



Michael Quinlan
Senior Program Manager
Site Investigation and Remediation

May 6, 2022

Mr. Gerry Pratt
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York 12233-7013

Subject: Well GW-09 LNAPL Recovery Work Plan
Nassau Ave & Sheridan Blvd Property
Former Inwood Gas Holder Site
Inwood, Nassau County, New York
NYSDEC Site No.: 1-30-121, Order on Consent Index #: A2-0552-0606

Dear Mr. Pratt:

National Grid has prepared this LNAPL Recovery Work Plan (Work Plan) in response to the request included in the Data Gap Investigation and Groundwater Monitoring Report approval letter from the New York State Department of Environmental Conservation (NYSDEC) dated April 12, 2022 to address the light non-aqueous phase liquid (LNAPL) observed at well GW-09 at the Former Inwood Gas Holder facility (Site) located in Inwood, Nassau County, New York (Figure 1). Work is being performed pursuant to the Multi-site Order on Consent and administrative settlement between National Grid and the NYSDOH, Index # A2-0552-0606 (NYSDEC, 2007), and in accordance with applicable guidelines of the NYSDOH and the New York State Department of Health (NYSDOH).

A detailed summary of the proposed investigation activities is provided in the Scope of Work and Work Plan Objectives section below.

BACKGROUND AND SITE HISTORY

The Site is located to the southwest of the intersection of Sheridan Boulevard and Nassau Avenue in Inwood, Nassau County, New York (Figure 1). The Site encompasses approximately 27 acres and is bounded by Nassau Avenue and Waterfront Boulevard to the north, Sheridan Boulevard to the east, to the west by Cerro Street, a building operated by the Village of Inwood, and a projected extension of Alameda Avenue, and to the south by Motts Basin, a tributary to Jamaica Bay. The Site is secured by a chain link fence and numerous gates. The majority of the Site is undeveloped and overgrown with trees and vegetation. The concrete foundations of the former 6,000,000 cubic feet water sealed gas holder, pump house, boiler house, and engine room are located in the northeastern area of the parcel. All foundations except for the former holder pad are mostly covered with blue stone that was installed after the construction of the Temporary Injection station in 2020.

Two concrete supports on the east central portion of the Site indicate the former location of nine horizontal liquid propane tanks. A natural gas metering and regulation station is in operation and located east of the holder foundation and adjacent to Sheridan Boulevard. Adjacent to the former gas holder area, to the north and east – eight gasoline filling stations or garages with gasoline tanks are located up gradient and within one block of the Site. The Site was a remote gas distribution holder and is understood to have had no manufactured gas production facilities. Previous investigations from the 1990's suggest that the majority of the residual manufactured gas plant (MGP)-related material and petroleum related materials at the Site may be associated with the disposal of these materials from offsite locations rather than from the structures and operational activities associated with the former holder station. Former structures that may have impacted the Site include the gas holder, boiler house, engine room, pump house, and propane tanks.

The majority of the Site has not been actively used in recent years and has vegetation overgrowth. Pathways were installed in 2009 and 2010 to conduct remedial investigation (RI) and for installation of the Site monitoring wells. In accordance with the 2020 NYSDEC-approved Work Plan, field activities were conducted for the rehabilitation/redevelopment of existing wells and baseline groundwater sampling was conducted. The results were documented in the Monitoring Well Reconnaissance and Baseline Groundwater Monitoring Report submitted October 2020 (National Grid, 2020). In accordance with the 2021 NYSDEC-approved AECOM Data Gap Investigation and Groundwater Monitoring Work Plan (National Grid, 2021), additional field activities were conducted for the data gap investigation and groundwater monitoring activities. The results were documented in the Data Gap Investigation and Groundwater Monitoring Report (National Grid, 2021). As a result of that report, NYSDEC requested removal of LNAPL at well GW-09 in a letter dated April 12, 2022. The LNAPL was analyzed for gas chromatograph (GC) fingerprint in accordance with EPA SW-846 Method 8015B and the results were included in the 2021 NYSDEC-approved Data Gap Investigation and Groundwater Monitoring Report (National Grid, 2021). The fingerprint analysis results indicate that the material contains diagnostic poly aromatic hydrocarbon (PAH) ratios similar to crude oil, No. 6 oil, or similar petroleum substances from the same source.

SCOPE OF WORK AND WORK PLAN OBJECTIVES

Based on the LNAPL recharge rates observed during the weekly monitoring reported in the 2021 NYSDEC-approved Data Gap Investigation and Groundwater Monitoring Report (National Grid, 2021), the scope of work and objectives of this Work Plan are proposed as follows:

- Weekly gauging and recovery of LNAPL in well GW-09 for 4 consecutive weeks;
- Monthly gauging and recovery of LNAPL, and monitoring of LNAPL recharge for a period of 6-months after the initial 4-week monitoring per above. Includes off-site disposal of recovered LNAPL at a NYSDEC and National Grid approved facility during this timeframe.

METHODS

All field work will follow methods and guidelines provided in the NYSDEC approved AECOM Data Gap Investigation and Groundwater Monitoring Work Plan (National Grid, 2021), the Quality Assurance Protection Plan (QAPP), and Field Sampling Procedures presented in the AECOM RIR dated February 2015, and the Health and Safety Plan (HASP) updated in June 2021 unless otherwise specified in this document.

The tasks outlined in this Work Plan will be completed using methods of LNAPL recovery and monitoring consistent with the ones reported in the 2021 NYSDEC-approved Data Gap Investigation and Groundwater Monitoring Report (National Grid, 2021). These methods were found to be most efficient in removal of LNAPL from well GW-09, and are outlined below:

- **Monitoring:** Immediately before LNAPL recovery, the depth to water, total well depth, and depth to LNAPL will be recorded. LNAPL and water depths will be measured to the nearest 0.01 ft below top of casing (TOC) using an interface probe. The thickness of LNAPL will be measured with a graduated, stainless steel weighted tape as needed. All readings will be evaluated for reasonableness/accuracy and re-measured, if necessary. For example, product coatings that only occur on one side of the tape, or are intermittent, may be an indication an inaccurate reading and will be re-measured.
- **Recovery:** LNAPL collection will be performed via hand-bailing using disposable poly weighted bailers, consistent with the 2021 monitoring and recovery events. The LNAPL-water mix will be recovered into 5-gallon pails until the fluid being removed appears to be clear (i.e., it appears that LNAPL is no longer being removed). The collected LNAPL-water mix will be decanted, and its volume will be measured and recorded. The field team will then transfer the contents from the temporary containers into 55-gallon drums, labeled, and stored on a covered spill palette (shed), pending transport and disposal by an approved National Grid contractor.
- **Decontamination:** All tools and equipment that come into contact with LNAPL material will be properly decontaminated prior to leaving the well. Disposable bailers will be used during each monitoring event to minimize the need of decontamination. All solid and liquid waste generated from field activities will be managed by AECOM field staff.
- **Investigation Derived Waste (IDW)** – Any LNAPL or contaminated PPE/plastic debris generated during the program will be drummed in properly labeled United States Department of Transportation (USDOT) approved storage containers (55-gallon drums) and stored on Site in a temporary spill containment shed. Drum disposal will be managed by National Grid at an NYSDEC approved off-site disposal facility following completion of the field activities.

DELIVERABLES

Gauging and recovery data for LNAPL in well GW-09 will be transmitted to the NYSDEC via email in a tabular form following each monitoring event. The tabular summary will include GW-09 LNAPL gauging data, removal data, and a calculation of LNAPL recharge rates over time. Based on the findings of this investigation, the Site conceptual model will be updated in the 2022 Feasibility Study.

PROJECT SCHEDULE

Field work will commence following approval of this Work Plan. If you have any questions, or require any additional information, feel free to contact me at 516-220-4363 or via e-mail at michael.quinlan@nationalgrid.com.

Sincerely,

for

Michael Quinlan
Senior Program Manager

Enclosure

cc: W. Kuehner, NYSDOH (Electronic Copy Only)
J. Phillips, National Grid (Electronic Copy Only)
W. Ryan, National Grid (Electronic Copy Only)
J. Mitchell, National Grid (Electronic Copy Only)
S. Mantri, AECOM (Electronic Copy Only)
P. Cox, AECOM (Electronic Copy Only)
A. Chin, AECOM (Electronic Copy Only)

Attachments

Figures

Figure 1 – Site Layout

Figure 2 – Shallow Monitoring Wells Location Map

References

National Grid, 2021. Revised Data Gap Investigation and Groundwater Monitoring Report 2021, Nassau Ave & Sheridan Blvd Property, Former Inwood Gas Holder Site, Inwood, Nassau County, New York, NYSDEC Site No.: 1-30-121, Order on Consent Index #: A2-0552-0606, February 18, 2022.

National Grid, 2021. Data Gap Investigation and Groundwater Monitoring Work Plan, Nassau Ave & Sheridan Blvd Property, Former Inwood Gas Holder Site, Inwood, Nassau County, New York, NYSDEC Site No.: 1-30-121, Order on Consent Index #: A2-0552-0606, June 2021.

National Grid, 2020. Monitoring Well Reconnaissance and Baseline Groundwater Monitoring Work Plan, Nassau Ave & Sheridan Blvd Property, Former Inwood Gas Holder Site, Inwood, Nassau County, New York, NYSDEC Site No.: 1-30-121, Order on Consent Index #: A2-0552-0606, April 2020.

Well GW-09 LNAPL Recovery Work Plan
Former Inwood Gas Holder Site
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FIGURES

File: P:\Jobs\Rem_Eng\Project Files\National Grid\Inwood\GIS\Projects\Gas_Holder_Area\MXD\Fig_1_ Site Layout.mxd



Legend

- Property Boundary
- Access Road
- - - Historic Structures
- Waterfront

1 inch = 120 feet
0 60 120 240 Feet



National Grid Former Inwood Gas Holder Site Nassau Ave/Sheridan Blvd Inwood, NY			Site Layout	
Date: 3/13/2020	Drawn: JB	Job #: 60137359		Figure 1

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