

SITE MANAGEMENT PLAN STATUS REPORT
REPORT PERIOD: JUNE 1, 2016 THROUGH AUGUST 31, 2016

HARMON RAILROAD YARD
OU-I AND OU-II
WESTCHESTER COUNTY, NEW YORK
SITE NO. 3-60-010

SUMMARY OF WORK COMPLETED DURING THE REPORTING PERIOD: This report summarizes the remedial actions and monitoring completed between June 1, 2016 and August 31, 2016 (i.e., the 18th Quarter of operation) at the Harmon Railroad Yard OU-I and OU-II, Westchester County, New York, NYSDEC Site No. 3-60-010 (the Site). This document was prepared in accordance with the provisions of the document titled *Metro-North Railroad, Harmon Railroad Yard, Westchester, County, New York, Site Management Plan OU-I and OU-II, NYSDEC Site Number: 3-60-010* dated December 2011 as revised November 11, 2012, January 31, 2015 and January 31, 2016 (the SMP). During this report period, depth to NAPL and groundwater monitoring was conducted as outlined in the SMP, and NAPL was removed from select wells. The results of the monitoring and NAPL removal completed during the report period are summarized below.

DEPTH TO GROUNDWATER AND NAPL MEASUREMENTS: During this report period, a quarterly monitoring event was conducted on August 3, 2016. This monitoring included the measurement of static water levels and NAPL thicknesses (if present) in functioning wells. The monitoring results are presented on the logs included in Attachment A. A groundwater contour map developed using static water levels measured on August 3, 2016 is included as Figure 1.

NAPL REMOVAL RECORDS: The NAPL removal records for each well evaluated during this report period are included on the logs in Attachment A. A summary of the total amount of NAPL removed from each well during the current report period is presented on Table 1, and a summary of the total amount of NAPL historically removed from each well between December 1, 2012 and August 31, 2016 is presented on Table 2. The NAPL removed was placed in 55-gallon drums. Testing and off-site disposal of the drums was not completed during this report period. A spider diagram presenting the maximum NAPL thicknesses, and the amount of NAPL removed from the wells at the Site during the current and preceding report period is included as Figure 2.

GROUNDWATER SAMPLING AND TESTING: Groundwater sampling and testing was not required during the report period. However, test results for the groundwater samples collected between March 2012 (i.e., the initial quarter completed under the SMP) and May 2016 (the most recent sampling event), are included on Table 3 through Table 6 for reference purposes. The groundwater test results include volatile organic compounds (i.e., Table 3), semi-volatile organic compounds (i.e., Table 4), polychlorinated biphenyls (i.e., Table 5), and metals (i.e., Table 6).

PROBLEMS ENCOUNTERED/RESOLUTION: During the most recent inspection of the OU-I and OU-II areas (i.e., conducted on April 7, 2016), the following items requiring corrective actions were identified.

- Areas of settlement and ponding of surface water was over portions of the OU-I asphalt pavement;
- Cracks in the asphalt pavement cap covering OU-I;
- Damage to the curb box on NAPL monitoring and recovery well AI1-16;
- The area surrounding OU-I monitoring/recovery wells V-1 through V-4 where grading and paving is required; and
- Accumulated debris/materials on the slopes in various locations around the OU-II areas.

The repairs and maintenance required to resolve the deficiencies identified in the OU-I and OU-II areas were initiated during previous report periods and some of these activities continued during the current period. Through the end of the current period, crack repair was complete in the majority of accessible areas. Work is ongoing to remove debris and material from the slopes of OU-II. The protective railroad ties that surrounded V-1 through V-4 have been removed, but additional grading and asphalt repair is required in these areas. Paving is required to repair an area of settlement located north of a catch basin in the OU-I area. The curb box on monitoring/recovery well AI1-16 also needs to be repaired/replaced. No other problems associated with the remedial systems or ECs requiring repair/modification were identified during the report period.

WORK ANTICIPATED FOR THE UPCOMING REPORT PERIOD AND SCHEDULE: During the upcoming reporting period (i.e., between September 1, 2016 and November 30, 2016), it is anticipated that NAPL and groundwater monitoring will continue in accordance with the schedule presented in the SMP, as modified by the schedule presented in the March 2014 CAP. It is anticipated that NAPL will continue to be removed from RW-1 using the Spill Buster™ system and NAPL will be removed from other wells using a Spill Buster™ (or similar) if the following thicknesses are measured.

- 2-inch diameter wells: 0.8 ft. or more
- 4-inch diameter wells: 0.2 ft. or more
- 6-inch diameter wells: 0.1 ft. or more

If full drums are generated during the upcoming quarter, samples of NAPL will be collected and tested, as outlined in the SMP. The full NAPL drums will subsequently be transported off the Site and disposed of in accordance with applicable regulations.

During the upcoming period, the potential replacement of wells FA4-13, FA4-15 and PGW-2, which are 2-inch diameter wells, with larger wells (4 to 6-inch diameter) will be evaluated to enhance the recovery of NAPL. In addition, wells AI2-3, FA4-11, and/or FA4-14, in which increases in the amount of NAPL have been observed during recent reporting periods, will be evaluated to access if the installation of a Spill Buster™ product-only removal system, or similar is appropriate.

MNR and the Village of Croton-on-Hudson have met and reached a consensus on an access agreement to install the off-site monitoring wells identified in the CAP. [Note: The off-site

monitoring wells were installed between September 20, 2016 and September 22, 2016. The locations of these wells (designated MW-A through MW-F) are presented on Figure 1. Draft copies of the monitoring well installation diagrams for MW-A through MW-F are included in Attachment B. Following development of these wells, measurements of the static water level and depth to free product (if any) will initially be collected weekly. Depending on the findings of this monitoring, the monitoring schedule may be modified and the wells may be purged to assess NAPL recovery rates. The results of this work and recommendations for additional studies/remedial activities will be provided in a summary report and/or in subsequent SMP status reports.]

A monitoring well that was installed during the remedial evaluation phase of the OU-I area (i.e., WB-9, refer to Figure 1 for approximate location) was identified at the southern terminus of the sheet pile wall. This well was redeveloped on April 23, 2015 and found to be functioning (i.e., the initial depth to water was measured at 6.37 ft. below ground surface, and following removal of 10 gallons of water the depth to water was measured at 6.35 ft. below ground surface). As such, this well will serve as a long-term monitoring point to confirm that NAPL from Area L1 is not migrating off-site in this location. To date, NAPL has not been detected in WB-9. [Note: In conjunction with the installation of the off-site monitoring wells, a monitoring well was installed at the northern terminus of the sheet pile wall in Area L1 (i.e., designated SP-North, refer to Figure 1) to assess whether NAPL is present in this area and to serve as a long-term NAPL monitoring point to confirm that NAPL from Area L1 is not migrating off-site in this area. Monitoring well SP-North will be developed and subsequent to development, WB-9 and SP-North will be monitored on a quarterly basis. Should NAPL be detected in either well, the monitoring frequency will be increased or studies completed to determine if additional study/remediation is warranted.]

An OU-I/OU-II inspection is due in September 2016. A groundwater sampling event is due on or about May 2017.

A SMP status report for the work completed during the upcoming period (i.e., September 1, 2016 through November 30, 2016) will be submitted in December 2016.

Tables

Table 1:	NAPL Removal Totals: June 1, 2016 through August 31, 2016
Table 2:	Historic NAPL Removal Totals: December 1, 2012 through August 31, 2016
Table 3:	Summary of VOCs: Groundwater Sample
Table 4:	Summary of SVOCs: Groundwater Sample
Table 5:	Summary of PCBs: Groundwater Sample
Table 6:	Summary of Metals: Groundwater Sample

Figures

Figure 1:	Groundwater Contour Map: August 3, 2016
Figure 2:	Summary of NAPL Removal for the Quarters March 1, 2016 through May 31, 2016 and June 1, 2016 through August 31, 2016

Attachments

Attachment A:	Well Monitoring Logs and NAPL Removal Records: June 1, 2016 through August 31, 2016
Attachment B:	Draft Monitoring Well Installation Logs MW-A through MW-F and SP-North

TABLES

Table 1

Harmon Railroad Yard
 OU-I and OU-II
 Westchester County, New York
 Site No. 3-60-010

NAPL Removal Totals
 Current Report Period: July 1, 2016 to August 31, 2016

OU I	
Well ID	Gallons Removed
V1	0
V2	0
V3	1.13
V4	15.26
Total	16.39

OU II							
NAPL AREA L1		NAPL AREA L2		NAPL AREA L4			
Well ID	Gallons Removed	Well ID	Gallons Removed	Well ID	Gallons Removed		
AI1-1	0	AI2-2	0	DAY-1	0		
AI1-4	0	AI2-3	43.38	FA4-8	9.77		
AI1-8	0	VE2-1	0.00	FA4-9	0		
AI1-11	0	Total	43.38	FA4-10	0		
AI1-12	0			FA4-11	23.27		
AI1-15	0			FA4-12	1.38		
AI1-16	0			FA4-13	0.13		
VE1-1	0			FA4-14	25.77		
VE1-2	0			FA4-15	4.52		
VE1-3	0			FA4-16	6.01		
VE1-4	0			FA4-17	0		
Total	0			FA4-18	5.02		
				FA4-19	0		
				FA4-20	0		
				FA4-21	0		
				FA4-23	0		
				PGW-2	0.25		
				RW-1	83		
				VE4-1	0		
				VE4-5	11.53		
				VE4-6	0		
				VE4-7	0		
				VE4-8	0		
				VE4-9	1.38		
				VE4-10	0		
				VE4-11	0		
				VE4-12	0		
				VE4-13	0		
				Total	172.36		

Table 2

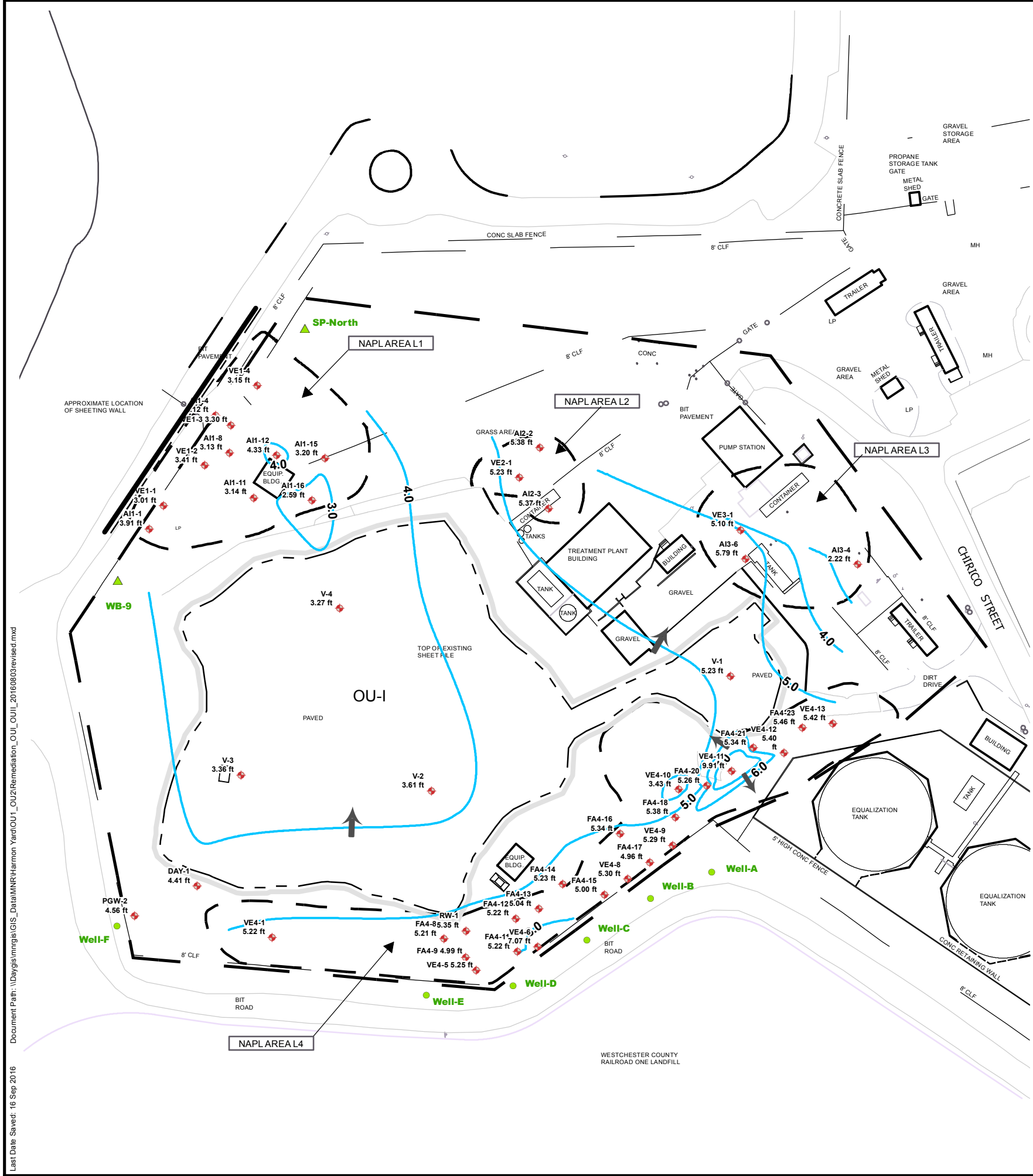
Harmon Railroad Yard
 OU-I and OU-II
 Westchester County, New York
 Site No. 3-60-010

Historic NAPL Removal Totals
 December 1, 2012 - August 31, 2016

OU I	
Well ID	Gallons Removed
V1	1.18
V2	4.01
V3	14.58
V4	28.67
Total	48.44

OU II																	
NAPL AREA L1		NAPL AREA L2		NAPL AREA L4													
Well ID	Gallons Removed	Well ID	Gallons Removed	Well ID	Gallons Removed												
AI1-1	0.03	AI2-2	1.63	DAY-1	0												
AI1-4	0.04	AI2-3	149.93	FA4-8	83.44												
AI1-8	0.06	VE2-1	0	FA4-9	0.6												
AI1-11	0.122	Total	151.56	FA4-10	0.13												
AI1-12	0.18	<table border="1"> <thead> <tr> <th colspan="2">NAPL AREA L3</th> </tr> <tr> <th>Well ID</th> <th>Gallons Removed</th> </tr> </thead> <tbody> <tr> <td>AI3-4</td> <td>0.34</td> </tr> <tr> <td>AI3-6</td> <td>0.5</td> </tr> <tr> <td>VE3-1</td> <td>11.74</td> </tr> <tr> <td>Total</td> <td>12.58</td> </tr> </tbody> </table>		NAPL AREA L3		Well ID	Gallons Removed	AI3-4	0.34	AI3-6	0.5	VE3-1	11.74	Total	12.58	FA4-11	67.89
NAPL AREA L3																	
Well ID	Gallons Removed																
AI3-4	0.34																
AI3-6	0.5																
VE3-1	11.74																
Total	12.58																
AI1-15	0.38	FA4-12	4.78														
AI1-16	0	FA4-13	1.31														
VE1-1	4.34	FA4-14	82.32														
VE1-2	0.01	FA4-15	22.71														
VE1-3	0.1	FA4-16	19.13														
VE1-4	0	FA4-17	0														
Total	5.192	FA4-18	22.33														
		FA4-19	0														
		FA4-20	0														
		FA4-21	0.16														
		FA4-23	0.91														
		PGW-2	5.78														
		RW-1	1065.55														
		VE4-1	0														
		VE4-5	113.05														
		VE4-6	1.26														
		VE4-7	0.08														
		VE4-8	0.91														
		VE4-9	5.77														
		VE4-10	0.55														
		VE4-11	0														
		VE4-12	0														
		VE4-13	0														
		Total	1498.655														

FIGURES

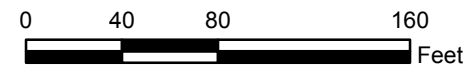


NOTES:

1. This drawing was prepared from a CAD base file provides by others, from a drawing by ERM, entitled "EXISTING SITE PLAN AND SURVEY CONTROL" sheet No. C-1 dated 7/31/00 and from a drawing by ERM, "SITE PLAN WITH LOCATIONS OF PROPOSED WELLS AND SHEET PILING", sheet No. C-2, dated 7/31/00.
2. Operable Unit II (OU-II) remedy well locations were determined from coordinate values listed on the ERM drawings identified in note No. 1.

LEGEND:

- VE 4-6 (7.07 ft) Former Vapor Extraction (VE), Air Inlet (AI), Forced Air Injection (FA), or existing monitoring well and designation
- Groundwater elevation for water level measurement made August 3, 2016
- 4.0 Groundwater contour
- Apparent groundwater flow direction
- OU-II NAPL area boundaries
- Approximate location of sheet pile wall around remediated former lagoon area (OU-I)
- Extent of OU-I final cover system
- Extent of OU-II final cover system
- WB-9 Existing NAPL Area L1 Monitoring Well
- Proposed Monitoring Wells to be Installed September 2016
- Well-A Off-Site Monitoring Well
- SP - North Monitoring Well near Northern Terminus of NAPL Area L1 Sheet Pile Wall



PROJECT MANAGER	RLK	DATE	09-2016
DRAWN BY	CPS/CCD	DATE DRAWN	09-2016
SCALE	As Noted	DATE ISSUED	09-08-2016

day
DAY ENGINEERING, P.C.
 ENVIRONMENTAL ENGINEERING CONSULTANTS
 ROCHESTER, NEW YORK 14606
 NEW YORK, NEW YORK 10170

Project Title
**METRO-NORTH RAIL ROAD
 HARMON YARD OPERABLE UNITS OU-I AND OU-II
 CROTON-ON-HUDSON, NEW YORK**

Drawing Title
SITE MANAGEMENT PLAN

Groundwater Contour Map: August 3, 2016

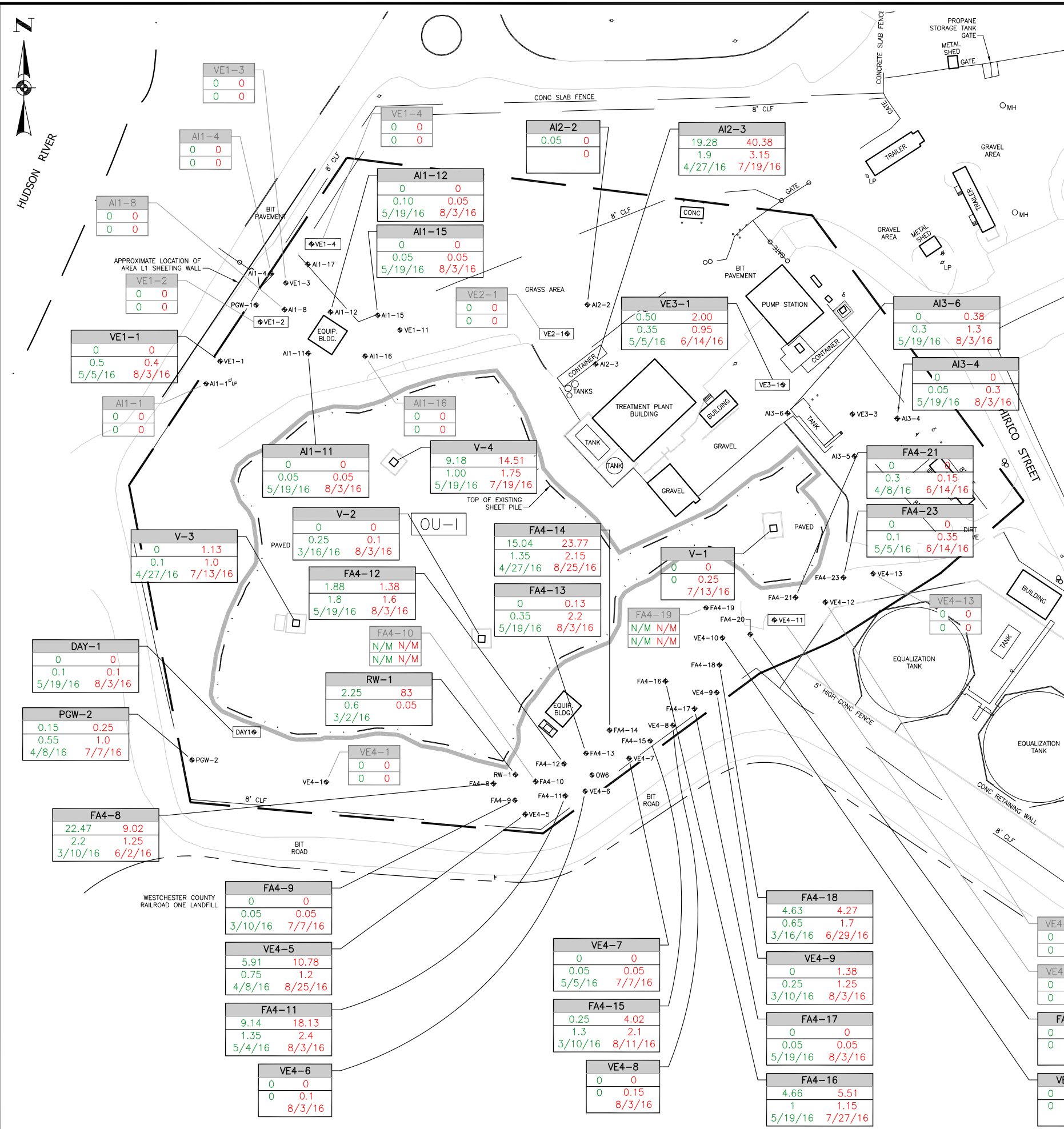
Project No.
 15-3356M (46)

FIGURE 1

Last Date Saved: 16 Sep 2016 Document Path: \\Daygis\imngis\GIS_Data\WINR\Harmon_Yard\OU1_OU2\Remediation_OU1_OU2\20160803\revised.mxd

Ref1: Xerox432AnsiB-2; 11 x 17
 Ref2: Layout1
 Ref3: Pen Setting File: 800psHalfColorBeacon.ctb

Time Plotted: Wednesday, August 31, 2016 8:21:02 AM
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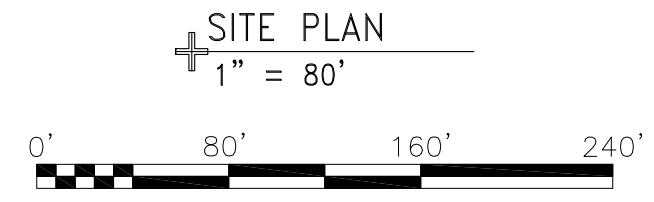


NOTES:

1. This drawing was prepared from a CAD base file provided by others, from a drawing by ERM, entitled "EXISTING SITE PLAN AND SURVEY CONROL" sheet No. C-1 dated 7/31/00 and from a drawing by ERM, "SITE PLAN WITH LOCATIONS OF PROPOSED WELLS AND SHEET PILING", sheet No. C-2, dated 7/31/00.
2. Operable Unit II (OU-II) remedy well locations were determined from coordinate values listed on the ERM drawings identified in note No. 1, or by reference to site features (e.g., DAY-1, RW-1, etc...)
3. NAPL is removed from RW-1 using a Spill Buster product removal pump and placed within 55-gallon drums.

LEGEND:

- Former Vapor Extraction (VE), Air Inlet (AI), Forced Air Injection (FA), Existing Monitoring Well Or Product Recovery Well (RW) and Designation
- Long-Term Monitoring Well
- Approximate Location Of Sheet Pile Wall Around Remediated Former Lagoon Area (OU-I)
- Extent Of OU-I Final Cover System
- OU-II Boundary
- OU-I Contingency Vapor Extraction System Wells
- Long-Term Monitoring Well Identification
- NAPL Removed (Gallons) During Quarter
- Maximum NAPL Thickness (Feet) Measured During Quarter With Date Of Measurement
- Measurements Made During The Report Period March 1, 2016 Through May 31, 2016 Shown In Green (Left)
- Measurements Made During The Report Period June 1, 2016 Through August 31, 2016 Shown In Red (Right)
- N/M Well Not Measured



PROJECT MANAGER	HMM	DATE	8-2016
DRAWN BY	RJM/CPS	DATE DRAWN	8-31-2016
SCALE	As Noted	DATE ISSUED	8-31-2016

day
 DAY ENGINEERING, P.C.
 ENVIRONMENTAL ENGINEERING CONSULTANTS
 ROCHESTER, NEW YORK 14606
 NEW YORK, NEW YORK 10170

PROJECT TITLE
**METRO-NORTH RAILROAD
 HARMON YARD OPERABLE UNITS OU-I AND OU-II
 CROTON-ON-HUDSON, NEW YORK
 NYSDEC SITE #360010**

DRAWING TITLE
**Summary Of NAPL Removal For The Quarters
 March 2016 - May 2016 & June 2016 - August 2016**

PROJECT NO.
 15-3356M (46)

FIGURE 2

ATTACHMENT A

Well Monitoring Logs and NAPL Removal Records: June 1, 2016 through August 31, 2016

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I)		Well ID: P1		Diameter: 2 in.	
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	14.55	0.00	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I)		Well ID: P2		Diameter: 2 in.	
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	14.3	0.00	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I)		Well ID: P3		Diameter: 2 in.	
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	14.7	0	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I)		Well ID: P4		Diameter: 2 in.	
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	14.2	0.00	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I)		Well ID: P5		Diameter: 2 in.	
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	14.9	0.00	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I)		Well ID: P6		Diameter: 2 in.	
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
Well unable to be sampled					Blocked by something in the well at 4.85 ft

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I)		Well ID: P7		Diameter: 2 in.	
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	14.4	0.00	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I)		Well ID: P8		Diameter: 2 in.	
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	14.15	0.00	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I)		Well ID: P9		Diameter: 2 in.	
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	14.15	0.00	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I)		Well ID: P10		Diameter: 2 in.	
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	14.0	0.00	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I)		Well ID: V-1	Diameter: 4 in.		
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/2/2016	0	16.65	0	0	
6/9/2016	0	16.7	0	0	
6/14/2016	0	16.7	0	0	
6/22/2016	16.75	17	0.25	0	
6/29/2016	16.8	17	0.2	0	
7/7/2016	16.9	17.1	0.2	0	
7/13/2016	17	17.25	0.25	0	
7/19/2016	17.1	17.25	0.15	0	
7/27/2016	17.05	17.35	0.3	0	
8/3/2016	17.05	17.2	0.15	0	
8/3/2016	17.05	17.1	0.05	0	
8/17/2016	17.05	17.15	0.1	0	
8/25/2016	17.05	17.15	0.1	0	
8/31/2016	17.05	17.25	0.2	0	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: V-2 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/2/2016	17.55	17.6	0.05	0	
6/9/2016	17.55	17.6	0.05	0	
6/14/2016	17.55	17.65	0.1	0	
6/22/2016	17.55	17.65	0.1	0	
6/29/2016	17.1	17.15	0.05	0	
7/7/2016	17.6	17.65	0.05	0	
7/13/2016	17.6	17.65	0.05	0	
7/19/2016	17.6	17.65	0.05	0	
7/27/2016	17.6	17.65	0.05	0	
8/3/2016	17.55	17.65	0.1	0	
8/11/2016	17.6	17.65	0.05	0	
8/17/2016	17.55	17.6	0.05	0	
8/25/2016	17.6	17.65	0.05	0	
8/31/2016	17.55	17.65	0.1	0	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: V-3 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/2/2016	17.6	17.7	0.1	0	
6/9/2016	17.5	17.55	0.05	0	
6/14/2016	17.55	17.6	0.05	0	
6/22/2016	17.7	17.8	0.1	0	
6/29/2016	17.85	17.95	0.1	0	
7/7/2016	17.75	18	0.25	0	
7/13/2016	16.9	17.9	1	1.13	
7/19/2016	17.8	18.05	0.25	0	
7/27/2016	17.7	18	0.3	0	
8/3/2016	17.5	17.6	0.1	0	
8/11/2016	17.5	17.55	0.05	0	
8/17/2016	17.6	17.7	0.1	0	
8/25/2016	17.45	17.5	0.05	0	
8/31/2016	17.5	17.8	0.3	0	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: V-4 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/2/2016	16.85	17.8	0.95	1.5	
6/9/2016	16.7	17	0.3	0	
6/14/2016	16.8	17.85	1.05	1.75	
6/22/2016	16.95	18	1.05	1.38	
6/29/2016	17.1	18	0.9	1.5	
7/7/2016	16.95	17.85	0.9	0.63	
7/13/2016	17.75	17.9	0.15	0	
7/19/2016	17.1	18.1	1	1.75	
7/27/2016	16.8	17.5	0.7	0.75	
8/3/2016	16.65	17.3	0.65	1.25	
8/11/2016	16.75	17.6	0.85	1	
8/11/2016	16.75	17.6	0.85	1	
8/17/2016	16.8	17.5	0.7	1	
8/25/2016	16.6	17.35	0.75	1	
8/25/2016	16.7	17.6	0.9	0.75	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI1-1 Diameter: 2 in.					
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	11.7	0.00	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI1-4 Diameter: 2 in.					
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	10.9	0.00	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI1-8 Diameter: 2 in.					
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	13.95	0.00	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI1-11 Diameter: 2 in.					
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	17.85	17.9	0.05	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI1-12 Diameter: 2 in.					
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	16.4	16.45	0.05	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI1-15 Diameter: 2 in.					
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	19.15	19.2	0.05	0	

Metro-North Yard: Harmon (OU I) Well ID: AI1-16 Diameter: 2 in.					
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	15.3	0.00	0	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: VE-1-1 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	9.4	9.8	0.4	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE-1-2 Diameter: 4 in.					
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	10	0.00	0	

Well ID	Facility	Collection Date	Depth to NAPL	Depth to Water	NAPL Thickness	NAPL Recovered	Additional NAPL Recovered
VE1-2	Harmon	2/2/2016	0	10.1	0		0
VE1-2	Harmon	5/19/2016	10.05	10.1	0.05	0	
VE1-2	Harmon	8/3/2016	0	10	0	0	0

<u>Year</u>	<u>Quarter</u>	<u>Remedial Zone</u>	<u>Completed By</u>	<u>Comments</u>
2016		4 OU II NAPL Area L1		REMOVED NRD
2016		1 OU II NAPL Area L1	113531	
2016		2 OU II NAPL Area L1	113531	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: VE-1-3 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	9.2	0.00	0	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: VE-1-4 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	10.9	0.00	0	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: AI2-2 Diameter: 2 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	15.8	15.85	0.05	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: AI2-3 Diameter: 4 in.					
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/2/2016	15.65	18.15	2.5	2.5	
6/9/2016	15.7	18.25	2.55	3	
6/14/2016	15.75	18.2	2.45	2.75	
6/22/2016	15.8	18.6	2.8	3	
6/29/2016	15.85	18.7	2.85	3	
7/7/2016	15.9	18.8	2.9	3.25	
7/13/2016	15.9	18.9	3	3	
7/19/2016	16	19.15	3.15	3.25	
7/27/2016	15.9	18.8	2.9	3.25	
8/3/2016	15.8	18	2.2	2.5	
8/3/2016	15.8	18	2.2	2.5	
8/11/2016	15.85	18.35	2.5	2.63	
8/17/2016	15.85	18.5	2.65	3.25	
8/25/2016	15.8	18.2	2.4	2.5	
8/31/2016	15.9	18.6	2.7	3	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE2-1 Diameter: 4 in.					
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	12.1	0.00	0	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: AI3-4 Diameter: 2 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	14.8	15.1	0.30	0	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: AI3-6 Diameter: 2 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	17.3	18.6	1.3	0.38	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE3-1 Diameter: 4 in.					
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/14/2016	11.95	12.9	0.95	1	
7/7/2016	12.2	13	0.8	1	
8/3/2016	12.1	12.45	0.35	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: DAY-1 Diameter: 4 in.					
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	17.25	17.35	0.1	0	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: FA4-8 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/2/2016	16.95	18.2	1.25	1	
6/9/2016	17	18.05	1.05	0.75	
6/14/2016	17.1	17.8	0.7	0.63	
6/22/2016	17.25	17.75	0.5	0.63	
6/29/2016	17.3	17.8	0.5	0.75	
7/7/2016	17.4	17.9	0.5	0.5	
7/13/2016	17.55	17.9	0.35	0	
7/19/2016	17.5	18.1	0.6	0.75	
7/27/2016	17.4	18.3	0.9	1.75	
8/3/2016	17.25	18.1	0.85	0.63	
8/11/2016	17.35	18.1	0.75	0.75	
8/17/2016	17.4	18.1	0.7	0.38	
8/25/2016	17.4	18.25	0.85	0.5	
8/31/2016	17.45	18.2	0.75	0.75	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: FA4-9 Diameter: 2 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/14/2016	8.65	8.7	0.05	0	
7/7/2016	9.35	9.4	0.05	0	
8/3/2016	9.35	9.4	0.05	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: FA4-10 Diameter: 2 in.					
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: FA4-11 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/2/2016	11.85	13.4	1.55	1.13	
6/9/2016	11.75	13.3	1.55	1.5	
6/14/2016	11.95	13.45	1.5	1.25	
6/22/2016	12	13.9	1.9	1.38	
6/29/2016	12.05	14.05	2	2	
7/7/2016	12.1	14.4	2.3	1.5	
7/13/2016	12.15	14.15	2	1.75	
7/19/2016	12.2	14.3	2.1	1.75	
7/27/2016	12.15	14.3	2.15	2	
8/3/2016	12	14.4	2.4	1.75	
8/11/2016	12.15	14.15	2	1.75	
8/17/2016	12.2	14.3	2.1	2	
8/25/2016	12.05	14.4	2.35	1.88	
8/31/2016	12.15	14.4	2.25	1.63	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: FA4-12 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	15	16.6	1.6	1.38	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: FA4-13 Diameter: 2 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	9	11.2	2.2	0.13	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: FA4-14 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/2/2016	13.75	15.2	1.45	1.5	
6/9/2016	13.65	15	1.35	2	
6/9/2016	7.75	8.95	1.2	0	
6/14/2016	13.85	14.95	1.1	1.5	
6/22/2016	13.85	15.65	1.8	2	
6/29/2016	13.9	16.05	2.15	2.5	
7/7/2016	13.95	15.8	1.85	2.13	
7/13/2016	12.9	14.2	1.3	1.88	
7/19/2016	14	16	2	1.63	
7/27/2016	14.05	16.1	2.05	2	
8/3/2016	13.95	15.9	1.95	1.88	
8/11/2016	14	15.8	1.8	2	
8/17/2016	14	16	2	0.75	
8/25/2016	13.95	16.1	2.15	2	
8/31/2016	14	16.15	2.15	2	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: FA4-15 Diameter: 2 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/2/2016	7.9	8.9	1	0.25	
6/14/2016	7.95	9.2	1.25	0	0
6/22/2016	8	9.5	1.5	0.38	0
7/7/2016	8.1	9.8	1.7	0.38	0
7/13/2016	8.1	10.2	2.1	0.5	0
7/19/2016	0	8.2	0	0	0
7/27/2016	18.15	18.65	0.5	0	0
8/3/2016	8.05	10.05	2	0.63	0
8/3/2016	8.05	10.05	2	0.63	0
8/11/2016	8.15	10.25	2.1	0.75	0
8/17/2016	8.1	10	1.9	0.5	0

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: FA4-16 Diameter: 2 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/2/2016	14.9	15.6	0.7	0.5	
6/9/2016	14.9	15.1	0.2	0	
6/14/2016	15	15.25	0.25	0	
6/22/2016	15.1	15.25	0.15	0	
6/29/2016	15.15	15.45	0.3	0	
7/7/2016	15.2	15.65	0.45	0	
7/13/2016	15.35	15.7	0.35	0	
7/19/2016	15.6	16	0.4	0	
7/27/2016	15.25	16.4	1.15	1.25	
8/3/2016	15.1	16	0.9	0.75	
8/3/2016	15.1	16	0.9	0.75	
8/11/2016	15.2	15.95	0.75	1	
8/17/2016	15.2	16	0.8	0.63	
8/25/2016	15.15	16.1	0.95	0.63	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: FA4-17 Diameter: 2 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	8.75	8.8	0.05	0	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: FA4-18 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	
6/2/2016	13.4	13.8	0.4	0	
6/9/2016	13.4	13.8	0.4	0	
6/14/2016	13.45	14.05	0.6	0.63	
6/22/2016	13.55	13.9	0.35	0	
6/29/2016	13.65	14.1	0.45	0.63	
6/29/2016	8.1	9.8	1.7	0.63	
7/7/2016	13.7	14	0.3	0	
7/13/2016	13.75	14	0.25	0	
7/19/2016	13.85	14.2	0.35	0	
8/3/2016	13.6	14.2	0.6	0.63	
8/11/2016	13.8	14.1	0.3	0	
8/17/2016	13.7	14.4	0.7	1	
8/25/2016	13.65	14.3	0.65	0.75	
8/31/2016	13.7	14.2	0.5	0.75	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: FA4-19 Diameter: 2 in.					
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: FA4-20 Diameter: 2 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	12.75	13.2	0.45	0	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: FA4-21 Diameter: 2 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/14/2016	14.35	14.5	0.15	0	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: FA4-23 Diameter: 2 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/14/2016	13.65	14	0.35	0	
7/7/2016	13.8	14	0.2	0	
8/3/2016	13.75	14	0.25	0	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: PGW-2 Diameter: 2 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/14/2016	7.25	8	0.75	0	
7/7/2016	7.7	8.7	1	0.25	
8/3/2016	7.7	8	0.3	0	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: RW-1 Diameter: 6 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/2/2016	15.25	15.3	0.05	0	
6/9/2016	15.2	15.25	0.05	0	
6/14/2016	15.3	15.35	0.05	0	
6/22/2016	15.4	15.45	0.05	0	OIL DRUM 2/3 FULL
6/29/2016	15.5	15.55	0.05	0	oil drum 2/3 full
7/7/2016	15.55	15.6	0.05	0	oil drum / started a new drum
7/13/2016	15.6	15.65	0.05	0	
7/19/2016	15.7	15.75	0.05	0	DRUM 1/4 FULL
7/27/2016	15.6	15.65	0.05	0	drum 1/2 full
8/3/2016	15.5	15.55	0.05	0	
8/11/2016	15.6	15.65	0.05	0	
8/17/2016	15.6	15.65	0.05	0	OIL DRUM 2/3 FULL
8/25/2016	15.5	15.55	0.05	0	oil drum 2/3 full
8/31/2016	15.6	15.7	0.1	0	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: VE4-1 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	10.1	0.00	0.00	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: VE4-5 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/2/2016	10.05	11.1	1.05	1.13	
6/9/2016	10.05	10.75	0.7	0.63	
6/14/2016	10.2	10.85	0.65	0.63	
6/22/2016	10.3	11.25	0.95	0.75	
6/29/2016	10.4	11.3	0.9	1	
7/7/2016	10.45	11.45	1	0.75	
7/13/2016	10.5	11.2	0.7	0.88	
7/19/2016	10.6	11.3	0.7	0.75	
7/27/2016	10.5	11.5	1	0.75	
8/3/2016	10.3	11.25	0.95	0.75	
8/11/2016	10.45	11.35	0.9	1	
8/17/2016	10.4	11.4	1	0.88	
8/25/2016	10.4	11.6	1.2	0.88	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: VE4-6 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	7.25	7.35	0.10	0.00	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: VE4-7 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/14/2016	8.4	8.45	0.05	0	
7/7/2016	8.65	8.7	0.05	0	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: VE4-8 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/14/2016	0	8.75	0	0	
7/7/2016	9	9.05	0.05	0	
8/3/2016	8.95	9.1	0.15	0	

Metro-North Railroad NAPL Recovery Report					
Metro-North Yard: Harmon (OU I) Well ID: VE4-9 Diameter: 4 in.					
Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
6/14/2016	8.95	9.7	0.75	0.38	
7/7/2016	9.2	9.45	0.25	0	
8/3/2016	9.05	10.3	1.25	1	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: VE4-10 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	13.2	13.35	0.15	0.00	

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: VE4-11 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	11.15	0.00		

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: VE4-12 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	14.5	0.00		

Metro-North Railroad NAPL Recovery Report

Metro-North Yard: Harmon (OU I) Well ID: VE4-13 Diameter: 4 in.

Date	Depth to NAPL (ft)	Depth to Water (ft)	NAPL Thickness (ft)	NAPL Recovered (gal)	Comments
8/3/2016	0	13.5	0.00		

ATTACHMENT B

Draft Monitoring Well Installation Logs MW-A through MW-F and SP-North

MONITORING WELL INSTALLATION LOG

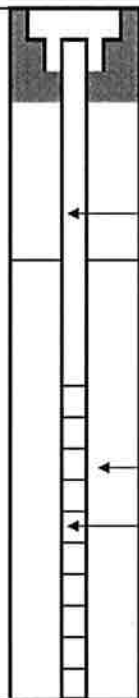
PROJECT: Metro North On-Call Environmental Contract
 LOCATION: Harmen Railroad Yard

WELL NO.
 Well-A

Well No. Well-A
 Installation Date: 9/22/2016
 Drilling Contractor: Moran Environmental Recovery Inspector: George Wang, YU
 Foreman: Robert Gault Checked by: _____

General Soil Conditions (not to scale)
 SEE BORING LOG

DRAFT



8.0" Inside Diameter of Flush Mounted Protective Casing
 4.5' Depth to Top of Riser Pipe
 7.0" Depth to Bottom of Flush Mounted Protective Casing
 2.10' Depth to Top of Bentonite Seal

Type of Pipe 1-inch OD Schedule 40 PVC
 3.80' Depth to Bottom of Bentonite Seal (ft)

4.91' Depth to Top of Well Screen (ft)

Backfill Type #2 Well Sand

Screen 1-inch OD Schedule 40 PVC, 0.010-inch slotted screen

19.91' Depth to Bottom of Well Screen

Notes:

MONITORING WELL INSTALLATION LOG

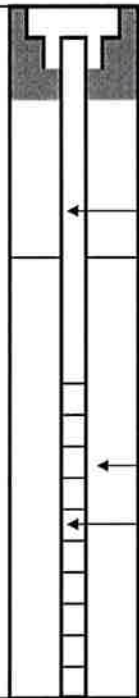
PROJECT: Metro North On-Call Environmental Contract
 LOCATION: Harmen Railroad Yard

WELL NO.
 Well-B

Well No. Well-B
 Installation Date: 9/21/2016
 Drilling Contractor: Moran Environmental Recovery Inspector: George Wang, YU
 Foreman: Robert Gault Checked by: _____

General Soil Conditions (not to scale)
 SEE BORING LOG

DRAFT



- 8.0" Inside Diameter of Flush Mounted Protective Casing
- 4.0" Depth to Top of Riser Pipe
- 7.0" Depth to Bottom of Flush Mounted Protective Casing
- 2.33' Depth to Top of Bentonite Seal
- Type of Pipe 1-inch OD Schedule-40 PVC
- 4.00' Depth to Bottom of Bentonite Seal (ft)
- 5.00' Depth to Top of Well Screen (ft)
- Backfill Type #2 Well Sand
- Screen 1-inch OD Schedule 40 PVC, 0.010-inch slotted screen
- 20.00' Depth to Bottom of Well Screen

Notes:

MONITORING WELL INSTALLATION LOG

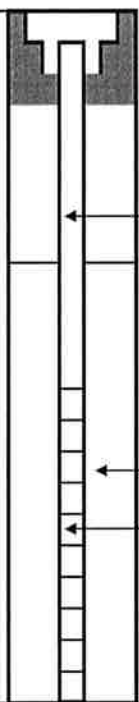
PROJECT: Metro North On-Call Environmental Contract
 LOCATION: Harmen Railroad Yard

WELL NO.
 Well-C

Well No. Well-C
 Installation Date: 9/21/2016
 Drilling Contractor: Moran Environmental Recovery Inspector: George Wang, YU
 Foreman: Robert Gault Checked by: _____

General Soil Conditions (not to scale)
 SEE BORING LOG

DRAFT



8.0" Inside Diameter of Flush Mounted Protective Casing
 3.0" Depth to Top of Riser Pipe
 7.0" Depth to Bottom of Flush Mounted Protective Casing
 1.25' Depth to Top of Bentonite Seal

Type of Pipe 1-inch OD Schedule 40 PVC
 3.54' Depth to Bottom of Bentonite Seal (ft)

4.54' Depth to Top of Well Screen (ft)

Backfill Type #2 Well Sand

Screen 1-inch OD Schedule 40 PVC, 0.010-inch slotted screen

19.54' Depth to Bottom of Well Screen

Notes:



YU & Associates

200 Riverfront Boulevard, Elmwood Park, NJ 07407 • Tel: 201-791-0075 • Fax: 201-791-4533

MONITORING WELL INSTALLATION LOG

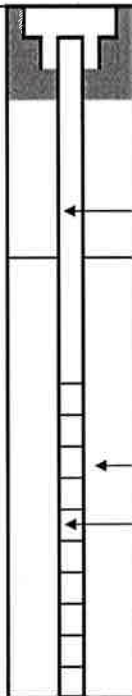
PROJECT: Metro North On-Call Environmental Contract
LOCATION: Harmen Railroad Yard

WELL NO.
Well-D

Well No. Well-D
Installation Date: 9/21/2016
Drilling Contractor: Moran Environmental Recovery Inspector: George Wang, YU
Foreman: Robert Gault Checked by: _____

General Soil Conditions (not to scale)
SEE BORING LOG

DRAFT



8.0" Inside Diameter of Flush Mounted Protective Casing
1.75" Depth to Top of Riser Pipe
7.0" Depth to Bottom of Flush Mounted Protective Casing
1.5' Depth to Top of Bentonite Seal

Type of Pipe 1-inch OD Schedule 40 PVC
2.5' Depth to Bottom of Bentonite Seal (ft)

4.33' Depth to Top of Well Screen (ft)

Backfill Type #2 Well Sand

Screen 1-inch OD Schedule 40 PVC, 0.010-inch slotted screen

19.33' Depth to Bottom of Well Screen

Notes:

MONITORING WELL INSTALLATION LOG

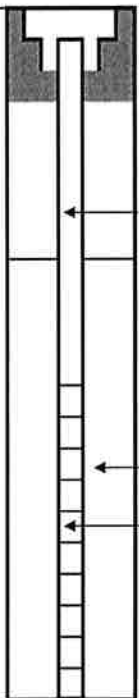
PROJECT: Metro North On-Call Environmental Contract
 LOCATION: Harmen Railroad Yard

WELL NO.
Well-E

Well No. Well-E
 Installation Date: 9/20/2016
 Drilling Contractor: Moran Environmental Recovery Inspector: George Wang, YU
 Foreman: Robert Gault Checked by: _____

General Soil Conditions (not to scale)
SEE BORING LOG

DRAFT



8.0" Inside Diameter of Flush Mounted Protective Casing
 4.5" Depth to Top of Riser Pipe
 7.0" Depth to Bottom of Flush Mounted Protective Casing
 1.06' Depth to Top of Bentonite Seal

Type of Pipe 1-inch OD Schedule 40 PVC
 2.5' Depth to Bottom of Bentonite Seal (ft)

4.83' Depth to Top of Well Screen (ft)

Backfill Type #2 Well Sand

Screen 1-inch OD Schedule 40 PVC, 0.010-inch slotted screen

19.83' Depth to Bottom of Well Screen

Notes:



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MONITORING WELL INSTALLATION LOG

PROJECT: Metro North On-Call Environmental Contract
LOCATION: Harmen Railroad Yard

WELL NO.
Well-F

Well No. Well-F
Installation Date: 9/20/2016
Drilling Contractor: Moran Environmental Recovery Inspector: George Wang, YU
Foreman: Robert Gault Checked by: _____

General Soil Conditions (not to scale)
SEE BORING LOG

DRAFT



8.0" Inside Diameter of Flush Mounted Protective Casing
3.75" Depth to Top of Riser Pipe
7.0" Depth to Bottom of Flush Mounted Protective Casing
3.00' Depth to Top of Bentonite Seal

Type of Pipe 1-inch OD Schedule 40 PVC
4.00' Depth to Bottom of Bentonite Seal (ft)

5.00' Depth to Top of Well Screen (ft)

Backfill Type #2 Well Sand

Screen 1-inch OD Schedule 40 PVC, 0.010-inch slotted screen

20.00' Depth to Bottom of Well Screen

Notes:

MONITORING WELL INSTALLATION LOG

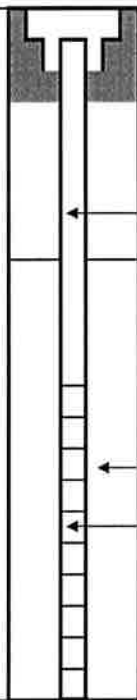
PROJECT: Metro North On-Call Environmental Contract
 LOCATION: Harmen Railroad Yard

WELL NO.
 SP-North

Well No. SP-North
 Installation Date: 9/22/2016
 Drilling Contractor: Moran Environmental Recovery Inspector: George Wang, YU
 Foreman: Robert Gault Checked by: _____

General Soil Conditions (not to scale)
 SEE BORING LOG

DRAFT



8.0" Inside Diameter of Flush Mounted Protective Casing
 4.0" Depth to Top of Riser Pipe
 7.0" Depth to Bottom of Flush Mounted Protective Casing
 2.33' Depth to Top of Bentonite Seal

Type of Pipe 1-inch OD Schedule 40 PVC
 3.5' Depth to Bottom of Bentonite Seal (ft)

4.75' Depth to Top of Well Screen (ft)

Backfill Type #2 Well Sand

Screen 1-inch OD Schedule 40 PVC, 0.010-inch slotted screen

19.75' Depth to Bottom of Well Screen

Notes: