DECISION DOCUMENT

Manhasset N10 (LIRR)
Voluntary Cleanup Program
Manhasset, Nassau County
Site No. V00396
June 2015

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

DECLARATION STATEMENT - DECISION DOCUMENT

Manhasset N10 (LIRR)
Voluntary Cleanup Program
Manhasset, Nassau County
Site No. V00396
June 2015

Statement of Purpose and Basis

This document presents the remedy for the Manhasset N10 (LIRR) site, a voluntary cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and applicable guidance.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Manhasset N10 (LIRR) site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the remedy are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, 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 gas and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling and increasing reuse of materials which will 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

All on-site soils within the fence lines, including the drainage swale, which exceed industrial SCOs, as well as on-site soils outside the fenced area, which exceed restricted residential SCOs,

as defined by 6 NYCRR Part 375-6.8, will be excavated and transported off-site for disposal. All off-site soils which exceed residential SCOs, as defined by 6 NYCRR Part 375-6.8, will be excavated and transported off-site for disposal. Contaminated sediment from the outfall area which exceeds NYSDEC TOGS 5.1.9 for In-Water and Riparian Management of Sediment and Dredged Material Threshold Levels will be excavated and transported off-site for disposal.

A total of about 1,300 cubic yards of soil will be excavated from the site to a maximum depth of 6 feet and of an approximately 13,900 square foot area, inclusive of the drainage swale.

An area of approximately 3,300 square feet will be excavated from the drainage swale to a maximum depth of two feet, which will require removal of approximately 250 cubic yards of soil.

About 500 cubic yards of sediment will be excavated from an approximately 7,000 square foot section of the outfall area to a maximum depth of 4 feet.

Clean fill and crushed stone meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and establish the designed grades on- and off-site. Backfill placed outside the fence line will be of sufficient quality to maintain a vegetation layer. After removal of the contaminated sediment from the outfall the area will be backfilled with clean sand as defined in NYSDEC TOGS 5.1.9 for In-Water and Riparian Management of Sediment and Dredged Material. The drainage swale will also be reconstructed with an engineered swale designed to minimize debris accumulation and protect against overtopping. The new swale will also incorporate a curb/low wall to assure over flow from storm water will not occur.

3. Institutional Control

Imposition of an institutional control in the form of a deed restriction for the controlled property that:

- requires 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);
- allows the use and development of the controlled property for industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts 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;
- prohibits agriculture or vegetable gardens on the controlled property; and
- requires compliance with the Department approved Site Management Plan.

4. Site Management Plan

A Site Management Plan is required, which includes the following:

- an Institutional Control plan that identifies all use restrictions for the site and details the steps and media-specific requirements necessary to ensure the following institutional controls remain in place and effective:

Institutional Controls: The deed restriction discussed in Section 3 above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the deed restriction including any land and groundwater use restrictions;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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.

June 9, 2015

Date

James Harrington

Digitally signed by James Harrington
DN: cn=James Harrington, o=NYSDEC, ou=DER, email=jbharrin@gw.dec.state.ny.us, c=US
Date: 2015.06.09 12:26:35 -04'00'

James Harrington, Director
Remedial Bureau A

DECISION DOCUMENT

Manhasset N10 (LIRR)
Manhasset, Nassau County
Site No. V00396
June 2015

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 Voluntary Cleanup Program (VCP) is a voluntary program. The goal of the VCP is to enhance private sector cleanup of brownfields by enabling parties to remediate sites using private rather than public funds and to reduce the development pressures on "greenfields." 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:

Manhasset Public Library
Attn: Reference Librarian
30 Onderdonk Avenue
Manhasset, NY 11030
Phone: (516) 627-2300

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 Long Island Railroad's Manhasset Substation site is located on Virginia Place and Thompson Shore Road, in a residential portion of Manhasset, Nassau County, NY. The adjoining railroad tracks are on the south side of the property.

Site Features: The main site features are the two-story rectifier building, transformer yard, dirt parking area, crushed stone, and vegetation on the rest of the property. There is a stormwater drainage system that begins upgradient of and crosses through the property which ends in Manhasset Bay after collecting drainage from part of the substation. On-site the swale is uncovered, however, it is covered off-site, including where it dives underground before surfacing at the outfall.

The site is fenced (including the open drainage swale), except for a 4 foot wide grass strip between the fence line and the road. Manhasset High School and Manhasset Middle School complex is located at a much higher elevation to the south of the substation across the tracks. A residential neighborhood lies to the north across Virginia Place.

Current Zoning/Use(s): The site is about 1 acre, currently zoned industrial and is used by the LIRR as a rectifying station to supply power to the railroad.

Past Use of the Site: Prior to 1979, mercury rectifiers were used at this substation to power the Long Island Rail Road (LIRR) locomotive and electric passenger car fleet. It is believed that work practices surrounding the operation and maintenance of the rectifiers caused spills and other contaminating events. Mercury contamination remains although the rectifiers were removed and replaced with solid state equipment. In 2000, the LIRR conducted initial site assessments and submitted reports on findings, as well as conducted initial remedial measures, including but not limited to, excavation work consisting of the removal of six inches to a foot of soil and replacement with poly sheeting and crushed stone around the entrance. In 2004, the LIRR entered into the VCP program.

Site Geology and Hydrogeology: The shallow geology of the site consists of sands, with some silt and gravel. Based on available information, the approximate groundwater flow direction is to the northwest and the approximate depth to groundwater is 75 feet below grade.

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, at a minimum, alternatives (or an alternative) that restrict(s) the use of the site to industrial use as

described in DER-10, Technical Guidance for Site Investigation and Remediation were/was evaluated.

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 voluntary cleanup agreement is with a responsible party. The agreement requires the party to address on-site and off-site contamination. 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
- sediment

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:

MERCURY

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

- soil
- sediment

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: The contaminant of concern is mercury. Investigations show mercury contamination in the surface and subsurface soils as well as in outfall sediments. The impacted soil is primarily within rectifier pits, drainage swale, and other subsurface features. Surface contamination is most commonly found adjacent to the rectifier buildings. Groundwater standards are not exceeded for contaminants attributable to this site.

Soil - The most impacted soil is primarily within the rectifier pits, other subsurface features and within the drainage swale, all located inside the fence line. Soil contamination in general is most

commonly found adjacent to the rectifier buildings inside and outside the fence line, but still on LIRR property.

Mercury contamination exceeds the industrial SCO of 5.7 ppm with levels up to 1,700 ppm near the entrance of the substation building, and 9,800 ppm located on-site within the drainage swale. Subsurface soil from the area between the LIRR fence and the curb (immediately north of the drainage swale), had concentrations of mercury in excess of the restricted residential SCO of 0.81 ppm, with these samples exhibiting mercury concentrations ranging from 0.1 ppm to less than 10.0 ppm.

Sediment - The contaminated sediment is located at the base of the outfall to Manhasset Bay. Mercury contamination, at levels up to 4.3 ppm, exceeds the NYSDEC's TOGS 5.1.9 for In-Water and Riparian Management of Sediment and Dredged Material Threshold Value of 0.17 ppm.

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 completely fenced, which restricts public access. However, persons who enter the site could contact contaminants in the soil and open swale sediments by walking on the site, digging or otherwise disturbing the soil and sediments. People may come in contact with contaminants present off-site in sediments near the outfall of the bay.

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:

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.

RAOs for Environmental Protection

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

Sediment

RAOs for Public Health Protection

- Prevent direct contact with contaminated sediments.
- Prevent surface water contamination which may result in fish advisories.

RAOs for Environmental Protection

- Prevent releases of contaminant(s) from sediments that would result in surface water levels in excess of (ambient water quality criteria).
- Prevent impacts to biota from ingestion/direct contact with sediments causing toxicity or impacts from bioaccumulation through the marine or aquatic food chain.
- Restore sediments to pre-release/background conditions to the extent feasible.

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.

The selected remedy is referred to as the Soil Excavation 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, 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;
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Institutional Controls: The deed restriction discussed in Section 3 above.

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- descriptions of the provisions of the deed restriction including any land and groundwater use restrictions;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

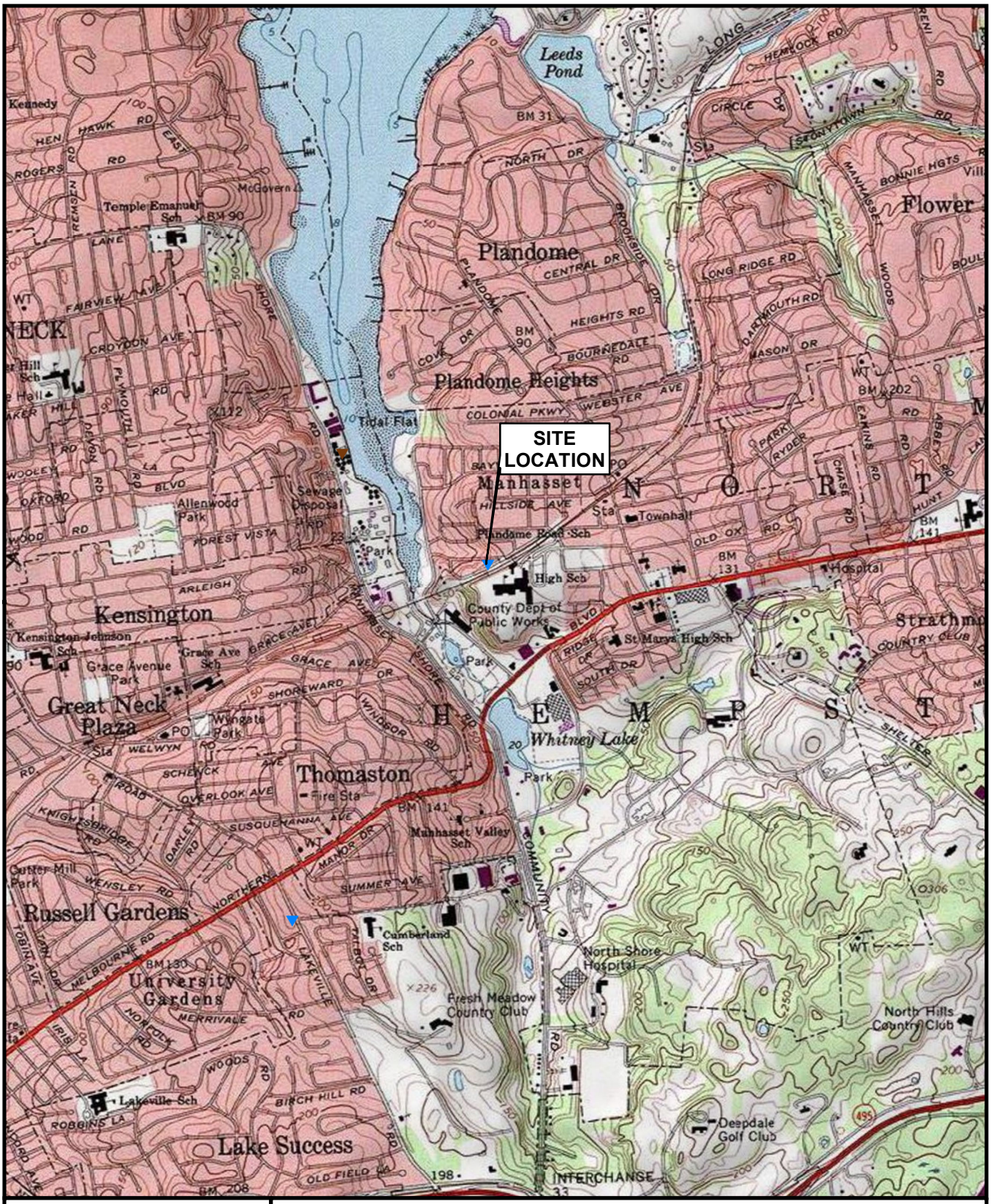


Figure 1

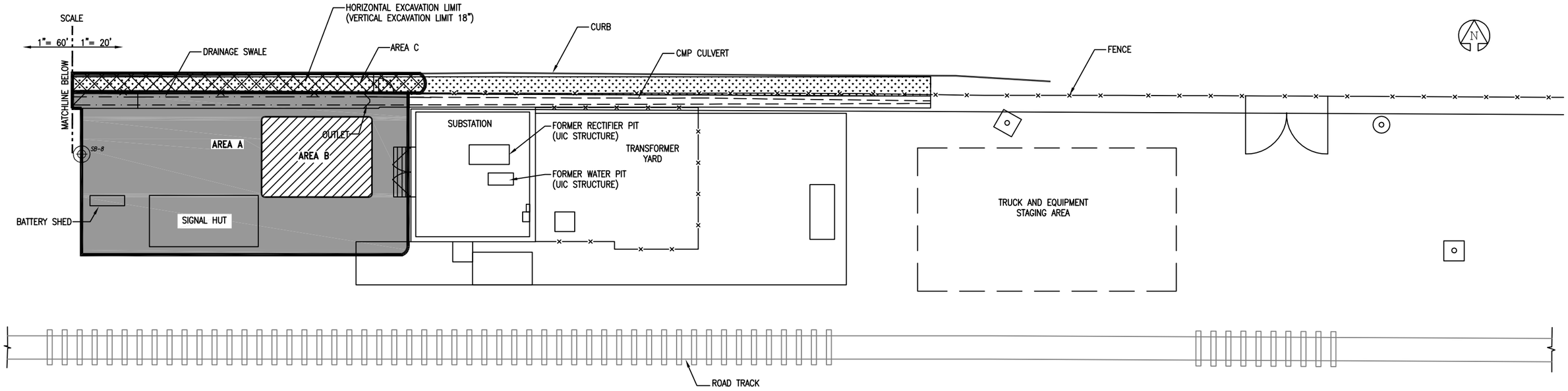
Site Location Map

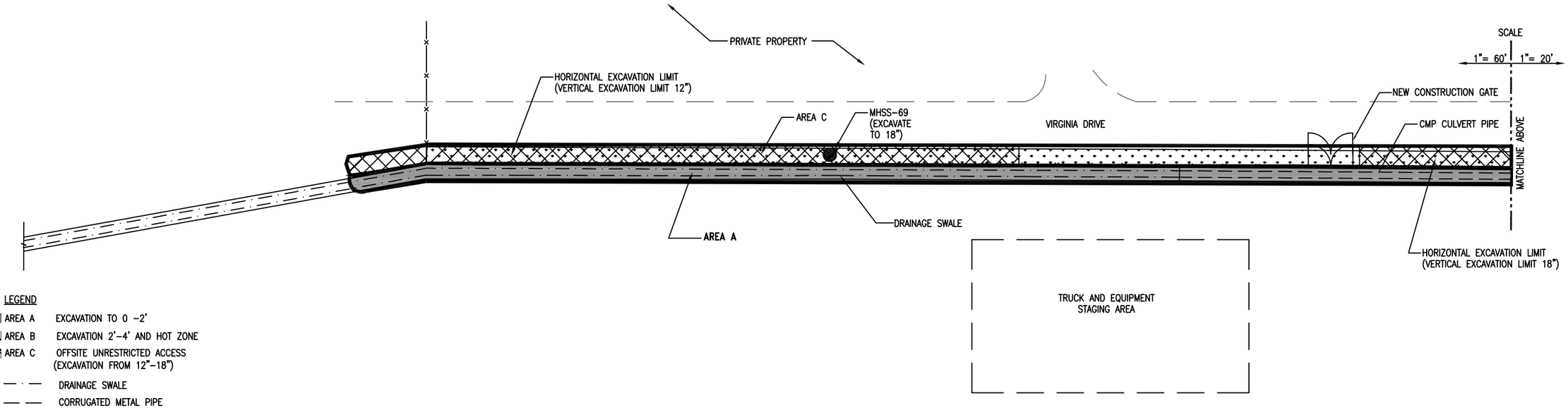
Manhasset N10 (LIRR)

Town of North Hempstead, Nassau County

Site No. V00396

DEPARTMENT OF ENVIRONMENTAL CONSERVATION • NEW YORK STATE •





LEGEND

AREA A	EXCAVATION TO 0 –2'
AREA B	EXCAVATION 2'–4' AND HOT ZONE
AREA C	OFFSITE UNRESTRICTED ACCESS (EXCAVATION FROM 12"–18")
— · —	DRAINAGE SWALE
— —	CORRUGATED METAL PIPE

NO.	DATE	REVISIONS	DRAWN	CHKD	APPRVD

DESIGNED P.B
DRAWN L.S
CHECKED P.B.
APPROVED M.T.

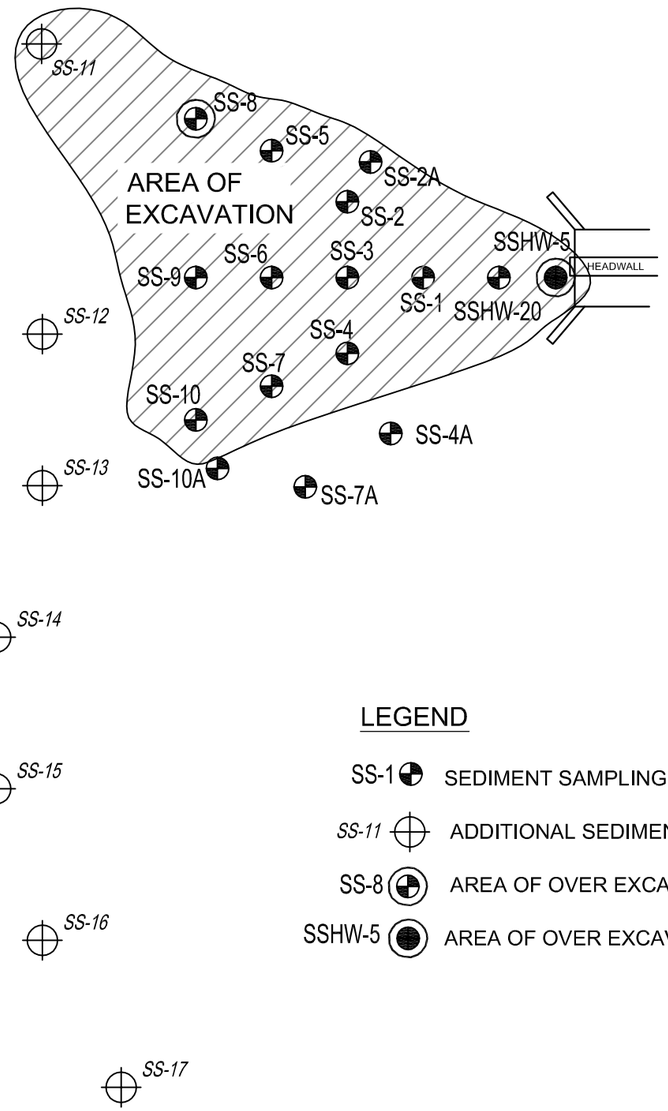
STV Incorporated
225 Park Avenue South
New York, New York 10003

MTA Long Island Rail Road

MANHASSET-SUBSTATION - N10

SITE EXCAVATION PLAN

CONTRACT NO.
SCALE: AS NOTED
DATE: AUGUST, 2010
DRAWING NO. FIGURE 2
SHEET
OF



LEGEND

- SS-1 — SEDIMENT SAMPLING LOCATIONS
- SS-11 — ADDITIONAL SEDIMENT SAMPLING LOCATIONS
- SS-8 — AREA OF OVER EXCAVATION (TO 18" bgs.)
- SSHW-5 — AREA OF OVER EXCAVATION (TO 12" bgs.)

STV Incorporated
225 PARK AVENUE SOUTH, N.Y., N.Y. 10003

PREPARED FOR: MTA Long Island Rail Road

MANHASSET, NY

OUTFALL
SEDIMENT SAMPLING LOCATIONS

DATE: AUGUST, 2010
SCALE: 1" = 40'
SHEET NO: FIGURE 2