September 18, 2019

Michael MacCabe, P.E.
Senior Environmental Engineer
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233

Re: Supplemental Groundwater Investigation Plan – Request for Approval
438 11th Avenue (Block 708, Lot 62)
New York, New York
NYSDEC BCP Site No. C231095
Langan Project No.: 170395001

Dear Mr. MacCabe:

On behalf of 438-444 Eleventh Avenue, LLC (the "Volunteer"), we request approval from the New York State Department of Environmental Conservation (NYSDEC) to conduct a supplemental groundwater investigation at 438 11th Avenue ("site") in New York, New York. The investigation will evaluate the extent of petroleum-related groundwater impacts identified on the northern portion of the site during a 2016 and 2018 Remedial Investigation (RI), which was conducted under the Brownfield Cleanup Program (BCP). This letter summarizes previous findings and presents the proposed investigation scope.

Site Background

The 38,150-square-foot site is comprised of two contiguous properties located in the Hudson Yards neighborhood of Manhattan and identified as Block 408, Lots 1 and 62 on the New York City Tax Map. The site is vacant and contains a one-story commercial building formerly occupied by a lumber storage facility (Lot 62) and an open lot formerly used as a railroad yard (Lot 1). Langan conducted an RI between September 8 and 29, 2016, with additional sampling performed on June 2, 2016 and August 30, 2018. A revised draft RI Report was submitted to NYSDEC on April 12, 2019. A Site Location Plan is provided on Figure 1.

About six inches of light non-aqueous phase liquid (LNAPL) were observed in a monitoring well (MW09) on Lot 62 during the August 2018 sampling event. Fingerprint analysis of an LNAPL sample correlated with a mixture of moderately weathered No. 2 fuel oil or diesel oil and weathered gasoline. Tetraethyl lead, a gasoline additive that was phased out of production in the 1980s, was also detected in the sample. Another sample collected from the southeastern corner of Lot 62 (GB10) contained petroleum-related VOCs and naphthalene at concentrations above

the NYSDEC Technical Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values (AWQS/GV). Potential sources for the petroleum-related impacts may be undetected releases from historical petroleum bulk storage and vehicle repair operations on Lot 62 and/or residual contamination from historical NYSDEC Spill No. 9709152 on the western-adjoining property (Lot 65). Additional groundwater sampling is warranted to identify the lateral extent of the groundwater impacts and evaluate potential sources of the release. The analytical results of groundwater sampling conducted during the RI are shown on Figure 2.

Investigation Work Plan

Installation of Monitoring Wells

Five permanent groundwater monitoring wells will be installed on Lot 62 at locations surrounding well MW09 and sampling point GB10. A driller will install the wells to depths between about 20 and 30 feet below grade surface (bgs), which is about 15 to 20 feet below the top of bedrock. The borings will be advanced with either a direct-push Geoprobe® unit equipped with an air hammer or with sonic drill rig. The wells will be constructed with two-inch-diameter riser attached to 10- or 15-foot long screen. Clean sand (Morie #2) will be used to fill the annulus around the well screens to a height of at least one foot above the top of the screened interval, followed by a 2- to 3-foot hydrated bentonite seal. The remaining annular space will be filled with grout, such that the grout extends at least 2 feet below the top of bedrock. The wells will be finished with a protective, flush-mount or stick-up, bolt-down well cover set into a concrete collar.

Following installation, the wells will be developed by surging with a surge block across the well screen to agitate and remove fines. A proposed monitoring well location plan is provided as Figure 3.

Groundwater Sampling

One groundwater sample will be collected from each of the wells a minimum of one week after installation and development. Prior to sampling, each well will be gauged with an interface probe to record a depth to groundwater (1/100 foot), and the thickness of LNAPL. If LNAPL is identified in a well, a groundwater sample will not be collected. The wells will be purged prior to sampling. Purging will consist of pumping until the physical and chemical parameters (e.g., temperature, dissolved oxygen, oxygen reduction potential, and turbidity) stabilize within the ranges specified in the United States Environmental Protection Agency (USEPA) Low Stress Purging and Sampling Procedure for the Collection of Groundwater Samples From Monitoring Wells, Dated July 30, 1996 and Revised January 19, 2010. Samples will be collected with a submersible pump and dedicated polyethylene tubing. The submersible pump will be decontaminated with Alconox® and water between each sample location. Development and purge water will be containerized for off-site disposal.

Groundwater samples will be analyzed for Target Compound List (TCL) + 30 VOCs and semivolatile organic compounds (SVOCs) via USEPA Method 8260 and 8270, respectively and total lead. If LNAPL is observed, appropriate samples will be collected using a bailer for characterization and "fingerprint analysis". QA/QC procedures will adhere to those described in NYSDEC DER-10, and all laboratory analyses will be conducted by a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program-certified laboratory in accordance with USEPA SW-846 methods and NYSDEC Analytical Services Protocol (ASP) B deliverable format. Environmental data will be reported electronically using the database software application EQuIS in comportment with the NYSDEC Environmental Information Management System (EIMS). Table 1 summarizes the proposed groundwater samples and analyses.

Monitoring Well Survey

The location and elevation of the groundwater monitoring wells (top of casing elevations) will be surveyed. This data will be used with the groundwater well gauging data to prepare a groundwater contour map and document the direction of groundwater flow. Vertical control will be established by surveying performed relative to the North American Vertical Datum of 1988 (NAVD88) datum by a land surveyor licensed in New York State. Elevations of the top of monitoring well casings and protective well casings will be surveyed to the nearest 0.01 foot.

Air Monitoring

Air monitoring will be performed within the breathing zone periodically during drilling and sampling activities to document health and safety protection for the work team. Work zone air monitoring will be conducted for VOCs with a photoionization detector (PID). We will record air monitoring results in the field book during investigation activities.

In addition to air monitoring in the worker breathing zone, community air monitoring will be performed at perimeter upwind and downwind locations during drilling and well installation in compliance with the NYSDOH Generic Community Air Monitoring Plan (CAMP). Dust emissions will be monitored using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. A PID will be deployed at each station to monitor for VOCs. Dust suppression measures (e.g., water misting) will be implemented as required.

Reporting

Following completion of the investigation and receipt of analytical data, we will prepare a Remedial Investigation Report Addendum that summarizes the scope of work, findings, and conclusions. Monitoring well construction logs, sampling logs, and laboratory analytical reports

will be appended to the report. The Category B data deliverable will be validated and a Data Usability Summary Report (DUSR) will be provided with the addendum.

We look forward to your response and proceeding with the investigation.

Sincerely,
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.

Michael Burke, PG, CHMM
Principal/Vice President

Figure 1 – Site Location Map
Figure 2 – Groundwater Sample Results Map (RI)
Figure 3 – Proposed Well Location Map
Table 1 – Proposed Sample Summary

cc: S. Knoop, K. Del Col, J. Yanowitz (Langan);; A. Kazam, S. Latargia (Tishman Speyer); L. Schnapf (Schnapf Law)

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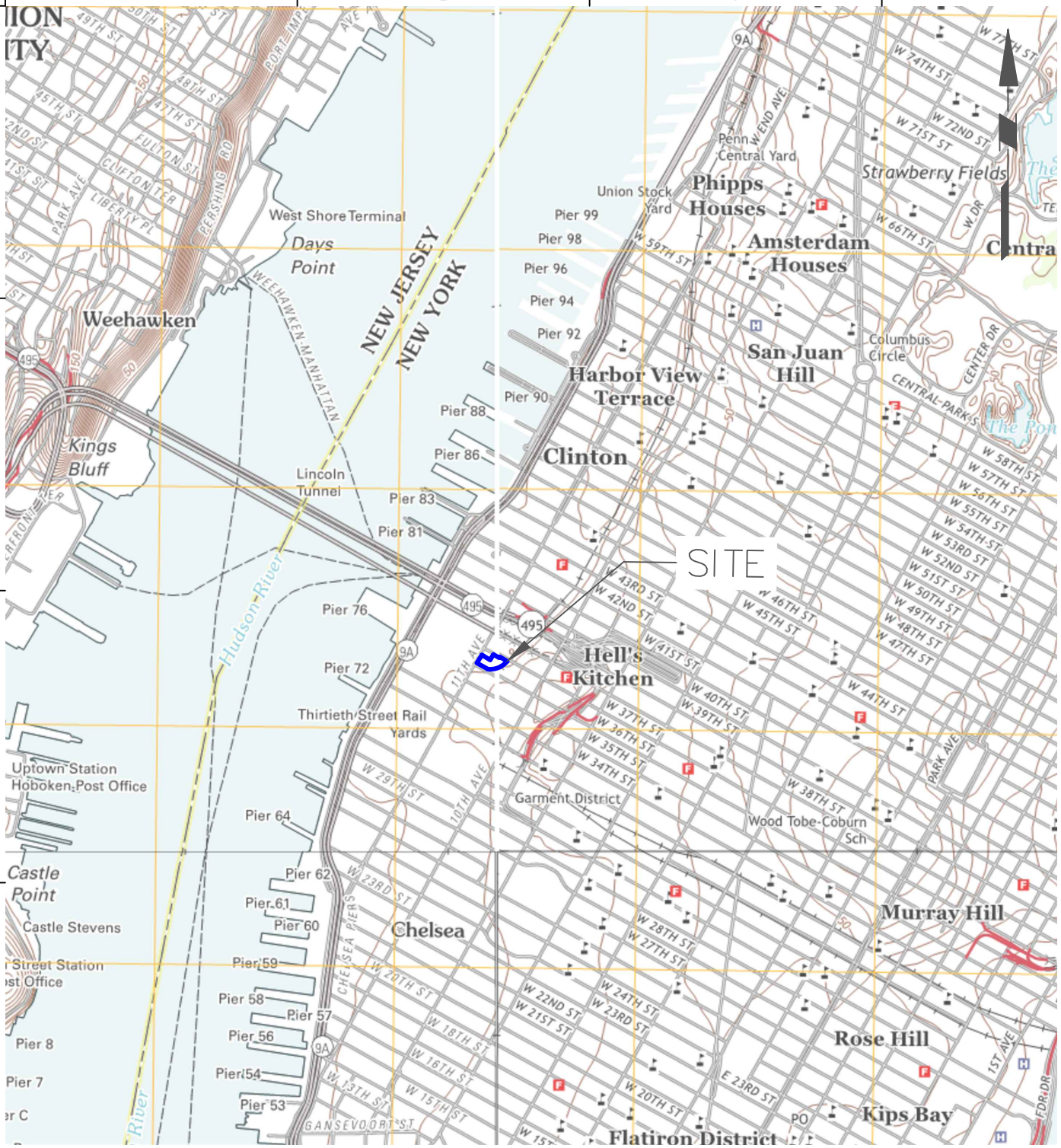
FIGURES



BASEMAP REFERENCE: USGS 7.5 MINUTE SERIES CENTRAL PARK, NY TOPOGRAPHIC QUADRANGLE, 2013

- SITE LOCATION

2000 0 1000 2000

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LANGAN

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Project	438 11TH AVENUE BLOCK No. 708, LOT Nos. 1 AND 62 NEW YORK NEW YORK
Figure Title	SITE LOCATION MAP
Project No.	170395001
Date	7/2/2019
Drawn By	KMS
Checked By	SK
Figure No.	1
Sheet	1 of 2

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MW06	
Sample ID	**MW06_092216**
Laboratory ID	**16I0868-02**
Sampling Date	**9/22/2016**
VOCs (µg/l)	
Total VOCs	NE
SVOCs (µg/l)	
Total SVOCs	NE
PCBs (µg/l)	
Total PCBs	ND
Pesticides (µg/l)	
Total Pesticides	ND
Total Metals (µg/l)	
Arsenic	28
Chromium	162
Lead	121
Magnesium	42,700
Manganese	1,620
Nickel	154
Selenium	13
Sodium	340,000
Dissolved Metals (µg/l)	
Manganese	755
Sodium	348,000

GB10	
Sample ID	**GB10_091916**
Sample Date	**9/19/2016**
Screen Interval (feet bgs)	**Borehole**
VOCs (µg/L)	
1,2,4-Trimethylbenzene	59
1,3,5-Trimethylbenzene	35
Benzene	75
Ethyl Benzene	94
Isopropylbenzene	58
n-Butylbenzene	30
n-Propylbenzene	120
p- & m- Xylenes	65
p-Isopropyltoluene	13
sec-Butylbenzene	19
Toluene	12
Xylenes, Total	69
SVOCs (µg/L)	
Naphthalene	45.10
Total Metals (µg/L)	
Lead	NE

MW09	
Sample ID	**MW09_092316**
Laboratory ID	**16I0901-01**
Sampling Date	**9/23/2016**
VOCs (µg/l)	
cis-1,2-Dichloroethylene	53
SVOCs (µg/l)	
Benzo(a)anthracene	0.054
PCBs (µg/l)	
Total PCBs	ND
Pesticides (µg/l)	
Total Pesticides	ND
Total Metals (µg/l)	
Manganese	1,190
Sodium	153,000
Dissolved Metals (µg/l)	
Manganese	1,130
Sodium	152,000

MW09	
Sample ID	**MW09_080316**
Sample Date	**8/3/2016**
Screen Interval (feet bgs)	**18.5 to 28.5**
VOCs (µg/L)	
1,2,4-Trimethylbenzene	26
1,2-Dichlorobenzene	3.90
1,3,5-Trimethylbenzene	23
1,4-Dichlorobenzene	3.30
Benzene	250
Chlorobenzene	56
Ethyl Benzene	82
Isopropylbenzene	40
n-Butylbenzene	9.40
n-Propylbenzene	66
o-Xylene	8
p- & m- Xylenes	48
p-Isopropyltoluene	7.80
sec-Butylbenzene	7.40
Toluene	18
Xylenes, Total	56
SVOCs (µg/L)	
Naphthalene	51.80
Pesticides (µg/L)	
Total Pesticides	ND
Total Metals (µg/L)	
Magnesium	83,900
Manganese	10,600
Sodium	355,000
Dissolved Metals (µg/L)	
Magnesium	89,300
Manganese	12,000
Selenium	14
Sodium	339,000
PCBs (µg/L)	
Total PCBs	ND

MW02		
Sample ID	**MW02_092216**	**DUP01_092216**
Laboratory ID	**16I0868-01**	**16I0868-04**
Sampling Date	**9/22/2016**	**9/22/2016**
VOCs (µg/l)		
Total VOCs	NE	NE
SVOCs (µg/l)		
Total SVOCs	ND	NE
PCBs (µg/l)		
Total PCBs	ND	ND
Pesticides (µg/l)		
Total Pesticides	ND	ND
Total Metals (µg/l)		
Manganese	1,150	1,160
Sodium	163,000	153,000
Dissolved Metals (µg/l)		
Manganese	1,110	1,140
Sodium	163,000	161,000

GW 9A	
Sample ID	**GW 9A**
Sampling Date	**4/15/2015**
VOCs (µg/l)	
Total VOCs	NE
PCBs (µg/l)	
Aroclor-1260	0.16

MW08	
Sample ID	**MW08_092216**
Laboratory ID	**16I0868-03**
Sampling Date	**9/22/2016**
VOCs (µg/l)	
Total VOCs	NE
SVOCs (µg/l)	
Total SVOCs	NE
PCBs (µg/l)	
Total PCBs	ND
Pesticides (µg/l)	
Total Pesticides	ND
Total Metals (µg/l)	
Manganese	839
Sodium	160,000
Dissolved Metals (µg/l)	
Manganese	666
Sodium	144,000

Compound	NYSDEC TOGS Class GA
VOCs (µg/L)	
1,2,4-Trimethylbenzene	5
1,2-Dichlorobenzene	3
1,3,5-Trimethylbenzene	5
1,4-Dichlorobenzene	3
Benzene	1
Chlorobenzene	5
cis-1,2-Dichloroethylene	5
Ethyl Benzene	5
Isopropylbenzene	5
n-Butylbenzene	5
n-Propylbenzene	5
o-Xylene	5
p- & m- Xylenes	5
p-Isopropyltoluene	5
sec-Butylbenzene	5
Toluene	5
Xylenes, Total	5
SVOCs (µg/L)	
Naphthalene	10
Benzo(a)anthracene	0.002
Total and Dissolved Metals (µg/L)	
Arsenic	25
Chromium	50
Lead	25
Magnesium	35000
Manganese	300
Nickel	100
Selenium	10
Sodium	20000
PCBs	
Aroclor-1260	0.09

LEGEND

- SITE BOUNDARY
- SB/MW02 — RI LOT 1 SOIL BORING AND GROUNDWATER MONITORING WELL
- MW06 — RI LOT 1 GROUNDWATER MONITORING WELL
- GB10 — RI LOT 62 GEOTECHNICAL BORING LOCATION
- SB/MW09 — RI LOT 62 SOIL BORING/MONITORING WELL
- GW9A — PHASE II INVESTIGATION GROUNDWATER MONITORING WELL

NOTES

1. BASEMAP REFERENCES: TOPOGRAPHIC, BOUNDARY AND UTILITY SURVEY PREPARED BY LANGAN, DATED 25 FEBRUARY 2011. AND ELEVATION SURVEY NO. 65178 PREPARED BY MONTROSE SURVEYING CO. LLP., DATED 26 JULY 2016.
2. ELEVATIONS SHOWN REFER TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)
3. GROUNDWATER SAMPLE ANALYTICAL RESULTS ARE COMPARED TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) TECHNICAL AND OPERATIONAL GUIDANCE SERIES (TOGS) 1.1.1 AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES (SGV) FOR DRINKING WATER (CLASS GA).
4. RESULTS ABOVE THE NYSDEC TOGS 1.1.1 SGV CLASS GA VALUES ARE BOLDED AND HIGHLIGHTED.
5. NYSDEC TOGS 1.1.1 SGV FOR CLASS GA DRINKING WATER CRITERIA ARE SHOWN IN THE TABLE BELOW.
6. VOCs = VOLATILE ORGANIC COMPOUNDS
7. SVOCs = SEMIVOLATILE ORGANIC COMPOUNDS
8. PCBs = POLYCHLORINATED BIPHENYLS
9. ug/l = MICROGRAMS PER LITER
10. ND = NOT DETECTED
11. NE = NO EXCEEDANCE
12. GROUNDWATER WAS NOT ENCOUNTERED IN WELL MW03.

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LANGAN
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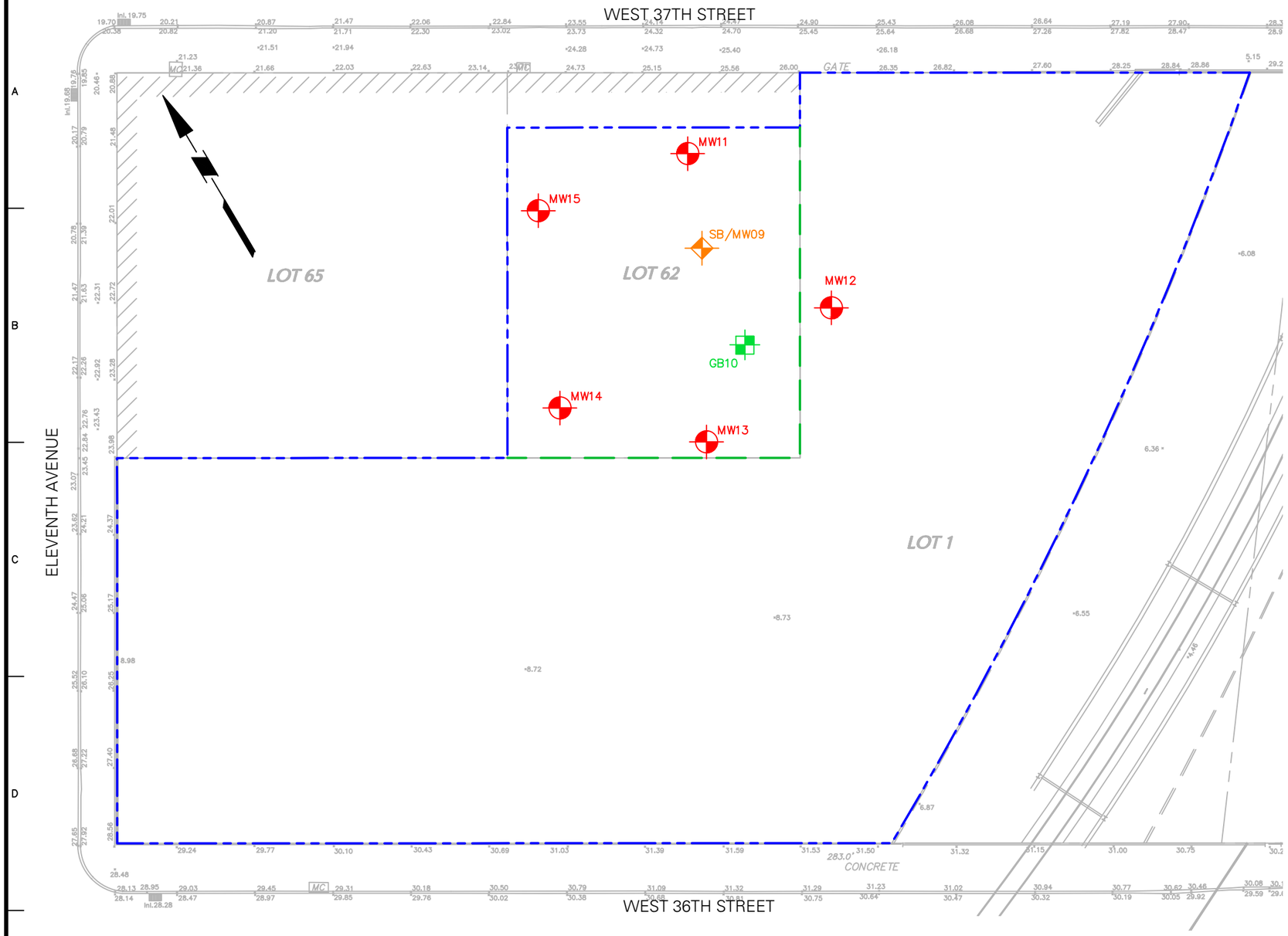
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

Project
438 11TH AVENUE
BLOCK No. 708, LOT Nos. 1 and 62
NEW YORK NEW YORK

Figure Title
GROUNDWATER SAMPLE LOCATION AND RESULTS MAP

Project No. 170395001	Figure No. 2
Date 08/24/2018	
Scale 1" = 50'	
Drawn By KG / Checked By SK	
Submission Date JUNE 2017	Sheet 2 of 3

Filename: \\langan.com\data\NY\data0\170395001\Cadd Data - 170395001\SheetFiles\Environmental\Lots 1 and 62\170395001-NI101-0102.dwg Date: 9/13/2019 Time: 11:31 User: kasciutto Style Table: Langan.stb Layout: Figure 5a - GW Sample Location And Results Map



LEGEND

- SITE BOUNDARY
- LOT 62 BOUNDARY
- MW11 — PROPOSED BEDROCK MONITORING WELL LOCATION
- SB/MW09 — RI SOIL BORING/MONITORING WELL
- GB10 — RI GEOTECHNICAL BORING LOCATION

NOTES

1. BASEMAP REFERENCES: TOPOGRAPHIC, BOUNDARY AND UTILITY SURVEY PREPARED BY LANGAN, DATED 25 FEBRUARY 2011. AND ELEVATION SURVEY NO. 65178 PREPARED BY MONTROSE SURVEYING CO. LLP., DATED 26 JULY 2016.
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Project	438 11TH AVENUE BLOCK No. 708, LOT Nos. 1 AND 62 NEW YORK NEW YORK
Figure Title	PROPOSED MONITORING WELL LOCATION MAP
Project No.	170395001
Date	8/22/2019
Drawn By	CMA
Checked By	KDC
Figure No.	3
Sheet	3 of 3

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TABLE

Table 1
Supplemental Groundwater Investigation
Groundwater Sample Summary
438 11th Avenue, New York, NY
NYSDEC BCP ID No. C231095
Langan Project No. 170395001

No.	Monitoring Well Location	Proposed Sample ID	Analyses
1	MW11	MW11_DATE	Part 375-list VOCs and SVOCs, Total and Dissolved Lead
2		DUP01_DATE	
3	MW12	MW12_DATE	
4	MW13	MW13_DATE	
5	MW14	MW14_DATE	
6	MW15	MW15_DATE	
7	QA/QC	FB_01_DATE	
8		TB_01_DATE	Part 375-list VOC

Notes:
1. VOC = Volatile Organic Compound
2. SVOC = Semivolatile Organic Compound
3. bgs = below grade surface
4. QA/QC = Quality Assurance/Quality Control
5. FB = Field Blank
6. TB = Trip Blank