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Fourth Annual Report Interim Remedial Measure for NAPL Recovery

August 2017 Through July 2018
Former Equity Works MGP Site, Brooklyn, New York
NYSDEC Site No.: 224050
Order on Consent Index #: A2-0552-0606
EPA ID number for the Site: NYR 000 225 615

National Grid

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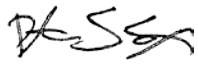	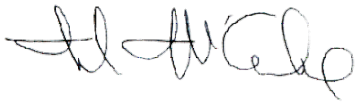
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Executive Summary

National Grid's consultant, AECOM, has prepared this Interim Remedial Measure (IRM) Annual Report to document the fourth year of operation of the non-aqueous phase liquid (NAPL) recovery system within the footprint of the former Equity Manufactured Gas Plant (MGP) site (the Site) located at 254 Maspeth Avenue in Brooklyn, New York during the period of August 2017 through July 2018. The IRM is being conducted pursuant to a Multi-site Order on Consent and Administrative Settlement, Index # A2-0552-0606, between The Brooklyn Union Gas Company (BUG) d/b/a National Grid NY, and the New York State Department of Environmental Conservation (NYSDEC). Details regarding the construction of the NAPL recovery IRM remedy are included in the IRM for NAPL Recovery Construction Completion Report (CCR), submitted to the NYSDEC in May 2015 (AECOM, 2015).

The Site is located in a historically industrialized area and operated as a MGP from approximately 1893 to 1929. BUG acquired the MGP in approximately 1903 and transferred ownership of the Site in 1951. The Site currently consists of three adjoining properties – 222 Maspeth Avenue, 252 Maspeth Avenue, and 254 Maspeth Avenue. The 222 Maspeth Avenue property is used by Cooper Tank as a solid waste recycling facility, with the 252 and 254 parcels used to support Cooper Tank's recycling operations.

The IRM activities included the following:

- installation of 5 recovery wells at appropriate locations within the central areas of the Site to reduce the quantity of NAPL, and at 18 selected perimeter locations to control the potential for off-site migration.
- on-going measurement and recovery of NAPL that collects in the recovery wells.

Data collected to date indicate that NAPL collection rates at 12 of the 23 recovery well locations (2 on-site and 10 perimeter locations) warrant the continued operation of pumps to support automated recovery. The well pumps are controlled with timers that are adjusted, as required, with a goal of containing the NAPL within the sump of each well, but at a level above the inlet to the pump to minimize the collection of groundwater. The remaining 11 wells are managed using manual recovery techniques on a quarterly basis.

Since system startup through July 25, 2018, the system has operated with an average on-line factor of 97% without incidents or unplanned releases from the system. Approximately 19,316 gallons of mixed fluids have been collected from the recovery system and managed as an alternative fuel initially at the Tradebe Facility in Cohoes, New York until March of 2017 and more recently at Veolia Technical Solutions Facility in Middlesex, New Jersey. An estimate of the organic/water ratios over the monitoring period indicates that the mixed fluids collected typically contain 60 to 75% organic, resulting in over 11,500 gallons of NAPL being removed from the site to date.

1. Introduction

National Grid's consultant, AECOM, is submitting this 4th Annual Report outlining the Interim Remedial Measure (IRM) for NAPL Recovery progress during its fourth year of operation. The NAPL recovery system is located within the footprint of the former Equity Works Manufactured Gas Plant (MGP) site (the Site). The Site consists of three adjoining properties – 222 Maspeth Avenue, 252 Maspeth Avenue, and 254 Maspeth Avenue located in Brooklyn, New York. The location of the Site and the orientation of the individual properties are illustrated in Figures 1-1 and 1-2, respectively.

The IRM is being implemented pursuant to a Multi-site Order on Consent and Administrative Settlement, Index # A2-0552-0606, between The Brooklyn Union Gas Company (BUG) d/b/a National Grid NY, and the New York State Department of Environmental Conservation (NYSDEC), in accordance with applicable guidelines of the NYSDEC and the New York State Department of Health (NYSDOH).

This document is organized in the following manner: a summary of activities associated with the initial installation and operation of the recovery wells is presented in Section 2; the results from the fourth year's monitoring activities are documented in Section 3 and proposed revisions to the system's operation and monitoring program are discussed in Section 4.

2. Recovery Well Installation and Operation

National Grid conducted the IRM to collect recoverable NAPL while site-wide investigation and remedial alternative and design activities are completed. The design of the NAPL recovery system included the installation of 23 recovery wells at locations that were determined to have the potential to collect mobile NAPL and be compatible with Cooper Tank's construction and long-term operational activities. Consistent with the NYSDEC approved work-plan (AECOM, 2013), recovery wells were installed in the following areas of the Site:

- On-Site–5 recovery wells (RW-1 through 5) were installed at locations within the 252 Maspeth Avenue property.
- Site Perimeter –18 recovery wells (RW-6 through 23) were installed along the perimeter of the Site on the 222, 252 and 254 Maspeth Avenue properties.

Recovery well locations are shown on Figure 2-1. The perimeter locations are spaced at approximately 18 ft on center, with the exception of the area along the driveway of 254 Maspeth Avenue where the presence of a subsurface structure has required spacing of approximately 30 feet between the three recovery wells (RW-6, -7 and -8). All locations were equipped with the infrastructure, i.e., conduits for electrical service and tubing, for the subsequent automation of NAPL recovery activities.

2.1 Recovery Well Designs

Recovery wells were designed to accommodate the uncertainty of long-term NAPL recovery rates. All well risers were constructed of 6-inch diameter schedule 40 polyvinyl chloride (PVC). Recovery well screens were constructed of 6-inch diameter 0.020-inch slot wire wrap stainless steel. Five (5) and ten (10) foot lengths of screen were used, as required, to address soil intervals where NAPL (i.e., saturated thickness greater than 1-inch) have been observed. Centralizers were installed at the top and bottom of each screen. The screen size was selected based on the grain-size information obtained during the Pre-Design Investigation (PDI). Each well was equipped with a 5-foot long, 6-inch diameter, stainless steel sump to collect NAPL. The annular space above the filter pack was filled with a bentonite seal (minimum of 3 to 4 feet thick). Note that additional bentonite seals were used at locations where multiple screen intervals were installed. The annular space above the bentonite seal was filled with a grout mixture from the bentonite seal to approximately one to two feet below the top of casing (TOC). Each recovery well was completed in a 4-foot by 4-foot traffic rated well vault. Illustrations of an in-place recovery well and completed well location are provided in Figure 2-2.

2.2 Initial Monitoring and NAPL Recovery

The NAPL recovery system is intended to operate in a manner that contains the NAPL levels at the locations within the well sumps (5 ft. in length). As part of the installation of the system, initial monitoring activities were conducted to provide a preliminary estimate of potential collection rates. The results were used to determine which locations would require automation for the cost-effective recovery of NAPL. The monitoring activities provided the ability to group the locations into three categories based on the observed recharge rates. They were grouped as follows: Primary Recovery Wells (produce approximately 1 gallon per day (gpd) of NAPL recovered; Secondary Recovery Wells (approximately 0.1 to 0.5 gpd of NAPL recovered) and Gauging Wells (< 0.1 gpd of NAPL recovered). The distribution of wells within these categories is provided on Table 2-1.

2.2.1 Primary Recovery Wells

The majority of NAPL (approximately 85 percent of total) was collected from the eight primary locations. The manual management of NAPL at these locations would require that recovery activities be conducted on a weekly basis to ensure that the storage capacity of the well sumps (approximately 7.5 gallons) not be exceeded. This frequency of manual monitoring/collection was not thought to be cost-effective or

practical given site access issues and the level of activity on the Cooper Tank facility. As a result, the wells at these eight locations were automated by setting NAPL recovery pumps in the wells.

2.2.2 Secondary Recovery Wells

Approximately fifteen percent of the NAPL was collected from five secondary wells. The manual management of NAPL at these locations would require that recovery activities be conducted on a monthly basis to ensure that the storage capacity of the well sumps is not exceeded. Long-term manual monitoring/recovery at this frequency was not thought to be cost effective, and these locations were also automated by setting NAPL recovery pumps in the wells.

2.2.3 Gauging Wells

NAPL levels at the 10 remaining wells were consistently observed to be within the wells sumps at each location. It was believed that NAPL at these locations could be effectively managed on a quarterly basis using manual recovery techniques. Note that one of the secondary wells (RW-11) was converted to a gauging well during the first year of operation, bringing the total to 11 wells.

2.3 System Operation

Discussions of the recovery/collection methods for the automated and gauging wells are provided below.

2.3.1 Automated Wells

The Primary and Secondary recovery well locations (Figure 2-3) are equipped with fixed speed pumps manufactured by Pump Works and/or Linear Pumps. Note that the equipment designed by Linear Pumps has been determined to be better suited to site conditions and will be used to replace the Pump Works equipment over time. The well pumps are controlled with timers that are adjusted, as required, with a goal of containing the NAPL within the sump of each well, but at a level above the inlet to the pump to minimize the collection of groundwater.

Collected NAPL is accumulated in a 500 gallon capacity double-walled polyethylene tank located above ground in the system's control trailer on the 254 parcel (Figure 2-4). The accumulation tank is equipped with a high liquid level detector to prevent over-filling, as well as secondary containment. The system is equipped with additional alarms and communication equipment to ensure its safe operation.

The contents of the tank are periodically gauged by field staff using the following method:

- The tank is accessed through the topmost access port;
- An interface probe is lowered to the bottom of the tank;
- The probe is left in place for a period of 5 minutes to allow the separate layers of NAPL and water to resolve;
- The probe is slowly raised until the water level is encountered;

The thicknesses of the NAPL and water levels are used to estimate the relative organic/water composition of the mixed fluids.

2.3.2 Gauging Wells

The Gauging Wells are monitored during quarterly inspection activities and accumulated NAPL is recovered using an air lift system that consists of an air compressor and sample line (1 inch outside diameter black iron pipe) that runs from the bottom of the well sump to a closed 55 gallon drum and is operated in the following manner:

- A small stream of compressed air is introduced into the bottom of the sample line through a “T’ connection.
- The upward movement of the air “bubble” creates a vacuum that draws NAPL upward from the sump and into the drum.
- The consistency of the stream is observed until the fluid being removed appears to be clear (i.e., NAPL is no longer being removed). At that point, the air flow is discontinued and the volume of collected NAPL is measured and recorded.

The collected NAPL is stored in sealed drums and collected with the NAPL from the accumulation tank at regular intervals by a certified waste hauler.

3. System Performance

The following discussion provides summaries of NAPL recovery and waste management observations during the fourth year of system operation (August 2017 to July 2018), as well as a discussion of the associated maintenance and response activities.

3.1 NAPL Recovery

Monitoring and recovery activities were conducted on an approximate quarterly basis through the year. The results from the monitoring of the automated and gauging wells are discussed below.

3.1.1 Automated Wells

The results from the gauging activities during the system's operation are summarized in Table 3-1. Adjustments to the pumping rates were generally appropriate to contain NAPL within the sumps of the wells. However, experience during the first four years of operation demonstrate that although general trends of the flow of NAPL to a well can be established, there are short-term variabilities in flow and/or minor mechanical issues (e.g. pump screen clogging, tripped fuses) that can challenge the ability to continually maintain a matching pumping rate. Pump duration adjustments are made on an on-going basis when data indicate NAPL thickness is near or above the sump level in the recovery wells.

Approximately 3,311 gallons of mixed fluids were collected from the system during the fourth year of operation (August 1, 2017 through July 31, 2018). An illustration of the cumulative volume of mixed fluids collected over time is provided in Figure 3-1. From startup through July 2018, approximately 18,855 gallons of mixed fluids have been removed by the system based on readings from the level sensor in the recovery tank. Note that the estimates of total recovered volume presented in Table 3-1 (based on in truck volumes listed on the manifests) can vary slightly from the "tank" level sensor estimate due to the variability over time between the level sensor readings and the "in truck" volumes recorded by the waste hauling company. In the past, observation of the relative proportions of organic/water have been highly variable; however, the use of the standardized protocol presented in the Year 2 Report has provided more consistent results. During Year 4 operations, the observed NAPL to water ratio of collected mixed fluids was approximately 50 to 60% NAPL. A conservative estimate of the organic/water ratios since system startup indicates that the collected material likely contained over 10,300 gallons of NAPL.

3.1.2 Gauging Wells

The 2015-2018 data from the gauging wells is presented in Table 3-2. As indicated, manual recovery on a quarterly basis is appropriate to maintain DNAPL levels within the sumps. During Year 4 operations, approximately 86 gallons of mixed fluids were recovered from the 11 gauging wells.

Figure 3-2 presents a graphical illustration of the trend in DNAPL thickness in the "gauging" recovery wells during the first four years of operation. As illustrated, thicknesses have generally decreased over time with typical variation. This suggests that the collection system is having a potentially significant effect on reducing the quantity of recoverable DNAPL in the areas where the gauging wells are located.

3.2 Waste Management

The collected NAPL was managed as an alternative fuel at the Tradebe Facility in Cohoes, New York until March of 2017 and more recently at Veolia Technical Solutions Facility in Middlesex, New Jersey. A summary of the waste shipments and associated quantities from both the automated and gauging wells is presented in Table 3-3.

The initial shipments of mixed fluids during Years 1 and 2 were managed as a non-hazardous waste in accordance with NYSDEC Guidance DER-4, "Management of Coal Tar Waste and Coal Tar Contaminated Soils and Sediment". From time to time the results from the analysis of the mixed fluids in

the tank indicated a flash point that we greater than 140° F. Although the results were believed to be the result of inconsistencies in sampling and analysis, shipments after February 5, 2016 during Year 2 operations were conservatively managed as a D001 Ignitable Waste using the RCRA ID number for the Site: NYR 000 225 615. Documentation of the shipments for Year 4 operations are provided in Appendix A.

3.3 System Maintenance

There were no significant maintenance issues with the system during the monitoring period. The following maintenance activities were accomplished during the fourth year of operation:

- Periodic cleaning of the system trailer to remove wood dust generated by Cooper Tank recycling operations.
- Quarterly cleaning of recovery well pump intake screens as needed and replacement of vault lid hardware (latches, hinges, etc.) that get damaged by site operations.
- Replacement of the surface vault lid at RW-3 on 252 Maspeth Avenue. The ground surface was also paved at the 252 Maspeth Avenue parcel to support current bus parking operations.

During the current reporting period, the system was on-line 354 days out of a total of 365 days of operation. This reflects an on-line factor of 97%, which is consistent and slightly higher than prior years of operation. The 11 days off-line included several days when the tank was at capacity and the system was shut down to accommodate the schedule for tank pump-outs.

Following the replacement of the surface vault lid at RW-3 and outlined above during Year 4 operations, routine access to this recovery well has been restored.

3.4 Incidents/Unplanned Releases

There were no incidents or unplanned releases during the reporting period.

4. Recommendations for Future Operation

National Grid continues to conduct additional evaluations of recharge rates and the composition of mixed fluids to determine if it will be practical to refine the operation of the system, e.g. transition automated wells to gauging wells, over time.

Starting in June 2014, and continued during various quarterly gauging events, a pilot program was initiated to evaluate the recharge rates for select wells. During the evaluation, NAPL was removed from the well and NAPL thicknesses were monitored periodically over the next 24 hours, with results reported in gallons/day. The results for three wells located along the southern edge of the 252 Maspeth Avenue parcel (RW-18, -19 and -20) and one well along the eastern edge of the 254 Maspeth Avenue parcel (RW-10) are summarized in Figure 4-1. As illustrated, NAPL recharge rates for prior years indicate a decreasing trend, with expected variability.

During Year 3 operations (AECOM, 2017), National Grid conducted a recharge evaluation to evaluate the possibility that the decreasing recharge rates (above) could be associated with “fouling” of the well screens. The results from the evaluation were presented in the Year 3 Annual Report and demonstrated that significant NAPL recharge was noted in all wells, confirming that recovery well screen fouling is not currently an issue.

Data collected in 2018 indicated a continued decrease in NAPL thickness in RW-10, -18 and -19 compared to baseline (2014) levels. The evaluation will be continued at these wells and possibly additional wells during Year 5 operations.

The results of the above actions will be reviewed as part of the next annual report to determine if there is a trend in the rate of NAPL collection and if any modifications to the operation of the system are required.

5. References

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New York State Department of Environmental Conservation (NYSDEC), 2002. Management of Coal Tar Waste and Coal Tar Contaminated Soils and Sediment (DER-4). January 11, 2002.

Tables

Table 2-1
Categories of Recovery Wells
Former Equity Works MGP Site, Brooklyn, New York

Primary Recovery Wells (collection rate < 1 gpd)

Well	Location	
RW-2	252 Parcel	on-site
RW-3	252 Parcel	on-site
RW-10	254 Parcel	perimeter
RW-12	254 Parcel	perimeter
RW-13	254 Parcel	perimeter
RW-18	254 Parcel	perimeter
RW-19	254 Parcel	perimeter
RW-20	254 Parcel	perimeter

Secondary Recovery Wells (collection rates 0.1 to 0.5 gpd)

Well	Location	
RW-8	254 Parcel	perimeter
RW-9	254 Parcel	perimeter
RW-11	254 Parcel	perimeter
RW-21	254 Parcel	perimeter
RW-22	222 Parcel	perimeter

Gauging Wells (collection rate < 0.1 gpd)

Well	Location	
RW-1	252 Parcel	on-site
RW-4	252 Parcel	on-site
RW-5	252 Parcel	on-site
RW-6	254 Parcel	perimeter
RW-7	254 Parcel	perimeter
RW-11	254 Parcel	perimeter
RW-14	254 Parcel	perimeter
RW-15	254 Parcel	perimeter
RW-16	254 Parcel	perimeter
RW-17	254 Parcel	perimeter
RW-23	222 Parcel	perimeter

Note:

[1] Based on data from initial gauging events - May 2013 through February 2014

Table 3-1
NAPL Monitoring and Recovery - Automated Wells
Former Equity Works MGP Site, Brooklyn, New York

Location			Depth of Well (ft.)		Typical Pre-Recovery NAPL Thickness (ft.)	NAPL Thickness (ft)												
	Parcel	Well ID	Design	Measured		7/29/2015	10/15/2015	1/15/2016	4/28/2016	7/28/2016	10/17/2016	1/19/2017	4/6/2017	7/26/2017	10/26/2017	1/19/2018	4/5/2018	7/25/2018
On-Site	252	**RW- 2**	51.00	49.70	12	0.06	5.43	8.98	0.55	3.42	0.20	3.33	0.01	6.05	3.62	8.82	1.38	1.52
		RW- 3	51.00	50.40	14	0.63	4.72	11.74	1.25	3.06	0.50	9.20	6.02	12.04	11.02	13.42	1.11	13.95
Perimeter	254	RW- 8	48.00	46.72	3	0.06	0.15	1.89	0.98	0.10	2.41	3.63	2.05	0.01	0.01	0.01	0.00	2.71
		RW- 9	50.00	48.87	6	0.06	1.73	7.32	13.50	7.78	0.10	4.92	6.30	12.30	0.01	0.01	0.00	0.00
		RW- 10	46.00	45.30	11	0.06	6.25	11.44	3.03	0.20	0.05	6.32	6.60	0.95	0.01	0.01	0.00	0.02
		RW- 11	46.00	45.73	8	---	---	---	---	---	---	---	---	---	---	---	---	0.91
		RW- 12	46.00	45.48	13	4.01	2.65	10.45	10.60	2.25	10.11	1.20	0.01	2.85	2.65	0.75	4.30	5.60
		RW- 13	46.00	45.53	12	0.06	0.35	10.51	6.01	0.1	8.08	5.53	6.2	0.01	0.01	0.01	6.95	10.81
	252	**RW- 18**	50.00	47.50	10	8.80	0.10	trace	0.10	0.10	0.05	0.01	0.01	0.01	0.01	0.01	0.01	3.65
		RW- 19	52.00	50.18	12	0.06	0.1	7.71	0.15	2.72	0.05	5.56	0.01	6.2	0.01	0.01	0.01	0.0
		RW- 20	52.00	50.75	11	9.01	1.8	2.0	1.4	2.2	1.9	2.0	0.0	2.1	2.0	1.2	0.0	1.31
		RW- 21	50.00	49.80	5	0.06	0.1	trace	8.65	0.1	5.97	0.01	0	0	0.01	2.12	1.82	3.70
	222	RW- 22	46.00	42.95	8	1.88	8.34	0.57	0	0.1	0.1	0.01	1.51	0.01	---	0.01	0.01	0.02
Recovered Gallons (cumulative from system startup)						4215	5539	7156	9277	11477	12531	14071	15277	16263	16750	17730	18792	19316
Average Gallons per Day						11.1	12.1	13.1	14.3	15.5	15.3	15.4	15.4	14.8	14.0	13.9	13.9	13.2

Notes:

Bold Primary Recovery Wells

--- Not available. At RW-11, pump transferred to RW-22 during 10/3/14 event
RW-11 converted to a Gauging Well

Recovered Gallons (cumulative) is total amount pumped (based on disposal manifests) and does not include correction factor for NAPL to water ratio

Gallons per Day does not include correction factor for NAPL to water ratio

Table 3-2
NAPL Monitoring and Recovery - Gauging Wells
Former Equity Works MGP Site, Brooklyn, New York

Location			Depth of Well (ft.)		Typical Pre-Recovery NAPL Thickness (ft.)	NAPL Thickness (feet)													Mixed Fluids Quantity Recovered (gal.)											
	Parcel	Well ID	Design	Measured		7/29/2015	10/15/2015	1/15/2016	4/28/2016	7/28/2016	10/17/2016	1/19/2017	4/6/2017	7/26/2017	10/26/2017	1/19/2018	4/5/2018	7/25/2018	7/29/2015	10/15/2015	1/15/2016	4/28/2016	7/28/2016	10/17/2016	1/19/2017	4/6/2017	7/26/2017	10/26/2017	1/19/2018	4/5/2018	7/25/2018
On-Site	252	RW- 1	45.00	43.35	3	1.75	1.71	2.11	0.70	1.50	0.98	1.55	0.01	1.66	1.02	0.95	1.00	1.52	4.0	4.0	8.0	3.0	5.0	5.0	5.0	0.0	5.0	3.0	3.0	2.0	4.0
		RW- 4	51.00	49.91	trace	5.22	1.00	trace	trace	trace	0.05	0.01	0.01	0.06	0.00	0.01	0.01	0.02	10.0	---	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0
		RW- 5	47.00	44.45	2	0.65	0.53	trace	0.80	1.23	0.05	0.01	0.01	0.00	0.01	0.01	0.01	0.02	2.0	3.0	0.0	3.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perimeter	254	RW- 6	47.00	45.72	3	2.40	2.11	3.25	2.57	2.91	2.67	3.75	2.55	2.95	3.23	2.85	2.00	2.33	5.0	4.0	6.0	7.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0	6.0	4.5
		RW- 7	48.00	46.05	1	0.06	1.10	0.20	0.25	---	---	---	1.46	0.75	0.01	0.54	1.30	0.60	0.0	3.0	0.0	4.0	---	---	---	0.0	3.0	0.0	2.0	3.0	2.0
		RW- 11	46.00	45.73	4	1.75	1.93	2.23	0.80	2.25	1.33	2.20	1.22	2.85	1.30	0.80	0.80	0.91	4.0	6.0	5.0	2.0	6.0	3.5	5.0	3.5	4.0	3.0	3.0	3.0	4.0
		RW- 14	45.00	45.13	trace	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		RW- 15	45.00	43.72	trace	0.00	0.0	0.0	---	trace	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		RW- 16	50.00	49.72	1	0.06	1.13	trace	---	---	---	0.56	0.0	0.0	0.0	1.7	1.81	0.02	0.0	4.0	0.0	---	---	---	0.0	0.0	0.0	0.0	0.0	5.0	0.0
		RW- 17	48.00	49.60	6	4.34	4.01	4.42	4.40	4.42	3.55	3.72	3.20	4.67	4.03	3.14	2.90	4.65	8.0	8.0	8.0	12.0	10.0	6.0	12.0	7.0	9.0	7.0	7.0	6.0	8.0
	222	RW- 23	44.00	41.69	2	0.87	0.94	trace	---	---	---	---	0.01	0.01	---	---	---	---	0.0	0.0	0.0	---	---	---	---	0.0	0.0	---	0.0	0.0	---
																		Total	33.0	32.0	27.0	31.0	33.0	21.5	29.0	17.5	32.0	18.0	20.0	25.0	22.5
																		Cumulative from System Startup	160.0	192.0	219.0	250.0	283.0	304.5	333.5	351.0	383.0	401.0	421.0	446.0	468.5

Notes:
RW-11 converted to a Gauging Well during 10/3/14 event
No manual gauging and removal during June 2015 due to time/access limitation
--- = Unable to access due to ongoing Cooper Tank site operations or equipment blocking recovery well that could not be moved

Table 3-3
Summary of Waste Management
Former Equity Works MGP Site, Brooklyn, New York

Date	Quantity Shipped (gallons)
6/8/2015	466
6/24/2015	490
7/9/2015	550
7/24/2015	437
8/17/2015	493
9/10/2015	335
9/29/2015	496
10/22/2015	617
11/18/2015	550
12/22/2015	450
2/5/2016	581
2/19/2016	545
3/11/2016	462
4/5/2016	533
5/2/2016	540
5/31/2016	625
6/27/2016	495
7/25/2016	540
9/1/2016	540
10/6/2016	514
11/10/2016	550
12/14/2016	500
1/12/2017	490
3/10/2017	553
4/6/2017	653
5/22/2017	520
7/28/2017	466
9/29/2017	487
11/17/2017	495
12/22/2017	485
2/15/2018	571
4/6/2018	491
6/29/2018	524

Note: Shipments prior to June 2015 not included on table.

Figures

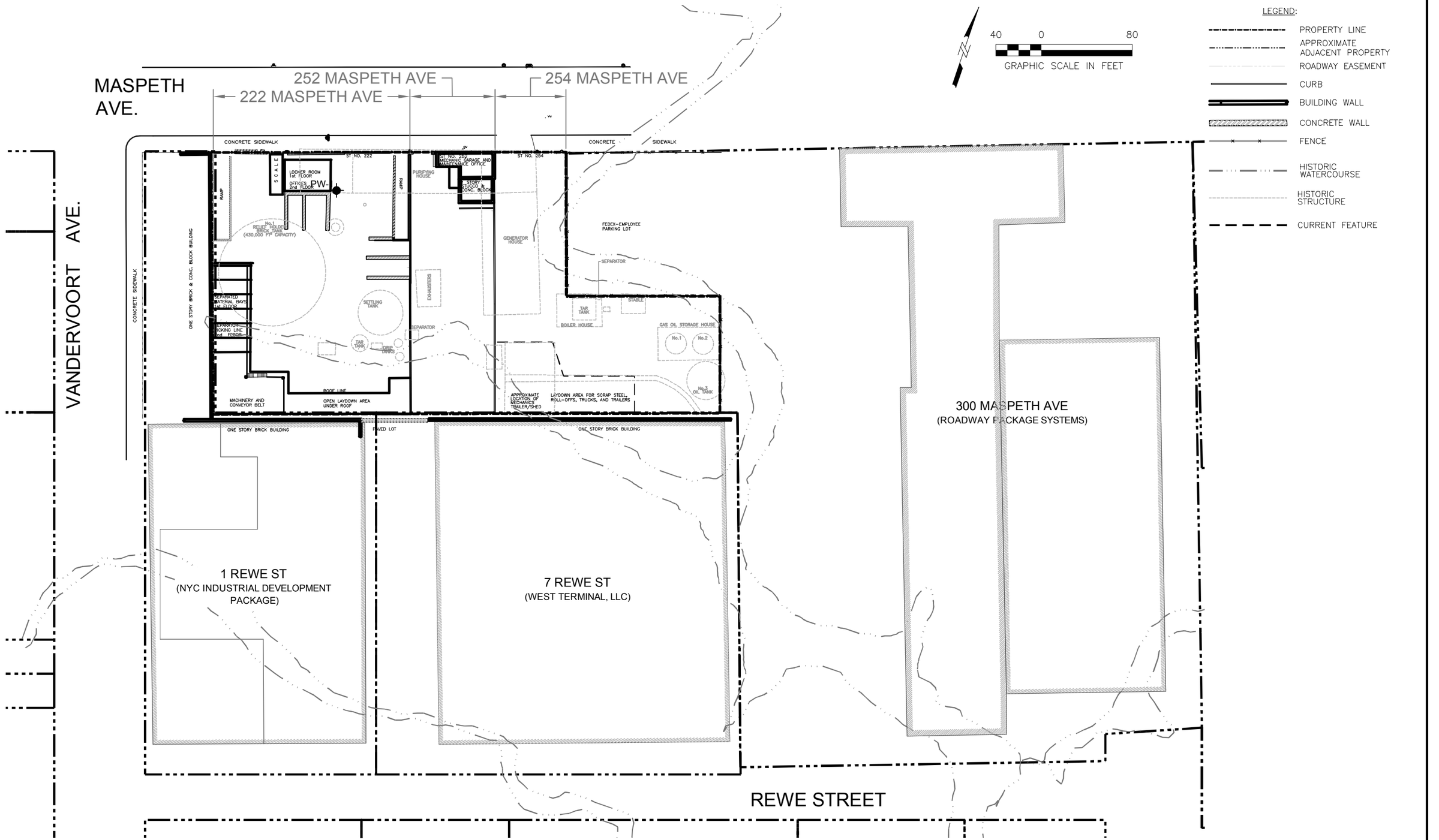
AECOM

NATIONAL GRID
FORMER EQUITY WORKS MGP SITE,
BROOKLYN NY

SITE LOCATION

DATE: 12/2012	DRWN: BcV/C-MA			**FIGURE 1-1**

File: J:\Rem_Eng\Project Files\National Grid\1765-076 Equity Former MGP\7.2 CADD & GIS\2012-IRM_PRODUCT-RECOVERY\WorkPlan_figures\60137362-660-A1.dwg Layout: Site LocUSGSphoto User: vershonb Plotte



AECOM

NATIONAL GRID FORMER EQUITY WORKS MGP SITE, BROOKLYN NY 60137362-400			SITE PROPERTIES
DATE: 12/2012	DRWN: BcV/C-MA		FIGURE 1-2

File: J:\Rem_Eng\Project Files\National Grid\1765-076 Equity Former MGP\7.2 CADD & GIS\2012-IRM_PRODUCT-RECOVERY\WorkPlan_figures\60137362-660-A1.dwg Layout: Site Limits User: vershonb Plotted: Dec 1

252 MASPETH AVE

254 MASPETH AVE

222 MASPETH AVE

SB-30
NP

MW-8B
SB-20
-32.69

PW-1

SB-8
SR

SB-13
SR

SB-14B
-31.12

SB-14A

HOLDER
BOTTOM
-12.71

SB-9
-26.96**

SB-10
-33.26

SB-19
NP

MW-2B
SB-2B
-36.59

PDI-1
-35.37

RW-01

SB-15
-39.59

RW-02

MW-15B
SB-29
-34.61

RW-03

MW-5B
SB-5
-33.36

RW-04

RW-05

MW-14B
SB-21
-32.47

RW-23

RW-22

RW-21

RW-20

RW-19

RW-18

PDI-8
-32.51

RW-06

RW-07

RW-08

PDI-2
-33.55

SCALE

RW-09

MW-3B
SB-3B
-35.88

SB-3C

RW-10

PDI-3
-34.85

RW-11

RW-12

RW-13

SB-16C
-31.06

RW-14

PDI-4
-34.08

PDI-5
-34.35

RW-15

RW-16

SB-12B
NA

SB-11
-31.39

RW-17

PDI-6
-31.70

SB-22
-27.36

SB-26/
MW-12(B C)
-29.08

SB-18
-31.05

SB-7B
NA

MW-4B
SB-4
-39.06

MW-7B
SB-17
-33.18

-28
-30
-32
-34
-36
-38

LEGEND:

- PROPERTY LINE
- APPROXIMATE ADJACENT PROPERTY
- ROADWAY EASEMENT
- CURB
- BUILDING WALL
- CONCRETE WALL
- FENCE
- HISTORIC WATERCOURSE
- HISTORIC STRUCTURE
- CURRENT FEATURE
- PW-1 — ON-SITE PUMPING WELL
- SB-4 — RI SOIL BORING
- MW-1 — RI MONITORING WELL
- PDI-1 — PDI SOIL BORING
- CLAY SURFACE ELEVATION CONTOUR (FT NAVD 88) DASHED WHERE INFERRED
- INTERPRETED LIMITS OF INTERMEDIATE CLAY UNIT
- -39.05 — OBSERVED CLAY ELEVATION (FT NAVD 88)
- ** — CLAY ELEVATION FROM SB-9 NOT USED
- SR — SHALLOW REFUSAL
- NP — INTERMEDIATE CLAY NOT PRESENT
- LOCATION OF ON-SITE RECOVERY WELLS
- LOCATION OF PERIMETER RECOVERY WELLS
- WALL FOOTER

20 0 40

GRAPHIC SCALE IN FEET

NOTES:

1. Final locations of proposed recovery wells will be reviewed with COOPER TANK to address facility operations and structures.

AECOM

NATIONAL GRID FORMER EQUITY WORKS MGP SITE, BROOKLYN NY 60137362-400			**LOCATIONS OF ON-SITE AND PERIMETER RECOVERY WELLS**
DATE: 12/11/12	DRWN: BcV/C-MA		**FIGURE 2-1**

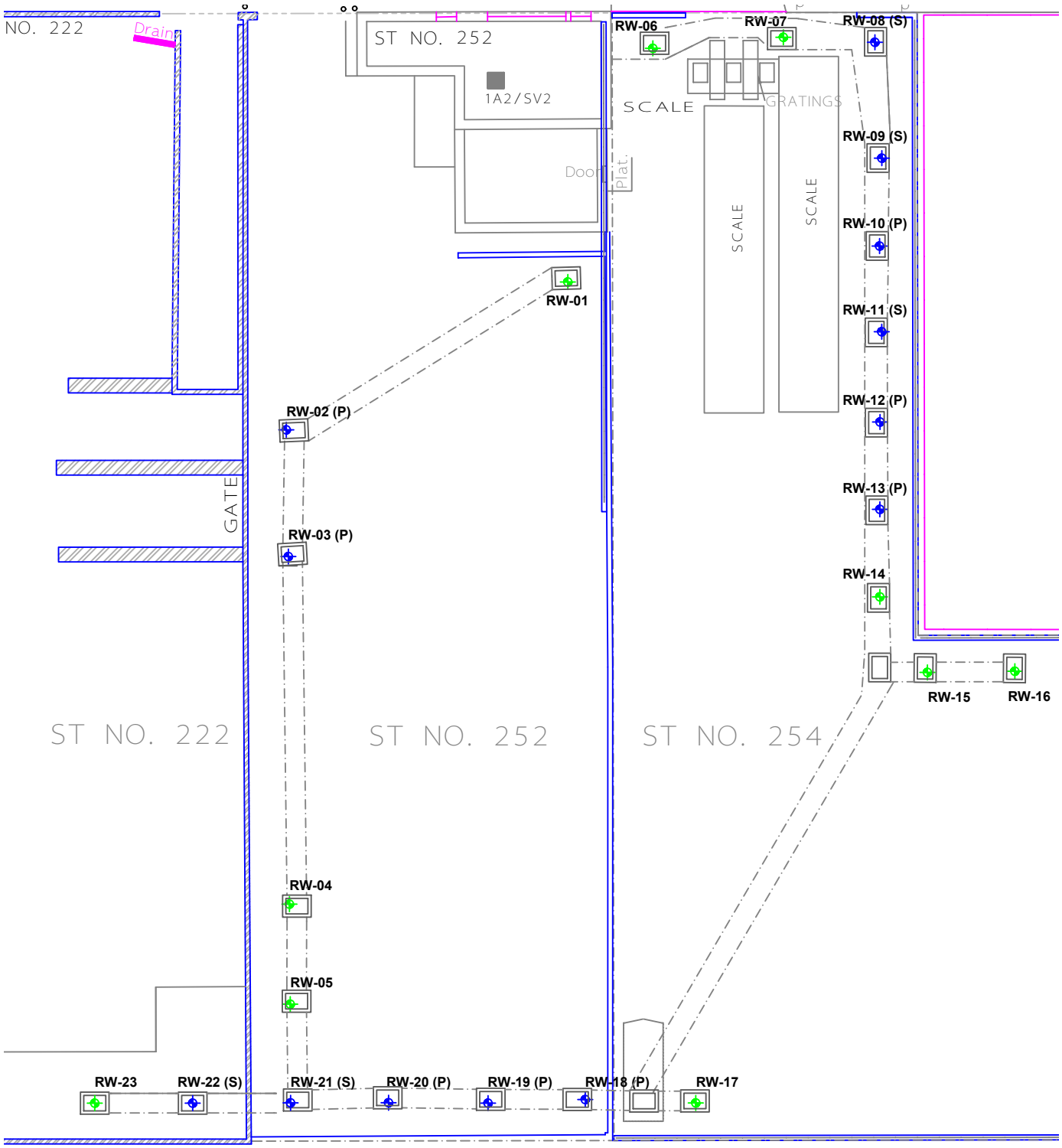
File: J:\Rem_Eng\Project Files\National Grid\1765-076 Equity Former MGP\7.2 CADD & GIS\2012-IRM_PRODUCT-RECOVERY\WorkPlan_figures\60137362-660_A5.dwg Layout: Layout1 User: vershonb Plotted: Dec 11, 2

AECOM

NATIONAL GRID
FORMER EQUITY WORKS MGP SITE,
BROOKLYN, NY
60137362.660

COMPLETED WELL LOCATION

Figure 2-2



LEGEND

RW-02 (P) AUTOMATED WELLS - PRIMARY (APPROX. COLLECTION RATE > 1 GPD)

RW-08 (S) AUTOMATED WELLS - SECONDARY (APPROX. COLLECTION RATE 0.5-0.1 GPD)

RW-01 GAUGING WELLS (APPROX. COLLECTION RATE < 0.1GPD)

15 0 30

GRAPHIC SCALE IN FEET

AECOM

NATIONAL GRID
FORMER EQUITY WORKS MGP SITE,
BROOKLYN NY
60137362.660

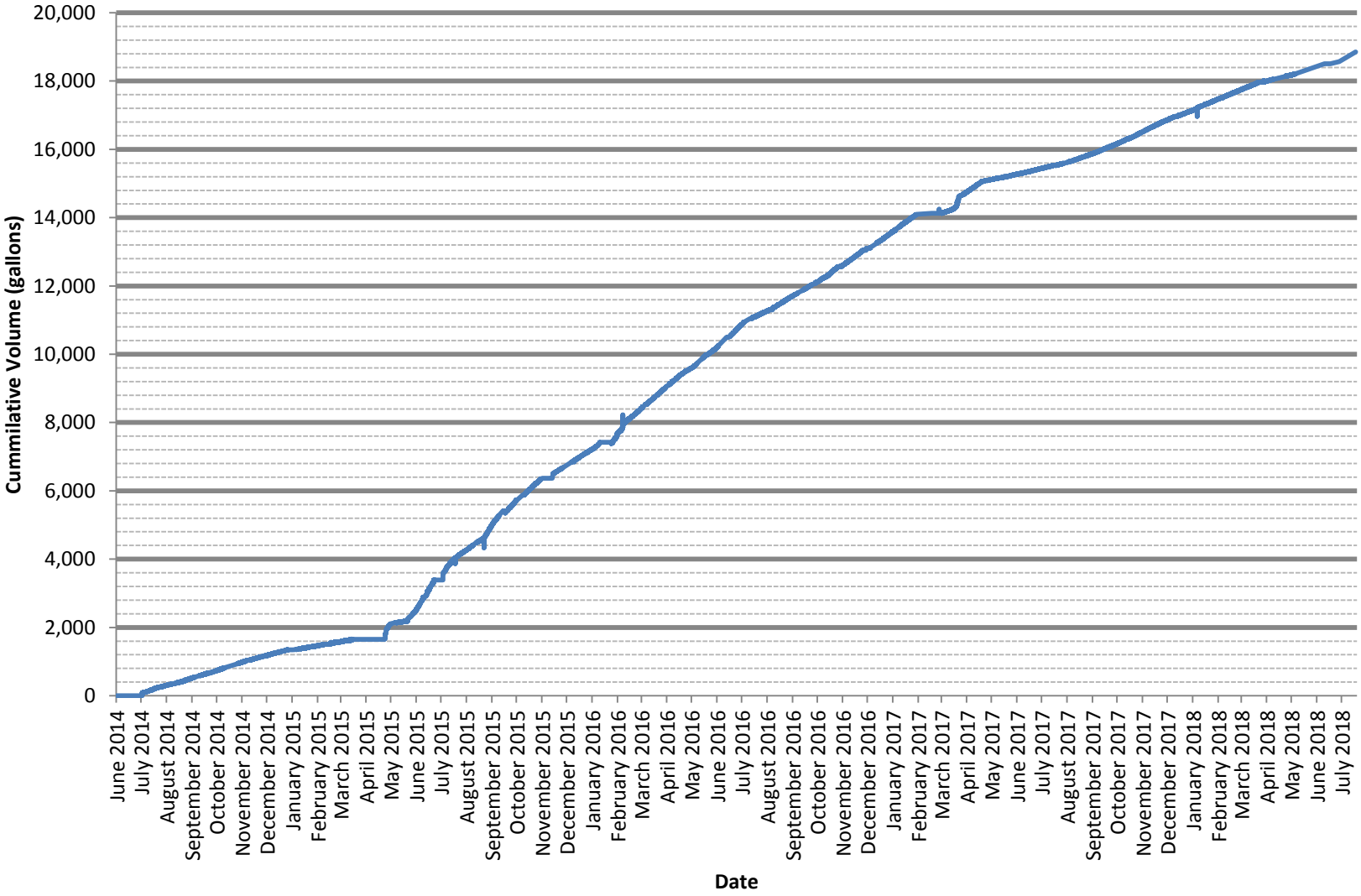
LOCATION OF AUTOMATED WELLS

DATE: 10/30/2013 | DRWN: BcV/C-MA

FIGURE 2-3

AECOM	**NATIONAL GRID** **FORMER EQUITY WORKS MGP SITE, BROOKLYN, NY** **60137362.660**	CONTROL TRAILER **Figure 2-4**

Figure 3-1
Cumulative Volume of Mixed Fluids Collected
IRM for NAPL Recovery
Former Equity Works MGP Site



Note: Mixed Fluids are estimated to contain 60% NAPL

Figure 3-2
NAPL Thickness Versus Time - Gauging Wells
Former Equity Works MGP Site, Brooklyn, New York

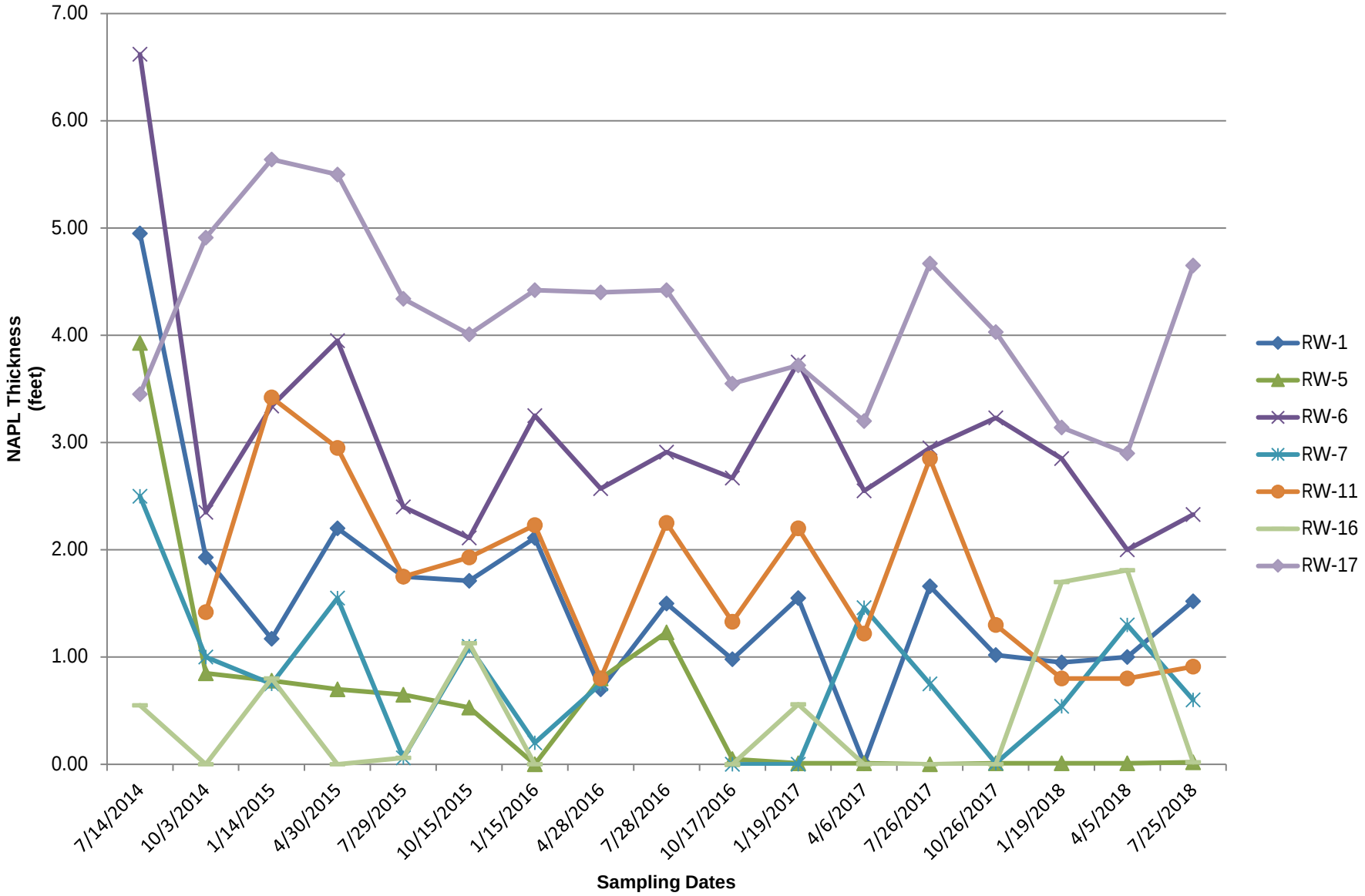
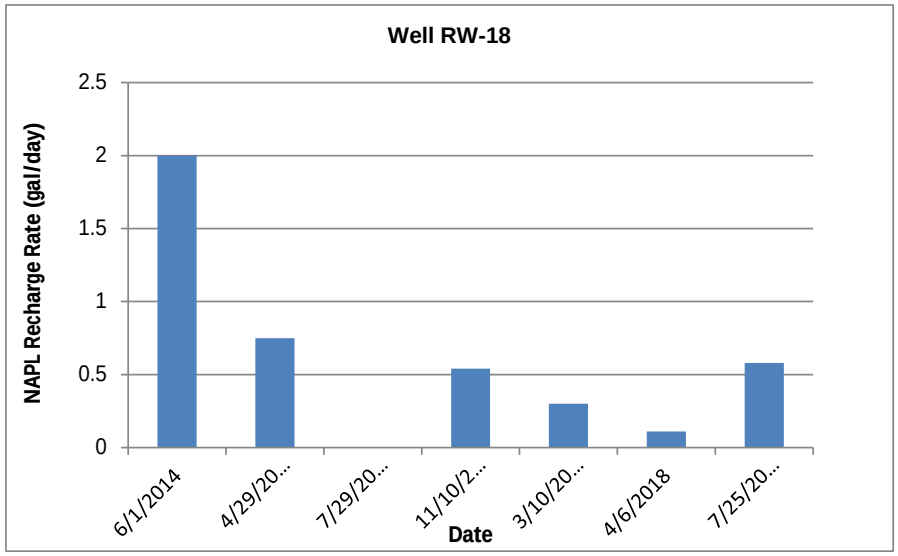
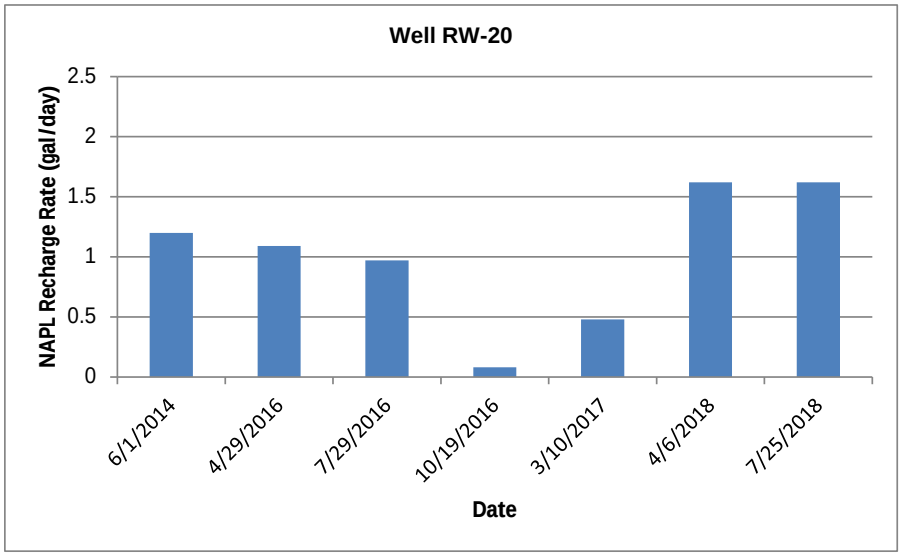
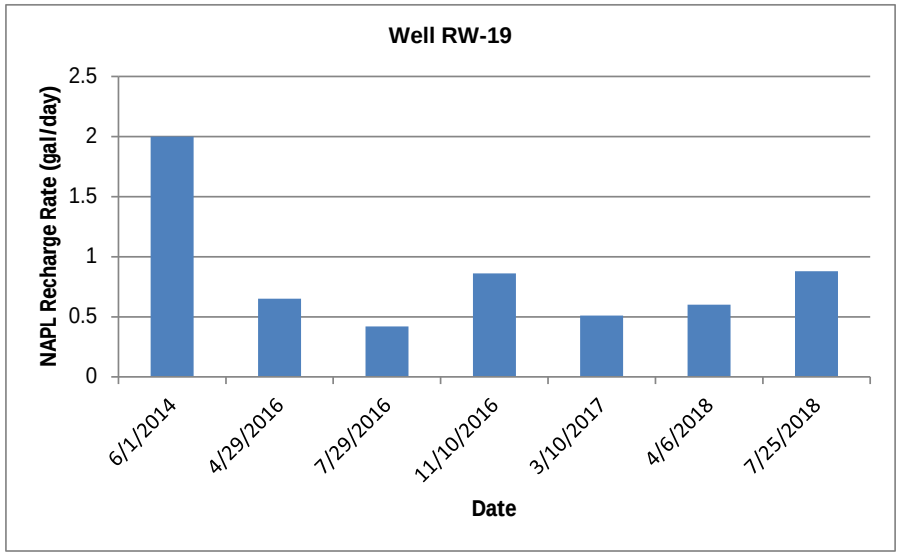
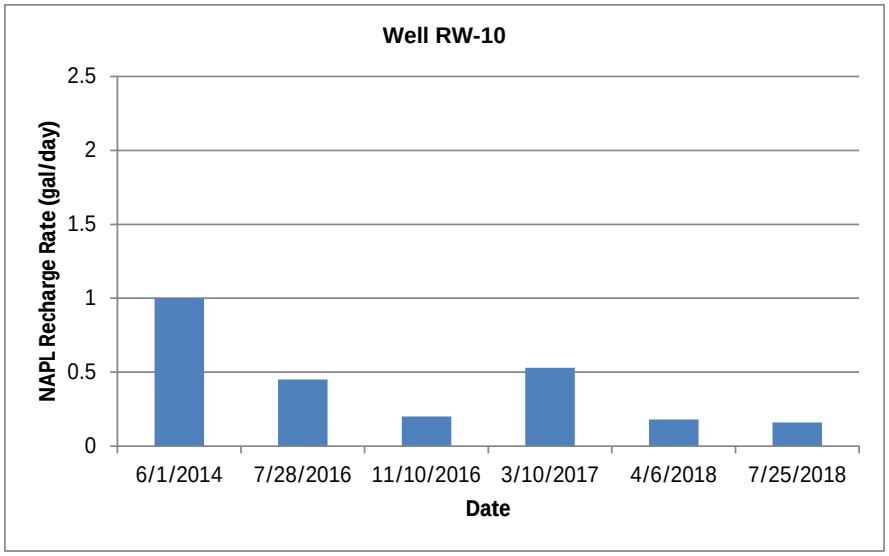


Figure 4-1
NAPL Recharge Rates Versus Time - Automated Wells
Former Equity Works MGP Site, Brooklyn, New York









Appendix A Waste Disposal Documentation

VEOLIA
ENVIRONMENTAL
SERVICES
Technical Solutions

CUSTOMER INVOICE	
INVOICE DATE	INVOICE NUMBER
5/29/2018	812837900
2%10 Net 30	

For Billing Inquiries
Call KEITH REED at 1 (973) 347-7111

Customer No. 487403

BILL TO: NATIONAL GRID
175 E. OLD COUNTRY ROAD
SITE B
HICKSVILLE, NY 11801
JOSEPH ODIERNA

Generator No. 640920

JOB SITE: EQUITY WORKS MGP SITE
254 MASPETH AVE
BROOKLYN, NY 11211
BRIAN BERMINGHAM

MANIFEST NUMBERS:
A 001302937VES

CUSTOMER P.O. NUMBER	SERVICE DATE RANGE	TERR.
3200301635	04/06/2018	N05

	DESCRIPTION		UOM	QTY	UNIT PRICE	EXTENSION
101578	COAL TAR CONTAMINATED WATER	MAR	GAL	491.00	$3.25	$1,595.75
Trans.	ENVIRON. TRANSPORT GROUP INC.	MAR	TANKTR	1.00	$1,350.00	$1,350.00
Misc.	TANK CLEANING		EACH	1.00	$495.00	$495.00
Misc.	TOLLS		EACH	1.00	$275.00	$275.00
Misc.	STATE REGULATORY FEES		EACH	1.00	$20.00	$20.00
					TOTAL	$3,735.75

Veolia ES Technical Solutions LLC is permitted for and has capacity to accept waste listed above in container quantities.
ALL PAST DUE AMOUNTS WILL BEAR INTEREST AT 1.5% PER MONTH OR THE MAXIMUM RATE ALLOWED BY LAW, WHICHEVER IS LESS.

PLEASE REMIT TO: PO BOX 73709, CHICAGO, IL 60673-7709

VEOLIA

Activity Report

JOB NO: 3024534000 WO NO: 3024534000
BILL DOC NO HN80320704 EPA ID: NYR000225615
GENERATOR NO 640920

BILL TO: NATIONAL GRID
175 E OLD COUNTRY RD
HICKSVILLE, NY 118014257
(516) 545-2255

JOB SITE: EQUITY WORKS MGP SITE
254 MASPETH AVE
BROOKLYN, NY 11211
(516) 545-2586

CONTACT: JOSEPH ODIERNA

CONTACT: WILLIAM RYAN, PROJECT MANAGER

MANIFEST NUMBER(S):
001302937VES

CUSTOMER P.O. NUMBER	PROJECT NUMBER	SHIP DATE	TERR.
		04/06/2018	N05

DESCRIPTION	# CONT.	CONT./CODE	QTY	UOM	PG/LN	WASTE AREA
Manifest # 001302937VES WP 101578 / Approval MARBULK5 COAL TAR CONTAMINATED WATER	1	VACTRU-TT	520	G	1 / 1	
04/06/2018 Misc. - STATE REGULATORY FEES (EACH)		4419	1	EACH		

Total Hours: 0
# of Containers: 1

Comments:

Signature: _____

Print Name: _____

Veolia Environmental Solutions is permitted for and has capacity to accept waste listed above in container quantities.

FORM# VES-6

Veolia Environmental Services

125 Factory Lane Middlesex, NJ 08846
(732) 469-5100

Weigh Ticket

Date Scheduled: 04/06/2018 16:00:00
Customer Name: EQUITY WORKS MGP SITE
Transporter: ENVIRONMENTAL TRANSPORT GROUP,INC.
Trailer #: TW195

Weigh Ticket #: 205299
Order Number: 228424
OrderType: WR
Weighing Tractor: YT6

General Notes

Type	Weight	U of M	Date		Capture Type	Specific Weighing Notes
Gross	37,640	Lb	4/10/18	2:14 pm	Manual	missed capture
Tare	32,900	Lb	4/10/18	2:15 pm	Manual	missed capture
Net:	**4,740.00**	Lb				

VEOLIA

PACKING SUMMARY

Generator Number: 640920
EQUITY WORKS MGP SITE
254 MASPETH AVE
BROOKLYN, NY 11211
Attn: WILLIAM RYAN, PROJECT MANAGER
EPA ID:NYR000225815

Manifest Number: 001302937VES
Field System ID: HN
Work Order Number: 3024534000
Date Shipped: 04/06/2018

Container#: HN-3024534000-001 Waste Area: Manifest Page/Line: 01 / 1

WP: 101578 DisposalCode: MARBULK5 PHY State: L

Date Accumulated: 04/06/2018 Gen Drum ID:

Shipping Name: UN1993, WASTE FLAMMABLE LIQUIDS, n.o.s., (BENZENE, PETROLEUM DISTILLATES), 3, II, RQ (D001,D018)

No. of Commons: 01 Outer Container: VACTRU-TT Inner Container:

Primary Waste Codes: D001,D018,B PCB Serial #: ODS Date: / /

Total Cmns Wt: 5000 SIC: 1389 Source: G49 Form: W606 System: H061 Cubic Ft.: 625.00

Individual Common Weights: 1 @ ~~5000~~ 520 (GALLONS)

Units	Container Size	Net Weight	Chemical Name	EPA/State Codes
1	TANKTR		BENZENE [21000B] NAPHTHALENE [57000B] TOLUENE [12000B] COAL TAR CONTAMINATED WATER [95%] MAY CONTAIN SOME COAL TAR SOLIDS [5%]	D001, D018, B

520 gal

FORM# VES-6

Veolia Environmental Services
Routing Summary

Trip Ticket # 179174 Printed by: MARY GASKILL Print Date: 3/20/2018 Print Time: 7:51:52AM
Created by: MGASKILL

Leg # 1

Departs: 7:00AM 4/6/2018 Arrives: 4:00PM 4/6/2018

From: 640920 - EQUITY WORKS MGP SITE
254 MASPETH AVE
BROOKLYN, NY 11211

At: 001-800 - VEOLIA - MIDDLESEX
125 FACTORY LANE
MIDDLESEX, NJ 08846

SR #: 372312

Trailer #:

Manifest 001302937VES

Contact: ~~WILLIAM RYAN, PROJECT MANAGER~~ Phone: ~~540-545-8536~~ Brendan Maye 617-784-3665

Pickup Comments:
ETGI On Site Between 7 & 7:30 am, delivers to Veolia, Middlesex at 4 pm on April 6th.

Delivery Comments:
Confirmed Delivery into Middlesex at 4 pm with Karen Fischer.

Transporter: **Tractor #** **Driver(s):**

ENVIRON. TRANSPORT GROUP INC.
GOLDMINE ROAD

FLANDERS, NJ 07836

Phone: 973 347 8200

Purchase Order #:

Equipment Type: Tanker Straight Vac

Additional Instructions:

228424

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NYR000225615
2. Page 1 of: 1
3. Emergency Response Phone: (877) 818-0087
4. Manifest Tracking Number: 001302937 VES

5. Generator's Name and Mailing Address: JOE ODIERNA
EQUITY WORKS MGP SITE
175 E. OLD COUNTRY ROAD
HICKSVILLE, NY 11801
Generator's Phone: 516 545-2586

Generator's Site Address (if different than mailing address)
254 MASPETH AVE
BROOKLYN, NY 11211

6. Transporter 1 Company Name: ENVIRON. TRANSPORT GROUP INC.
U.S. EPA ID Number: NJD000692061

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: VEOLIA ES TECHNICAL SOLUTIONS
125 FACTORY LANE
MIDDLESEX, NJ 08846
U.S. EPA ID Number
Facility's Phone: 732 469-5100
NJD003454544

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. UN1993, WASTE FLAMMABLE LIQUIDS, n.o.s., (BENZENE, PETROLEUM DISTILLATES), 3, II, RQ (D001,D018)	1	T T	520	G	D001 D018	B	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
TAR CONTAMINATED WATER ER Service Contracted by VESTS -|- 1) LINE1 WIP101578 - MARBULK5 COAL

Trlr 195

16. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Agent for National Grid Brendan Mayr
Signature: Brendan Mayr
Month 04 Day 06 Year 18

INTL

18. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Sahian
Signature:
Month 04 Day 06 Year 18
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H061 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: David Solcelar
Signature:
Month 04 Day 06 Year 18

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

VEOLIA ES LAB CODING: "S" Codes

Piece Count: 1

BULK SHIPMENT - Single Generator

Page: 1 of 1

Received: **4/6/2018**

Order Number: **WS 228424**

Bill To: **VEOLIA ES TECHNICAL SOLUTIONS, LLC (NJD080631369)**

PO: **NJ**

Broker: **VEOLIA ES TECHNICAL SOLUTIONS, LLC (NJD080631369)**

Trailer Number: **TW195**

Carrier: **ENVIRONMENTAL TRANSPORT GROUP,INC. (NJD000692061)**

Weigh Ticket: **205299**

DELIVERY TYPE: Customer delivery to Facility

All Bulk manifests need to reflect the actual received quantity by weight noted in Section 18 of the manifest.

EQUITY WORKS MGP SITE NYR000225615 (32409)

MANIFEST: 001302937VES

RESPIRATOR REQUIRED

100-32409-1 101578 WIP: 101578

One TT - 520.00 Gallons

520.00 Gallons	1.0000	S162 7122 Actual BC:MARFS (Profile:MARBULK5) 4740(net lbs) / 8.333 / 1.1590 SG = 491 Gls
Subtotals, for Manifest: 520.00	1.0000	
TOTAL, All Generators	**1.0000**	

Printed: **4/11/2018**

QC Report

Date	Code Nbr	SampleNbr	Broker	Generator	Ship To
1/6/2018	S162-7122	18096-00040	VEOLIA ES TECHNICAL SOLUTIONS, LLC	EQUITY WORKS MGP SITE	

OP #	Ord# -	LR#	Fuel Lot#	Still Run	Source Tank	Dest.			Gals
	228424				TW195	T-221	S162	520 gal	520 / B

CHARACTERISTICS

Test Method	ASIS S162-7122
SP GR	1.159
Color	black
H2O solubil	0
KF%	52.01
pH	7
BTU/#	9452
BTU/gal	91211.80
Lbs/gal	9.65
Ash	0.07
Cl%	0.14
Peroxide ppm	0

METALS

Name	Code	PPM	Msg

DISTILLATION

Date	Code Nbr	SampleNbr	Broker	Generator	Ship To
1/6/2018	S162-7122	18096-00040	VEOLIA ES TECHNICAL SOLUTIONS, LLC	EQUITY WORKS MGP SITE	

OP #	Ord# -	LR#	Fuel Lot#	Still Run	Source Tank	Dest.		Gals	
	228424				TW195	T-221	S162	520 gal	520 / B

COMPOSITION

Chemical	Weight %	Volume %	Normalized Weight %

PCBs

PCB	Code	PPM	Msg

VEOLIA
ENVIRONMENTAL
SERVICES
Technical Solutions

CUSTOMER INVOICE	
INVOICE DATE	INVOICE NUMBER
7/27/2018	817915734
2%10 Net 30	

For Billing Inquiries
Call KEITH REED at 1 (973) 347-7111

Customer No. 487403

BILL TO: NATIONAL GRID
175 E. OLD COUNTRY ROAD
SITE B
HICKSVILLE, NY 11801
JOSEPH ODIERNA

Generator No. 640920

JOB SITE: EQUITY WORKS MGP SITE
254 MASPETH AVE
BROOKLYN, NY 11211
BRIAN BERMINGHAM

MANIFEST NUMBERS:
A 001363771VES

CUSTOMER P.O. NUMBER	SERVICE DATE RANGE	TERR.
3200301635	06/29/2018	N05

	DESCRIPTION		UOM	QTY	UNIT PRICE	EXTENSION
101578	COAL TAR CONTAMINATED WATER	MAR	GAL	524.00	$3.25	$1,703.00
Trans.	ENVIRON. TRANSPORT GROUP INC.	MAR	TANKTR	1.00	$1,350.00	$1,350.00
Misc.	TANK CLEANING		EACH	1.00	$495.00	$495.00
Misc.	TOLLS		EACH	1.00	$275.00	$275.00
Misc.	STATE REGULATORY FEES		EACH	1.00	$20.00	$20.00
					TOTAL	$3,843.00

Veolia ES Technical Solutions LLC is permitted for and has capacity to accept waste listed above in container quantities.
ALL PAST DUE AMOUNTS WILL BEAR INTEREST AT 1.5% PER MONTH OR THE MAXIMUM RATE ALLOWED BY LAW, WHICHEVER IS LESS.

PLEASE REMIT TO: PO BOX 73709, CHICAGO, IL 60673-7709

230185

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NYR000225615	1	(877) 818-0087	001363771 VES

GENERATOR

5. Generator's Name and Mailing Address: JOE ODIERNA
EQUITY WORKS MGP SITE
175 E. OLD COUNTRY ROAD
HICKSVILLE, NY 11801
Generator's Phone:

Generator's Site Address (if different than mailing address)
254 MASPETH AVE
BROOKLYN, NY 11211

6. Transporter 1 Company Name: ENVIRON. TRANSPORT GROUP INC.
U.S. EPA ID Number: NJD000069061

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address: VEOLIA ES TECHNICAL SOLUTIONS
125 FACTORY LANE
MIDDLESEX, NJ 08846
U.S. EPA ID Number: NJD000245444
Facility's Phone: 732 469-5100

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No:	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
X	1. UN1993, WASTE FLAMMABLE LIQUIDS, n.o.s., (BENZENE, PETROLEUM DISTILLATES), 3, II, RQ (D001,D018)	1	T T	275	G	D001 D018	B
	2.						
	3.						
	4.						

14. Special Handling Instructions and Additional Information: ER Service Contracted by VESTS -|- 1) WIP 101578 - COAL TAR
CONTAMINATED WATER / APPROVAL: MARBULK5 / ACTUAL GALLONS REC'D: 524G. 195
ACTUAL 524 G.

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Megan Dascoli agent for National Grid
Signature: Megan Dascoli agent for National Grid
Month 06 Day 29 Year 18

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: James Bonnell
Signature
Month 06 Day 29 Year 18
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H061			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Donna Brown
Signature
Month 06 Day 29 Year 18

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Veolia, LLC
125 Factory Lane Middlesex, NJ 08846
(732) 469-5100

Weigh Ticket

Date Scheduled: 06/29/2018 16:00:00
Customer Name: EQUITY WORKS MGP SITE
Transporter: FREEHOLD CARTAGE INC.
Trailer #: 195

Weigh Ticket #: 205704
Order Number: 230185
OrderType: WR
Weighing Tractor: YT7

General Notes

Type	Weight	U of M	Date	Capture Type	Specific Weighing Notes
Gross	37,560	Lb	6/29/18 4:40 pm	Electronic	
Tare	32,820	Lb	6/29/18 5:15 pm	Electronic	
Net:	**4,740.00**	Lb			

VEOLIA ES LAB CODING: "S" Codes

Piece Count: 1

BULK SHIPMENT - Single Generator

Page: 1 of 1

Received: **6/29/2018**

Order Number: **WS 230185**

Bill To: **VEOLIA ES TECHNICAL SOLUTIONS, LLC (NJD080631369)**

PO: **NJ**

Broker: **VEOLIA ES TECHNICAL SOLUTIONS, LLC (NJD080631369)**

Trailer Number: **195**

Carrier: **FREEHOLD CARTAGE INC. (NJD054126164)**

Weigh Ticket: **205704**

DELIVERY TYPE: Customer delivery to Facility

All Bulk manifests need to reflect the actual received quantity by weight noted in Section 18 of the manifest.

EQUITY WORKS MGP SITE NYR000225615 (32409)

MANIFEST: 001363771VES

RESPIRATOR REQUIRED

100-32409-1 101578 WIP: 101578

One TT - 275.00 Gallons

	275.00 Gallons	1.0000	S162 7122 Actual BC:MARFS (Profile:MARBULK5) 4740(net lbs) / 8.333 / 1.0850 SG = 524 Gls
Subtotals, for Manifest:	275.00	1.0000	
TOTAL, All Generators		**1.0000**	

Printed: **7/3/2018**

QC Report

7/3/2018 1

Date	Code Nbr	SampleNbr	Broker	Location
6/29/2018	S162-7122	18180-00058	VEOLIA ES TECHNICAL SOLUTIONS, LLC	

Generator	Ship To
EQUITY WORKS MGP SITE	

OP #	Ord# -	LR#	Fuel Lot#	Still Run	Source Tank	Dest.			Gals
	230185				195	GATX 2323	54015	275 gal	275 / B

CHARACTERISTICS

Test Method	ASIS S162-7122
SP GR	1.085
Color	black
KF%	43.5
pH	8.13
BTU/#	8813
BTU/gal	0
Lbs/gal	9.04
Ash	0
Cl%	0.14
Peroxide ppm	0

METALS

Name	Code	PPM	Msg

DISTILLATION

DISCLAIMER - THIS IS A VEOLIA ES TECHNICAL SOLUTIONS, L.L.C. INTERNAL DOCUMENT ONLY. THESE ARE PRELIMINARY LAB RESULTS AND MAY NOT HAV BEEN REVIEWED OR CONFIRMED.

Date	Code Nbr	SampleNbr	Broker	Generator	Ship To
6/29/2018	S162-7122	18180-00058	VEOLIA ES TECHNICAL SOLUTIONS, LLC	EQUITY WORKS MGP SITE	

OP #	Ord# -	LR#	Fuel Lot#	Still Run	Source Tank	Dest.			Gals
	230185				195	GATX 2323	54015	275 gal	275 / B

COMPOSITION

Chemical	Weight %	Volume %	Normalized Weight %

PCBs

PCB	Code	PPM	Msg