate, was injected on the southern portion of the site underneath the building slab for the treatment of groundwater in March 2020. Post-injection groundwater monitoring has been conducted and will be incorporated into the site's long-term groundwater monitoring remedial element. Groundwater monitoring has shown decreases in the groundwater contamination, although groundwater contamination remains above NYS standards and guidance values. The IRM activities are detailed in the January 2021 Construction Completion Report.

IRM Radiation Decontamination:

In January 2020, radiation decontamination was completed in two areas of the on-site building. Radiation-impacted flooring was removed from a 3 foot by 3-foot area on the third floor. Post-decontamination sampling and screening indicates that radiation impacts have been remediated. Radiation impacted debris was removed from a sump located on the first floor and the sump was cleaned. Post-decontamination sampling and screening indicates that radiation impacts have been remediated and the sump was then sealed with concrete. All the radiation impacted materials were disposed off-site at permitted facilities. The IRM activities are detailed in the January 2021 Construction Completion Report.

IRM - AST and UST Removals:

Seven 275-gallon heating oil aboveground storage tanks (ASTs) located in a pit directly adjacent to the site underneath the sidewalk were closed out and removed from the site. The seven ASTs were cleaned and taken to a metal recycling facility. The pit area was backfilled with flowable fill (concrete).

One underground storage tank (UST) was closed and removed from the site. The 1,000-gallon fuel oil UST was cleaned and taken to a metal recycling facility. Petroleum impacted soil/fill material surrounding the UST was excavated and disposed off-site at a permitted landfill facility. Documentation samples were collected, which demonstrated compliance with unrestricted use soil cleanup objectives (SCOs). The excavation area was lined with poly sheeting and backfilled with NYSDEC-approved imported backfill stone material. The IRM activities are detailed in the June 2020 Construction Completion Report.

IRM Sub-Slab Depressurization System Installation:

Based on the nature and extent of the groundwater and subsurface soil contamination, a sub-slab depressurization system was installed within the on-site building as part of the renovation activities during 2020. The sub-slab depressurization system was designed by, and installation oversight was conducted by, a NYS licensed professional engineer and was completed in accordance with the State Guidance for Evaluating Soil Vapor Intrusion (NYSDOH, October 2006). Post installation testing, including pressure field extension testing and indoor air sampling, indicates the system is effectively addressing soil vapor intrusion. The sub-slab depressurization installation details will be documented in the Final Engineering Report.

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:

The primary contaminants of concern for the Former Wollensack Optical site are volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs).

The remedial investigation activities were conducted on the Brownfield site. The remedial investigation included soil borings, groundwater monitoring well installations, surface soil sampling, and perimeter soil gas sampling. The remedial investigation also included radiological survey of the site consisting of walkover surveys of the interior and exterior portions of the site as well as screening of soil cores.

Surface and subsurface soil, groundwater, and soil gas samples were collected for laboratory analysis. Soil (surface and subsurface) and groundwater (overburden and bedrock) were analyzed for VOCs, SVOCs, metals, cyanide, pesticides, PCBs, 1,4-dioxane, and 21 PFAS compounds. The soil vapor was analyzed for VOCs.

The remedial investigation established the interpreted limits of the chlorinated VOC contaminated groundwater plume that appears to be migrating from the site. The remedial investigation substantiated the exposure pathway to the site contaminants is through direct contact with the subsurface soil, groundwater, and soil vapor intrusion.

Surface Soil:

Surface soil samples were collected for analysis during the remedial investigation. The surface soil analytical results indicated no exceedances of the site SCOs. Surface soil data does not indicate a potential for off-site impacts in soil.

Subsurface Soil:

Subsurface soil samples were collected during the remedial investigation across the site including beneath the on-site building. Source material appears to be located underneath the on-site building. The protection of groundwater SCOs are more stringent than the restricted residential SCOs. 1,2,4-trimethylbenzene concentrations ranged from non-detect (ND) to 78 parts per million (ppm) (Protection of Groundwater SCO-3.6 ppm). Cis-1,2-dichloroethene concentrations ranged from ND to 3.8 ppm (Protection of Groundwater SCO-0.25 ppm). Ethylbenzene concentrations ranged from ND to 4.5 ppm (Protection of Groundwater SCO-1 ppm). N-propylbenzene concentrations ranged from ND to 5.7 ppm (Protection of Groundwater SCO-3.9 ppm). Total xylene concentrations ranged from ND to 22 ppm (Protection of Groundwater SCO-1.6 ppm). Trichloroethene concentrations ranged from ND to 98 ppm (Protection of Groundwater SCO-0.47 ppm). Tetrachloroethene concentrations ranged from ND to 5.4 ppm (Protection of Groundwater SCO-1.3 ppm). Subsurface soil data does not indicate a potential for off-site impacts in soil.

Groundwater:

Groundwater samples were collected during the remedial investigation. Groundwater samples collected exceeded the groundwater standards for VOCs, SVOC, PCBs, and metals in both the overburden and bedrock groundwater.

Cis-1,2-dichloroethene concentrations range from ND to 1,200 parts per billion (ppb) (groundwater standard-5 ppb). Trichloroethene concentrations range from ND to 180,000 ppb (groundwater standard-5 ppb). 1,1-dichloroethene concentrations ranged from ND to 40 ppb (groundwater standard-5 ppb). Tetrachloroethene concentrations ranged from ND to 2,100 ppb (groundwater standard-5 ppb). Trans-1,2-dichloroethene concentrations ranged from ND to 220 ppb (groundwater standard-5 ppb). 1,2,4-trimethylbenzene concentrations ranged from ND to 32 ppb (groundwater standard-5 ppb). Ethylbenzene concentrations ranged from ND to 8.1 ppb (groundwater standard-5 ppb). Naphthalene concentrations ranged from ND to 23 ppb (groundwater standard-10 ppb). N-propylbenzene concentrations ranged from ND to 8.4 ppb (groundwater standard-5 ppb). Benzene concentrations ranged from ND to 7 ppb (groundwater standard-1 ppb). Vinyl chloride concentrations ranged from ND to 48 ppb (groundwater standard-2 ppb).

Lead concentrations ranged from ND to 30.61 ppb (groundwater standard-25 ppb). Total PCBs concentrations ranged from ND to 0.185 ppb (groundwater standard-0.09 ppb). Groundwater data indicates a potential for off-site impacts.

Soil Vapor:

Perimeter on-site soil gas samples were collected and analyzed using Method TO-15 for VOCs. The soil gas sampling found chlorinated VOCs (trichloroethene, tetrachloroethene, and methylene chloride, and cis-1,2-dichloroethene) and petroleum related compounds (benzene, toluene, ethyl

benzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and xylenes) at the property boundary. Tetrachloroethene concentrations ranged from 1.6 to 43 micrograms per cubic meter (ug/m3). Methylene chloride concentrations ranged from 3 to 16 ug/m3. Trichloroethene concentrations ranged from 3.8 to 8.5 ug/m3. Cis-1,2-dichloroethene concentrations ranged from ND to 1.3 ug/m3. Methyl ethyl ketone concentrations ranged from 51 to 120 ug/m3. Petroleum related compounds concentrations ranged from 2 to 88 ug/m3. Soil vapor data indicates the potential for off-site impacts.

Radiation:

The radiation survey consisted of four measurement types: gross gamma count, wipe surveys, direct or total surface contamination survey, and scans of site soil cores. The radiological survey of the site identified four areas of the within the on-site building with elevated gamma count rate levels above background. Exterior survey and screening of soil cores indicated that there was no radiation contamination. Interior radiation survey indicated four areas definitively above background: first and third floors, boiler basin in the basement, and a sump on the first floor. The radiation survey indicated contamination originated from thoriated sands generated from glass lens production in two of the areas (third floor and sump) and naturally occurring radiation material (NORM) levels of radiation in building material in the 2 remaining areas (first floor and boiler basin). A glass lens was located during the radiation survey which exhibited elevated levels of radioactivity. The radiation survey data indicated no potential for off-site impacts.

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*.

Direct contact with contaminants in the soil is unlikely because the majority of the site is covered with buildings and pavement. 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 water from a different source not affected by this contamination. Radioactive materials associated with past use of the site have been removed. Volatile organic compounds in the groundwater and 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. A sub-slab depressurization system (system that ventilates/removes the air beneath the building) has been installed in the onsite building to prevent the indoor air quality from being affected by the contamination in soil vapor beneath the building. Environmental sampling indicates soil vapor intrusion is a potential concern for offsite buildings and additional investigation is recommended.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or

mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain.

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 Groundwater Treatment, Soil Cover, and Vapor Mitigation remedy.

The elements of the selected remedy, as shown in Figure 2, 3A, 3B, and 4 are as follows:

1. **Green Remediation:**
Green remediation principals and techniques will be implemented to the extent feasible in the 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; and
 - Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.
2. **Site Cover:**
A site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, and building slabs.
3. **Vapor Mitigation:**
Any on-site buildings will be required to have a sub-slab depressurization system, or other acceptable measures, to mitigate the migration of vapors into the building from soil and/or groundwater.
4. **In-Situ Groundwater Treatment:**
In-situ chemical oxidation (ISCO) has been implemented to treat contaminants in soil, bedrock, and groundwater. The chemical oxidant was injected into the subsurface to destroy the contaminants in an approximately 2,800 square foot area located in the overburden and an approximately 1,400 square foot area located in the bedrock of the southern portion of the site, underneath the on-site building. The treatment zone addresses chlorinated volatile organic compounds that exceed the groundwater standards and guidance values. Additional ISCO injection events will be performed to further treat site contamination. In the event the ISCO groundwater treatment technology is unsuccessful and/or a polishing phase of the contaminated groundwater plume is required to achieve groundwater standards and guidance values, then alternative in-situ groundwater treatment

technologies such as, but not limited to, enhanced bioremediation will be evaluated and implemented using the existing injection monitoring well network.

5. Institutional Control:

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

- Require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- Allow the use and development of the controlled property for 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:

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1. 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 6 above.

Engineering Controls: The soil cover discussed in Paragraph 2 and the sub-slab depressurization system discussed in Paragraph 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;
- A provision should redevelopment occur to ensure no soil exceeding protection of groundwater concentrations will remain below storm water retention basin or infiltration structures;
- A provision for removal or treatment of the source area located below the on-site building if and when the building is demolished or becomes vacant;
- Descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- A provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 2 above will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable soil cleanup objectives (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.

2. 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 on the site, as may be required by the Institutional and Engineering Control Plan discussed above.
 - An additional round of indoor air sampling and pressure extension field testing will be required during the 2020/2021 heating season to confirm the effectiveness and performance of the sub-slab depressurization system.
3. An Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
 - Procedures for operating and maintaining the remedy;
 - 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.



Legend

Current & Former Site Buildings

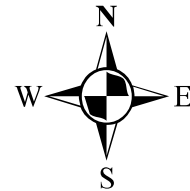
Basement (Approx.)

Sump (Approx.)

Tank Vault (Approx.)

BCP Site Parcels

NOTES:
1) Property boundaries obtained from Monroe County GIS and are considered approximate.
2) April 2018 aerial image obtained from Pictometry International, Inc. and may not represent current conditions.
3) Former Site buildings georeferenced from Sanborn Fire Insurance Mapping. Locations are approximate.



0 25 50 75 100
Feet

1 inch = 75 feet

INTENDED TO PRINT AS: 11" X 17"

PROJECT:
REMEDIAL INVESTIGATION
WORK PLAN

FORMER WOLLENSACK OPTICAL
NYSDEC BCP C828209
872 & 886 HUDSON AVENUE
ROCHESTER, NEW YORK

DRAWING NAME:

SITE FEATURES

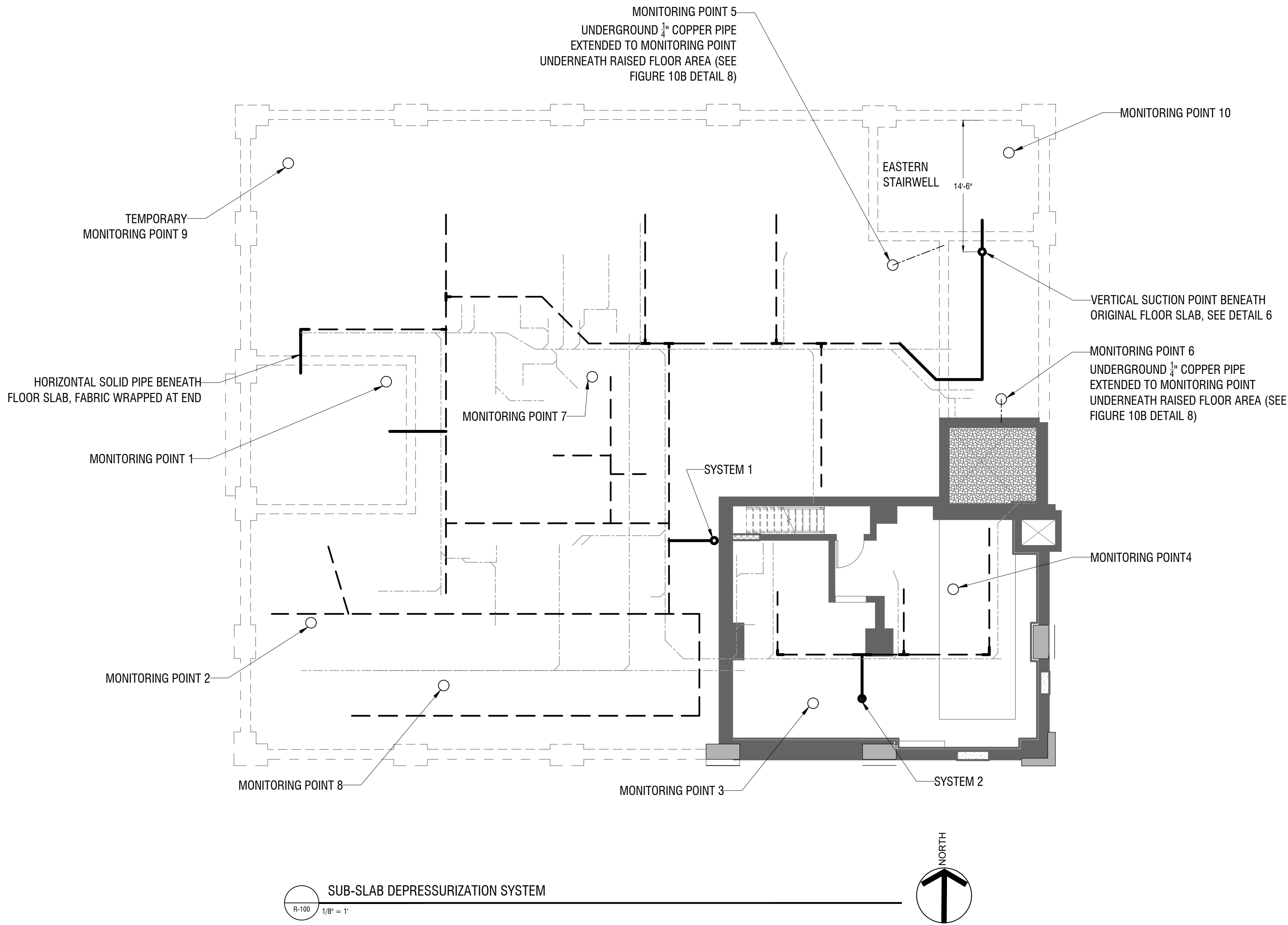
PROJECT #/DRAWING #/ DATE

2182207

DECISION DOCUMENT
FIGURE #1
SITE LOCATION

DECISION DOCUMENT

FIGURE #2 - VAPOR MITIGATION



NOTES:

- THIS PLAN NOT INTENDED TO PROVIDE PLUMBING DETAILS. REFER TO PLUMBING DRAWINGS.
- VERTICAL PIPES ARE 4 INCH SCHEDULE 40 PVC. CONTRACTOR TO VENT UP THROUGH THE ROOF.
- ALL SUB-SLAB VAPOR COLLECTION PIPING IS GEOTEXTILE-WRAPPED 4 INCH PERFORATED DUAL-WALLED CORRUGATED EXTERIOR SMOOTH INTERIOR HDPE.
- 4 INCH SCHEDULE 40 PVC VERTICAL RISERS ROUTED TO STORAGE ROOM/ PIPE CHASE AND VENTED UP THROUGH THE ROOF.
- ALARM AND MANOMETER ON EACH RISER PIPE INSIDE BUILDING IN ACCESSIBLE LOCATIONS AS SHOWN OF FIGURE.
- SUB-SLAB DEPRESSURIZATION SYSTEM PERFORATED PIPING TO BE INSTALLED WITHIN PLUMBING TRENCH, ABOVE OR THE SIDE OF PLUMBING, WITH MINIMUM 3 INCHES OF STONE BETWEEN PIPES. MOVE SUB-SLAB DEPRESSURIZATION PIPING WITHIN TRENCH AS NEEDED TO ACCOMMODATE PLUMBING. LOCATIONS WHERE PIPING CROSSES, THE SSDS PIPING SHALL BE PLACED ABOVE PLUMBING PIPING.
- 4" CAP AT EACH VAPOR COLLECTION PIPE TERMINATION.
- TRENCH BACKFILLED WITH PEA STONE.
- SEAL ALL PENETRATIONS INCLUDING SUMPS AND GAPS IN THE FLOOR SLAB WITH AN ELASTOMERIC JOINT SEALANT.
- RADON AWAY GP-501 FAN (OR EQUIVALENT) ON EACH VERTICAL RISER ABOVE ROOF. TERMINATE VENT STACK MINIMUM 12 INCHES ABOVE ROOF AND MINIMUM 25 FEET FROM ANY AIR INTAKE.

- LEGEND
- FABRIC WRAPPED 4 INCH HDPE PERFORATED PIPE PLACED WITHIN PEA STONE TRENCH
 - PRESSURE MONITORING POINT
 - APPROXIMATE LOCATION OF NEW PLUMBING
 - 4" SOLID PVC
 - 1/4" COPPER MONITORING POINTS PLACED ABOVE COMPACTED STONE WHERE NEW FLOOR WAS.

NO.	REVISION	BY	DATE
1			
1			
1			
1			
1			

It is a violation of New York Education Law Article 145, Sec.7209, for any person, unless they are duly licensed, to prepare, seal, or sign any architectural, engineering, or land surveying plan, drawing, or specification, or to alter any such plan, drawing, or specification, or to use their seal and signature on any such plan, drawing, or specification, unless they are duly licensed, and a specific description of the alteration.



PROJECT/CLIENT

FORMER WOLLENSACK OPTICAL
872-886 HUDSON AVE,
ROCHESTER NY

DRAWING TITLE

SUB-SLAB DEPRESSURIZATION
SYSTEM LAYOUT

ISSUED FOR
REVISION 1

DESIGNED BY: AA
DRAWN BY: DRP
REVIEWED BY: AA

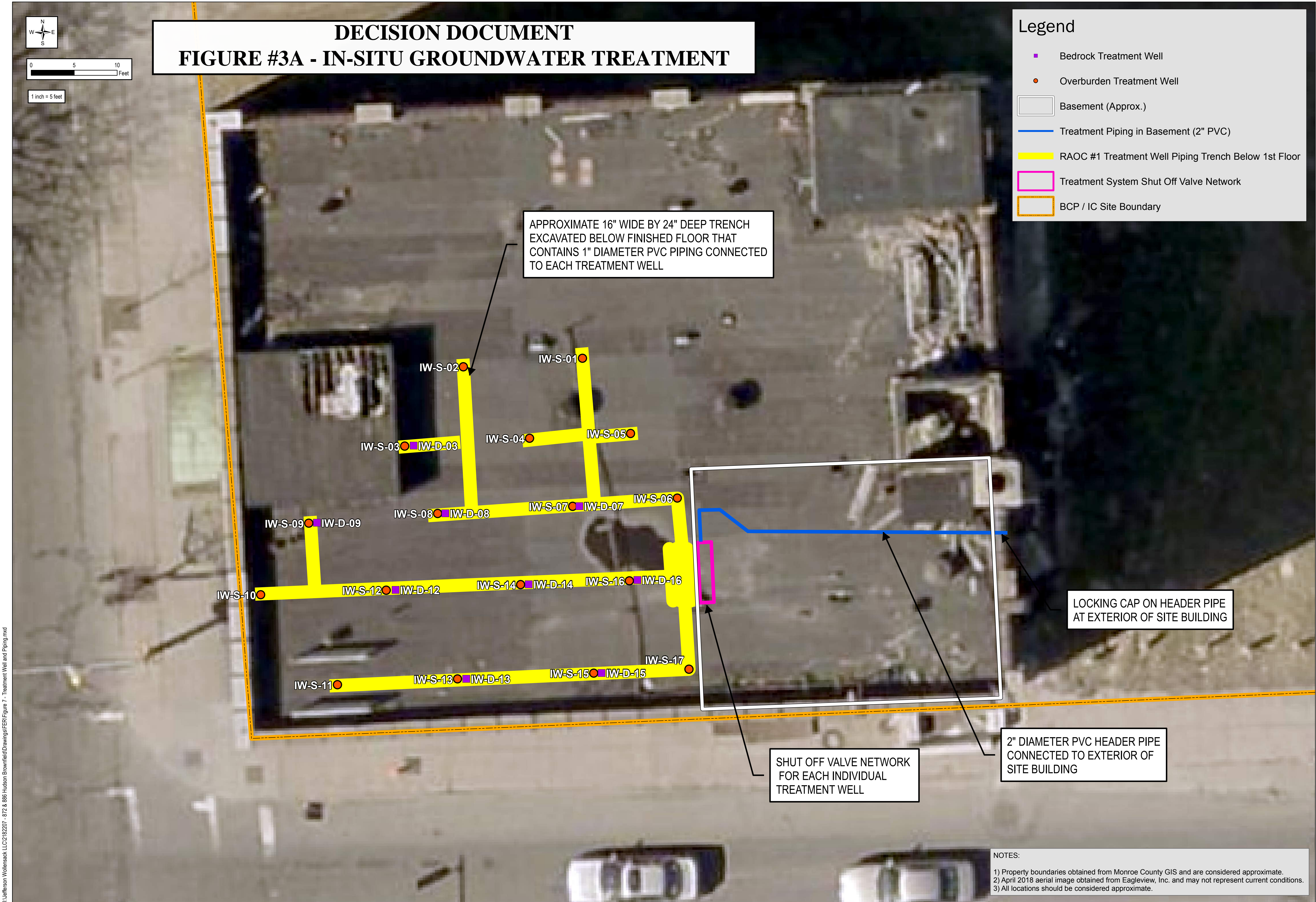
DATE: 8/24/2020
SCALE: 1/8" = 1'

PROJECT/DRAWING NUMBER

2182207

FIG 5A

I:\Jefferson Wollensack LLC\2182207 - 872 & 886 Hudson Brownfield\Drawings\FER\Figure 7 - Treatment Well and Piping.mxd



DECISION DOCUMENT

FIGURE #3A - IN-SITU GROUNDWATER TREATMENT

Legend

- Bedrock Treatment Well
- Overburden Treatment Well
- Basement (Approx.)
- Treatment Piping in Basement (2" PVC)
- RAOC #1 Treatment Well Piping Trench Below 1st Floor
- Treatment System Shut Off Valve Network
- BCP / IC Site Boundary

APPROXIMATE 16" WIDE BY 24" DEEP TRENCH EXCAVATED BELOW FINISHED FLOOR THAT CONTAINS 1" DIAMETER PVC PIPING CONNECTED TO EACH TREATMENT WELL

LOCKING CAP ON HEADER PIPE AT EXTERIOR OF SITE BUILDING

SHUT OFF VALVE NETWORK FOR EACH INDIVIDUAL TREATMENT WELL

2" DIAMETER PVC HEADER PIPE CONNECTED TO EXTERIOR OF SITE BUILDING

NOTES:

1) Property boundaries obtained from Monroe County GIS and are considered approximate.

2) April 2018 aerial image obtained from Eagleview, Inc. and may not represent current conditions.

3) All locations should be considered approximate.

PROJECT / CLIENT

Client: JEFFERSON WOLLENSACK, LLC

Project: FINAL ENGINEERING REPORT
FORMER WOLLENSACK OPTICAL
NYSDEC BCP SITE #C828209
872 AND 886 HUDSON AVENUE
ROCHESTER, NEW YORK

DRAWING TITLE

GROUNDWATER TREATMENT SYSTEM LAYOUT

ISSUED FOR	DESIGNED BY:	MFP
FINAL	DRAWN BY:	MFP
	REVIEWED BY:	MFP

Friday, October 02, 2020

PROJECT/DRAWING NUMBER

[2182207]

[FIGURE 7]

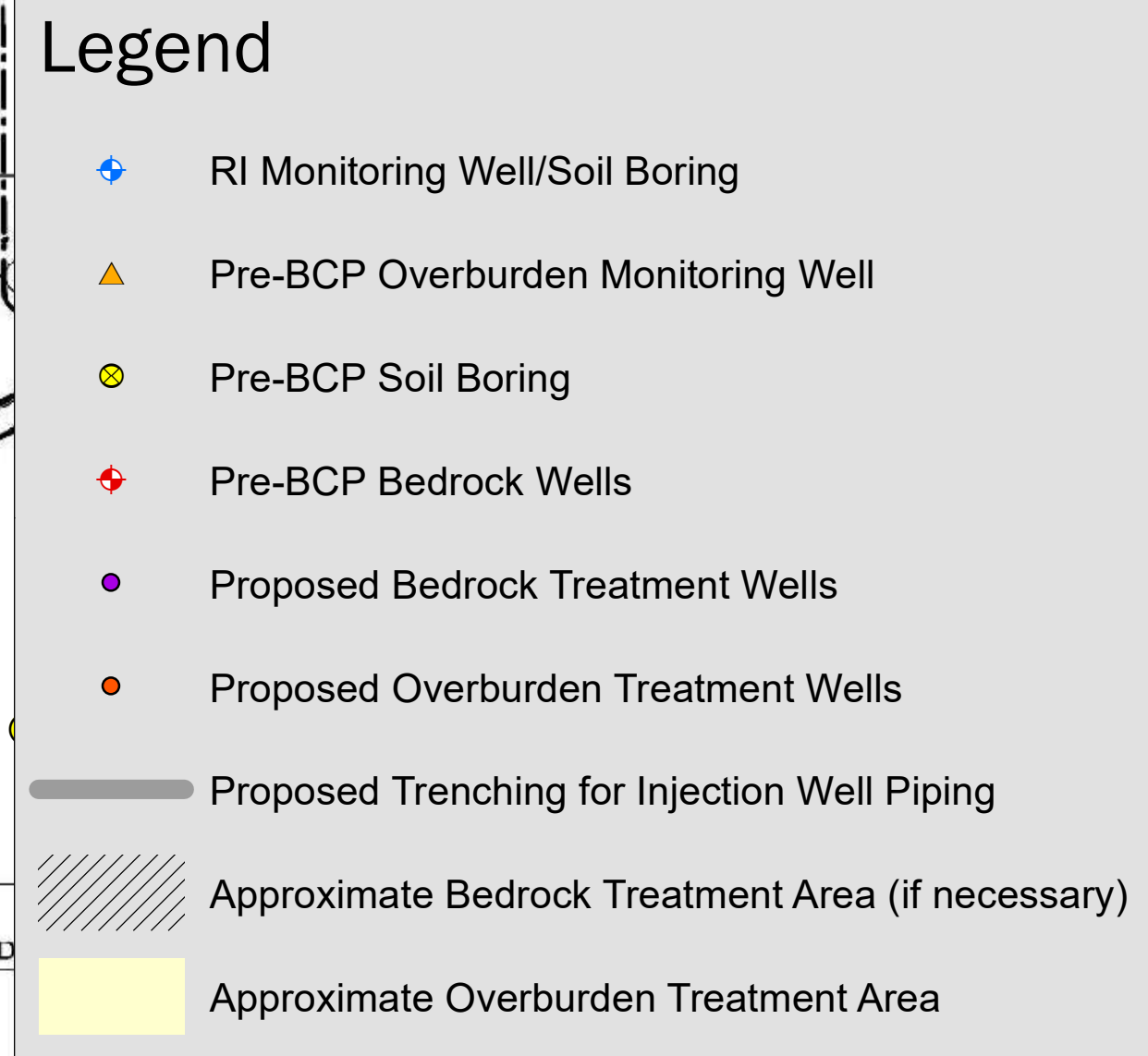
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STATE OF NEW YORK
DANIEL P. ROLL
No. 031858
LICENSED PROFESSIONAL ENGINEER

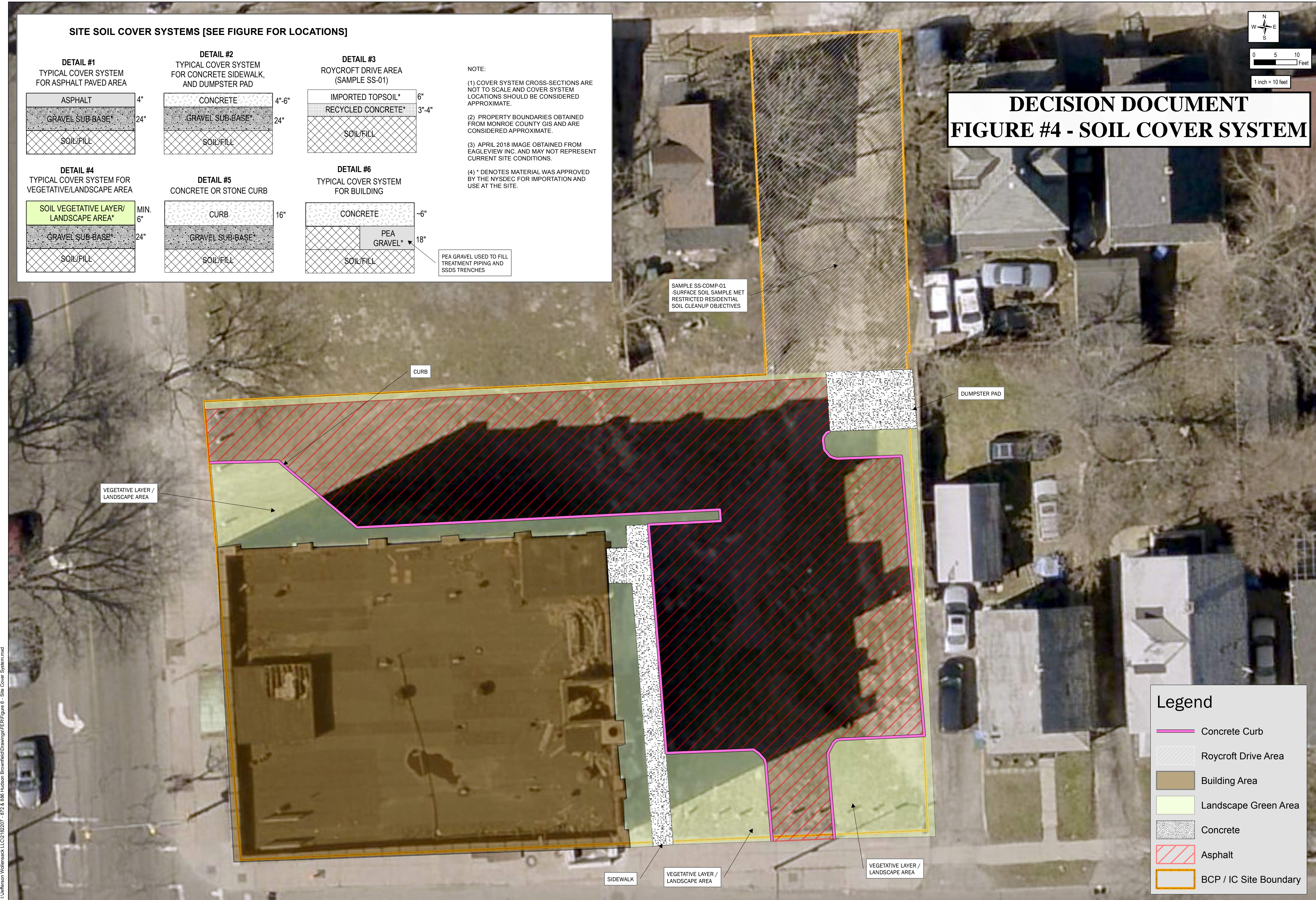
It is a violation of New York Education Law Article 145 Sec 7208 for any person, unless acting under the direction of a licensed architect, professional engineer, or land surveyor, to alter an item in any way, if an item bearing the seal of an architect, professional engineer, or land surveyor, altering architect, engineer or land surveyor shall affix to the item their seal and notation "altered by" followed by their signature and date of such alteration, and a specific description of the alteration.

1 inch = 4 feet



- 1) Property boundaries obtained from Monroe County GIS and are considered approximate.
- 2) Drawing obtained from Barkstrom LaCroix Architects dated 7/6/2018.
- 3) All locations should be considered approximate.

I:\Jefferson Wollensack LLC\2182207 - 872 & 886 Hudson Brownfield Drawings\FER\Figure 6 - Site Cover System.mxd



DECISION DOCUMENT

FIGURE #4 - SOIL COVER SYSTEM

PROJECT / CLIENT

Client: JEFFERSON WOLLENSACK, LLC

Project: FINAL ENGINEERING REPORT
FORMER WOLLENSACK OPTICAL
NYSDEC BCP SITE #C828209
872 AND 886 HUDSON AVENUE
ROCHESTER, NEW YORK

DRAWING TITLE

SITE COVER SYSTEM

ISSUED FOR: FINAL

DESIGNED BY: MFP

DRAWN BY: MFP

REVIEWED BY: MFP

Sunday, October 04, 2020

PROJECT/DRAWING NUMBER

[2182207]

[FIGURE 6]

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