Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

Amtrak Sunnyside Yard Site
Operable Unit No. 6
State Superfund Project

Long Island City, Queens County, New York
Site Number 241006

March 2010

New York State Department of Environmental Conservation
DAVID A. PATERSON, *Governor* ALEXANDER B. GRANNIS, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

Amtrak Sunnyside Yard Site
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Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for Operable Unit # 6 of the Amtrak Sunnyside Yard site, a Class 2 inactive hazardous waste disposal site. The selected remedial program was chosen in accordance with the New York State Environmental Conservation Law, 6 NYCRR Part 375, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for Operable Unit #6 of the Amtrak Sunnyside Yard site and the public's input to the Proposed Remedial Action Plan (PRAP) presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Description of Selected Remedy

Based on the results of the remedial investigation and feasibility study (RI/FS) for the Amtrak Sunnyside Yard Operable Unit #6 site and the criteria identified for evaluation of alternatives, the Department has selected No Action other than monitoring and institutional and engineering controls. The components of the remedy are as follows:

1. Imposition of an institutional control in the form of an environmental easement that will require (a) limiting the use and development of the property to industrial use; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) the property owner to complete and submit to the Department a periodic certification of institutional and engineering controls.

2. Development of a site management plan which will include the following institutional and engineering controls: (a) continued evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (b) in coordination with the off-site remedial parties, monitoring of wells in off-site source plume areas to determine if continued migration is occurring; (c) residual contaminated soils that may be excavated on-site during future redevelopment will be addressed through soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations; (d) identification of any use restrictions on the

site; and (d) fencing to control site access. The OU-6 site management plan will be incorporated into an overall site-wide site management plan upon completion of all OUs on the site.

3. The property owner will provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the Site; and (c) state that nothing has occurred that will impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

4. Since the remedy results in untreated hazardous wastes remaining at the site, a monitoring program will be instituted. Groundwater monitoring in off-site source plume areas will be performed to determine if continued migration is occurring. A subset of the existing monitoring wells within the off-site source plume areas and downgradient of these areas (Figure 7) will be gauged and sampled. Monitoring frequency will be determined as part of the Site Management Plan approval process.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy selected for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

MAR 3 0 2005

Date

Dale A. Desnoyers, Director
Division of Environmental Remediation

RECORD OF DECISION
Amtrak Sunnyside Yard Site
Operable Unit No. 6
State Superfund Project
Long Island City, Queens County, New York
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SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected this remedy for Operable Unit 6 (OU-6) at Amtrak Sunnyside Yard (Site), Site No. 241006. OU-6 is defined in the Consent Order as saturated soil and groundwater beneath the Site. In addition, soil vapor was investigated as part of OU-6. As more fully described in Sections 3 and 5 of this document, releases associated with fueling operations, maintenance activities, train-mounted transformers, historic fill activities, and peeling lead-based paint from the four bridges that span the site have resulted in the disposal of hazardous wastes, including polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs), carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and lead. Additionally, off-site sources of chlorinated volatile organic compounds (CVOCs) have migrated on-site in groundwater. These wastes from off-site sources have contaminated the groundwater at the Site.

Based on the findings of the investigation of OU-6, which indicate that the past disposal of hazardous waste at the Site does not pose a significant threat to human health or the environment via groundwater, saturated soil, or soil vapor, No Action is selected as the remedy for OU-6.

This Record of Decision (ROD) identifies the selected remedy and discusses the reasons for this selection. The Department has selected a final remedy for OU-6 after careful consideration of all comments received during the public comment period.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this ROD in accordance with the requirements of 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.

SECTION 2: SITE LOCATION AND DESCRIPTION

Sunnyside Yard (the Site) is located at 39-29 Honeywell Street, Long Island City, Queens County, New York (Figure 1). The Site is a railroad maintenance and storage facility that currently encompasses approximately 133 acres (Figure 2). As shown on Figure 1, Newtown Creek, which defines the border between Queens and Kings Counties, is located less than 0.5 mile south of the western portion of the Site. The Site is bordered by commercial/residential

properties, with Northern Boulevard located to the north, 42nd Place located to the east, Thompson Avenue to the west, and Skillman Avenue located to the south.

The Site is underlain by the following geologic units in order of increasing depth: fill (including railroad ballast, cinders/ash), wetland deposits, Upper Pleistocene glacial deposits, and crystalline bedrock. Fill activities, which were part of major topographic changes engineered at the Site, occurred during construction in the early 1900's.

The fill is predominantly comprised of reworked glacial deposits (unstratified sand, silt, clay, and gravel) and railroad ballast, with lesser amounts of ash, cinders, and construction debris. With the exception of paved areas, buildings, and vegetated areas, the railroad ballast is ubiquitous at the surface throughout the Site.

Groundwater occurs under water-table (unconfined) conditions in fill deposits, wetland deposits, or the Upper Pleistocene glacial deposits. The saturated Upper Pleistocene deposits comprise the Upper Glacial aquifer. The depth to groundwater across OU-6 varies from one to fifteen feet below land surface (bls).

Groundwater within the shallow deposits flows predominantly west across the Site. However, groundwater between Queens Boulevard and Honeywell Street flows northerly and northwesterly toward the buried flow path of the Dutch Kills Creek and/or East River (see figure 4). In the deeper deposits, groundwater predominantly flows west across the Site. OU-6, which is the subject of this document, consists of saturated soil and groundwater at the Site. An operable unit represents a portion of the site remedy that for technical or administrative reasons can be addressed separately to eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination.

The remaining operable units for this Site are:

- OU-1: Soil above the water table within the footprint of the High Speed Trainset Facility Service and Inspection (HSTF S&I) Building. A ROD was issued for OU-1 in August 1997 and the remedial work was completed in April 1998.
- OU-2: Soil above the water table within the footprint of the HSTF S&I Building ancillary structures. A No Further Action ROD was issued for OU-2 in November 1997.
- OU-3: Soil and separate phase petroleum hydrocarbon accumulation above the water table and soil below the water table within 8 acres in the north central portion of the Site. A ROD was issued for OU-3 in March 2007. Remediation has been initiated.
- OU-4: Soil above the water table (unsaturated zone) at the Site, excluding OU-1, OU-2, and OU-3. A ROD was issued for OU-4 in March 2009. Remediation will be initiated shortly.
- OU-5: Sewer system (water and sediment) beneath the Site. The OU-5 RI is ongoing.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

The Pennsylvania Tunnel and Terminal Company, a subsidiary of the Pennsylvania Railroad, later known as the Penn Central Transportation Company, originally constructed Sunnyside Yard

in the early 1900's. The Site officially opened on November 27, 1910. On April 1, 1976, the Consolidated Rail Corporation (Conrail) acquired the Site, and the same day conveyed it to Amtrak, which has continued to operate it as a storage, maintenance and train layover facility for electric and diesel locomotives and railroad cars for Amtrak and New Jersey Transit Corporation (NJTC).

The contaminants of concern (COCs) at the Site are PCBs, SVOCs, cPAHs, and lead. Past releases of PCBs are likely attributable to losses from and maintenance of train-mounted transformers over time. Transformers were also mounted on the Honeywell Street Bridge. Specific locations, dates, or quantities of PCB releases are not known. Usage of PCB-containing equipment was significantly more predominant by predecessor railroads than by Amtrak.

In the past, coal fired locomotives, coal fired boilers, and on-site incinerators were widely used for railroad operations. These activities generated significant amounts of cinders and coal ash as a waste byproduct. Prior to Amtrak's ownership of the Site, these cinders and ash were used as fill material throughout the Site and are still present at the Site today. Cinders and ash are known to contain high levels of lead and SVOCs, primarily cPAHs. In addition to the fill activities, the presence of lead is attributed to maintenance of the four bridges that span the Site, as shown on Figure 2.

Chlorinated VOCs (CVOCs), benzene, toluene, ethylbenzene, and xylenes (BTEX) and MTBE in groundwater have migrated on-site in three plumes from upgradient, off-site sources:

- The North Plume is a CVOC, BTEX and MTBE plume extending onto the Site from the Standard Motors Products, Inc. (SMP) property and a Hess gas station to the north. The SMP site, located at 37-18 Northern Boulevard, is listed as a Class 2 Site in the NYSDEC Registry of Inactive Hazardous Waste Disposal Sites (Site Code 2-41-016). The Hess station, located at 39-04 Northern Boulevard, is listed in the NYSDEC Spill Database under spill no. 9500846. Both the SMP site and the Hess site are located hydraulically upgradient of Sunnyside Yard. The source of contamination at the SMP property appears to be the loading dock area where drum washing was performed and CVOCs have been identified in soil at depths greater than 20 feet bls. The Hess station has BTEX and MTBE contamination identified from leaking underground storage tank (UST) systems.
- The West of Honeywell Plume is a CVOC, BTEX, and MTBE plume extending onto the Site from the former ACCO facility and a Getty gas station, which are located hydraulically upgradient and less than 500 feet south of the Site. The ACCO Facility, located at 32-00 Skillman Avenue, is currently in a Voluntary Cleanup Agreement (VCA) with the NYSDEC for the investigation and subsequent cleanup of this site (Voluntary Cleanup Agreement D 2-0020-00-8, Site Code V00331). The ACCO facility formerly utilized paints, thinners, solvents, and cleaners for the manufacturing of staples and stapler components. Investigations at the ACCO facility have identified CVOCs in shallow, intermediate, and deep groundwater that are migrating off-site. BTEX and MTBE identified in the West of Honeywell Plume are attributed to a Getty gasoline station with known petroleum impacts, located at 31-05 Queens Boulevard. The Getty station is listed in the NYSDEC Spill Database under spill no. 0009849.

- The Southeast Plume is a CVOC plume that extends onto the southern portion of the Site, near 39th Street. The direction of groundwater flow and vertical distribution of CVOCs in this plume indicate that this plume is originating from an unknown, upgradient off-site source located south to southeast of the Yard boundary.

3.2: Remedial History

In December 1986, the Department listed the Site as a Class 2 site in the Registry of Inactive Hazardous Waste Disposal Sites in New York. A Class 2 site is a site where hazardous waste presents a significant threat to the public health or the environment and action is required.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The Department, Amtrak, and NJTC entered into a Consent Order on September 21, 1989, modified on August 25, 1993 and February 4, 1998. The Order obligates the responsible parties to implement a RI/FS only remedial program. The Department and the PRPs (Amtrak and NJTC) are currently in the process of negotiating a separate Consent Order to implement the selected remedy.

SECTION 5: SITE CONTAMINATION

A remedial investigation/feasibility study (RI/FS) has been conducted to evaluate the alternatives for addressing the significant threats to human health and the environment.

5.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination in OU-6 resulting from previous activities at the Site. The RI was conducted between October 1990 and March 2009. The field activities and findings of the investigation are described in the OU-6 RI/FS report.

Investigations performed by Roux Associates on behalf of Amtrak and NJTC that included a saturated soil and/or groundwater component, and are therefore relevant to OU–6, include the Phase I RI, Phase II RI, Limited Phase II Environmental Site Assessment, Focused Remedial Investigation for OU-2, the OU-6 RI (1999), and the OU-3 RI. The OU-6 RI (1999) did not identify any significant groundwater impacts attributed to Amtrak or NJTC, or their present or former operations at the Yard. All significant groundwater impacts identified were attributed to off-site contamination migrating on to the Yard. Roux Associates, as well as MTA/East Side Access consultants and consultants for the adjacent SMP property, continued to perform limited groundwater investigations at the Site from 1997 through 2007. The Supplemental OU-6 RI was a site-wide groundwater investigation performed in 2008 through 2009 in an effort to confirm the findings of previous OU-6 investigations. Soil vapor sampling in proposed construction areas and the HSTF S&I Building were performed in June 2005 and March 2009, respectively.

5.1.1: Standards, Criteria, and Guidance (SCGs)

To determine whether the groundwater, saturated soil, and subsurface soil vapor contain contamination at levels of concern, data from the investigation were compared to the following SCGs:

- Groundwater SCGs are based on the Department's "Ambient Water Quality Standards and Guidance Values (AWQSGVs)" and Part 5 of the New York State Sanitary Code.
- Soil SCGs are based on the Department's Cleanup Objectives ("Technical and Administrative Guidance Memorandum [TAGM] 4046; Determination of Soil Cleanup Objectives and Cleanup Levels" for total SVOCs [500 ppm]) and 6 NYCRR Subpart 375-6 – Remedial Program Industrial Use Soil Cleanup Objectives (SCOs) for total PCBs [25 mg/kg], Lead [3,900 mg/kg]) and VOCs [contaminant-specific].
- Concentrations of VOCs in air were evaluated using the air guidelines provided in the NYSDOH guidance document titled "Guidance for Evaluating Soil Vapor Intrusion in the State of New York," dated October 2006. Concentrations of VOCs in sub-slab vapor and indoor air for which there are no guideline values were compared to VOCs in outdoor air samples, used as background levels. The outdoor background levels are not SCGs and were used only as a general tool to assist in data evaluation.
- Background groundwater samples were taken from 12 locations (monitoring wells TP-9, MW-30, MW-34, MW-47, MW-61, TP-10, MW-48D, MW-62D, MW-80, MW-83, MW-84, and TE-MW-QA-2). These locations were upgradient of the Site, and were unaffected by historic or current site operations. The samples were analyzed for TAL Metals. The results of the background sample analysis were compared to relevant RI data to determine appropriate site remediation goals. The background concentration ranges for metals are shown on Table 2.

Based on the RI results, in comparison to the SCGs and potential public health and environmental exposure routes, three groundwater plumes were identified and are attributable to off-site contamination migrating onto the Site from upgradient sources. These off-site source plume areas are summarized in Section 5.1.2. More complete information can be found in the OU-6 RI/FS report.

5.1.2: Nature and Extent of Contamination

This section describes the findings of the investigation for all environmental media that were investigated.

As described in the RI report, many soil, groundwater, and soil vapor samples were collected to characterize the nature and extent of contamination. As summarized in Table 1, the main category of contaminants that exceeds their SCGs is volatile organic compounds (VOCs). For comparison purposes, where applicable, SCGs are provided for each medium.

Chemical concentrations are reported in parts per billion (ppb) for water, and parts per million (ppm) for soil. Soil vapor/air samples are reported in micrograms per cubic meter ($\mu g/m^3$).

Table 1 summarizes the degree of contamination for the contaminants of concern in groundwater, saturated soil, and soil vapor/air and compares the data with the SCGs for the Site. The following are the media which were investigated and a summary of the findings of the

investigation. For groundwater and soil vapor, the results from the Supplemental OU-6 RI only are discussed below, in order to provide a summary of the most recent and relevant data for OU-6. The results of previous investigations are provided in the OU-6 RI/FS report.

Waste Materials

No site-related waste materials of concern were identified during the OU-6 RI/FS. Therefore, no remedial alternatives need to be evaluated for waste materials.

Surface Soil

Surface soil throughout the Site consists of unsaturated soil, which was addressed in the OU-4 RI/FS. Therefore, no remedial alternatives need to be evaluated for surface soil.

Subsurface Soil

A total of 159 samples of saturated subsurface soil have been collected from 29 boring locations during past OU-4 and OU-6 investigations. Sample locations are shown on Figure 3. Some soil samples did exceed the NYSDEC Unrestricted Use SCOs; however, no exceedances of the Site specific soil cleanup levels for the COCs (PCBs, total SVOCs, and lead) were identified. No exceedances of the NYSDEC Industrial Use SCOs were identified for non-COCs. Chlorinated VOCs concentrations in soil samples collected within the off-site source plume areas were either non-detect or detected at low concentrations. Unsaturated subsurface soil was addressed in the OU-4 RI/FS.

Subsurface soil contamination identified during the RI/FS will be addressed in the remedy selection process.

Groundwater

The Supplemental OU-6 RI consisted of monitoring well inventory, installation, gauging, and sampling. Monitoring well locations and groundwater elevation contours for shallow and deep groundwater are shown on Figures 4 through 6.

During the Supplemental OU-6 RI, 62 groundwater samples were collected from 52 monitoring wells (24 shallow wells and 28 deep wells) and submitted for Target Compound List (TCL) VOC analysis. Chlorinated VOCs (1,1,2-trichloroethane; 1,1-dichloroethane; 1,1-dichloroethene; 1,2-dichloroethane; chloroform; cis-1,2-dichloroethene; tetrachloroethene (PCE); trans-1,2-dichloroethene; trichloroethene (TCE); and vinyl chloride) were detected. Additionally, benzene, toluene, ethylbenzene, and total xylenes (BTEX), and methyl tert-butyl ether (MTBE) were detected. The sum of the detections for the chlorinated VOCs listed above (Total CVOCs), BTEX, and MTBE are provided on Figure 7 (shallow groundwater quality) and Figure 8 (deep groundwater quality). Of the 10 chlorinated VOCs listed above, eight were detected in one or more samples at a concentration in excess of the NYSDEC Ambient Water Quality Standards and Guidance Values (AWQSGVs). Furthermore, of the BTEX compounds and MTBE compounds, three (benzene, xylenes and MTBE) were detected in one or more samples at a concentration in excess of the NYSDEC AWQSGVs. The distribution of CVOCs is defined by three distinct plumes: the North Plume, the West of Honeywell Plume, and the Southeast Plume (Figure 7). Based on known Site information, the three CVOC plumes are not attributable to Site operations, but rather, are attributable to upgradient, off-site sources. The

occurrences of BTEX and MTBE detections in groundwater are attributed to the North Plume and the West of Honeywell Plume.

A total of 32 groundwater samples were collected from 30 wells (23 shallow wells and 7 deep wells) and submitted for analysis for TCL SVOCs. None of the SVOCs detected exceeded their respective AWQSGVs.

Groundwater quality data from former monitoring wells TP-9, MW-30, MW-34, MW-47, and MW-61 and existing monitoring wells TP-10, MW-48D, MW-62D, MW-80, MW-83, MW-84, and TE-MW-QA-2, each located in hydraulically upgradient portions of the Site (Figures 5 and 6), were used to determine background ranges for metals in groundwater. The background concentration ranges for metals are shown on Table 2. The findings of the Supplemental OU-6 RI groundwater data were compared to the higher of the background concentrations or the AWQSGVs (if an AWQSGV exists).

A total of 27 groundwater samples were collected from 25 wells and submitted for TAL metals analysis. Six of the 23 TAL metals (arsenic, barium, manganese, potassium, copper and lead) exceeded the background concentrations at least once among eight of the wells. Of these eight wells, manganese and lead exceeded the respective AWQSGVs. Published data has associated elevated concentrations of manganese with typical water quality of the Upper Glacial aquifer and in areas with high iron concentrations, as observed at the Site. Lead exceeded the AWQSGV in one well only and is attributed to suspended particles in the sample and not indicative of dissolved phase groundwater quality.

A total of 34 groundwater samples were collected from 32 wells (23 shallow wells and 9 deep wells) and submitted for PCBs analysis. There were no detections of PCBs in groundwater.

No site-related groundwater contamination of concern was identified during the OU-6 RI/FS. Therefore, no remedial alternatives need to be evaluated for groundwater.

Soil Vapor/Sub-Slab Vapor/Air

A vapor intrusion investigation conducted during the heating season at the HSTF S&I Building consisted of the collection of two sub-slab vapor samples, two indoor air samples, and one outdoor (ambient) air sample for analysis for VOCs to evaluate the potential for exposures via soil vapor intrusion. The locations of the vapor samples are shown on Figure 9. In addition, 15 soil vapor samples were collected prior to the Supplemental OU-6 RI. Analytical results for the outdoor and indoor air samples exceeded the sub-slab vapor samples results, indicating that the source of VOC detections in outdoor and indoor air was not from soil vapor intrusion, but rather an outdoor source. Since the site is an active rail yard, the source of the outdoor and indoor air VOCs is likely attributable to the emissions from diesel train engines and other on-site activities. The sub-slab soil vapor concentrations do not require further action.

No site-related soil vapor/indoor air contamination of concern was identified during the RI/FS. Therefore, no remedial alternatives need to be evaluated for this medium.

5.2: 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 completion of the RI/FS.

There were no IRMs performed in OU-6 during the RI/FS.

5.3: Summary of Human Exposure Pathways

This section describes the types of human exposures that may present added health risks to persons at or around OU-6. A more detailed discussion of the human exposure pathways can be found in Section 7.0 of the OU-6 RI/FS report. An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

The results of the OU-6 RI/FS indicate that there are no current or potential future human health exposure pathways from on-site sources that require remediation. The following discusses the human health exposure pathway evaluation performed per environmental medium.

Potential Exposure Pathways

Soil

Receptors may come into direct contact with saturated soil within OU-6 while performing deep excavation work. During the course of contacting the soil on their skin, persons may, under some circumstances, accidentally ingest soil. However, construction personnel who may contact saturated soils will be wearing proper protective equipment as per the on-site worker Health & Safety Plan, thus limiting any direct contact with saturated soil.

Inhalation of fugitive dust is not considered a viable exposure pathway because OU-6 only includes saturated soil at depth. Unsaturated soil was addressed in the OU-4 RI/FS.

Inhalation of vapors from VOCs volatilizing from saturated soils into the ambient air during soil moving activities is not considered a viable exposure pathway because the number of VOCs detected in saturated soil are limited and concentrations are sufficiently low that ambient air levels could not rise to a level of concern.

Groundwater
Ingestion or dermal contact with contaminated groundwater by Site occupants is not expected because the area is served by public water. Furthermore, groundwater is generally not encountered during routine operations, which significantly limits any direct contact. The potential for direct contact with contaminated groundwater could occur during intrusive activities. However, any potential contact with groundwater will be limited by the dewatering that is required to conduct maintenance activities. Construction personnel who may work in this area will be wearing proper protective equipment as per the on-site worker Health & Safety Plan, limiting direct contact with groundwater.

Soil Vapor
Based on the presence of VOC-impacted groundwater at the Site (from off-site sources), soil vapors from the vadose zone could potentially enter current or future Site structures, if located in proximity to VOC-impacted groundwater. Therefore, soil vapor has the potential to be a complete exposure pathway.

5.4: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts include existing and potential future exposure pathways to fish and wildlife receptors, as well as damage to natural resources such as aquifers and wetlands.

The following environmental exposure pathways and ecological risks have been identified:

- Continued migration of contaminated groundwater from off-site sources poses a potential environmental threat to on-site groundwater. Groundwater contamination from off-site sources will be addressed by remediation performed by the upgradient sources.

- There are no wetlands or other exposure pathways to fish and wildlife receptors in OU-6.

The results of the RI/FS indicate that there are no current or potential future environmental exposure pathways from on-site sources that require remediation.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS AND SELECTED REMEDY

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous wastes disposed at the site through the proper application of scientific and engineering principles.

The remediation goals for OU-6 were to eliminate or reduce to the extent practicable:

- exposures of persons at or around OU-6 to VOCs in groundwater that exceed the applicable groundwater SCGs;
- the release of COCs from soil into groundwater that may create exceedances of groundwater quality standards; and

- the release of contaminants from groundwater and saturated soil into indoor air and ambient air through soil vapor intrusion in existing and future Site buildings.

The main SCGs applicable to this project are as follows:

- ambient groundwater quality standards and background concentrations developed for groundwater;
- Site-specific soil cleanup levels for the soil COCs (total PCBs, total SVOCs, and lead), Toxic Substance Control Act (TSCA) standards for PCBs (40 CFR 761), and the 6 NYCRR Part 375 Industrial SCOs for VOCs.

The findings of the OU-6 investigation indicate that OU-6 does not pose a significant threat to human health or the environment. Therefore, the Department has selected No Action as the remedy for OU-6. This remedy will be effective in protecting human health and the environment and complies with New York State standards, criteria, and guidelines.

Therefore, the Department concludes that No Action is needed other than monitoring and institutional and engineering controls. The components of the remedy are as follows:

1. Imposition of an institutional control in the form of an environmental easement that will require (a) limiting the use and development of the property to industrial use; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) the property owner to complete and submit to the Department a periodic certification of institutional and engineering controls.

2. Development of a site management plan which will include the following institutional and engineering controls: (a) continued evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (b) in coordination with the off-site remedial parties, monitoring of wells in off-site source plume areas to determine if continued migration is occurring; (c) residual contaminated soils that may be excavated on-site during future redevelopment will be addressed through soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations; (d) identification of any use restrictions on the site; and (d) fencing to control site access. The OU-6 site management plan will be incorporated into an overall site-wide site management plan upon completion of all OUs on the site.

3. The property owner will provide a periodic certification of institutional and engineering controls, prepared and submitted by a professional engineer or such other expert acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the Site; and (c) state that nothing has occurred that will impair the ability of the control to protect public health or

the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

4. Since the remedy results in untreated hazardous wastes remaining at the site, a monitoring program will be instituted. Groundwater monitoring in off-site source plume areas will be performed to determine if continued migration is occurring. A subset of the existing monitoring wells within the off-site source plume areas and downgradient of these areas (Figure 7) will be gauged and sampled. Monitoring frequency will be determined as part of the Site Management Plan approval process.

SECTION 7: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the remedial investigation process, a number of Citizen participation activities were undertaken to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

- Repositories for documents pertaining to the site were established.
- A public contact list, which included nearby property owners, elected officials, local media and other interested parties, was established.
- Fact sheets were released to members of the public contact list whenever important milestones were reached. Such fact sheets described in detail the activities performed and the goals achieved at those milestones.
- A public meeting was held on Thursday, February 25, 2010 to present and receive comment on the Proposed Remedial Action Plan (PRAP).
- A responsiveness summary (Appendix A) was prepared to address the comments received during the public comment period for the PRAP.

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Amtrak Sunnyside Yard
Operable Unit No. 6
Long Island City, Queens County, New York
Site No. 241006

The Proposed Remedial Action Plan (PRAP) for the Amtrak Sunnyside Yard, Operable Unit 6 site, was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 1, 2010. The PRAP outlined the remedial measure proposed for the contaminated groundwater at the Amtrak Sunnyside Yard, Operable Unit 6 site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on February 25, 2010, which included a presentation of the remedial investigation and feasibility study (RI/FS) for the Amtrak Sunnyside Yard, Operable Unit 6 site as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on March 3, 2010.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the Department's responses:

COMMENT 1: The following statement was made on behalf of Assemblywoman Catherine T. Nolan by Santiago Vargas Jr.:

"I am pleased that the Department of Environmental Conservation has put together a plan to continue the remedial action that is needed in Sunnyside Yard. I am hopeful that this work will be done quickly and that the right safety precautions are put into place to ensure the residents of Western Queens are protected."

RESPONSE 1: The Department appreciates the Assemblywoman's statement in support of the Department's plans for cleaning up the Site. The Department will strive to see that the cleanup of the Site is completed in a timely and protective manner.

COMMENT 2: Were petroleum products found in the groundwater during the investigation? If so, is it impacting the Newtown creek?

RESPONSE 2: Yes, petroleum products were found in groundwater during site investigations. Two plumes of contamination, found in Operable Unit 6, which have migrated on-site from off-site upgradient sources, contain elevated levels of BTEX and MTBE which are compounds associated with petroleum. In addition, a plume of Separate Phase Hydrocarbon (caused by fuel

oil spills) which floats above the water table was previously found in Operable Unit 3. Neither this plume nor the plumes at Operable unit 6 are contributing to the Newtown Creek contamination.

APPENDIX B

Administrative Record

Administrative Record

Amtrak Sunnyside Yard
Operable Unit No. 6
State Superfund Project
Long Island City, Queens County, New York
Site No. 241006

1. Proposed Remedial Action Plan for the Amtrak Sunnyside Yard site, Operable Unit No. 6, dated January 2010, prepared by the Department..

2. Referral Memorandum dated February 27, 2009 for State Superfund referral for legal assistance in completing a Remedial Design/Remedial Action Consent Order.

3. Order on Consent, Index No. W2-0081-87-06 between the Department and the national Railroad Passenger Corporation (Amtrak) and the New Jersey Transit Corporation (NJTC) executed on September 21, 1989 and modified on August 25, 1993 and February 4, 1998.

4. "Public Meeting Announced proposed Remedial Action Plan Available For Public Comment – Fact Sheet" dated February 2010, prepared by the Department.

5. "Operable Unit 6 Remedial Investigation/Feasibility Study Report, Sunnyside Yard, Queens, New York", dated November 12, 2009 and prepared by Roux Associates.

6. "Work Plan For The Operable Unit 6 (OU-6) Remedial Investigation/Feasibility Study, Sunnyside Yard, Queens, New York" dated October 30, 2007 and prepared by Roux Associates.

7. "Operable Unit 6 Remedial Investigation Report, Sunnyside Yard, Queens, New York", dated May 14, 1999 and prepared by Roux Associates.

TABLE 1
Nature and Extent of Contamination

GROUNDWATER (March 2008 through September 2008)	Potential Contaminants of Concern	Concentration Range Detected (µg/L)[a]	Screening Criteria[b] (µg/L)[a]	Frequency Exceeding Screening Criteria
Volatile Organic Compounds				
(VOCs)	Benzene	ND - 73	1	2 / 63
	Toluene	ND - 4.7	5	0 / 63
	Ethylbenzene	ND - 1.1	5	0 / 63
	Xylenes (total)	ND - 5.5	5	1 / 63
	1,1,2-Trichloroethane	ND - 17	1	2 / 63
	1,1-Dichloroethane	ND - 1.7	5	0 / 63
	1,1-Dichloroethene	ND - 11	5	2 / 63
	1,2-Dichloroethane	ND - 8	0.6	2 / 63
	Acetone	ND - 3.3	50	0 / 63
	Chloroform	ND - 3.5	7	0 / 63
	cis-1,2-Dichloroethene	ND - 93	5	8 / 63
	Methyl tert-butyl ether	ND - 660	10	8 / 29
	Tetrachloroethene	ND - 760	5	15 / 63
	trans-1,2-Dichloroethene	ND - 61	5	2 / 63
	Trichloroethene	ND - 24000	5	11 / 63
	Vinyl chloride	ND - 18	2	3 / 63
Semivolatile Organic Compounds				
(SVOCs)	2-Methylnaphthalene	ND - 380	--	NA / 32
	Acenaphthene	ND - 2.9	20	0 / 32
	Benzoic acid	ND - 2.5	--	NA / 32
	Fluorene	ND - 2.2	50	0 / 32
Inorganic Compounds				
	Aluminum	ND - 8400	--	NA / 27
	Arsenic	ND - 11	25	0 / 27
	Barium	ND - 580	1000	0 / 27
	Calcium	3600 - 150000	--	NA / 27
	Copper	ND - 66	200	0 / 27
	Iron	ND - 29000	*46500*	0 / 27
	Lead	ND - 78	*48*	1 / 27
	Magnesium	ND - 52000	*53000*	0 / 27
	Manganese	ND - 5200	*2650*	2 / 27
	Potassium	ND - 17000	--	NA / 27
	Sodium	10000 - 230000	*280000*	0 / 27
	Zinc	ND - 160	2000	0 / 27
Polychlorinated Biphenyls (PCBs)				
	Total Aroclors	ND	0.09	0 / 34

TABLE 1
Nature and Extent of Contamination

SUBSURFACE SOIL	Potential Contaminants of Concern	Concentration Range Detected (mg/kg)[a]	Screening Criteria[b] (mg/kg)[a]	Frequency Exceeding Screening Criteria
Volatile Organic Compounds				
(VOCs)	1,1,2,2-Tetrachloroethane	ND - 0.007	--	NA / 38
	2-Butanone (MEK)	ND - 0.099	1000	0 / 38
	Acetone	ND - 0.51	1000	0 / 38
	Carbon disulfide	ND - 0.052	--	NA / 38
	cis-1,2-Dichloroethene	ND - 0.026	1000	0 / 38
	Methylene Chloride	ND - 0.065	1000	0 / 38
	MTBE	ND - 0.012	1000	0 / 36
	Tetrachloroethene	ND - 0.044	300	0 / 38
	Toluene	ND - 0.001	1000	0 / 38
	trans-1,2-Dichloroethene	ND - 0.0004	1000	0 / 38
	Trichloroethene	ND - 0.009	400	0 / 38
Semivolatile Organic Compounds				
(SVOCs)				
	Total SVOCs	ND - 36.71	500	0 / 48
Inorganic Compounds				
	Aluminum	ND - 5310	--	NA / 24
	Arsenic	ND - 4.18	16	0 / 24
	Barium	ND - 249	10000	0 / 24
	Beryllium	ND - 0.45	2700	0 / 24
	Calcium	ND - 3960	--	NA / 24
	Chromium	ND - 36.7	--	NA / 24
	Cobalt	ND - 5.3	--	NA / 25
	Copper	ND - 13.9	10000	0 / 24
	Iron	ND - 13100	--	NA / 24
	Lead	0.8 - 48.6	3900	0 / 24
	Magnesium	ND - 2780	--	NA / 24
	Manganese	ND - 230	10000	0 / 24
	Mercury	ND - 0.17	5.7	0 / 24
	Nickel	ND - 14.8	10000	0 / 24
	Potassium	ND - 893	--	NA / 24
	Selenium	ND - 1.3	6800	0 / 24
	Silver	ND - 7.04	6800	0 / 24
	Sodium	ND - 1030	--	NA / 24
	Vanadium	ND - 18.2	--	NA / 24
	Zinc	ND - 98.6	10000	0 / 24
SUBSURFACE SOIL	**Potential Contaminants of Concern**	**Concentration Range Detected (mg/kg)[a]**	**Screening Criteria[b] (mg/kg)[a]**	**Frequency Exceeding Screening Criteria**
Polychlorinated Biphenyls (PCBs)				
	Total Aroclors	ND - 1.98	25	0 / 46

TABLE 1
Nature and Extent of Contamination

SOIL VAPOR	Potential Contaminants of Concern	Concentration Range Detected (µg/m3)[a]	Screening Criteria[b] (µg/m3)[a]	Frequency Exceeding Screening Criteria
Pre-Supplemental RI Subsurface				
Soil Vapor	1,1,1-Trichloroethane	ND - 6	--	NA / 15
	1,2,4-Trimethylbenzene	ND - 110	--	NA / 15
	1,2-Dichlorobenzene	ND - 10	--	NA / 15
	1,3,5-Trimethylbenzene	ND - 46	--	NA / 15
	1,3-Butadiene	ND - 31	--	NA / 15
	2,2,4-Trimethylpentane	ND - 7	--	NA / 15
	4-Ethyltoluene	ND - 74	--	NA / 15
	Acetone	ND - 140	--	NA / 15
	Benzene	ND - 45	--	NA / 15
	Carbon Disulfide	ND - 40	--	NA / 15
	Chloroethane	ND - 11	--	NA / 15
	Chloroform	ND - 14	--	NA / 15
	Chloromethane	ND - 8.5	--	NA / 15
	Cyclohexane	ND - 59	--	NA / 15
	Dichlorodifluoromethane	ND - 1200	--	NA / 15
	Ethylbenzene	ND - 100	--	NA / 15
	m+p-Xylenes	ND - 110	--	NA / 15
	Methyl Butyl Ketone	ND - 2.5	--	NA / 15
	Methyl Ethyl Ketone	ND - 26	--	NA / 15
	MTBE	ND - 180	--	NA / 15
	n-Heptane	ND - 45	--	NA / 15
	n-Hexane	8.8 - 130	--	NA / 15
	o-Xylene	ND - 43	--	NA / 15
	Styrene	ND - 21	--	NA / 15
	Tetrachloroethene	ND - 4.3	--	NA / 15
	Toluene	11 - 1000	--	NA / 15
	Trichlorofluoromethane	ND - 220	--	NA / 15
	Xylenes (total)	ND - 160	--	NA / 15
SUBSLAB				
	1,2,4-Trimethylbenzene	5.4 - 5.4	--	NA / 2
	2-Butanone (MEK)	8 - 9.1	--	NA / 2
	Acetone	79.3 - 125	--	NA / 2
	Benzene	5.8 - 6.4	--	NA / 2
	Cyclohexane	5.9 - 5.9	--	NA / 2
	Dichlorodifluoromethane	3.5 - 4.1	--	NA / 2

TABLE 1
Nature and Extent of Contamination

SOIL VAPOR	Potential Contaminants of Concern	Concentration Range Detected (µg/m3)[a]	Screening Criteria[b] (µg/m3)[a]	Frequency Exceeding Screening Criteria
SUBSLAB cont'd	Ethanol	31.7 - 32.2	--	NA / 2
	Ethyl Acetate	7.2 - 8.3	--	NA / 2
	Ethylbenzene	8.3 - 9.1	--	NA / 2
	Isooctane	5.1 - 6.1	--	NA / 2
	m+p-Xylene	28 - 31	--	NA / 2
	Methylene chloride	2.4 - 4.9	--	NA / 2
	n-Heptane	9 - 11	--	NA / 2
	n-Hexane	18 - 18	--	NA / 2
	o-Xylene	8.3 - 9.1	--	NA / 2
	t-Butyl Alcohol	12 - 13	--	NA / 2
	Tetrachloroethene	4.7 - 5.2	--	NA / 2
	Tetrahydrofuran	6.5 - 7.4	--	NA / 2
	Toluene	33 - 38.1	--	NA / 2
	Trichlorofluoromethane	2.5 - 6.2	--	NA / 2
	Xylenes (total)	36 - 40	--	NA / 2
Indoor and Outdoor Air Samples				
	1,2,4-Trimethylbenzene	4.9 - 6.4	--	NA / 3
	1,3,5-Trimethylbenzene	1.6 - 1.7	--	NA / 3
	2-Butanone (MEK)	7.7 - 15	--	NA / 3
	2-Propanol	6.4 - 9.3	--	NA / 3
	4-Ethyltoluene	1.4 - 1.7	--	NA / 3
	Acetone	18 - 73.4	--	NA / 3
	Benzene	5.8 - 8	--	NA / 3
	Carbon tetrachloride	ND - 0.69	--	NA / 3
	Chloromethane	1.8 - 1.9	--	NA / 3
	Cyclohexane	5.2 - 7.6	--	NA / 3
	Dichlorodifluoromethane	3.6 - 4	--	NA / 3
	Ethanol	31.7 - 45.2	--	NA / 3
	Ethyl Acetate	1.3 - 7.9	--	NA / 3
	Ethylbenzene	10 - 10	--	NA / 3
	Isooctane	5.1 - 7.5	--	NA / 3
	m+p-Xylene	34 - 35	--	NA / 3
	Methylene chloride	1.1 - 2.8	60	0 / 3
	n-Heptane	11 - 12	--	NA / 3
	n-Hexane	18 - 27	--	NA / 3
	o-Xylene	10 - 10	--	NA / 3
	Propylene	ND - 12	--	NA / 3
	Styrene	0.55 - 0.85	--	NA / 3
	t-Butyl Alcohol	7 - 105	--	NA / 3
	Tetrachloroethene	5.1 - 5.5	100	0 / 3
	Tetrahydrofuran	5.6 - 9.4	--	NA / 3
	Toluene	42.6 - 43.3	--	NA / 3
	Trichlorofluoromethane	2 - 2.6	--	NA / 3

TABLE 1
Nature and Extent of Contamination

SOIL VAPOR	Potential Contaminants of Concern	Concentration Range Detected (µg/m3)[a]	Screening Criteria[b] (µg/m3)[a]	Frequency Exceeding Screening Criteria
Indoor and Outdoor Air Samples	Xylenes (total)	43.9 - 45.6	--	NA / 3
cont'd				

[a] µg/L - Micrograms per liter
mg/kg - Milligrams per liter
µg/m3 - Micrograms per cubic meter

[b] Screening criteria include the following:

Groundwater:

Inorganic Compounds - The higher of the background concentration (as determined in the RI/FS Report) or the NYSDEC Class GA AWQSGV (if available) for each inorganic compound. Italics indicates background concentration was used as screening criteria

Remaining groundwater parameters - NYSDEC Class GA Groundwater Standards

Soil:

Total cPAHs - NYSDEC Site-Specific Cleanup Level (25 mg/kg)

Total SVOCs - NYSDEC TAGM 4046 Cleanup Level (500 mg/kg)

Remaining soil parameters - NYSDEC Part 375 Restricted Industrial Soil Cleanup Objectives

Vapor:

There are no published screening criteria for soil vapor or subslab vapor samples, therefore, a screening criteria was not used. Indoor and outdoor air guidelines (as published in NYSDOH Guidance for Evaluating Soil Vapor Intrusion in State of New York, Table 3.1) were used for indoor and outdoor air results screening where applicable.

-- Indicates no screening criteria available
ND - Indicates compound was not detected
NA - Indicates that since a screening criteria is not available for this compound, no samples were reported as exceedances
cPAHs - Seven specific polycyclic aromatic hydrocarbons (PAHs) the NYSDOH considers to be carcinogenic (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene)

NOTES:

1. The groundwater portion was generated using data from Tables 5, 6, 7, 8 and 9 of the OU-6 RI/FS report. Groundwater data generated as part of the Supplemental OU-6 RI (i.e., March 2008 and later) are included in the Summary Table. This includes data generated by both Roux Associates and by MTA ESA. Data generated prior to the Supplemental OU-6 RI was included in the OU-6 RI/FS report dated November 12, 2009, however, due to the age of this historic groundwater data, it is not included in this Summary Table.

2. The saturated soil portion was generated using data from Tables 12, 13, 14 and 15 of the OU-6 RI/FS Report. This includes saturated soil data generated both by Roux Associates and by MTA ESA.

3. The vapor portion was generated using data from Tables 10 and 11 of the OU-6 RI/FS Report. This includes vapor data generated by Roux Associates. To the best of our knowledge, MTA ESA has not generated any vapor data at Sunnyside Yard.

4. Field duplicate and Field Replicate samples were included in sample counts, and results were evaluated against the appropriate Screening Criteria.

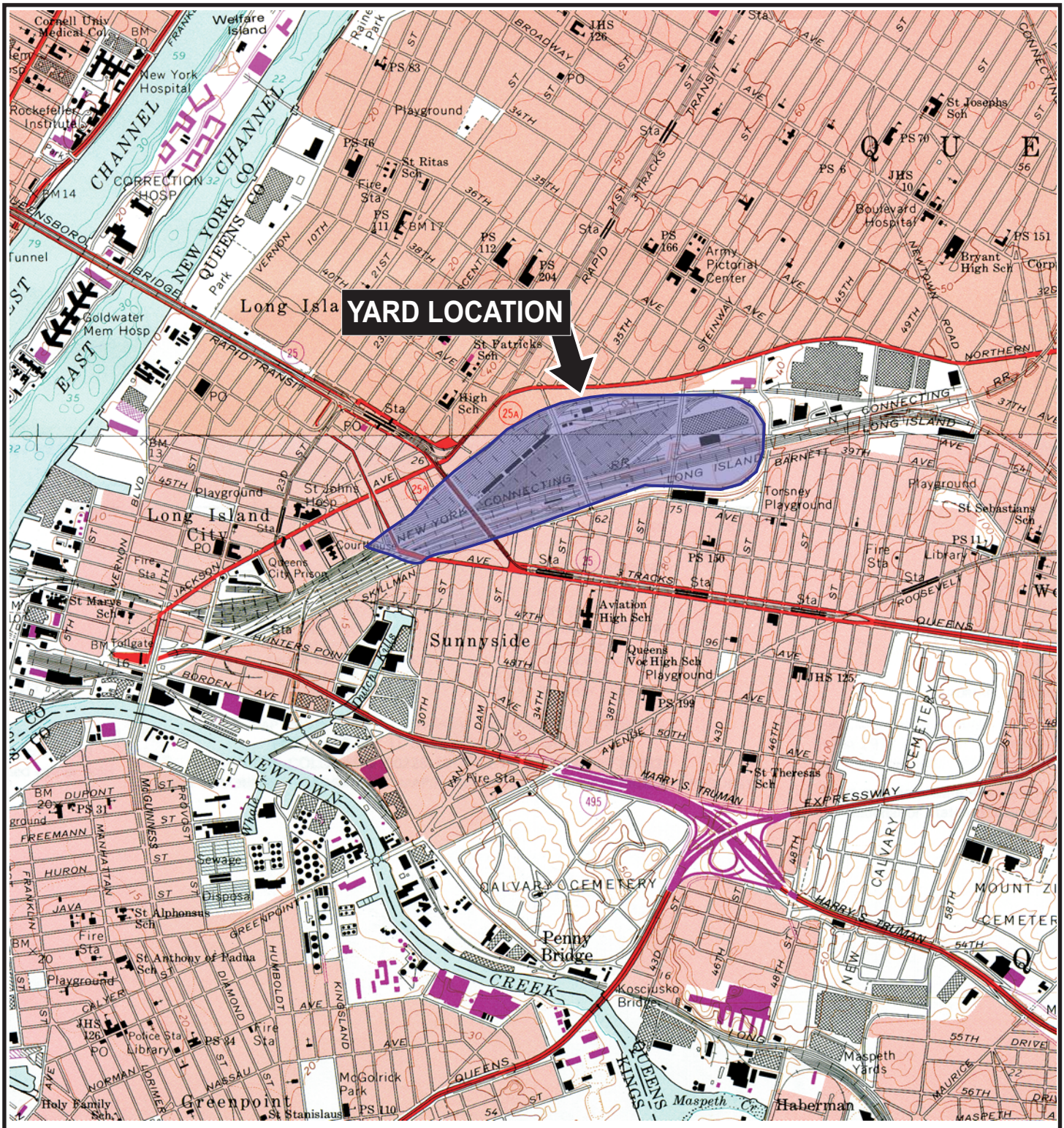
5. The Inorganic Compounds and PCBs sections for groundwater samples include results for both unfiltered and filtered samples

TABLE 2
Background Ranges for Inorganic Compounds in Groundwater

GROUNDWATER	Potential Contaminants of Concern	Concentration Range Detected in Background Samples (µg/L)[a]	Background Screening Concentration (µg/L)[a]
Inorganic Compounds			
	Aluminum	ND - 28400	28400
	Antimony	ND - 4	46.9
	Arsenic	ND - 0	3.6
	Barium	ND - 280	280
	Beryllium	ND - 1.8	1.8
	Cadmium	ND - 0	2.2
	Calcium	35000 - 150000	150000
	Chromium	ND - 70.9	70.9
	Cobalt	ND - 23.3	23.3
	Copper	ND - 65	65
	Iron	ND - 46500	46500
	Lead	ND - 48	48
	Magnesium	5200 - 53000	53000
	Manganese	ND - 2650	2650
	Mercury	ND - 0.33	0.33
	Nickel	ND - 48.1	48.1
	Potassium	ND - 9750	11900
	Selenium	ND - 10.1	10.1
	Silver	ND - 2.7	20 U
	Sodium	8200 - 280000	280000
	Thallium	ND - 0	10 U
	Vanadium	ND - 72.9	72.9
	Zinc	ND - 160	160

[a] µg/L - Micrograms per liter

Indicates background screening criteria generated from data predating the 1999 OU-6 RI



SOURCE:
CENTRAL PARK AND BROOKLYN, NEW YORK
QUADRANGLE 7.5 MINUTE SERIES (TOPOGRAPHIC)

QUADRANGLE LOCATION

N

0 2000'

Title:

LOCATION OF SITE

OPERABLE UNIT 6 RECORD OF DECISION
SUNNYSIDE YARD, QUEENS, NEW YORK

Prepared for:

AMTRAK

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: H.G.		Date: 12MAR10	FIGURE 1
Prepared by: J.A.D.		Scale: 1"=2000'	
Project Mgr.: H.G.		Office: NY	
File No.: AM6511901.CDR		Project No.: 05565Y04	

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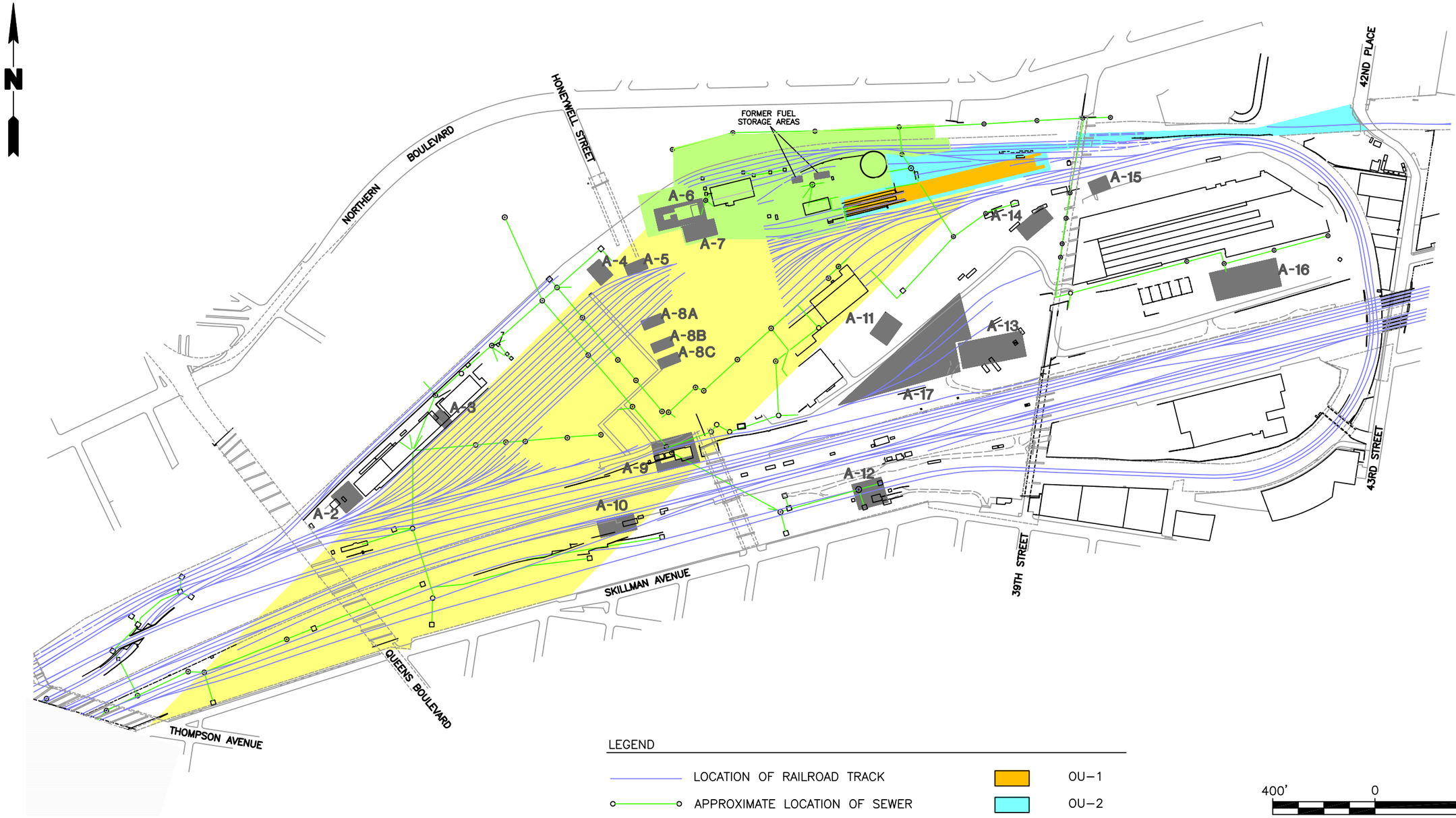

LEGEND

- LOCATION OF RAILROAD TRACK
- APPROXIMATE LOCATION OF SEWER
- GRATE COVER CATCH BASIN LOCATION
- SOLID COVER MANHOLE LOCATION
- GRATE COVER MANHOLE LOCATION
- A-2 LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN
- APPROXIMATE PROPERTY BOUNDARY

- OU–1
- OU–2
- OU–3
- OU–4
- OU–5

OU–6, GROUNDWATER BENEATH THE YARD (UNDERLIES ALL OTHER OU's)

400' 0 400'

NOTES

1. LOCATIONS OF SEWER COMPONENTS BASED UPON A REVIEW OF AMTRAK–SUPPLIED ENGINEERING DIAGRAMS AND LIMITED FIELD SURVEY.
2. OU–6, GROUNDWATER BENEATH THE YARD (UNDERLIES ALL OTHER OU's)
3. RI – REMEDIAL INVESTIGATION
4. LIRR – LONG ISLAND RAIL ROAD

Title:

AMTRAK YARD LAYOUT

OPERABLE UNIT 6 RECORD OF DECISION
SUNNYSIDE YARD, QUEENS, NEW YORK

Prepared For: AMTRAK

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: H.G.	Date: 12MAR10	FIGURE
Prepared by: J.A.D.	Scale: AS SHOWN	2
Project Mgr: H.G.	Office: NY	
File No: AM6511902	Project: 05565Y04	

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EXPLANATION

S-35 — LOCATION AND DESIGNATION OF SOIL BORING COMPLETED IN OU-6 WHERE A SATURATED SOIL SAMPLE WAS COLLECTED

APPROXIMATE PROPERTY BOUNDARY

A-9 — LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN (AREA)

PRIVATE PROPERTY NOT OWNED BY AMTRAK (NOT PART OF SUNNYSIDE YARD)

NOTES:

OU-6 - OPERABLE UNIT 6

ONLY SOIL BORING LOCATIONS WHERE SATURATED SOIL SAMPLES WERE COLLECTED IN OU-6 ARE PRESENTED IN THIS FIGURE

160′ 0 160′

N

Title:

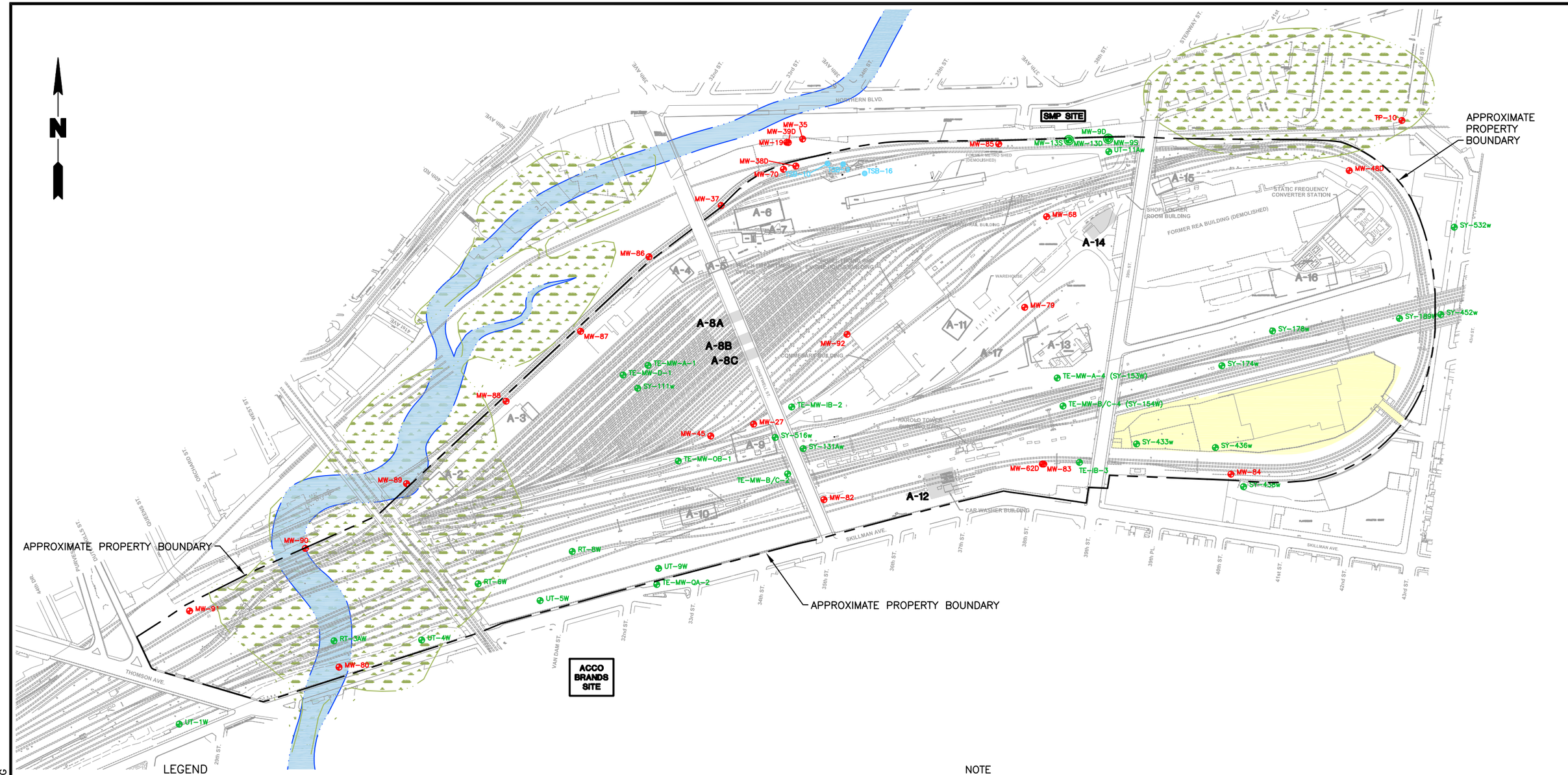
LOCATIONS OF SOIL BORINGS WITH SATURATED SOIL SAMPLES COLLECTED IN OU-6

OPERABLE UNIT 6 RECORD OF DECISION
SUNNYSIDE YARD, QUEENS, NEW YORK

Prepared For: AMTRAK

ROUX ASSOCIATES INC.
Environmental Consulting & Management

Compiled By: RSK	Date: 3/9/2010		PLATE
Prepared By: RSK	Scale: SHOWN		
Project Mgr: HG	Office: NY		3
File No: AM651190S.WOR	Project: 0051.0065Y004		



LEGEND

MW-80	LOCATION AND DESIGNATION OF EXISTING MONITORING WELL INSTALLED BY ROUX ASSOCIATES, INC.
TE-IB-3	LOCATION AND DESIGNATION OF EXISTING MONITORING WELL INSTALLED BY OTHERS FOR EAST SIDE ACCESS (ESA) PROJECT
MW-13	LOCATION AND DESIGNATION OF EXISTING MONITORING WELL CLUSTER (CONTAINING ONE SHALLOW AND ONE DEEP MONITORING WELL) INSTALLED BY OTHERS AS PART OF THE RI/FS FOR THE STANDARD MOTOR PRODUCTS, INC. (SMP) SITE.
TSB-16	LOCATION AND DESIGNATION OF GEOPROBE™ SOIL BORINGS/ GROUNDWATER SAMPLING POINT FROM OU-3 REMEDIAL INVESTIGATION
	APPROXIMATE PROPERTY BOUNDARY
A-12	LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN WHERE ADDITIONAL GROUNDWATER INVESTIGATION ACTIVITIES WERE EVALUATED
A-2	LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN THAT DOES NOT REQUIRE ADDITIONAL GROUNDWATER INVESTIGATION ACTIVITIES
	PRIVATE PROPERTY NOT OWNED BY AMTRAK (NOT PART OF OU-6)
	APPROXIMATE 1907 EXTENT OF ORIGINAL WETLANDS
	APPROXIMATE 1890 FLOW PATH OF DUTCH KILLS CREEK

NOTE

WELLS WITH FADED SYMBOLS HAVE EITHER BEEN ABANDONED, DESTROYED, BURIED OR OTHERWISE UNFIT FOR SAMPLING.

400' 0 400'

Title:

MONITORING WELL LOCATIONS AND HISTORIC SURFACE WATER FEATURES

OPERABLE UNIT 6 RECORD OF DECISION
SUNNYSIDE YARD, QUEENS, NEW YORK

Prepared For:
AMTRAK

ROUX ASSOCIATES, INC.
Environmental Consulting and Management

Compiled by: L.D.	Date: 12MAR10	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	4
Project Mgr: H.G.	Project: 05565Y04	
File: AM6511903		

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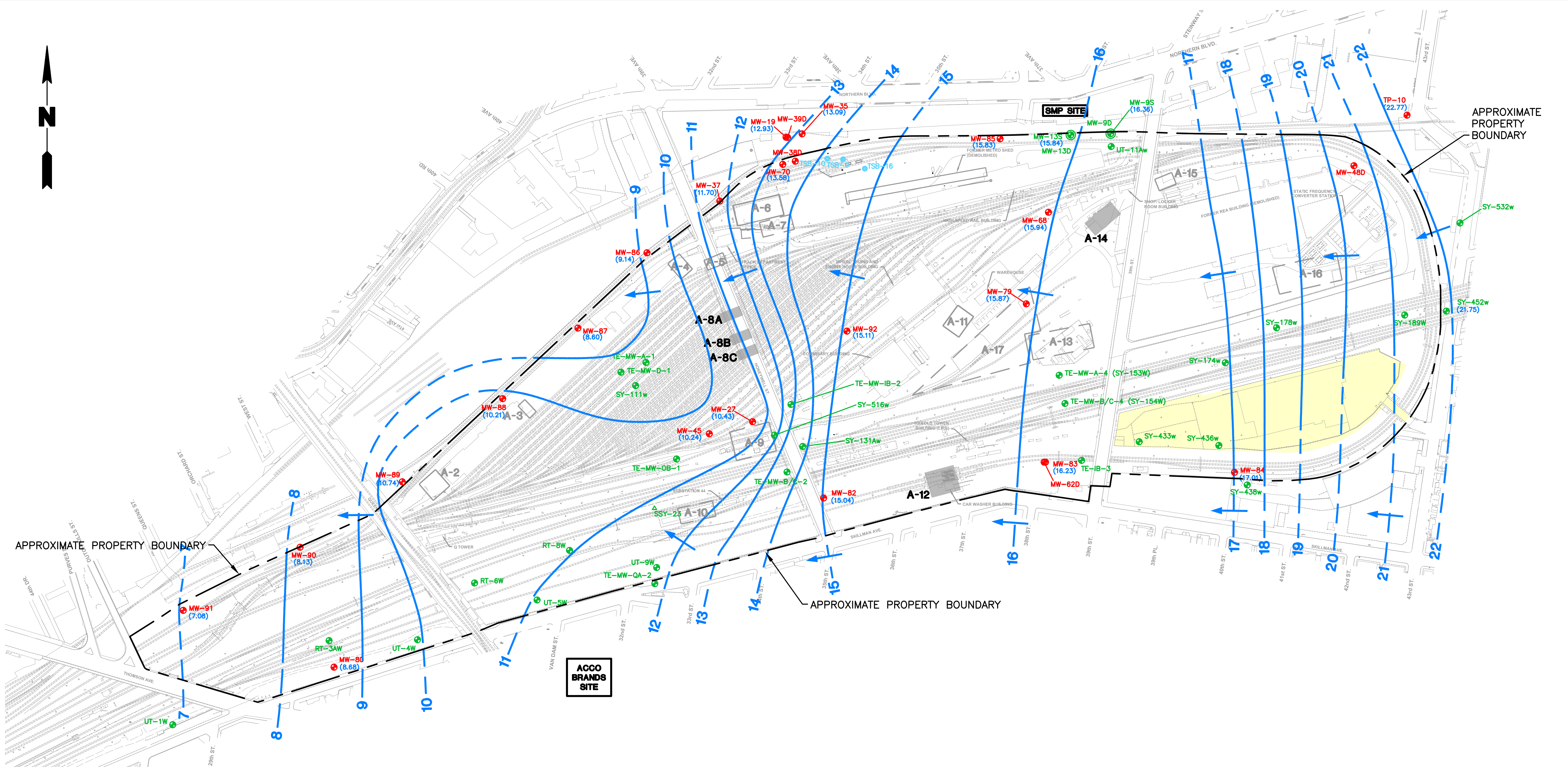

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LEGEND

Symbol	Description
MW-80	LOCATION AND DESIGNATION OF EXISTING MONITORING WELL INSTALLED BY ROUX ASSOCIATES, INC.
TE-IB-3	LOCATION AND DESIGNATION OF EXISTING MONITORING WELL INSTALLED BY OTHERS FOR EAST SIDE ACCESS (ESA) PROJECT
MW-13	LOCATION AND DESIGNATION OF EXISTING MONITORING WELL CLUSTER (CONTAINING ONE SHALLOW AND ONE DEEP MONITORING WELL) INSTALLED BY OTHERS AS PART OF THE RI/FS FOR THE STANDARD MOTOR PRODUCTS, INC. (SMP) SITE.
TSB-16	LOCATION AND DESIGNATION OF GEOPROBE™ SOIL BORINGS/ GROUNDWATER SAMPLING POINT FROM OU-3 REMEDIAL INVESTIGATION
— — —	APPROXIMATE PROPERTY BOUNDARY
A-12	LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN WHERE ADDITIONAL GROUNDWATER INVESTIGATION ACTIVITIES WERE EVALUATED
A-2	LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN THAT DOES NOT REQUIRE ADDITIONAL GROUNDWATER INVESTIGATION ACTIVITIES
(yellow box)	PRIVATE PROPERTY NOT OWNED BY AMTRAK (NOT PART OF OU-6)
(8.68)	WATER TABLE ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL
— 8	ELEVATION OF WATER TABLE IN MAY AND JUNE 2008 IN FEET RELATIVE TO MEAN SEA LEVEL, DASHED WHERE INFERRED
←	DIRECTION OF GROUNDWATER FLOW

NOTES

1. WATER TABLE ELEVATION CONTOURS WERE GENERALIZED USING DATA FROM EXISTING MONITORING WELLS INSTALLED BY ROUX ASSOCIATES FOR AMTRAK AND WELLS INSTALLED BY OTHERS FOR SMP AND ESA.
2. ONLY WELLS WITH SCREEN ZONES SET ACROSS THE WATER TABLE WERE USED IN THE CONSTRUCTION OF THIS GROUNDWATER CONTOUR MAP.
3. WELLS WITH FADED SYMBOLS AND DESIGNATIONS ARE EITHER CONSTRUCTED WITH SCREENS SET ENTIRELY BELOW THE WATER TABLE (i.e., DEEP SCREEN ZONES), OR HAVE BEEN ABANDONED, DESTROYED OR BURIED. THESE WELLS WERE NOT USED IN THE CONSTRUCTION OF THIS GROUNDWATER CONTOUR MAP.
4. ELEVATION DATA IS IN FEET RELATIVE TO MEAN SEA LEVEL (MSL) USING THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88)

400' 0 400'

Title:

WATER TABLE CONTOUR MAP MAY/JUNE 2008

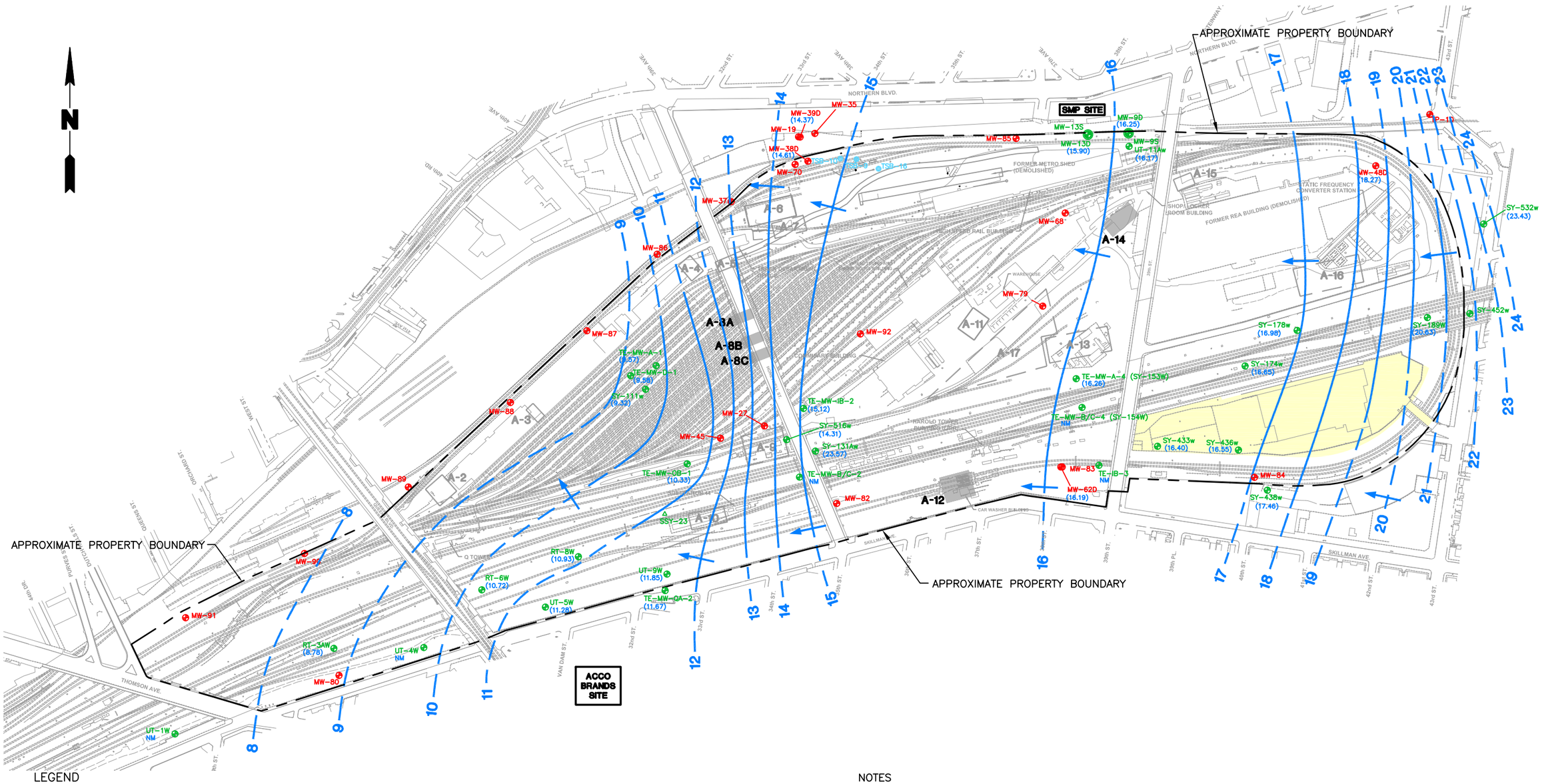
OPERABLE UNIT 6 RECORD OF DECISION
SUNNYSIDE YARD, QUEENS, NEW YORK

Prepared For:

AMTRAK

ROUX ASSOCIATES, INC.
Environmental Consulting and Management

Compiled by: L.D.	Date: 12MAR10	FIGURE
Prepared by: J.A.D.	Scale: AS SHOWN	5
Project Mgr: H.G.	Project: 05565Y04	
File: AM6511904		



LEGEND

MW-80	LOCATION AND DESIGNATION OF EXISTING MONITORING WELL INSTALLED BY ROUX ASSOCIATES, INC.
TE-IB-3	LOCATION AND DESIGNATION OF EXISTING MONITORING WELL INSTALLED BY OTHERS FOR EAST SIDE ACCESS (ESA) PROJECT
MW-13	LOCATION AND DESIGNATION OF EXISTING MONITORING WELL CLUSTER (CONTAINING ONE SHALLOW AND ONE DEEP MONITORING WELL) INSTALLED BY OTHERS AS PART OF THE RI/FS FOR THE STANDARD MOTOR PRODUCTS, INC. (SMP) SITE.
TSB-16	LOCATION AND DESIGNATION OF GEOPROBE™ SOIL BORINGS/ GROUNDWATER SAMPLING POINT FROM OU-3 REMEDIAL INVESTIGATION
	APPROXIMATE PROPERTY BOUNDARY
A-12	LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN WHERE ADDITIONAL GROUNDWATER INVESTIGATION ACTIVITIES WERE EVALUATED
A-2	LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN THAT DOES NOT REQUIRE ADDITIONAL GROUNDWATER INVESTIGATION ACTIVITIES
	PRIVATE PROPERTY NOT OWNED BY AMTRAK (NOT PART OF OU-6)
(8.68)	WATER TABLE ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL
NM	NOT MEASURED
8	ELEVATION OF WATER TABLE IN MAY AND JUNE 2008 IN FEET RELATIVE TO MEAN SEA LEVEL, DASHED WHERE INFERRED
	DIRECTION OF GROUNDWATER FLOW

NOTES

1. ONLY WELLS WITH SCREEN ZONES SET ENTIRELY BELOW THE WATER TABLE WERE USED IN THE CONSTRUCTION OF THIS GROUNDWATER CONTOUR MAP.
2. WELLS WITH FADED SYMBOLS AND DESIGNATIONS ARE EITHER CONSTRUCTED WITH SCREENS BRIDGING THE WATER TABLE (i.e., SHALLOW WATER TABLE WELLS), OR HAVE BEEN ABANDONED, DESTROYED OR BURIED. THESE WELLS WERE NOT USED IN THE CONSTRUCTION OF THIS GROUNDWATER CONTOUR MAP.
3. EQUIPOTENTIAL LINES FOR GROUNDWATER IN WELLS SCREENED BELOW THE WATER TABLE WERE GENERALIZED USING DATA FROM EXISTING MONITORING WELLS INSTALLED BY ROUX ASSOCIATES AND OTHERS.
4. ELEVATION DATA FOR WELLS SURVEYED BY ROUX ASSOCIATES IS IN FEET RELATIVE TO MEAN SEA LEVEL (MSL) USING THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).
5. ELEVATION DATA FOR ESA WELLS SURVEYED BY OTHERS WERE PROVIDED TO ROUX ASSOCIATES IN REPORTEDLY NATIONAL GEODETIC VERTICAL DATUM 1927 (NGVD 27) PLUS 300 FEET REFERENCE DATUM. ROUX ASSOCIATES RESURVEYED ESA WELLS TE-MW-OB-1, TE-MW-QA-2, TE-MW-A-4 AND UT-9 AND USED THAT DATA WHEN PREPARING GROUNDWATER CONTOURS. ELEVATION DATA FOR ALL OTHER ESA WELLS WERE CONVERTED TO NAVD 88. GAUGING DATA FOR WELL SY-131AW WAS CONSIDERED ANOMALOUS AND NOT USED FOR GROUNDWATER CONTOURS.
7. GAUGING DATA FROM ESA WELLS UT-5W, RT-3AW, RT-6W AND RT-8W WERE COLLECTED IN MARCH AND APRIL SO ELEVATION CONTOURS ARE THEREFORE INFERRED.

400' 0 400'

Title:

EQUIPOTENTIAL MAP FOR GROUNDWATER IN WELLS SCREENED BELOW THE WATER TABLE JUNE/JULY 2008

OPERABLE UNIT 6 RECORD OF DECISION
SUNNYSIDE YARD, QUEENS, NEW YORK

Prepared For:

AMTRAK

ROUX ASSOCIATES, INC.
Environmental Consulting and Management

Compiled by: L.D.	Date: 12MAR10	FIGURE
Prepared by: J.A.D.	Scale: AS SHOWN	6
Project Mgr: H.G.	Project: 05565Y04	
File: AM6511905		

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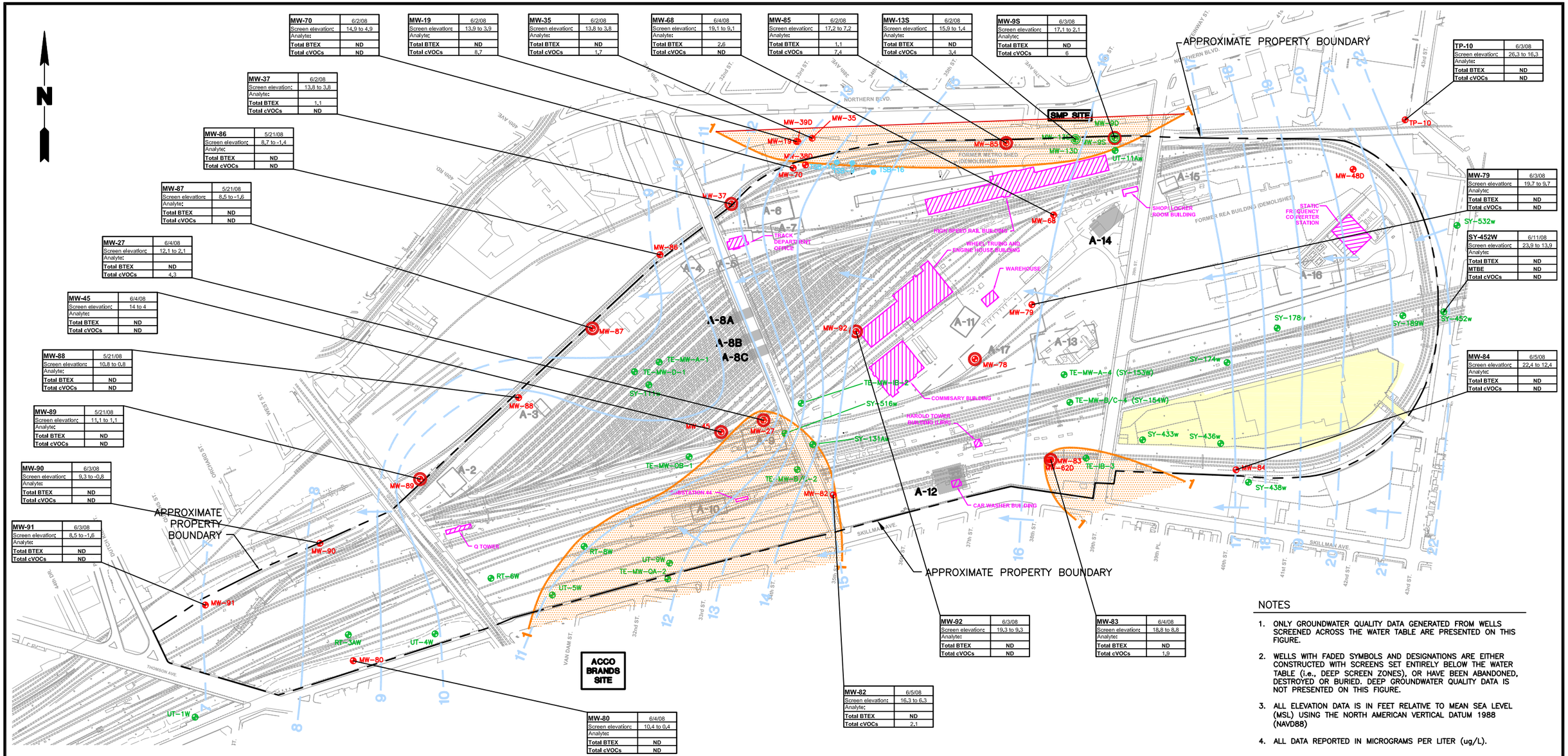

NOTES

1. ONLY GROUNDWATER QUALITY DATA GENERATED FROM WELLS SCREENED ACROSS THE WATER TABLE ARE PRESENTED ON THIS FIGURE.
2. WELLS WITH FADED SYMBOLS AND DESIGNATIONS ARE EITHER CONSTRUCTED WITH SCREENS SET ENTIRELY BELOW THE WATER TABLE (i.e., DEEP SCREEN ZONES), OR HAVE BEEN ABANDONED, DESTROYED OR BURIED. DEEP GROUNDWATER QUALITY DATA IS NOT PRESENTED ON THIS FIGURE.
3. ALL ELEVATION DATA IS IN FEET RELATIVE TO MEAN SEA LEVEL (MSL) USING THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88)
4. ALL DATA REPORTED IN MICROGRAMS PER LITER (ug/L).

400' 0 400'

LEGEND

- MW-80 — LOCATION AND DESIGNATION OF EXISTING MONITORING WELL INSTALLED BY ROUX ASSOCIATES, INC.
- TE-IB-3 — LOCATION AND DESIGNATION OF EXISTING MONITORING WELL INSTALLED BY OTHERS FOR EAST SIDE ACCESS (ESA) PROJECT
- MW-13 — LOCATION AND DESIGNATION OF EXISTING MONITORING WELL CLUSTER (CONTAINING ONE SHALLOW AND ONE DEEP MONITORING WELL) INSTALLED BY OTHERS AS PART OF THE RI/FS FOR THE STANDARD MOTOR PRODUCTS, INC. (SMP) SITE.
- TSB-16 — LOCATION AND DESIGNATION OF GEOPROBE™ SOIL BORINGS/ GROUNDWATER SAMPLING POINT FROM OU-3 REMEDIAL INVESTIGATION
- MW-27 — LOCATION AND DESIGNATION OF PROPOSED MONITORING WELL TO BE SAMPLED FOR REMEDIAL ALTERNATIVE II GROUNDWATER MONITORING PLAN
- APPROXIMATE PROPERTY BOUNDARY
- A-12 — LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN WHERE ADDITIONAL GROUNDWATER INVESTIGATION ACTIVITIES WERE EVALUATED
- A-2 — LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN THAT DOES NOT REQUIRE ADDITIONAL GROUNDWATER INVESTIGATION ACTIVITIES
- PRIVATE PROPERTY NOT OWNED BY AMTRAK (NOT PART OF OU-6)
- 8 — ELEVATION OF WATER TABLE IN MAY AND JUNE 2008 IN FEET RELATIVE TO MEAN SEA LEVEL, DASHED WHERE INFERRED
- DIRECTION OF GROUNDWATER FLOW
- 1 — LINE OF EQUAL CONCENTRATION OF TOTAL CHLORINATED VOCs IN GROUNDWATER AT THE WATER TABLE IN MAY/JUNE 2008 IN UG/L
- APPROXIMATE EXTENT OF TOTAL CHLORINATED VOCs IN GROUNDWATER AT THE WATER TABLE
- INDICATES CURRENTLY OCCUPIED BUILDING (MINIMUM 8 HOURS) CONTINUOUS OCCUPANCY (AS OF AUGUST 2009)
- INDICATES CURRENTLY OCCUPIED BUILDING (LESS THAN 8 HOURS) CONTINUOUS OCCUPANCY (AS OF AUGUST 2009)

SAMPLE LOCATION — SAMPLE DATE

MW-92	6/3/08
Screen elevation:	19,3 to 9,3
Analyte:	
Total BTEX	ND
Total cVOCs	ND

SAMPLE DEPTH — CONCENTRATIONS — ANALYTES

MTBE METHYL TERT-BUTYL ETHER
VOCs VOLATILE ORGANIC COMPOUNDS
CVOCs CHLORINATED VOLATILE ORGANIC COMPOUNDS
BTEX BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES
ND ALL CVOCs OR BTEX NOT DETECTED

Title:

GROUNDWATER QUALITY AT THE WATER TABLE MAY/JUNE 2008

OPERABLE UNIT 6 RECORD OF DECISION
SUNNYSIDE YARD, QUEENS, NEW YORK

Prepared For:

AMTRAK

ROUX ASSOCIATES, INC.
Environmental Consulting and Management

Compiled by: L.D.	Date: 12MAR10	FIGURE
Prepared by: J.A.D.	Scale: AS SHOWN	7
Project Mgr: H.G.	Project: 05565Y03	
File: AM6511906		

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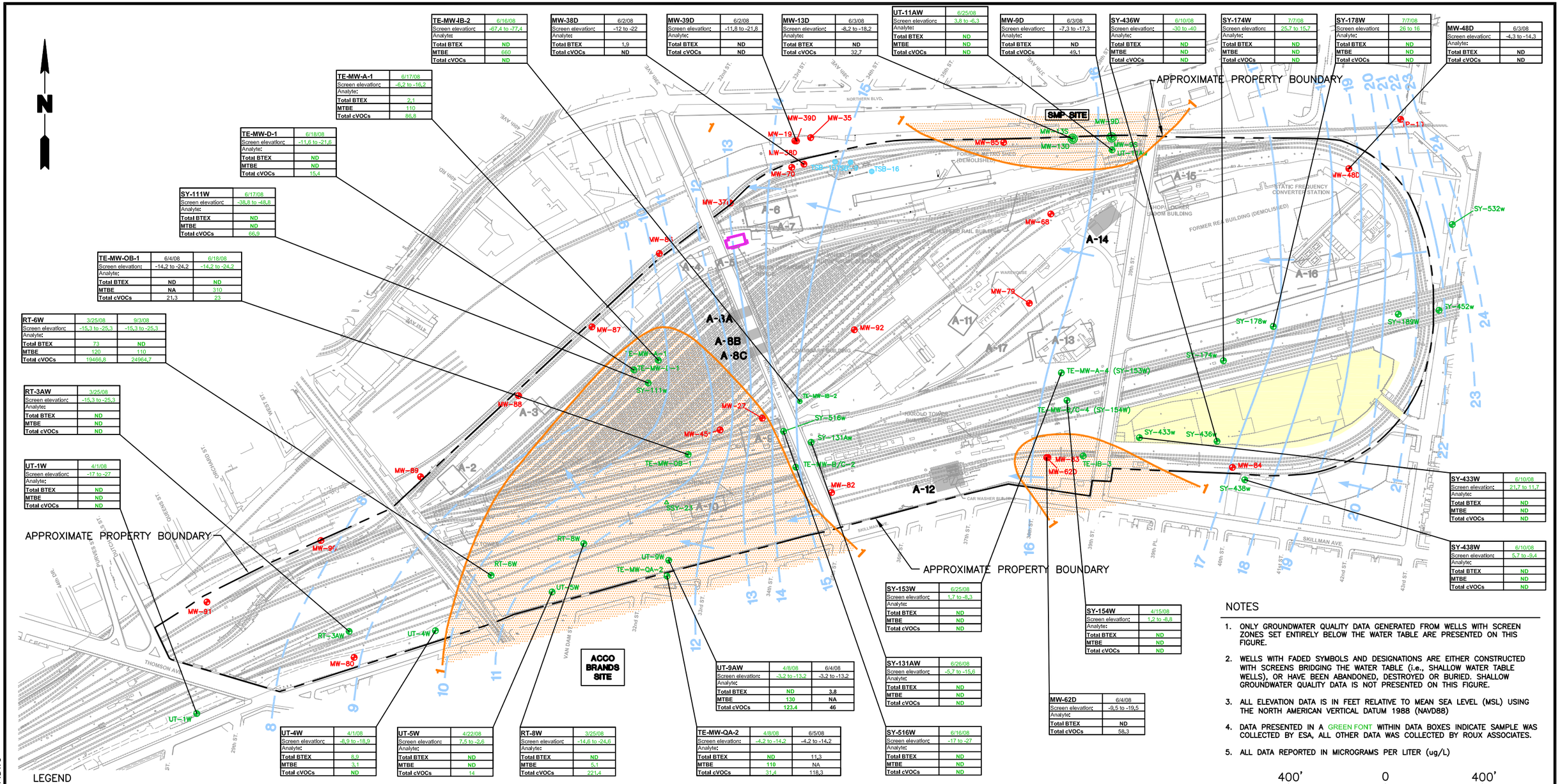

TE-MW-IB-2	6/16/08
Screen elevation:	-67,4 to -77,4
Analyte:	
Total BTEX	ND
MTBE	660
Total cVOCs	ND

MW-38D	6/2/08
Screen elevation:	-12 to -22
Analyte:	
Total BTEX	1,9
Total cVOCs	ND

MW-39D	6/2/08
Screen elevation:	-11,8 to -21,8
Analyte:	
Total BTEX	ND
Total cVOCs	ND

MW-13D	6/3/08
Screen elevation:	-8,2 to -18,2
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	32,7

UT-11AW	6/25/08
Screen elevation:	3,8 to -6,3
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	ND

MW-9D	6/3/08
Screen elevation:	-7,3 to -17,3
Analyte:	
Total BTEX	ND
Total cVOCs	49,1

SY-436W	6/10/08
Screen elevation:	-30 to -40
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	ND

SY-174W	7/7/08
Screen elevation:	25,7 to 15,7
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	ND

SY-178W	7/7/08
Screen elevation:	26 to 16
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	ND

MW-48D	6/3/08
Screen elevation:	-4,3 to -14,3
Analyte:	
Total BTEX	ND
Total cVOCs	ND

TE-MW-A-1	6/17/08
Screen elevation:	-6,2 to -16,2
Analyte:	
Total BTEX	2,1
MTBE	110
Total cVOCs	86,8

TE-MW-D-1	6/18/08
Screen elevation:	-11,6 to -21,6
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	15,4

SY-111W	6/17/08
Screen elevation:	-38,8 to -48,8
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	66,9

TE-MW-OB-1	6/4/08	6/18/08
Screen elevation:	-14,2 to -24,2	-14,2 to -24,2
Analyte:		
Total BTEX	ND	ND
MTBE	NA	310
Total cVOCs	21,3	23

RT-6W	3/25/08	9/3/08
Screen elevation:	-15,3 to -25,3	-15,3 to -25,3
Analyte:		
Total BTEX	73	ND
MTBE	120	110
Total cVOCs	19466,8	24964,7

RT-3AW	3/25/08
Screen elevation:	-15,3 to -25,3
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	ND

UT-1W	4/1/08
Screen elevation:	-17 to -27
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	ND

SY-433W	6/10/08
Screen elevation:	21,7 to 11,7
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	ND

SY-438W	6/10/08
Screen elevation:	5,7 to -3,4
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	ND

SY-153W	6/25/08
Screen elevation:	1,7 to -8,3
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	ND

SY-154W	4/15/08
Screen elevation:	1,2 to -8,8
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	ND

SY-131AW	6/26/08
Screen elevation:	-5,7 to -15,6
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	ND

MW-62D	6/4/08
Screen elevation:	-9,5 to -19,5
Analyte:	
Total BTEX	ND
Total cVOCs	58,3

SY-516W	6/16/08
Screen elevation:	-17 to -27
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	ND

UT-9AW	4/8/08	6/4/08
Screen elevation:	-3,2 to -13,2	-3,2 to -13,2
Analyte:		
Total BTEX	ND	3,8
MTBE	130	NA
Total cVOCs	123,4	46

TE-MW-QA-2	4/8/08	6/5/08
Screen elevation:	-4,2 to -14,2	-4,2 to -14,2
Analyte:		
Total BTEX	ND	11,3
MTBE	110	NA
Total cVOCs	31,4	118,3

RT-8W	3/25/08
Screen elevation:	-14,6 to -24,6
Analyte:	
Total BTEX	ND
MTBE	5,1
Total cVOCs	221,4

UT-5W	4/22/08
Screen elevation:	7,5 to -2,6
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	14

UT-4W	4/1/08
Screen elevation:	-8,9 to -18,9
Analyte:	
Total BTEX	8,9
MTBE	3,1
Total cVOCs	ND

NOTES

1. ONLY GROUNDWATER QUALITY DATA GENERATED FROM WELLS WITH SCREEN ZONES SET ENTIRELY BELOW THE WATER TABLE ARE PRESENTED ON THIS FIGURE.
2. WELLS WITH FADED SYMBOLS AND DESIGNATIONS ARE EITHER CONSTRUCTED WITH SCREENS BRIDGING THE WATER TABLE (i.e., SHALLOW WATER TABLE WELLS), OR HAVE BEEN ABANDONED, DESTROYED OR BURIED. SHALLOW GROUNDWATER QUALITY DATA IS NOT PRESENTED ON THIS FIGURE.
3. ALL ELEVATION DATA IS IN FEET RELATIVE TO MEAN SEA LEVEL (MSL) USING THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88)
4. DATA PRESENTED IN A GREEN FONT WITHIN DATA BOXES INDICATE SAMPLE WAS COLLECTED BY ESA, ALL OTHER DATA WAS COLLECTED BY ROUX ASSOCIATES.
5. ALL DATA REPORTED IN MICROGRAMS PER LITER (ug/L)

400' 0 400'

LEGEND

- MW-80 — LOCATION AND DESIGNATION OF EXISTING MONITORING WELL INSTALLED BY ROUX ASSOCIATES, INC.
- TE-IB-3 — LOCATION AND DESIGNATION OF EXISTING MONITORING WELL INSTALLED BY OTHERS FOR EAST SIDE ACCESS (ESA) PROJECT
- MW-13 — LOCATION AND DESIGNATION OF EXISTING MONITORING WELL CLUSTER (CONTAINING ONE SHALLOW AND ONE DEEP MONITORING WELL) INSTALLED BY OTHERS AS PART OF THE RI/FS FOR THE STANDARD MOTOR PRODUCTS, INC. (SMP) SITE.
- TSB-16 — LOCATION AND DESIGNATION OF GEOPROBE™ SOIL BORINGS/ GROUNDWATER SAMPLING POINT FROM OU-3 REMEDIAL INVESTIGATION
- 8 — EQUIPOTENTIAL LINE FOR GROUNDWATER IN WELLS SCREENDED ENTIRELY BELOW THE WATER TABLE, IN FEET RELATIVE TO MEAN SEA LEVEL, DASHED WHERE INFERRED
- DIRECTION OF GROUNDWATER FLOW
- APPROXIMATE PROPERTY BOUNDARY
- A-12 — LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN WHERE ADDITIONAL GROUNDWATER INVESTIGATION ACTIVITIES WERE EVALUATED
- A-2 — LOCATION AND DESIGNATION OF PREVIOUSLY DETERMINED AREA OF CONCERN THAT DOES NOT REQUIRE ADDITIONAL GROUNDWATER INVESTIGATION ACTIVITIES
- PRIVATE PROPERTY NOT OWNED BY AMTRAK (NOT PART OF OU-6)
- APPROXIMATE EXTENT OF TOTAL CHLORINATED VOCs IN WELLS SCREENED ENTIRELY BELOW THE WATER TABLE
- 1 — LINE OF EQUAL CONCENTRATION OF TOTAL CHLORINATED VOCs IN WELLS SCREENED ENTIRELY BELOW THE WATER TABLE IN ug/L

SAMPLE LOCATION — SAMPLE DATE

SY-154W	4/15/08
Screen elevation:	1,2 to -8,8 ← SAMPLE DEPTH
Analyte:	
Total BTEX	ND
MTBE	ND
Total cVOCs	ND

ANALYTES — CONCENTRATIONS

MTBE METHYL TERT-BUTYL ETHER
VOCs VOLATILE ORGANIC COMPOUNDS
CVOCs CHLORINATED VOLATILE ORGANIC COMPOUNDS
BTEX BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES
ND ALL CVOCs OR BTEX NOT DETECTED
NA NOT ANALYZED

Title:

GROUNDWATER QUALITY IN WELLS SCREENED BELOW THE WATER TABLE APRIL THROUGH JUNE 2008

OPERABLE UNIT 6 RECORD OF DECISION
SUNNYSIDE YARD, QUEENS, NEW YORK

Prepared For:

AMTRAK

ROUX ASSOCIATES, INC.
Environmental Consulting and Management

Compiled by: L.D.	Date: 12MAR10	FIGURE
Prepared by: J.A.D.	Scale: AS SHOWN	8
Project Mgr: H.G.	Project: 05565Y04	
File: AM6511907		

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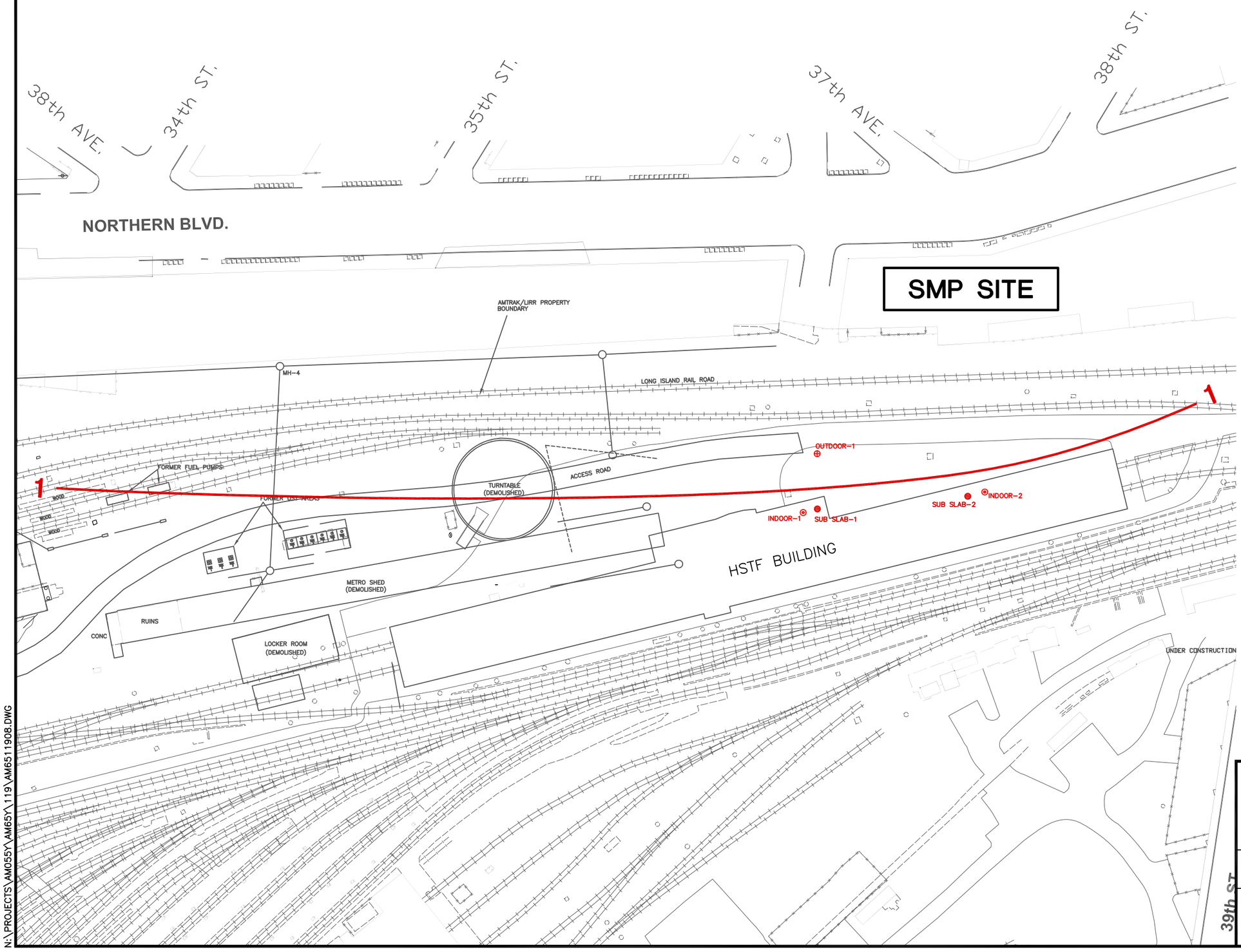

N

LEGEND

1 — LINE OF EQUAL CONCENTRATION OF TOTAL CHLORINATED VOCs IN GROUNDWATER AT THE WATER TABLE IN MAY/JUNE 2008; IN UG/L

SUB SLAB-1 — LOCATION OF SUB SLAB SAMPLE

INDOOR-1 — LOCATION OF INDOOR AIR SAMPLE

OUTDOOR-1 — LOCATION OF OUTDOOR AIR SAMPLE

NOTES

1. HSTF – HIGH SPEED TRAINSET FACILITY
2. SMP – STANDARD MOTOR PRODUCTS, INC.

100' 0 100'

Title:

LOCATION AND DESIGNATION OF SOIL VAPOR SAMPLES COLLECTED NEAR HSTF

OPERABLE UNIT 6 RECORD OF DECISION
SUNNYSIDE YARD, QUEENS, NEW YORK

Prepared For:

AMTRAK

ROUX ASSOCIATES, INC.
Environmental Consulting and Management

Compiled by: R.M.	Date: 12MAR10	FIGURE
Prepared by: J.A.D.	Scale: AS SHOWN	9
Project Mgr: H.G.	Project: 05565Y04	
File: AM6511908		

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