

APPENDIX E

**SURFACE SOIL SAMPLING RESULTS
HEMPSTEAD INTERSECTION STREET
FORMER MANUFACTURED GAS PLANT SITE
VILLAGES OF HEMPSTEAD AND GARDEN CITY
NASSAU COUNTY, NEW YORK**

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LIST OF ACRONYMS AND ABBREVIATIONS

IRM	interim remedial measure
LILCO	Long Island Lighting Company
LIRR	Long Island Railroad
MGP	manufactured gas plant
mg/kg	milligrams per kilogram
PAHs	polycyclic aromatic hydrocarbons
ppm	parts per million
RI	Remedial Investigation
ROW	right-of-way

1.0 INTRODUCTION

This report presents the results of sampling and analysis of surface soils from the Hempstead Intersection Street Former Manufactured Gas Plant (MGP) Site (Site) located in the Villages of Hempstead and Garden City, Nassau County, New York. The sampling was performed to confirm contamination concentrations in surface soils that were documented in a Remedial Investigation (RI) report for the Site (PS&S, 2006) and to determine the extent of remediation that may be required at these areas.

1.1 Site Location and Description

The property is bordered to the north by Second Street, east by a Long Island Railroad (LIRR) inactive railroad right-of-way (ROW), on the south by Intersection Street, and on the west by a park owned by the Village of Garden City. The park contains a public parking lot, two public water supply wells, and a recharge basin for those two wells. Residences and commercial businesses surround the Site, including a Professional Office Building to the southwest, an Active Oil Storage Terminal to the southeast, and an Inactive Petroleum Storage Facility to the southeast. An active National Grid natural gas regulator station is located within the northwestern portion of the Site.

The Site and surrounding area are generally flat with the ground surface gently sloping to the west, northwest, and southwest. The Site is predominantly covered with crushed stone and is secured with a perimeter fence. Limited grass, shrubs and trees serve as a buffer across the northern fence line. Other than gas piping in the regulator station and Site security fences, there are no permanent aboveground structures on the Site.

1.2 Site History

According to National Grid, the Nassau and Suffolk Lighting Company operated the plant starting in the early 1900s. The Long Island Lighting Company (LILCO) acquired an ownership share of the Site in the early 1930s and LILCO decommissioned the MGP in the early

1950s. In 1998, LILCO merged with Brooklyn Union Gas forming KeySpan Corporation. KeySpan was later acquired by National Grid in 2008. The facility originally produced coal gas but was converted to a carbureted water gas process sometime after 1910. Following the arrival of natural gas, the Site served as a peak/emergency facility to ensure gas supply until all MGP operations ceased in the mid-1950s. The plant was subsequently demolished shortly afterward.

Since demolition of the plant in the 1950s, the majority of the Site has been inactive except for vehicle parking in the southern and eastern portions of the Site and the ongoing operation of a National Grid natural gas regulator station in the northwestern portion of the Site. Currently, the Site is undeveloped and is secured by a perimeter fence.

During the RI surface soil samples were collected from the Site and from offsite areas west and south of the Site (refer to Figure 1). Analytical testing of the samples identified six areas (HISS-03, HISS-04, HISS-06, HISS-07, HISS-08, and HISS-14) where total polycyclic aromatic hydrocarbons (PAHs), arsenic, and/or mercury were present at concentrations above the Restricted Residential Use Soil Cleanup Objectives presented in Table 375-6.8(b) of 6 NYCRR Part 375 (NYSDEC, 2006).

Location	Parameter	Part 375 Restricted Residential Soil Criteria (ppm)	RI Sample Concentration (mg/kg)
HISS-03	Mercury	0.81	2.2
HISS-04	Total PAHs	100	242.30
HISS-06	Arsenic	16	55.1
HISS-07	Arsenic	16	18.5
	Total PAHs	100	288.50
HISS-08	Mercury	0.81	1.2
HISS-14	Mercury	0.81	1.0

Notes:

- ppm parts per million
- mg/kg milligrams per kilogram

Surface soils from the HISS-04 and HISS-06 locations were excavated and taken off-Site for treatment and disposal during an interim remedial measure (IRM) that was performed in 2008 (URS, 2009). The HISS-08 sample location is within an area that will be remediated by in situ solidification. At this location the surface soils will be excavated and taken off-site for treatment and disposal prior to solidification of deeper MGP contaminated soils.

2.0 SAMPLING AND ANALYSIS PROGRAM

A surface soil sampling and analysis program was performed to confirm contamination concentrations that were documented in the RI report and to determine the extent of remediation that may be required at HISS-03, HISS-07, and HISS-14. The following analyses were performed:

- HISS-03: mercury (EPA Method 7471A)
- HISS-07: arsenic (EPA Method 6010) and PAHs (EPA Method 8270B)
- HISS-14: mercury (EPA Method 7471A)

Surface soil samples were collected in July and September, 2009 from the original sample locations and from multiple (i.e. 4 to 5) locations around each original location. Figure 2 illustrates the typical sample layout that was used for each location. The original sample locations were marked in the field using survey coordinates that were provided in the RI report.

Soil samples were collected using the following procedure:

- All vegetation, loose gravel, or pavement was removed.
- Soils were excavated to a maximum depth of 2 inches using a decontaminated stainless steel trowel.
- The soil was placed in a decontaminated stainless steel bowl and homogenized.
- Aliquots were taken and transferred to appropriate laboratory-supplied containers.
- The samples were placed on ice and shipped overnight to the laboratory (H2M Laboratories) under chain-of-custody control.
- The sampling area was restored to its original condition

Five (5) background surface soil samples were also collected to evaluate whether the contaminant concentrations from the Site samples may be attributed to former MGP activities or were representative of area-wide concentrations that are associated with the surrounding urban setting. The background surface soil sample locations were selected in accordance with DER-10 (NYSDEC, 2009), which requires a minimum of five background samples from unimpacted areas on the site or in the vicinity of the site that are unaffected by current or historic site operations and at topographically upgradient and upwind locations.

Background sample locations are described below and shown on Figure 3:

- BSS-01; located southwest of the Site in the center of a grass covered, triangular-shaped median at the intersection of Cathedral Avenue and Atlantic Avenue.
- BSS-02; located south of the Site in the southern section of Mirschel Park in the vicinity of Pre-Design Investigation boring HISB-107 (URS, 2010).
- BSS-03; located south of the Site in the central section of Mirschel Park in the vicinity of Pre-Design Investigation boring HISB-109.
- BSS-04 and BSS-05; located west of the Site in the Hilton Avenue road right-of-way (east side), which extends 3 feet east of the sidewalk. The samples were taken approximately 14 to 15 feet from the curb and along the western edge of the municipal park owned by Garden City.

Background soil samples were collected, handled, and analyzed in the same manner as the Site samples. Each background surface soil sample was analyzed for arsenic, mercury, and PAHs.

3.0 RESULTS

Analytical results of the surface soil samples are summarized in Table E1 and discussed below.

3.1 Background Soils

Background total PAH concentrations ranged from 0.175 mg/kg (BSS-01) to 3.41 mg/kg (BSS-03). None of the background concentrations exceeded the Part 375 Restricted Residential Use Criterion (100 mg/kg). The arithmetic mean of the background concentrations was 2.23 mg/kg.

Background arsenic concentrations ranged from 3.2 mg/kg (BSS-03) to 54.5 mg/kg (BSS-01). BSS-01 was the only background sample that contained arsenic (54.5 mg/kg) above the Part 375 Restricted Residential Use Criterion (16 mg/kg). The arithmetic mean of the background concentrations was 16.76 mg/kg.

Background mercury concentrations ranged from 0.092 mg/kg (BSS-03) to 0.52 mg/kg (BSS-02). None of the background mercury concentrations exceeded the Part 375 Restricted Residential Use Criterion (0.81 mg/kg). The arithmetic mean of the background mercury concentrations was 0.22 mg/kg.

3.2 HISS-03 Area

All samples contained mercury above the Part 375 Restricted Residential Soil Criterion (0.81 mg/Kg) and the mean background concentration (0.22 mg/kg). The extent of this area is shown graphically on Figure 4. The concentrations ranged from 0.9 mg/kg (HISS-03) to 30.1 mg/kg (HISS-03-A).

3.3 HISS-07 Area

All samples, except HISS-07-NW, contained total PAHs above the Part 375 Restricted Residential Use Criterion (100 mg/kg) and the mean background concentration (2.23 mg/kg). The extent of this area is shown graphically on Figure E-4. The concentrations ranged from 11.68 mg/kg (HISS-07-NW) to 1,627.9 mg/kg (HISS-07-SW).

Samples HISS-07 and HISS-07-SE contained arsenic above the Part 375 Restricted Residential Use Criterion (16 mg/kg). Sample HISS-07 contained arsenic above the mean background concentration (16.76 mg/kg). The concentrations ranged from 2.6 mg/kg (HISS-07-NW) to 20.1 mg/kg (HISS-07).

3.4 HISS-14 Area

None of the samples contained mercury above the Part 375 Restricted Residential Use Criterion (0.81 mg/kg). The concentrations ranged from 0.09 mg/kg (HISS-14-SE) to 0.22 mg/kg (HISS-14-NW).

4.0 REFERENCES

NYSDEC, 2006. *6 NYCRR Part 375, Environmental Remediation Programs Subparts 375-1 to 375-4 & 375-6*. December.

NYSDEC, 2009. *Draft DER-10 Technical Guidance for Site Investigation and Remediation*. November.

Paulus, Sokolowski and Sartor Engineering (PS&S), 2006. *Final Remedial Investigation Report (RI)*, November.

URS, 2009. *IRM Excavation Completion Report Interim Remedial Measures for the Hempstead Intersection Street Site Former Manufactured Gas Plant Site*. May.

URS, 2010. *Pre-Design Investigation Report for In-Situ Solidification and Off-Site Groundwater Treatment for the Hempstead Intersection Street Former Manufactured Gas Plant Site*. February.

TABLES

TABLE E-1
SURFACE SOIL ANALYTICAL RESULTS
HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			BSS-01	BSS-02	BSS-03	BSS-04	BSS-05
Sample ID			BSS-01	BSS-02	BSS-03	BSS-04	BSS-05
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Date Sampled			07/12/09	07/12/09	07/12/09	07/12/09	07/12/09
Parameter	Units	Criteria*					
Semivolatile Organic Compounds							
2-Methylnaphthalene	MG/KG	-	0.42 U	0.41 U	0.37 U	0.38 U	0.38 U
Acenaphthene	MG/KG	100	0.42 U	0.41 U	0.37 U	0.38 U	0.38 U
Acenaphthylene	MG/KG	100	0.42 U	0.41 U	0.37 U	0.38 U	0.38 U
Anthracene	MG/KG	100	0.42 U	0.41 U	0.37 U	0.38 U	0.38 U
Benzo(a)anthracene	MG/KG	1	0.42 U	0.29 J	0.29 J	0.15 J	0.23 J
Benzo(a)pyrene	MG/KG	1	0.42 U	0.35 J	0.36 J	0.17 J	0.25 J
Benzo(b)fluoranthene	MG/KG	1	0.42 U	0.45	0.5	0.23 J	0.38
Benzo(g,h,i)perylene	MG/KG	100	0.42 U	0.21 J	0.12 J	0.1 J	0.13 J
Benzo(k)fluoranthene	MG/KG	3.9	0.42 U	0.23 J	0.29 J	0.12 J	0.15 J
Chrysene	MG/KG	3.9	0.42 U	0.36 J	0.38	0.19 J	0.31 J
Dibenz(a,h)anthracene	MG/KG	0.33	0.42 U	0.41 U	0.37 U	0.38 U	0.38 U
Fluoranthene	MG/KG	100	0.09 J	0.42	0.6	0.3 J	0.52
Fluorene	MG/KG	100	0.42 U	0.41 U	0.37 U	0.38 U	0.38 U
Indeno(1,2,3-cd)pyrene	MG/KG	0.5	0.42 U	0.23 J	0.14 J	0.096 J	0.14 J
Naphthalene	MG/KG	100	0.42 U	0.41 U	0.37 U	0.38 U	0.38 U
Phenanthrene	MG/KG	100	0.42 U	0.12 J	0.2 J	0.11 J	0.23 J
Pyrene	MG/KG	100	0.085 J	0.4 J	0.53	0.28 J	0.44
Total Polynuclear Aromatic Hydrocarbons	MG/KG	100	0.175	3.06	3.41	1.746	2.78
Metals							
Arsenic	MG/KG	16	54.5	8.5	3.2	6.8	10.8
Mercury	MG/KG	0.81	0.21 J	0.52 J	0.092 J	0.12 J	0.15 J
Miscellaneous Parameters							
Moisture, Percent	%	-	20.5	18.8	10.4	13.3	12.7

*Criteria- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Restricted Residential.

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit. J - The reported concentration is an estimated value.

D - Result reported from a secondary dilution analysis. NA - The sample was not analyzed for this parameter.

Detection Limits shown are PQL

TABLE E-1
SURFACE SOIL ANALYTICAL RESULTS
HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HISS-03	HISS-03-A	HISS-03-B	HISS-03-C	HISS-03-D
Sample ID			HISS-03	HISS-03-A	HISS-03-B	HISS-03-C	HISS-03-D
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Date Sampled			07/10/09	09/21/09	09/21/09	09/21/09	09/21/09
Parameter	Units	Criteria*					
Semivolatile Organic Compounds							
2-Methylnaphthalene	MG/KG	-	NA	NA	NA	NA	NA
Acenaphthene	MG/KG	100	NA	NA	NA	NA	NA
Acenaphthylene	MG/KG	100	NA	NA	NA	NA	NA
Anthracene	MG/KG	100	NA	NA	NA	NA	NA
Benzo(a)anthracene	MG/KG	1	NA	NA	NA	NA	NA
Benzo(a)pyrene	MG/KG	1	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	MG/KG	1	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	MG/KG	100	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	MG/KG	3.9	NA	NA	NA	NA	NA
Chrysene	MG/KG	3.9	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	MG/KG	0.33	NA	NA	NA	NA	NA
Fluoranthene	MG/KG	100	NA	NA	NA	NA	NA
Fluorene	MG/KG	100	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	MG/KG	0.5	NA	NA	NA	NA	NA
Naphthalene	MG/KG	100	NA	NA	NA	NA	NA
Phenanthrene	MG/KG	100	NA	NA	NA	NA	NA
Pyrene	MG/KG	100	NA	NA	NA	NA	NA
Total Polynuclear Aromatic Hydrocarbons	MG/KG	100	NA	NA	NA	NA	NA
Metals							
Arsenic	MG/KG	16	NA	NA	NA	NA	NA
Mercury	MG/KG	0.81	0.90 J	30.1	5.0	6.7	2.9
Miscellaneous Parameters							
Moisture, Percent	%	-	16	9.07	8.28	10.6	8.91

*Criteria- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Restricted Residential.

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 Concentration Exceeds Criteria

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D - Result reported from a secondary dilution analysis. NA - The sample was not analyzed for this parameter.

Detection Limits shown are PQL

TABLE E-1
SURFACE SOIL ANALYTICAL RESULTS
HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HISS-03-E	HISS-03-F	HISS-03-G	HISS-03-NW	HISS-03-SW
Sample ID			HISS-03-E	HISS-03-F	HISS-03-G	HISS-03-NW	HISS-03-SW
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Date Sampled			09/21/09	09/21/09	09/21/09	07/10/09	07/10/09
Parameter	Units	Criteria*					
Semivolatile Organic Compounds							
2-Methylnaphthalene	MG/KG	-	NA	NA	NA	NA	NA
Acenaphthene	MG/KG	100	NA	NA	NA	NA	NA
Acenaphthylene	MG/KG	100	NA	NA	NA	NA	NA
Anthracene	MG/KG	100	NA	NA	NA	NA	NA
Benzo(a)anthracene	MG/KG	1	NA	NA	NA	NA	NA
Benzo(a)pyrene	MG/KG	1	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	MG/KG	1	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	MG/KG	100	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	MG/KG	3.9	NA	NA	NA	NA	NA
Chrysene	MG/KG	3.9	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	MG/KG	0.33	NA	NA	NA	NA	NA
Fluoranthene	MG/KG	100	NA	NA	NA	NA	NA
Fluorene	MG/KG	100	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	MG/KG	0.5	NA	NA	NA	NA	NA
Naphthalene	MG/KG	100	NA	NA	NA	NA	NA
Phenanthrene	MG/KG	100	NA	NA	NA	NA	NA
Pyrene	MG/KG	100	NA	NA	NA	NA	NA
Total Polynuclear Aromatic Hydrocarbons	MG/KG	100	NA	NA	NA	NA	NA
Metals							
Arsenic	MG/KG	16	NA	NA	NA	NA	NA
Mercury	MG/KG	0.81	2.2	1.5	2.4	1.4 J	4.0 J
Miscellaneous Parameters							
Moisture, Percent	%	-	13	8.16	6.38	14.2	15.9

*Criteria- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Restricted Residential.

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

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D - Result reported from a secondary dilution analysis. NA - The sample was not analyzed for this parameter.

Detection Limits shown are PQL

**TABLE E-1
SURFACE SOIL ANALYTICAL RESULTS
HEMPSTEAD INTERSECTION STREET FORMER MGP SITE**

Location ID			HISS-03-W	HISS-07	HISS-07-NE	HISS-07-NW	HISS-07-SE
Sample ID			HISS-03-W	HISS-07	HISS-07-NE	HISS-07-NW	HISS-07-SE
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Date Sampled			07/10/09	07/10/09	07/10/09	07/10/09	07/10/09
Parameter	Units	Criteria*					
Semivolatile Organic Compounds							
2-Methylnaphthalene	MG/KG	-	NA	11 D	9.2 D	0.88	25 D
Acenaphthene	MG/KG	100	NA	0.14 J	0.27 J	0.36 U	0.72
Acenaphthylene	MG/KG	100	NA	3.6	6.1	0.31 J	12 DJ
Anthracene	MG/KG	100	NA	1.9	2.7	0.2 J	5.6
Benzo(a)anthracene	MG/KG	1	NA	7.9 D	13 D	0.81	30 D
Benzo(a)pyrene	MG/KG	1	NA	8.3 D	18 D	0.79	31 D
Benzo(b)fluoranthene	MG/KG	1	NA	9.2 D	16 D	0.87	34 D
Benzo(g,h,i)perylene	MG/KG	100	NA	4.4 D	7.3 DJ	0.38	14 DJ
Benzo(k)fluoranthene	MG/KG	3.9	NA	4.3 DJ	6.7 DJ	0.49 J	11 DJ
Chrysene	MG/KG	3.9	NA	10 D	16 D	1.1	41 D
Dibenz(a,h)anthracene	MG/KG	0.33	NA	1.3 DJ	2.5 DJ	0.13 J	4.3 DJ
Fluoranthene	MG/KG	100	NA	6.2	13 D	1.2	36 D
Fluorene	MG/KG	100	NA	0.8	0.8	0.12 J	2.4
Indeno(1,2,3-cd)pyrene	MG/KG	0.5	NA	3.4 DJ	6.5 DJ	0.35 J	12 DJ
Naphthalene	MG/KG	100	NA	14 D	12 D	1.1	30 D
Phenanthrene	MG/KG	100	NA	8.9 D	4.2	0.85	25 D
Pyrene	MG/KG	100	NA	20 D	36 D	2.1	83 D
Total Polynuclear Aromatic Hydrocarbons	MG/KG	100	NA	115.34	170.27	11.68	397.02
Metals							
Arsenic	MG/KG	16	NA	20.1	14.6	2.6	16.1
Mercury	MG/KG	0.81	1.6 J	NA	NA	NA	NA
Miscellaneous Parameters							
Moisture, Percent	%	-	18.2	15.1	16.1	7.69	12.7

*Criteria- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Restricted Residential.

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit. J - The reported concentration is an estimated value.

D - Result reported from a secondary dilution analysis. NA - The sample was not analyzed for this parameter.

Detection Limits shown are PQL

**TABLE E-1
SURFACE SOIL ANALYTICAL RESULTS
HEMPSTEAD INTERSECTION STREET FORMER MGP SITE**

Location ID			HISS-07-SW	HISS-14	HISS-14-NE	HISS-14-NW	HISS-14-SE
Sample ID			HISS-07-SW	HISS-14	HISS-14-NE	HISS-14-NW	HISS-14-SE
Matrix			Soil	Soil	Soil	Soil	Soil
Depth Interval (ft)			0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.0-0.5
Date Sampled			07/10/09	07/11/09	07/11/09	07/11/09	07/11/09
Parameter	Units	Criteria*					
Semivolatile Organic Compounds							
2-Methylnaphthalene	MG/KG	-	160 D	NA	NA	NA	NA
Acenaphthene	MG/KG	100	2.6	NA	NA	NA	NA
Acenaphthylene	MG/KG	100	24 DJ	NA	NA	NA	NA
Anthracene	MG/KG	100	15 DJ	NA	NA	NA	NA
Benzo(a)anthracene	MG/KG	1	120 D	NA	NA	NA	NA
Benzo(a)pyrene	MG/KG	1	31 DJ	NA	NA	NA	NA
Benzo(b)fluoranthene	MG/KG	1	110 D	NA	NA	NA	NA
Benzo(g,h,i)perylene	MG/KG	100	55 D	NA	NA	NA	NA
Benzo(k)fluoranthene	MG/KG	3.9	36 DJ	NA	NA	NA	NA
Chrysene	MG/KG	3.9	160 D	NA	NA	NA	NA
Dibenz(a,h)anthracene	MG/KG	0.33	16 DJ	NA	NA	NA	NA
Fluoranthene	MG/KG	100	180 D	NA	NA	NA	NA
Fluorene	MG/KG	100	5.3	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	MG/KG	0.5	43 D	NA	NA	NA	NA
Naphthalene	MG/KG	100	160 D	NA	NA	NA	NA
Phenanthrene	MG/KG	100	130 D	NA	NA	NA	NA
Pyrene	MG/KG	100	380 D	NA	NA	NA	NA
Total Polynuclear Aromatic Hydrocarbons	MG/KG	100	1,627.9	NA	NA	NA	NA
Metals							
Arsenic	MG/KG	16	13.6	NA	NA	NA	NA
Mercury	MG/KG	0.81	NA	0.095 J	0.11 J	0.22 J	0.090 J
Miscellaneous Parameters							
Moisture, Percent	%	-	14.8	6.28	7.56	13.9	5.83

*Criteria- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Restricted Residential.

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit. J - The reported concentration is an estimated value.
D - Result reported from a secondary dilution analysis. NA - The sample was not analyzed for this parameter.

Detection Limits shown are PQL

TABLE E-1
SURFACE SOIL ANALYTICAL RESULTS
HEMPSTEAD INTERSECTION STREET FORMER MGP SITE

Location ID			HISS-14-SW
Sample ID			HISS-14-SW
Matrix			Soil
Depth Interval (ft)			0.0-0.5
Date Sampled			07/11/09
Parameter	Units	Criteria*	
Semivolatile Organic Compounds			
2-Methylnaphthalene	MG/KG	-	NA
Acenaphthene	MG/KG	100	NA
Acenaphthylene	MG/KG	100	NA
Anthracene	MG/KG	100	NA
Benzo(a)anthracene	MG/KG	1	NA
Benzo(a)pyrene	MG/KG	1	NA
Benzo(b)fluoranthene	MG/KG	1	NA
Benzo(g,h,i)perylene	MG/KG	100	NA
Benzo(k)fluoranthene	MG/KG	3.9	NA
Chrysene	MG/KG	3.9	NA
Dibenz(a,h)anthracene	MG/KG	0.33	NA
Fluoranthene	MG/KG	100	NA
Fluorene	MG/KG	100	NA
Indeno(1,2,3-cd)pyrene	MG/KG	0.5	NA
Naphthalene	MG/KG	100	NA
Phenanthrene	MG/KG	100	NA
Pyrene	MG/KG	100	NA
Total Polynuclear Aromatic Hydrocarbons	MG/KG	100	NA
Metals			
Arsenic	MG/KG	16	NA
Mercury	MG/KG	0.81	0.14 J
Miscellaneous Parameters			
Moisture, Percent	%	-	7.66

*Criteria- 6 NYCRR Part 375.6, Remedial Program Soil Cleanup Objectives, Effective 12/14/06. Protection of Public Health, Restricted Residential.

Flags assigned during chemistry validation are shown.

 Concentration Exceeds Criteria

U - Not detected above the reported quantitation limit. J - The reported concentration is an estimated value.

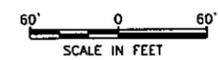
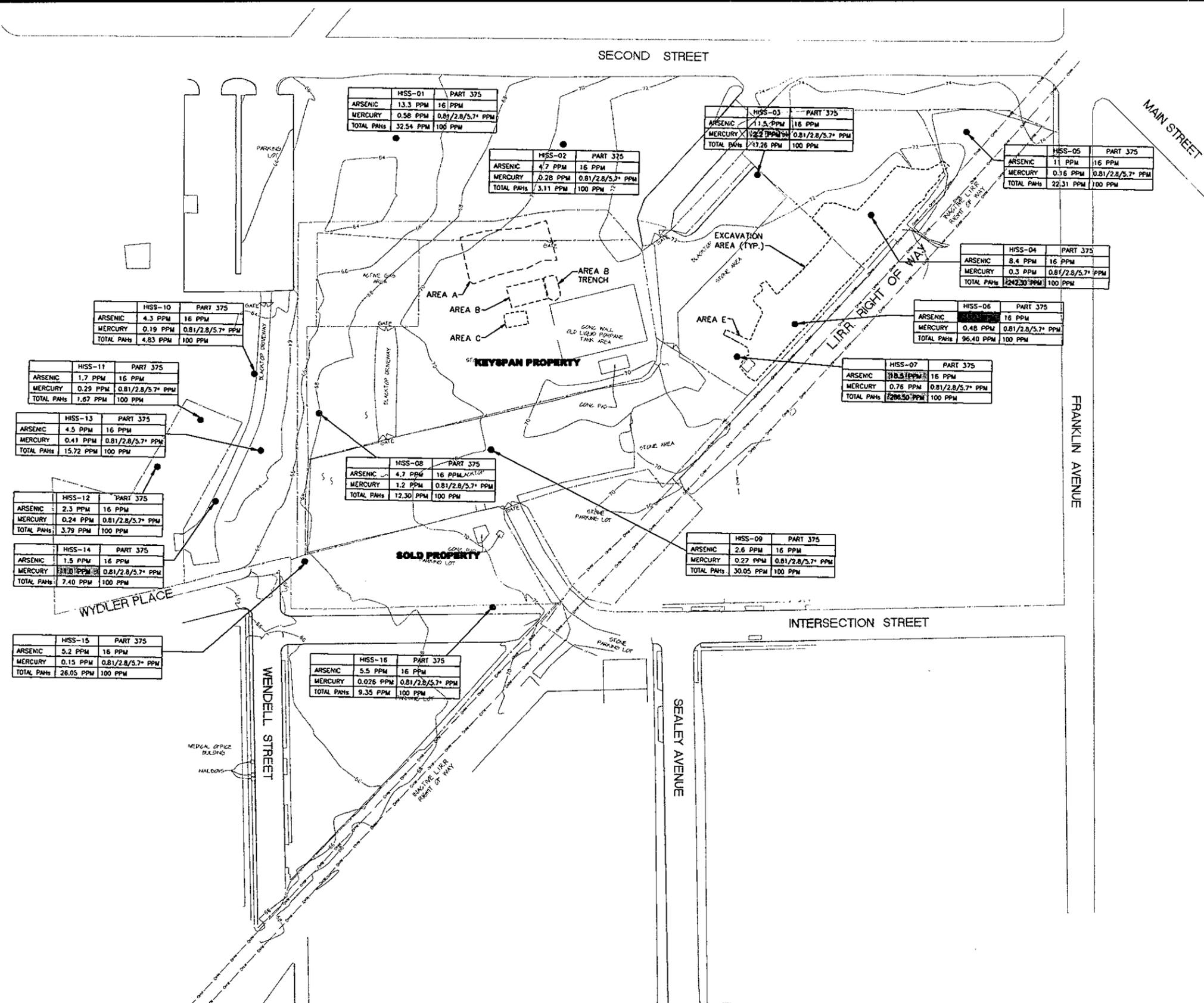
D - Result reported from a secondary dilution analysis. NA - The sample was not analyzed for this parameter.

Detection Limits shown are PQL

FIGURES



- LEGEND:**
- HISS-01 RI SURFACE SOIL SAMPLING LOCATION
 - RESTRICTED RESIDENTIAL/COMMERCIAL/INDUSTRIAL CLEANUP OBJECTIVES
 - ▨ EXCEEDANCE IS WITHIN PROPOSED IRM EXCAVATION AREA
 - ▭ EXCEEDANCE IS WITHIN PROPOSED REMEDIATION AREA
 - ▨ EXCEEDANCE IS OUTSIDE PROPOSED REMEDIATION AREA
 - ▭ IRM EXCAVATION 2008



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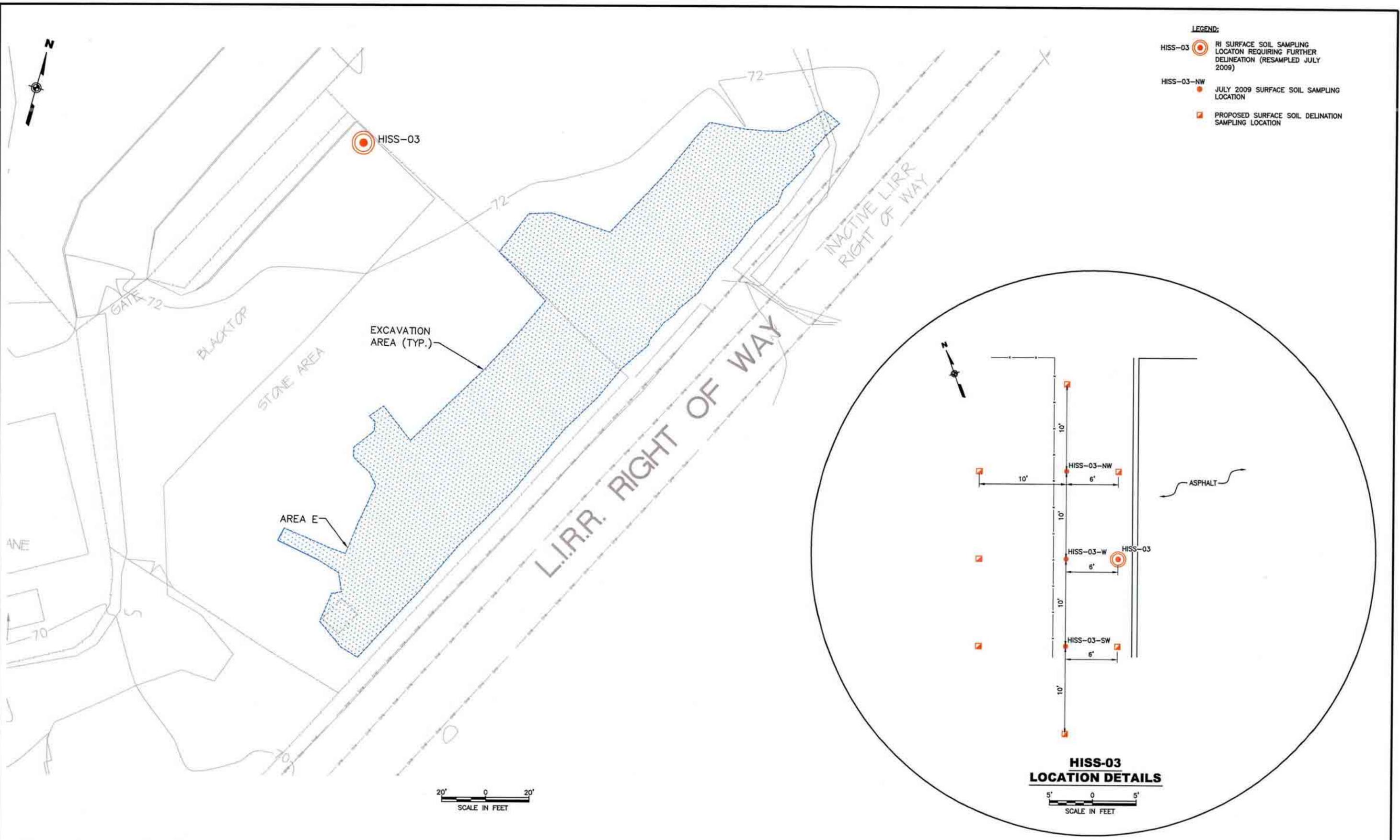
URS Corporation

**KEYSPAN CORPORATION
HEMPSTEAD INTERSECTION STREET
FORMER MGP SITE
GARDEN CITY/HEMPSTEAD, NY**

SURFICIAL SOILS - METALS (RI, 2006)

FIGURE 1

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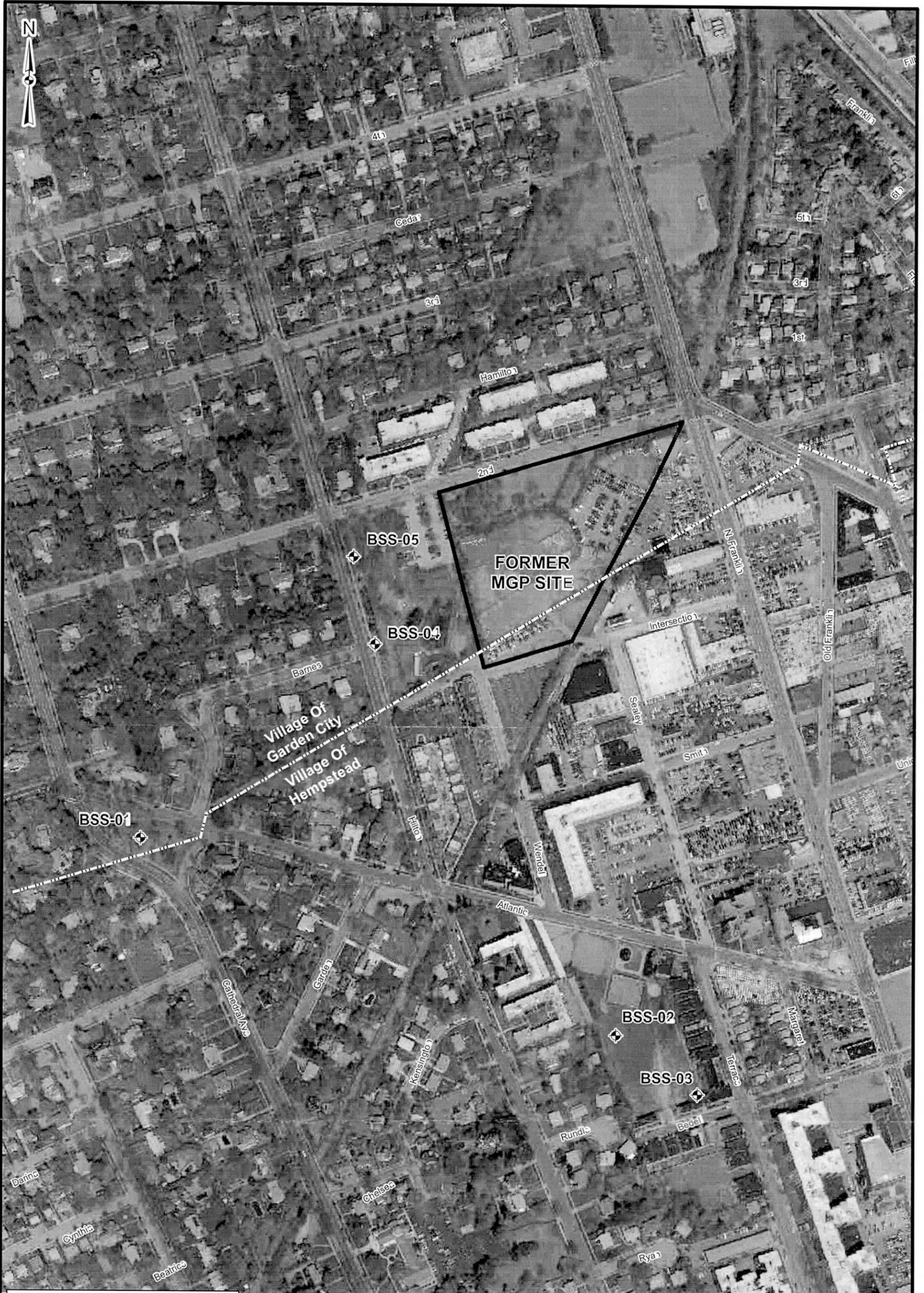


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GARDEN CITY/HEMPSTEAD, NY**

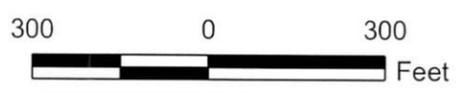
**PROPOSED SURFICIAL SOIL
DELINEATION PLAN
HISS-03 AREA**

FIGURE 2



Legend

-  Proposed Sample Location
-  Site Boundary



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URS

NATIONAL GRID FORMER INTERSECTION STREET MGP SITE
 PROPOSED BACKGROUND
 SURFACE SOIL SAMPLING PLAN

FIGURE 3

ATTACHMENT 1

DATA USABILITY SUMMARY REPORT

(Provided in Electronic Format)