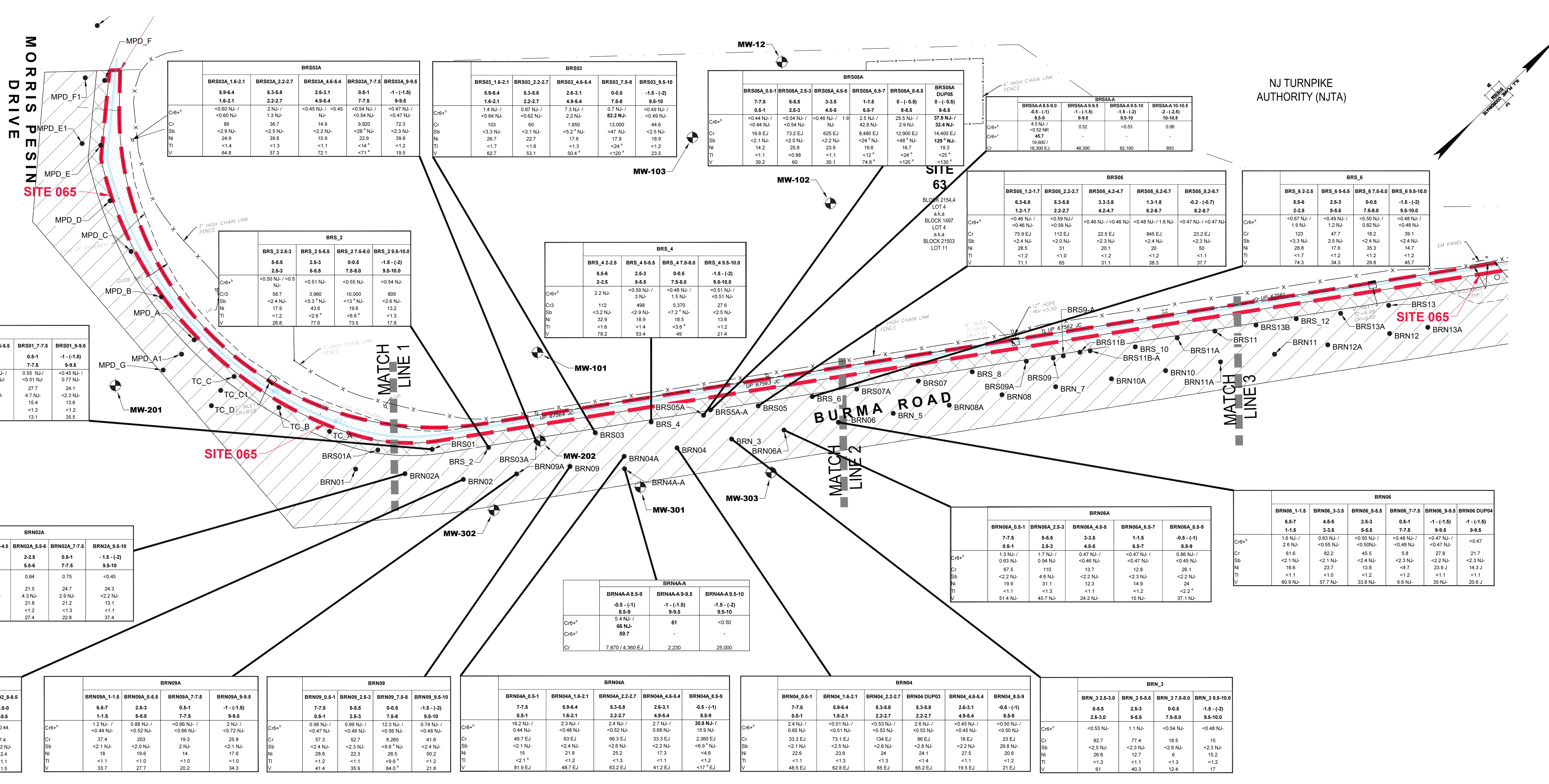


## **Appendix I**

### **Figure Excerpts HCC Site 65 RAR**



BRS01					
	BRS01_1-1.5	BRS01_3-3.5	BRS01_5-5.5	BRS01_7-7.5	BRS01_9-9.5
Cr <sup>6+</sup>	0.81 NJ / 0.46 NJ	<0.47 NJ / <0.51 NJ	0.95 NJ / <0.46 NJ	<0.46 NJ / 0.77 NJ	
Cr	22.6	68.7	19.2	27.7	24.1
Sb	14.4	84	27.8	15.4	13.6
Ni	<2.0*	<5.7	<1.3	<1.3	<1.2
Tl	103	75.3	29.1	13.1	35.5

BRN02A					
	BRN02A_1-1.5	BRN02A_4-4.5	BRN02A_5-5.5	BRN02A_7-7.5	BRN02A_9-10
Cr <sup>6+</sup>	0.41	0.47	0.84	0.75	<0.45
Cr	10	16.3	21.5	24.7	24.3
Sb	<2.0 NJ	<2.2 NJ	4.3 NJ	2.9 NJ	<2.2 NJ
Ni	10.8	31.4	21.8	21.2	13.1
Tl	<1.0	<1.1	<1.2	<1.3	<1.1
V	13.9	39.2	27.4	22.8	37.4

BRN02					
	BRN02_1-1.5	BRN02_3-3.5	BRN02_5-5.5	BRN02_7-7.5	BRN02_8-8.5
Cr <sup>6+</sup>	1.1 NJ / 0.91 NJ	0.64 NJ / 0.52 NJ	0.8	<0.49	<0.44
Cr	30.7	50.3	21.9	7	7.4
Sb	4.6 NJ	<2.1 NJ	<2.2 NJ	<2.4 NJ	<2.2 NJ
Ni	20.2	20	9.8	6.6	12.4
Tl	<1.0	<1.0	<1.1	<1.2	<1.1
V	52.1 NJ	44.4	16.2	9.6	11.5

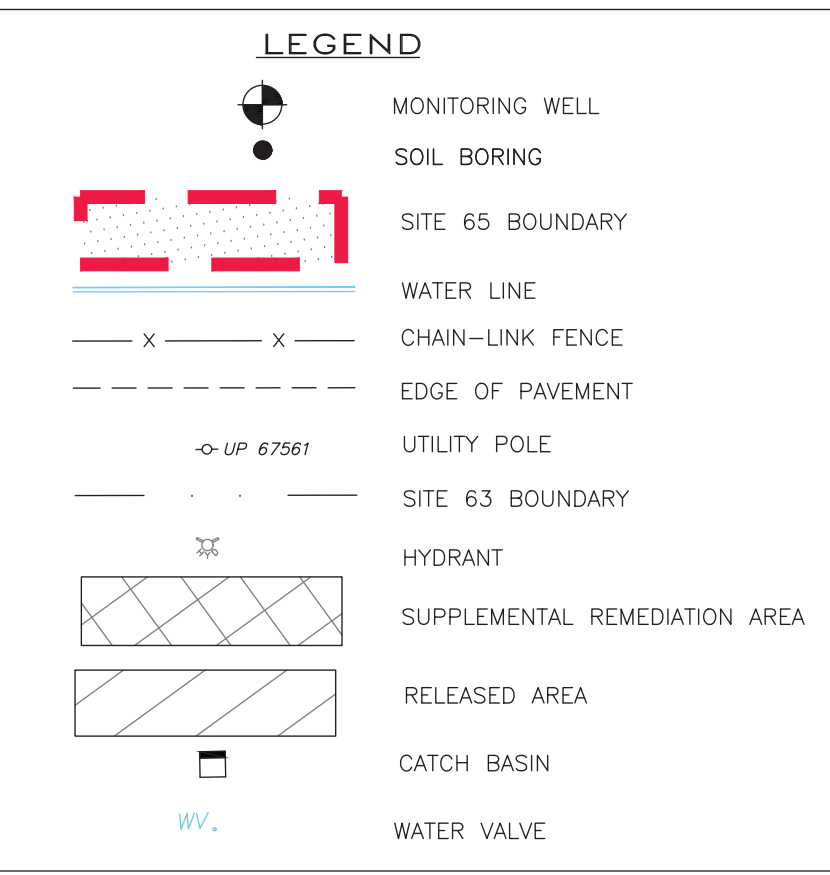
BRN09A				
	BRN09A_1-1.5	BRN09A_5-5.5	BRN09A_7-7.5	BRN09A_9-9.5
Cr <sup>6+</sup>	1.2 NJ / <0.44 NJ	0.88 NJ / <0.82 NJ	<0.66 NJ / <0.66 NJ	2.7 NJ / <0.72 NJ
Cr	37.4	203	19.3	25.8
Sb	<2.1 NJ	<2.0 NJ	2.1 NJ	<2.1 NJ
Ni	18	19.6	14	17.6
Tl	<1.0	<1.0	<1.0	<1.0
V	33.7	27.7	20.2	34.3

BRN09				
	BRN09_0.5-1	BRN09_2-2.3	BRN09_7-7.5	BRN09_9-10
Cr <sup>6+</sup>	7.7-5	6.5-5	0.6-5	1.5- (2)
Cr	57.3	52.7	8.260	41.6
Sb	<2.4 NJ	<2.3 NJ	<0.6* NJ	<2.4 NJ
Ni	28.6	22.3	26.5	50.2
Tl	<1.2	<1.1	<0.6*	<1.2
V	41.4	35.9	84.0*	21.8

BRN04A				
	BRN04A_0.5-1	BRN04A_1.6-2.1	BRN04A_4.6-5.4	BRN04A_8.5-9
Cr <sup>6+</sup>	16.2 NJ / 0.44 NJ	2.3 NJ / <0.52 NJ	0.8 NJ / <0.52 NJ	30.8 NJ / 15.9 NJ
Cr	49.7 EJ	63 EJ	66.3 EJ	2360 EJ
Sb	<2.1 NJ	<2.4 NJ	<2.6 NJ	<6.9 NJ
Ni	15	21.9	17.3	44.6
Tl	<1.0	<1.1	<1.0	<1.2
V	81.9 EJ	48.7 EJ	63.2 EJ	<17* EJ

BRN04				
	BRN04_0.5-1	BRN04_1.6-2.1	BRN04_2.2-2.7	BRN04_DUP03
Cr <sup>6+</sup>	2.4 NJ / 0.95 NJ	<0.51 NJ / <0.53 NJ	2.6 NJ / <0.46 NJ	<0.50 NJ / <0.50 NJ
Cr	33.3 EJ	73 EJ	134 EJ	86 EJ
Sb	<2.1 NJ	<2.0 NJ	<2.6 NJ	<2.8 NJ
Ni	22.6	23.6	24	27.5
Tl	<1.0	<1.0	<1.1	<1.1
V	48.5 EJ	62.8 EJ	65 EJ	19.5 EJ

BRN3				
	BRN3_2.5-3	BRN3_3-3.5	BRN3_7.5-8.0	BRN3_9.5-10.0
Cr <sup>6+</sup>	<0.53 NJ	1.1 NJ	<0.54 NJ	<0.48 NJ
Cr	82.7	77.4	18.5	15
Sb	<2.5 NJ	<2.3 NJ	<2.8 NJ	<2.3 NJ
Ni	26.6	12.7	6	15.2
Tl	<1.0	<1.0	<1.1	<1.1
V	61	40.3	12.4	17



- Sources:**
- LOCATION OF UNDERGROUND WATER PIPE BASED ON SUBSURFACE UTILITY ENGINEERING MARKOUTS PERFORMED ON 11-7-17 BY MASER CONSULTING, P.A. AND FIELD MEASUREMENTS PROVIDED BY APTIM ENVIRONMENTAL & INFRASTRUCTURE ON 11-21-17.
  - MASER CONSULTING DID NOT PERFORM A BOUNDARY SURVEY. LOT 11 BOUNDARY IS BASED ON A SURVEY ENTITLED "BOUNDARY SURVEY OF LOT 11, BLOCK 21503, TAX MAP OF THE CITY OF JERSEY CITY, HUDSON COUNTY, STATE OF NEW JERSEY" PREPARED BY FARALDI GROUP, INC., DATED MAY 3, 2013.
  - HUDSON COUNTY CHROMATE REMEDIATION SITE NUMBER 063 IS LOCATED WITHIN LOT 11, BLOCK 21503, OWNER NISAN 12, LLC.
  - SOIL BORING LOCATIONS BY CB&I (APTIM) USING GPS.
  - THE GROUNDWATER ELEVATION USED FOR THE EVALUATION OF THE IMPACT TO GROUND WATER (IGW) EXPOSURE PATHWAY IS 5.2 FEET NAVD88.
- Reference:**
- "BURMA ROAD EXHIBIT" DRAWING NO. 14000664C BY MASER CONSULTING, P.A. LAST REVISED ON DECEMBER 19, 2017.
- Footnote:**
- HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NAVD88.

- Analytical Data Qualifiers:**
- U or < - The analyte was not detected at the stated reporting limit.  
 J - The reported result is an estimated value.  
 EJ - The reported value is estimated because of the presence of interference; indeterminate bias direction.  
 N - The matrix spike sample recovery in the associated QC sample is not within QC limits.  
 - = Not analyzed  
 J+ - The result is estimated and may be biased high.  
 J- - The result is estimated and may be biased low.  
 R - The reported result is rejected.
- Footnotes:**
- <sup>a</sup> = Elevated detection limit due to dilution required for high interfering element  
<sup>b</sup> Analyzed using Method 7196A  
<sup>c</sup> Analyzed using Method 7196A (Sample was rehomogenized)  
 ft msl = feet mean sea level  
 ft bgs = feet below ground surface  
 mg/kg = milligram per kilogram  
 CCPW = Chromate Chemical Processing Waste  
 SPLP = Synthetic Precipitation Leaching Procedure  
**Result exceeded criteria**  
 For additional information regarding data qualifiers please review the provided Data Validation Reports.

Analyte	Default IGW SSL / (Site-Specific IGWSSL) (mg/kg)	RDC SRS / (ARS) (mg/kg)	Cr/SCC (mg/kg)
Cr <sup>6+</sup>	NA	NA	20
Cr	NA	NA	120,000
Sb	6	31	NA
Ni	48 / (205*)	1,600	NA
Tl	3	5	NA
V	NA	78 / (390*)	NA

Location	Sample ID
Sample Elevation:	ft msl
Sample Depths:	ft bgs
Hexavalent Chromium (Cr <sup>6+</sup> )	Exceedance
Total Chromium (Cr)	milligrams per kilogram
Antimony (Sb)	mg/kg
Nickel (Ni)	mg/kg
Thallium (Tl)	mg/kg
Vanadium (V)	mg/kg



**APTIM** Environmental & Infrastructure, LLC  
 200 Horizon Center  
 Trenton, New Jersey 08691

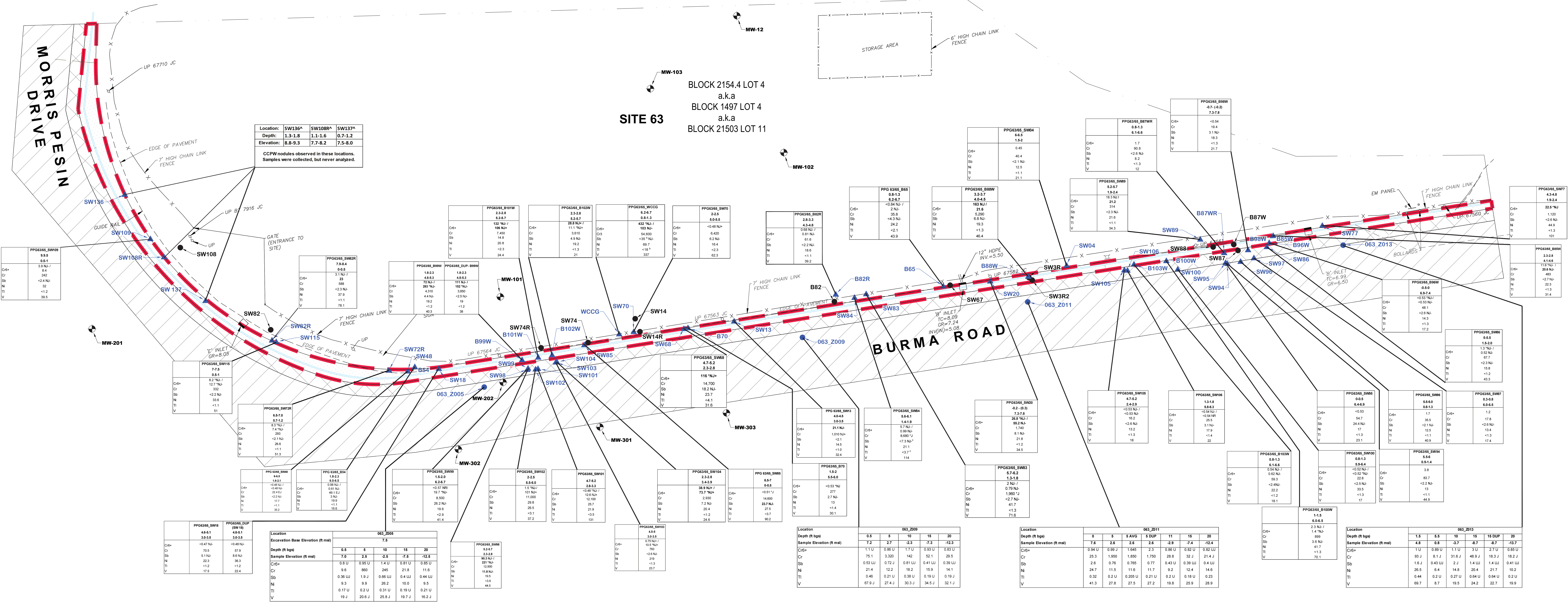
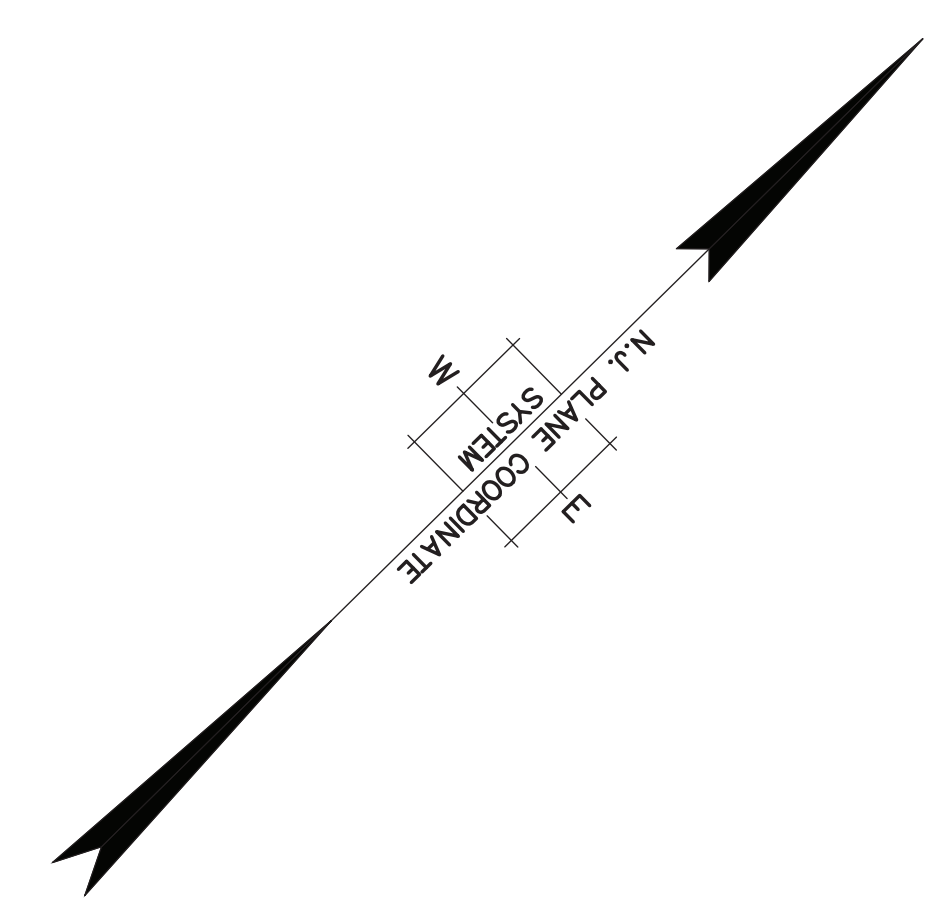
DESIGNED BY: PPG  
 HUDSON COUNTY, NEW JERSEY

DRAWN BY: A.Y.  
 CHECKED BY: C. Leavy  
 APPROVED BY: C. Leavy

DATE: 2/26/19  
 SCALE: AS SHOWN  
 DRAWING NO.: 151136-D34-1  
 SHEET: 3 of 5

FIGURE 2  
 CCPW METALS  
 BURMA ROAD, MORRIS PESIN DRIVE, AND TRAFFIC  
 CIRCLE SOIL SAMPLE LOCATIONS  
 JERSEY CITY, NEW JERSEY

File: C:\Projects\151136-D34-1.dwg  
 Plot Date: 2/26/19 10:19:20 AM  
 Plotter: Autodesk Plotter Driver



Location: SW136<sup>a</sup> SW108R<sup>a</sup> SW137A<sup>a</sup>  
 Depth: 1.3-1.8 1.1-1.6 0.7-1.2  
 Elevation: 8.8-9.3 7.7-8.2 7.5-8.0

CCPW nodules observed in these locations. Samples were collected, but never analyzed.

Location: 063\_2005  
 Excavation Base Elevation (ft msl)  
 Depth (ft bgs)

Depth (ft bgs)	0.5	5	10	15	20
Cr	7.9	7.8	7.8	7.8	7.8
Sb	0.36 U	1.9 J	0.66 U	0.4 U	0.44 U
Ni	9.3	8.9	8.2	10.0	8.5
Tl	0.17 U	0.2 U	0.31 U	0.19 U	0.21 U
V	19.1	20.6 J	25.2 J	19.7 J	16.2 J

Location: 063\_2005  
 Excavation Base Elevation (ft msl)  
 Depth (ft bgs)

Depth (ft bgs)	0.5	5	10	15	20
Cr	7.9	7.8	7.8	7.8	7.8
Sb	0.36 U	1.9 J	0.66 U	0.4 U	0.44 U
Ni	9.3	8.9	8.2	10.0	8.5
Tl	0.17 U	0.2 U	0.31 U	0.19 U	0.21 U
V	19.1	20.6 J	25.2 J	19.7 J	16.2 J

Location: 063\_2005  
 Excavation Base Elevation (ft msl)  
 Depth (ft bgs)

Depth (ft bgs)	0.5	5	10	15	20
Cr	7.9	7.8	7.8	7.8	7.8
Sb	0.36 U	1.9 J	0.66 U	0.4 U	0.44 U
Ni	9.3	8.9	8.2	10.0	8.5
Tl	0.17 U	0.2 U	0.31 U	0.19 U	0.21 U
V	19.1	20.6 J	25.2 J	19.7 J	16.2 J

Location: 063\_2005  
 Excavation Base Elevation (ft msl)  
 Depth (ft bgs)

Depth (ft bgs)	0.5	5	10	15	20
Cr	7.9	7.8	7.8	7.8	7.8
Sb	0.36 U	1.9 J	0.66 U	0.4 U	0.44 U
Ni	9.3	8.9	8.2	10.0	8.5
Tl	0.17 U	0.2 U	0.31 U	0.19 U	0.21 U
V	19.1	20.6 J	25.2 J	19.7 J	16.2 J

Location: 063\_2005  
 Excavation Base Elevation (ft msl)  
 Depth (ft bgs)

Depth (ft bgs)	0.5	5	10	15	20
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Sb	0.36 U	1.9 J	0.66 U	0.4 U	0.44 U
Ni	9.3	8.9	8.2	10.0	8.5
Tl	0.17 U	0.2 U	0.31 U	0.19 U	0.21 U
V	19.1	20.6 J	25.2 J	19.7 J	16.2 J

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Tl	0.17 U	0.2 U	0.31 U	0.19 U	0.21 U
V	19.1	20.6 J	25.2 J	19.7 J	16.2 J

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Sb	0.36 U	1.9 J	0.66 U	0.4 U	0.44 U
Ni	9.3	8.9	8.2	10.0	8.5
Tl	0.17 U	0.2 U	0.31 U	0.19 U	0.21 U
V	19.1	20.6 J	25.2 J	19.7 J	16.2 J

Location: 063\_2005  
 Excavation Base Elevation (ft msl)  
 Depth (ft bgs)

Depth (ft bgs)	0.5	5	10	15	20
Cr	7.9	7.8	7.8	7.8	7.8
Sb	0.36 U	1.9 J	0.66 U	0.4 U	0.44 U
Ni	9.3	8.9	8.2	10.0	8.5
Tl	0.17 U	0.2 U	0.31 U	0.19 U	0.21 U
V	19.1	20.6 J	25.2 J	19.7 J	16.2 J

Location: 063\_2011  
 Excavation Base Elevation (ft msl)  
 Depth (ft bgs)

Depth (ft bgs)	0	5	10	15	20
Cr	0.94 U	0.91 J	1.645	2.3	0.86 U
Sb	2.9	0.36	0.36	0.77	0.43 U
Ni	2.47	1.15	1.16	1.17	9.2
Tl	0.32	0.2 U	0.38 U	0.21 U	0.2 U
V	41.3	27.8	27.5	27.2	19.8

Location: 063\_2011  
 Excavation Base Elevation (ft msl)  
 Depth (ft bgs)

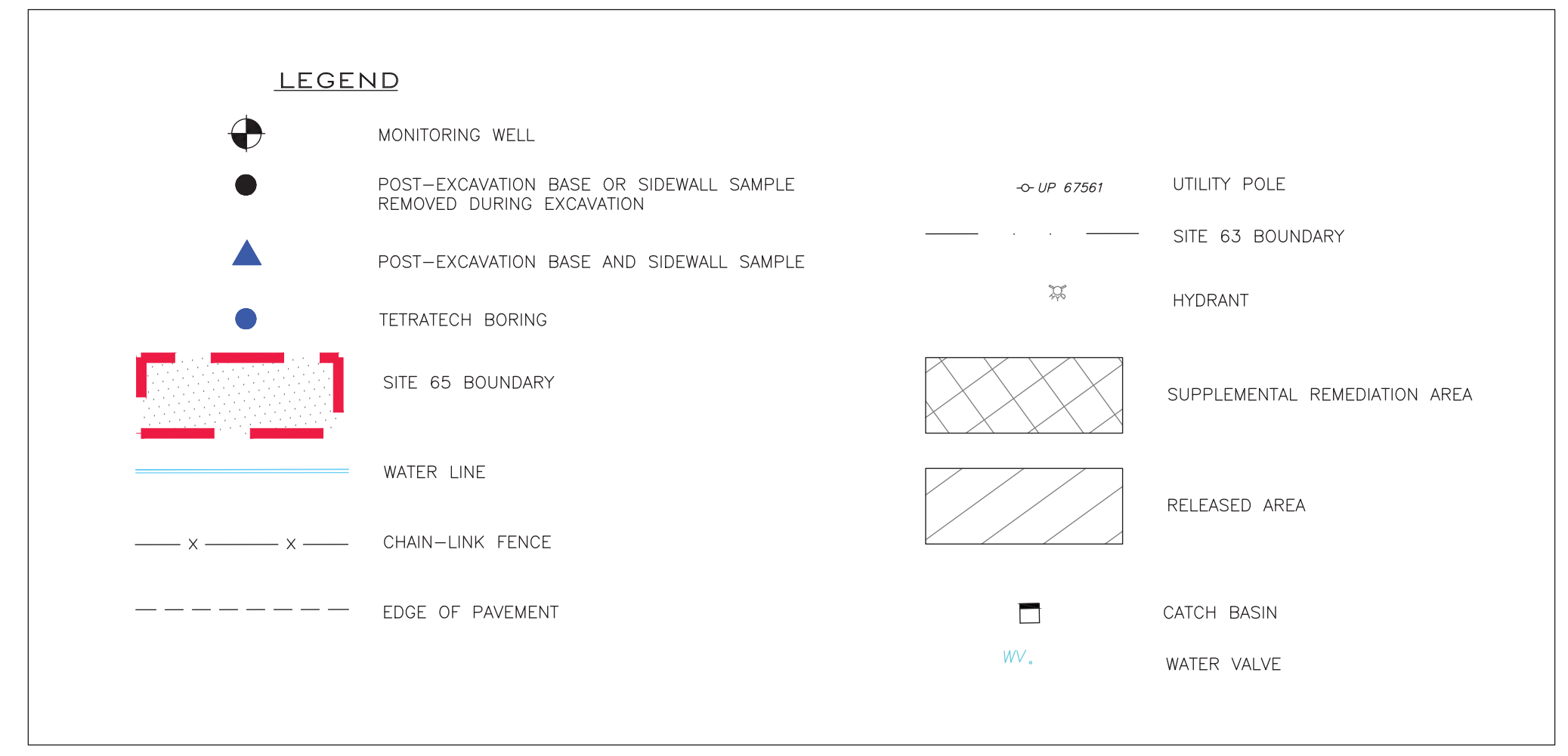
Depth (ft bgs)	0	5	10	15	20
Cr	0.94 U	0.91 J	1.645	2.3	0.86 U
Sb	2.9	0.36	0.36	0.77	0.43 U
Ni	2.47	1.15	1.16	1.17	9.2
Tl	0.32	0.2 U	0.38 U	0.21 U	0.2 U
V	41.3	27.8	27.5	27.2	19.8

Location: 063\_2011  
 Excavation Base Elevation (ft msl)  
 Depth (ft bgs)

Depth (ft bgs)	0	5	10	15	20
Cr	0.94 U	0.91 J	1.645	2.3	0.86 U
Sb	2.9	0.36	0.36	0.77	0.43 U
Ni	2.47	1.15	1.16	1.17	9.2
Tl	0.32	0.2 U	0.38 U	0.21 U	0.2 U
V	41.3	27.8	27.5	27.2	19.8

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Tl	0.32	0.2 U	0.38 U	0.21 U	0.2 U
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- Sources:
- LOCATION OF UNDERGROUND WATER PIPE BASED ON SUBSURFACE UTILITY ENGINEERING MARKOUTS PERFORMED ON 11-2-17 BY MASER CONSULTING, P.A. AND FIELD MEASUREMENTS PROVIDED BY APTIM ENVIRONMENTAL & INFRASTRUCTURE ON 11-21-17.
  - MASER CONSULTING DID NOT PERFORM A BOUNDARY SURVEY. LOT 11 BOUNDARY IS BASED ON A SURVEY ENTITLED "BOUNDARY SURVEY OF LOT 11, BLOCK 21503, TAX MAP OF THE CITY OF JERSEY CITY, HUDSON COUNTY, STATE OF NEW JERSEY" PREPARED BY FARBER GROUP, INC., DATED MAY 3, 2013.
  - HUDSON COUNTY CHROMATE REMEDIATION SITE NUMBER 063 IS LOCATED WITHIN LOT 11, BLOCK 21503, OWNER NISAN 12, LLC.
  - SOIL BORING LOCATIONS BY CBA (AFTM) USING GPS.
  - THE GROUNDWATER ELEVATION USED FOR THE EVALUATION OF THE IMPACT TO GROUND WATER (GW) EXPOSURE PATHWAY IS 5.2 FEET NAVD83 (NORTH AMERICAN VERTICAL DATUM OF 1983).

Reference:  
 1. "BURMA ROAD EXHIBIT" DRAWING NO. 14000664C, BY MASER CONSULTING, P.A. LAST REVISED ON DECEMBER 19, 2017.

Footnote:  
 1. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NAVD83.

Analysis Data Qualifiers:  
 U/C - The analysis was not detected at the stated reporting limit.  
 J - The reported result is an estimated value.  
 \* - Duplicate analysis not within control limits; indeterminate bias direction.  
 R - The reported result is rejected.

Remediation Criteria / Standards Notes:  
 NA - Not Applicable  
 Default IGW SSL = Impact to Groundwater Soil Screening Level (November 2013)  
 IGWSSL = Impact to Groundwater Soil Remediation Standard  
 RDC SRS = Residential Direct Contact Soil Remediation Standards (September 2017)  
 ARS = Alternative Remediation Standard  
 CCSC = Chromium Soil Cleanup Criteria (September 2008, revised April 2010)  
 mg/kg = milligrams per kilogram  
 \*Nickel Site-Specific IGWSSL calculated using SPL Laboratory methods  
 \*\* The use of the USEPA Regional Soil Screening Level of 390 mg/kg for vanadium is proposed as an alternative remediation standard for this site. Based on: <https://www.epa.gov/ria/regional-screening-levels-rsls-user-guide-november-2015>

Analyte	Default IGW SSL / Site-Specific IGWSSL (mg/kg)	RDC SRS / (ARS) (mg/kg)	CCSC (mg/kg)
Cr <sup>6+</sup>	NA	NA	20
Cr	NA	NA	100,000
Cd	5	31	NA
Ni	49 (205*)	1,600	NA
Tl	3	5	NA
V	NA	78 (380**)	NA

Analyte	Default IGW SSL / Site-Specific IGWSSL (mg/kg)	RDC SRS / (ARS) (mg/kg)	CCSC (mg/kg)
Cr <sup>6+</sup>	NA	NA	20
Cr	NA	NA	100,000
Cd	5	31	NA
Ni	49 (205*)	1,600	NA
Tl	3	5	NA
V	NA	78 (380**)	NA

**APTIM** Aptim Environmental & Infrastructure, LLC  
 200 Horizon Center  
 Trenton, New Jersey 08691

DESIGNED BY: PPG  
 HUDSON COUNTY, NEW JERSEY

DRAWN BY: A.Y.  
 CHECKED BY: C. Leavy  
 APPROVED BY: C. Leavy

DATE: 2/26/19  
 SCALE: AS SHOWN  
 DRAWING NO.: 151136-D33-1  
 SHEET NO.: 1 OF 5

FIGURE 2  
 CCPW METALS  
 BURMA ROAD, MORRIS PESIN DRIVE, AND TRAFFIC  
 CIRCLE SOIL SAMPLE LOCATIONS  
 JERSEY CITY, NEW JERSEY