MTA Long Island Rail Road East Side Access Project

Environmental Status and Construction Plan for the

Queens Alignment

Addendum No.1

June 2007

This Addendum provides an update of the Environmental Status and Construction Plan for the Queens Alignment, January 2002 (hereinafter referred to as "the Report"), which was submitted to the New York State Department of Environmental Conservation (NYSDEC) in support of the environmental approvals that are required to implement the MTA Long Island Rail Road (LIRR) East Side Access project (ESA). Since 2002, the design of the Queens Alignment has progressed to reflect an agreement that was reached in January 2006 between Amtrak and MTA. The design changes minimize impacts to Amtrak operations that would result from increased LIRR service and improve operational flexibility for LIRR. In addition, the modifications reflect new standards that were issued by the National Fire Protection Association (NFPA) in 2003 for ventilation system design for commuter rail service operating in tunnels.

This Addendum provides the following:

- An update Section 2.0 "Project Description" of the Report to reflect the modifications to the design of the project in Queens and to report on a number of contracts that have been completed or are in progress since the Report was issued.

- Summary of the results of supplemental environmental site investigations (ESIs) completed in Sunnyside Yard conducted to reflect the design changes in Queens and additional sampling since issuance of the Report.

- Brief description of the interim remediation measures (IRMs) undertaken by Amtrak to address OU-3 of Sunnyside Yard. OU-3 encompasses approximately eight acres in the north central portion of Sunnyside Yard and consists of unsaturated and saturated soil and separate-phase petroleum hydrocarbon (SPH) above the water table.

- Confirmation that the design changes in Queens and results of the supplemental sampling performed to date do not change the conclusions presented in the Report – namely that the Project is not expected to cause contaminant plume migration, nor will it prevent or interfere significantly with any proposed, ongoing or completed remedial program in Sunnyside Yard. Furthermore, construction activities will not expose the public health or the environment to a significantly increased threat of harm or damage.

Project Description Update and Status of Construction Activities

Figure 1 illustrates the current contract packaging plan for the East Side Access project and reflects the latest design for the Queens Alignment via a color-coded description of work in each contract package. As indicated on the map, a number of contract packages have already been completed in Queens outside the confines of Sunnyside Yard (see Figure 2). These include:

- **CQ025 Demolition of Superior Reed Building and Yard A Preparation -** This contract included site preparatory work on MTA property, including the demolition of a warehouse complex between Northern Boulevard and Yard A, removal of the superstructures and foundations of the buildings on the site, construction of a vehicular access ramp from Dutch Kills Street into Yard A, and clearing of Yard A. Most of the 24 Areas of Concern in Soils and Structures (AOCs) that were identified in the Report were disposed of in accordance with NYSDEC requirements. This site is being used as a construction staging area and will be a launch pad for the soft-ground tunnels.

- **CQ026 Queens Open-Cut Excavation at the Existing Bellmouth -** This contract completed the open-cut excavation and construction of a slurry wall at the existing bellmouth of the 63rd Street Tunnel, on MTA property (the block north of Northern Boulevard). Work was performed in compliance with a Long Island Well Permit (DEC Permit #2 – 6304-00394/00004). Ongoing water quality testing performed in accordance with the special conditions of the permit continues to indicate that dewatering activities have not had any influence on the groundwater plumes in Yard A or Sunnyside Yard.

- **CQ027 Arch Street Yard & Shop Facility** – A new facility for LIRR was constructed west of Thomson Avenue on MTA property.

Currently, one contract is underway with two additional contracts scheduled to be awarded later this year:

- **CQ028 Queens Open-Cut Excavation & Tunnel Under Northern Blvd.** – When completed this contract will extend the CQ026 cut-and-cover tunnel beneath Northern Boulevard and through MTA's Yard A into Amtrak's property. This excavation area will provide a critical starting point for the project's tunnel excavation (Contract CQ031). NYSDEC recently issued a Long Island Well Permit (DEC # 2-6304-00394/00005) for this work, which includes a comprehensive ground water sampling and water elevation measurement plan to monitor the environmental and hydrogeologic effects of dewatering at this site. The contractor is expected to begin excavating in Yard A shortly and will commence excavating in Sunnyside Yard upon written approval from NYSDEC.
- **CH053 Harold Structures Stage 1** –CH053 will involve civil works along Harold Interlocking, which is located adjacent to Sunnyside Yard on what is commonly referred to as the Main Line embankment. The interlocking is an approximately 1.5-mile-long segment of tracks, switches and crossovers that allow connections between the East River tunnel tracks and LIRR's Main Line and Port Washington Branch and Amtrak's Northeast Corridor tracks through Queens. Some of the work under CH053 will extend

LEGEND

COMPLETED CONTRACTS
- CQ025
- CQ026
- CQ027

2006 CONTRACTS
- CQ028

2007 CONTRACTS
- CQ031
- CH053
- Point Honeywell | VH051 CIL-Procure
- F | VH062 CIL-Procure
- Q | VQ064 CIL-Procure
- Q INTER FQA64

2008 CONTRACTS
- CH054
- Loop | VQ065 CIL-Procure

2010 CONTRACTS
- CQ032
- CQ034

2011 CONTRACTS
- CH057
- CQ040
- CQ033
- Loop Inter FQA65

2012 CONTRACTS
- CH059

CQ032 - Plaza Substation, Tunnel and Ventilation Structures
- Plaza Tunnel Structure from Sta 1174+80 to Sta 1176+90
- Tunnel / Yard Traction & Bulk Facility Power Substations
- Above grade Structure for Plaza Vent System
- Various systems connections
- Construct remaining Tunnels and Ventilation Facilities
- Waterproof and Backfill Tunnels
- Facility for Yard Services Bldg.

CQ026 - Queens Open-Cut Excavation at the Existing Bellmouth
- Construct Noise Barrier at Lot 1 Block 403
- Perimeter Slurry Wall, Soil and Rock Excavation
- Demolish Existing Slurry Walls at Existing Structure

CQ028 - Queens Open-Cut Excavation (Northern Boulevard to Existing Rail Yard)
- Slurry Walls including Soil and Rock Excavation
- Excavate and construct tunnel under Northern Blvd
- Excavation of Yard Lead Invert
- Underpinning NYCT Tracks under Northern Blvd and NYCT elevated tracks
- Contract Option to construct TBM launch shaft
- Demolition of Amtrak Bldgs 3 and 4 (w/opt)
- Temp and Final alignments of North Runner, Engine Lead and M7 access w/Final support structure (w/opt)
- Build yard access roadway over TBM/Tunnel(w/opt)

FQA28 - Amtrak modifications required due to the temporary relocation of the North Runner and Motor Lead

CQ040 - Amtrak Buildings Demolition
- Demolish remaining Amtrak facilities (as required) including utility relocation excluding BLDGs 3 & 4

CQ033 - Mid-Day Storage Yard Facility
- MDS Yard including Sub-ballast, Car Washer, Ties, Rail, Lighting, Controls, outfit Yards Services Bldg
- Yard Systems including Lighting, Signal and Traction Power
- Procurement, Testing and Commissioning
- Maintain One NYAR Track
- Demo Yard Masters Bldg and NYAR Shop
- Connect to Yard Lead OF Track/System

CQ025 - Demolition of Superior Reed Building and Existing Rail Yard
- Demolish Superior Reed Bldg
- Associated Abatement
- Remove Tracks, Signals and Utilities in Yard
- NYAR Relocation Track

CH053 - Harold Structures - Part 1 and G02 Substation
- North Retaining Walls east of Harold CIL
- South Retaining Walls walls east of 43rd St
- Track A Plf/Approach,settlement control Walls, Maint. Exit
- Construct Harold Access Bridge and assoc. walls/roads/utils
- North and South 43rd St/Loop Track Bridges, 48th St South Bridge (for Temporary ML2 and Relocated ML4) and assoc Retaining Walls (inc. duct banks,risers/cable bridge)
- Demolition of Mature Building (southern buildings)
- Harold microtunnel/manholes for signal cables
- Underpin 39th St Pier 8S and abutment
- Civil work for associated Systems, including Signal, Enclosures, North Harold and CIL Foundations (inc. embedded conduits temporary power, lighting, plumbing)
- RPR grading, subbase etc.
- Three Tunnel Emergency Exit Substation microtunnels
- Relocated G02 including walls, foundation, micro-tunnels, manholes, conduits, ductbanks, cables, and Pre-Fab Substation

EAST SIDE ACCESS
QUEENS ALIGNMENT REV 14-4M
PACKAGING PLAN REVISION ^6.0

MARCH 21, 2006

DRAFT CONTRACT PACKAGING

CQ034 - Sunnyside Passenger Station
- Sunnyside Station
- Platforms and Headhouse
- Associated Systems

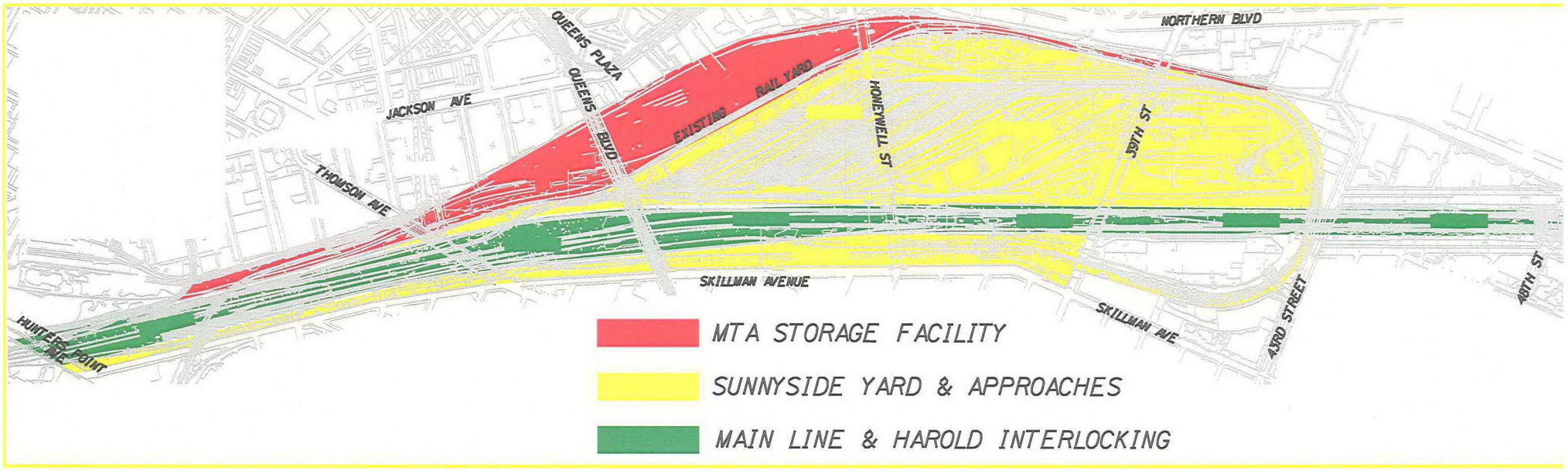
CQ031 - Queens Bored Tunnels, Structures and Trackwork
- TBM Equipment One Pass Liners and Tunnel Drives
- Emergency Exit Structures(inc. WBY wall (approx. 59+00 to 70+00)
- Bridge Piers and Building Ground Stabilization
- Benches and Invert Slab
- Construct roof over Track A, D and Yard Lead reception pits including associated trackbed preparation
- Demolition of 43rd St Buildings (excluding CH053 work)
- Construct Yard Lead, TBM Reception Pit/Approach assoc. Head House
- Prefab Substation C08 and associated civil construction including temporary power lighting, plumbing and embedded conduits
- Relocation of 43rd St Utilities
- Construction of yard access roadway over TBM/Tunnel
- Construct Track A, D and Yard Lead interior walls, equipment rooms and accessways
- GM Bridge/Loop Track/43rd Street Abutment/Pier Modifications for Yard Lead (if Required)
- Construct Invert, OF track and 3rd Rail for bored tunnels & approaches

CH057 - Harold Structures - Part 3, Eastbound Reroute and Westbound Bypass Structures
- Construct Eastbound Reroute Structure
- Demolish G02 Substation
- Construct Westbound Bypass Structure
- Install Westbound Bypass Track, Invert, Bench, Lighting and Systems

CH054 - Harold Structures - Part 2
- GM retaining wall adjacent to relocated ML4
- Trackwork/Associated Systems
- Track D Plf and Approach (including Cut and Cover Section)
- Earthwork/Sub-Base for Temp ERTI Connection to Loop 2/Loop 1 inc associated utility modifications and storm sewer
- Extend existing Trackbridge over Loop 2 (near Honeywell)
- Main Line 4 and Temporary track sub-base/drainage installation
- Track Earthwork/Sub-base as req. (Main Line 4, Loop 1B etc.)
- 48th Street Existing Bridge Demo and Permanent Bridge inc. associated grading and retaining walls for ML2
- Retaining wall east of 48th St

CH059 - Harold Structures - Part 4
- Track B/C Approach (inc. underpin 39th St. Pier 6S/7S) (incl. eastern retaining wall)
- Trackwork/Embankment/ Grading/ Associated Systems
- Demolition of Existing Amtrak,Train Washer
- Amtrak Train Washer (inc. utilities), associated Retaining Walls, and track sub-ballast
- Track/Sub-Base Including LK1 (Direct Fixation)
- Complete Track D approach northern approach wall
- Construct Penn Lead grading, sub-base, retaining walls etc.
- Sunnyside Connector grading, subbase, etc.
- Install Reroute Track OF, Invert, bench, lighting, systems etc.

CQ027 - Arch Street Yard and Shop Facility
- Yard Track and Associated Traction Power Systems
- 4 Track MU Maintenance Shop
- Engineering and Storage Bldgs
- EIC Platform and Yard Power Substation


QUEENS PLAZA
NORTHERN BLVD
JACKSON AVE
QUEENS BLVD
EXISTING RAIL YARD
HONEYWELL ST
39TH ST
THOMSON AVE
SKILLMAN AVENUE
SKILLMAN AVE
43RD STREET
48TH ST
HUNTERS POINT AVE
MTA STORAGE FACILITY
SUNNYSIDE YARD & APPROACHES
MAIN LINE & HAROLD INTERLOCKING

into Sunnyside Yard, in particular: An access bridge from Skillman Avenue over Harold Interlocking and into Sunnyside Yard, a substation located between Skillman Avenue and Harold Interlocking, retaining walls supporting the north side of the Main Line embankment, an 18" sewer running adjacent to 39th Street, and work in and near bridge piers at 43rd and 39th Streets.

- **CQ031 Queens Bored Tunnels and Structures** --CQ031 will excavate soft-ground tunnels for Track A, B/C and D for revenue service linking to Harold Interlocking and a fourth non-revenue service tunnels linking to the Mid-Day Storage Yard. The buildings on 43rd Street will be demolished and the Yard Lead TBM reception pit (north of the mainline) in the northwest area of Sunnyside Yard will be constructed. The 43rd Street utilities will be relocated and an access road to Amtrak's S&I Facility will be constructed. Emergency exits/ventilation structures will be constructed at Track A, YL and B/C at Honeywell Street, Track D at Honeywell Street, and at 39th Street for the Yard Lead.

Other contracts that will be awarded in 2008 or later include:

- **CH054, CH057 and CH059 Harold Structures Part 2, 3 and 4** -- Similar to CH053, contracts CH054, CH057 and CH059 (representing staged work defined to minimize to service disruptions) will include work within Sunnyside Yard, principally: modification of the existing track underpass box structure between Queens Boulevard and Honeywell Street, new retaining walls close to the loop track and on the south side of the Main Line embankment, a train wash facility for Amtrak immediately east of Honeywell Street, and underpinning of bridge piers.

- **CQ040 Amtrak Building Demolition** – Six buildings will be demolished and utilities relocated in the northwest portion of Sunnyside Yard.

- **CQ034 Sunnyside Passenger Station** – MTA is committed to building a new passenger station beneath the Queens Boulevard Bridge, with access to Skillman Avenue and the bridge. New platforms for the Main Line tracks into Penn Station and a headhouse will be constructed requiring some work within the confines of Sunnyside Yard.

Additionally, there are a series of contracts shown on Figure 1 (beginning with the letter V) that are procurement contracts, and a series of contracts (beginning with the letter F and CS) that are either force account or systems contracts that will install infrastructure or equipment only after the site has been prepared/disturbed in an earlier contract described above. Other contracts such as **CQ033 Mid-Day Storage Yard Facility** and **CQ042 Plaza Tunnel and Ventilation Structure** will be built in areas previously prepared/disturbed as part of earlier contracts.

Supplemental Environmental Site Investigations (ESIs) at Sunnyside Yard

Supplemental ESIs were conducted by MTA for the CH053 and CQ031 construction contract packages in 2006 (GEC, 2007a; 2007b). CQ031 is the "Queens Bored-Tunnels, Structures and Trackwork" contract package and CH053 is the "Harold Structures – Part 1 and G.O.2

Substation" contract package (MTA, 2007). The Supplemental ESIs provided further quantification of the extent and levels of soil and groundwater contamination within the proposed footprints prior to construction. The supplemental ESIs were completed in accordance with guidance and protocols established by the New York Department of Environmental Conservation (NYSDEC).

ESI findings for soil and groundwater are summarized below for each package. Soil sample results were compared to the site-specific NYSDEC Record of Decision (ROD) soil cleanup objectives established for OU-1 of Sunnyside Yard (NYSDEC, 1997; 1998a), the NYSDEC recommended soil cleanup objectives (RSCOs) as per the NYSDEC Consolidation Memo (NYSDEC, 2000), the NYSDEC Technical and Administrative Guidance Values Memorandum (TAGM): 94-4046 (NYSDEC, 1994), and the USEPA hazardous waste RCRA regulatory levels for metals in soil by toxicity characteristic leaching procedure (TCLP). The results of the soil sampling programs indicate that none of the samples exceed the site-specific ROD values and the RCRA regulatory levels for TCLP metals. As such, pre-construction remedial action is not warranted. However, the supplemental ESIs identified areas within the proposed construction where soil exceeded the NYSDEC RSCOs and any soil excavated from such areas would be handled as directed in the Contract drawings and specifications.

Groundwater results for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals (dissolved and total) were compared to NYSDEC Division of Water, Technical and Operational Guidance Series (1.1.1) (TOGS): Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (NYSDEC, 1998b) and New York City Department of Environmental Protection (NYCDEP) limitations for effluent to storm, combined or sanitary sewers as found in Title 15, Chapter 19 of the Rules of the City of New York. In the event that exceedances of NYCDEP Limitations for Effluent to Sanitary or Combined Sewers are encountered in groundwater, the contractor is to proceed as directed in contract specifications. Construction for these two contract packages are situated in the same area as the Central Yard and Skillman/39th Street plumes. No significant changes in these plumes were observed as a result of the supplemental ESIs since the first status plan was issued (PB/STV, 2002).

Supplemental ESI Findings for Contract CH053

A Supplemental ESI Findings Report has been prepared, which presents the information relevant to the construction activities proposed under Contract CQ053. In summary, twenty-eight (28) hand-augered borings and 5 drilled borings were advanced with the collection of 34 soil samples. Six monitoring wells were sampled for groundwater samples.

The site specific NYSDEC ROD soil cleanup values for total lead and total carcinogenic polycyclic aromatic hydrocarbons (cPAHs) were not exceeded in any of the soil samples. The hazardous waste RCRA regulatory levels for TCLP metals were not exceeded as well.

The following metals were detected at levels exceeding the NYSDEC RSCOs: arsenic, cadmium, chromium, mercury and silver. The following five (5) cPAHs were detected at levels exceeding the NYSDEC RSCOs: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, and chrysene.

Soil was found to exceed the NYSDEC RSCOs at the following proposed structures: Retaining Wall HON-N1 between Honeywell and 39th Street (cPAHs and heavy metals); Retaining Wall 39-S1, 39-S2, 39-S3 west of 39th Street (cPAHs and metals); Retaining Wall 43-S2 west of 43rd Street (metals only); Retaining Wall 43-N2 east of 43rd Street (cPAH only); Retaining Wall 48-S1 east of 48th Street (cPAHs and metals); 39th Street Bridge Pier Replacement (cPAHs and metals); 43rd Street Pier Modification for Yard Lead Tunnel (cPAH and metals); TBM Reception Pit A (cPAHs and metals); 18-Inch Storm Sewer West of 39th Street (cPAHs and metals); 12kV Ductbank (cPAHs and metals); and G02 Substations (metals only).

There were several metals, one VOC and three SVOCs which exceeded the NYSDEC Class GA Groundwater standards in the wells sampled including antimony, barium, chromium, copper, iron, lead, manganese, nickel, selenium, sodium, thallium, tetrachloroethene, benz(a)anthracene, benzo(b)fluoranthene, and chrysene. Since there were no exceedances of VOCs, SVOCs or target analyte list (TAL) metals pursuant to NYCDEP Limitations for Effluent to Sanitary or Combined Sewers, these do not pose any environmental concerns related to construction dewatering discharge.

Supplemental ESI Findings for Contract CQ031

A Supplemental ESI Findings Report was prepared, which presents the information relevant to the construction activities proposed under Contract CQ031. In summary, two (2) hand-augered borings and six (6) drilled borings were advanced with the collection of eighteen (18) soil samples. Four (4) monitoring wells were sampled for groundwater samples.

The site specific NYSDEC ROD soil cleanup values for total lead and total carcinogenic polycyclic aromatic hydrocarbons (cPAHs) were not exceeded in any of the soil samples. The RCRA regulatory levels for TCLP metals were not exceeded as well.

The following RCRA metals were detected at levels exceeding the NYSDEC RSCOs: arsenic, barium, chromium, lead, mercury and silver. The following additional TAL metals were detected at levels exceeding the NYSDEC RSCOs: aluminum, antimony, beryllium, calcium, copper, iron, magnesium, manganese, nickel, potassium, sodium and zinc. The following five (5) cPAHs were detected at levels exceeding the NYSDEC RSCOs: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, and chrysene. Acetone was a VOC that was detected a level exceeding the NYSDEC RSCO. The RSCO for the volatile organic compound (VOC) acetone was exceeded in one soil sample (and is attributed as a laboratory artifact).

Soil was found to exceed the NYSDEC RSCOs at the following proposed structures: the Emergency Exit at 39th Street for the Yard (VOC, cPAHs and metals), Pier #6 at Honeywell Bridge (cPAHs and metals), Pier 1S at 39th Street (cPAHs and metals), Mainline Bridges at 43rd Street (cPAHs and metals), Westbound Bypass Retaining Wall (metals), Three Tunnel Emergency Exit (metals), Underpin of 43rd Street Mainline Bridge, (metals), and LIRR Yard Lead TBM Reception Pit and Approach Structure (metals).

There were several metals and one SVOC which exceeded the NYSDEC Class GA Groundwater standards in the wells sampled including: antimony, iron, lead, sodium, thallium manganese, magnesium and benzo(b)fluoranthene. Since there are no exceedances of VOCs, SVOCs or

TAL Metals pursuant to NYCDEP Limitations for Effluent to Sanitary or Combined Sewers, these do not pose any environmental concerns related to construction dewatering discharge.

Interim Remedial Measures Completed by Amtrak at OU-3

Amtrak has made significant progress in recovery of SPH at OU-3. Three phases of IRMs have been implemented, starting in 1990. The historic outer boundary of the SPH plume was conservatively defined by the absence of a visible sheen, and encompassed an area of approximately three acres, when delineated in 1990.

Since 1990, Amtrak has installed collection trenches and recovery wells that have been operated and collected over 11,500 gallons of SPH. The core of the plume, consisting of mobile SPH, is defined by the 0.5-foot apparent SPH thickness contour. Because of the IRMs undertaken by Amtrak, the mobile SPH plume is much smaller and now occupies only 0.5 acres. Amtrak will be undertaking additional remedial activities at OU-3 to further remediate the area.

Conclusion

This addendum provides an update to the Report submitted in 2002. Environmental findings in areas affected by upcoming construction activities have been completed and reports are available for review. Supplemental sampling will be performed as final design progresses for the later-phase construction activities.

MTA's ongoing sampling program, both for groundwater quality during dewatering activities and soil sampling to characterize the soils that will be disturbed as a result of the design changes in Queens for near-future construction packages, support the conclusions presented in the Report. The Project's design incorporates measures to prevent movement of groundwater contamination by minimizing drawdown of the water table. Dewatering activities within slurry/jet-grout walls at each open-cut excavation area have been and will be conducted in accordance with NYSDEC requirements as specified in Long Island Well permits obtained for each contract, where required. Ongoing monitoring and treatment of water removed during excavation, water quality testing in the vicinity of the contaminated plumes, and, if necessary, contingency activity such as groundwater recharging will be conducted to verify that the contaminated plumes remain unaffected throughout groundwater dewatering operations.

Based on prior experience, the construction techniques proposed to be utilized, and results from a two-dimensional steady state model, the Project is not expected to cause contaminant plume migration, nor will it prevent or interfere significantly with any proposed, ongoing or completed remedial program in Sunnyside Yard. Further, construction activities will not expose the public health or the environment to a significantly increased threat of harm or damage.

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