# DECISION DOCUMENT

Cottage Place Gardens Phase 3
Brownfield Cleanup Program
Yonkers, Westchester County
Site No. C360150
November 2017

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

# DECLARATION STATEMENT - DECISION DOCUMENT

Cottage Place Gardens Phase 3
Brownfield Cleanup Program
Yonkers, Westchester County
Site No. C360150
November 2017

**Statement of Purpose and Basis**

This document presents the remedy for the Cottage Place Gardens Phase 3 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 Cottage Place Gardens Phase 3 site and the public's input to the proposed remedy presented by the Department.

**Description of Selected Remedy**

The elements of the selected remedy are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green Remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;

- Reducing direct and indirect greenhouse gases and other emissions;

- Increasing energy efficiency and minimizing use of non-renewable energy;

- Conserving and efficiently managing resources and materials;

- Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;

- Maximizing habitat value and creating habitat when possible;

• Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and

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

2. Excavation

The existing on-site buildings will be demolished and materials which can't be beneficially reused on site will be taken off-site for proper disposal in order to implement the remedy.

Excavation and off-site disposal of all on-site soil which exceeds the unrestricted soil cleanup objectives (SCOs), as defined by 6 NYCRR Part 375-6.8, down to the top of bedrock. If a Track 1 cleanup is achieved, a Cover System will not be a required element of the remedy.

Approximately 8,530 cubic yards of contaminated soil will be removed from the Phase 3A parcel and approximately 8,235 cubic yards of contaminated soil will be removed from the Phase 3B parcel. Excavation will encompass the entire Phase 3A and 3B parcels and range from a depth of 5 to 12 feet and 6 to 10 feet, respectively. The soil removal remedy is expected to achieve at least a bulk reduction in groundwater contamination to asymptotic levels through source removal and excavation dewatering. Sampling will be conducted in accordance with DER-10 to document that any soil above bedrock left on-site meets the unrestricted SCOs.

Excavation and removal of any encountered underground storage tanks (USTs), fuel dispensers, underground piping or other structures associated with a source of contamination.

3. Backfill

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

4. Vapor Intrusion Evaluation

As part of the Track 1 remedy, a soil vapor intrusion evaluation will be completed. The evaluation will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion, if identified.

5. Contingency Remedy

The intent of the remedy is to achieve 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 and/or it's determined that post-excavation groundwater treatment is necessary, then a Site Management Plan (SMP) and Environmental Easement (EE) will be required to address the SVI evaluation and/or implement

other 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.

If no EE or SMP is needed to achieve soil or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Chapter 873, article VII of the Laws of Westchester County, which prohibits potable use of groundwater without prior approval.

In the event that Track 1 unrestricted use is not achieved, including the achievement of groundwater and soil vapor remedial objectives, the following contingent remedial elements will be required and the remedy will achieve a Track 2 or Track 4 restricted residential cleanup.

Contingent Remedial Elements:

Engineering and Institutional Controls

Imposition of an institutional control in the form of an environmental easement and a site management plan, as described below, will be required. The remedy will achieve a Track 4 restricted residential cleanup at a minimum and will include imposition of a site cover (as a contingency if soil greater than 2 feet but less than 15 feet deep does not meet the restricted residential SCOs), an environmental easement, and site management plan as described below. If all soil above 15 feet or bedrock meets the SCOs for restricted residential use, then a Track 2 remedy will be achieved and no cover system will be required.

A. Cover System

A site cover will be required to allow for restricted residential use of the site in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may 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, cement, paved surface parking areas, sidewalks, building foundations and building slabs.

B. 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, commercial, and industrial uses 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.

C. 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 the contingent institutional section above.

Engineering Controls: The site cover discussed in the contingent cover system section above.

This plans includes, but may not be limited to:

o An Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;

o Descriptions of the provisions of the environmental easement including land use;

o Provisions for the management and inspection of the identified engineering controls;

o A provision for evaluation of the potential for soil vapor intrusion for any buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;

o Maintaining site access controls and Department notifications; and

o 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:

o Monitoring of groundwater to assess the performance and effectiveness of the remedy;

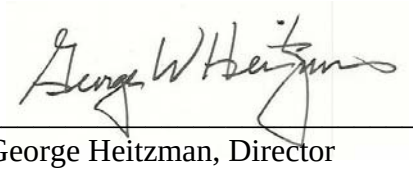
o A schedule of monitoring and frequency of submittals to the Department;

o 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.

November 10, 2017



Date

George Heitzman, Director
Remedial Bureau C

# DECISION DOCUMENT

Cottage Place Gardens Phase 3
Yonkers, Westchester County
Site No. C360150
November 2017

## SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The New York State Brownfield Cleanup Program (BCP) is a voluntary program. The goal of the BCP is to enhance private-sector cleanups of brownfields and to reduce development pressure on "greenfields." A brownfield site is real property, the redevelopment or reuse of which may be complicated by the presence or potential presence of a contaminant.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

## SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repositories:

Yonkers Public Library - Riverfront Library
Attn: John Favareau
One Larkin Center
Yonkers, NY 10701
Phone: 914-337-1500

NYSDEC Region 3
Attn: Please call for an appointment
21 S. Putt Corners Road
New Paltz, NY 12561

Phone: 845-256-3154

**Receive Site Citizen Participation Information By Email**

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

## SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The site is located in an urban area in Yonkers, Westchester County and consists of two non-contiguous parcels of land totaling 1.793 acres referred to as Phase 3A and Phase 3B. The Phase 3A parcel occupies the northern portion of 8 Cottage Place and is bound by Willow Place to the north, 188 Warburton Avenue (BCP Site #C360138) to the west and other lands of Cottage Place Gardens to the east and south (BCP Sites #C360160 and #C360161). The Phase 3B parcel occupies the southwestern corner of the intersection of Warburton Avenue and Lamartine Avenue.

Site Features: The Phase 3A parcel is currently occupied by three multi-story residential apartment buildings (Buildings 3, 6 and 7). The buildings are three story brick buildings with flat roofs constructed on crawlspace type basements. The Phase 3B parcel is currently a residential townhouse complex. The multiple residential housing units are located along the entire length of the parcel fronting Warburton Avenue. The majority of the site not covered by buildings is covered by asphalt.

Current Zoning and Land Use: According to the City of Yonkers Zoning Map, the Phase 3A parcel is zoned M (Medium-Density Residential and Apartment Houses). The Phase 3B parcel is zoned CM (Commercial, Storage and Light Manufacturing). Both parcels are currently used for restricted residential purposes. Surrounding area includes a mix of residential and commercial property use to the north, south, east and west with some industrial use to the west and closer to the Hudson River.

Past Use of the Site: The Phase 3A parcel has been used as an apartment complex since its development in 1948. Prior to that time, the parcel was developed with several dwellings. The Phase 3B parcel has been used as a public housing townhouse complex since its construction in the early 1970s. Prior to that, the parcel was developed with multiple single and multi-family dwellings, and stores.

In July 2015 prior to the site entering the BCP, approximately 95.65 tons of lead contaminated soil was excavated and properly disposed off-site from the Phase 3B parcel during installation of underground piping.

Site Geology and Hydrogeology: The site slopes moderately to the west toward the Hudson River. Soils within the site are identified as glacial till over shallow bedrock in some areas. The site is immediately underlain by fill material. The thickness of the fill ranges from about 2 to 5 feet.

Groundwater appears to be perched above the glacial till and has been encountered at depths ranging from 4 to 10 feet on the Phase 3B parcel. Groundwater was not encountered on the Phase 3A parcel but was encountered at depths from 8 to 12 feet adjacent south of the site. Based on area topography, groundwater is anticipated to flow from the east to the west toward the Hudson River.

The area is served by a public water system.

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(s) under the Brownfield Cleanup Agreement is a/are Volunteer(s). The Applicant(s) does/do not have an obligation to address off-site contamination. However, the Department has determined that this site does not pose a significant threat to public health or the environment; accordingly, no enforcement actions are necessary.

## SECTION 6: SITE CONTAMINATION

### 6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess

groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- indoor air
- sub-slab vapor

### 6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

### 6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

chrysene
benzo(b)fluoranthene
copper
chromium
lead
mercury
nickel
zinc
phenol

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

- groundwater
- soil

## 6.2: Interim Remedial Measures

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

There were no IRMs performed at this site during the RI.

## 6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Nature and Extent of Contamination: Soil and groundwater were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs) and pesticides. Based upon investigations conducted to date, the primary contaminants of concern on both parcels include SVOCs and metals.

Soil - SVOCs, including chrysene up to 1.2 parts per million (ppm) (unrestricted soil cleanup objective (URSCO) of 1 ppm) and benzo(b)fluoranthene up to 1.3 ppm (URSCO of 1 ppm) were detected above the unrestricted SCOs within the Phase 3A parcel. SVOCs were not detected above SCOs within the Phase 3B parcel.

Metals, including total chromium up to 55 ppm (URSCO of 30 ppm), lead up to 1,410 ppm (URSCO of 63 ppm), mercury up to 0.523 ppm (URSCO of 0.18 ppm), and zinc up to 315 ppm (URSCO of 109 ppm) were detected in the fill and/or subsurface soil on both parcels above unrestricted use SCOs. Copper was also detected up to 74 ppm (URSCO of 50 ppm) above the unrestricted use SCOs within the Phase 3A parcel and nickel was detected up to 40 ppm (URSCO of 30 ppm) above the unrestricted use SCOs within the Phase 3B parcel.

VOCs were not detected above the unrestricted SCO with the exception of acetone which was detected in one sample within the phase 3A parcel above the unrestricted SCO of 0.05 ppm at 0.064 ppm in the subsurface soil.

Data does not indicate any off-site impacts in soil related to this site.

Groundwater - Groundwater samples collected from the Phase 3B parcel detected the presence of one SVOC, phenol up to 2.3 parts per billion (ppb) (SCG of 1 ppb) and chromium up to 58.3 ppb (SCG of 50 ppb) at concentrations exceeding groundwater standards. Groundwater samples were not collected within the Phase 3A Parcel, as groundwater was not encountered during the investigation. However, groundwater samples collected from monitoring wells installed adjacent to the south of this parcel (BCP site C360161) identified VOCs, including acetone up to 100 ppb (SCG of 50), benzene up to 58 ppb (SCG of 1 ppb), ethylbenzene up to 440 ppb (SCG of 5 ppb), isopropylbenzene up to 60 ppb (SCG of 5 ppb), toluene up to 300 ppb (SCG of 5 ppb), o-xylene

up to 260 ppb (SCG of 5 ppb), p/m-xylene up to 940 ppb (SCG of 5 ppb), methyl tert-butyl ether up to 20 ppb (SCG of 10 ppb), and 1,2-dichloropropane up to 1.6 ppb (SCG of 1 ppb); SVOCs, including benzo(a)anthracene up to 0.42 ppb (SCG of 0.002 ppb), benzo(b)fluoranthene up to 0.62 ppb (SCG of 0.002 ppb), benzo(k)fluoranthene up to 0.24 ppb (SCG of 0.002 ppb), chrysene up to 0.46 ppb (SCG of 0.002 ppb), indeno(1,2,3-cd)pyrene up to 0.29 ppb (SCG of 0.002 ppb), naphthalene up to 38 ppb (SCG of 10 ppb), and phenol up to 2 ppb (SCG of 1 ppb); and metals, including barium up to 1,220 ppb (SCG of 1,000 ppb), total chromium up to 290 ppb (SCG of 50 ppb), copper up to 499 ppb (SCG 200 ppb), lead up to 599 ppb (SCG of 25 ppb), mercury up to 4.76 ppb (SCG of 0.7 ppb), and nickel up to 212 ppb (SCG of 100 ppb)at concentrations exceeding groundwater standards. Based on the proximity of the monitoring wells to the site boundaries, groundwater beneath the Phase 3A Parcel may be impacted by these same constituents.

Data does not indicate any off-site impacts in groundwater related to this site.

Sub-Slab Vapor and Indoor Air - A soil vapor intrusion assessment was not conducted on-site given that all on-site buildings will be demolished.

Soil vapor intrusion sampling was conducted at an adjacent off-site building. The sampling results, in conjunction with other environmental sampling results, indicate no action is needed to address exposures related to soil vapor intrusion in this off-site building.

### 6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure.*

The site is not fenced and persons who enter the site could contact contaminants in the soil by walking on the soil, digging or otherwise disturbing the soil. 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 nearby 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. Sampling has indicated soil vapor intrusion is not a concern for the buildings tested. The potential exists for inhalation of soil vapor contaminants due to soil vapor intrusion if existing on-site buildings are re-occupied or if new buildings are developed on the site. The potential for vapor intrusion on the adjacent Cottage Place Phase 5 Site will also be evaluated as part of that site's remedial program.

### 6.5: Summary of the Remediation Objectives

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

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

The remedial action objectives for this site are:

**Groundwater**

**RAOs for Public Health Protection**

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

**RAOs for Environmental Protection**

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

**Soil**

**RAOs for Public Health Protection**

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

**RAOs for Environmental Protection**

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

**Soil Vapor**

**RAOs for Public Health Protection**

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

## SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation and 6 NYCRR Part 375.

The selected remedy is a Track 1: Unrestricted use remedy.

The selected remedy is referred to as the Excavation to Unrestricted Conditions remedy.

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

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green Remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;

- Reducing direct and indirect greenhouse gases and other emissions;

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- Maximizing habitat value and creating habitat when possible;

- Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and

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

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If no EE or SMP is needed to achieve soil or soil vapor remedial action objectives, then the following local use restriction will be relied upon to prevent ingestion of groundwater: Chapter 873, article VII of the Laws of Westchester County, which prohibits potable use of groundwater without prior approval.

In the event that Track 1 unrestricted use is not achieved, including the achievement of groundwater and soil vapor remedial objectives, the following contingent remedial elements will be required and the remedy will achieve a Track 2 or Track 4 restricted residential cleanup.

Contingent Remedial Elements:

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- Allow the use and development of the controlled property for restricted residential, commercial, and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

- 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.

C. Site Management Plan

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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 the contingent institutional section above.

Engineering Controls: The site cover discussed in the contingent cover system section above.

This plans includes, but may not be limited to:

o An Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;

o Descriptions of the provisions of the environmental easement including land use;

o Provisions for the management and inspection of the identified engineering controls;

o A provision for evaluation of the potential for soil vapor intrusion for any buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;

o Maintaining site access controls and Department notifications; and

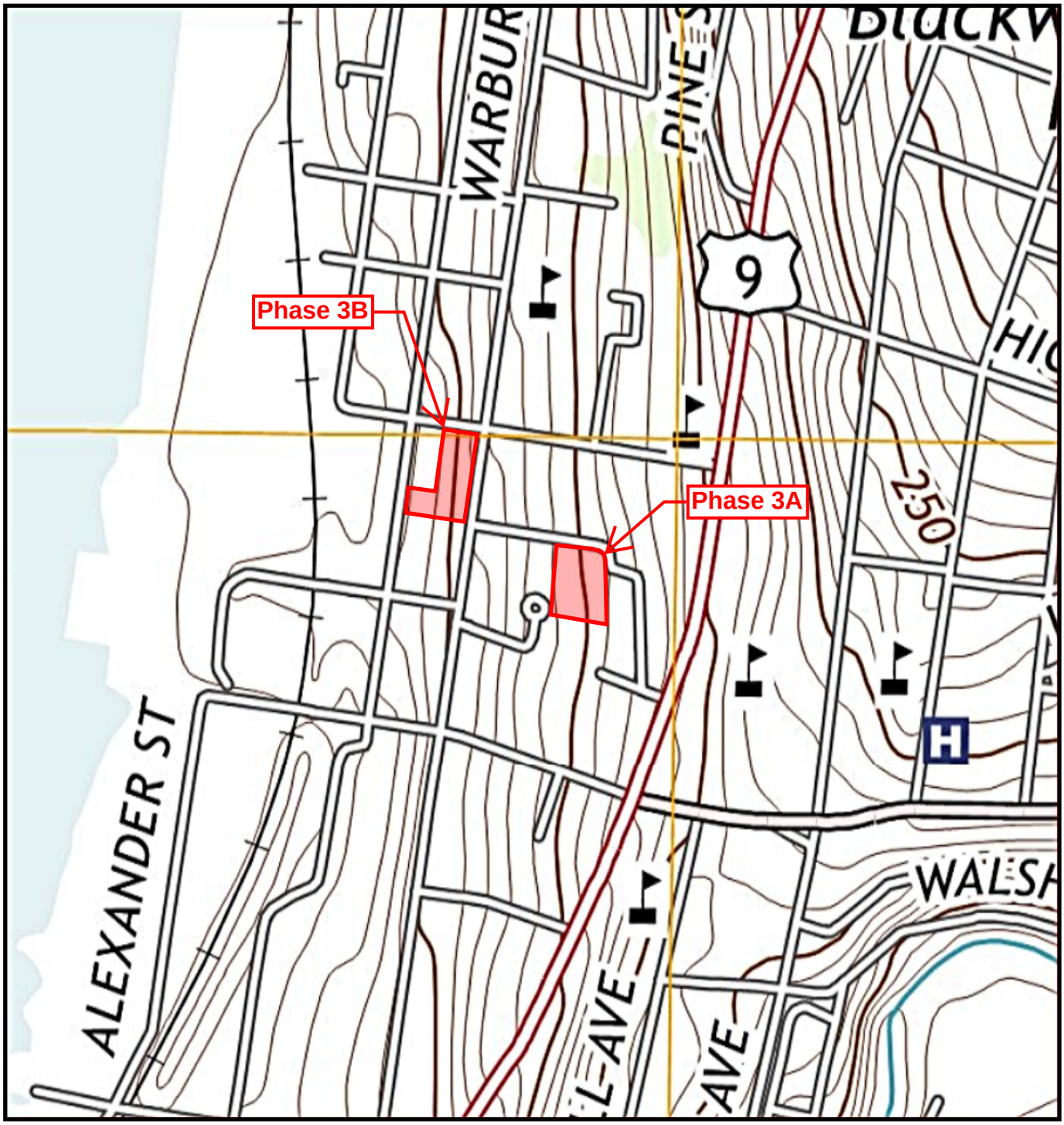
o The steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

o Monitoring of groundwater to assess the performance and effectiveness of the remedy;

o A schedule of monitoring and frequency of submittals to the Department;

o Monitoring for vapor intrusion for any buildings on the site, as may be required by the Institutional and Engineering Control Plan discussed above.




**MAP REFERENCE**
United States Geological Survey
7.5 Minute Series Topographic Map
Quadrangle: Yonkers, NY-NJ
Date: 2013

N

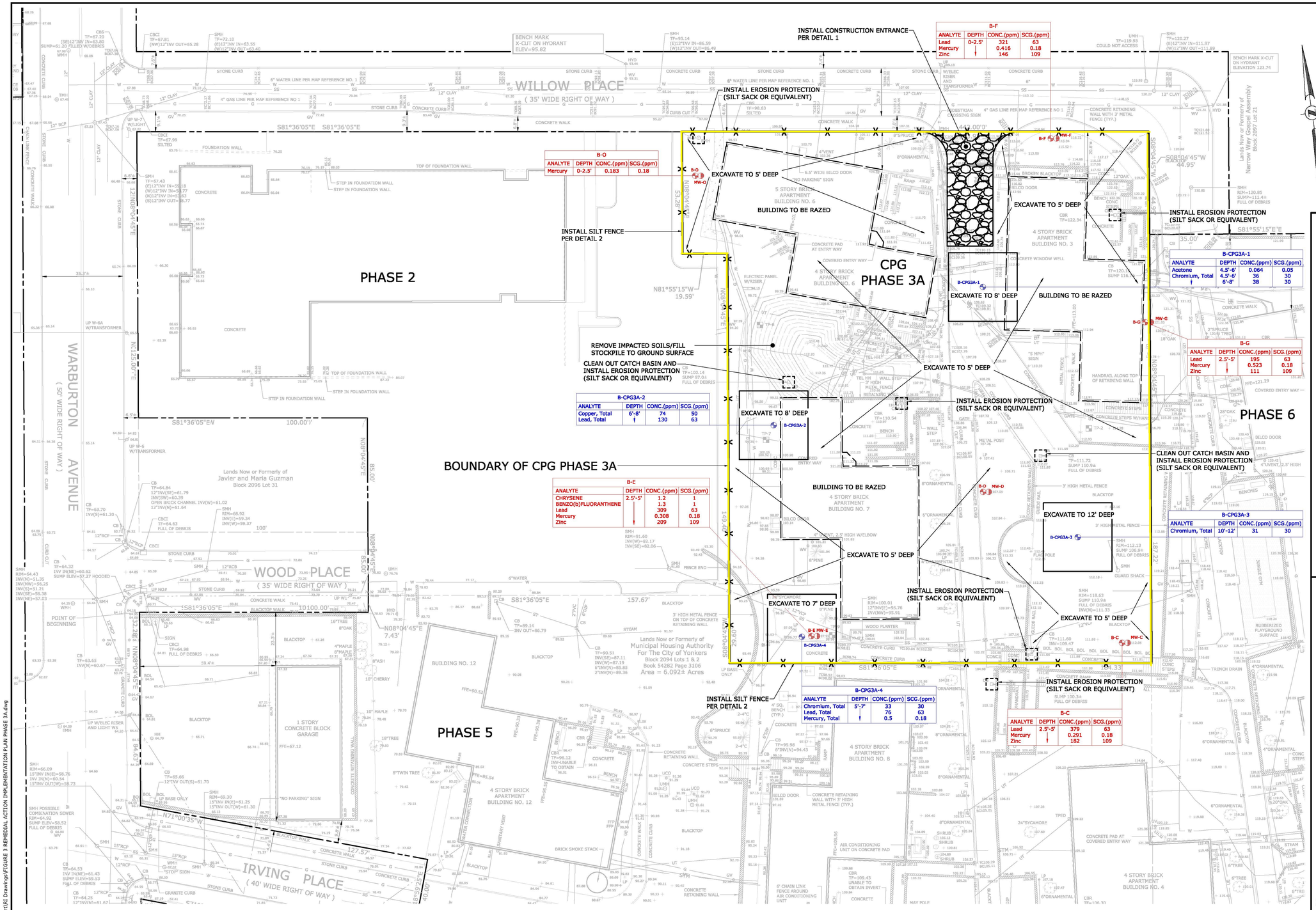
C.T.MALE ASSOCIATES
ENGINEERING, SURVEYING, ARCHITECTURE & LANDSCAPE ARCHITECTURE, P.C.

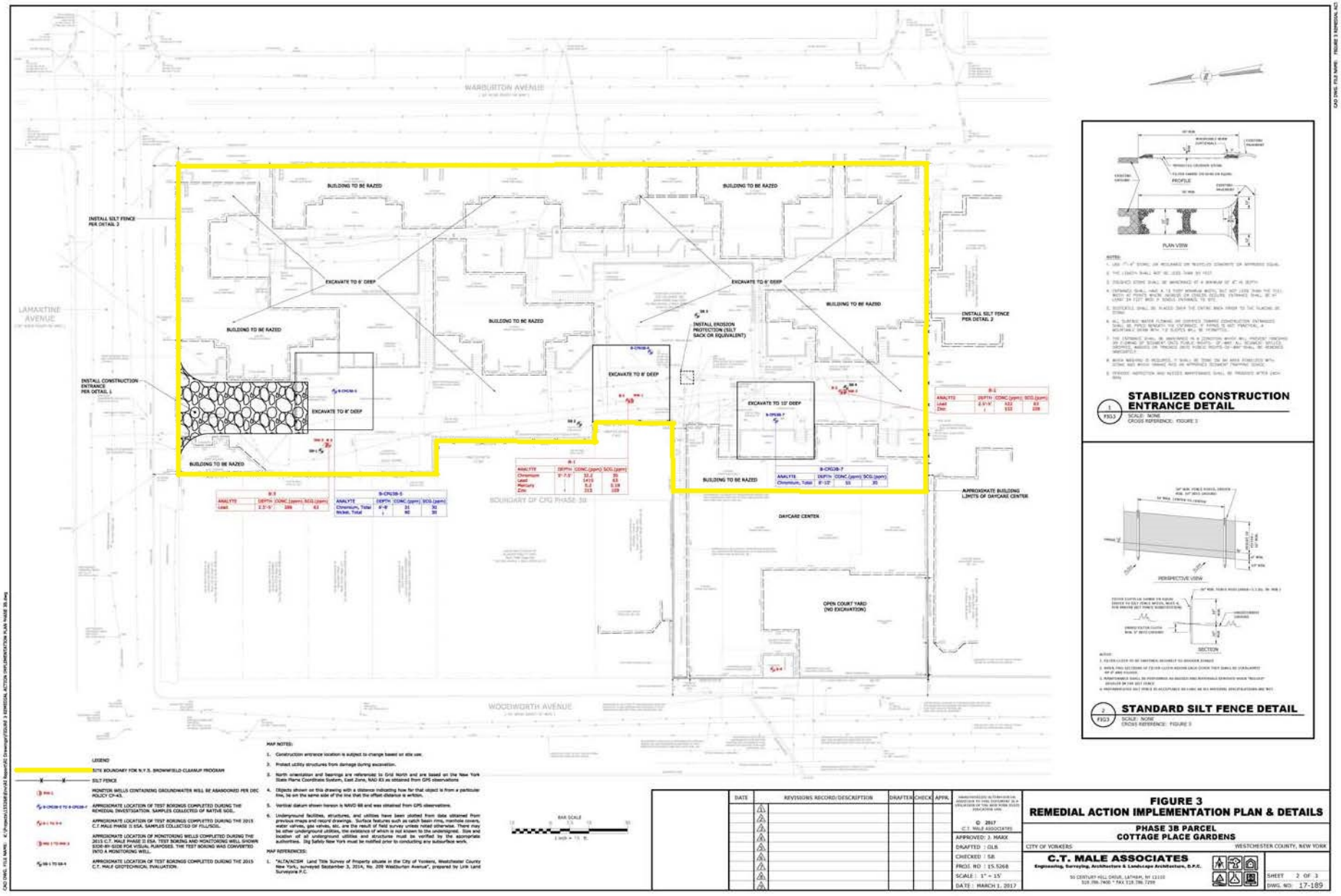
50 CENTURY HILL DRIVE
LATHAM, NY 12110

# SITE LOCATION MAP

**COTTAGE PLACE GARDENS – PHASE 3**

| CITY OF YONKERS | WESTCHESTER COUNTY, NY |
|---|---|
| SCALE: NONE | The locations and features depicted on this map are approximate and do not represent an actual survey. |
| DRAFTER: PAL | |
| PROJECT No: 15.5268 | |


INSTALL CONSTRUCTION ENTRANCE PER DETAIL 1
INSTALL EROSION PROTECTION (SILT SACK OR EQUIVALENT)
INSTALL SILT FENCE PER DETAIL 2
EXCAVATE TO 5' DEEP
EXCAVATE TO 8' DEEP
EXCAVATE TO 12' DEEP
EXCAVATE TO 7' DEEP
REMOVE IMPACTED SOILS/FILL STOCKPILE TO GROUND SURFACE
CLEAN OUT CATCH BASIN AND INSTALL EROSION PROTECTION (SILT SACK OR EQUIVALENT)
BUILDING TO BE RAZED
BOUNDARY OF CPG PHASE 3A
CPG PHASE 3A
PHASE 2
PHASE 5
PHASE 6
WILLOW PLACE ( 35' WIDE RIGHT OF WAY )
WARBURTON AVENUE ( 50' WIDE RIGHT OF WAY )
WOOD PLACE ( 35' WIDE RIGHT OF WAY )
IRVING PLACE ( 40' WIDE RIGHT OF WAY )
BENCH MARK X-CUT ON HYDRANT ELEV=95.82
BENCH MARK X-CUT ON HYDRANT ELEVATION 123.74
POINT OF BEGINNING
Lands Now or Formerly of Javier and Maria Guzman Block 2096 Lot 31
Lands Now or Formerly of Municipal Housing Authority For The City of Yonkers Block 2094 Lots 1 & 2 Book 5428|2 Page 3106 Area = 6.092± Acres
Lands Now or Formerly of Narrow Way Gospel Assembly Block 2097 Lot 21
5 STORY BRICK APARTMENT BUILDING NO. 6
4 STORY BRICK APARTMENT BUILDING NO. 7
4 STORY BRICK APARTMENT BUILDING NO. 8
4 STORY BRICK APARTMENT BUILDING NO. 12
4 STORY BRICK APARTMENT BUILDING NO. 3
4 STORY BRICK APARTMENT BUILDING NO. 4
1 STORY CONCRETE BLOCK GARAGE
BUILDING NO. 12
B-F
ANALYTE DEPTH CONC.(ppm) SCG.(ppm)
Lead 0-2.5' 321 63
Mercury 0.416 0.18
Zinc 146 109
B-O
ANALYTE DEPTH CONC.(ppm) SCG.(ppm)
Mercury 0-2.5' 0.183 0.18
B-CPG3A-2
ANALYTE DEPTH CONC.(ppm) SCG.(ppm)
Copper, Total 6'-8' 74 50
Lead, Total 130 63
B-E
ANALYTE DEPTH CONC.(ppm) SCG.(ppm)
CHRYSENE 2.5'-5' 1.2 1
BENZO(b)FLUORANTHENE 1.3 1
Lead 309 63
Mercury 0.308 0.18
Zinc 209 109
B-CPG3A-1
ANALYTE DEPTH CONC.(ppm) SCG.(ppm)
Acetone 4.5'-6' 0.064 0.05
Chromium, Total 4.5'-6' 36 30
6'-8' 38 30
B-G
ANALYTE DEPTH CONC.(ppm) SCG.(ppm)
Lead 2.5'-5' 195 63
Mercury 0.523 0.18
Zinc 111 109
B-CPG3A-3
ANALYTE DEPTH CONC.(ppm) SCG.(ppm)
Chromium, Total 10'-12' 31 30
B-CPG3A-4
ANALYTE DEPTH CONC.(ppm) SCG.(ppm)
Chromium, Total 5'-7' 33 30
Lead, Total 76 63
Mercury, Total 0.5 0.18
B-C
ANALYTE DEPTH CONC.(ppm) SCG.(ppm)
Lead 2.5'-5' 379 63
Mercury 0.291 0.18
Zinc 182 109
B-CPG3A
B-E MW-E
B-F MW-F
B-G MW-G
B-O MW-O
B-C MW-C
MW-D
B-E MW-E
B-CPG3A-1
B-CPG3A-2
B-CPG3A-3
B-CPG3A-4
TP-1
TP-2
TP-3
TP-4
TP-5
TP-6
TP-7
S81°36'05"E 100.00'
N08°04'45"E 253.00'
S81°36'05"E 157.67'
S08°04'45"W 253.60'
N81°55'15"W 19.59'
S81°55'15"E 35.00'
S08°04'45"W 44.95'
N08°04'45"E 125.00'
N71°00'35"W 127.57'
S10°52'52"E 40.00'
N08°04'45"E 85.00'
S81°36'05"E 100.00'
S81°36'05"E 10100.00'
N08°04'45"E 7.43'
S08°04'45"W 256.60'
N08°04'45"E 253.00'
S81°36'05"E 100.00'
N08°04'45"E 125.00'
S81°36'05"E 100.00




LEGEND

- SITE BOUNDARY FOR N.Y.S. BROWNFIELD CLEANUP PROGRAM
- SILT FENCE
- MONITOR WELLS CONTAINING GROUNDWATER WILL BE ABANDONED PER DEC POLICY CP-43.
- APPROXIMATE LOCATION OF TEST BORINGS COMPLETED DURING THE REMEDIAL INVESTIGATION. SAMPLES COLLECTED OF NATIVE SOIL.
- APPROXIMATE LOCATION OF TEST BORINGS COMPLETED DURING THE 2015 C.T. MALE PHASE II ESA. SAMPLES COLLECTED OF FILL/SOIL.
- APPROXIMATE LOCATION OF MONITORING WELLS COMPLETED DURING THE 2015 C.T. MALE PHASE II ESA. TEST BORING AND MONITORING WELL SHOWN SIDE-BY-SIDE FOR VISUAL PURPOSES. THE TEST BORING WAS CONVERTED INTO A MONITORING WELL.
- APPROXIMATE LOCATION OF TEST BORINGS COMPLETED DURING THE 2015 C.T. MALE GEOTECHNICAL EVALUATION.

MAP NOTES:

1. Construction entrance location is subject to change based on site use.
2. Protect utility structures from damage during excavation.
3. North orientation and bearings are referenced to Grid North and are based on the New York State Plane Coordinate System, East Zone, NAD 83 as obtained from GPS observations
4. Objects shown on this drawing with a distance indicating how far that object is from a particular line, be on the same side of the line that the offset distance is written.
5. Vertical datum shown hereon is NAVD 88 and was obtained from GPS observations.
6. Underground facilities, structures, and utilities have been plotted from data obtained from previous maps and record drawings. Surface features such as catch basin rims, manhole covers, water valves, gas valves, etc. are the result of field survey unless noted otherwise. There may be other underground utilities, the existence of which is not known to the undersigned. Size and location of all underground utilities and structure must be verified by the appropriate authorities. Dig Safely New York must be notified prior to conducting any subsurface work.

MAP REFERENCES:

1. "ALTA/ACSM Land Title Survey of Property situate in the City of Yonkers, Westchester County New York., surveyed September 3, 2014, No. 209 Wasburton Avenue", prepared by Link Land Surveyors P.C.

BAR SCALE

0 5 7.5 15 30

1 inch = 15 ft.




NOTES:

1. USE 1"-4" STONE OR RECLAIMED OR RECYCLED CONCRETE OF APPROVED EQUAL.
2. THE LENGTH SHALL NOT BE LESS THAN 50 FEET.
3. CRUSHED STONE SHALL BE APPROVED AT A MINIMUM OF 6" IN DEPTH.
4. ENTRANCE SHALL HAVE A 10 FOOT MINIMUM WIDTH, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. ENTRANCE SHALL BE AT LEAST 24 FEET WIDE IF SINGLE ENTRANCE TO SITE.
5. EXISTING SHALL BE PLACED ONCE THE ENTIRE AREA PRIOR TO THE PLACING OF STONE.
6. ALL SURFACE WATER FLOWING OR EXPECTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE, IF PIPING IS NOT PRACTICAL A MOUNTABLE BERM WITH 5:1 SLOPES MAY BE PERMITTED.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS- OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

**STABILIZED CONSTRUCTION ENTRANCE DETAIL**

1 / FIG3 — SCALE: NONE
CROSS REFERENCE: FIGURE 3




NOTES:

1. FILTER CLOTH TO BE FASTENED SECURELY TO WOODEN FRAME
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIALS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE
4. REPLACEMENT OF SILT FENCE IS ACCEPTABLE IN LIEU OF ALL MATERIAL SPECIFICATIONS ARE MET.

**STANDARD SILT FENCE DETAIL**

2 / FIG3 — SCALE: NONE
CROSS REFERENCE: FIGURE 3

| DATE | REVISIONS RECORD/DESCRIPTION | DRAFTER | CHECK | APPR. |
|---|---|---|---|---|
| | 1 | | | |
| | 2 | | | |
| | 3 | | | |
| | 4 | | | |
| | 5 | | | |
| | 6 | | | |
| | 7 | | | |



APPROVED: J. MAXX
DRAFTED : GLB
CHECKED : SB
PROJ. NO : 15.5268
SCALE : 1" = 15'
DATE : MARCH 1, 2017

# FIGURE 3
## REMEDIAL ACTION IMPLEMENTATION PLAN & DETAILS

**PHASE 3B PARCEL**
**COTTAGE PLACE GARDENS**

CITY OF YONKERS — WESTCHESTER COUNTY, NEW YORK

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SHEET 2 OF 3
DWG. NO: 17-189

CAD DWG. FILE NAME: FIGURE 3 REMEDIAL ACT
CAD DWG. FILE NAME: K:\Projects\15268\Work Space\05 Drawings\FIGURE 3 REMEDIAL ACTION IMPLEMENTATION PLAN MASE 3B.dwg