

DECISION DOCUMENT

Former Excelsior Bag Site
Brownfield Cleanup Program
Yonkers, Westchester County
Site No. C360190
August 2023



**Department of
Environmental
Conservation**

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

DECLARATION STATEMENT - DECISION DOCUMENT

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Brownfield Cleanup Program
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Statement of Purpose and Basis

This document presents the remedy for the Former Excelsior Bag 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 Excelsior Bag 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;
- 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 shall be constructed, at

a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

As part of the remedial design program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWise™ (available in the Sustainable Remediation Forum [SURF] library) or similar Department accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial design program.

Additionally, the remedial design program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

2. Excavation

Excavation of site soils to a depth of four to six feet below grade in the portion of the site subject to the in-situ solidification (ISS) treatment described in remedy element 3. Approximately 7,425 cubic yards of soil will be excavated to facilitate ISS implementation. All soils which exceed the restricted residential soil cleanup objectives (SCOs) will be disposed of off-site at a permitted facility.

3. In-Situ Solidification

In-situ solidification (ISS) will be implemented in an approximately 36,700 square-foot area located in the southern and central portion of the site, as indicated on Figure 3. The treatment zone will extend from the top of the groundwater table, at approximately 5 feet below grade, to approximately 44 feet below grade in areas where non-aqueous phase liquid is present below the groundwater table. An approximately four to six-foot soil cut will need to be excavated in this area to contain the ISS spoils and increased soil volume created by the soil mixing. ISS is a process that binds the soil particles in place creating a low permeability mass. The contaminated soil will be mixed in place together with solidifying agents (typically Portland cement) or other binding agents using an excavator or augers. The resulting solid matrix reduces or eliminates mobility of contamination and reduces or eliminates the matrix as a source of groundwater contamination. The potential presence of a buried historic timber bulkhead within the ISS treatment area will be

evaluated during the design phase. In locations where the timber bulkhead is identified within the ISS treatment area, the bulkhead will be removed, fully encapsulated, or a combination of both, with measures taken to prevent downgradient mobilization of contamination during ISS activities. The solidified mass will then be covered with a cover system as described in element 4 to prevent direct exposure to the solidified mass.

4. Cover System

A site cover will be required in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs), to allow for future restricted residential use of the site. 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, building foundations and building slabs. Where the soil cover is required over the ISS treatment area, it will consist of a minimum of four feet of soil to ensure the underlying monolith remains below the frost line and protected from the freeze-thaw cycle. Consistent with the remainder of the site cover, the upper two feet will meet the SCOs for restricted residential use. For areas where solidified material underlies the cover, the solidified material itself will serve as the demarcation layer due to the nature of the material.

5. Coal Tar Recovery

Installation and operation of coal tar recovery wells in the southeastern portion of the site to remove potentially mobile coal tar from the subsurface, and the western portion of the site to monitor the ISS effectiveness described in remedial element 3. The number, depth, type and spacing of the recovery wells will be determined during the design phase of the remedy. Coal tar will be collected periodically from each well; however, if wells are determined by the Department to accumulate large quantities of coal tar over extended time periods, they can be converted to automated collection.

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 Westchester 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:

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in element 6 above.

Engineering Controls: The ISS discussed in element 3, the soil cover system discussed in element 4, and the coal tar monitoring wells discussed in element 5 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in element 4 above will be placed in any areas where the upper two of exposed surface soil exceed the applicable soil cleanup objectives (SCOs)
- provisions for the management and inspection of the identified engineering controls; and
- 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 for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.
- a provision should redevelopment occur to ensure no soil exceeding protection of groundwater concentrations will remain below storm water retention basin or infiltration structures.

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.

August 15, 2023

Date



Scott Deyette, Director
Remedial Bureau C

DECISION DOCUMENT

Former Excelsior Bag Site
Yonkers, Westchester County
Site No. C360190
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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, 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=C360190>

Yonkers Public Library
Attn: Anne Campbell
One Larkin Center
Yonkers, NY 10701
Phone: 914-375-7940

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 Former Excelsior Bag site is a 5.4-acre property located along the Hudson River waterfront in the City of Yonkers. The site is bounded to the north by the BICC Cables Site (New York State Brownfield Cleanup Program, BCP Site No. C360051), to the east by Alexander Avenue which borders a Metropolitan Transit Authority (MTA) bus depot, to the south by the Polychrome R&D Lab Site (BCP Site No. C360099), and to the west by the Hudson River. In addition, the CE - Woodworth Ave. Manufactured Gas Plant (MGP) Yonkers Site (Site No. 360164) borders the site to the southeast.

Site Features:

The site consists of concrete/asphalt paved surfaces, active construction along the northern boundary and eastern boundary, and revetment stone along the western boundary adjacent to the Hudson River. The site itself is currently vacant. An access road is being constructed along the eastern site boundary to facilitate re-development, and a small portion of the site along the northern boundary overlaps with the footprint of on-going building construction at the BICC Cables site.

Current Zoning and Land Use:

The site's current zoning is Industrial with a Planned Urban Redevelopment (PUR) Special Use Permit allowing for the development of residential/commercial uses.

Past Use of the Site:

Historic uses of the site include coal, lumber, and castor oil storage, a boat building company, and a bag manufacturing company. Historic site features include railroad tracks, several boilers and a machine shop. The bag manufacturing company is the most recent industry and operated from 1992 until 2012. Their manufacturing equipment included an ink mixing machine, storage vats, and polyethylene bead above ground storage tanks. Their manufacturing process used tetrachloroethylene, tetrachloroethane, and propyl alcohol. The process hazardous waste was stored along the back of the bag manufacturing company building as well as inside the building itself. From 2014 to 2020, the site buildings were used intermittently as a film studio. All existing above grade structures at the site were demolished in early 2021.

Site Geology and Hydrogeology:

The site soils consist of an uppermost layer of historic fill materials at depths up to 20 feet below ground surface (bgs). Underlying the historical fill is a native Hudson River sediment confining layer which exists at depths of 13.5 ft bgs to 44 ft bgs and, in some areas closest to the Hudson River, can extend up to 116 feet bgs. In some portions of the site, a layer of native Hudson River sands is found to exist between the historic fill materials and the native Hudson River sediment confining layer at depths ranging from 7 to 44 ft bgs. Underlying the Hudson River sediment confining layer is a sand and clayey silt unit with thickness ranging from 25 to 50 feet. Underlying this unit is a glacial till confining layer that exists at depths ranging from 103 ft bgs to 145 ft bgs. The depth to groundwater beneath the site ranges from approximately 4 to 6 ft bgs and generally flows in a westerly direction towards the Hudson River with some variation based upon low and high tide conditions.

A site location map is attached as Figure 1. A site layout map is attached as Figure 2.

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 Applicants under the Brownfield Cleanup Agreement are Volunteers. The Volunteers do not have an obligation to address off-site contamination. The Department has determined that this site poses a significant threat to the environment based on the proximity of mobile MGP contamination to the Hudson River.

In connection with the CE - Woodworth Ave. MGP Yonkers Site, the Department and Consolidated Edison Co. of New York, Inc. (CE), entered into a Consent Order on July 25, 2018, which obligates CE to implement a full remedial program for MGP-related contamination both on and off the former MGP. If MGP contamination are found within the Hudson River sediments, CE will be obligated to fully investigate and remediate that contamination.

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

coal tar	mercury
benzene	1,2-dichloroethene
1,2,4-trimethylbenzene	methyl ethyl ketone
ethylbenzene	toluene
acenaphthene	xylene (mixed)
acenaphthylene	1,3,5-trimethylbenzene
benzo(a)anthracene	n-propylbenzene
benzo(a)pyrene	anthracene
benzo(b)fluoranthene	dibenzofuran
benzo(k)fluoranthene	dibenz[a,h]anthracene
chrysene	fluoranthene
indeno(1,2,3-cd)pyrene	fluorene
naphthalene	pyrene
phenanthrene	nickel
arsenic	selenium
cadmium	tetrachloroethene (PCE)
copper	1,1,1-Trichloroethane (TCA)
lead	

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

- groundwater
- soil

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

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

IRM – Semi-Volatile Organic Compound (SVOC) Source Area Excavation and UST Closure

In September 2022, and January through February 2023, an IRM was implemented to address an area of shallow soils in the southeastern portion of the site that contained total SVOCs greater than 500 parts per million (ppm). In addition, the IRM also addressed two underground storage tanks (USTs) previously discovered during the remedial investigation. For the SVOC area, a remedial investigation boring identified a small portion of shallow soils with total SVOCs exceeding 500 ppm at a depth of up to 5 ft bgs. Additional RI sampling indicated the 500-ppm threshold did not extend past 5 ft bgs. A soil removal action was implemented to excavate 80-square feet of SVOC impacted material to a depth of 5 ft bgs. Based on an initial round of endpoint samples, over-excavation of 2 to 3 feet was required along the northern and southern excavation wells to achieve

a total SVOC concentration below 500 ppm. Following over-excavation, all post-excavation soil sample results were below the site-specific SCO for total SVOCs of 500 ppm. For the USTs, a 35-foot by 6-foot area was excavated to 3 feet bgs to expose the USTs and facilitate their closures. Liquid contents were pumped out via vacuum truck and containerized. The interiors of the USTs were cleaned, and six end-point samples were taken. Laboratory results indicated no VOC exceedances above the restricted residential soil cleanup objectives (RRSCOs) or protection of groundwater soil cleanup objectives (PGSCOs), and total SVOCs for all samples were below the site-specific SCO of 500 ppm. Furthermore, no visual evidence of contamination was documented in the field during clean-up. The USTs were backfilled via concrete slurry and considered closed-in-place by DEC and Westchester County DOH. Both SVOC and UST areas were backfilled to existing grade with 99 tons of DEC-approved virgin aggregate. Approximately 6,697 gallons of liquid from the USTs, and 146 tons of soil and fill from both areas, were containerized and transported off-site for disposal.

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.

Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS), and pesticides. Based upon investigations conducted to date, the primary contaminants of concern are dense non-aqueous phase liquid (DNAPL), VOCs, SVOCs, and metals.

Soils - DNAPL has been identified on-site at intermediate depths. Specifically, DNAPL is found to occur in the south-central portion of the Site above Hudson River sediment confining layer at depths of approximately 20 to 44 feet below ground surface (bgs). Based upon both field observations and forensic analysis, the DNAPL was similar to coal tar/creosote. Trace amounts of DNAPL, coal tar odors, and sheens were also encountered at deeper depths of approximately 83 to 150 ft bgs in the southern portion of the Site. The DNAPL is not believed to be site related. Instead, the source of the DNAPL is suspected to have migrated from a former manufactured gas plant (MGP) site located to the southeast and upgradient of the site.

VOCs are present throughout the site at shallow, intermediate, and deep depths that exceed both their restricted residential soil cleanup objectives (RRSCOs) and their protection of groundwater soil cleanup objectives (PGSCOs). These VOCs include benzene, 1,2,4-trimethylbenzene, and ethylbenzene. The maximum concentration, and the corresponding depth where these maximums are observed, are 12 ppm at 98 ft bgs to 100 ft bgs for benzene, 170 ppm at 32 ft bgs to 34 ft bgs for 1,2,4-trimethylbenzene, and 200 ppm at 32 ft bgs to 34 ft bgs for ethylbenzene. The respective PGSCO and RRSCO for each compound is 0.06 ppm and 4.8 ppm for benzene, 3.6 ppm and 52 ppm for 1,2,4-trimethylbenzene, and 1 ppm and 41 ppm for ethylbenzene. Several other VOCs were found at similar depth intervals but only exceeded their PGSCOs. These VOCs include 1,2-

dichloroethane (1,2-DCE), methyl ethyl ketone (MEK), toluene, xylene, 1,3,5-trimethylbenzene, n-propylbenzene, and acetone. The maximum concentration, and the corresponding depth where these maximums are observed, are 0.66 ppm at 1 ft bgs to 3 ft bgs for 1,2-DCE, 0.31 ppm at 14 ft bgs to 16 ft bgs for MEK, 70 ppm at 98 ft bgs to 100 ft bgs for toluene, 94 ppm at 32 ft bgs to 34 ft bgs for xylene, 49 ppm at 32 ft bgs to 34 ft bgs for 1,3,5-trimethylbenzene, 11 ppm at 32 ft bgs to 34 ft bgs for n-propylbenzene, and 1.5 ppm at 14 ft bgs to 16 ft bgs for acetone. The PGSCO per each compound is 0.02 ppm for 1,2-DCE, 0.12 ppm for MEK, 0.7 ppm for toluene, 1.6 ppm for xylene, 8.4 ppm for 1,3,5-trimethylbenzene, 3.9 ppm for n-propylbenzene, and 0.05 ppm for acetone. Although acetone was observed exceeding its applicable PGSCO, it is a common laboratory contaminant and is not considered a site-related contaminant of concern.

SVOCs are present throughout the site at shallow, intermediate, and deep depths that exceed both their RRSCOs and PGSCOs. Those SVOCs include acenaphthene, acenaphthylene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-c,d)pyrene, naphthalene, and phenanthrene. However, the maximum concentrations of these compounds generally correspond to the south-central portion of the site where DNAPL is present above the Hudson River sediment confining layer. The maximum concentrations are 690 ppm for acenaphthene, 140 ppm for acenaphthylene, 200 ppm for benzo(a)anthracene, 220 ppm for benzo(a)pyrene, 180 ppm for benzo(b)fluoranthene, 53 ppm for benzo(k)fluoranthene, 220 ppm for chrysene, 89 ppm for indeno(1,2,3-c,d)pyrene, 2,400 ppm for naphthalene, and 1,000 ppm for phenanthrene. The respective PGSCO and RRSCO for each compound is 98 ppm and 100 ppm for acenaphthene, 107 ppm and 100 ppm for acenaphthylene, 1 ppm and 1 ppm for benzo(a)anthracene, 22 ppm and 1 ppm for benzo(a)pyrene, 1.7 ppm and 1 ppm for benzo(b)fluoranthene, 1.7 ppm and 3.9 ppm for benzo(k)fluoranthene, 1 ppm and 3.9 ppm for chrysene, 8.2 ppm and 0.5 ppm for indeno(1,2,3-c,d)pyrene, 12 ppm and 100 ppm for naphthalene, and 1,000 ppm and 100 ppm for phenanthrene. Several other SVOCs were found at similar depth intervals and locations but only exceeded their RRSCOs. These SVOCs include anthracene, dibenz(a,h)anthracene, dibenzofuran, fluoranthene, fluorene, and pyrene. The maximum concentrations are 300 ppm for anthracene, 24 ppm for dibenz(a,h)anthracene, 64 ppm for dibenzofuran, 370 ppm for fluoranthene, 310 ppm for fluorene, and 490 ppm for pyrene. The RRSCO per each compound is 100 ppm for anthracene, 0.33 ppm for dibenz(a,h)anthracene, 59 ppm for dibenzofuran, 100 ppm for fluoranthene, 100 ppm for fluorene, and 100 ppm for pyrene.

Metals are present throughout the site at shallow and intermediate depths that exceed their RRSCOs and PGSCOs. Those metals include arsenic, cadmium, copper, lead, and mercury. The maximum concentration, and the corresponding depth where these maximums are observed, are 23.7 ppm at 3 ft bgs to 5 ft bgs for arsenic, 9.87 ppm at 3 ft bgs to 5 ft bgs for cadmium, 3,990 ppm at 0 ft bgs to 2 ft bgs for copper, 3,460 ppm at 28 ft bgs to 30 ft bgs for lead, and 17 ppm at 1 ft bgs to 6 ft bgs for mercury. The respective PGSCO and RRSCO for each compound is 16 ppm and 16 ppm for arsenic, 7.5 ppm and 4.3 ppm for cadmium, 1,720 ppm and 270 ppm for copper, 450 ppm and 400 ppm for lead, and 0.73 ppm and 0.81 ppm for mercury. Two other metals were found at similar depth intervals but only exceeded their PGSCOs. Nickel was found to occur at a maximum concentration of 156 ppm at 0 ft bgs to 2 ft bgs, exceeding its PGSCO of 130 ppm. Selenium was found to occur at a concentration of 4.46 ppm at 3 ft bgs to 5 ft bgs, exceeding its PGSCO of 4 ppm.

Although the data does not suggest that soil impacts, specifically DNAPL, have impacted off-site soils at this time, the potential exists for the DNAPL observed at intermediate depths to impact the Hudson River based on its mobility and close proximity to the Hudson River shoreline.

Groundwater - Groundwater monitoring data indicates site-wide impacts from SVOCs, PFAS, and metals. For SVOCs, the maximum concentrations from those contaminants that exceed their applicable groundwater standard are benzo(a)anthracene at 0.41 part-per-billion (ppb), benzo(a)pyrene at 0.3 ppb, benzo(b)fluoranthene at 0.32 ppb, benzo(k)fluoranthene at 0.1 ppb, chrysene at 0.36 ppb, and indeno(1,2,3-c,d)pyrene at 0.14 ppb. With the exception of benzo(a)pyrene, the groundwater standard for each respective compound is 0.002 ppb. For benzo(a)pyrene, the groundwater standard is non-detect. Naphthalene was also observed at a single monitoring well in the southern portion of the site, with a concentration of 13 ppb which exceeds its groundwater standard of 10 ppb. For metals, selenium was observed at a concentration of 37.2 ppb at a monitoring well located along the western-central portion of the site. This compound exceeds its groundwater standard of 10 ppb. Iron, magnesium, manganese, and sodium were also detected at elevated levels. However, these compounds likely reflect a combination of naturally occurring concentrations and/or attributable to background conditions which include tidal influence from brackish Hudson River water. Perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were reported at concentrations of up to 42.6 part-per-trillion (ppt) and 17.5 ppt, respectively, exceeding the ambient water quality guidance value of 6.7 ppt for PFOA and 2.7 ppt for PFOS in groundwater. However, since similar concentrations exist at both upgradient and downgradient monitoring locations, and no PFOS or PFOA were observed in soils at concentrations above the protection of groundwater guidance values, the site is likely not a source of PFOA or PFOS.

The data does not indicate any off-site impacts in groundwater-related to this site. However, as noted above, the potential for off-site DNAPL and related dissolved phase constituents related to an upgradient site will be addressed under the former upgradient MGP site.

Soil Vapor - Soil vapor was collected at several locations across the site via temporary soil vapor points. VOCs detected included tetrachlorethylene (PCE) and 1,1,1-trichloroethane (111-TCA). PCE and 111-TCA were detected at maximum concentrations of 95.6 micrograms per cubic meter (ug/m³) and 96 ug/m³, respectively. Additional petroleum-related VOCs were observed with the highest concentration belonging to MEK at a concentration of 4,570 ug/m³.

Sampling indicates soil vapor intrusion is not a concern for off-site buildings.

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*.

Since the site is fenced and covered in pavement, people will not come into contact with site-related soil and groundwater contamination. People are not drinking site-related contaminants in the groundwater since the area is served by a public water supply 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 (SVI). The site is vacant so inhalation of site contaminants in indoor air via vapor intrusion is not a current concern. However, the potential exists for inhalation of site contaminants due to soil vapor intrusion for any future on-site development. In addition, sampling indicates soil vapor intrusion is not a concern for off-site buildings.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with 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 ISS, Site Cap, and IC/ECs remedy.

The elements of the selected remedy, as shown in Figures 3 and 4, 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;
- 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 shall be constructed, at a minimum, to meet the 2020 Energy Conservation Construction Code of New York (or most recent edition) to improve energy efficiency as an element of construction.

As part of the remedial design program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis will be completed. The environmental footprint analysis will be completed using an accepted environmental footprint analysis calculator such as SEFA (Spreadsheets for Environmental Footprint Analysis, USEPA), SiteWise™ (available in the Sustainable Remediation Forum [SURF] library) or similar Department accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction and material use will be estimated, and goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, will be incorporated into the remedial design program, as appropriate. The project design

specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during implementation of the remedial action and reported in the Final Engineering Report (FER), including a comparison to the goals established during the remedial design program.

Additionally, the remedial design program will include a climate change vulnerability assessment, to evaluate the impact of climate change on the project site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities.

2. Excavation

Excavation of site soils to a depth of four to six feet below grade in the portion of the site subject to the in-situ solidification (ISS) treatment described in remedy element 3. Approximately 7,425 cubic yards of soil will be excavated to facilitate ISS implementation. All soils which exceed the restricted residential soil cleanup objectives (SCOs) will be disposed of off-site at a permitted facility.

3. In-Situ Solidification

In-situ solidification (ISS) will be implemented in an approximately 36,700 square-foot area located in the southern and central portion of the site, as indicated on Figure 3. The treatment zone will extend from the top of the groundwater table, at approximately 5 feet below grade, to approximately 44 feet below grade in areas where non-aqueous phase liquid is present below the groundwater table. An approximately four to six-foot soil cut will need to be excavated in this area to contain the ISS spoils and increased soil volume created by the soil mixing. ISS is a process that binds the soil particles in place creating a low permeability mass. The contaminated soil will be mixed in place together with solidifying agents (typically Portland cement) or other binding agents using an excavator or augers. The resulting solid matrix reduces or eliminates mobility of contamination and reduces or eliminates the matrix as a source of groundwater contamination. The potential presence of a buried historic timber bulkhead within the ISS treatment area will be evaluated during the design phase. In locations where the timber bulkhead is identified within the ISS treatment area, the bulkhead will be removed, fully encapsulated, or a combination of both, with measures taken to prevent downgradient mobilization of contamination during ISS activities. The solidified mass will then be covered with a cover system as described in element 4 to prevent direct exposure to the solidified mass.

4. Cover System

A site cover will be required in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs), to allow for future restricted residential use of the site. 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, building foundations and building slabs. Where the soil cover is required over the ISS treatment area, it will consist of a minimum of four feet of soil to ensure the underlying monolith remains below the frost line and protected from the freeze-thaw cycle. Consistent with the remainder of the site cover, the upper two feet will meet the SCOs for restricted residential use. For areas where solidified material underlies the cover, the solidified material itself will serve as the demarcation layer due to the nature of the material.

5. Coal Tar Recovery

Installation and operation of coal tar recovery wells in the southeastern portion of the site to remove potentially mobile coal tar from the subsurface, and the western portion of the site to monitor the ISS effectiveness described in remedial element 3. The number, depth, type and spacing of the recovery wells will be determined during the design phase of the remedy. Coal tar will be collected periodically from each well; however, if wells are determined by the Department to accumulate large quantities of coal tar over extended time periods, they can be converted to automated collection.

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 Westchester 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:

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in element 6 above.

Engineering Controls: The ISS discussed in element 3, the soil cover system discussed in element 4, and the coal tar monitoring wells discussed in element 5 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in element 4 above will be placed in any areas where the upper two of exposed surface soil exceed the applicable soil cleanup objectives (SCOs)
- provisions for the management and inspection of the identified engineering controls; and
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.
- a provision should redevelopment occur to ensure no soil exceeding protection of groundwater concentrations will remain below storm water retention basin or infiltration structures.

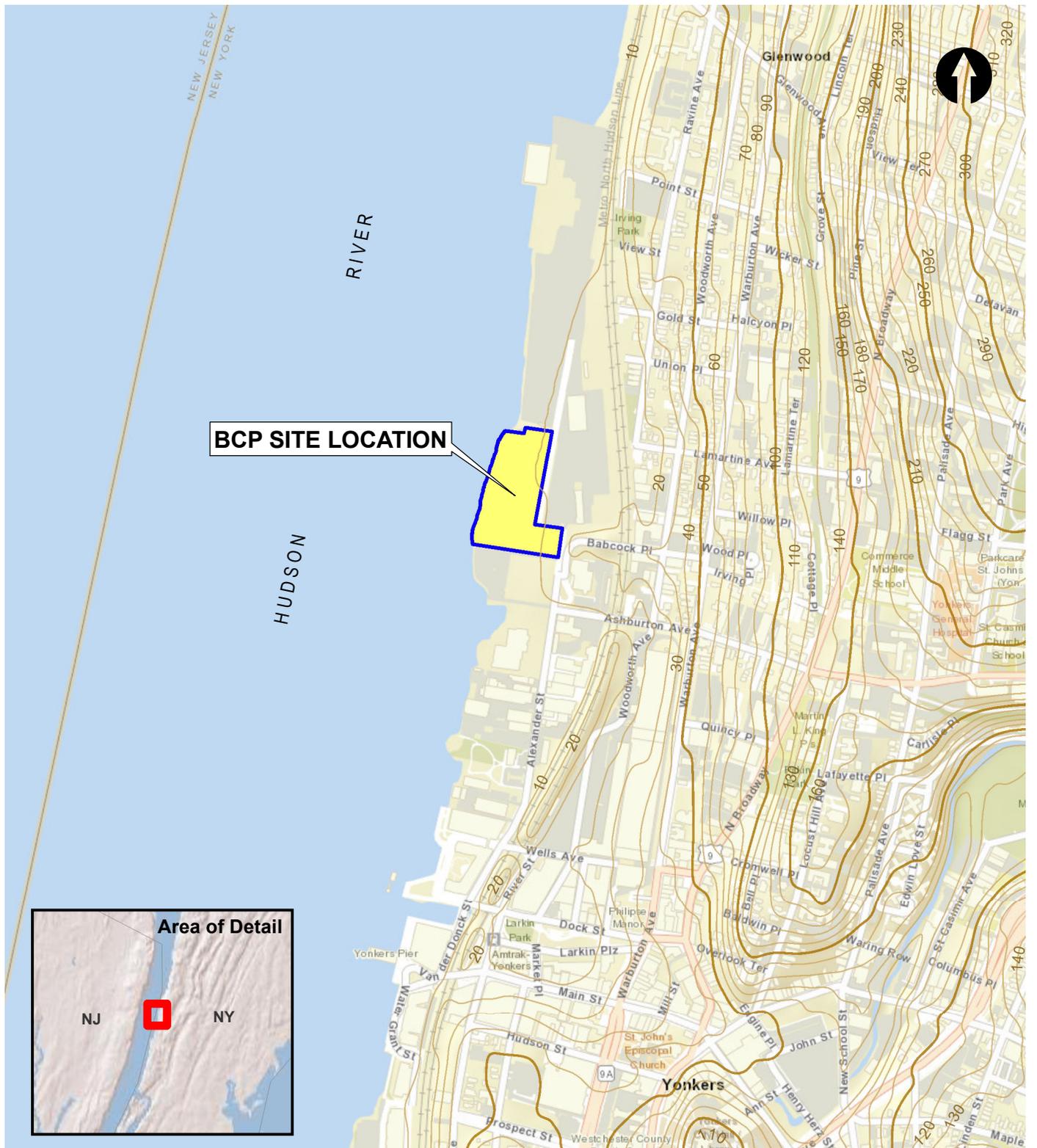
b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- 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 for any buildings 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.

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Service Layer Credits: ESRI Worldwide Street Map data, 2019.

Map Source - BCP Site Boundary from Ward Carpenter Engineers, Inc. "Survey of Property prepared for Extell Hudson Waterfront LLC in the City of Yonkers" - dated May 16, 2019, revised June 26, 2019.



440 Park Avenue South, New York, NY 10016

FORMER EXCELSIOR BAG
Yonkers, New York

BCP SITE LOCATION

DATE
2/16/2023

PROJECT NO.
200131

FIGURE
1

©2023 AKRF. C:\Projects\200131 - EXTELL FORMER EXCELSIOR BAG\Technical\GIS and Graphics\Hazmat\RAWP\200131 Fig 2 BCP Site and RI-SRI Sample Location Plan.mxd 2/16/2023 9:52:12 AM mvelieux



LEGEND

- BCP SITE BOUNDARY
- LOT BOUNDARY AND NAME
- PROPOSED LOCATION OF FUTURE BUILDING
- PHASE I CONSTRUCTION AREA
- SHALLOW SOIL BORING LOCATION
- INTERMEDIATE SOIL BORING LOCATION
- DEEP SOIL BORING LOCATION
- SOIL VAPOR POINT LOCATION
- GROUNDWATER SAMPLE LOCATION
- SURFACE SOIL SAMPLE LOCATION
- AMBIENT AIR SAMPLE LOCATION
- DNAPL DELINEATION SOIL BORING LOCATION
- CLOSED IN-PLACE USTS (ADDRESSED AS PART OF IRM ACTIVITIES)

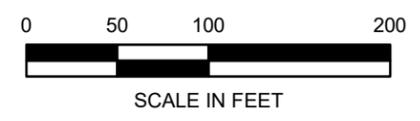
NOTE: DUE TO SCALING CONSTRAINTS, SOME SAMPLE LOCATIONS SHOWN ON FIGURE 2 WERE SLIGHTLY REPOSITIONED TO AVOID OVERLAPPING SYMBOLS. IN ADDITION, EACH MONITORING WELL WAS INSTALLED WITHIN THE CO-LOCATED SOIL BORING. REFER TO APPENDIX F FOR SOIL BORING, GROUNDWATER MONITORING WELL, AND SOIL VAPOR POINT SURVEY DATA.

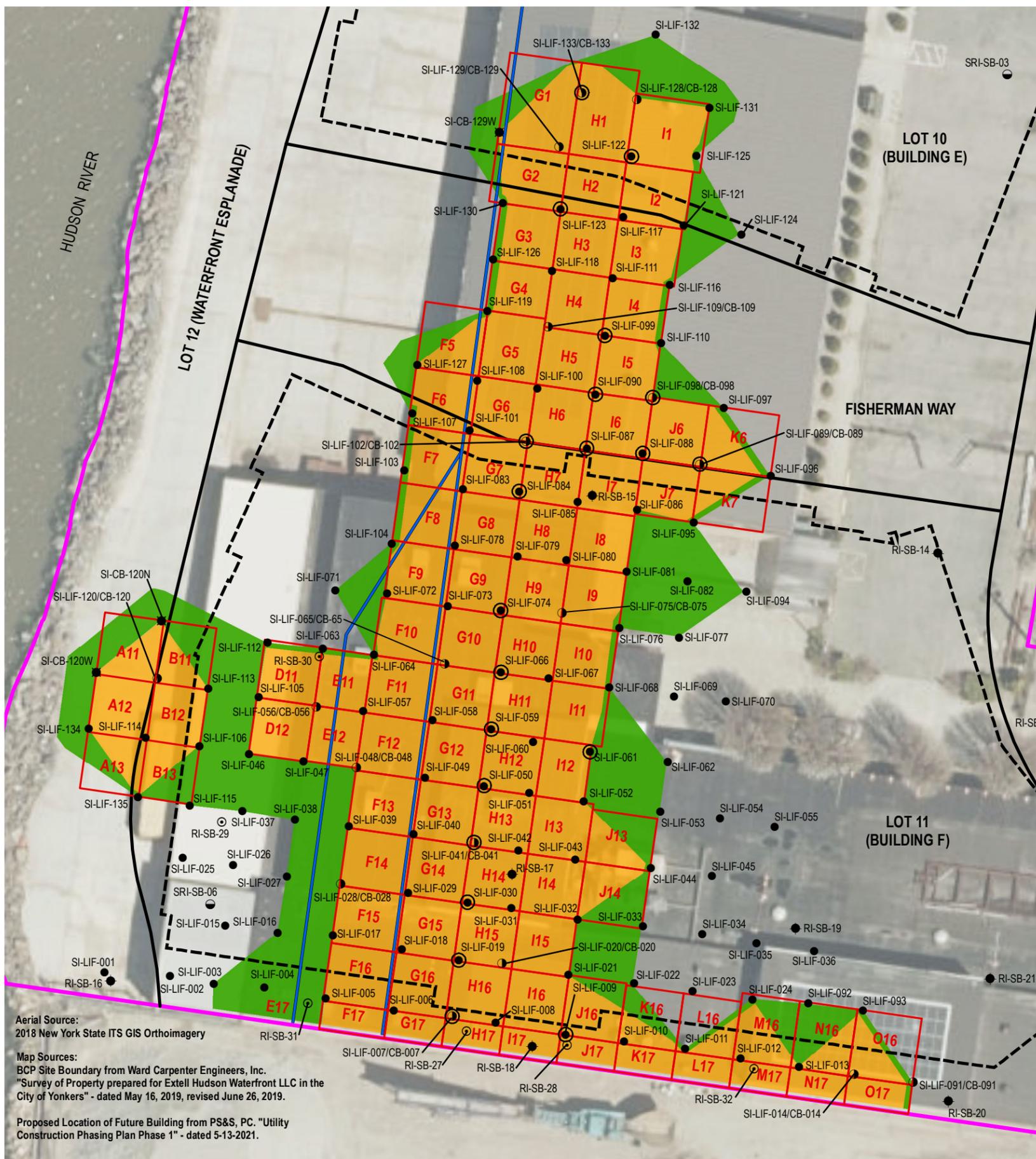
DNAPL - Dense Non-Aqueous Phase Liquid
 UST - Underground Storage Tank
 IRM - Interim Remedial Measure

Aerial Source:
 2018 New York State ITS GIS Orthoimagery

Map Sources:
 BCP Site Boundary from Ward Carpenter Engineers, Inc.
 "Survey of Property prepared for Extell Hudson Waterfront LLC in the City of Yonkers" - dated May 16, 2019, revised June 26, 2019.

Proposed Location of Future Building from PS&S, PC. "Utility Construction Phasing Plan Phase 1" - dated 5-13-2021.





Aerial Source:
2018 New York State ITS GIS Orthoimagery

Map Sources:
BCP Site Boundary from Ward Carpenter Engineers, Inc.
"Survey of Property prepared for Extell Hudson Waterfront LLC in the City of Yonkers" - dated May 16, 2019, revised June 26, 2019.

Proposed Location of Future Building from PS&S, PC. "Utility Construction Phasing Plan Phase 1" - dated 5-13-2021.

ISS Grid	Grid Area (sq ft)	Ground Surface Elevation (feet, NAVD88)	Groundwater Elevation (feet, NAVD88)	Excavation Depth (feet bgs)	Excavation Volume (CY)
A11	440	5.08	1.0	4.08	65
A12	410	5.12	1.0	4.12	65
A13	402	5.15	1.0	4.15	60
B11	395	5.01	1.0	4.01	60
B12	367	5.24	1.0	4.24	60
B13	360	5.45	1.0	4.45	60
D11	400	5.07	1.0	4.07	60
D12	392	5.40	1.0	4.40	65
E11	347	5.33	1.0	4.33	55
E12	335	5.46	1.0	4.46	55
E17	172	6.13	1.0	5.13	35
F5	494	6.32	1.0	5.32	95
F6	434	5.65	1.0	4.65	75
F7	430	5.05	1.0	4.05	65
F8	430	5.15	1.0	4.15	65
F9	430	5.74	1.0	4.74	75
F10	445	5.73	1.0	4.73	80
F11	453	5.70	1.0	4.70	80
F12	453	5.76	1.0	4.76	80
F13	453	5.86	1.0	4.86	80
F14	453	6.06	1.0	5.06	85
F15	453	6.17	1.0	5.17	85
F16	453	6.18	1.0	5.18	85
F17	195	6.22	1.0	5.22	40
G1	790	5.66	1.0	4.66	135
G2	499	7.51	1.0	6.51	120
G3	416	7.44	1.0	6.44	100
G4	359	7.37	1.0	6.37	85
G5	455	7.36	1.0	6.36	105
G6	400	7.41	1.0	6.41	95
G7	400	7.18	1.0	6.18	90
G8	400	6.32	1.0	5.32	80
G9	400	5.73	1.0	4.73	70
G10	400	5.90	1.0	4.90	75
G11	400	6.08	1.0	5.08	75
G12	400	6.06	1.0	5.06	75
G13	400	5.98	1.0	4.98	75
G14	400	6.02	1.0	5.02	75
G15	400	6.10	1.0	5.10	75
G16	400	6.14	1.0	5.14	75
G17	172	6.17	1.0	5.17	35
H1	634	7.56	1.0	6.56	155
H2	400	7.51	1.0	6.51	95
H3	400	7.45	1.0	6.45	95
H4	400	7.36	1.0	6.36	95
H5	400	7.34	1.0	6.34	95
H6	400	7.35	1.0	6.35	95
H7	400	7.36	1.0	6.36	95
H8	400	6.79	1.0	5.79	85
H9	400	6.12	1.0	5.12	75
H10	400	6.39	1.0	5.39	80
H11	400	6.49	1.0	5.49	80
H12	400	6.27	1.0	5.27	80
H13	400	6.17	1.0	5.17	75
H14	400	6.07	1.0	5.07	75
H15	400	6.13	1.0	5.13	75
H16	400	6.18	1.0	5.18	75
H17	172	6.20	1.0	5.20	35
I1	611	7.58	1.0	6.58	150
I2	463	7.53	1.0	6.53	110
I3	447	7.45	1.0	6.45	105
I4	413	7.37	1.0	6.37	95
I5	409	7.34	1.0	6.34	95
I6	409	7.29	1.0	6.29	95
I7	400	7.29	1.0	6.29	95
I8	400	6.96	1.0	5.96	90
I9	400	6.67	1.0	5.67	85
I10	400	7.16	1.0	6.16	90
I11	400	6.99	1.0	5.99	90
I12	333	6.43	1.0	5.43	65
I13	400	6.37	1.0	5.37	80
I14	400	6.33	1.0	5.33	80
I15	400	6.31	1.0	5.31	80
I16	400	6.30	1.0	5.30	80
I17	172	6.34	1.0	5.34	35
J6	419	7.33	1.0	6.33	100
J7	383	7.22	1.0	6.22	90
J13	408	6.54	1.0	5.54	85
J14	449	6.50	1.0	5.50	90
J16	414	6.46	1.0	5.46	85
J17	172	6.46	1.0	5.46	35
K6	522	7.41	1.0	6.41	125
K7	468	7.27	1.0	6.27	110
K16	400	6.57	1.0	5.57	80
K17	172	6.56	1.0	5.56	35
L16	400	6.60	1.0	5.60	85
L17	172	6.61	1.0	5.61	35
M16	462	6.74	1.0	5.74	100
M17	172	6.69	1.0	5.69	35
N16	462	6.71	1.0	5.71	100
N17	172	6.75	1.0	5.75	35
O16	516	6.65	1.0	5.65	110
O17	192	6.73	1.0	5.73	40
Totals	36,702				7,425

LEGEND

- BCP SITE BOUNDARY
- LOT LINES
- PROPOSED LOCATION OF FUTURE BUILDING
- REFINED EXTENT OF COAL TAR RESIDUAL IMPACTS ABOVE THE INTERMEDIATE CONFINING LAYER
- REFINED EXTENT OF COAL TAR SOURCE MATERIAL ABOVE THE INTERMEDIATE CONFINING LAYER
- 2020-2021 RI INTERMEDIATE SOIL BORING LOCATION
- 2021 SRI DEEP SOIL BORING LOCATION
- 2020-2021 RI DNAPL DELINEATION SOIL BORING LOCATION
- 2022 SI #2 STEP-OUT CONFIRMATORY SOIL BORING LOCATION
- 2022 SI #2 LIF SOIL BORING LOCATION
- 2022 SI #2 LIF BORING WITH CO-LOCATED CONFIRMATORY SOIL BORING LOCATION
- 2022 SI #2 LIF/CONFIRMATORY BORING WITH SHALLOW REFUSAL
- APPROXIMATE LOCATION OF SUBSURFACE HISTORIC TIMBER BULKHEAD
- ISS GRID CELL (REFER TO TABLE 1 FOR DEPTH OF EXCAVATION AND ISS)

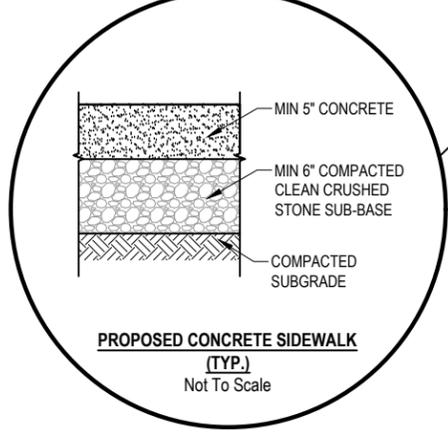
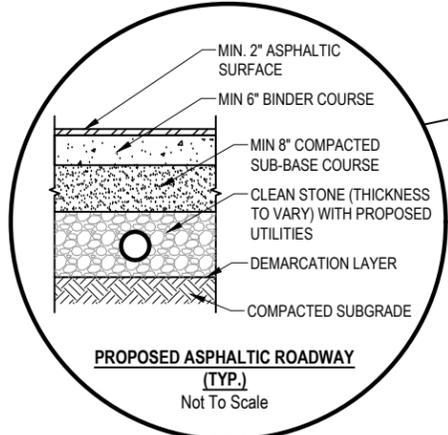
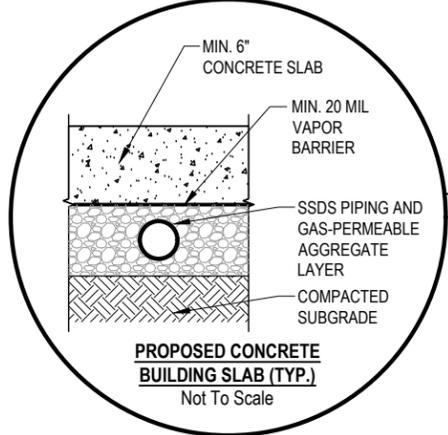
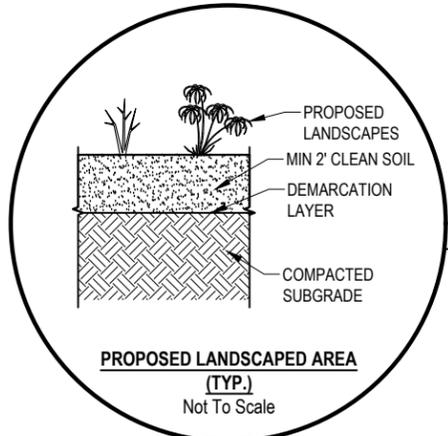
NOTES

1. ISS Grid Cell surface elevations were approximated based upon SI #2 boring survey data provided by PS&S on May 11, 2022. LIF boring survey data within each ISS Grid Cell were used to estimate an average ISS Grid Cell surface elevation. Actual grid cell elevations may vary across the lateral extent of the ISS Grid Cell.
2. Groundwater elevation of +1 ft amsl (based upon the average depth to groundwater documented in the RI) was used as the basis for estimating excavation depths and volumes presented. Actual excavation depths may vary based upon actual groundwater elevations.
3. Refer to Figure 11 and Table 1 in the RAWP for further detail on ISS treatment areas, depths, and volumes.

CT: Coal Tar
 DNAPL: Dense Non-Aqueous Phase Liquid
 LIF: Laser Induced Fluorescence
 RE: Reference Emitter
 RI: Remedial Investigation
 SRI: Supplemental Remedial Investigation
 SI: Supplementary Investigation



©2023 AKRF, Inc. Q:\Projects\200131 - EXTELL FORMER EXCELSIOR BAG\Technical\Hazmat\CAD\BCP\WP\200131 Fig 14 Site-Wide Cover System Plan.dwg last save: mvelieux 2/16/2023 8:38 AM

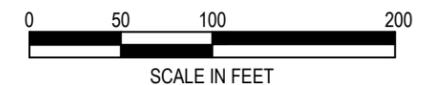


Aerial Source:
2018 New York State ITS GIS Orthoimagery

Map Source - BCP Site Boundary from Ward Carpenter Engineers, Inc. "Survey of Property prepared for Extell Hudson Waterfront LLC in the City of Yonkers" - dated May 16, 2019, revised June 26, 2019.

- LEGEND**
- BCP SITE BOUNDARY
 - LOT BOUNDARY AND NAME
 - PHASE I CONSTRUCTION AREA
 - EXISTING RIP RAP
 - PROPOSED CONCRETE SIDEWALK
 - PROPOSED LANDSCAPED AREAS
 - PROPOSED CONCRETE SLAB ON GRADE WITH UNDERLYING SSDS AND VAPOR BARRIER
 - PROPOSED ASPHALT ROADWAY
 - PROPOSED INTERMEDIATE DNAPL MONITORING WELL LOCATION
 - PROPOSED DEEP DNAPL MONITORING WELL LOCATION

NOTE:
SSDS: SUB-SLAB DEPRESSURIZATION SYSTEM
Exact location of proposed monitoring wells to be determined during remedial design and construction



440 Park Avenue South, New York, NY 10016

FORMER EXCELSIOR BAG
Yonkers, New York

**SITE-WIDE COVER SYSTEM PLAN AND
POST-REMEDIATION DNAPL MONITORING WELL LOCATIONS**

DATE	2/16/2023
PROJECT NO.	200131
FIGURE	4