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ENVIRONMENTAL ENGINEERS

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August 23, 2011

Mr. Jeffrey Vought
Engineering Geologist
New York State Department of Environmental Conservation
Division of Environmental Remediation
47-40 21st Street
Long Island City, New York 11101

Re: Interim Remedial Measure Work Plan (IRMWP) for Operable Unit 5 for
Sewer Manhole MH-6
Sunnyside Yard, Queens, New York (NYSDEC Site No. 241006)

Dear Mr. Vought:

On behalf of the National Railroad Passenger Corporation (Amtrak) and New Jersey Transit Corporation (NJ Transit), Remedial Engineering, P.C. (Remedial) has prepared this Interim Remedial Measure Work Plan (IRMWP) for sewer manhole MH-6 in OU-5 (OU-5 is the sewer system located beneath the Yard). The location of MH-6 is presented in Figure 1. This IRMWP was deemed necessary to clean out and rehabilitate the manhole for future use. The requirement for capping of all remnant inflow piping entering MH-6 was previously indicated in the OU-3 Technical Documents Part 3, Section 3.01-D-3 and on the Site Remediation and Structural Removal Plan-Drawing C-2, contained in the OU-3 RAWP. The extensive demolition of OU-3 structures resulted in abandonment of multiple sewer pipes that formerly discharged into MH-6. These abandoned pipes need to be properly capped at the manhole.

As you are aware, the OU-3 remediation activities (MH-6 is located within the boundaries of OU-3) commenced in October 2010 and were suspended in February 2011 due to prolonged freezing temperatures and accumulated snow and ice. These conditions prevented Amtrak's remedial contractor from completing final surface grading tasks. Amtrak's remedial contractor remobilized to the Yard in August 2011 to complete site grading work. The completion of this work has brought the OU-3 remediation area to the prescribed final elevation and leaving only MH-6 rehabilitation and implementation of the Dual Phase Vacuum Extraction (DPVE) plan and Bioremediation injections as the final remedial tasks.

Recently received analytical results from sampling activities associated with the OU-5 Remedial Investigation (RI) at the Yard indicate that sediment and sewer water contained within MH-6 are impacted with polychlorinated biphenyls (PCBs). Analytical results for sediment and filtered and unfiltered water samples collected from MH-6 are presented in

Table 1 and Table 2, respectively. The analytical results indicate that sediment is present in MH-6 at concentrations that exceed the Yard-specific cleanup level of 25 parts per million (ppm) and, therefore, as specified in the March 2007 Record of Decision (ROD) for OU-3, will require removal from the Yard and proper disposal in accordance with all applicable Federal, State, and local regulations.

The Pilot Study/Conceptual Design Report for OU-3 (Approved by NYSDEC letter dated May 3, 2011) provides the results of the DPVE Pilot Study completed in OU-3 and the conceptual design for the full scale DPVE system to remove remaining separate phase hydrocarbons from OU-3. Among components of the system is an oil/water separator (OWS) to separate the two recovered media. Recovered groundwater will be pumped from the OWS through a treatment system consisting of bag filters, organoclay units, and finally vapor phase granular activated carbon units and then into a 21,000-gallon holding tank. From the holding tank, the treated water will be discharged under NYCDEP permit into the onsite sewer at manhole MH-6, the designated receptor manhole for treated discharge water from the DPVE system, and the only serviceable manhole located within the boundaries of OU-3. However, before the DPVE system can become operable, MH-6 must be remediated and rehabilitated.

Remedial Action

Clean Harbors, Amtrak's remedial contractor, will perform the remediation and rehabilitation tasks in accordance with contractor supplied Health and Safety Plan and in accordance with the Soil/Materials Management Plan OU-3 RAWP, as applicable for this scope of work. Clean Harbors will perform permit required confined space entry into MH-6 with Roux Associates providing general oversight. All sediment and water will be removed from the manhole utilizing a Vacuum truck and remain containerized while staged on Site. All removed materials will be properly disposed offsite as PCB-contaminated TSCA waste. All wastes will be generated under vacuum and in containment (i.e., no excavation/stockpiles); therefore, no airborne particulates will be generated for this project. Roux Associates will employ a modified CAMP, utilizing a roving Photoionization Detector to monitor the work area and site perimeter for VOCs. The interior of the manhole will be then be thoroughly washed and rinsed (low pressure as the manhole is constructed with brick), and the rinse water and any additional sediment generated will be collected and remain containerized for proper disposal described as above.

Since all buildings and structures in OU-3 that provided flow to MH-6 have been demolished during the OU-3 remedial effort, to complete to manhole rehabilitation, all remnant inflow piping to the manhole will be sealed using inflatable packers followed by either caulking or a quick drying cement product, as applicable, leaving only the outflow pipe and a newly installed 4-inch pipe serviceable (the 4-inch pipe was installed in February 2011 to accommodate discharge from the DPVE system). This work will all be performed from the inside of the manhole structure. Following completion of remediation activities, Clean Harbors will properly dispose of all waste generated for this project in

accordance with the Soil/Materials Management Plan contained in the OU-3 RAWP and provide Roux with copies of all manifests.

Post-Remediation Sampling

Following the completion of MH-6 cleaning and rehabilitation activities described above, Roux Associates will collect a post-remediation water sample from within the manhole to confirm PCB removal activities were effective. Although remnant inflow piping and the manhole structure will be sealed, a limited quantity of groundwater infiltration may still enter the manhole. If a sufficient volume of water enters the manhole through infiltration, Roux Associates will collect a sample of the standing water for laboratory analysis.

In the event that water does not re-enter the manhole in sufficient quantity for sampling, Roux Associates will collect a post-remediation rinsate sample following the procedure described below. First, potable water would be introduced into the manhole. This water will be allowed to remain in contact with the concrete manhole structure for a minimum time period of 1-hour. Following this time period, the rinsate sample will be collected for laboratory analysis.

Following the collection of the water sample (either from water entering the manhole, or through implementation of the rinsate procedure described above), the water sample will be placed in a laboratory-provided sample container. The sample will be submitted under chain-of-custody procedures to a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) qualified laboratory for PCB analysis using United States Environmental Protection Agency (USEPA) Method 8082. Analysis will be conducted in accordance with NYSDEC Analytical Services Protocol (ASP) using the USEPA SW-846 methodology. Sample results will be presented in ASP Category B deliverable package format to allow for a complete review by an independent data validator.

Following receipt of data, the analytical data package will be submitted to an independent, qualified data validator for review. In accordance with the NYSDEC document titled "DER-10 Technical Guidance for Site Investigation and Remediation", dated May 3, 2010 (Section 2.2(a).1.ii), the independent data validator will prepare a Data Usability Summary Report (DUSR) in accordance with DER-10 requirements.

OU-5 IRM Reporting

The PCB concentration of the post-remediation water sample will be compared to the New York City Department of Environmental Protection (NYCDEP) PCB Limit for Effluent to Combined Sewer of 1 microgram per liter ($\mu\text{g/L}$). If the result is equal to or lower than 1 $\mu\text{g/L}$, the work performed as part of the IRM will be reported to NYSDEC in the form of a Construction Completion Report (CCR). If the result of this post-remediation sample is greater than 1 $\mu\text{g/L}$, the work completed as part of this IRM will be reported to NYSDEC in the OU-5 Feasibility Study (FS). In this case, the FS would evaluate additional remedial actions that may be required at MH-6 to achieve the NYSDOH standard of 1 $\mu\text{g/L}$ for PCBs in water in the combined sewer.

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Analytical data generated during this IRM will be submitted electronically to NYSDEC using the Environmental Information Management System (EIMS) procedures described in the NYSDEC's Electronic Data Deliverable (EDD) Guidance.

Schedule

Roux Associates expects this work in MH-6 will be completed within one week following NYSDEC approval of this IRMWP.

If you have any questions concerning this summary or require additional information, please do not hesitate to call.

CERTIFICATION

I, Charles J. McGuckin, certify that I am currently a NYS registered professional engineer and that this Interim Remedial Measure Work Plan for Operable Unit 5 was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and the Record of Decision (ROD) for the Amtrak Sunnyside Yard Site Operable Unit 3.

Charles J. McGuckin, P.E.
NYS Professional Engineer #069509

August 23, 2011
Date



Attachments

cc: J. O'Connell, NYSDEC
S. Bollers, NYSDEC
C Doroski, NYSDOH
R. Mohlenhoff, P.E., Amtrak
C. Caldwell, Amtrak
C. Taccetta, Amtrak
M. Stern, Amtrak
C. Warren, Kramer, Levin et al.
J.D. Duminuco, Roux Associates, Inc.
H. Gregory, Roux Associates, Inc.
R. Kovacs, Roux Associates, Inc.

Table 1. Summary of Polychlorinated Biphenyl Compound Concentrations in Sewer-Sediment Samples Collected in the Primary Sewer System Sunnyside Yard, Queens, New York

Parameter (Concentrations in $\mu\text{g}/\text{kg}$)	Site-Specific Cleanup Levels	Sample Designation: Sample Date:	MH-6 10/11/2010	MHS-6 3/16/2011	MHS-6 3/17/2011	MH-6DUP 3/17/2011
Aroclor-1016	--		4000 U D	37 U	36 U	40 U
Aroclor-1221	--		4000 U D	37 U	36 U	40 U
Aroclor-1232	--		4000 U D	37 U	36 U	40 U
Aroclor-1242	--		4000 U D	37 U	36 U	40 U
Aroclor-1248	--		4000 U D	37 U	36 U	40 U
Aroclor-1254	--		4000 U D	37 U	36 U	40 U
Aroclor-1260	--		120000 D	21000	15000	27000
Aroclor-1262	--		4000 U D	37 U	36 U	40 U
Aroclor-1268	--		4000 U D	37 U	36 U	40 U
Total PCBs	25000		120000 D	21000	15000	27000

Notes:

J - Estimated value

U - Indicates that the compound was analyzed for but not detected

D - Compound identified in an analysis at a secondary dilution

$\mu\text{g}/\text{kg}$ - Micrograms per kilogram

PCBs - Polychlorinated Biphenyls

Bolded results indicate that the compound exceeds the Site-Specific Cleanup Levels

**Table 2. Summary of Polychlorinated Biphenyl Concentrations in Sewer-Water Samples Collected in the Primary Sewer System
Sunnyside Yard, Queens, New York**

Parameter (Concentrations in µg/L)	NYCDEP Limit for Effluent to Combined Sewer	Sample Designation: Sample Date:	MH-6 10/11/2010	MH-6 10/11/2010 Filtered	MHW-6 3/16/2011	MHW-6 3/16/2011 Filtered	MHW-6 3/17/2011	MHW-6 3/17/2011 Filtered	MH-6 DUP 3/17/2011	MH-6 DUP 3/17/2011 Filtered
Aroclor-1016	--		0.43 U D	0.043 U	0.25 U	0.27 U	0.25 U	0.25 U	0.25 U	0.25 U
Aroclor-1221	--		0.62 U D	0.062 U	0.25 U	0.27 U	0.25 U	0.25 U	0.25 U	0.25 U
Aroclor-1232	--		0.38 U D	0.038 U	0.25 U	0.27 U	0.25 U	0.25 U	0.25 U	0.25 U
Aroclor-1242	--		0.38 U D	0.038 U	0.25 U	0.27 U	0.25 U	0.25 U	0.25 U	0.25 U
Aroclor-1248	--		0.45 U D	0.045 U	0.25 U	0.27 U	0.25 U	0.25 U	0.25 U	0.25 U
Aroclor-1254	--		0.36 U D	0.036 U	0.25 U	0.27 U	0.25 U	0.25 U	0.25 U	0.25 U
Aroclor-1260	--		83 D	0.046 U	12	0.27 U	16	0.25 U	70	0.25 U
Aroclor-1262	--		0.46 U D	0.046 U	0.25 U	0.27 U	0.25 U	0.25 U	0.25 U	0.25 U
Aroclor-1268	--		0.15 U D	0.015 U	0.25 U	0.27 U	0.25 U	0.25 U	0.25 U	0.25 U
Total PCBs	1		83 D	0	12	0	16	0	70	0

Notes:

J - Estimated value

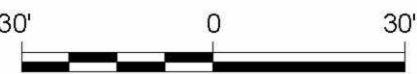
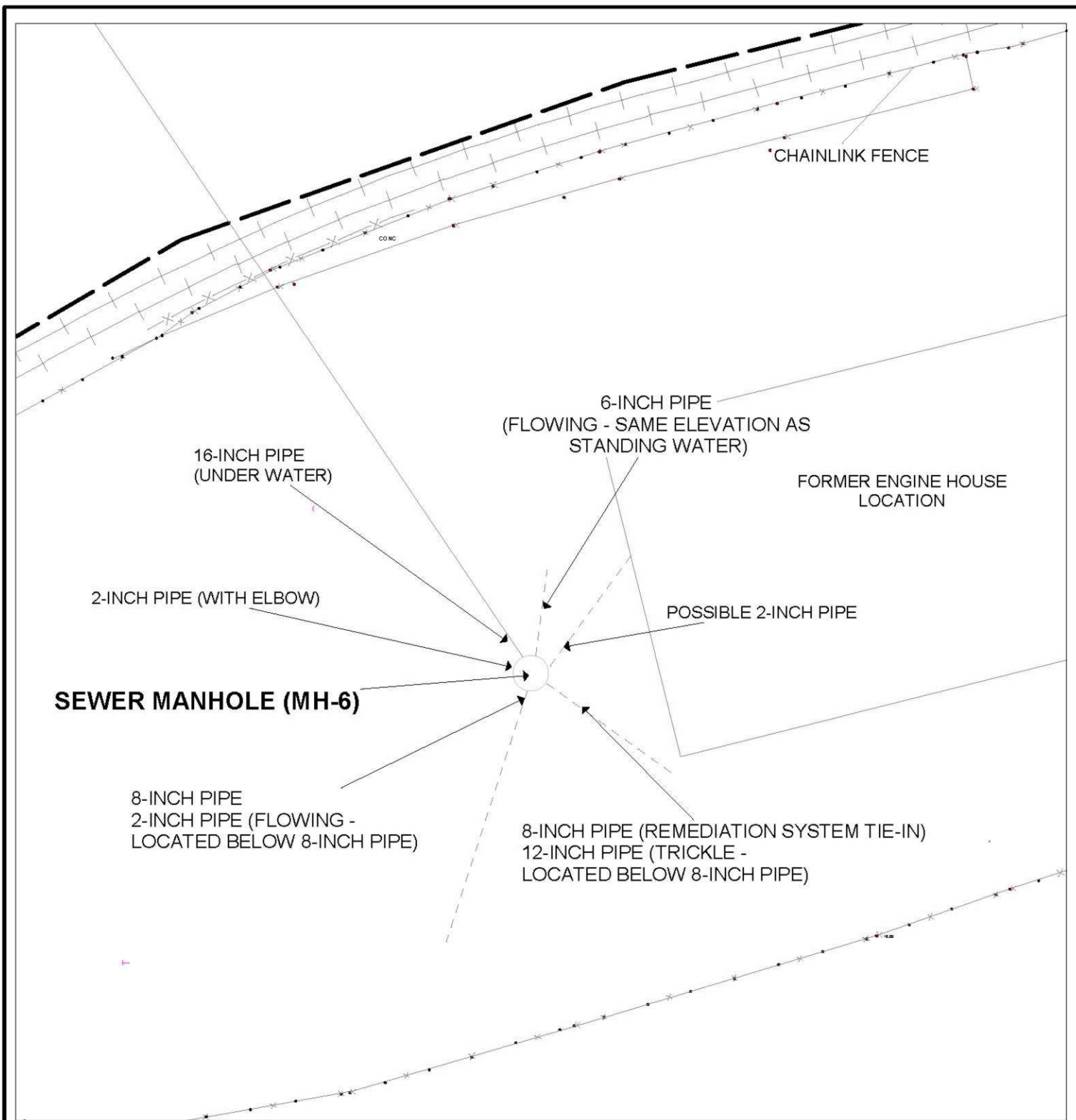
U - Indicates that the compound was analyzed for but not detected

µg/L - Micrograms per liter

PCBs - Polychlorinated Biphenyls

Bolded results indicate that the compound exceeds the Site-Specific Cleanup Levels

NYCDEP - New York City Department of Environmental Protection



Title:			
SEWER MANHOLE (MH-6)			
OU-3 - SUNNYSIDE YARD			
Prepared For:			
AMTRAK			
ROUX ROUX ASSOCIATES INC <i>Environmental Consulting & Management</i>	Compiled by: HG	Date: 4/21/2011	FIGURE 1
	Prepared by: RSK	Scale: SHOWN	
	Project Mgr: HG	Office: NY	
	File No: AM4526601.WOR	Project: 0055.0045Y014	