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Geotechnical
Environmental
Water Resources
Ecological

Remedial Design Document – Addendum 2

29 Community Road Property
Oxygen Injection System Design Report
Bay Shore/Brightwaters Former MGP Site

Operable Unit No. 2
Bay Shore, New York
AOC Index No. D1-0001-98-11

Submitted to:
National Grid
175 East Old Country Road
Hicksville, NY 11801

Submitted by:
GEI Consultants, Inc.
110 Walt Whitman Road, Suite 204
Huntington Station, New York 11746
631-760-9300

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Jeffrey Parillo
Project Manager

Professional Engineer's Certification

I Brandon Nathe certify that I am currently a NYS registered professional engineer and that this Remedial Design Document was prepared in substantial accordance with applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

01/06/11
Date

Brandon Nathe
GEI Consultants, Inc.
New York State Professional Engineer
License Number 087851

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Abbreviations and Acronyms

A_T	Total Area
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
COC	Contaminant of Concern
EPA	United States Environmental Protection Agency
FS	Factor of Safety
GEI	GEI Consultants, Inc.
GPD	Gallons per Day
IRM	Interim Remedial Measure
KSE	KS Engineers, P.C.
MGP	Manufactured Gas Plant
ND	Non Detect
n_e	Effective Porosity
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
O_{Demand}	Oxygen Demand
OM&M	Operations, Maintenance, and Monitoring
ORP	Oxidation Reduction Potential
OU-2	Operable Unit No. 2
PAH	Polycyclic Aromatic Hydrocarbon
PE	Polyethylene
PVC	Polyvinyl Chloride
RDD	Remedial Design Document
SCH	Schedule
SCOs	Soil Cleanup Objective
STP	Standard-temperature-pressure
SVOCs	Semivolatile Organic Compounds
TOC	Top-of-casing
TOGS	Technical and Operational Guidance Series
v_x	Groundwater Velocity
VOCs	Volatile Organic Compounds
W_m	Daily Metal Contaminant Flow
W_o	Daily Organic Contaminant Flow
W_t	Daily Total Contaminant Flow
MEASUREMENTS	
bgs	Below Ground Surface
ft	Feet

Abbreviations and Acronyms (cont.)

ft^3	Cubic feet
ft/day	Feet per Day
gal	Gallons
kg	Kilogram
lb/day	Pounds per Day
lb/ft^3	Pounds per cubic feet
m	Meter
mg/L	Milligrams per Liter
psf	Pounds per Square Foot
psi	Pounds per Square Inch
°R	Degrees Rankine
SCFH	Standard Cubic Feet per Hour
sec	Second
ug/L	Micrograms Per Liter

1. Introduction

GEI Consultants, Inc. (GEI), on behalf of National Grid, has prepared this Design Report to present the system requirements and associated calculations for the oxygen injection system that will operate at the 29 Community Road property (the Site) within Operable Unit No. 2 (OU-2) of the Bay Shore/Brightwaters Former Manufactured Gas Plant (MGP) site located in Bay Shore, Suffolk County, New York (**Figure 1**). The 29 Community Road property oxygen injection system (hereinafter referred to as the "System") represents a portion of the complete remedial design detailed in the *Remedial Design Document, Operable Unit No. 2, Bay Shore/Brightwaters Former MGP Site, Bay Shore, Suffolk Country, New York* (RDD), prepared by GEI, dated January 2009. This Design Report is submitted as Addendum 2 of the OU-2 RDD (GEI, 2009) and contains the basis for the System requirements. The construction of the System will be performed as dictated in the Contract Documents, which are included as Appendix A.

The completed System will inject oxygen into the western extent of the OU-2 groundwater impacts, which was further delineated as part of the pre-design groundwater investigation, conducted by GEI from June to August 2010. The results of that investigation are summarized below in Section 3. The injected oxygen will augment or expedite the bioremediation of the MGP-related contaminants dissolved in the groundwater.

1.1 Design Document Organization

This Design Document has been organized as follows:

- Section 1, the introduction, provides a summary of the purpose of the Design Report and a description of the technology.
- Section 2 presents the remedial goals and monitoring criteria of the system.
- Section 3 presents the results of the pre-design investigation performed on the 29 Community Road property.
- Section 4 presents the development of the 29 Community Road property system requirements.
- Section 5 presents the calculations used in the design of the system.
- Section 6 presents the performance monitoring that will be completed as part of system start-up.

1.2 Technology Description

The installation of oxygen injection systems to treat groundwater impacts within OU-2 is a portion of the selected remedy as detailed in the Voluntary Cleanup Program Decision Document issued by the New York State Department of Environmental Conservation (NYSDEC) in July of 2008 for OU-2 of the Bay Shore/Brightwaters former MGP site. The 29 Community Road property was selected to incorporate a portion of the oxygen injection treatment as the location will be able to provide treatment to the western extent of the groundwater impacts within OU-2.

The technology involves the injection of oxygen gas into groundwater to increase the concentration of dissolved-phase oxygen and enhance aerobic biodegradation of certain groups of contaminants of concern (COCs) by indigenous aerobic microorganisms. Groundwater COCs associated with the Site include volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs). If properly implemented and groundwater geochemistry permits, this treatment method can create an aerobically active treatment zone in the vicinity of the injection well. When groundwater passes through this zone, it becomes oxygenated, and stimulates the growth of the aerobic microbe population in the groundwater to augment the biodegradation of the dissolved-phase impacts.

The technology utilizes patented equipment to generate 90 to 95 percent pure oxygen gas from ambient air by removing the nitrogen component. The oxygen is then injected in pulsed intervals at controlled rates into the subsurface through a series of injection wells at low flow rates. The low flow rates and pulsed injection intervals are cycled to allow for the maximum transfer of vapor-phase oxygen to dissolved-phase oxygen. Unlike other oxygen supplying techniques, it treats the entire plume by dispersing and dissolving oxygen gas into the formation, resulting in high transfer efficiency to groundwater (Matrix). The process is dissimilar from air sparging, in which the objective is to maintain the injected air in the vapor phase using high flow rates, which strips the COCs from the groundwater for collection in the vadose zone. Slowly injecting oxygen at 90 to 95 percent purity can increase dissolved oxygen concentrations in groundwater to a maximum of approximately 40 milligrams per liter (mg/L); whereas, air injected under sparge processes yields a maximum dissolved oxygen concentration of approximately 9 mg/L, and requires subsequent collection and treatment. Dissolved oxygen saturation in groundwater occurs at approximately 20 mg/L.

2. Remedial Goals and Performance Monitoring

2.1 Remedial Goals

The objective of the 29 Community Road oxygen injection system is to provide complete treatment of the western extent of the OU-2 groundwater plume working in conjunction with the 34 North Clinton Avenue oxygen injection system, which was installed as part of the RDD. Due to property restrictions, the 34 North Clinton Avenue system was not able to extend directly to the western plume boundary. National Grid acquired the 29 Community Road property with the intention of installing this system on the property to further augment the four systems that were installed as part of the RDD, and continue the line of treatment via oxygen injection to the western extent of the OU-2 groundwater impacts.

The proposed oxygen injection treatment system described in this design document will operate in conjunction with the upgradient and downgradient oxygen injection treatment lines that were also installed as part of the *Interim Remedial Measure Work Plan, Bay Shore/Brightwaters Former MGP Site, Operable Unit No. 2, Bay Shore, New York* (IRM), prepared by GEI, dated September, 2004.

National Grid proposes to implement and maintain the system until one of the following performance-based goals are met.

- The remedy implemented at OU-1 controls the source of the groundwater contamination; and,
- Groundwater concentrations of MGP-related contaminants of concern meet the Ambient Groundwater Quality Standards and Guidance Values for a Class GA aquifer in OU-2; or,
- Continued operation of the systems produces diminishing returns as indicated by periodic groundwater monitoring up and downgradient of the oxygen injection treatment systems.

2.2 System Location

The System will be located along the northern property boundary. The proposed location is depicted in **Figure 2**. This area was selected for an oxygen injection system in order to treat the western extent of the OU-2 groundwater plume, which was defined in the *Groundwater Investigation Work Plan, 29 Community Road Property, Operable Unit No. 2, Bay Shore/Brightwaters Former MGP Site, Bay Shore, Suffolk County, NY*, prepared by GEI, dated January 2009.

A summary of the analytical results from the pre-design investigation is depicted in **Table 1** and the Proposed Oxygen System Design Details are depicted in **Figure 3**.

3. Pre-Design Investigation Summary

3.1 Summary of Field Activities

Three groundwater probes (OU2GP-30 through OU2GP-32) were advanced utilizing direct-push technology between March 29 and March 31, 2010. Discrete groundwater samples were collected through a decontaminated, stainless steel Geoprobe® SP-15 sampler at depth intervals of 65-69, 55-59, 45-49, 35-39, 25-29, 15-19, and 5-9 feet below ground surface (ft bgs). Samples were collected utilizing low-flow techniques for analyses by United States Environmental Protection Agency (EPA) Method 8260B for VOCs and by EPA Method 8270C for SVOCs. Following groundwater probe sampling, each boring utilized for the groundwater probes was properly grouted from total installation depth to surface.

In addition to the groundwater probes, two permanent well clusters (OU2MW-55S, I, I2, D and OU2MW-56S, I, I2,D) were installed during June 9 through 16, 2010, utilizing direct push technology. Soil samples were collected from each boring utilizing polyethylene (PE) macrocore liners at depth intervals of 5-15, 25-30, 45-50, and 65-70 ft bg. Each sample was analyzed by EPA Method 8260B for VOCs, by EPA Method 8270C for SVOCs, and by EPA Method 6000/7000 series for TAL metals. Shallow wells were screened from 5 to 15 ft bgs, intermediate wells were screened from 30 to 35 ft bgs, intermediate 2 wells were screened from 50 to 55 ft bgs, and deep wells were screened from 65 to 70 ft bgs. Each well was constructed with 1-inch diameter, 0.020-inch Schedule (SCH) 40 polyvinyl chloride (PVC) well screen threaded to 1-inch diameter SCH 40 PVC riser to surface and finished with a Morie #2 sand filter pack to 2 feet above the well screen, a 2-foot bentonite seal, grout to surface, and a bolt-down manhole cover. Monitoring well construction details are included in **Appendix B**.

Following the installation of OU2MW-55S, I, I2, D and OU2MW-56S, I, I2, D, each monitoring well was developed and groundwater samples were collected on June 28, 2010. Each monitoring well was sampled for analyses by EPA Method 8260B for VOCs, by EPA Method 8270C for SVOCs, and by EPA Method 6000/7000 series for TAL metals. Additionally, while purging each monitoring well, physical parameters including dissolved oxygen (DO), oxidation-reduction potential (ORP), pH, temperature, turbidity, and conductivity were documented.

Following the completion of soil and monitoring well sampling, the analytical results were validated by qualified data validation professionals in accordance with EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, January 2005

and the EPA Region II SOP for the Validation of Organic Data acquired using SW-846 8260B and 8270C, modified to accommodate the SW-846 methodologies.

A site survey was performed by KS Engineers, P.C. (KSE) on August 5, 2010, to provide site features, groundwater probe and monitoring well locations, site topography, and top-of-casing (TOC) measurements for monitoring wells.

3.2 Summary of Analysis Results

3.2.1 Groundwater

Concentrations above the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (AWQS) were observed for VOCs, SVOCs, and metals in several of the samples collected. A majority of the impacts were observed between 30 and 70 ft bgs. The highest concentrations of MGP-related impacts in the groundwater beneath the 29 Community Road property were observed to be between 55 and 70 ft bgs.

Actual MGP-related analyte concentrations were measured highest in the sample collected from OU2GP-30 at 65 to 69 ft bgs with total Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) at 215 micrograms per liter (µg/L) and total Polycyclic Aromatic Hydrocarbon (PAHs) at 2,061 µg/L.

As mentioned, several metals were detected in concentrations above the AWQS. Although these concentrations are likely not MGP-related, this information will provide important design data for the site remedy.

Groundwater analytical results are included in **Table 1** and depicted on **Figure 3**.

3.2.2 Soil

No concentrations above the 6 New York Codes, Rules, and Regulations (NYCRR) Part 375 Table 375-6.8(a) Unrestricted Use Soil Cleanup Objectives (SCOs) were recorded for any of the soil samples collected.

Soil analytical results are included in **Table 2**.

4. System Requirements

4.1 Injection Well Depths

The injection depths for the system were determined based on the analytical data from the pre-design investigation. Since the VOC and SVOC concentrations in groundwater were noted to be the highest from approximately 55 to 70 ft bgs on the 29 Community Road property, a line of injection wells will be screened from 64 to 65 ft bgs across the system. Due to the fact that there were a few detections of BTEX and/or PAHs noted in shallow groundwater samples collected on the Site, a line of shallow injection wells will also be screened from 19 to 20 ft bgs across the system. Finally, a line of intermediate depth injection wells will also be installed at various intervals across the Site in order to augment the amount of oxygen being provided by the deeper wells below.

The groundwater analytical data are presented in **Table 1**. In addition to being used to select groundwater treatment depths, the data will also be utilized to represent the total contaminant load of organic compounds that will require treatment from the system. The results of the pre-design groundwater sampling event for the 29 Community Road property, and the proposed locations of the injection wells are shown in **Figure 3**.

4.2 Design Approach

The following series of calculations will establish the oxygen requirements for the plume based on the average contaminant mass loading in the area of the treatment zone, as determined from the analysis of previously collected groundwater samples. The final design will include the minimum oxygen requirement and appropriate well spacing to meet the objective of the remedy.

4.3 Groundwater Volumetric Flow Rate

In order to determine the volume of groundwater that will require treatment on a daily basis, it is first necessary to estimate the vertical cross-sectional area of the flow. The cross sectional area to receive treatment from the system is estimated by a review of the measured depth of impacts and depth to groundwater observed in the monitoring wells located within and near the treatment zone. Reviewing this information resulted in the following evaluations:

- The total length of the treatment zone is approximately 145 ft.
- The average depth of groundwater given seasonal variations is approximately 4 ft bgs.

- The maximum depth of groundwater impacts observed in the treatment zone is approximately 70 ft bgs.

Using this information, it is possible to calculate the cross-sectional area (A_T) to receive treatment.

Equation 4.1

$$A_T := 145ft \cdot (70ft - 4ft)$$

$$A_T = 9.57 \times 10^3 ft^2$$

In order for the volumetric rate of flow to be calculated, additional pieces of information about the subsurface are required. The required information is available in the 2009 OU-2 RDD, and is as follows:

- The average horizontal groundwater velocity (v_x) for the Bay Shore/Brightwaters former MGP site and surrounding area is assumed at 2.0 feet per day (ft/day).
- The effective porosity (n_e) for the site is assumed to be 0.30.

The information from the 2009 RDD and the cross-sectional area determined in Equation 3.1 make it possible to calculate the daily volumetric flow of water, in gallons (gal), through the treatment zone.

Equation 4.2

$$v_x := 2 \frac{ft}{day}$$

$$n_e := 0.30$$

(Fetter, 125)

$$Q := v_x \cdot n_e \cdot A_T$$

$$GPD := Q \cdot 7.481 \frac{gal}{ft^3}$$

$$GPD = 4.296 \times 10^4 \frac{gal}{day}$$

The result of Equation 4.2 indicates that approximately 43,000 gallons of groundwater will pass through the vertical treatment zone on a daily basis (GPD).

4.4 Average Contaminant Mass Loading

The contaminant load of organic compounds (total VOCs plus total SVOCs) observed in the groundwater passing through the treatment zone ranges from not detected (ND) to 5,549 µg/L (which can be written equivalently as 5.549 mg/L). It is conservatively assumed that the entire groundwater plume will have a loading of organic contaminants equal to the highest value observed.

Using the groundwater volumetric flow rate determined in Equation 4.2 and the average contaminant mass loading, it is possible to calculate the daily organic contaminant flow (W_o) moving through the system. The following abbreviations will apply to the remainder of the equations used in this Design Report.

- kg = kilogram
- L = liter
- m = meter
- mg = milligrams
- L = liter
- sec = second

Equation 4.3

$$W_o := 5.549 \cdot \frac{mg}{L} \cdot 1 \cdot \frac{kg}{1000000 \cdot mg} \cdot 9.82 \cdot \frac{m}{sec^2} \cdot 1 \cdot \frac{lb}{4.44 \cdot kg \cdot \frac{m}{sec^2}} \cdot 1 \frac{L}{.2642gal} \cdot GPD$$

$$W_o = 1.995 \frac{lb}{day}$$

Equation 4.3 indicates that the daily W_o through the oxygen injection zone that will require treatment is approximately 2.0 pounds per day (lb/day).

In addition to oxygen demand from the W_o, a percentage of dissolved metals will also react with the dissolved oxygen as the impacted groundwater passes through the injection line. On-Site groundwater samples collected during the pre-design work plan were sampled for dissolved metals although this analysis is not part of the regular groundwater sampling protocol for OU-2. The effectiveness of the system will be determined by the results of samples analyzed for total VOCs and total SVOCs and future tests for dissolved metals following completion of the system design will not be necessary. However, dissolved metals observed in the treatment zone ranged from 36.004 to 104.302 mg/L and it is assumed that

50-percent of the total dissolved metals will be consumed by or react with the dissolved phase oxygen provided by the system. Therefore, it is assumed that 50-percent of the maximum observed concentration of dissolved metals can be added to the W_o moving into the treatment zone. Not all metals are considered to be contaminants and many are naturally occurring; however, because they will react with dissolved oxygen, their presence must be accounted for in order to appropriately calculate the daily oxygen demand of the System.

Following a similar approach to Equation 4.3, it is possible to calculate the contribution of dissolved metals concentration flow (W_m) to the total contaminants requiring treatment by the system.

Equation 4.4

$$W_m := 52.15 \cdot \frac{mg}{L} \cdot 1 \cdot \frac{kg}{1000000 \cdot mg} \cdot 9.82 \cdot \frac{m}{sec^2} \cdot 1 \cdot \frac{lb}{4.44 \cdot kg \cdot \frac{m}{sec^2}} \cdot 1 \frac{L}{.2642gal} \cdot GPD$$

$$W_m = 18.753 \frac{lb}{day}$$

The results of Equation 4.4 show that W_m is equal to approximately 18.75 lb/day of dissolved metals.

The total organic contaminant plus dissolved metal concentration flow (W_t) is then the summation of the two contributing sources of oxygen demand.

Equation 4.5

$$W_t := W_o + W_m$$

$$W_t = 20.749 \frac{lb}{day}$$

The results of Equation 4.5 indicate that the oxygen injection system will be required to provide sufficient oxygen to accept a daily contaminant load of 20.8 lb/day.

4.5 Oxygen Demand

As determined in subsection 4.4, the W_t entering the treatment zone is approximately 21 lb/day. For the purpose of this design, the ratio of W_t to the required amount of oxygen is estimated from the reaction of oxygen with an organic compound contaminant. For simplicity of calculation, naphthalene was chosen for this purpose based on its relatively high concentration in the groundwater and its high demand for oxygen when biodegrading under aerobic conditions.

Aerobic Biodegradation of Naphthalene

$$C_{10}H_8 + 12O_2 \rightarrow 10CO_2 + 4H_2O$$

As noted in the reaction above, 12 mol of oxygen are required for the oxidation of 1 mol of naphthalene. This information can then be used to create a ratio of molecular weights for the reaction.

Equation 4.6

$$O_2 := 12\,lb\,mol \cdot \left(2 \cdot 16 \frac{lb}{lb \cdot mol}\right)$$

$$O_2 = 384\,lb$$

$$Nap := 1 \cdot lb \cdot mol \cdot \left[\left(10 \cdot 12 \cdot \frac{lb}{lb \cdot mol}\right) + \left(8 \cdot 1 \cdot \frac{lb}{lb \cdot mol}\right)\right]$$

$$Nap = 128\,lb$$

$$Ratio := \frac{O_2}{Nap}$$

$$Ratio = 3$$

The result of Equation 4.6 indicates that 3 pounds of oxygen are required to effectively biodegrade 1 pound of contaminant. However, a small percentage of injected oxygen will likely not enter the dissolved phase or will be consumed by other organic processes. In order to account for this loss of oxygen, a factor of safety (FS) of 2 will be applied in final step of calculating the oxygen demand (O_{Demand}) for the system.

Equation 4.7

$$FS := 2$$

$$O_{Demand} := W_t \cdot Ratio \cdot FS$$

$$O_{Demand} = 124.491 \frac{lb}{day}$$

Equation 4.7 indicates that in order to provide enough oxygen for the biodegradation of the daily contaminant load in the groundwater, 124.5 lb/day of oxygen must be provided via the system.

5. System Design

5.1 System Details

Typical well spacing within treatment zones for similar applications of this technology within OU-2 has been approximately 20 to 25 ft on center. For the 29 Community Road property system, an injection point spacing of 20 ft for wells screened at the same depth was selected based on the results of similar systems already in operation on different sections of OU-2 with similar hydrogeology. Injection point spacing may vary slightly based on Site conditions and installation obstructions, if present.

5.2 System Equipment Capacity

The oxygen generating equipment used on the Site must be able to provide the required O_{Demand} calculated in Section 3. The systems generation capacity is rated in terms of Standard Cubic Feet per Hour (SCFH), which is the number of cubic feet of air at standard temperature and pressure injected in an hour. Standard temperature and pressure is generally 2,117 pounds per square foot (psf), and 520 degrees Rankine (°R). In order to determine the minimum system rating for the Site, it is necessary to convert the daily O_{Demand} into a flow rate in SCFH. It will also be necessary to account for the Matrix system filtering the ambient air to an approximately 95% pure oxygen gas.

Equation 5.1

$$n := O_{Demand} \cdot 1\,lb \cdot \frac{mol}{32 \cdot lb} \cdot 1day$$

$$P := 2117 \frac{lb}{ft^2}$$

$$T := 520R$$

$$R_{air} := 1545.4ft \cdot \frac{lb}{lb \cdot mol \cdot R}$$

$$V_O := \frac{\left(\frac{\frac{n \cdot R_{air} \cdot T}{P}}{.95} \right)}{24hr}$$

(Fechner-Levy, Hemond, 42)

$$V_O = 64.819 \frac{ft^3}{hr}$$

Rounding up to the nearest whole number, the results of Equation 5.1 indicate that the minimum rating for the system at the Site must be at least 65 SCFH.

The oxygen will be created and injected in pulses, i.e. system will inject oxygen for a period of time, and then cease injection so it can replenish its onboard supply of oxygen. The pulse-gap cycle for the Site system will need to be set such that at least an average of 65 cubic feet (ft^3) of oxygen at standard-temperature-pressure (STP) is injected into the subsurface per hour before the injection cycle ceases. The length of time required to inject that amount of oxygen into the subsurface will vary with the SCFH rating of the system.

One operational advantage of this system is that larger amounts of oxygen mass can be routed to any particular section of the impacted groundwater zone. Therefore, if monitoring activities during system operation indicates that a specific section of the approaching impacted groundwater has a higher carbon loading relative to the rest of the groundwater, then higher amounts of oxygen mass can be directed to this section without disturbing the lower oxygen demand across the rest of the system.

5.3 Injection Pressure

In order to inject oxygen gas into the subsurface the system will be required to displace the groundwater that will accumulate in the injection wells. To displace the non-oxygenated groundwater the injection pressure of the oxygen gas in the wells must be enough to overcome the hydrostatic pressure head of the groundwater.

Given that the unit weight of water is generally taken to be 62.4 pounds per cubic feet (lb/ft^3), the groundwater table is at 4 ft bgs, and that the deepest injection point possible will be 65 ft bgs, the minimum injection pressure that will be required for the system can be calculated.

Equation 5.2

$$P_{Inj} := (65 \cdot ft - 4 \cdot ft) \cdot 62.4 \cdot \frac{lb}{ft^3} \cdot \frac{1 \cdot ft^2}{144 in^2}$$

$$P_{Inj} = 26.433 \frac{lb}{in^2}$$

The results of Equation 5.2 indicate that the system must be able to generate a minimum pressure of approximately 27 pounds per square inch (psi) at each well in order to inject oxygen into the subsurface.

5.4 Summary

The key elements of the design for the 29 Community Road property oxygen injection system are summarized below:

- The total volume of groundwater that will pass through the oxygen injection system is approximately 43,000 gallons per day.
- The total amount of contaminants and incidental metals which will react with dissolved oxygen that will require treatment in a day is approximately 20.8 lbs.
- In order to treat the daily flux of contaminants, the 29 Community Road property oxygen injection system must be capable of delivering oxygen gas with an average purity of 95 percent at a rate of 65 SCFH.
- The system must be able to generate pressure greater than 25 psi in the wells in order to inject oxygen into the subsurface.

6. Performance Monitoring

Soil vapor, ambient air, and groundwater were monitored for each of the systems that were installed as part of the RDD. The sampling rationale and frequency were conducted in accordance with the Operations, Maintenance, and Monitoring (OM&M) Plan, which was included as Appendix E of the RDD. This included sampling targeted monitoring wells and soil vapor points in the vicinity of the point of injection during each system's start-up phase, and at regular intervals during system operation. National Grid requested permission from the NYSDEC to reduce the sampling frequency from monthly to quarterly in a letter dated April 7, 2010, and the request was granted by the NYSDEC on April 28, 2010.

A significant amount of soil vapor data was collected during the 2007 *Hydrologic Study* (GEI, 2007a) and during the start-up period of the systems associated with the RDD. To date, there has been no evidence to suggest that the oxygen injection systems have any influence on soil vapor concentrations in the vicinity of the oxygen injection systems. Based on these conclusions, soil vapor sampling has not been proposed as part of the performance monitoring of this system. Soil vapor sampling will continue to be sampled at various locations throughout OU-2 on a quarterly basis.

6.1 Groundwater Monitoring

Two additional groundwater monitoring well clusters were installed during the pre-design investigations, OU2MW-55 and OU2MW-56. These well clusters are located downgradient of where the 29 Community Road oxygen injection system will be installed. The monitoring well locations are identified in **Figure 2**. The well clusters on the 29 Community Road property will be monitored prior to start-up of the system and at quarterly intervals during system operation, consistent with the other OU-2 groundwater treatment systems. The analytical results and field measurements will be used in evaluating the performance of the groundwater treatment system. Specifically, the data collected is focused on monitoring the aerobic environments created by the system; the bioactivity of the aquifer; and the ability of the bioactivity to reduce dissolved phase MGP-related constituent concentrations in the area. National Grid will present the results of future sampling events in the Quarterly OM&M reports.

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Tables

Table 1
Analytical Groundwater Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Sample Name:	NYS	OU2GP-30							
Sample Interval:	AWQS	(5-9)	(15-19)	(25-29)	(35-39)	(45-49)	(55-59)	(55-59)	(65-69)
Sample Date:		3/31/2010	3/31/2010	3/31/2010	3/31/2010	3/31/2010	3/31/2010	3/31/2010	3/31/2010
BTEX (ug/L)									
Benzene	1	10 U	10 U	10 U	**6**	**8**	10 U	10 U	10 U
Toluene	5	**33**	10 U	10 U	**2 J**	**3 J**	**3 J**	**3 J**	**6**
Ethylbenzene	5	10 U	**1 J**	**3 J**	**180**	**1 J**	**3 J**	**3 J**	**10**
Xylene, m,p-	5	10 U	10 U	10 U	**8 J**	**11**	**40**	**34**	**130**
Xylene, o-	5	10 U	10 U	10 U	**23**	**49**	**24**	**21**	**69**
Total BTEX	NE	**33**	**1**	**3**	**219**	**72**	**70**	**61**	**215**
Acetaldehyde	8*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Allyl chloride	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butadiene, 1,3-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Butanone, 2-	50*	10 U	10 U	10 U	**2 J**	**1 J**	**2 J**	**2 J**	**2 J**
Carbon disulfide	60*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	5	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Chlorotoluene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cryofluorane	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Cyclohexane	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Decane, n-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromoethane, 1,2-	0.0006	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,3-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	5	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Dichloroethane, 1,1-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,2-	0.6	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, 1,1-	0.07	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, cis-1,2-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropane, 1,2-	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dioxane, 1,4-	NE	R	R	R	R	R	R	R	R
Dodecane, n-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethanol	NE	R	R	R	R	R	R	R	R
Heptane, n-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Hexachlorobutadiene	0.5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexane, n-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexanone, 2-	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isopropyl benzene	5	10 U	10 U	10 U	**3 J**	10 U	**2 J**	**2 J**	**11**
Methyl tert-butyl ether	10*	10 U	10 U	10 U	10 U	**15**	**16**	**16**	**15**
Methyl-2-pentanone, 4-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10*	**12**	**12**	**18**	**78**	**78**	**510**	**470**	**2900**
Nonane	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Octane, n-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Propanol, 2-	NE	R	R	R	R	R	R	R	R
Propylbenzene, n-	5	10 U	10 U	10 U	10 U	10 U	**2 J**	**2 J**	**13**
Styrene	5	10 U	10 U	10 U	**2 J**	10 U	**4 J**	**3 J**	**25**
Tetrachloroethane, 1,1,1,2-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane,1,1,2,2-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	10 U	10 U	10 U	**1 J**	**1 J**	**2 J**
Tetrahydrofuran	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trans-1,2-dichloroethene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene, 1,2,4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,1-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,2-	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	5	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Trimethylbenzene 1,3,5-/P-ethyltoluene	NE	10 U	10 U	10 U	10 U	**7 J**	**23**	**20**	**110**
Trimethylbenzene, 1,2,4-	5	10 U	10 U	**1 J**	**6**	**5**	**46**	**38**	**190**
Trimethylpentane, 2,2,4-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Vinyl acetate	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Vinyl chloride	2	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table 1
Analytical Groundwater Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Sample Name:	NYS AWQS	OU2GP-30							
Sample Interval:		(5-9)	(15-19)	(25-29)	(35-39)	(45-49)	(55-59)	(55-59)	(65-69)
Sample Date:		3/31/2010	3/31/2010	3/31/2010	3/31/2010	3/31/2010	3/31/2010	3/31/2010	3/31/2010
Non-carcinogenic PAHs (ug/L)									
Acenaphthene	20*	10 U	10 U	10 U	**5**	**4 J**	**4 J**	**4 J**	**10**
Acenaphthylene	NE	10 U	10 U	10 U	**3 J**	**3 J**	**41**	**39**	**73**
Anthracene	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[g,h,i]perylene	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	50*	10 U	10 U	10 U	10 U	10 U	**13**	**12**	**20**
Methylnaphthalene, 2-	NE	10 U	**3 J**	**2 J**	**6**	10 U	**68**	**68**	**350**
Naphthalene	10*	10 U	**9**	**6**	**36**	10 U	**200**	**230**	**1600**
Phenanthrene	50*	10 U	**1 J**	10 U	10 U	10 U	**12**	**12**	**8**
Pyrene	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carcinogenic PAHs (ug/L)									
Benz[a]anthracene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	ND	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz[a,h]anthracene	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total PAHs (ug/L)									
Total PAHs	NE	ND	**13**	**8**	**50**	**7**	**338**	**365**	**2061**
Other SVOCs (ug/L)									
Bis(2-chloroethoxy)methane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(chloroisopropyl)ether	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromophenyl phenyl ether, 4-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	NE	10 U	10 U	10 U	10 U	10 U	**1 J**	**1 J**	**3 J**
Chloro-3-methylphenol, 4-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroaniline, 4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloronaphthalene, 2-	10*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenol, 2-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenyl phenyl ether, 4-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	NE	10 U	10 U	10 U	10 U	10 U	**2 J**	**1 J**	**2 J**
Dichlorobenzene, 1,2-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,3-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzidine, 3,3-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorophenol, 2,4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphenol, 2,4-	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butyl phthalate	50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitro-2-methylphenol, 4,6-	NE	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrophenol, 2,4-	10*	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrotoluene, 2,4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitrotoluene, 2,6-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	0.04	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	0.5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 2-	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 4-	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitroaniline, 2-	5	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 3-	5	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 4-	5	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	0.4	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 2-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 4-	NE	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrosodi-n-propylamine, N-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrosodiphenylamine, N-	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	1	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Phenol	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene, 1,2,4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorophenol, 2,4,5-	NE	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Trichlorophenol, 2,4,6-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table 1
Analytical Groundwater Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Sample Name:	NYS AWQS	OU2GP-30							
Sample Interval:		(5-9)	(15-19)	(25-29)	(35-39)	(45-49)	(55-59)	(55-59)	(65-69)
Sample Date:		3/31/2010	3/31/2010	3/31/2010	3/31/2010	3/31/2010	3/31/2010	3/31/2010	3/31/2010
Total Metals (ug/L)									
Aluminum	NE	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	3	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	25	NA	NA	NA	NA	NA	NA	NA	NA
Barium	1000	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	3*	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	NE	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	50	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NE	NA	NA	NA	NA	NA	NA	NA	NA
Copper	200	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NA	NA	NA	NA	NA	NA	NA	NA
Lead	25	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	35000*	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	300	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.7	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NE	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	10	NA	NA	NA	NA	NA	NA	NA	NA
Silver	50	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	20000	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	0.5*	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	NE	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2000	NA	NA	NA	NA	NA	NA	NA	NA
Other (ug/L)									
Nitrogen, Ammonia	2000	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Nitrate	10000	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Nitrite	1000	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Total	NE	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Total Kjeldahl	NE	NA	NA	NA	NA	NA	NA	NA	NA
Standard Plate Count (cfu/ml)	NE	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	250000	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	50*	NA	NA	NA	NA	NA	NA	NA	NA
Total Phosphorous	NE	NA	NA	NA	NA	NA	NA	NA	NA

Table 1
Analytical Groundwater Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Sample Name:	NYS AWQS	OU2GP-31							
Sample Interval:		(5-9)	(15-19)	(25-29)	(35-39)	(45-49)	(55-59)	(65-69)	(65-69)
Sample Date:		3/30/2010	3/30/2010	3/30/2010	3/30/2010	3/30/2010	3/30/2010	3/30/2010	3/30/2010
BTEX (ug/L)									
Benzene	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	5	**50**	10 U	10 U	10 U	10 U	**10**	10 U	10 U
Ethylbenzene	5	10 U	10 U	10 U	**2 J**	10 U	**2 J**	10 U	10 U
Xylene, m,p-	5	10 U	10 U	10 U	**2 J**	10 U	**10**	10 U	10 U
Xylene, o-	5	10 U	10 U	**3 J**	**4 J**	**2 J**	**27**	**2 J**	**1 J**
Total BTEX	NE	**50**	ND	**3**	**8**	**2**	**49**	**2**	**1**
Acetaldehyde	8*	10 U	**8**	**6**	10 U	10 U	10 U	10 U	10 U
Acetone	50*	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ
Allyl chloride	5	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 UJ
Bromodichloromethane	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butadiene, 1,3-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Butanone, 2-	50*	10 U	10 U	10 U	**1 J**	10 U	10 UJ	10 UJ	10 UJ
Carbon disulfide	60*	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 UJ
Carbon tetrachloride	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	7	**2 J**	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	5	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U
Chlorotoluene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cryofluorane	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Cyclohexane	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Decane, n-	NE	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ
Dibromochloromethane	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromoethane, 1,2-	0.0006	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,3-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	5	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Dichloroethane, 1,1-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,2-	0.6	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, 1,1-	0.07	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, cis-1,2-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropane, 1,2-	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dioxane, 1,4-	NE	R	R	R	R	R	R	R	R
Dodecane, n-	NE	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ
Ethanol	NE	R	R	R	R	R	R	R	R
Heptane, n-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U
Hexachlorobutadiene	0.5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexane, n-	NE	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ
Hexanone, 2-	50*	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ
Isopropyl benzene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	10*	10 UJ	10 UJ	10 UJ	10 UJ	**18**	**2 J**	10 UJ	10 UJ
Methyl-2-pentanone, 4-	NE	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ
Methylene chloride	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10*	10 U	**1 J**	**3 J**	**16**	**22**	**260**	**55**	**51**
Nonane	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 UJ
Octane, n-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 UJ
Propanol, 2-	NE	R	R	R	R	R	R	R	R
Propylbenzene, n-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane, 1,1,1,2-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane,1,1,2,2-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrahydrofuran	50*	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ
Trans-1,2-dichloroethene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	5	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ
Trichlorobenzene, 1,2,4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,1-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,2-	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	5	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Trimethylbenzene 1,3,5-/P-ethyltoluene	NE	10 U	10 U	10 U	10 U	10 U	**5 J**	10 UJ	10 UJ
Trimethylbenzene, 1,2,4-	5	10 U	10 U	10 U	**1 J**	10 U	**2 J**	10 U	10 U
Trimethylpentane, 2,2,4-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	**1 J**	**1 J**
Vinyl acetate	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Vinyl chloride	2	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table 1
Analytical Groundwater Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Sample Name:	NYS AWQS	OU2GP-31							
Sample Interval:		(5-9)	(15-19)	(25-29)	(35-39)	(45-49)	(55-59)	(65-69)	(65-69)
Sample Date:		3/30/2010	3/30/2010	3/30/2010	3/30/2010	3/30/2010	3/30/2010	3/30/2010	3/30/2010
Non-carcinogenic PAHs (ug/L)									
Acenaphthene	20*	10 U	10 U	10 U	**2 J**	10 U	**6**	**3 J**	**3 J**
Acenaphthylene	NE	10 U	10 U	10 U	**2 J**	**2 J**	**23**	**2 J**	**3 J**
Anthracene	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[g,h,i]perylene	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	50*	10 U	10 U	10 U	**1 J**	**2 J**	**1 J**	**3 J**	**3 J**
Fluorene	50*	10 U	10 U	10 U	10 U	10 U	**5**	10 U	10 U
Methylnaphthalene, 2-	NE	10 U	10 U	10 U	10 U	**2 J**	**27**	**3 J**	**3 J**
Naphthalene	10*	10 U	**3 J**	**4 J**	**11**	**20**	**240**	**110**	**110**
Phenanthrene	50*	10 U	**2 J**	**2 J**	**2 J**	**3 J**	**4 J**	**3 J**	**4 J**
Pyrene	50*	10 U	10 U	10 U	10 U	**2 J**	**2 J**	**3 J**	**3 J**
Carcinogenic PAHs (ug/L)									
Benz[a]anthracene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	ND	10 U	10 U	10 U	10 U	10 U	10 U	**1 J**	**1 J**
Benzo[b]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	**1 J**	**1 J**
Benzo[k]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	**1 J**	**1 J**
Dibenz[a,h]anthracene	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total PAHs (ug/L)									
Total PAHs	NE	ND	**5**	**6**	**18**	**31**	**308**	**130**	**132**
Other SVOCs (ug/L)									
Bis(2-chloroethoxy)methane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(chloroisopropyl)ether	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromophenyl phenyl ether, 4-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloro-3-methylphenol, 4-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroaniline, 4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloronaphthalene, 2-	10*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenol, 2-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenyl phenyl ether, 4-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,3-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzidine, 3,3-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorophenol, 2,4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphenol, 2,4-	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butyl phthalate	50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitro-2-methylphenol, 4,6-	NE	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrophenol, 2,4-	10*	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrotoluene, 2,4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitrotoluene, 2,6-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	0.04	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	0.5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 2-	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 4-	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitroaniline, 2-	5	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 3-	5	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 4-	5	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	0.4	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 2-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 4-	NE	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrosodi-n-propylamine, N-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrosodiphenylamine, N-	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	1	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Phenol	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene, 1,2,4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorophenol, 2,4,5-	NE	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Trichlorophenol, 2,4,6-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table 1
Analytical Groundwater Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Sample Name:	NYS AWQS	OU2GP-31							
Sample Interval:		(5-9)	(15-19)	(25-29)	(35-39)	(45-49)	(55-59)	(65-69)	(65-69)
Sample Date:		3/30/2010	3/30/2010	3/30/2010	3/30/2010	3/30/2010	3/30/2010	3/30/2010	3/30/2010
Total Metals (ug/L)									
Aluminum	NE	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	3	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	25	NA	NA	NA	NA	NA	NA	NA	NA
Barium	1000	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	3*	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	NE	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	50	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NE	NA	NA	NA	NA	NA	NA	NA	NA
Copper	200	NA	NA	NA	NA	NA	NA	NA	NA
Iron	300	NA	NA	NA	NA	NA	NA	NA	NA
Lead	25	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	35000*	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	300	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.7	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NE	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	10	NA	NA	NA	NA	NA	NA	NA	NA
Silver	50	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	20000	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	0.5*	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	NE	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2000	NA	NA	NA	NA	NA	NA	NA	NA
Other (ug/L)									
Nitrogen, Ammonia	2000	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Nitrate	10000	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Nitrite	1000	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Total	NE	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Total Kjeldahl	NE	NA	NA	NA	NA	NA	NA	NA	NA
Standard Plate Count (cfu/ml)	NE	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	250000	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	50*	NA	NA	NA	NA	NA	NA	NA	NA
Total Phosphorous	NE	NA	NA	NA	NA	NA	NA	NA	NA

Table 1
Analytical Groundwater Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Sample Name:	NYS AWQS	OU2GP-32						
Sample Interval:		(5-9)	(15-19)	(25-29)	(35-39)	(45-49)	(55-59)	(65-69)
Sample Date:		3/29/2010	3/29/2010	3/29/2010	3/29/2010	3/29/2010	3/29/2010	3/29/2010
BTEX (ug/L)								
Benzene	1	10 U	10 U	**4 J**	10 U	10 U	10 U	10 U
Toluene	5	**210**	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylene, m,p-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylene, o-	5	10 U	10 U	**10**	10 U	10 U	10 U	10 U
Total BTEX	NE	**210**	ND	**14**	ND	ND	ND	ND
Acetaldehyde	8*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	50*	**34 J**	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Allyl chloride	5	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Bromodichloromethane	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butadiene, 1,3-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Butanone, 2-	50*	**5 J**	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Carbon disulfide	60*	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Carbon tetrachloride	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorotoluene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cryofluorane	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Cyclohexane	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Decane, n-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Dibromochloromethane	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromoethane, 1,2-	0.0006	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,3-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	5	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Dichloroethane, 1,1-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,2-	0.6	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, 1,1-	0.07	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, cis-1,2-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropane, 1,2-	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dioxane, 1,4-	NE	R	R	R	R	R	R	R
Dodecane, n-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Ethanol	NE	R	R	R	R	R	R	R
Heptane, n-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	0.5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexane, n-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Hexanone, 2-	50*	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Isopropyl benzene	5	10 U	10 U	**1 J**	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	10*	**19 J**	**2 J**	10 UJ	**1 J**	**52 J**	**33 J**	**420 J**
Methyl-2-pentanone, 4-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Methylene chloride	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10*	**2 J**	10 U	10 U	10 U	10 U	10 U	10 U
Nonane	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Octane, n-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Propanol, 2-	NE	R	R	R	R	R	R	R
Propylbenzene, n-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane, 1,1,1,2-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane,1,1,2,2-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrahydrofuran	50*	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Trans-1,2-dichloroethene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	5	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Trichlorobenzene, 1,2,4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,1-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,2-	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	5	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Trimethylbenzene 1,3,5-/P-ethyltoluene	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Trimethylbenzene, 1,2,4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trimethylpentane, 2,2,4-	NE	10 U	10 U	10 U	**1 J**	**10 J**	**7 J**	10 U
Vinyl acetate	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Vinyl chloride	2	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table 1
Analytical Groundwater Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Sample Name:	NYS AWQS	OU2GP-32						
Sample Interval:		(5-9)	(15-19)	(25-29)	(35-39)	(45-49)	(55-59)	(65-69)
Sample Date:		3/29/2010	3/29/2010	3/29/2010	3/29/2010	3/29/2010	3/29/2010	3/29/2010
Non-carcinogenic PAHs (ug/L)								
Acenaphthene	20*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[g,h,i]perylene	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	50*	10 U	10 U	**2 J**	**2 J**	**2 J**	**1 J**	10 U
Fluorene	50*	**1 J**	10 U	10 U	10 U	10 U	10 U	10 U
Methylnaphthalene, 2-	NE	10 U	10 U	**14**	10 U	10 U	10 U	10 U
Naphthalene	10*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenanthrene	50*	**3 J**	**2 J**	**2 J**	**3 J**	**3 J**	**5**	**5**
Pyrene	50*	10 U	10 U	10 U	**2 J**	**2 J**	**2 J**	10 U
Carcinogenic PAHs (ug/L)								
Benz[a]anthracene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	ND	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz[a,h]anthracene	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total PAHs (ug/L)								
Total PAHs	NE	**4**	**2**	**18**	**7**	**7**	**8**	**5**
Other SVOCs (ug/L)								
Bis(2-chloroethoxy)methane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(chloroisopropyl)ether	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromophenyl phenyl ether, 4-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	NE	**4 J**	10 U	10 U	10 U	10 U	10 U	10 U
Chloro-3-methylphenol, 4-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroaniline, 4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloronaphthalene, 2-	10*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenol, 2-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenyl phenyl ether, 4-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,3-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzidine, 3,3-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorophenol, 2,4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	50*	**2 J**	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphenol, 2,4-	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butyl phthalate	50	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitro-2-methylphenol, 4,6-	NE	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrophenol, 2,4-	10*	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrotoluene, 2,4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitrotoluene, 2,6-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	0.04	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	0.5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 2-	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 4-	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitroaniline, 2-	5	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 3-	5	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 4-	5	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	0.4	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 2-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 4-	NE	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrosodi-n-propylamine, N-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrosodiphenylamine, N-	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	1	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Phenol	1	**20**	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene, 1,2,4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorophenol, 2,4,5-	NE	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Trichlorophenol, 2,4,6-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table 1
Analytical Groundwater Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Sample Name:	NYS AWQS	OU2GP-32						
Sample Interval:		(5-9)	(15-19)	(25-29)	(35-39)	(45-49)	(55-59)	(65-69)
Sample Date:		3/29/2010	3/29/2010	3/29/2010	3/29/2010	3/29/2010	3/29/2010	3/29/2010
Total Metals (ug/L)								
Aluminum	NE	NA	NA	NA	NA	NA	NA	NA
Antimony	3	NA	NA	NA	NA	NA	NA	NA
Arsenic	25	NA	NA	NA	NA	NA	NA	NA
Barium	1000	NA	NA	NA	NA	NA	NA	NA
Beryllium	3*	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	NA	NA	NA	NA	NA	NA	NA
Calcium	NE	NA	NA	NA	NA	NA	NA	NA
Chromium	50	NA	NA	NA	NA	NA	NA	NA
Cobalt	NE	NA	NA	NA	NA	NA	NA	NA
Copper	200	NA	NA	NA	NA	NA	NA	NA
Iron	300	NA	NA	NA	NA	NA	NA	NA
Lead	25	NA	NA	NA	NA	NA	NA	NA
Magnesium	35000*	NA	NA	NA	NA	NA	NA	NA
Manganese	300	NA	NA	NA	NA	NA	NA	NA
Mercury	0.7	NA	NA	NA	NA	NA	NA	NA
Nickel	100	NA	NA	NA	NA	NA	NA	NA
Potassium	NE	NA	NA	NA	NA	NA	NA	NA
Selenium	10	NA	NA	NA	NA	NA	NA	NA
Silver	50	NA	NA	NA	NA	NA	NA	NA
Sodium	20000	NA	NA	NA	NA	NA	NA	NA
Thallium	0.5*	NA	NA	NA	NA	NA	NA	NA
Vanadium	NE	NA	NA	NA	NA	NA	NA	NA
Zinc	2000	NA	NA	NA	NA	NA	NA	NA
Other (ug/L)								
Nitrogen, Ammonia	2000	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Nitrate	10000	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Nitrite	1000	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Total	NE	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Total Kjeldahl	NE	NA	NA	NA	NA	NA	NA	NA
Standard Plate Count (cfu/ml)	NE	NA	NA	NA	NA	NA	NA	NA
Sulfate	250000	NA	NA	NA	NA	NA	NA	NA
Sulfide	50*	NA	NA	NA	NA	NA	NA	NA
Total Phosphorous	NE	NA	NA	NA	NA	NA	NA	NA

Table 1
Analytical Groundwater Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Sample Name:	NYS AWQS	OU2MW-55S	OU2MW-55I	OU2MW-55I2	OU2MW-55D	OU2MW-56S	OU2MW-56I	OU2MW-56I2	OU2MW-56D	
Sample Interval:										Duplicate of:
Sample Date:		6/28/2010	6/28/2010	6/28/2010	6/28/2010	6/28/2010	6/28/2010	6/28/2010	6/28/2010	6/28/2010
BTEX (ug/L)										
Benzene	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	5	**8**	**7**	**16**	**40**	10 U	**11**	10 U	10 U	10 U
Ethylbenzene	5	10 U	10 U	**4 J**	**8**	10 U	**23**	10 U	10 U	10 U
Xylene, m,p-	5	10 U	**2 J**	**64**	**73**	10 U	**2 J**	10 U	10 U	10 U
Xylene, o-	5	10 U	**9**	**36**	**38**	10 U	**9**	10 U	10 U	10 U
Total BTEX	NE	**8**	**18**	**120**	**159**	ND	**45**	ND	ND	ND
Acetaldehyde	8*	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Acetone	50*	**1 J**	**2 J**	**6 J**	**3 J**	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Allyl chloride	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	50*	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Bromomethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butadiene, 1,3-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Butanone, 2-	50*	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Carbon disulfide	60*	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Carbon tetrachloride	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorotoluene	5	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cryofluorane	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Cyclohexane	NE	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Decane, n-	NE	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromoethane, 1,2-	0.0006	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,3-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,1-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,2-	0.6	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, 1,1-	0.07	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, cis-1,2-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropane, 1,2-	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dioxane, 1,4-	NE	R	R	R	R	R	R	R	R	R
Dodecane, n-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Ethanol	NE	R	R	R	R	R	R	R	R	R
Heptane, n-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Hexachlorobutadiene	0.5	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Hexane, n-	NE	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Hexanone, 2-	50*	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isopropyl benzene	5	10 UJ	10 U	10 U	**4 J**	10 U	**9**	10 U	10 U	10 U
Methyl tert-butyl ether	10*	10 U	10 U	**11**	**8**	10 U	10 U	**6**	**84**	**88**
Methyl-2-pentanone, 4-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10*	10 U	**2 J**	**340**	**560**	10 U	**10**	10 U	10 U	10 U
Nonane	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Octane, n-	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Propanol, 2-	NE	500 U	R	R	R	R	R	R	R	R
Propylbenzene, n-	5	10 UJ	10 UJ	**1 J**	**6 J**	10 UJ	**3 J**	10 UJ	10 UJ	10 UJ
Styrene	5	10 U	10 U	**17**	**18**	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane, 1,1,1,2-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane,1,1,2,2-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	10 U	**1 J**	10 U	10 U	10 U	10 U	10 U
Tetrahydrofuran	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trans-1,2-dichloroethene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene, 1,2,4-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,1-	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,2-	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trimethylbenzene 1,3,5-/P-ethyltoluene	NE	10 U	10 U	**17**	**52**	10 U	10 U	10 U	10 U	10 U
Trimethylbenzene, 1,2,4-	5	10 UJ	10 U	**31**	**87**	10 U	**16**	10 U	10 U	10 U
Trimethylpentane, 2,2,4-	NE	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Vinyl acetate	NE	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Vinyl chloride	2	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Validated

Table 1
Analytical Groundwater Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Sample Name:	NYS AWQS	OU2MW-55S	OU2MW-55I	OU2MW-55I2	OU2MW-55D	OU2MW-56S	OU2MW-56I	OU2MW-56I2	OU2MW-56D	
Sample Interval:										Duplicate of:
Sample Date:		6/28/2010	6/28/2010	6/28/2010	6/28/2010	6/28/2010	6/28/2010	6/28/2010	6/28/2010	6/28/2010
Non-carcinogenic PAHs (ug/L)										
Acenaphthene	20*	10 U	10 U	**1 J**	**5**	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	NE	10 U	10 U	**8**	**14**	10 U	10 U	10 U	10 U	10 U
Anthracene	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[g,h,i]perylene	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	50*	10 U	10 U	**3 J**	**4 J**	10 U	10 U	10 U	10 U	10 U
Methylnaphthalene, 2-	NE	10 U	10 U	**4 J**	**36**	10 U	10 U	10 U	10 U	10 U
Naphthalene	10*	10 U	10 U	**2 J**	**120**	10 U	**6**	10 U	10 U	10 U
Phenanthrene	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carcinogenic PAHs (ug/L)										
Benz[a]anthracene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	ND	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	0.002*	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Dibenz[a,h]anthracene	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total PAHs (ug/L)										
Total PAHs	NE	ND	ND	**18**	**179**	ND	**6**	ND	ND	ND
Other SVOCs (ug/L)										
Bis(2-chloroethoxy)methane	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethyl)ether	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(chloroisopropyl)ether	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromophenyl phenyl ether, 4-	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	50*	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloro-3-methylphenol, 4-	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroaniline, 4-	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloronaphthalene, 2-	10*	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorophenol, 2-	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorophenyl phenyl ether, 4-	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorobenzene, 1,2-	3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorobenzene, 1,3-	3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorobenzene, 1,4-	3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorobenzidine, 3,3-	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorophenol, 2,4-	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	50*	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	50*	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethylphenol, 2,4-	50*	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butyl phthalate	50	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinitro-2-methylphenol, 4,6-	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinitrophenol, 2,4-	10*	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinitrotoluene, 2,4-	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinitrotoluene, 2,6-	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	50*	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	50*	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenol, 2-	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylphenol, 4-	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitroaniline, 2-	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitroaniline, 3-	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitroaniline, 4-	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrophenol, 2-	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrophenol, 4-	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrosodi-n-propylamine, N-	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrosodiphenylamine, N-	50*	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorobenzene, 1,2,4-	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorophenol, 2,4,5-	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorophenol, 2,4,6-	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA

Validated

Table 1
Analytical Groundwater Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Sample Name:	NYS AWQS	OU2MW-55S	OU2MW-55I	OU2MW-55I2	OU2MW-55D	OU2MW-56S	OU2MW-56I	OU2MW-56I2	OU2MW-56D	
Sample Interval:										Duplicate of:
Sample Date:		6/28/2010	6/28/2010	6/28/2010	6/28/2010	6/28/2010	6/28/2010	6/28/2010	6/28/2010	6/28/2010
Total Metals (ug/L)										
Aluminum	NE	27.2 UJ	8.0 UJ	20.1 UJ	**1160**	8.0 UJ	40.8 UJ	8.0 UJ	8.0 UJ	18 UJ
Antimony	3	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.1 U
Arsenic	25	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.3 U
Barium	1000	**8.4 J**	**53.1 J**	**23.2 J**	**24.9 J**	**7.1 J**	**47.7 J**	**44.0 J**	**29.8 J**	**30.2 J**
Beryllium	3*	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	**0.40 J**	0.26 U
Cadmium	5	0.38 UJ	0.33 U	0.59 UJ	0.33 U	0.33 U	0.33 U	0.43 UJ	0.81 UJ	0.41 UJ
Calcium	NE	**19500**	**25700**	**11500**	**9580**	**25000**	**28200**	**12600**	**15300**	**15800**
Chromium	50	2.3 U	2.3 U	2.3 U	**6.6 J**	2.3 U	2.3 U	2.3 U	2.3 U	0.44 U
Cobalt	NE	**2.5 J**	1.4 U	**1.4 J**	**3.8 J**	1.4 U	1.4 U	**2.5 J**	**1.6 J**	**1.6 J**
Copper	200	6.7 UJ	4.6 UJ	2.9 UJ	**10.6 J**	5.0 UJ	1.3 UJ	3.2 UJ	3.8 UJ	4.0 UJ
Iron	300	**515**	123 U	**263**	**3520**	103 U	**23100**	50.7 UJ	79.1 UJ	75.6 UJ
Lead	25	**1.7 J**	**1.5 J**	1.3 U	**2.4 J**	1.3 U	**3.1**	**2.0 J**	**1.3 J**	1.8 U
Magnesium	35000*	**2910 J**	**5250**	**3140 J**	**3270 J**	**4170 J**	**4650 J**	**2350 J**	**5190**	**5250**
Manganese	300	**18.0**	**542**	**5610**	**1700**	**13.1 J**	**1280**	**10000**	**3330**	**3450**
Mercury	0.7	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Nickel	100	8.7 UJ	2.6 UJ	2.0 UJ	**17.0 J**	2.1 UJ	2.0 UJ	1.5 U	6.3 UJ	6.4 UJ
Potassium	NE	**2430 J**	**3210 J**	**3000 J**	**1830 J**	**2180 J**	**4720 J**	**2380 J**	**2840 J**	**2890 J**
Selenium	10	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.5 U
Silver	50	0.32 U	0.32 U	0.51 UJ	0.32 U	0.32 U	0.38 UJ	0.90 UJ	0.57 UJ	0.83 U
Sodium	20000	**10500 J**	**54900 J**	**26600 J**	**14600 J**	**12500 J**	**42300 J**	**26500 J**	**26600 J**	**27500 J**
Thallium	0.5*	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 UJ	3.0 U	3.2 UJ	3.2 U
Vanadium	NE	**4.5 J**	1.1 U	1.1 U	**2.8 J**	**1.9 J**	**1.3 J**	1.1 U	1.1 U	1.4 U
Zinc	2000	**114**	53.9 U	41.2 U	**355**	20.5 U	19.6 UJ	19.0 UJ	**113 J**	74.4 UJ
Other (ug/L)										
Nitrogen, Ammonia	2000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Nitrogen, Nitrate	10000	**970 J**	100 UJ	100 UJ	100 UJ	**3690 J**	**220 J**	**1600 J**	**4510 J**	**4520 J**
Nitrogen, Nitrite	1000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Nitrogen, Total	NE	**970**	**200**	**160**	**140**	**3690**	**220**	**1600**	**4510**	**4520**
Nitrogen, Total Kjeldahl	NE	100 U	**200**	**160**	**140**	100 U	100 U	100 U	100 U	100 U
Standard Plate Count (cfu/ml)	NE	**2400**	**4200**	**1100**	**2400**	**22000**	**2300**	**3200**	**9400**	**9000**
Sulfate	250000	**14300**	**19400**	**37200**	**7540**	**19300**	**37200**	**20500**	**25500**	**25600**
Sulfide	50*	2000 UJ	2000 UJ	2000 UJ	2000 UJ	2000 UJ	2000 UJ	2000 UJ	2000 UJ	2000 UJ
Total Phosphorous	NE	**150**	50 U	50 U	50 U	**110**	50 U	50 U	50 U	50 U

Table 1
Analytical Groundwater Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Notes:

ug/L - micrograms per liter or parts per billion (ppb)
cfu/ml - colony forming units per 1 milliliter
BTEX - benzene, toluene, ethylbenzene, and xylenes
VOCs - volatile organic compounds
PAHs - polycyclic aromatic hydrocarbons
SVOCs - semivolatile organic compounds

Total BTEX, and Total PAHs are calculated using detects only.

NYS AWQS - New York State Ambient Water Quality Standards and Guidance Values for GA groundwater
* indicates the value is a guidance value and not a standard

NE - not established
NA - not analyzed
ND - not detected; total concentration is listed as ND because no compounds were detected in the group

Bolding indicates a detected concentration
Shading and bolding indicates that the detected concentration is above the NYS AWQS objective it was compared to

Validation Qualifiers:

J - estimated value
JN - analyte is presumptively present at an approximated quantity
U - indicates not detected to the reporting limit for organic analysis and the method detection limit for inorganic analysis
UJ - not detected at or above the reporting limit shown and the reporting limit is estimated
R - rejected

Laboratory Qualifiers:

J - estimated value
JN - analyte is presumptively present at an approximated quantity

Table 2
Analytical Soil Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Validated

Sample Name:	6 NYCRR 375 SCO	OU2MW-55	OU2MW-55	OU2MW-55	Duplicate of: OU2MW-55	OU2MW-55	OU2MW-56	OU2MW-56	OU2MW-56	OU2MW-56
Sample Interval (ft):	UNRESTRICTED	(5-15)	(25-30)	(45-50)	(45-50)	(65-70)	(5-15)	(25-30)	(45-50)	(65-70)
Sample Date:	USE	6/9/2010	6/9/2010	6/9/2010	6/9/2010	6/11/2010	6/10/2010	6/10/2010	6/10/2010	6/10/2010
BTEX (mg/kg)										
Benzene	0.06	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Toluene	0.7	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Ethylbenzene	1	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Xylene, m,p-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Xylene, o-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Total BTEX	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other VOCs (mg/kg)										
Acetaldehyde	NE	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.012 UJ
Acetone	0.05	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Allyl chloride	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Bromodichloromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Bromoform	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Bromomethane	NE	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.012 UJ
Butadiene, 1,3-	NE	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.012 UJ
Butanone, 2-	0.12	0.012 U	**0.001 J**	0.012 U	0.012 U	**0.002 J**	**0.002 J**	**0.002 J**	0.012 U	0.012 U
Carbon disulfide	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Carbon tetrachloride	0.76	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Chlorobenzene	1.1	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Chloroethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Chloroform	0.37	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Chloromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Chlorotoluene	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Cryofluorane	NE	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.012 UJ
Cyclohexane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Dibromochloromethane	NE	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.012 UJ
Dibromoethane, 1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Dichlorobenzene, 1,2-	1.1	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Dichlorobenzene, 1,3-	2.4	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Dichlorobenzene, 1,4-	1.8	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Dichlorodifluoromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Dichloroethane, 1,1-	0.27	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Dichloroethane, 1,2-	0.02	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Dichloroethene, 1,1-	0.33	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Dichloroethene, cis-1,2-	0.25	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Dichloropropane, 1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Dichloropropene, cis-1,3	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U

Table 2
Analytical Soil Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Validated

Sample Name: Sample Interval (ft): Sample Date:	6 NYCRR 375 SCO UNRESTRICTED USE	OU2MW-55 (5-15) 6/9/2010	OU2MW-55 (25-30) 6/9/2010	OU2MW-55 (45-50) 6/9/2010	Duplicate of: OU2MW-55 (45-50) 6/9/2010	OU2MW-55 (65-70) 6/11/2010	OU2MW-56 (5-15) 6/10/2010	OU2MW-56 (25-30) 6/10/2010	OU2MW-56 (45-50) 6/10/2010	OU2MW-56 (65-70) 6/10/2010
Dichloropropene, trans-1,3	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Dioxane, 1,4-	0.1	R	R	R	R	R	R	R	R	R
Ethanol	NE	R	R	R	R	R	R	R	R	R
Heptane, n-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Hexachlorobutadiene	NE	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.012 UJ
Hexane, n-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Hexanone, 2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Isopropyl benzene	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Methyl tert-butyl ether	0.93	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	**0.008**
Methyl-2-pentanone, 4-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Methylene chloride	0.05	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.012 UJ
Naphthalene	12	0.012 U	0.012 U	0.012 U	0.012 U	**0.14**	0.011 U	0.012 U	0.012 U	0.012 U
Propanol, 2-	NE	0.59 U	0.62 U	0.59 U	0.59 U	0.6 U	0.57 U	0.6 U	0.61 U	0.62 U
Propylbenzene, n-	3.9	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.012 UJ
Styrene	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Tetrachloroethane, 1,1,1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Tetrachloroethane,1,1,2,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Tetrachloroethene	1.3	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Tetrahydrofuran	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Trans-1,2-dichloroethene	0.19	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Trichlorobenzene, 1,2,4-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Trichloroethane, 1,1,1-	0.68	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Trichloroethane, 1,1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Trichloroethene	0.47	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Trichlorofluoromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Trimethylbenzene 1,3,5-/P-ethyltoluene	8.4	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Trimethylbenzene, 1,2,4-	3.6	0.012 U	0.012 U	0.012 U	0.012 U	**0.003 J**	0.011 U	0.012 U	0.012 U	0.012 U
Trimethylpentane, 2,2,4-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Vinyl acetate	NE	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 UJ	0.012 UJ	0.012 UJ	0.012 UJ
Vinyl chloride	0.02	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U
Total VOCs	NE	ND	**0.001**	ND	ND	**0.145**	**0.002**	**0.002**	ND	**0.008**
Non-carcinogenic PAHs (mg/kg)										
Acenaphthene	20	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Acenaphthylene	100	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Anthracene	100	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Benzo[g,h,i]perylene	100	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U

Table 2
Analytical Soil Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Validated

Sample Name: Sample Interval (ft): Sample Date:	6 NYCRR 375 SCO UNRESTRICTED USE	OU2MW-55 (5-15) 6/9/2010	OU2MW-55 (25-30) 6/9/2010	OU2MW-55 (45-50) 6/9/2010	Duplicate of: OU2MW-55 (45-50) 6/9/2010	OU2MW-55 (65-70) 6/11/2010	OU2MW-56 (5-15) 6/10/2010	OU2MW-56 (25-30) 6/10/2010	OU2MW-56 (45-50) 6/10/2010	OU2MW-56 (65-70) 6/10/2010
Fluoranthene	100	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Fluorene	30	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Methylnaphthalene, 2-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Naphthalene	12	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Phenanthrene	100	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Pyrene	100	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Carcinogenic PAHs (mg/kg)										
Benz[a]anthracene	1	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Benzo[a]pyrene	1	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Benzo[b]fluoranthene	1	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Benzo[k]fluoranthene	0.8	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Chrysene	1	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Dibenz[a,h]anthracene	0.33	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Indeno[1,2,3-cd]pyrene	0.5	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Total PAHs	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND
Other SVOCs (mg/kg)										
Bis(2-chloroethoxy)methane	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Bis(2-chloroethyl)ether	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Bis(2-ethylhexyl)phthalate	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Bis(chloroisopropyl)ether	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Bromophenyl phenyl ether, 4-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Butyl benzyl phthalate	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Carbazole	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Chloro-3-methylphenol, 4-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Chloroaniline, 4-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Chloronaphthalene, 2-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Chlorophenol, 2-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Chlorophenyl phenyl ether, 4-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Dibenzofuran	7	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Dichlorobenzene, 1,2-	1.1	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Dichlorobenzene, 1,3-	2.4	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Dichlorobenzene, 1,4-	1.8	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Dichlorobenzidine, 3,3-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Dichlorophenol, 2,4-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Diethyl phthalate	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Dimethyl phthalate	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Dimethylphenol, 2,4-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U

Table 2
Analytical Soil Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Sample Name: Sample Interval (ft): Sample Date:	6 NYCRR 375 SCO UNRESTRICTED USE	OU2MW-55 (5-15) 6/9/2010	OU2MW-55 (25-30) 6/9/2010	OU2MW-55 (45-50) 6/9/2010	Duplicate of: OU2MW-55 (45-50) 6/9/2010	OU2MW-55 (65-70) 6/11/2010	OU2MW-56 (5-15) 6/10/2010	OU2MW-56 (25-30) 6/10/2010	OU2MW-56 (45-50) 6/10/2010	OU2MW-56 (65-70) 6/10/2010
Di-n-butyl phthalate	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Dinitro-2-methylphenol, 4,6-	NE	0.98 U	1 U	0.97 U	0.98 U	1 U	0.95 U	1 U	1 U	1 U
Dinitrophenol, 2,4-	NE	0.98 U	1 U	0.97 U	0.98 U	1 U	0.95 U	1 U	1 U	1 U
Dinitrotoluene, 2,4-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Dinitrotoluene, 2,6-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Di-n-octyl phthalate	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Hexachlorobenzene	0.33	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Hexachlorobutadiene	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Hexachlorocyclopentadiene	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Hexachloroethane	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Isophorone	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Methylphenol, 2-	0.33	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Methylphenol, 4-	0.33	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Nitroaniline, 2-	NE	0.98 U	1 U	0.97 U	0.98 U	1 U	0.95 U	1 U	1 U	1 U
Nitroaniline, 3-	NE	0.98 U	1 U	0.97 U	0.98 U	1 U	0.95 U	1 U	1 U	1 U
Nitroaniline, 4-	NE	0.98 U	1 U	0.97 U	0.98 U	1 U	0.95 U	1 U	1 U	1 U
Nitrobenzene	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Nitrophenol, 2-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Nitrophenol, 4-	NE	0.98 U	1 U	0.97 U	0.98 U	1 U	0.95 U	1 U	1 U	1 U
Nitrosodi-n-propylamine, N-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Nitrosodiphenylamine, N-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Pentachlorophenol	0.8	0.98 U	1 U	0.97 U	0.98 U	1 U	0.95 U	1 U	1 U	1 U
Phenol	0.33	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Trichlorobenzene, 1,2,4-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Trichlorophenol, 2,4,5-	NE	0.98 U	1 U	0.97 U	0.98 U	1 U	0.95 U	1 U	1 U	1 U
Trichlorophenol, 2,4,6-	NE	0.39 U	0.41 U	0.39 U	0.39 U	0.4 U	0.38 U	0.4 U	0.4 U	0.41 U
Total SVOCs	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Metals (mg/kg)										
Aluminum	NE	**681**	**1040**	**511**	**546**	**1300**	**321**	**514**	**486**	**1400**
Antimony	NE	0.34 U	0.36 U	0.34 U	0.35 U	0.35 U	0.34 U	0.35 U	0.36 U	0.36 U
Arsenic	13	0.29 U	**0.75 J**	0.29 U	0.30 U	0.30 U	0.29 U	0.30 U	**0.35 J**	0.31 U
Barium	350	**2.1 J**	**3.7 J**	**3.0 J**	**3.2 J**	**6.2 J**	**1.2 J**	**2.1 J**	**2.8 J**	**8.2 J**
Beryllium	7.2	**0.10 J**	**0.11 J**	**0.023 J**	0.020 U	**0.081 J**	0.020 U	0.021 U	**0.023 J**	**0.072 J**
Cadmium	2.5	0.039 U	0.041 U	0.039 U	0.039 U	0.040 U	0.038 U	0.040 U	0.041 U	0.041 U
Calcium	NE	**87.3 J**	**65.6 J**	**31.6 J**	**33.2 J**	**193 J**	**23.5 J**	**34.1 J**	**30.5 J**	**169 J**
Chromium	NE	**3.1**	**4.8**	**3.4**	**1.5**	**2.7**	**1.4**	**1.4**	**1.7**	**2.8**
Cobalt	NE	**0.41 J**	**1.1 J**	**0.58 J**	**0.53 J**	**1.6 J**	**0.21 J**	**0.48 J**	**0.64 J**	**1.3 J**

Table 2
Analytical Soil Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Validated

Sample Name: Sample Interval (ft): Sample Date:	6 NYCRR 375 SCO UNRESTRICTED USE	OU2MW-55 (5-15) 6/9/2010	OU2MW-55 (25-30) 6/9/2010	OU2MW-55 (45-50) 6/9/2010	Duplicate of: OU2MW-55 (45-50) 6/9/2010	OU2MW-55 (65-70) 6/11/2010	OU2MW-56 (5-15) 6/10/2010	OU2MW-56 (25-30) 6/10/2010	OU2MW-56 (45-50) 6/10/2010	OU2MW-56 (65-70) 6/10/2010
Copper	50	**2.4 J**	**3.2**	**2.3 J**	**1.5 J**	**3.4**	**1.8 J**	**1.8 J**	**1.6 J**	**3.3**
Iron	NE	**1590**	**3680**	**1800**	**1250**	**3850**	**920**	**1570**	**1400**	**3090**
Lead	63	**1.6**	**3.0**	**1.3 J**	**1.1 J**	**2.1**	**0.83 J**	**1.1 J**	**1.2 J**	**2.1**
Magnesium	NE	**109 J**	**172 J**	**102 J**	**104 J**	**348 J**	**53.0 J**	**103 J**	**112 J**	**388 J**
Manganese	1600	**7.7**	**25.1**	**21.7**	**21.7**	**120**	**5.1**	**9.0**	**22.9**	**36.6**
Mercury	0.18	0.020 U	0.021 U	0.020 U	0.020 U	0.020 U	0.019 U	0.020 U	0.020 U	0.021 U
Nickel	30	**1.3 J**	**2.2 J**	**1.5 J**	**1.1 J**	**2.9 J**	**1.5 J**	**2.2 J**	**1.5 J**	**3.0 J**
Potassium	NE	**101 J**	**141 J**	**94.7 J**	**98.9 J**	**190 J**	**71.3 J**	**101 J**	**96.0 J**	**224 J**
Selenium	3.9	0.33 U	0.35 U	0.33 U	0.33 U	0.34 U	0.32 U	0.33 U	0.34 U	0.34 U
Silver	2	0.038 U	0.040 U	0.038 U	0.038 U	0.039 U	0.037 U	0.039 U	0.040 U	0.040 U
Sodium	NE	**13.0 J**	**28.5 J**	**24.3 J**	**18.3 J**	**21.6 J**	**10.8 J**	**25.7 J**	**24.0 J**	**30.3 J**
Thallium	NE	0.35 U	0.37 U	0.35 U	0.35 U	0.36 U	0.34 U	0.36 U	0.37 U	0.37 U
Vanadium	NE	**3.0 J**	**7.3**	**3.6 J**	**2.2 J**	**5.4 J**	**1.8 J**	**2.3 J**	**2.4 J**	**4.5 J**
Zinc	109	**11.8**	**7.5**	**5.8**	**5.6**	**8.7**	**6.8**	**6.7**	**6.6**	**9.4**
Other (%)										
Moisture, percent	NE	**15.0**	**19.4**	**14.7**	**15.6**	**17.0**	**13.0**	**16.9**	**18.2**	**19.3**

Table 2
Analytical Soil Results
29 Community Road Investigation
Operable Unit No. 2
Bay Shore/Brightwaters Former MGP Site

Notes:

mg/kg - milligrams/kilogram or parts per million (ppm)
BTEX - benzene, toluene, ethylbenzene, and xylenes
VOCs - volatile organic compounds
PAHs - polycyclic aromatic hydrocarbons
SVOCs - semivolatile organic compounds

Total BTEX, Total VOCs, Total PAHs and Total SVOCs are calculated using detects only.

6 NYCRR -New York State Register and Official Compilation of Codes, Rules and Regulations of the State of New York
6 NYCRR 375 SCO UNRESTRICTED USE - regulatory comparison against NYCRR, Chapter IV, Part 375-6 Unrestricted Use Soil Cleanup Objectives

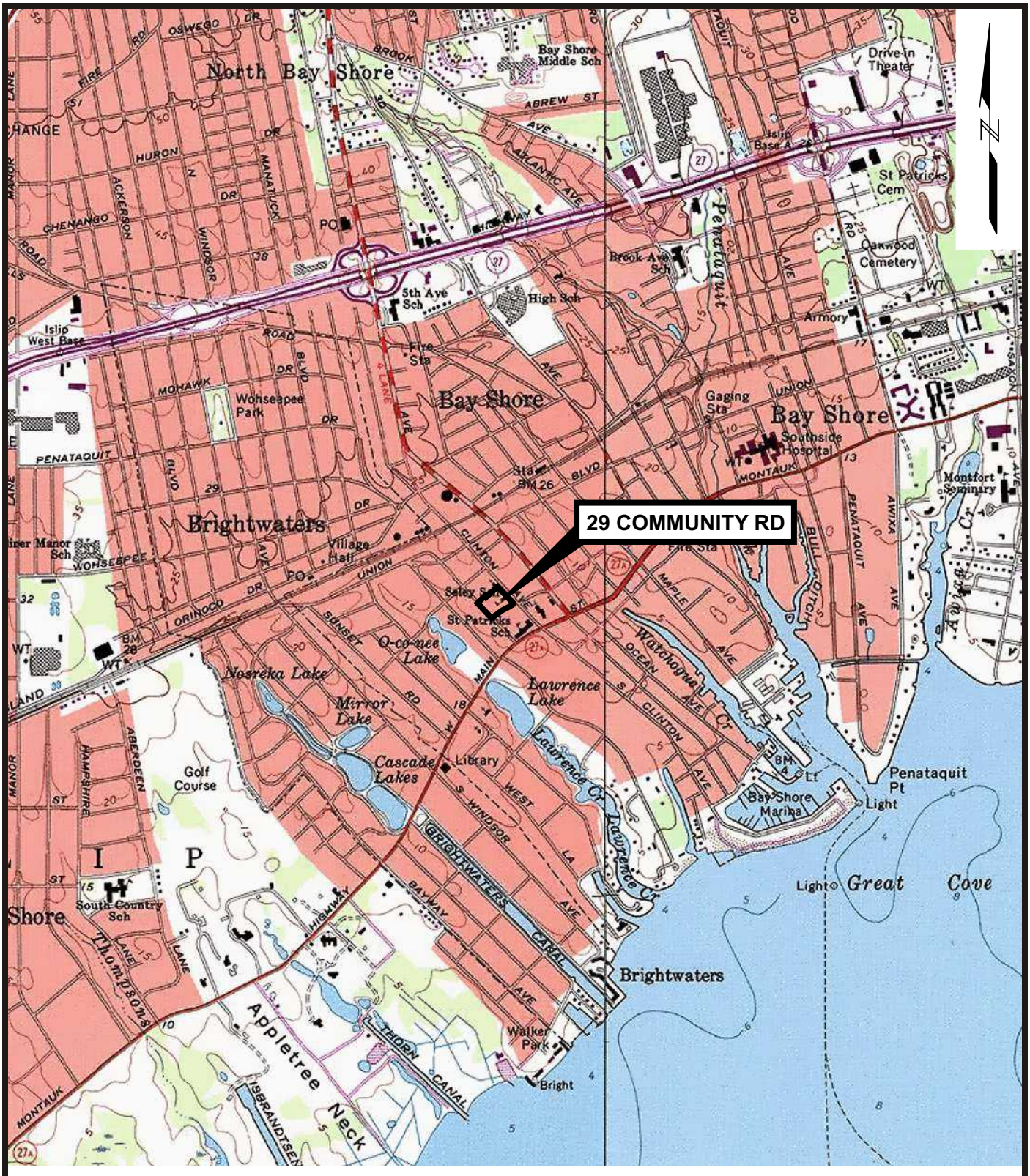
NE - not established
ND - not detected; total concentration is listed as ND because no compounds were detected in the group

Bolding indicates a detected concentration
Gray shading indicates that the detected result value exceeds established 6 NYCRR SCO UNRESTR

Validation Qualifiers:

J - estimated value
U - indicates not detected at or above the reporting limit shown.
UJ - not detected at or above the reporting limit shown and the reporting limit is estimated
R - rejected

Figures



SOURCE: Map created with TOPO! ® ©2001 National Geographic (www.nationalgeographic.com/topo)

BAYSHORE/BRIGHTWATERS
FORMER MGP SITE
BAY SHORE, NEW YORK

nationalgrid

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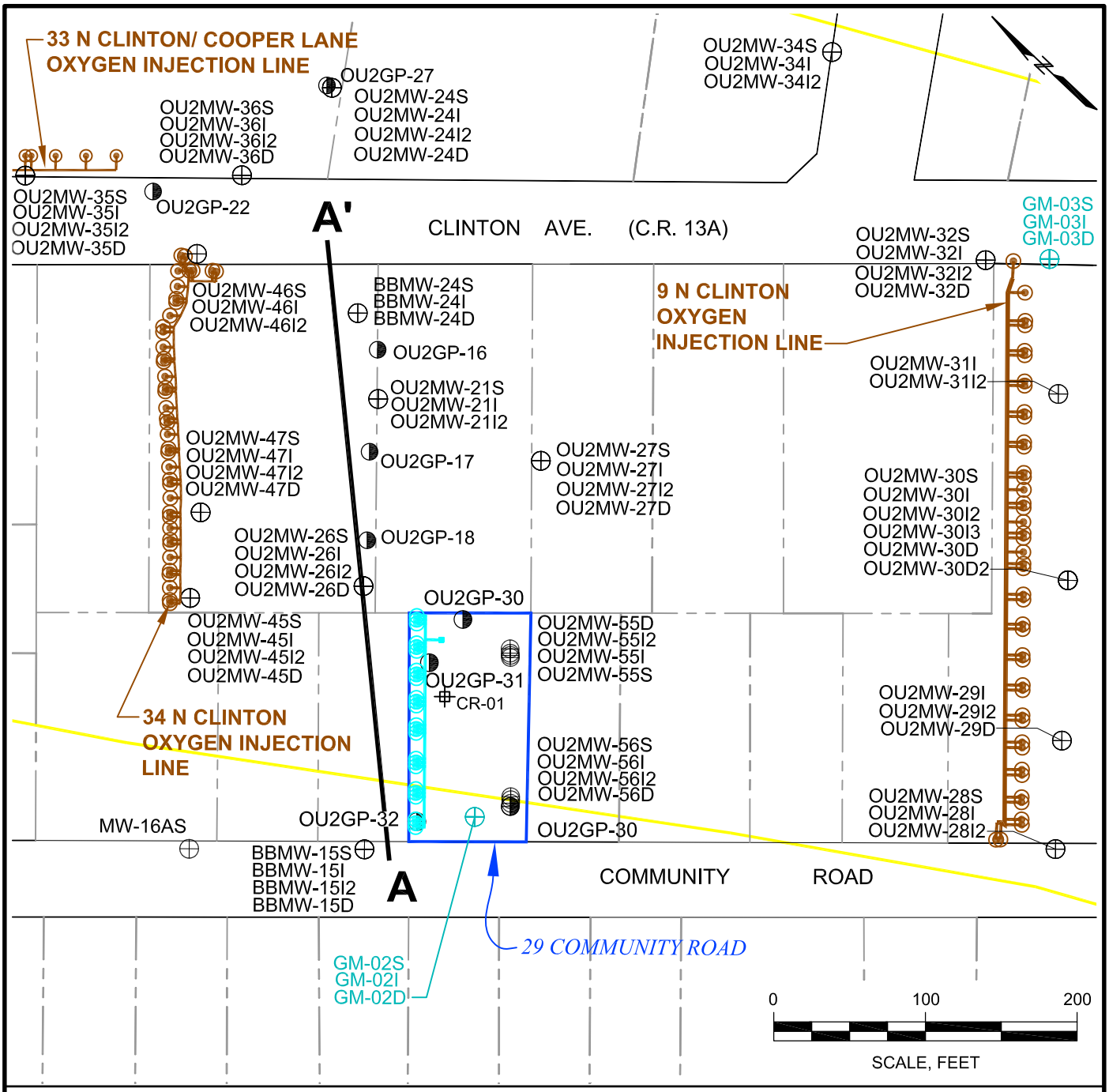
PROJECT 093180-2-1212

SITE LOCATION MAP

January 2011 Figure 1

I:\GEI\National Grid\Bay Shore\OU-2\29 COMMUNITY ROAD\ Design Report\BAY SHORE-29 Community Rd LOC.CDR



LEGEND:

⊕ OU2MW-01S OU2MW-01I OU2MW-01I2 OU2MW-01D	EXISTING MONITORING WELL CLUSTER LOCATION S=SHALLOW I=INTERMEDIATE I2= INTERMEDIATE TWO D=DEEP
⊕ GM-02S,I,D	ABANDONED MONITORING WELL CLUSTER LOCATION
◑ OU2GP-15	GROUNDWATER PROBE LOCATION
⊕ CR-01	SUFFOLK COUNTY WELL LOCATION

INSTALLED OXYGEN INJECTION LINE

PROPOSED OXYGEN INJECTION LINE

OU-2 EXTENT FROM 2004 RI BASED ON >100 ug/L TOTAL BTEX OR >100 ug/L TOTAL PAHs DETECTED IN GROUNDWATER

BAY SHORE/BRIGHTWATERS
FORMER MGP SITE
BAY SHORE, NEW YORK

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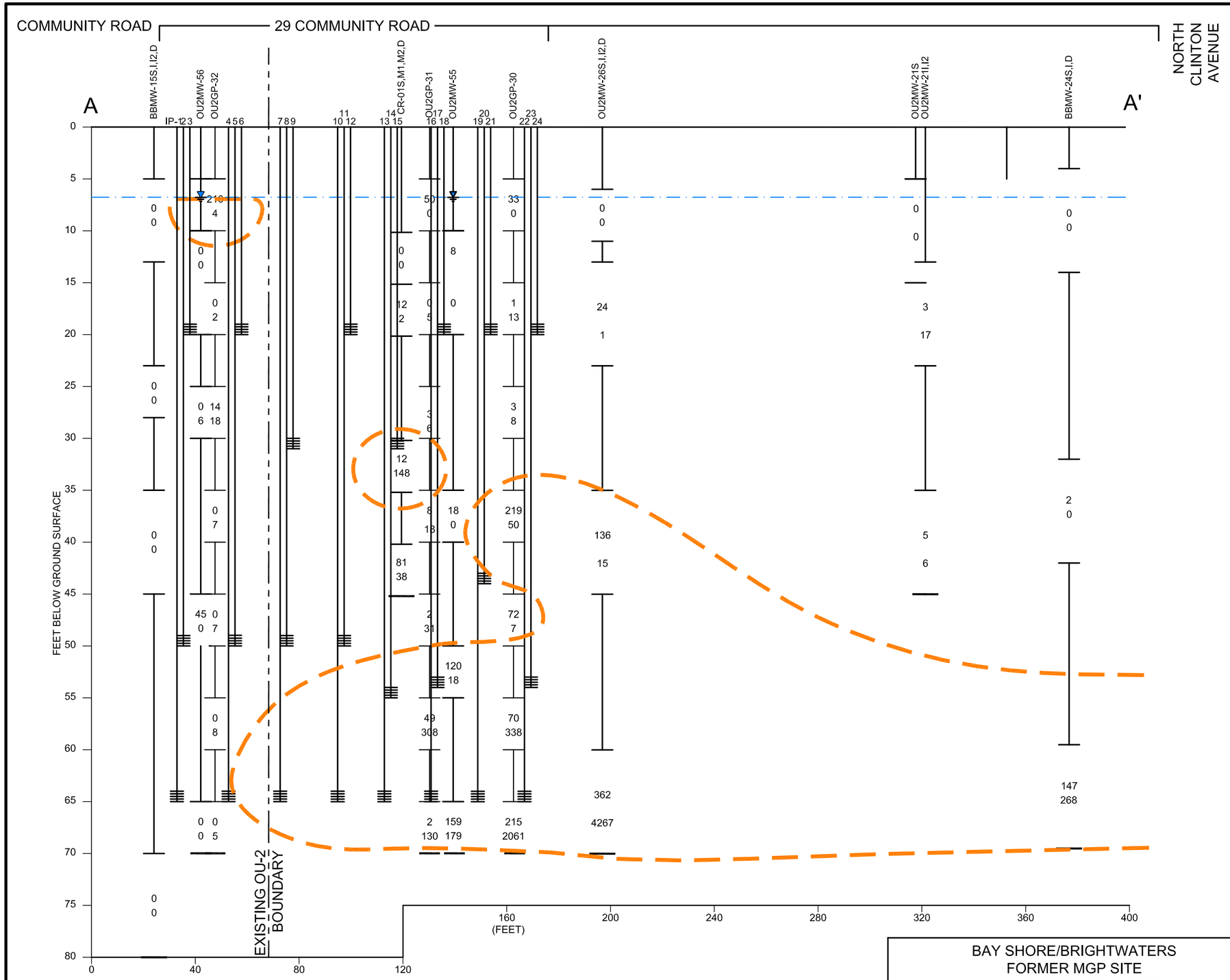
SITE PLAN

Project 093180-2-1212 | January 2011 | Figure 2

I:\Project\National Grid\Bay Shore\OU-2\29 Community Rd\DESIGN REPORT\ F2 Site Plan.dwg \Jan 04, 2011



LEGEND

OU2MW-17S,I,I2,D	EXISTING MONITORING WELL CLUSTER LOCATION S=SHALLOW I=INTERMEDIATE I2= INTERMEDIATE TWO D=DEEP
OU2GP-30	GROUNDWATER PROBE LOCATION
OUGP-13	EXISTING OR PROPOSED MONITORING WELL OR MONITORING POINT ID
	EXISTING OR PROPOSED MONITORING WELL OR MONITORING POINT LOCATION
SAMPLE INTERVAL 1.5	TOTAL BTEX CONCENTRATION IN GROUNDWATER (ug/L)
SAMPLE INTERVAL 1.5	TOTAL PAH CONCENTRATION IN GROUNDWATER (ug/L)
	WATER LEVEL
	BOTTOM OF BORING/WELL
	APPROXIMATE TBTEX OR TPAH > 100 ug/L BOUNDARY BASED OFF OF DATA COLLECTED DURING THE 29 COMMUNITY ROAD PRE-DESIGN INVESTIGATION AND DURING THE Q1 2010 GROUNDWATER SAMPLING EVENT
BTEX	BENZENE, TOLUENE, ETHYLBENZENE AND XYLENE
PAHs	POLYCYCLIC AROMATIC HYDROCARBONS
ug/L	MICROGRAMS PER LITER
9	INJECTION WELL NUMBER
	INJECTION WELL
	SCREEN INTERVAL

10 0 5 10
VERTICAL SCALE IN FEET

40 20 0 40
HORIZONTAL SCALE IN FEET

NOTES:

1. GROUNDWATER MONITORING WELL DATA WAS COLLECTED IN Q1 2010.
2. SUFFOLK COUNTY POINT CR-01 DATA WAS COLLECTED IN SEPTEMBER 2008.

BAY SHORE/BRIGHTWATERS
FORMER MGP SITE
BAY SHORE, NEW YORK

nationalgrid

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Project 093180-2-1212

REMEDIAL CROSS SECTION
29 COMMUNITY ROAD
OXYGEN INJECTION LINE

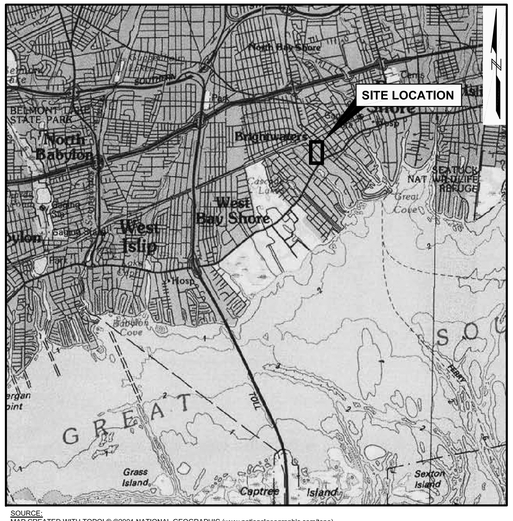
January 2011 Figure 3

I:\Project\National Grid\Bay Shore\OU-2\29 Community Rd\DESIGN REPORT\ F3 BIOREMEDIATION SECTION.dwg \Jan 05, 2011

Appendix A

Design Drawings (electronic only)

REMEDIAL DESIGN DRAWINGS
29 COMMUNITY ROAD
OPERABLE UNIT NO. 2
BAY SHORE/BRIGHTWATERS FORMER MANUFACTURED GAS PLANT SITE
BAY SHORE, NEW YORK

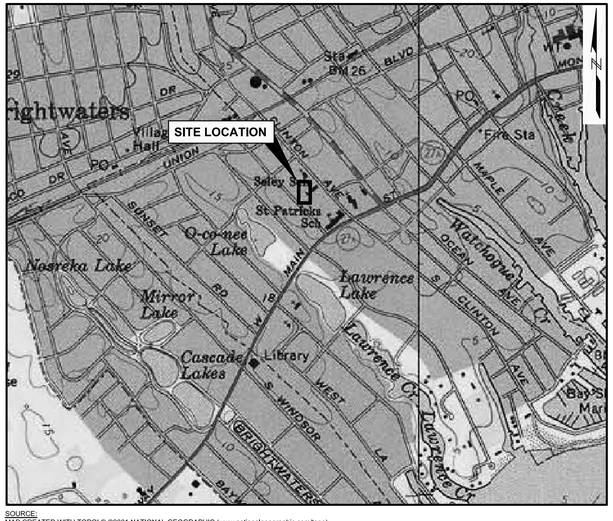


SOURCE:
MAP CREATED WITH TOPO! ® ©2001 NATIONAL GEOGRAPHIC (www.nationalgeographic.com/topo).

REGIONAL MAP

0 1 2

APPROXIMATE GRAPHIC SCALE IN MILES



SOURCE:
MAP CREATED WITH TOPO! ® ©2001 NATIONAL GEOGRAPHIC (www.nationalgeographic.com/topo)

SITE LOCATION

0 1000 2000

APPROXIMATE GRAPHIC SCALE IN FEET

SCHEDULE OF DRAWINGS

PREPARED FOR:

NATIONAL GRID
175 EAST OLD COUNTRY ROAD
HICKSVILLE, NEW YORK

GEI Consultants
110 WALT WHITMAN ROAD, SUITE 204
HUNTINGTON STATION, NY 11746

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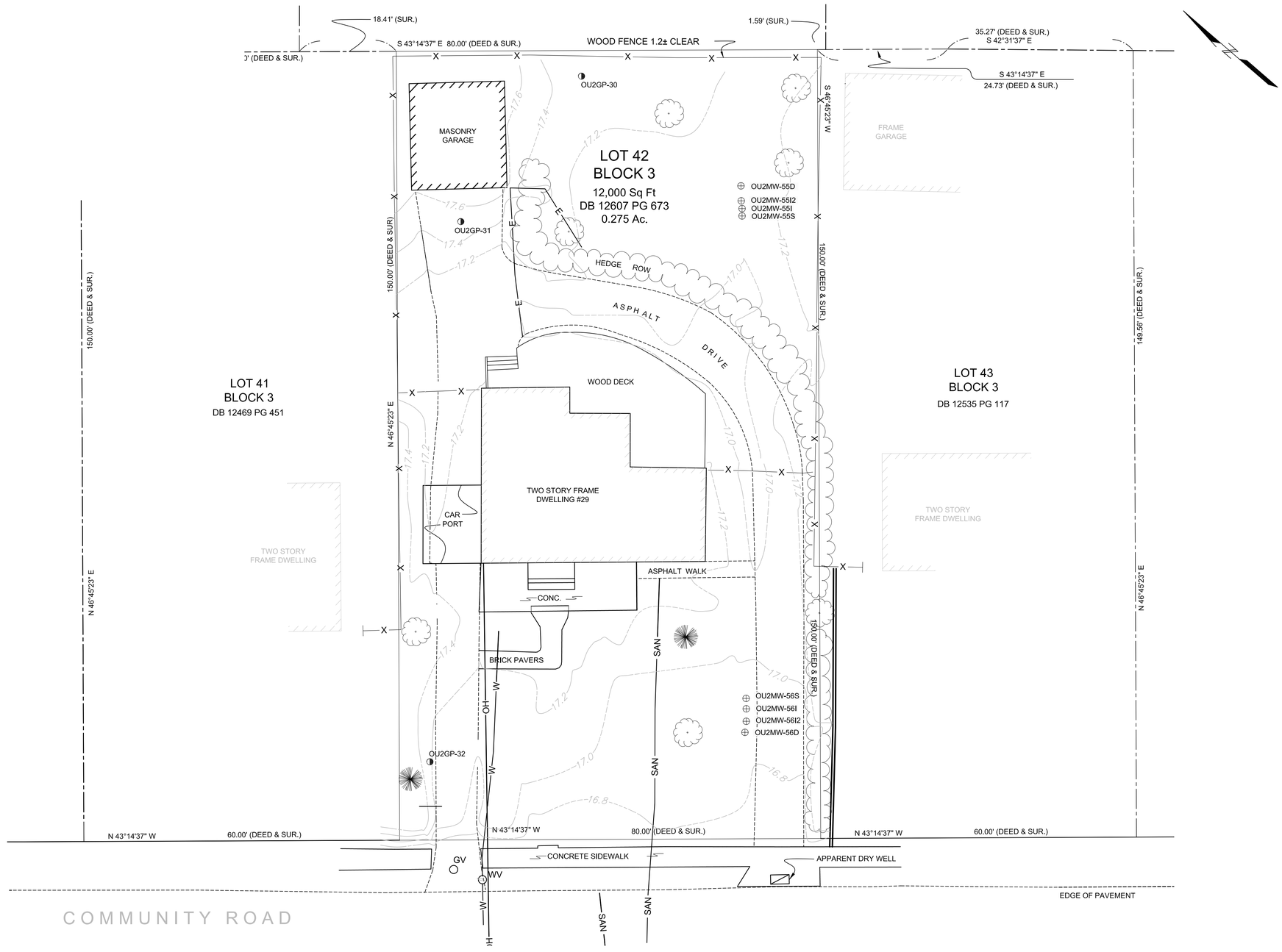
PROJECT NUMBER: 093180-2
NOVEMBER 23, 2010

For Bidding Purposes
Not for Construction

PROFESSIONAL ENGINEER LIC. NO. 087851
Brandon M. Nathe EXP. DATE: 12/31/12

NO.	DATE	DESCRIPTION	DES	DR	CH	APP

DRAFT



LEGEND:

- INLET (RECT.)
- "B" INLET
- UTILITY POLE
- OU2GP-32 — GROUNDWATER PROBE
- OU2MW-56S — EXISTING MONITORING WELL S=SHALLOW, I=INTERMEDIATE, I2=INTERMEDIATE TWO, D=DEEP
- GV — GAS VALVE MARKOUT
- WV — WATER VALVE MARKOUT
- CONIFEROUS TREE
- DECIDUOUS TREE
- G — GAS LINE MARKOUT
- W — WATER LINE MARKOUT
- E — ELECTRIC LINE MARKOUT
- SAN — SANITARY MARKOUT
- OH — OVERHEAD WIRE
- X — WOOD FENCE
- 17.0 — TOPOGRAPHIC ELEVATION CONTOUR
- EDGE OF PAVEMENT
- FENCE

NOTES:

1. UTILITY LOCATIONS SHOWN ARE APPROXIMATE.
2. LOCATIONS SHOWN ARE BASED ON A SURVEY OF A UTILITY MARKOUT, NOT CONFIRMED.

SOURCES:

1. HORIZONTAL DATUM: NEW YORK STATE PLANE LONG ISLAND ZONE (NAD 83).
2. VERTICAL DATUM: NORTH ATLANTIC VERTICAL DATUM (NAVD 88).
3. "BOUNDARY AND TOPOGRAPHIC SURVEY", SECTION 392, BLOCK 3, LOT 42 TOWN OF ISLIP, COUNTY OF SUFFOLK, NEW YORK, SCALE 1" = 20', DATED 8/12/10, PREPARED BY KSE ENGINEERS.

0 10 20
SCALE, FEET

For Bidding Purposes
Not for Construction

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	APP

DRAFT

Designed:	CRP
Checked:	JRP
Drawn:	DTE
Submitted By:	BMN
NY P.E. No.:	087851
Submittal Date:	11/23/2010

GEI Consultants
110 WALT WHITMAN RD, SUITE 204
Huntington Station, NY 11746
631-760-9300, FAX 631-760-9301

National Grid
175 East Old Country Road,
Hicksville, NY
nationalgrid

GEI Project 093180-2

Remedial Design Drawings
29 Community Road
Bay Shore, New York

DWG. NO. 1

EXISTING CONDITIONS

REV 0

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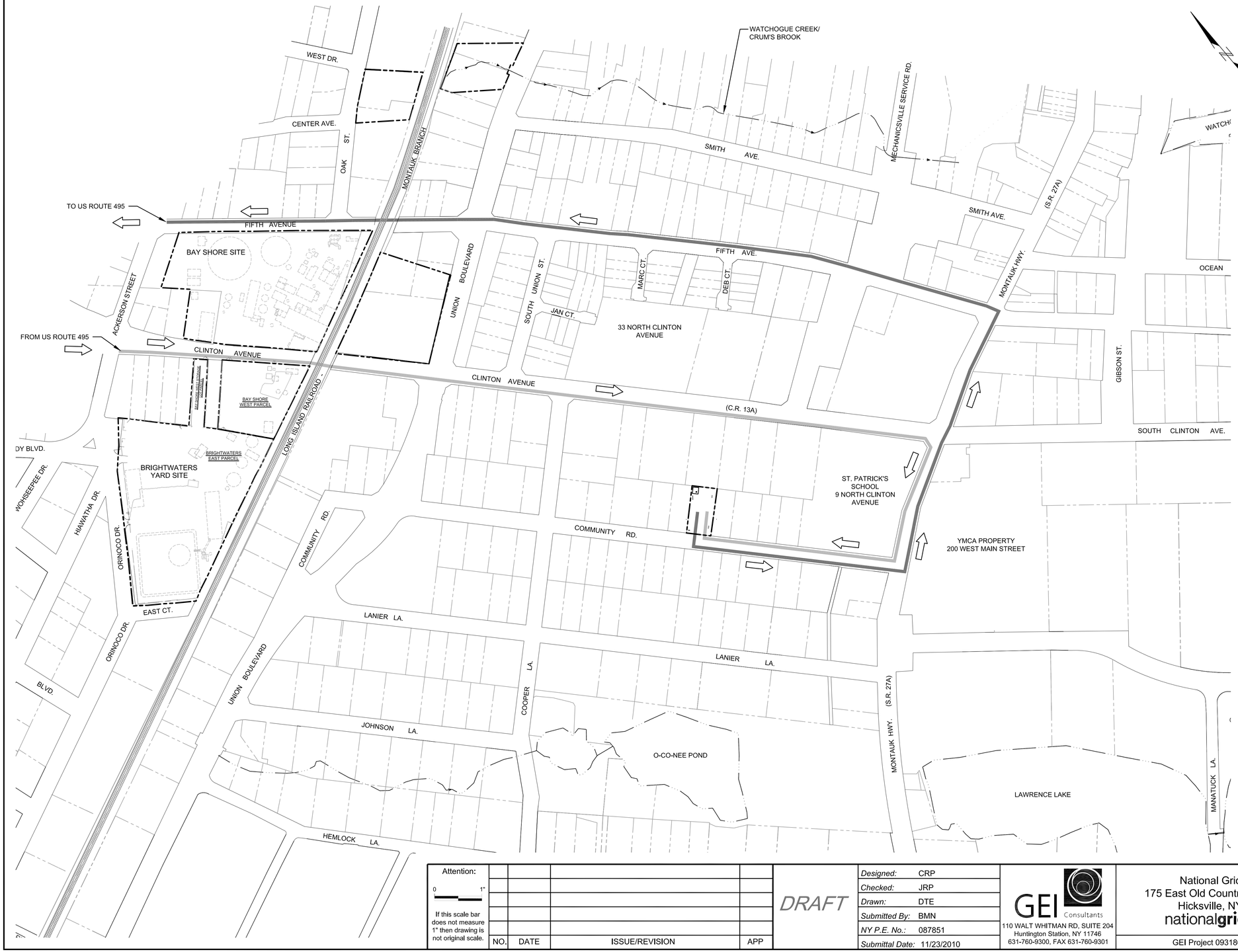

LEGEND:

- SITE BOUNDARY
- TRAFFIC DIRECTION
- TRANSIT ROUTE TO SITE
- TRANSIT ROUTE FROM SITE

DIRECTIONS TO SITE:

FROM ROUTE I-495 E

1.	TAKE EXIT 52 TOWARD CR-4/COMMACK RD/COMMACK/N BABYLON	0.2 MILES
2.	STAY STRAIGHT TO GO ONTO S SERVICE RD	0.1 MILES
3.	S SERVICE RD BECOMES EXPRESS DR S	0.4 MILES
4.	TURN RIGHT ONTO CROOKED HILL RD/CR-13 S. CONTINUE TO FOLLOW CR-13 S	6.4 MILES
5.	CR-13 S BECOMES CR-13A S/N CLINTON AVE	0.3 MILES
6.	CONTINUE ONTO CLINTON AVE	0.6 MILES
7.	TURN RIGHT AT W MAIN ST/NEW YORK 27A W	440 FEET
8.	TAKE THE 1ST RIGHT ONTO COMMUNITY ROAD	0.1 MILES

TO ROUTE I-495 W

1.	HEAD SOUTHEAST ON COMMUNITY ROAD TOWARD WEST MAIN STREET/NEW YORK 27A WEST	0.1 MILES
2.	TURN LEFT AT WEST MAIN STREET/NEW YORK 27A EAST	0.4 MILES
3.	TURN LEFT AT 2ND CROSS STREET ONTO 5TH AVE/COUNTY ROAD 13	6.4 MILES
4.	TURN LEFT ONTO NORTH SERVICE ROAD	0.4 MILES
5.	MERGE ONTO I-495 WEST TOWARD NEW YORK	

SOURCES:

1. MAP TITLED "BAY SHORE/BRIGHTWATERS, FORMER MGP SITE FINAL REMEDIAL INVESTIGATION, BAY SHORE, NEW YORK, OFF-SITE SAMPLE LOCATION MAP" DATED: SEPT., 2002 BY DVIRKA AND BARTILUCCI.
2. FIGURE 2, GROUNDWATER MONITORING WELL AND SURFACE WATER GAUGING STATION LOCATION MAP, BAY SHORE/BRIGHTWATERS FORMER MGP SITE, SCALE: 1"=200', DATED JANUARY 2004, PREPARED BY VANASSE HANGEN BRUSTLIN, INC., MIDDLETOWN, CONNECTICUT.
3. DRAWING C-1, OFF-SITE SAMPLE LOCATION MAP, BAY SHORE/BRIGHTWATERS FINAL REMEDIAL INVESTIGATION, SCALE: 1"=200', DATED OCTOBER 15, 2003, PREPARED BY VANASSE HANGEN BRUSTLIN, INC., MIDDLETOWN, CONNECTICUT.
4. PROPERTY BOUNDARY LOCATIONS WERE DETERMINED BY OTHERS USING AERIAL PHOTOGRAPHS AND TAX MAPS. PROPERTY BOUNDARIES ARE APPROXIMATE AND MONITORING WELLS LOCATED NEAR OR AT PROPERTY BOUNDARIES DEPICTED ON THE MAP ARE WITHIN THE ROAD RIGHT-OF-WAY.

0 150 300
SCALE, FEET

For Bidding Purposes
Not for Construction

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	APP

DRAFT

Designed:	CRP
Checked:	JRP
Drawn:	DTE
Submitted By:	BMN
NY P.E. No.:	087851
Submittal Date:	11/23/2010

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National Grid
175 East Old Country Road,
Hicksville, NY
nationalgrid

GEI Project 093180-2

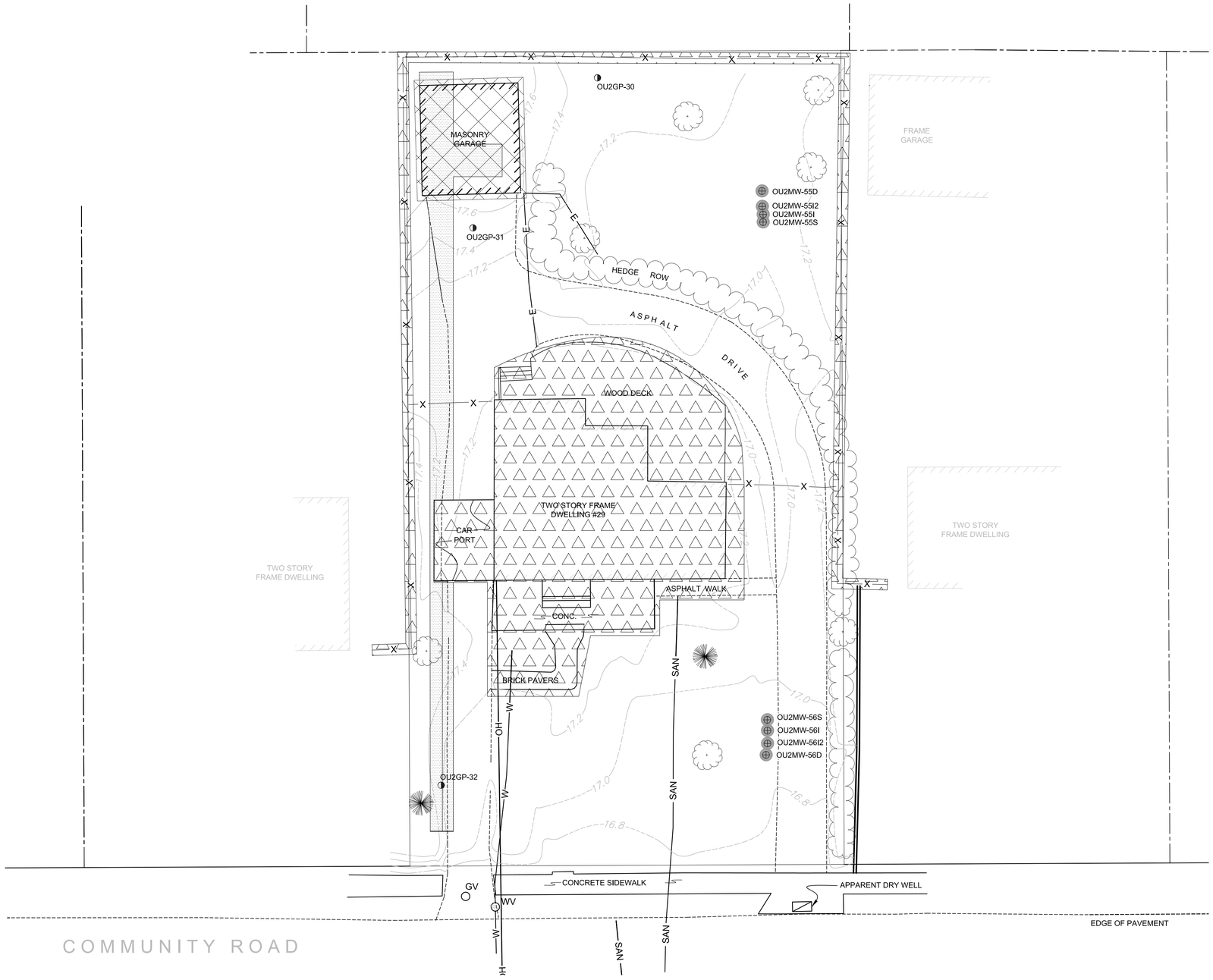
Remedial Design Drawings
29 Community Road
Bay Shore, New York

DWG. NO. 2

TRAFFIC CONTROL PLAN

REV 0

I:\Project\National Grid\Bay Shore\OU-2\29 Community Rd\CONTRACT DOCUMENTS\29 COMMUNITY RD DESIGN SET



LEGEND:

- DEMOLITION TO BE COMPLETED BY OTHERS (SLAB TO BE LEFT IN PLACE)
- DEMOLISH PAVEMENT
- PROTECT
- OU2MW-56S — PROTECT MONITORING WELL
- G — GAS LINE MARKOUT
- W — WATER LINE MARKOUT
- E — ELECTRIC LINE MARKOUT
- SAN — SANITARY MARKOUT
- OH — OVERHEAD WIRE
- X — WOOD FENCE
- 17.0 — TOPOGRAPHIC ELEVATION CONTOUR
- EDGE OF PAVEMENT
- INJECTION WELL
- UTILITY TRENCH

SOURCES:

1. "BOUNDARY AND TOPOGRAPHIC SURVEY", SECTION 392, BLOCK 3, LOT 42 TOWN OF ISLIP, COUNTY OF SUFFOLK, NEW YORK, SCALE 1" = 20', DATED 8/12/10, PREPARED BY KSE ENGINEERS.

SCALE, FEET: 0 — 10 — 20

For Bidding Purposes
Not for Construction

Attention:

0 — 1"

If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	APP

DRAFT

Designed:	CRP
Checked:	JRP
Drawn:	DTE
Submitted By:	BMN
NY P.E. No.:	087851
Submittal Date:	11/23/2010

GEI Consultants
110 WALT WHITMAN RD, SUITE 204
Huntington Station, NY 11746
631-760-9300, FAX 631-760-9301

National Grid
175 East Old Country Road,
Hicksville, NY
nationalgrid

GEI Project 093180-2

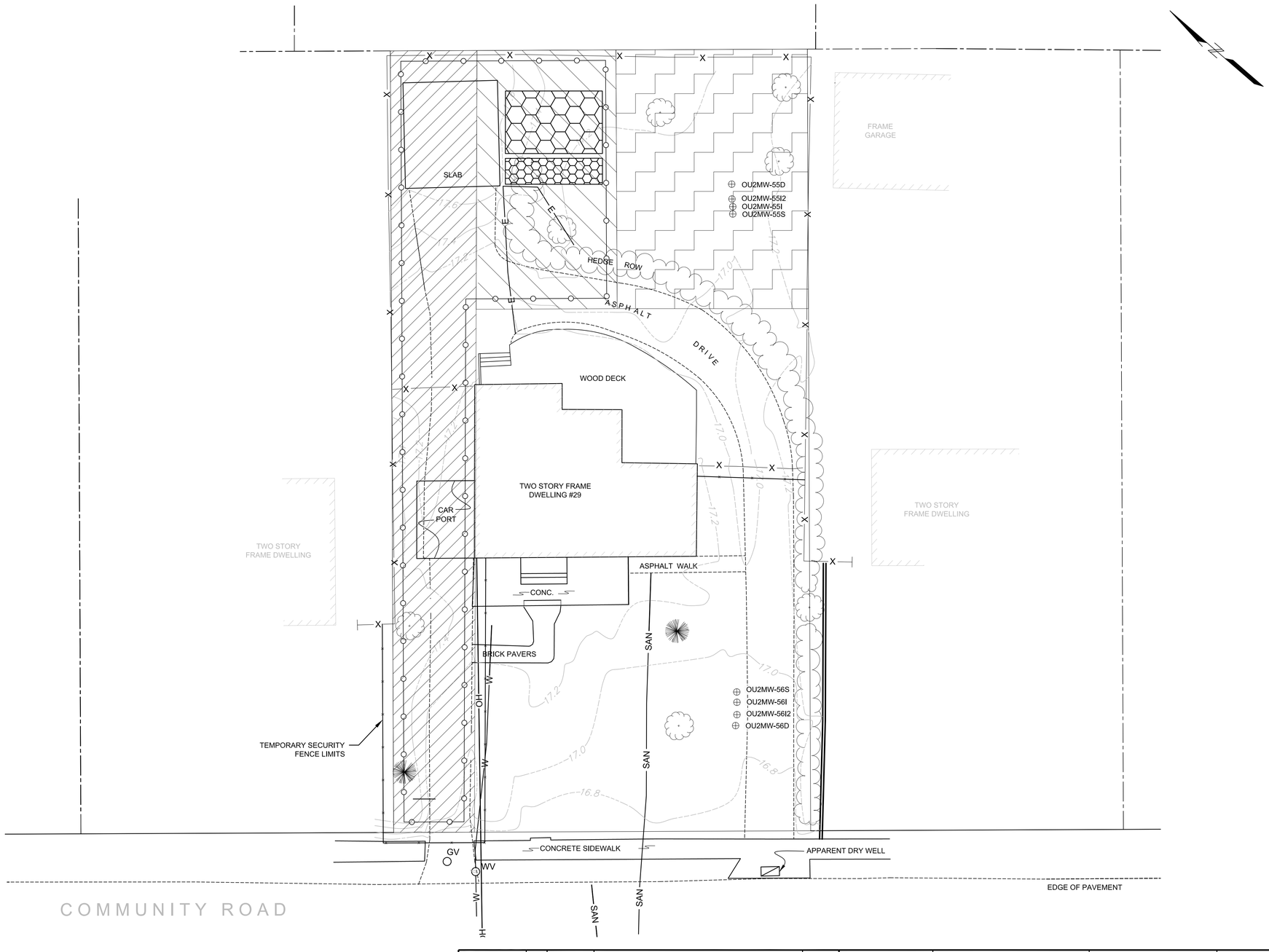
Remedial Design Drawings
29 Community Road
Bay Shore, New York

DWG. NO. 3

DEMOLITION AND PROTECTION PLAN

REV 0

I:\Project\National Grid\Bay Shore\OU-2\29 Community Rd\CONTRACT DOCUMENTS\29 COMMUNITY RD DESIGN SET



LEGEND:

- SILT FENCE - SEE DETAIL 1/8
- TEMPORARY SECURITY FENCE
- X — EXISTING WOOD FENCE
- EDGE OF PAVEMENT
- EXCLUSION ZONE
- CONTAMINANT REDUCTION ZONE
- SUPPORT ZONE
- DECONTAMINATION PAD 2/8 (ACTUAL SIZE TO BE DETERMINED IN FIELD)
- PERSONNEL DECONTAMINATION STATION (ACTUAL SIZE TO BE DETERMINED IN FIELD)
- G — GAS LINE MARKOUT
- W — WATER LINE MARKOUT
- E — ELECTRIC LINE MARKOUT
- SAN — SANITARY MARKOUT
- OH — OVERHEAD WIRE
- OU2MW-56S — EXISTING MONITORING WELL S=SHALLOW, I=INTERMEDIATE, I2=INTERMEDIATE TWO, D=DEEP

SOURCES:

1. "BOUNDARY AND TOPOGRAPHIC SURVEY", SECTION 392, BLOCK 3, LOT 42 TOWN OF ISLIP, COUNTY OF SUFFOLK, NEW YORK, SCALE 1" = 20', DATED 8/12/10, PREPARED BY KSE ENGINEERS.

0 10 20
SCALE, FEET

For Bidding Purposes
Not for Construction

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0 1"
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Huntington Station, NY 11746
631-760-9300, FAX 631-760-9301

National Grid
175 East Old Country Road,
Hicksville, NY
nationalgrid

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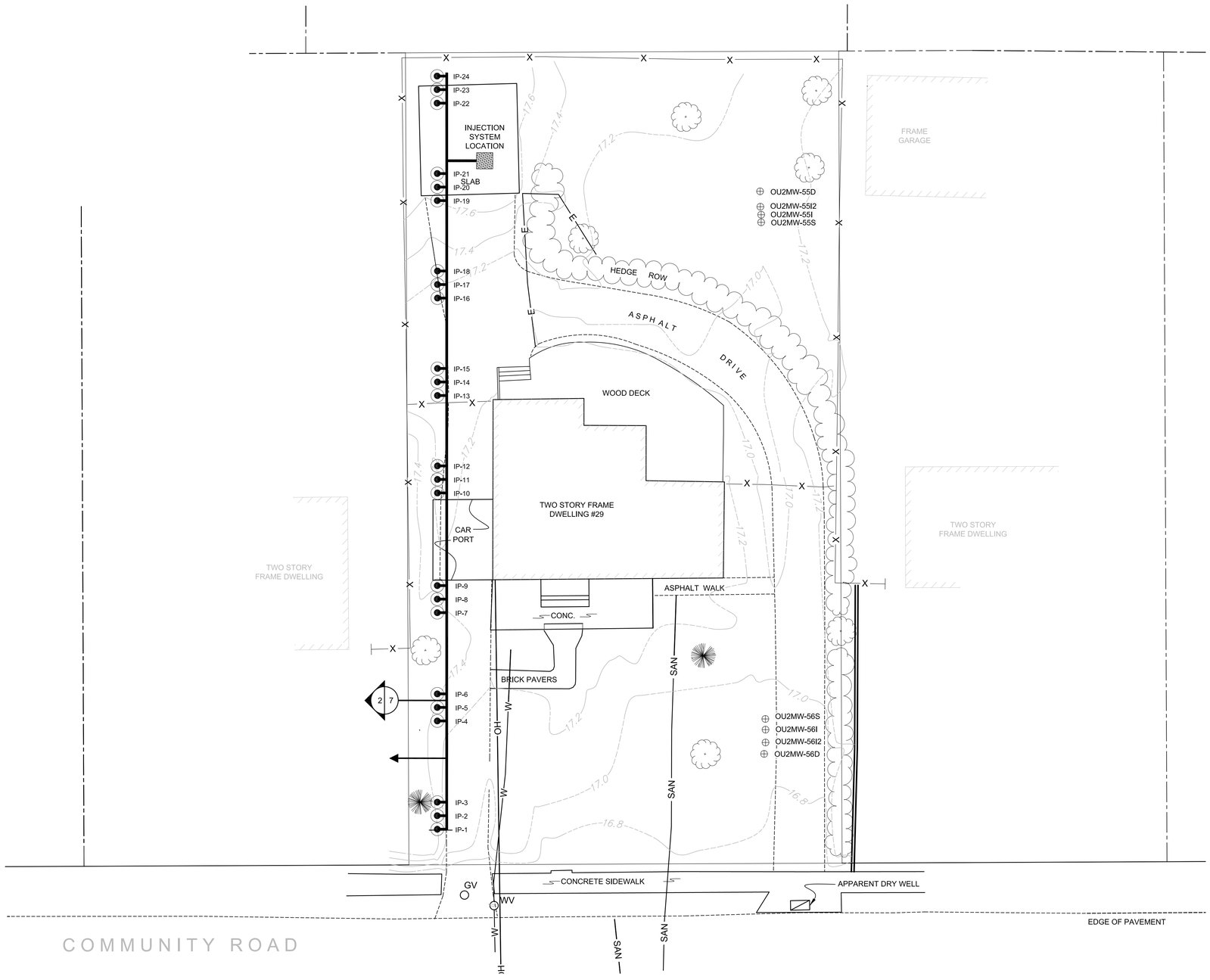
Remedial Design Drawings
29 Community Road
Bay Shore, New York

DWG. NO. 4

SITE MANAGEMENT PLAN

REV 0

I:\Project\National Grid\Bay Shore\OU-2\29 Community Rd\CONTRACT DOCUMENTS\29 COMMUNITY RD DESIGN SET



LEGEND:

- INJECTION WELL - SEE DETAIL 1/7
- EXCAVATE UTILITY TRENCH 2/7 3/7 4/7
- INJECTION LINE STUB UP - SEE DETAIL 5/7
- G — GAS LINE MARKOUT
- W — WATER LINE MARKOUT
- E — ELECTRIC LINE MARKOUT
- SAN — SANITARY MARKOUT
- OH — OVERHEAD WIRE
- EDGE OF PAVEMENT
- X — FENCE
- OU2MW-56S ⊕ — EXISTING MONITORING WELL S=SHALLOW, I=INTERMEDIATE, I2=INTERMEDIATE TWO, D=DEEP

SOURCES:

1. "BOUNDARY AND TOPOGRAPHIC SURVEY", SECTION 392, BLOCK 3, LOT 42 TOWN OF ISLIP. COUNTY OF SUFFOLK, NEW YORK, SCALE 1" = 20', DATED 8/12/10, PREPARED BY KSE ENGINEERS.

0 10 20
SCALE, FEET

For Bidding Purposes Not for Construction

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	APP

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NY P.E. No.:	087851
Submittal Date:	11/23/2010

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110 WALT WHITMAN RD, SUITE 204
Huntington Station, NY 11746
631-760-9300, FAX 631-760-9301

National Grid
175 East Old Country Road,
Hicksville, NY
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GEI Project 093180-2

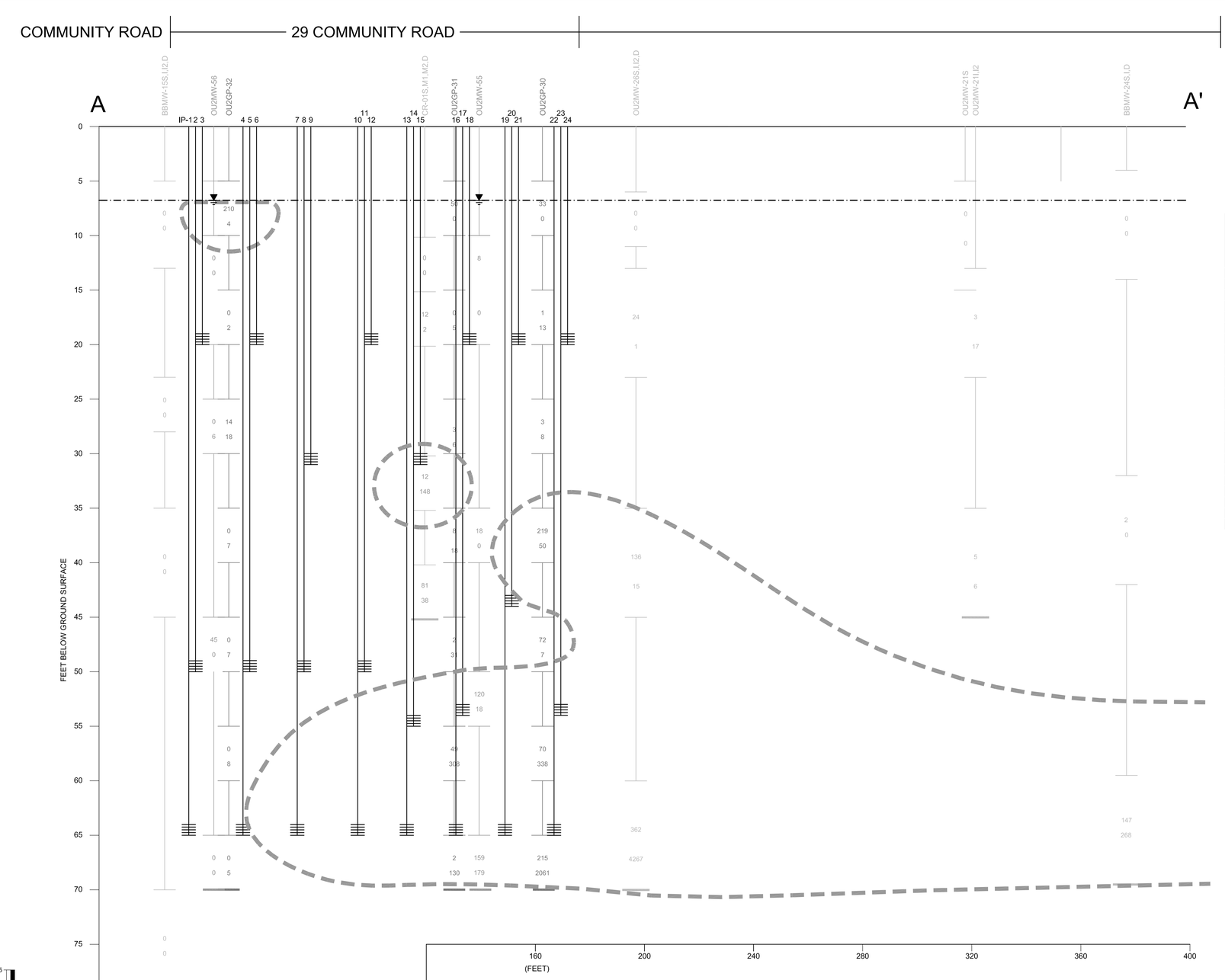
Remedial Design Drawings
29 Community Road
Bay Shore, New York

DWG. NO. 5

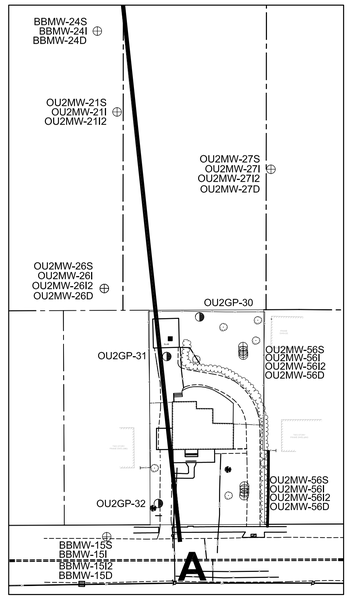
OXYGEN INJECTION SYSTEM INSTALLATION PLAN

REV 0

I:\Project\National Grid\Bay Shore\OU-2\29 Community Rd\CONTRACT DOCUMENTS\29 COMMUNITY RD DESIGN SET



WELL ID	SCREEN INTERVAL (FEET BELOW GROUND SURFACE)
1	64-65
2	49-50
3	19-20
4	64-65
5	49-50
6	19-20
7	64-65
8	49-50
9	30-31
10	64-65
11	49-50
12	19-20
13	64-65
14	54-55
15	30-31
16	64-65
17	53-54
18	19-20
19	64-65
20	43-44
21	19-20
22	64-65
23	53-54
24	19-20



LEGEND

- OU2MW-56S ⊕ — EXISTING MONITORING WELL CLUSTER LOCATION S=SHALLOW, I=INTERMEDIATE, I2=INTERMEDIATE TWO, D=DEEP
- OU2GP-32 ◑ — GROUNDWATER PROBE
- OUGP-13 — EXISTING OR PROPOSED MONITORING WELL OR MONITORING POINT ID
- EXISTING OR PROPOSED MONITORING WELL OR MONITORING POINT LOCATION
- SAMPLE INTERVAL: 1.5 TOTAL BTEX ug/L; 1.5 TOTAL PAH ug/L
- WATER LEVEL
- BOTTOM OF BORING/WELL
- BTEX — BENZENE, TOLUENE, ETHYLBENZENE AND XYLENE
- PAHs — POLYCYCLIC AROMATIC HYDROCARBONS
- ug/L — MICROGRAMS PER LITER
- 9 — INJECTION WELL NUMBER
- INJECTION WELL
- SCREEN INTERVAL
- APPROXIMATE TBTEX OR TPAH > 100 ug/L BOUNDARY BASED OFF OF DATA COLLECTED DURING THE 29 COMMUNITY ROAD PRE-DESIGN INVESTIGATION AND DURING THE Q1 2010 GROUNDWATER SAMPLING EVENT

NOTES:

1. GROUNDWATER MONITORING WELL DATA WAS COLLECTED IN Q1 2010.
2. SUFFOLK COUNTY POINT CR-01 DATA WAS COLLECTED IN SEPTEMBER 2008.

For Bidding Purposes
Not for Construction

VERTICAL SCALE IN FEET: 5, 0, 2.5, 5

SCALE, FEET: 0, 20, 40

Attention:

0 1"

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Submitted By:	BMN
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GEI Consultants
110 WALT WHITMAN RD, SUITE 204
Huntington Station, NY 11746
631-760-9300, FAX 631-760-9301

National Grid
175 East Old Country Road,
Hicksville, NY
nationalgrid

GEI Project 093180-2

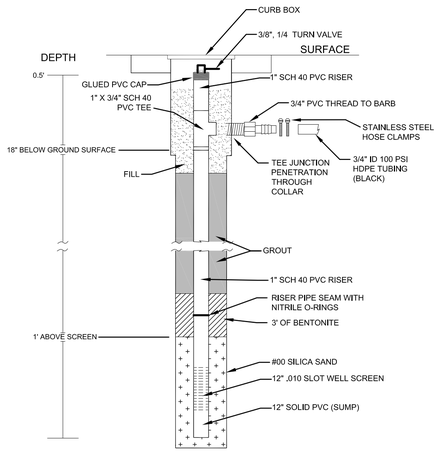
Remedial Design Drawings
29 Community Road
Bay Shore, New York

DWG. NO. 6

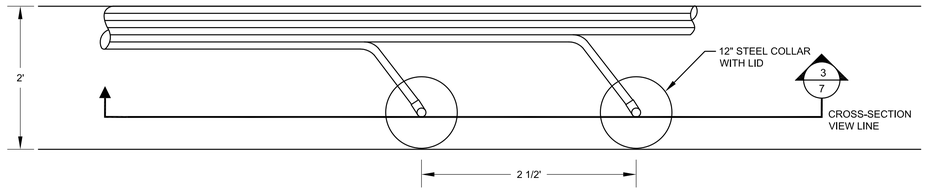
SUBSURFACE
CROSS SECTION A

REV 0

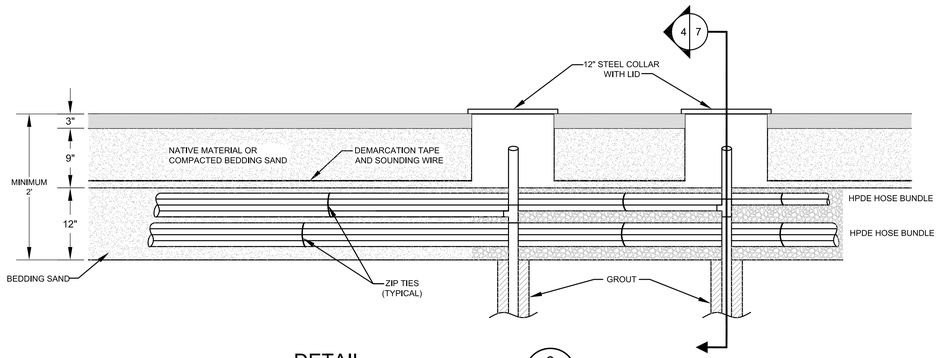
I:\Project\National Grid\Bay Shore\OU-2\29 Community Rd\CONTRACT DOCUMENTS\29 COMMUNITY RD DESIGN SET



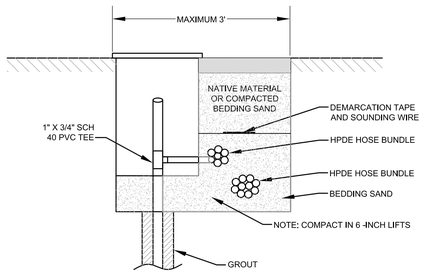
DETAIL
TYPICAL INJECTION WELL CONSTRUCTION DIAGRAM — 1/7



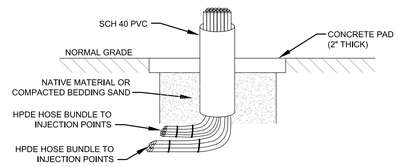
DETAIL
TYPICAL TRENCH PLAN VIEW — 2/7



DETAIL
TYPICAL TRENCH CROSS SECTION (NE TO SW) — 3/7



DETAIL
TYPICAL TRENCH DETAIL — 4/7



DETAIL
STUB-UP SCHEMATIC — 5/7

NOTES:

1. SCALE: 1" = 10' EXCEPT PIPE/HOSE SIZE.
2. CONNECTION TO INJECTION POINT SHOULD BE MADE WITH SCH 40 PVC TEE AT A MINIMUM OF 18" BELOW GROUND SURFACE.
3. NATIVE MATERIAL OR BEDDING SAND WILL BE COMPACTED IN 6-INCH LIFTS.
4. EACH HDPE HOSE LINE WILL BE LABELED ACCORDING TO ITS RESPECTIVE INJECTION POINT EVERY TWENTY FEET.

For Bidding Purposes
Not for Construction

Attention: If this scale bar does not measure 1" then drawing is not original scale. (0 — 1")	NO.	DATE	ISSUE/REVISION	APP

DRAFT

Designed:	CRP
Checked:	JRP
Drawn:	DTE
Submitted By:	BMN
NY P.E. No.:	087851
Submittal Date:	11/23/2010

GEI Consultants
110 WALT WHITMAN RD, SUITE 204
Huntington Station, NY 11746
631-760-9300, FAX 631-760-9301

National Grid
175 East Old Country Road,
Hicksville, NY
nationalgrid

GEI Project 093180-2

Remedial Design Drawings
29 Community Road
Bay Shore, New York

DWG. NO. 7

TRENCH AND INJECTION POINT DETAILS

REV 0

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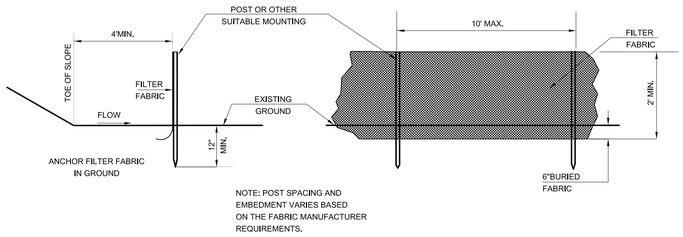
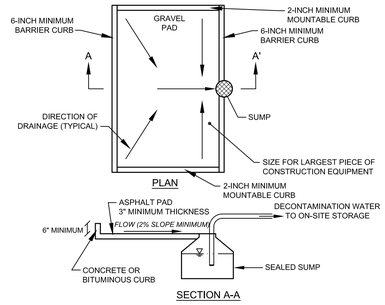


NOTE: POST SPACING AND EMBEDMENT VARIES BASED ON THE FABRIC MANUFACTURER REQUIREMENTS.

DETAIL 1/8
SILT FENCE



PLAN

SECTION A-A

DETAIL 2/8
EQUIPMENT DECONTAMINATION PAD

A. DECONTAMINATION NOTES:

1. ALL VEHICLES EXITING EXCLUSION ZONE MUST PASS THROUGH THE CONTAMINANT REDUCTION ZONE. USE EQUIPMENT DECONTAMINATION PAD AS REQUIRED BY ENGINEER AND NYSDEC. CONTROL OVERSPRAY.

For Bidding Purposes
Not for Construction

Attention:
0 1"
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NO.	DATE	ISSUE/REVISION	APP

DRAFT

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Checked: JRP
Drawn: DTE
Submitted By: BMN
NY P.E. No.: 087851
Submittal Date: 11/23/2010

GEI Consultants
110 WALT WHITMAN RD, SUITE 204
Huntington Station, NY 11746
631-760-9300, FAX 631-760-9301

National Grid
175 East Old Country Road,
Hicksville, NY
nationalgrid

GEI Project 093180-2

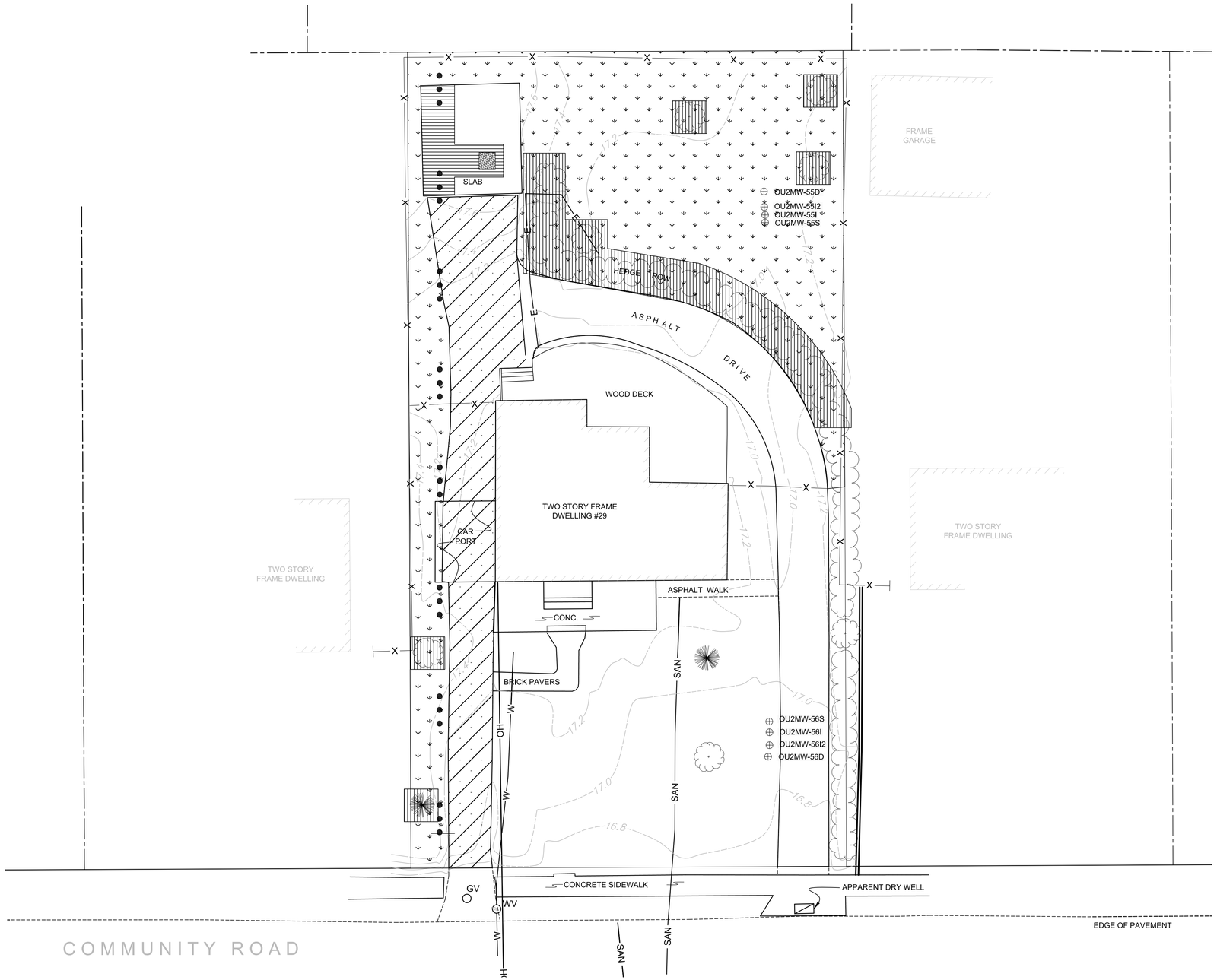
Remedial Design Drawings
29 Community Road
Bay Shore, New York

DWG. NO. 8

SITE MANAGEMENT DETAILS

REV 0

I:\Project\National Grid\Bay Shore\OU-2\29 Community Rd\CONTRACT DOCUMENTS\29 COMMUNITY RD DESIGN SET

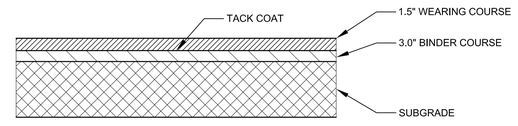


LEGEND:

- RESTORE ASPHALT - SEE DETAIL 1/9
- RESTORE LAWN - SEE DETAIL 2/9
- RESTORE CONCRETE
- RESTORE PLANTINGS (IF NEEDED)
- OXYGEN INJECTION WELL
- OU2MW-56S — EXISTING MONITORING WELL S=SHALLOW, I=INTERMEDIATE, I2=INTERMEDIATE TWO, D=DEEP
- INJECTION LINE STUB UP
- G — GAS LINE MARKOUT
- W — WATER LINE MARKOUT
- E — ELECTRIC LINE MARKOUT
- SAN — SANITARY MARKOUT
- OH — OVERHEAD WIRE
- FENCE

A. NOTES:

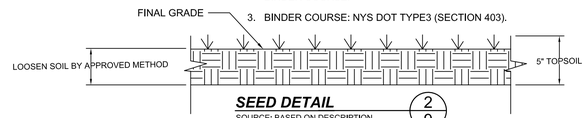
1. BACKFILL UTILITY TRENCH AS PER THE SPECIFICATIONS.



ASPHALT PAVEMENT DETAIL 1/9

B. PAVEMENT NOTES:

1. WEARING COURSE: NYS DOT TYPE 7 (SECTION 403).
2. TACK COAT: TACK COAT BINDER COURSE BEFORE PLACING WEARING COURSE IF MORE THAN 48 HOURS HAVE ELAPSED AFTER PLACING BINDER COURSE.
3. BINDER COURSE: NYS DOT TYPE3 (SECTION 403).



SEED DETAIL 2/9

SOURCE: BASED ON DESCRIPTION
LOCATED IN NYCDOT SPECIFICATION 4.20
NOT TO SCALE

C. SEED NOTES:

1. SEED SHALL BE A MIX OF RED FESCUE, RYE, AND KENTUCKY BLUE. CONTRACTOR MAY SUBMIT REQUEST TO ENGINEER FOR ALTERNATE SEED MIXTURE TO TAKE ADVANTAGE OF PROVEN VARIETIES.
2. APPLY AT A RATE OF 75 LBS/ACRE.
3. HYDROSEEDING OR OTHER MECHANICAL METHODS OF APPLICATION THAT WILL NOT DAMAGE THE WORK ARE ACCEPTABLE.
4. MOW THE PROPERTY TWICE ONCE A SATISFACTORY STAND OF GRASS HAS BEEN ESTABLISHED.
5. WARRANTY PLANTINGS FOR 90 DAYS FOLLOWING ESTABLISHMENT OF A SATISFACTORY STAND OF GRASS.

SOURCES:

1. "BOUNDARY AND TOPOGRAPHIC SURVEY", SECTION 392, BLOCK 3, LOT 42 TOWN OF ISLIP, COUNTY OF SUFFOLK, NEW YORK, SCALE 1" = 20', DATED 8/12/10, PREPARED BY KSE ENGINEERS.

0 10 20
SCALE, FEET

For Bidding Purposes
Not for Construction

NO.	DATE	ISSUE/REVISION	APP

Attention:
0 1"
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DRAFT

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631-760-9300, FAX 631-760-9301

National Grid
175 East Old Country Road,
Hicksville, NY
nationalgrid

GEI Project 093180-2

Remedial Design Drawings
29 Community Road
Bay Shore, New York

RESTORATION PLAN AND DETAILS

DWG. NO. 9

REV 0

I:\Project\National Grid\Bay Shore\OU-2\29 Community Rd\CONTRACT DOCUMENTS\29 COMMUNITY RD DESIGN SET

Appendix B

Monitoring Well Construction Details

GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Bay Shore Former MGP Site
CITY/STATE: Bay Shore, New York
GEI PROJECT NUMBER: 093180

BORING LOG
PAGE 1 of 4
OU2MW-55S.I.I2.D

GROUND SURFACE ELEVATION (FT): 17.10 **LOCATION:** 29 Community Road
NORTHING (FT): 202411 **EASTING (FT):** 1190683 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Fenley & Nicol Environmental, Inc. / Mike Mede **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY Long Island Zone
LOGGED BY: DH **DATE START / END:** 6/8/2010 - 6/14/2010
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▼ 6.80 6/21/2010 ; averaged from well developement note p. 47 & 48 in field book
GENERAL NOTE: Each well was constructed with five or ten (shallow wells) feet of 1-inch diameter, 0.02-inch Schedule (SCH) 40 polyvinyl chloride (PVC)
GENERAL NOTE: well screen threaded to 1-inch diameter SCH 40 PVC riser to surface road box.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0		60/NM					(0'- 5') Hand cleared.	
15									
	5	S-1	60/30	PID= 0.1			Env. Sample ID= OU2MW-55 (5-15)	(5'- 5.8') LEAN CLAY (CL); wet, gray - brown, tight, no visual impacts, no odors.	
				PID= 0.0				(5.8'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, ~25% gravel, ~5% fines; subangular and subrounded gravel, max. size 1, light brown, no visual impacts, no odors.	
▼ 10				PID= 0.1					
				PID= 0.2					
				PID= 0.1					
	10	S-2	60/60	PID= 0.0				(10'- 15') WIDELY GRADED SAND (SW); ~90% sand, ~5% gravel, ~5% fines; wet, light brown to brown, loose, no visual impacts, no odors.	
				PID= 0.0					
				PID= 0.0					
5				PID= 0.1					
				PID= 0.0					
				PID= 0.1					
				PID= 0.0					
	15	S-3	60/45	PID= 0.0				(15'- 20') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, ~5% fines; wet, brown, no visual impacts, no odors.	
				PID= 0.0					

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION
IN. = INCHES
FT. = FEET
TSF = TONS PER SQUARE FOOT

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR
CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR
SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

ENVIRONMENTAL BORING LOG OU-2 GINT DATABASE 2010.07.28.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 10/25/10

GEI Consultants

GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
PROJECT: Bay Shore Former MGP Site
CITY/STATE: Bay Shore, New York
GEI PROJECT NUMBER: 093180

BORING LOG

OU2MW-55S.I.I2.D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
0				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0					
	20	S-4	60/55	PID= 0.0 PID= 0.0 PID= 0.0				(20'- 25') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, ~5% fines; wet, brown to light brown, loose, no visual impacts, no odors. Gravel lens at 35".	
-5				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0					
	25	S-5	60/45	PID= 0.0 PID= 0.0 PID= 0.0			Env. Sample ID= OU2MW-55 (25-30)	(25'- 30') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, brown, loose, no visual impacts, no odors.	
-10				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0					
	30	S-6	60/60	PID= 0.0 PID= 0.0 PID= 0.0				(30'- 35') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, ~5% fines; wet, brown, loose, no visual impacts, no odors.	
-15				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0					
	35	S-7	60/60	PID= 0.0				(35'- 40') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, ~5% fines; wet, brown, no visual	

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Q_P = POCKET PENETROMETER IN TSF
S_V = TORVANE PEAK IN TSF

ENVIRONMENTAL BORING LOG OU-2 GINT DATABASE 2010.07.28.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 10/25/10

GEI Consultants

GEI Consultants, Inc.
455 Winding Brook Road
Glastonbury, CT 06033
(860) 368-5300

CLIENT: National Grid
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BORING LOG
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OU2MW-55S.I.I2.D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
				PID= 0.0				impacts, no odors.	
				PID= 0.2					
-20				PID= 0.3					
				PID= 0.2					
				PID= 0.3					
				PID= 0.2					
				PID= 0.0					
	40	S-8	60/60	PID= 0.0				(40'- 45') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; wet, brown, no visual impacts, no odors.	
				PID= 0.0					
				PID= 0.0					
-25				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
	45	S-9	60/60	PID= 0.0			Env. Sample ID= OU2MW-55 (45-50)	(45'- 50') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, loose, no visual impacts, no odors.	
				PID= 0.0					
				PID= 0.0					
-30				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
	50	S-10	60/60	PID= 0.0				(50'- 55') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no visual impacts, no odors.	
				PID= 0.0					
-35				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
	55	S-11	60/60	PID= 1.3				(55'- 60') NARROWLY GRADED SAND (SP); ~95% sand, fine	

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BORING LOG

OU2MW-55S.I.I2.D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
				PID= 2.6 PID= 2.0 PID= 2.1 PID= 2.3 PID= 2.0 PID= 1.6 PID= 1.8		NLO		to medium, ~5% fines; slight naphthalene-like odor, wet, light brown, no visual impacts.	
-40	60	S-12	60/50	PID= 1.3 PID= 2.1 PID= 2.3 PID= 2.1 PID= 1.8 PID= 1.9 PID= 2.0 PID= 1.6		NLO	Env. Sample ID= OU2MW-55 (60-65)	(60'- 65') SILT WITH SAND (ML); ~75% fines, ~25% sand; slight naphthalene-like odor, wet, dark brown, micaceous, no visual impacts.	
-45	65	S-13	60/58	PID= 8.1 PID= 1.6 PID= 7.2 PID= 6.3 PID= 8.3 PID= 4.9 PID= 7.8 PID= 6.8		NLO	Env. Sample ID= OU2MW-55 (65-70)	(65'- 69.8') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; slight naphthalene-like odor, dark brown, no visual impacts.	
-50	70							(69.8'- 70') LEAN CLAY (CL); ~95% fines, ~5% gravel, fine; brownish gray, stiff, no visual impacts, no odors. End of Boring at 70 feet.	

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BORING LOG
PAGE 1 of 4
OU2MW-56S.I.I2.D

GROUND SURFACE ELEVATION (FT): 16.90 **LOCATION:** 29 Community Road
NORTHING (FT): 202339 **EASTING (FT):** 1190607 **TOTAL DEPTH (FT):** 70.0
DRILLED BY: Fenley & Nicol Environmental, Inc. / Mike Mede **DATUM VERT. / HORZ.:** NAVD 88 / NAD83 NY Long Island Zone
LOGGED BY: DH **DATE START / END:** 6/10/2010 - 6/21/2010
DRILLING DETAILS: Geoprobe
WATER LEVEL DEPTHS (FT): ▼ 6.70 6/21/2010 ; averaged from well developement note p. 47 in field book
GENERAL NOTE: Each well was constructed with five or ten (shallow wells) feet of 1-inch diameter, 0.02-inch Schedule (SCH) 40 polyvinyl chloride (PVC)
GENERAL NOTE: well screen threaded to 1-inch diameter SCH 40 PVC riser to surface road box.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
	0		60/NM					Hand cleared.	
15									
	5	S-1	60/40	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				(5'- 10') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, ~5% fines; wet, light brown, loose, no visual impacts, no odors.	
10 ▼									
	10	S-2	60/45	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			Env. Sample ID= OU2MW-56 (5-15)	(10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, ~5% fines; wet, light brown, loose, no visual impacts, no odors.	
5									
	15	S-3	60/50	PID= 0.0 PID= 0.0				(15'- 18.25') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, ~5% fines; wet, light brown, loose, no visual impacts, no odors.	

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ENVIRONMENTAL BORING LOG OU-2 GINT DATABASE 2010.07.28.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 10/25/10

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BORING LOG
PAGE 2 of 4
OU2MW-56S.I.I2.D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
0				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				(18.25'- 20') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, ~5% fines; wet, gray, loose, no visual impacts, no odors.	
	20	S-4	60/50	PID= 0.2 PID= 0.4 PID= 0.6 PID= 0.4 PID= 0.5 PID= 0.4 PID= 0.3 PID= 0.2		NLO		(20'- 25') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, ~5% fines; slight naphthalene-like odor, wet, dark gray, loose.	
-5	25	S-5	60/60	PID= 0.4 PID= 0.3 PID= 0.5 PID= 0.6 PID= 0.4 PID= 0.5 PID= 0.8 PID= 1.1 PID= 0.2		NLO	Env. Sample ID= OU2MW-56 (25-30)	(25'- 30') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, ~5% fines; slight naphthalene-like odor, wet, dark gray, loose.	
-10									
	30	S-6	60/60	PID= 0.2 PID= 0.1 PID= 0.0 PID= 0.1 PID= 0.2 PID= 0.2 PID= 0.1 PID= 0.2				(30'- 35') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no visual impacts, no odors.	
-15									
	35	S-7	60/55	PID= 0.0				(35'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, ~5% fines; wet, light	

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OU2MW-56S.I.I2.D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
				PID= 0.0				brown, no visual impacts, no odors.	
				PID= 0.1					
-20				PID= 0.0					
				PID= 0.1					
				PID= 0.0					
				PID= 0.0					
				PID= 0.1					
	40	S-8	60/60	PID= 0.0				(40'- 45') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; wet, light brown, minor gravel, no visual impacts, no odors.	
				PID= 0.1					
				PID= 0.0					
-25				PID= 0.0					
				PID= 0.2					
				PID= 0.1					
				PID= 0.1					
				PID= 0.2					
				PID= 0.0					
	45	S-9	60/60	PID= 0.0			Env. Sample ID= OU2MW-56 (45-50)	(45'- 49.25') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; wet, light brown, no visual impacts, no odors.	
				PID= 0.0					
				PID= 0.1					
-30				PID= 0.1					
				PID= 0.0					
				PID= 0.1					
				PID= 0.0					
				PID= 0.0					
				PID= 0.1				(49.25'- 50') SILTY SAND (SM); ~75% sand, fine to medium, ~25% fines; brown, no visual impacts, no odors.	
	50	S-10	60/55	PID= 0.0				(50'- 55') SILTY SAND (SM); ~80% sand, fine to medium, ~20% fines; brown, no visual impacts, no odors.	
				PID= 0.0					
				PID= 0.0					
-35				PID= 0.1					
				PID= 0.1					
				PID= 0.0					
				PID= 0.0					
				PID= 0.1					
	55	S-11	60/60	PID= 0.0				(55'- 58.25') SILTY SAND (SM); ~80% sand, fine, ~20% fines;	

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BORING LOG

PAGE 4 of 4

OU2MW-56S.I.I2.D

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC IN./IN.	SAMPLE INFO: FIELD TEST DATA	STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION	WELL DETAILS
				PID= 0.0 PID= 0.1				brown, no visual impacts, no odors.	
-40				PID= 0.2 PID= 0.2 PID= 0.1 PID= 0.2 PID= 0.1 PID= 0.1				(58.25'- 60') SILTY SAND (SM); ~80% sand, fine, ~20% fines; gray brown, no visual impacts, no odors.	
	60	S-12	60/18	PID= 0.4				(60'- 65') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; brown, no visual impacts, no odors.	
-45				PID= 0.4 PID= 0.3					
	65	S-13	60/60	PID= 0.1			Env. Sample ID= OU2MW-56 (65-70)	(65'- 69.8') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; brown, no visual impacts, no odors.	
-50				PID= 0.0 PID= 0.2 PID= 0.1 PID= 0.1 PID= 0.2 PID= 0.1					
	70							(69.8'- 70') LEAN CLAY (CL); ~100% fines; gray, stiff. End of Boring at 70 feet.	

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