DECISION DOCUMENT

Mt. Olive Senior Manor Site
Brownfield Cleanup Program
Buffalo, Erie County
Site No. C915377
April 2023

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

DECLARATION STATEMENT - DECISION DOCUMENT

Mt. Olive Senior Manor Site
Brownfield Cleanup Program
Buffalo, Erie County
Site No. C915377
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Statement of Purpose and Basis

This document presents the remedy for the Mt. Olive Senior Manor Site 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 Mt. Olive Senior Manor Site site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected Track 1 remedy are as follows:

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;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; 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 vapor barrier/waterproofing membrane on the foundation to improve energy

efficiency as an element of construction.

1. Excavation

Excavation and off-site disposal of all on-site soils which exceed unrestricted Soil Cleanup Objectives (USCOs), as defined by 6 NYCRR Part 375-6.8. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy. Approximately 6,800 cubic yards of contaminated soil will be removed from the site to depths ranging from 2 to 6 feet below ground surface (fbgs). Collection and analysis of confirmation samples at the remedial excavation depth will be used to verify that SCOs for the site have been achieved. If confirmation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify DEC, submit the sample results and, and in consultation with DEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that SCOs for the site have been achieved.

2. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavation and establish the designed grades at the site.

3. Groundwater

Groundwater contamination remaining after active remediation will be addressed with monitored natural attenuation (MNA). The monitoring plan will be detailed in the Site Management Plan. Groundwater will be monitored for site related contamination and also for MNA indicators which will provide an understanding of the (biological activity) breaking down the contamination. It is anticipated that contamination will decrease to levels below the Class class GA ambient water quality standards (AWQS) concentrations or to asymptotic levels that are acceptable to the Department within a five (5) year period. Reports of the attenuation will be provided yearly for five years, and active remediation will be proposed if it appears that natural processes alone will not address the contamination. The contingency remedial action will depend on the information collected, but it is currently anticipated that an appropriate in-situ groundwater treatment program, such as enhanced bioremediation, would be the expected contingency remedial action.

Based on the data collected to date, VOCs detected in groundwater on-site are emanating from a source located on an adjacent off-site property. The off-site source is currently being investigated under the Spills program. A pre-design investigation (PDI) will be completed as part of a Remedial Action Work Plan (RAWP) to more precisely determine the extent of VOC contamination in bedrock along the southeastern boundary of the site. If warranted, bedrock groundwater will be treated with injections of a chemical reducing agent to reduce concentrations of VOCs in bedrock and an anaerobic bio-stimulant to promote degradation of residual levels of VOCs in the bedrock on-site.

Soil removal as noted in item 1 is anticipated to eliminate polyfluoroalkyl substances (PFAS) in groundwater or reduces concentrations to below screening levels. The PDI will also investigate

if PFAS impacts discovered in on-site bedrock groundwater are emanating from the adjacent off-site property. If warranted, bedrock groundwater will also be treated to achieve cleanup standards for PFAS.

4. Vapor Intrusion Evaluation

As part of the Conditional Track 1 remedy, a soil vapor intrusion evaluation, including sub-slab and indoor air sampling, will be completed.
The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion, if identified.

5. Local Institutional Controls
If no Environmental Easement (EE) or Site Management Plan (SMP) is needed to achieve soil, groundwater, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: City of Buffalo code (21 § NYCRR 10085.3) which requires all water uses to be obtained from municipal water mains.

Conditional Track 1
The intent of the remedy is to achieve a Track 1 unrestricted use; therefore, no environmental easement or site management plan is anticipated. If the soil vapor intrusion (SVI) evaluation is not completed prior to completion of the Final Engineering Report, then a Site Management Plan (SMP) and Environmental Easement (EE) will be required to address the SVI evaluation and implement actions as needed. If a mitigation or monitoring action is needed, a Track 1 cleanup can only be achieved if the mitigation system or other required action is no longer needed within 5 years of the date of the Certificate of Completion (COC).

If Track 1 unrestricted use is not achieved, including achievement of groundwater and soil vapor remedial objectives, the following contingent remedial elements will be required, and the remedy will achieve a Track 2 restricted residential cleanup.

6. 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.

7. 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 5 above.

Engineering Controls: Soil vapor mitigation system, if needed, pending results of the soil vapor intrusion evaluation.

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, or groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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.

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 Cruden

4/11/2023

Date

Michael Cruden, Director
Remedial Bureau E

DECISION DOCUMENT

Mt. Olive Senior Manor Site
Buffalo, Erie County
Site No. C915377
April 2023

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, where a contaminant is present at levels exceeding the soil cleanup objectives or other health-based or environmental standards, criteria or guidance, based on the reasonably anticipated use of the property.

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=C915377

Buffalo & Erie County Pub Library-Leroy R. Coles Jr. Branch
Attn: Leroy R. Coles, Jr.
1187 East Delavan Avenue
Buffalo, NY 14215

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 Mt. Olive Senior Manor site is an approximately 1.3-acre site located in a highly developed urban area at 703 East Delavan Avenue in the City of Buffalo, Erie County. The other portion of the 2.63-acre parcel at 703 East Delevan Avenue is not part of the BCP site. The site is at the southeast corner of East Delavan and Sheridan Avenues. It is bordered by the remaining portion of 703 East Delavan to the north, commercial and industrial properties to the south, an industrial property to the west and Sheridan Avenue to the east.

Site Features: The site consists of a grass covered athletic field and a small portion of an adjacent asphalt parking lot to the north.

Zoning and Land Use: The current zoning for the Site is N-3R (Residential), defined as moderately compact residential blocks, which occasionally include small mixed-use buildings. The site is currently a grass covered athletic field. The redevelopment plan for the site is a 3-story affordable housing development for seniors, consistent with the zoning assigned to the site.

Past Use of the Site: The 703 East Delavan parcel which includes this site has historically been developed with a church building, an associated parking lot and an athletic field. Historic fuel oil and gasoline storage tanks were identified in close proximity to the site along with historic automobile repair and rug/furniture cleaning, possibly with dry-cleaning operations, which were identified adjacent to the site.

Site Geology and Hydrogeology:

Previous investigation identified the site geology as primarily vegetative topsoil cover over varying types of fill materials ranging in depth from 3 inches to 2 feet below ground surface (fbgs) underlain by silty sand and/or fine sand in some locations.

The site is situated over the Onondaga Formation. The Onondaga Formation is comprised of a limestone of varying texture, from coarse to very finely crystalline, with a dark gray to tan color and chert and fossils within. The unit has an approximate thickness of 150 feet. The depth to bedrock was identified at approximately 2 to 6 fbgs.

The site is located within the Lake Erie-Niagara River major drainage basin, which is typified by little topographic relief that gently slopes westward towards Lake Erie and the Niagara River, except in the immediate vicinity of major drainage ways. Regionally, groundwater is expected to flow westerly towards the Niagara River. Locally, groundwater was not encountered during previous investigations in the site overburden. Groundwater is present in the underlying bedrock at a depth of between 5 and 10 fbgs and flows to the west.

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, an alternative which allows for unrestricted use of the site was evaluated.

A comparison of the results of the Remedial Investigation (RI) against unrestricted use standards, criteria and guidance values (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 Applicant does 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:

Soil
Groundwater
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(s) of concern identified at this site is/are:

benzo(a)anthracene
benzo(a)pyrene
benzo(b)fluoranthene
benzo(k)fluoranthene
dibenz[a,h]anthracene
chromium
cobalt
arsenic
barium
copper
mercury
nickel
antimony
lead
zinc
cis-1,2-dichloroethene
trichloroethene (TCE)
perfluorooctane sulfonic acid

perfluorooctanoic acid
polychlorinated biphenyls (PCB)

The contaminants 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:

Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), herbicides/pesticides, and per- and polyfluoroalkyl substances (PFAS). Soil vapor was analyzed for VOCs. The primary contaminants of concern are VOCs, SVOCs, herbicides/pesticides and emerging contaminants above unrestricted soil cleanup objectives (USCOs) as follows.

Surface Soils:

Surface soils were sampled from 0-2 inches below ground surface (bgs) and analyzed for SVOCs, metals, PCBs, herbicides/pesticides, and emerging contaminants.

SVOCs detected in surface soil samples included benzo(a)anthracene at concentrations up to 8 parts per million (ppm) (USCO 1 ppm), benzo(a)pyrene at concentrations up to 8.4 ppm (USCO 1.0 ppm); benzo(b)fluoranthene at concentrations up to 9.6 ppm (USCO 1 ppm); benzo(k)fluoranthene at concentrations up to 3.7 ppm (USCO 0.8 ppm); chrysene at concentrations up to 7 ppm (USCO 1 ppm); dibenzo(a,h)anthracene at concentrations up to 1.3 ppm (USCO 0.33 ppm); and indeno(1,2,3-cd)pyrene at concentrations up to 4.4 ppm (USCO 0.5 ppm).

Metals detected in surface soil samples included lead at concentrations up to 105 ppm (USCO 63 ppm); mercury at concentrations up to 0.2 ppm (USCO 0.18 ppm); chromium at concentrations

up to 72.3 ppm (USCO 30 ppm); copper at concentrations up to 74 ppm (USCO 50 ppm); nickel at concentrations up to 205 ppm (USCO 30 ppm); and zinc at concentrations up to 144 ppm (USCO 109 ppm).

PCBs were detected at concentrations up to 0.23 ppm (USCO 0.1 ppm) USCOs.

Perfluorooctanesulfonic acid (PFOS) was detected in surface soil at concentrations up to 3.1 ppb (unrestricted use guidance value 0.88 parts per billion [ppb]). PFOA was not detected.

Pesticides and herbicides detected in surface soil samples include 4,4'-DDE at concentrations up to 0.01 ppm (USCO 0.0033 ppm) and 4,4'-DDT at concentrations up to 0.015 ppm (USCO 0.0033 ppm).

Data does not indicate any off-site impacts in surface soil emanating from the site.

Subsurface soils:

Subsurface soils were sampled from 2 inches to 3 feet bgs and analyzed for volatile organic compounds (VOCs), SVOCs, metals, herbicides/pesticides, PCBs and emerging contaminants. There were no exceedances of USCOs for VOCs identified in these samples.

SVOCs detected in subsurface soils include benzo(a)anthracene at concentrations up to 41 ppm (USCO 1 ppm); benzo(a)pyrene at concentrations up to 40 ppm (USCO 1 ppm); benzo(b)fluoranthene at concentrations up to 49 ppm (USCO 1 ppm); benzo(k)fluoranthene at concentrations up to 19 ppm (USCO 0.8 ppm); chrysene at concentrations up to 41 ppm (USCO 1 ppm); dibenzo(a,h)anthracene at concentrations up to 6 ppm (USCO 0.33 ppm); and indeno(1,2,3-cd)pyrene at concentrations up to 17 ppm (USCO 0.5 ppm).

Metals detected in subsurface soils include arsenic at concentrations up to 30.3 ppm (USCO 13 ppm); barium at concentrations up to 958 ppm (USCO 350 ppm); chromium at concentrations up to 224 ppm (USCO 30 ppm); copper at concentrations up to 141 ppm (USCO 50 ppm); lead at concentrations up to 2,570 ppm (USCO 63 ppm); mercury at concentrations up to 0.52 ppm (USCO 0.18 ppm); nickel at concentrations up to 300 ppm (USCO 30 ppm); and zinc at concentrations up to 315 ppm (USCO 109 ppm).

PCBs were detected in subsurface soils in concentrations up to 3.5 ppm (USCO 0.1 ppm).

Pesticides and herbicides detected in subsurface soils include 4,4'-DDD at concentrations up to 0.016 ppm (USCO 0.0033 ppm); 4,4'-DDE at concentrations up to 0.021 ppm (USCO 0.0033 ppm); 4,4'-DDT at concentrations up to 0.07 ppm (0.0033 ppm); and dieldrin at concentrations up to 0.0065 ppm (USCO 0.005 ppm).

Perfluorooctanoic acid (PFOA) was detected at concentrations up to 1 ppb (unrestricted use guidance value 0.66 ppb), and PFOS was detected at concentrations up to 11 ppb (unrestricted use guidance value 0.88 ppb).

Groundwater:

Groundwater samples were analyzed for VOCs, SVOCs, metals, pesticides/herbicides, PCBs, and emergent contaminants. Samples were evaluated against the NYS Groundwater Quality Standards (GWQS). No exceedances of GWQS for SVOCs, herbicides, or PCBs were identified.

VOCs detected in groundwater include cis-1,2-dichloroethene at concentrations up to 40 ppb (GWQS 5 ppb) and trichloroethene at concentrations up to 210 ppb (GWQS 5 ppb).

Metals detected in groundwater include antimony at concentrations up to 6.8 ppb (GWQS 3 ppb); cobalt at concentrations up to 11 ppb (GWQS 5 ppb); and sodium at concentrations up to 39,200 ppb (GWQS 20,000 ppb). Samples were filtered due to turbidity; therefore, cobalt and antimony concentrations are not representative of stable groundwater conditions on site. Elevated sodium concentration in groundwater is likely due to road salt.

The pesticide beta-BHC was detected in groundwater at a concentration of 0.026 ppb (GWQS 0.01 ppb).

PFOA was detected at concentrations up to 75 ppt (guidance value 6.7 ppt) and PFOS at concentrations up to 390 ppt (guidance value 2.7 ppt) .

Data does not indicate any off-site impacts in groundwater emanating from the site. The potential for the migration of VOCs and PFAS from an adjacent offsite source onto the site will be explored in the PDI.

Soil Vapor:

Soil vapor studies included the collection and testing of soil vapor samples from three locations within the planned footprint of the building to be constructed on the site. Samples were analyzed for VOCs. VOCs detected in soil vapor on site include tetrachloroethene (PCE) at concentration of 3.2 micrograms per cubic meter and trichloroethene (TCE) at concentrations up to 0.71 micrograms per cubic meter.

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 will not come into contact with contaminated soil or groundwater unless they dig below the surface. 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. Volatile organic compounds in soil vapor (air spaces within the soil) may move into 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. Because the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. However, future development on-site will be evaluated for soil vapor intrusion. A separate off-site and upgradient investigation is ongoing and will provide more information as to potential exposure via upgradient sources.

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.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated 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 Conditional Track 1 unrestricted use remedy.

The selected remedy is referred to as the Conditional Unrestricted Use (Track 1) Cleanup

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

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;
- Integrating the remedy with the end use where possible and encouraging green and sustainable re-development; 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.

1. Excavation

Excavation and off-site disposal of all on-site soils which exceed unrestricted Soil Cleanup Objectives (USCOs), as defined by 6 NYCRR Part 375-6.8. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy. Approximately 6,800 cubic yards of contaminated soil will be removed from the site to depths ranging from 2 to 6 feet below ground surface (fbgs). Collection and analysis of confirmation samples at the remedial excavation depth will be used to verify that SCOs for the site have been achieved. If confirmation sampling indicates that SCOs were not achieved at the stated remedial depth, the Applicant must notify DEC, submit the sample results and, and in consultation with DEC, determine if further remedial excavation is necessary. Further excavation for development will proceed after confirmation samples demonstrate that SCOs for the site have been achieved.

2. Backfill

Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to complete the backfilling of the excavation and establish the designed grades at the site.

3. Groundwater

Groundwater contamination remaining after active remediation will be addressed with monitored natural attenuation (MNA). The monitoring plan will be detailed in the Site Management Plan. Groundwater will be monitored for site related contamination and also for MNA indicators which will provide an understanding of the (biological activity) breaking down the contamination. It is anticipated that contamination will decrease to levels below the Class class GA ambient water quality standards (AWQS) concentrations or to asymptotic levels that are acceptable to the Department within a five (5) year period. Reports of the attenuation will be provided yearly for five years, and active remediation will be proposed if it appears that natural processes alone will not address the contamination. The contingency remedial action will depend on the information collected, but it is currently anticipated that an appropriate in-situ groundwater treatment program, such as enhanced bioremediation, would be the expected contingency remedial action.

Based on the data collected to date, VOCs detected in groundwater on-site are emanating from a source located on an adjacent off-site property. The off-site source is currently being investigated under the Spills program. A pre-design investigation (PDI) will be completed as part of a Remedial Action Work Plan (RAWP) to more precisely determine the extent of VOC contamination in bedrock along the southeastern boundary of the site. If warranted, bedrock groundwater will be treated with injections of a chemical reducing agent to reduce concentrations of VOCs in bedrock and an anaerobic bio-stimulant to promote degradation of residual levels of VOCs in the bedrock on-site.

Soil removal as noted in item 1 is anticipated to eliminate polyfluoroalkyl substances (PFAS) in groundwater or reduces concentrations to below screening levels. The PDI will also investigate if PFAS impacts discovered in on-site bedrock groundwater are emanating from the adjacent off-site property. If warranted, bedrock groundwater will also be treated to achieve cleanup standards for PFAS.

4. Vapor Intrusion Evaluation

As part of the Conditional Track 1 remedy, a soil vapor intrusion evaluation, including sub-slab and indoor air sampling, will be completed.
The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion, if identified.

5. Local Institutional Controls

If no Environmental Easement (EE) or Site Management Plan (SMP) is needed to achieve soil, groundwater, or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: City of Buffalo code (21 § NYCRR 10085.3) which requires all water uses to be obtained from municipal water mains.

<u>Conditional Track 1</u>

The intent of the remedy is to achieve a Track 1 unrestricted use; therefore, no environmental easement or site management plan is anticipated. If the soil vapor intrusion (SVI) evaluation is

not completed prior to completion of the Final Engineering Report, then a Site Management Plan (SMP) and Environmental Easement (EE) will be required to address the SVI evaluation and implement actions as needed. If a mitigation or monitoring action is needed, a Track 1 cleanup can only be achieved if the mitigation system or other required action is no longer needed within 5 years of the date of the Certificate of Completion (COC).

If Track 1 unrestricted use is not achieved, including achievement of groundwater and soil vapor remedial objectives, the following contingent remedial elements will be required, and the remedy will achieve a Track 2 restricted residential cleanup.

6. 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.

7. 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 5 above.

Engineering Controls: Soil vapor mitigation system, if needed, pending results of the soil vapor intrusion evaluation.

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, or groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;

- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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.

Figure 1

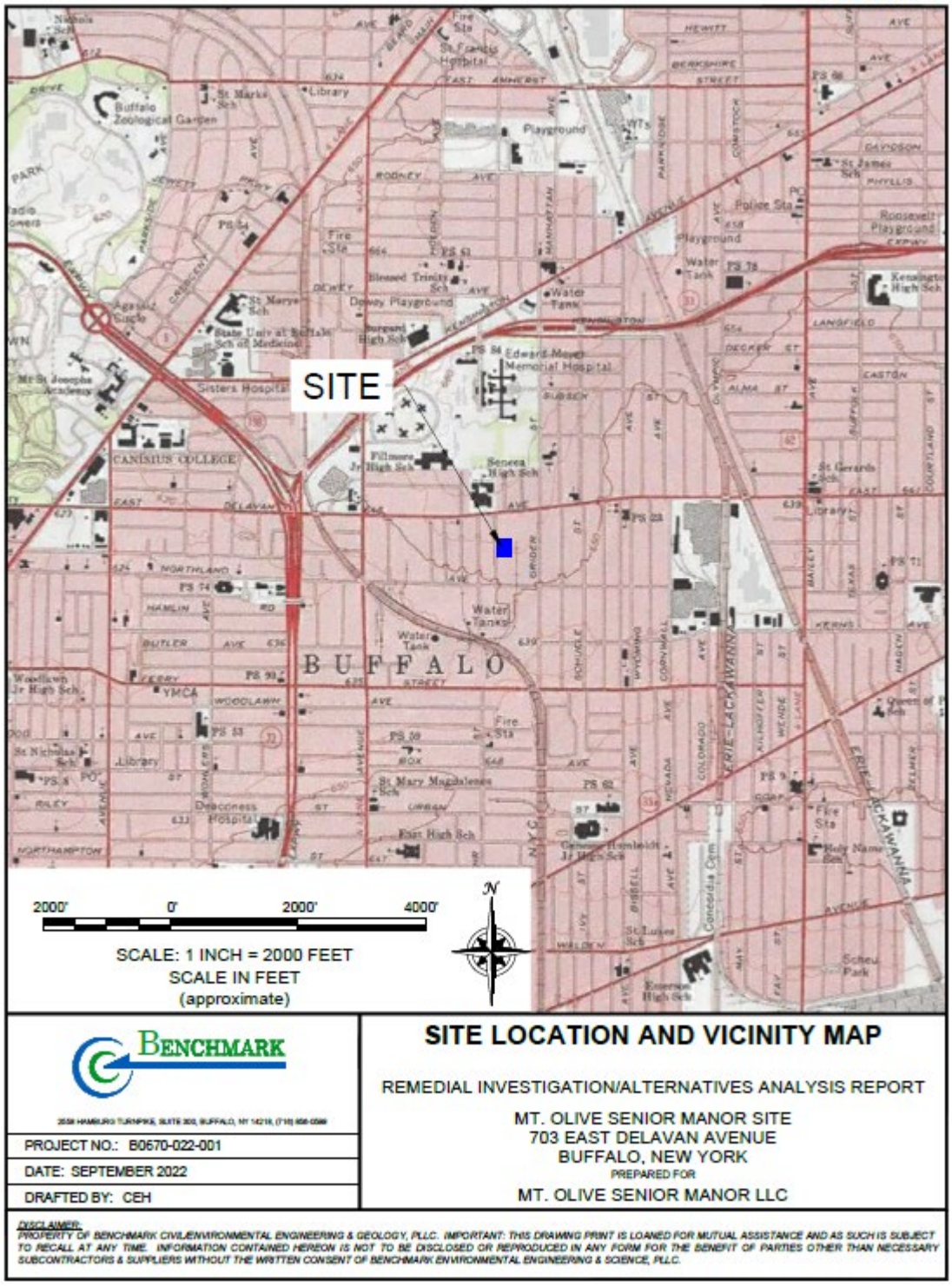

SITE
BUFFALO
2000' 0' 2000' 4000'
SCALE: 1 INCH = 2000 FEET
SCALE IN FEET
(approximate)
N
BENCHMARK
PROJECT NO.: B0670-022-001
DATE: SEPTEMBER 2022
DRAFTED BY: CEH
SITE LOCATION AND VICINITY MAP
REMEDIAL INVESTIGATION/ALTERNATIVES ANALYSIS REPORT
MT. OLIVE SENIOR MANOR SITE
703 EAST DELAVAN AVENUE
BUFFALO, NEW YORK
PREPARED FOR
MT. OLIVE SENIOR MANOR LLC
DISCLAIMER:
PROPERTY OF BENCHMARK CIVIL/ENVIRONMENTAL ENGINEERING & GEOLOGY, PLLC. IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC.

Figure 2

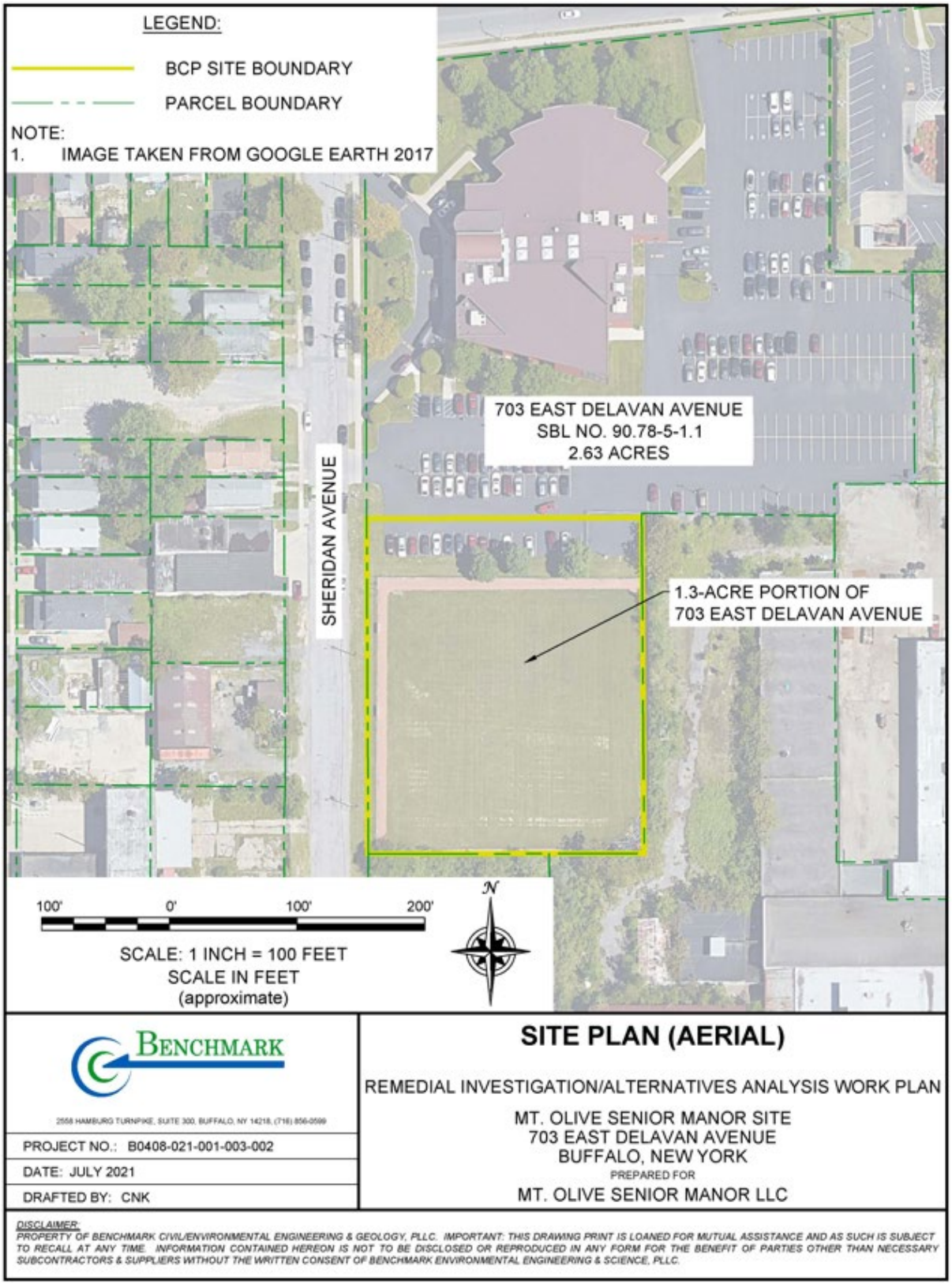
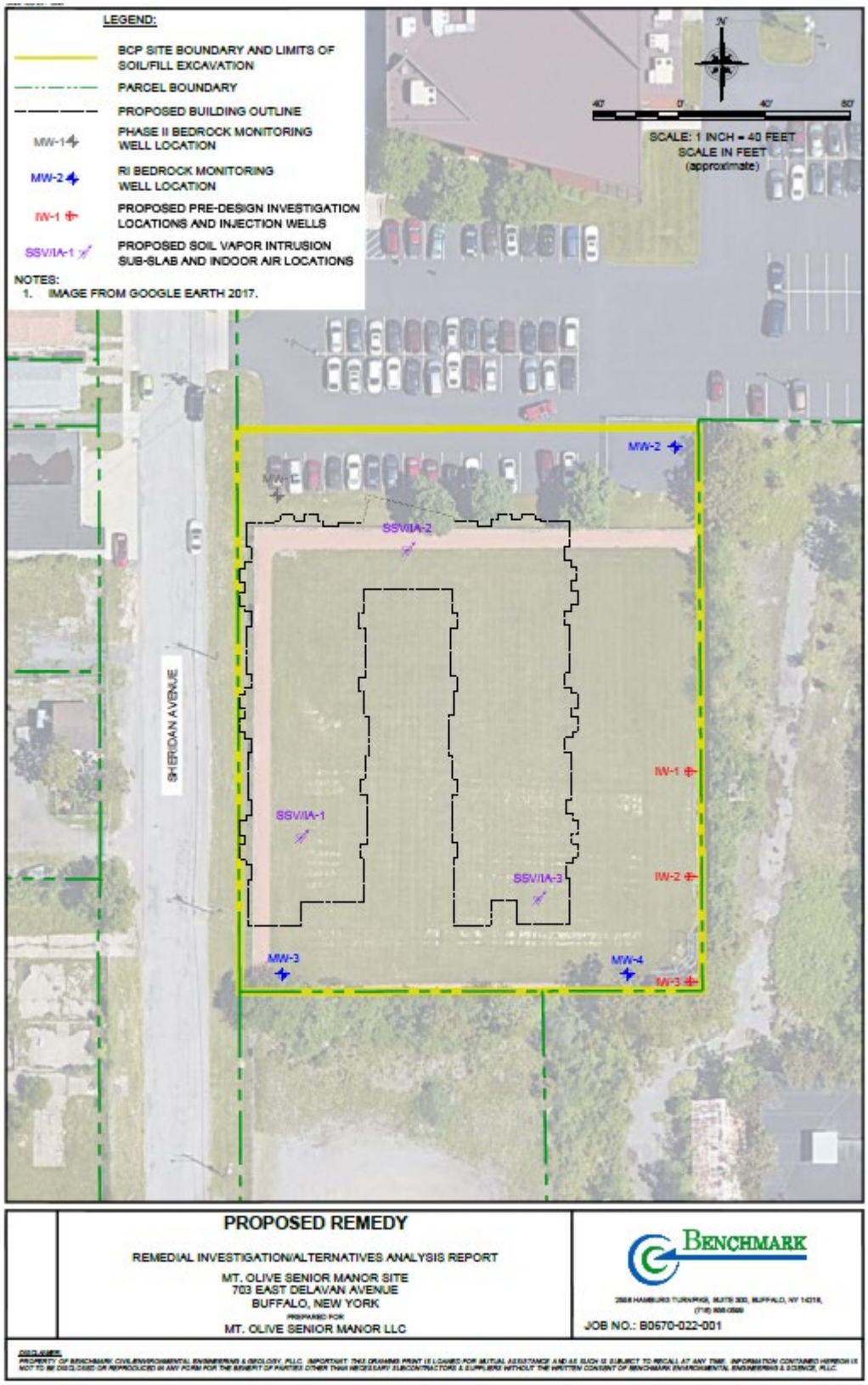

LEGEND:
BCP SITE BOUNDARY
PARCEL BOUNDARY
NOTE:
1. IMAGE TAKEN FROM GOOGLE EARTH 2017
703 EAST DELAVAN AVENUE
SBL NO. 90.78-5-1.1
2.63 ACRES
SHERIDAN AVENUE
1.3-ACRE PORTION OF
703 EAST DELAVAN AVENUE
100' 0' 100' 200'
SCALE: 1 INCH = 100 FEET
SCALE IN FEET
(approximate)
N
BENCHMARK
2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599
PROJECT NO.: B0408-021-001-003-002
DATE: JULY 2021
DRAFTED BY: CNK
SITE PLAN (AERIAL)
REMEDIAL INVESTIGATION/ALTERNATIVES ANALYSIS WORK PLAN
MT. OLIVE SENIOR MANOR SITE
703 EAST DELAVAN AVENUE
BUFFALO, NEW YORK
PREPARED FOR
MT. OLIVE SENIOR MANOR LLC
DISCLAIMER:
PROPERTY OF BENCHMARK CIVIL/ENVIRONMENTAL ENGINEERING & GEOLOGY, PLLC. IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC.

Figure 3


LEGEND:
BCP SITE BOUNDARY AND LIMITS OF SOIL/FILL EXCAVATION
PARCEL BOUNDARY
PROPOSED BUILDING OUTLINE
MW-1 PHASE II BEDROCK MONITORING WELL LOCATION
MW-2 RI BEDROCK MONITORING WELL LOCATION
IW-1 PROPOSED PRE-DESIGN INVESTIGATION LOCATIONS AND INJECTION WELLS
SSV/IA-1 PROPOSED SOIL VAPOR INTRUSION SUB-SLAB AND INDOOR AIR LOCATIONS
NOTES:
1. IMAGE FROM GOOGLE EARTH 2017.
N
40' 0' 40' 80'
SCALE: 1 INCH = 40 FEET
SCALE IN FEET
(approximate)
MW-2
MW-1
SSV/IA-2
SHERIDAN AVENUE
IW-1
SSV/IA-1
SSV/IA-3
IW-2
MW-3
MW-4
IW-3
PROPOSED REMEDY
REMEDIAL INVESTIGATION/ALTERNATIVES ANALYSIS REPORT
MT. OLIVE SENIOR MANOR SITE
703 EAST DELAVAN AVENUE
BUFFALO, NEW YORK
PREPARED FOR
MT. OLIVE SENIOR MANOR LLC
BENCHMARK
JOB NO.: B0670-022-001