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National Grid
Site Investigation and Remediation
175 East Old Country Road
Hicksville, NY 11801

June 8, 2017

R. Scott Deyette, Project Manager
New York State Department Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233-7014

Re: East Garden City Former Stewart Avenue Holder Station
Site Management Routine Annual Groundwater Well Sampling Report
D&B No. 3008

Dear Mr. Deyette:

The purpose of this letter is to document the groundwater sampling activities completed by D&B Engineers and Architects, P.C. (D&B) on May 11, 2017 at the East Garden City Former Stewart Avenue Holder Station (the Site) located in Nassau County, New York. A site location map is provided as Figure 1 in Attachment 1.

The sampling activities discussed below were completed pursuant to the requirements of the New York State Department of Environmental Conservation (NYSDEC) March 2013 Site Management Plan (SMP). The SMP was prepared to document the processes to be followed to monitor and manage residual contamination at the Site, identified during completion of a Site Characterization (SC) investigation at the Site in April through June 2011. As detailed in the December 2011 SC Report, the SC program identified low-level manufactured gas plant (MGP)-related residual contamination and other low-level contaminants (polycyclic aromatic hydrocarbons [PAHs] target analyte list [TAL] metals and polychlorinated biphenyls [PCBs]), in surface and subsurface soil at the Site. In addition, elevated concentrations of total cyanide above the NYSDEC Class GA Groundwater Standards and Guidance Values were identified in one monitoring well (EGCMW-06) located in the southern portion of the Site. Site-wide monitoring well locations are depicted on Figure 2, provided in Attachment 2.

Based on elevated concentrations of total cyanide detected in groundwater samples collected from monitoring well EGCMW-06 during the SC investigation, the March 2013 SMP for the Site included provisions for the sampling of three groundwater monitoring wells (EGCMW-03, EGCMW-06 and EGCMW-07) for total cyanide analysis on an annual basis for an initial period of three years. Wells EGCMW-01 and EGCMW-03 are located on the downgradient perimeter of the Site. Per the requirements of the March 2013 SMP, the frequency of future sampling events will be determined by the NYSDEC based on an evaluation of the associated analytical data generated throughout this initial three-year period; though, it should be noted that the May 2017 sample event represents the fourth sample event completed at the Site, based on NYSDEC direction.

The following discussion provides a summary of the completed field activities and a detailed evaluation of the groundwater analytical results generated as part of the May 2017 groundwater sampling event.

Summary of Field Activities

Groundwater sampling activities, utilizing low-flow sampling techniques, were completed on May 11, 2017. Water level measurements were obtained using an electronic water level indicator. The depth to groundwater within each well was measured in reference to the top of the PVC casing in order to calculate the liquid volume necessary for well purging. A peristaltic pump and poly tubing was then utilized to purge and sample each well. The tubing was inserted into the well, within the area of the well screens (15 to 25 feet, 12.5 to 22.5 feet and 16 to 26 feet below grade at EGCMW-03, EGCMW-06 and EGCMW-07, respectively). The purge water generated from the wells was contained in a labeled 55-gallon drum and overpack for subsequent proper off-site disposal by National Grid.

The purge water was monitored for conductivity, dissolved oxygen, pH, temperature and turbidity utilizing a calibrated Horiba U-52 water quality meter. Results were recorded in a dedicated field book. Purging continued until the pH, temperature and conductivity had stabilized to within 10 percent for three consecutive readings, and the minimum purge water volume requirements had been removed from each well.

Samples were transferred directly to the laboratory-supplied sample containers and sent to the analytical laboratory, Chemtech Laboratories, within 24 hours of sample collection and were for total cyanide analysis. Field quality control (QC) samples were collected during the groundwater sampling event, including one matrix spike/matrix spike duplicate (MS/MSD) set and a field blank.

Findings/Analysis of Analytical Results

Based on the water level measurements, groundwater is located approximately 23 feet below grade and the groundwater flow direction beneath the Site, as determined during the 2011 SC investigation, is generally to the south.

The total cyanide analytical results are provided below:

Sample ID Sampling Date Dilution Factor Units	EGCMW-03 5/11/17 1 ug/l	EGCMW-06 5/11/17 5 ug/l	EGCMW-07 5/11/17 1 ug/l	NYSDEC Class GA Standard or Guidance Value ug/l
Total Cyanide	27	**850 D**	6.0	200

Note:
Bold text denotes an exceedance of the Class GA Groundwater Standard.

As can be seen on the above table, monitoring well EGCMW-06 exhibited an exceedance of total cyanide at a concentration of 850 micrograms per liter (ug/l), above the Class GA Standard of 200 ug/l. It should be noted that the total cyanide concentration detected in EGCMW-06 represents a decrease since this well was last sampled in June 2016, when a total cyanide concentration of 1,100 ug/l was detected. The total cyanide concentration of 850 ug/l is within the lower end of the range of concentrations previously detected in EGCMW-06 during past groundwater sampling events.

As shown above, total cyanide was detected well below the Class GA Standard in wells EGCMW-03 and EGCMW-07, at concentrations of 27 ug/l and 6.0 ug/l, respectively. The total cyanide concentration at EGCMW-03 represents a decrease as compared to the previous sampling event, when total cyanide was detected at a concentration of 113 ug/l. The total cyanide concentration at EGCMW-07 represents a slight increase as compared to the previous sampling event, when total cyanide was detected at a concentration of 4.0 ug/l.

Sample locations and the May 2017 total cyanide concentrations in groundwater are depicted on Figure 2, provided in Attachment 2. Data validation checklists are provided in Attachment 3. Historical total cyanide concentrations are provided in Attachment 4.

Based on the total cyanide exceedances detected at monitoring well EGCMW-06, National Grid recommends that sampling of monitoring wells EGCMW-03, EGCMW-06 and EGCMW-07 for total cyanide analysis be continued for a fifth year, beyond the initial 3-year term referenced in the March 2013 SMP. National Grid also requests that NYSDEC consider reducing the annual sampling and reporting frequency to every other year.

Please do not hesitate to contact me at (516) 545-2568, if you have any questions and/or comments.

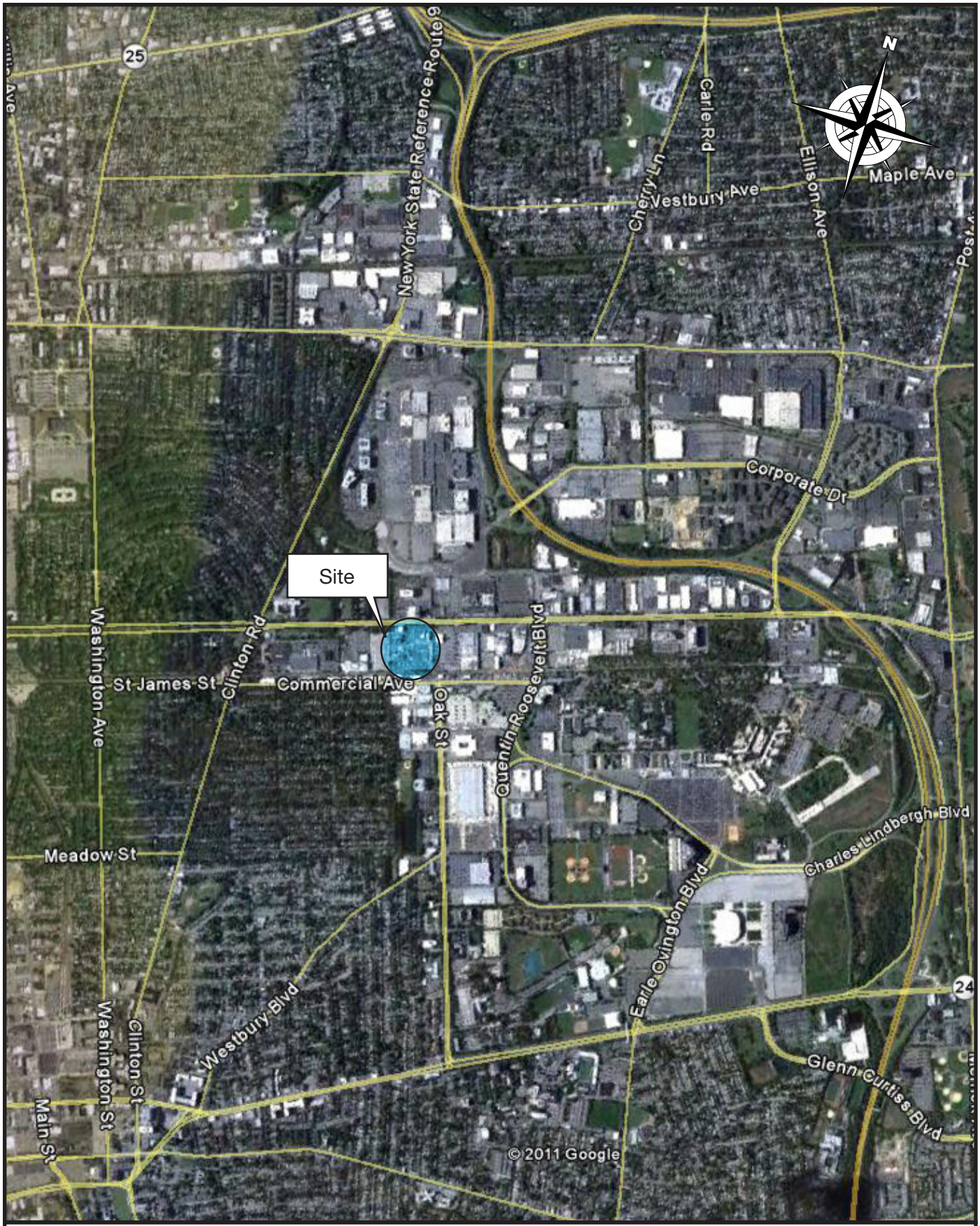
Very truly yours,

Sarah Alridge
Project Manager

SETF/MRD/nc
Attachments
cc: P. Van Rossen (National Grid)
T. Fox (D&B)
S Tauss (D&B)
3008\Misc081016_SA(R01)

ATTACHMENT 1

SITE LOCATION MAP



DVIRKA AND BARTILUCCI CONSULTING ENGINEERS
A DIVISION OF D&B ENGINEERS AND ARCHITECTS, P.C.

East Garden City Former Stewart Avenue Holder Station
Garden City, NY

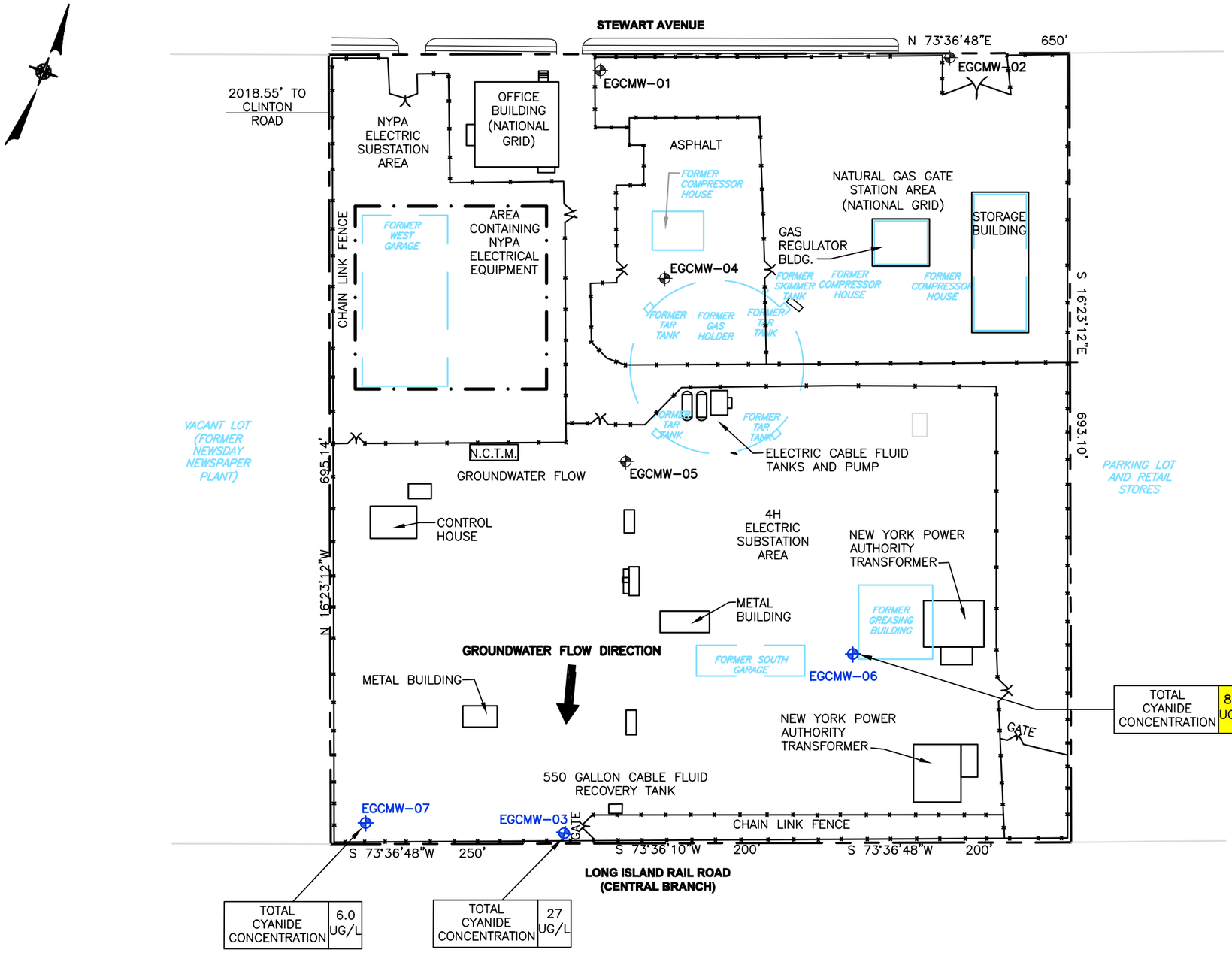
Site Location Map

FIGURE 1

3008 - Site Location Map.indd (08/01/14 - 3:59 PM)

ATTACHMENT 2

SAMPLE LOCATION AND TOTAL CYANIDE CONCENTRATION SUMMARY MAP



D&B ENGINEERS AND ARCHITECTS, P.C.

NATIONAL GRID
EAST GARDEN CITY FORMER STEWART AVENUE HOLDER STATION
EAST GARDEN CITY, NEW YORK

SAMPLE LOCATION AND TOTAL CYANIDE CONCENTRATION SUMMARY MAP

FIGURE 2

ATTACHMENT 3

DATA VALIDATION CHECKLIST

D&B ENGINEERS AND ARCHITECTS, P.C.

DATA VALIDATION CHECKLIST

Project Name:	East Garden City
Project Number:	3008-C03
Sample Date(s):	May 11, 2017
Sample Team:	PB
Matrix/Number of Samples:	Water/ 3 Field Duplicates/ 0 Trip Blanks / 0 Field Blanks/ 1
Analyzing Laboratory:	Chemtech, Mountainside, NJ
Analyses:	Cyanide: by SW846 Method 9012B
Laboratory Report No:	I3118 Date: 5/23/2017

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of Inorganic Data Review, August 2014, method performance criteria, and D&B Engineers and Architects, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

D&B ENGINEERS AND ARCHITECTS, P.C.

Custody Numbers:I3118
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Analysis			
			VOC	SVOC	Cyanide	MISC
EGCMW-06	I3118-01	05/11/17			X	
EGCMW-03	I3118-04	05/11/17			X	
EGCMW-07	I3118-05	05/11/17			X	
FIELD BLANK	I3118-06	05/11/17			X	

INORGANIC ANALYSES
Cyanide

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X		X	
B. Field blanks		X		X	
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. Laboratory control sample %R		X		X	
6. Spike sample %R		X		X	
7. Duplicate %RPD		X		X	
8. Field duplicates RPD					X

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable except the following:

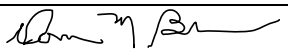
The original analysis for cyanide was above the calibration range in sample EGCMW-06. The sample was rerun at a secondary dilution within calibration range. The cyanide reanalysis was reported for sample EGCMW-06 and qualified as diluted (D).

D&B ENGINEERS AND ARCHITECTS, P.C.

DATA VALIDATION AND QUALIFICATION SUMMARY

Laboratory Numbers:I3118

Sample ID	Analyte(s)	Qualifier	Reason(s)
Cyanide			
EGCMW-06	Cyanide	D	The original analysis was above the calibration range and the sample was rerun at a secondary dilution within calibration range. Secondary dilution was reported.

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 5/30/17
VALIDATION PERFORMED BY SIGNATURE:	

ATTACHMENT 4

HISTORICAL TOTAL CYANIDE CONCENTRATIONS

NATIONAL GRID
EAST GARDEN CITY FORMER STEWART AVENUE HOLDER STATION
GROUNDWATER SAMPLE RESULTS
HISTORICAL TOTAL CYANIDE IN GROUNDWATER

Sample ID Units	EGCMW-03 ug/l	EGCMW-06 ug/l	EGCMW-07 ug/l	NYSDEC Class GA Standard/Guidance value (ug/l)
Sample Date				
June, 2011	14	***972 D***	17	200
September, 2011	N/A	***1,590***	27	200
April, 2014	63	***271***	7	200
May, 2015	74	***1,020***	8	200
June, 2016	113	***1,110 D***	4 J	200
May, 2017	27	***850 D***	6	200

Footnotes/Qualifiers:
ug/l: Micrograms per liter
J: Estimated value
D: Reported from reanalysis at secondary dilution.
Exceeds NYSDEC Class GA Groundwater Standard or Guidance Value

D&B Engineers and Architects, P.C.