Air Monitoring Plan

Contract No. HP-238

Hunts Point WWTP New Anaerobic Digester Facilities

Revision Update: Station Layout Note Added

Skanska RJ Industries HPWTTP JV

1270 Ryawa Ave

Bronx, NY 10474

Table of Contents

Introduction and Purpose

This Community Air Monitoring Plan (CAMP) has been prepared for ground intrusive activities within the Barretto Point Site for the construction of new anaerobic digesters for the Hunts Point Waste Water Treatment Plant. The new anaerobic digesters will be built on a site that is monitored by the New York State Department of Environmental Conservation (NYS DEC) through a Site Management Plan. Per the site management plan, this site requires air monitoring during all ground-intrusive activities.

Community Air Monitoring Plan (CAMP) Purpose

The purpose of the CAMP is to provide continuous, real-time monitoring for volatile organic compounds (VOCs) and particulates at the downwind perimeter of the work area when ground-intrusive activities are in progress at the Barretto Point Site. This CAMP identifies action levels for corrective actions and/or work shutdown. The data from this CAMP will help confirm that contamination was not spread off-site through work activities.

The Barretto Point Site is delineated as shown in contract document G-015 and is included in Appendix A for reference.

This CAMP is in accordance with the requirements of the New York State Department of Health (DOH) "Generic Community Air Monitoring Plan, Revision 1, June 2000" guidelines as presented in Appendix 1A and Appendix 1B "Fugitive Dust and Particulate Monitoring" of the NYS DEC, Final DER-10, "Technical Requirements for Site Remediation,'" dated May 2010.

Potential Air Emission Sources

Potential sources of the air quality parameters of concern (VOCs and particulates) include excavating for foundations for the new digester facilities and other new buildings on site, excavating for new utilities, excavating for test pits, drilling/augering, well installation and development, materials handling, and vehicular traffic. Anticipated major areas of excavation within the Barretto Point Site are included in Attachment B with the contract utility drawings. These areas may change based on existing site conditions.

Community Air Monitoring Program

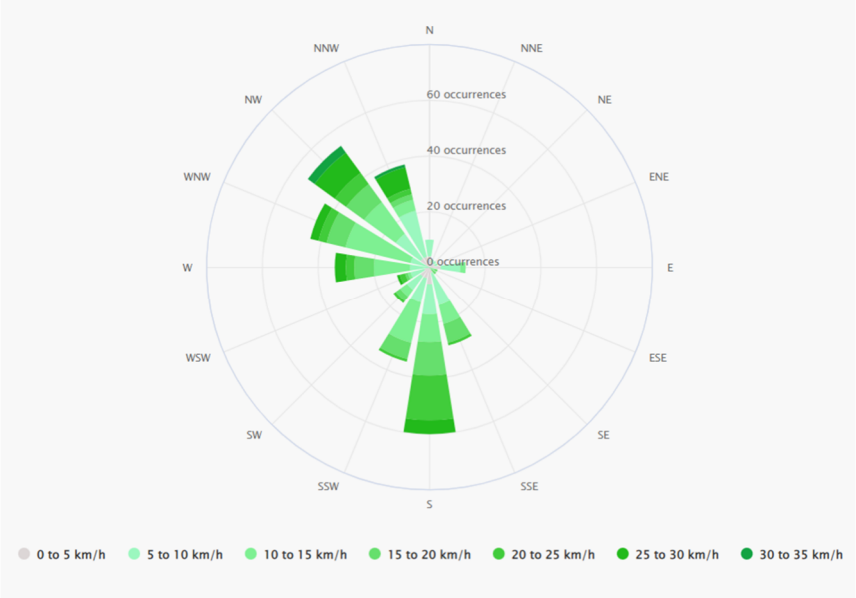
The NYSDOH generic CAMP requires continuous air monitoring along the perimeter during all ground intrusive activities. The CAMP for these ground intrusive activities will following the previously submitted CAMPs for HP-238 construction boring program and design phase boring program, included in Appendix C, with a couple of updates described below.

Site Wind Rose and Station Layout

The previous CAMP includes a wind rose from 2017, showing the primary direction of the wind from the north/northwest and the secondary direction from the southwest (and the south). A wind rose using data from June 6, 2022 through June 20, 2022 shows the wind primarily from the south and secondarily from the northwest. This second wind rose is shown in Figure 1, below.[1]

[1] *Wind Rose The Bronx*. (n.d.). Meteoblue. Retrieved June 20, 2022, from https://www.meteoblue.com/en/weather/archive/windrose/the-bronx_united-states_5110266?daterange=2022-06-

Figure 1: Wind Rose from June 6, 2022 through June 20, 2022



Additional monitoring stations may be required based on level of soil disturbance activity occurring concurrently and QEP's determination of monitoring layout adequacy.

Meteorological Station

In lieu of a separate meteorological station, each air monitoring station may be equipped with weather monitoring equipment including windspeed, wind direction, temperature, and relative humidity.

Action Levels and Responses

Action levels and the corresponding responses will follow Tables 1 and 2 in the previously submitted CAMP for the design phase. These are again included below only for easy reference below.

06%20-%202022-06-20&domain=NEMSGLOBAL&params=wind%2Bdir10m&windRoseDegreeResolution=22.5&windRoseValueResolution=5&velocityunit=KILOMETER_PER_HOUR

Table 1. Volatile Organic Vapor Action Levels	
Action Level	**Response**
< 2.5 ppm above background for the 15-minute average	Continue and/or resume work activities
> 2.5 ppm to <5.0 ppm above background (15-minute average)	Notify contractor of need to implement mitigation measures. Employ vapor/dust suppression techniques or modify work activities.
> 5 ppm above background (15-minute average) or odors are observed at the site perimeter	Work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring. Mitigation measures will be implemented to keep odors at a minimum. Notify PM of exceedance and corrective measures implemented.
>5 ppm to <25 ppm above background (15-minute average)	Work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total volatile organic vapor level 200 feet downwind of the site perimeter or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average. Notify PM of exceedance and corrective measures implemented.
>25 ppm above background (15-minute average)	Activities must be shut down. Notify PM of exceedance and corrective measures implemented.

Table 2 Action Levels for Particulates	
Action Level	**Response**
Below 100 µg/m³ above background for the 15-minute average	Continue and/or resume work activities
> 100 to < 150 µg/m³ above background for the 15-minute average or if airborne dust is observed leaving the site perimeter	Dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM10 particulate levels do not exceed 150 µg/m³ above the upwind level and provided that no visible dust is migrating from the site perimeter.
If, after implementation of dust suppression techniques, downwind PM10 particulate levels are greater than 150 µg/m³ above the upwind level	Work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM10 particulate concentration to within 150 µg/m³ of the upwind level and in preventing visible dust migration. Notify PM of exceedance and corrective measures implemented.

Special Requirements

No work is anticipated indoors or within 20 ft of occupied structures. However, if such work does occur, special requirements per the below will be followed.

Special Requirements for Indoor Work With Co-Located Residences or Facilities

- Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under “Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures” except that in this instance “nearby/occupied structures” would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining

rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g. weekends or evenings) when building occupancy is at a minimum.

Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures

- When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels (response actions should also be predetermined). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.

- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m3 or less at the monitoring point.

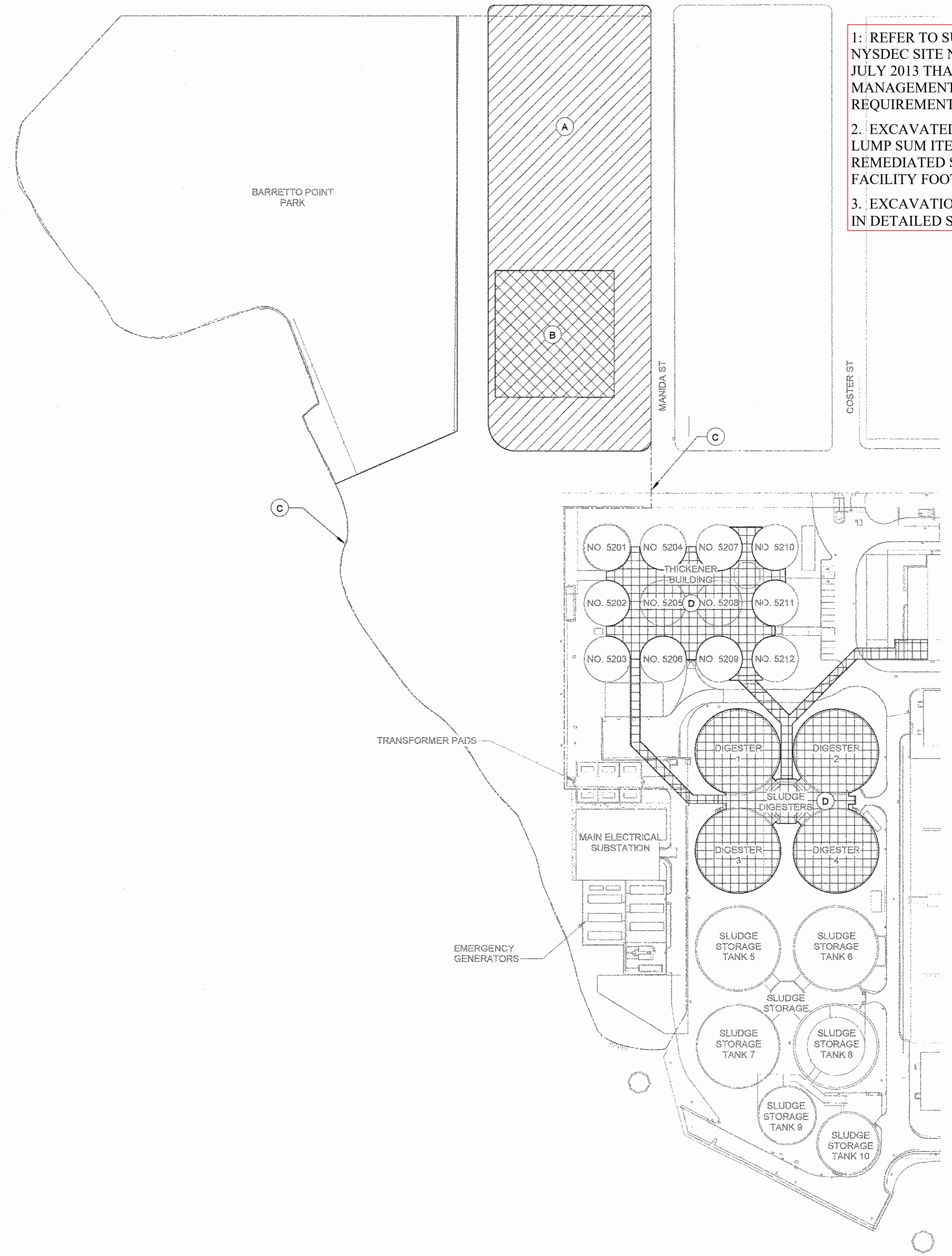
Appendix A: Site Plan

A5

1: REFER TO SUPPLEMENTAL DOCUMENTS SITE MANAGEMENT PLAN, NYSDEC SITE NUMBER 800032-2, PREPARED BY URS CORPORATION, DATED JULY 2013 THAT INCLUDES EXCAVATION WORK PLAN, AND SITE MANAGEMENT PLAN ADDENDA DATED JULY 2021 FOR ADDITIONAL REQUIREMENTS.

2. EXCAVATED SOIL AVAILABLE FOR UNRESTRICTED ON-SITE REUSE UNDER LUMP SUM ITEM 3 LOCATED WITHIN DEMARCATION OF PREVIOUSLY REMEDIATED SOILS WITHIN FORMER PAINT AND VARNISH MANUFACTURING FACILITY FOOTPRINT.

3. EXCAVATION AND DISPOSAL OF SOIL SHALL BE CONDUCTED AS SPECIFIED IN DETAILED SPECIFICATION 02316- EXCAVATION.



GENERAL NOTES

1. REFER TO APPENDIX A OF CONTRACT DOCUMENTS FOR EXCAVATION WORK PLAN, OF SITE MANAGEMENT PLAN, NYSDEC SITE NUMBER B00032-2, PREPARED BY URS CORPORATION, DATED JULY 2013 FOR ADDITIONAL REQUIREMENTS.
2. EXCAVATED SOIL AVAILABLE FOR UNRESTRICTED ON-SITE REUSE UNDER LUMP SUM ITEM 1 LOCATED WITHIN DEMARCATION OF PREVIOUSLY REMEDIATED SOILS WITHIN FORMER PAINT AND VARNISH MANUFACTURING FACILITY FOOTPRINT.
3. UNIT ITEM 3C EXCAVATION AND OFF-SITE DISPOSAL OF CONTAMINATED SOIL, APPLIES TO ALL EXCAVATED SOILS OUTSIDE OF FORMER PAINT AND VARNISH MANUFACTURING FACILITY FOOTPRINT DEMARCATION. ENGINEER SHALL DIRECT CONTRACTOR IN WRITING PRIOR TO USE OF UNIT ITEM 3C. UNIT ITEM BASED ON ACTUAL VOLUME OF SOIL EXCAVATED AND DISPOSED OFF SITE.
4. UNIT ITEM 3D ON-SITE REUSE OF EXCAVATION SOIL, APPLIES TO ALL EXCAVATED SOILS OUTSIDE OF FORMER PAINT AND VARNISH MANUFACTURING FACILITY FOOTPRINT DEMARCATION RE-USED ON-SITE AS FILL. ENGINEER SHALL DIRECT CONTRACTOR IN WRITING PRIOR TO USE OF UNIT ITEM 3D. UNIT ITEM BASED ON ACTUAL VOLUME OF SOIL EXCAVATED AND RE-USED ON-SITE.
5. EXCAVATION AND DISPOSAL OF SOIL SHALL BE CONDUCTED AS SPECIFIED IN DETAILED SPECIFICATION 02316 - EXCAVATION.

KEY NOTES

(A) AREAS PREVIOUSLY REMEDIATED PER SITE MANAGEMENT PLAN, NYSDEC SITE NUMBER: B00032-2, PREPARED BY URS CORPORATION, DATED JULY 2013.

(B) APPROXIMATE EXTENTS OF FORMER PAINT AND VARNISH MANUFACTURING FACILITY AND PREVIOUSLY REMEDIATED PER SITE MANAGEMENT PLAN.

(C) BOUNDARY OF EXISTING NYSDEC "BARRETTO POINT SITE" PER ENVIRONMENTAL RESTORATION RECORD OF DECISION, SITE NUMBER B-00032-2, DATED DECEMBER 2003.

(D) AREAS SAMPLED AND ASSESSED FOR HAZARDOUS MATERIALS UNDER NYCDEP CONTRACT HP-238. REFERENCE DOCUMENT HUNTS POINT WASTEWATER TREATMENT PLANT NEW ANAEROBIC DIGESTER FACILITIES, HAZARD MITIGATION REPORT, BROWN AND CALDWELL, DATED NOVEMBER 2018. APRIL 2019

0 100 200 FT.
1"=100'

HALF SIZE
BID SET
DATE ISSUED: 06/2021

GRAPHIC SCALES CHECK BEFORE USE

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CHECKED BY: A. SEHLOFF
DESIGN LEAD: A. SEHLOFF
SECTION MANAGER: G. NEWMAN
DRAWN BY: G. MCDONNELL

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

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NYC Environmental Protection

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HP-238 HUNTS POINT WWTP
NEW ANAEROBIC
DIGESTER FACILITIES
GENERAL
HAZARDOUS MATERIALS MANAGEMENT

DATE: 06/21/2021
SCALE: 1" = 100'-0"
SHEET NO: 15 OF 691
DRAWING NO. G-015

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.

Appendix B: Major Areas of Anticipated Excavation

EROSION CONTROL LEGEND

PROPOSED	DESCRIPTION
	LIMITS OF DISTURBANCE
	LIMITS OF CONSTRUCTION PHASE
	TEMPORARY SILT FENCE
	TREE PROTECTION FENCE
	12" COMPOST FILTER SOCK
	TEMPORARY STABILIZED CONSTRUCTION ENTRANCE
	TEMPORARY INLET PROTECTION
	DIRECTION OF SURFACE DRAINAGE

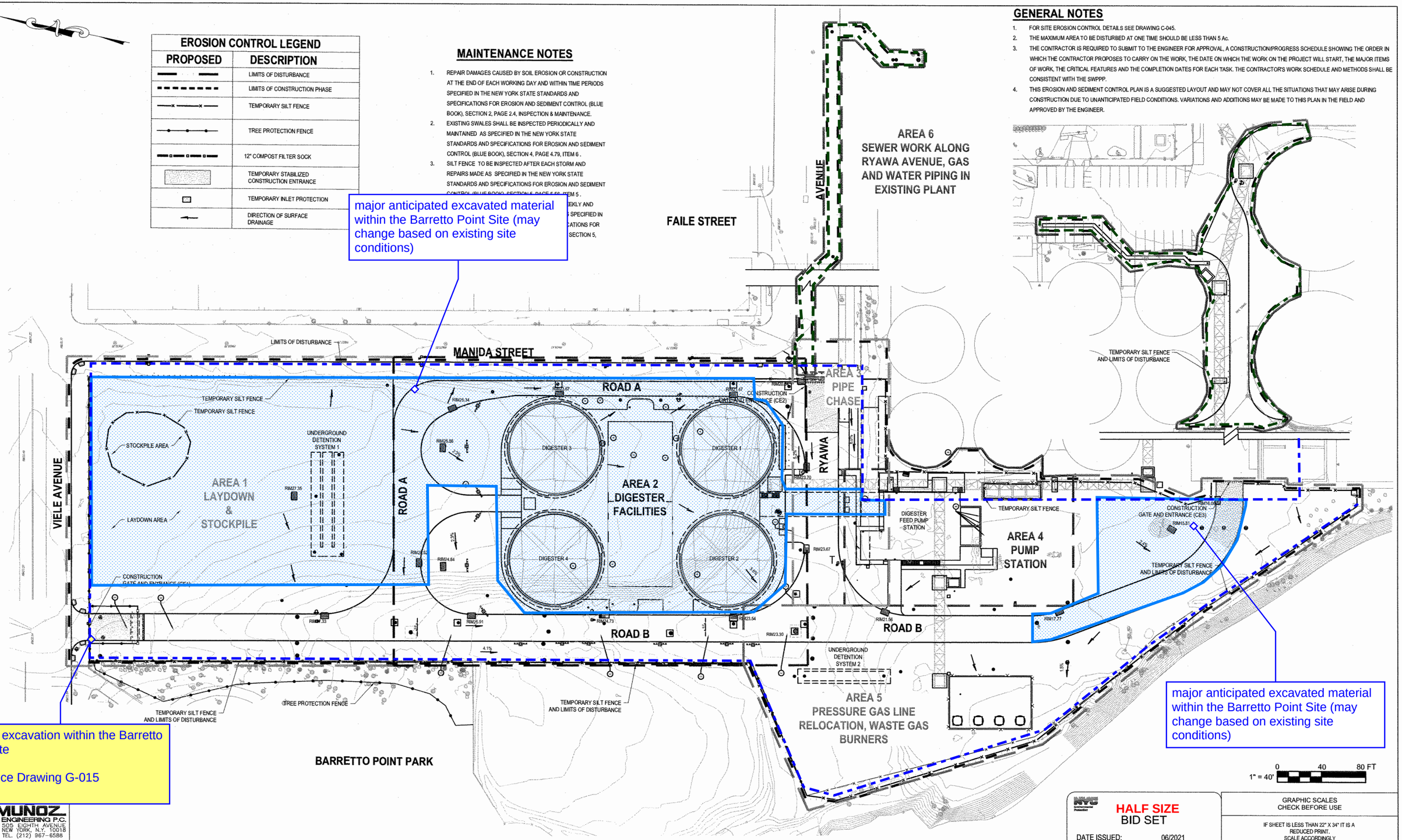
MAINTENANCE NOTES

1. REPAIR DAMAGES CAUSED BY SOIL EROSION OR CONSTRUCTION AT THE END OF EACH WORKING DAY AND WITHIN TIME PERIODS SPECIFIED IN THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (BLUE BOOK), SECTION 2, PAGE 2.4, INSPECTION & MAINTENANCE.
2. EXISTING SWALES SHALL BE INSPECTED PERIODICALLY AND MAINTAINED AS SPECIFIED IN THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (BLUE BOOK), SECTION 4, PAGE 4.79, ITEM 6 .
3. SILT FENCE TO BE INSPECTED AFTER EACH STORM AND REPAIRS MADE AS SPECIFIED IN THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (BLUE BOOK), SECTION 5, PAGE 5.58, ITEM 5 .

major anticipated excavated material within the Barretto Point Site (may change based on existing site conditions)

GENERAL NOTES

1. FOR SITE EROSION CONTROL DETAILS SEE DRAWING C-045.
2. THE MAXIMUM AREA TO BE DISTURBED AT ONE TIME SHOULD BE LESS THAN 5 Ac.
3. THE CONTRACTOR IS REQUIRED TO SUBMIT TO THE ENGINEER FOR APPROVAL, A CONSTRUCTION/PROGRESS SCHEDULE SHOWING THE ORDER IN WHICH THE CONTRACTOR PROPOSES TO CARRY ON THE WORK, THE DATE ON WHICH THE WORK ON THE PROJECT WILL START, THE MAJOR ITEMS OF WORK, THE CRITICAL FEATURES AND THE COMPLETION DATES FOR EACH TASK. THE CONTRACTOR'S WORK SCHEDULE AND METHODS SHALL BE CONSISTENT WITH THE SWPPP.
4. THIS EROSION AND SEDIMENT CONTROL PLAN IS A SUGGESTED LAYOUT AND MAY NOT COVER ALL THE SITUATIONS THAT MAY ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. VARIATIONS AND ADDITIONS MAY BE MADE TO THIS PLAN IN THE FIELD AND APPROVED BY THE ENGINEER.



major anticipated excavated material within the Barretto Point Site (may change based on existing site conditions)

limits of excavation within the Barretto Point Site

Reference Drawing G-015

1" = 40' 0 40 80 FT

HALF SIZE
BID SET
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SECTION MANAGER: G. NEWMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

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NEW ANAEROBIC DIGESTER FACILITIES
DISCIPLINE
SITE EROSION CONTROL PLAN
CONSTRUCTION AREAS

DATE: 06/21/2021
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SHEET NO: 78 OF 691
DRAWING NO. C-044

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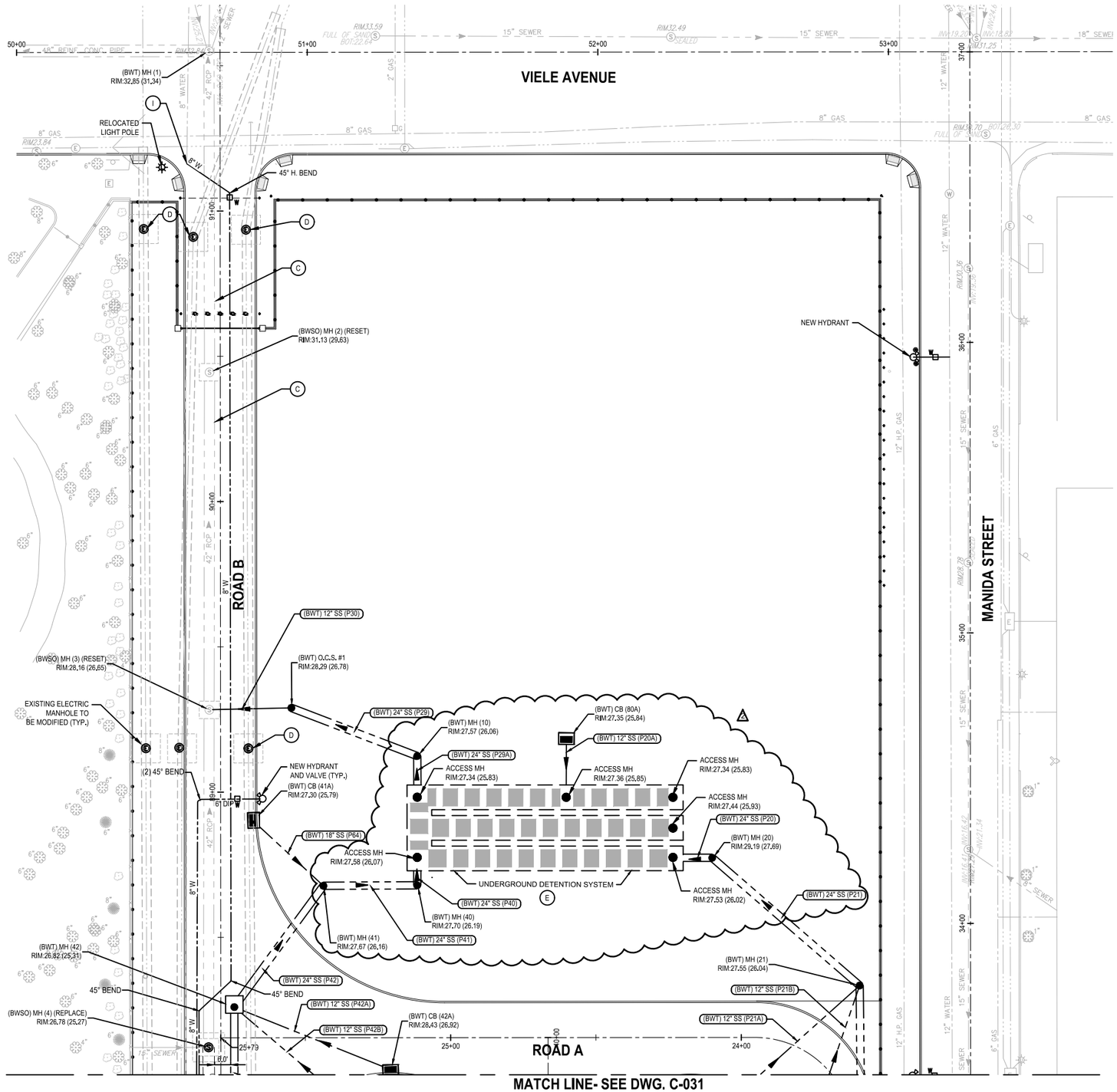


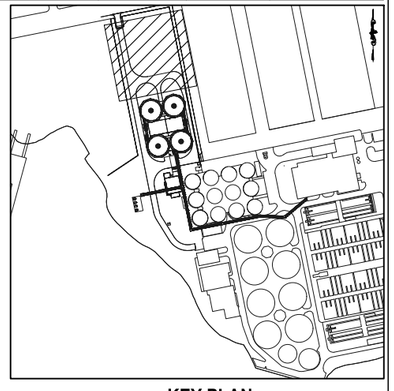
KEY NOTES

- (A) SEE MECHANICAL DRAWINGS FOR CONTINUATION OF PIPING IN DIGESTER EQUIPMENT GALLERY
- (B) SEE MECHANICAL DRAWINGS FOR CONTINUATION OF PIPING IN DIGESTER FEED WELL BUILDING
- (C) EXISTING SS TO BE MODIFIED BY STRUCTURAL C.I.P.P. LINING. SEE DRAWING C-036 FOR SCHEDULE.
- (D) EXISTING ELECTRICAL MANHOLES TO BE MODIFIED. SEE SCHEDULE ON DRAWING C-052 (TYP.)
- (E) UNDERGROUND DETENTION SYSTEM. SEE DRAWING C-043 FOR DETAILS.
- (F) GAS REGULATOR AND METER ASSEMBLY. SEE PLUMBING DRAWINGS FOR DETAILS.
- (G) UTILITY PIPE BRIDGE. SEE MECHANICAL DRAWINGS.
- (H) ELECTRICAL DUCTBANK. SEE ELECTRICAL DRAWINGS.
- (I) CONNECT NEW UTILITY TO EXISTING UTILITY LINE.
- (J) ACCESS MANHOLE AT PIPE CHASE. SEE DRAWING C-053 FOR DETAILS.

SEE DRAWING C-036 FOR UTILITY PIPE AND STRUCTURE SCHEDULE.

SITE PIPE SCHEDULE

ABBREVIATION	DESCRIPTION	DIAMETER	PIPE MATERIAL	DETAILED SPECIFICATION
CD	CHEMICAL DRAIN	6"	PVC SCH. 40	15054
DR	DRAIN	6", 10", 38"	DIP CLASS 56	15051
DR	DRAIN	24"	DIP CLASS 54	15051
NG	NATURAL GAS	0.5", 1.5", 3", 12"	STEEL SCH. 40	15052
OF	OVERFLOW	18"	DIP CLASS 54	15051
RD	ROOF DRAIN	4"	DIP CLASS 56	15051
SAN	SANITARY SEWER	4"	DIP CLASS 56	15051
SAN	SANITARY SEWER	6", 10", 18", 21"	ESVP	02502
SPD	SUMP PUMP DISCHARGE	2.5"	STEEL SCH. 40	15052
SPD	SUMP PUMP DISCHARGE	4"	DIP CLASS 56	15051
SPD	SUMP PUMP DISCHARGE	18"	DIP CLASS 54	15051
SS	STORM SEWER	4", 10", 12", 15", 18"	DIP CLASS 56	15051
SS	STORM SEWER	24"	RCP	02501
TS	THICKENED SLUDGE	10"	DIP CLASS 56	15051
W	CITY WATER	6", 8", 12"	DIP CLASS 56	15051



KEY PLAN
N.T.S.

0 20 40 FT
1" = 20'

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2.	8/04/21	(A) DETENTION SYSTEM (ADDENDUM 6)	J.J.
1.	7/21/21	(A) PIPE SCHEDULE (ADDENDUM 5)	J.J.

DESIGNED BY: K. YEBOAH-ACQUAH
DRAWN BY: A. KOSTYUKEVICH
CHECKED BY: J. MILLER
DESIGN LEAD: J. JARAMILLO
SECTION MANAGER: G. NEWMAN

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HP-238 HUNTS POINT WWTP NEW ANAEROBIC DIGESTER FACILITIES
DISCIPLINE
YARD PIPING AND UTILITY PLAN - 1

DATE: 06/21/2021
SCALE: AS INDICATED
SHEET NO: 64 OF 691
DRAWING NO. C-030

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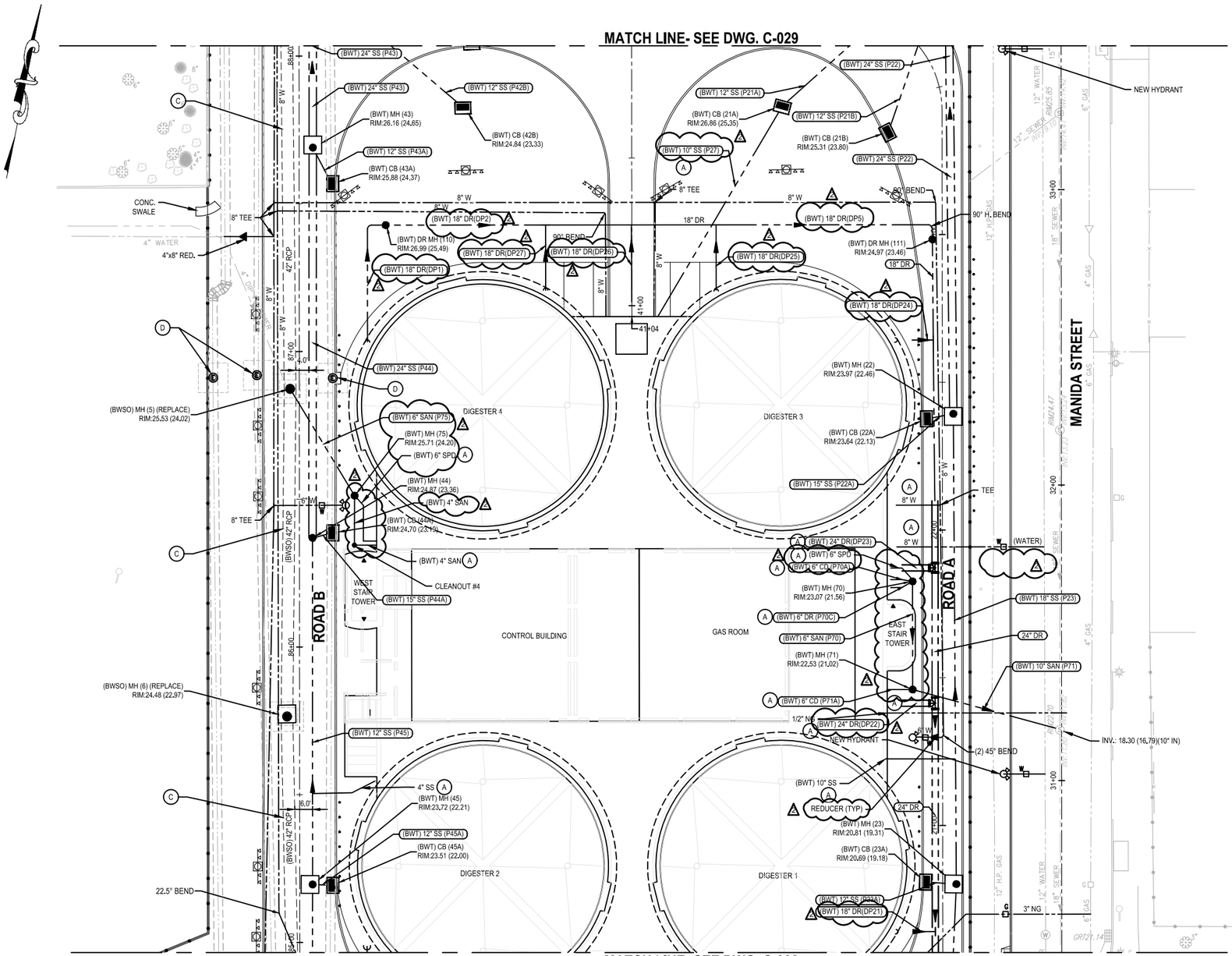

GENERAL NOTE

1. PARTIAL SECANT PILE WALL DEMOLITION AND/OR PENETRATION REQUIRED FOR INSTALLATION OF BURIED UTILITIES. REFER TO SUPPORT OF EXCAVATION DRAWINGS FOR LOCATION AND DETAILS OF SECANT PILE WALL.
2. THE YARD PIPING SHEETS DO NOT DEPICT THE DETAILS OF ALL CONNECTIONS BETWEEN PIPING SYSTEMS. CONTRACTOR SHALL REFER TO THE APPROPRIATE PIPING SYSTEMS IN SECTION 15050 AND UTILIZE FITTINGS, LIKE WYES, TEES, AND ELBOWS, TO MAKE THE CONNECTIONS BETWEEN THE PIPE RUNS AND TO MAKE ANY ADJUSTMENTS IN ELEVATION. CONTRACTOR SHALL PROVIDE ANY SPECIAL FITTINGS OR COUPLINGS AS NECESSARY TO MAKE CONNECTIONS BETWEEN DIFFERING PIPE MATERIALS.

KEY NOTES

- (A) SEE MECHANICAL DRAWINGS FOR CONTINUATION OF PIPING IN DIGESTER EQUIPMENT GALLERY
- (B) SEE MECHANICAL DRAWINGS FOR CONTINUATION OF PIPING IN DIGESTER FEED WELL BUILDING
- (C) EXISTING SS TO BE MODIFIED BY STRUCTURAL C.J.P.P. LINING, SEE DRAWING C-036 FOR SCHEDULE.
- (D) EXISTING ELECTRICAL MANHOLES TO BE MODIFIED, SEE SCHEDULE ON DRAWING C-052 (TYP.)
- (E) UNDERGROUND DETENTION SYSTEM. SEE DRAWING C-043 FOR DETAILS.
- (F) GAS REGULATOR AND METER ASSEMBLY. SEE PLUMBING DRAWINGS FOR DETAILS.
- (G) UTILITY PIPE BRIDGE. SEE MECHANICAL DRAWINGS.
- (H) ELECTRICAL DUCTBANK. SEE ELECTRICAL DRAWINGS.
- (I) CONNECT NEW UTILITY TO EXISTING UTILITY LINE.
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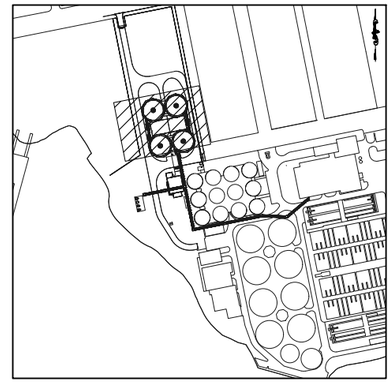

KEY PLAN
N.T.S.

0 20 40 FT
1" = 20'

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2.	8/04/21	PIPE CONNECTIONS (ADDENDUM 6)	J.J.
1.	7/21/21	PIPE SCHEDULE (ADDENDUM 5)	J.J.

DESIGNED BY: K. YEBOAH-ACQUAH
DRAWN BY: A. KOSTYUKEVICH
CHECKED BY: J. MILLER
DESIGN LEAD: J. JARAMILLO
SECTION MANAGER: G. NEWMAN

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STATE OF NEW YORK
JORGE L. JARAMILLO
084566
LICENSED PROFESSIONAL ENGINEER

NYC Environmental Protection

ACCOUNTABLE MANAGER: L. JOSEPH
PORTFOLIO MANAGER: N. SHAH, P.E.

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HP-238 HUNTS POINT WWTP
NEW ANAEROBIC
DIGESTER FACILITIES
DISCIPLINE
YARD PIPING AND UTILITY PLAN - 2

NYC Environmental Protection
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DRAWING NO. C-031

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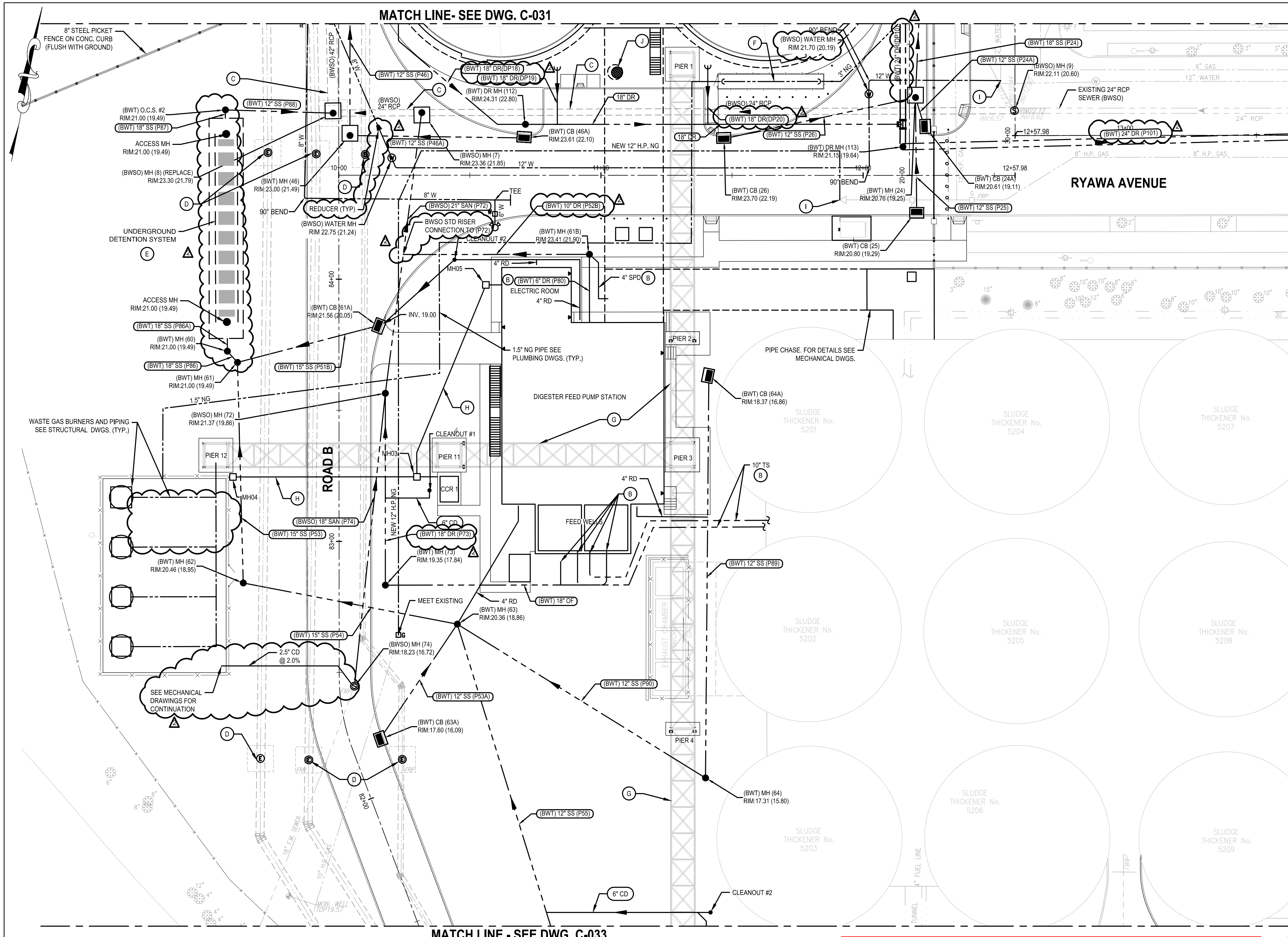
A6



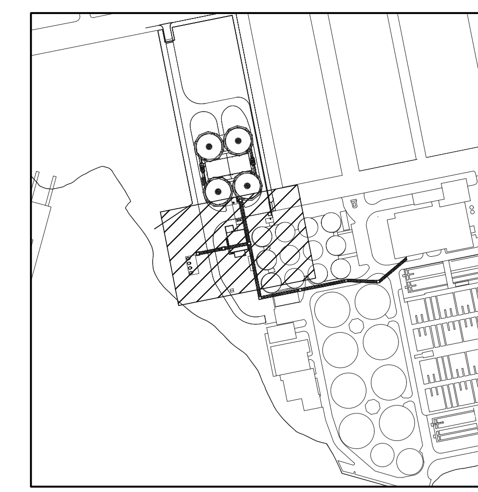
KEY NOTES

- (A) SEE MECHANICAL DRAWINGS FOR CONTINUATION OF PIPING IN DIGESTER EQUIPMENT GALLERY
- (B) SEE MECHANICAL DRAWINGS FOR CONTINUATION OF PIPING IN DIGESTER FEED WELL BUILDING
- (C) EXISTING SS TO BE MODIFIED BY STRUCTURAL C.I.P.P. LINING. SEE DRAWING C-036 FOR SCHEDULE.
- (D) EXISTING ELECTRICAL MANHOLES TO BE MODIFIED. SEE SCHEDULE ON DRAWING C-052 (TYP.)
- (E) UNDERGROUND DETENTION SYSTEM. SEE DRAWING C-043 FOR DETAILS.
- (F) GAS REGULATOR AND METER ASSEMBLY. SEE PLUMBING DRAWINGS FOR DETAILS.
- (G) UTILITY PIPE BRIDGE. SEE MECHANICAL DRAWINGS.
- (H) ELECTRICAL DUCTBANK. SEE ELECTRICAL DRAWINGS.
- (I) CONNECT NEW UTILITY TO EXISTING UTILITY LINE.
- (J) ACCESS MANHOLE AT PIPE CHASE. SEE DRAWING C-053 FOR DETAILS.

SEE DRAWING C-036 FOR UTILITY PIPE AND STRUCTURE SCHEDULE.

SITE PIPE SCHEDULE

ABBREVIATION	DESCRIPTION	DIAMETER	PIPE MATERIAL	DETAILED SPECIFICATION
CD	CHEMICAL DRAIN	6"	PVC SCH. 40	15054
DR	DRAIN	6", 10", 18"	DIP CLASS 56	15051
DR	DRAIN	24"	DIP CLASS 54	15051
NG	NATURAL GAS	0.5", 1.5", 3", 12"	STEEL SCH. 40	15052
OF	OVERFLOW	18"	DIP CLASS 54	15051
RD	ROOF DRAIN	4"	DIP CLASS 56	15051
SAN	SANITARY SEWER	4"	DIP CLASS 56	15051
SAN	SANITARY SEWER	6", 10", 18", 21"	ESVP	02502
SPD	SUMP PUMP DISCHARGE	2.5"	STEEL SCH. 40	15052
SPD	SUMP PUMP DISCHARGE	4"	DIP CLASS 56	15051
SPD	SUMP PUMP DISCHARGE	18"	DIP CLASS 54	15051
SS	STORM SEWER	4", 10", 12", 15", 18"	DIP CLASS 56	15051
SS	STORM SEWER	24"	RCP	02501
TS	THICKENED SLUDGE	10"	DIP CLASS 56	15051
W	CITY WATER	6", 8", 12"	DIP CLASS 56	15051



KEY PLAN
N.T.S.

0 20 40 FT
1" = 20'

"GENERAL NOTE:
1. SURFACES ABOVE PIPE LENGTHS P88, P87 & P96 ARE PAVED WITH CONCRETE AND POROUS PAVERS. SRFACES SHALL BE RESTORED TO ORIGINAL CONDITION."

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TEL. (212) 967-6588

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.
2.	8/23/21	GENERAL REVISIONS (ADDENDUM 6)	J.J.
1.	7/21/21	PIPE SCHEDULE (ADDENDUM 5)	J.J.

DESIGNED BY: K. YEBOAH-ACQUAH
CHECKED BY: J. MILLER
DESIGN LEAD: J. JARAMILLO
SECTION MANAGER: G. NEWMAN
DRAWN BY: A. KOSTYUKEVICH
Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK
STATE OF NEW YORK JORGE L. JARAMILLO 084565 LICENSED PROFESSIONAL ENGINEER
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DATE: 06/21/2021
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SHEET NO: 66 OF 691
DRAWING NO. C-032

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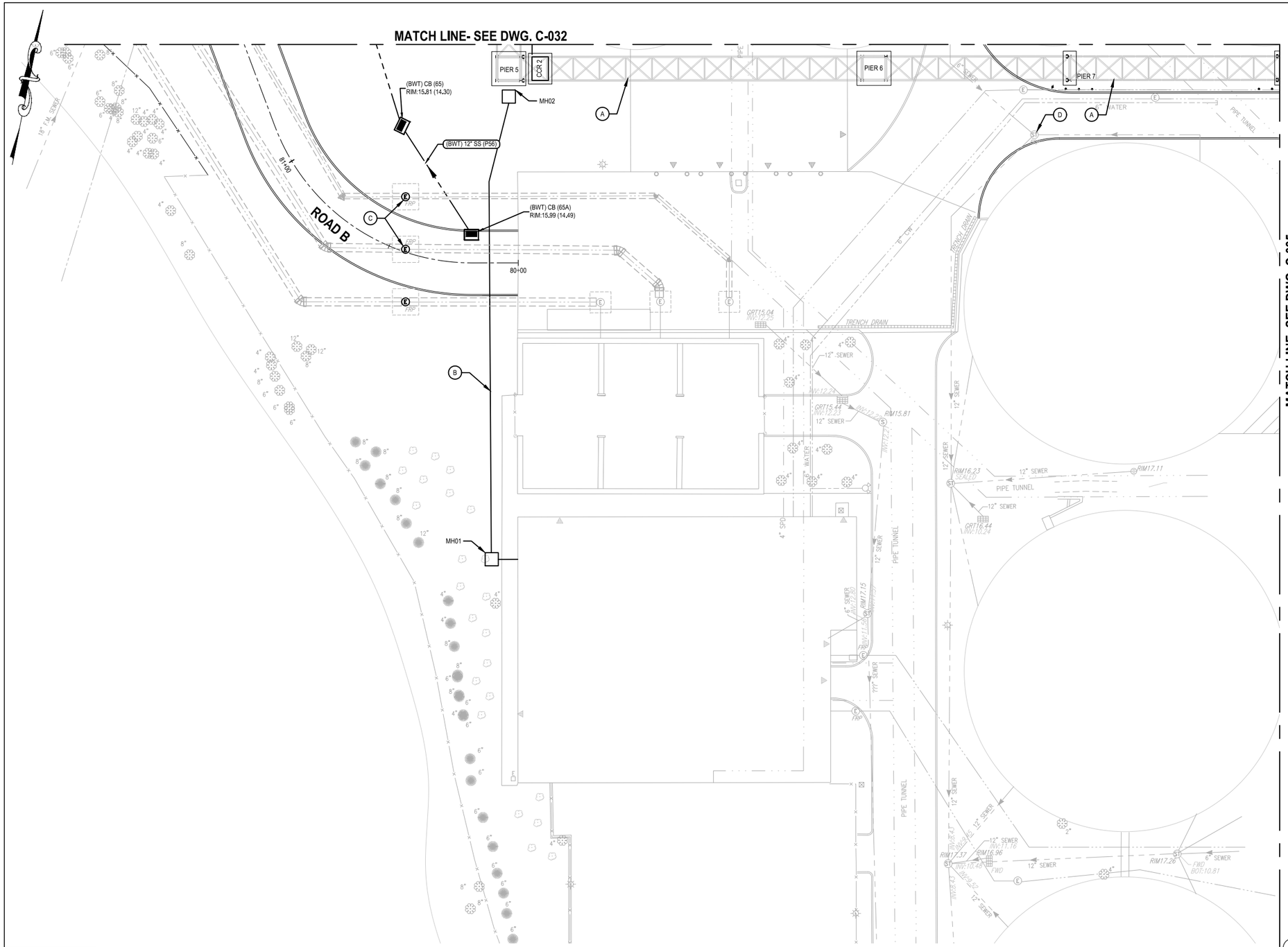


KEY NOTES

(A) UTILITY PIPE BRIDGE. SEE MECHANICAL DRAWINGS.

(B) ELECTRICAL DUCTBANK. SEE ELECTRICAL DRAWINGS.

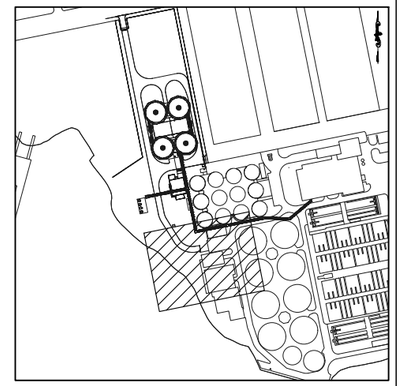
(C) EXISTING ELECTRICAL MANHOLE TO BE MODIFIED. SEE SCHEDULE ON DRAWING C-052.

(D) RESET MANHOLE FRAME AND COVER.

SEE DRAWING C-036 FOR UTILITY PIPE AND STRUCTURE SCHEDULE.

SITE PIPE SCHEDULE

ABBREVIATION	DESCRIPTION	DIAMETER	PIPE MATERIAL	DETAILED SPECIFICATION
CD	CHEMICAL DRAIN	6"	PVC SCH. 40	15054
DR	DRAIN	6", 10", 18"	DIP CLASS 56	15051
DR	DRAIN	24"	DIP CLASS 54	15051
NG	NATURAL GAS	0.5", 1.5", 3", 12"	STEEL SCH. 40	15052
OF	OVERFLOW	18"	DIP CLASS 54	15051
RD	ROOF DRAIN	4"	DIP CLASS 56	15051
SAN	SANITARY SEWER	4"	DIP CLASS 56	15051
SAN	SANITARY SEWER	6", 10", 18", 21"	ESVP	02502
SPD	SUMP PUMP DISCHARGE	2.5"	STEEL SCH. 40	15052
SPD	SUMP PUMP DISCHARGE	4"	DIP CLASS 56	15051
SPD	SUMP PUMP DISCHARGE	18"	DIP CLASS 54	15051
SS	STORM SEWER	4", 10", 12", 15", 18"	DIP CLASS 56	15051
SS	STORM SEWER	24"	RCP	02501
TS	THICKENED SLUDGE	10"	DIP CLASS 56	15051
W	CITY WATER	6", 8", 12"	DIP CLASS 56	15051



KEY PLAN
N.T.S.

0 20 40 FT
1" = 20'

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NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.
2.	8/04/21	RENAMED PIPES (ADDENDUM 6)	J.J.
1.	7/21/21	PIPE SCHEDULE (ADDENDUM 5)	J.J.

DESIGNED BY: K. YEBOAH-ACQUAH
DRAWN BY: A. KOSTYUKEVICH
CHECKED BY: J. MILLER
DESIGN LEAD: J. JARAMILLO
SECTION MANAGER: G. NEWMAN

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Environmental Protection

ACCOUNTABLE MANAGER: L. JOSEPH
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NEW ANAEROBIC DIGESTER FACILITIES
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DATE: 06/21/2021
SCALE: AS INDICATED
SHEET NO: 67 OF 691
DRAWING NO. C-033

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.

Appendix C: Community Air Monitoring Plan for Borings in the Construction Phase

Air Monitoring Plan

Contract No. HP-238

Hunts Point WWTP New Anaerobic Digester Facilities

Skanska RJ Industries HPWTTP JV

1270 Ryawa Ave

Bronx, NY 10474

Table of Contents

Introduction and Purpose

This Community Air Monitoring Plan (CAMP) has been prepared for the soil borings for the construction of new anaerobic digesters for the Hunts Point Waste Water Treatment Plant. The new anaerobic digesters will be built on a site that is monitored by the New York State Department of Environmental Conservation (NYS DEC) through a Site Management Plan. Per the site management plan, this site requires air monitoring during all ground-intrusive activities.

Community Air Monitoring Plan (CAMP) Purpose

The purpose of the CAMP is to provide continuous, real-time monitoring for volatile organic compounds (VOCs) and particulates at the downwind perimeter of the work area when ground-intrusive activities are in progress at the Barretto Point Site. This CAMP identifies action levels for corrective actions and/or work shutdown. The data from this CAMP will help confirm that contamination was not spread off-site through work activities.

The Barretto Point Site is delineated as shown in contract document G-0015 and is included in Appendix A for reference.

This CAMP is in accordance with the requirements of the New York State Department of Health (DOH) "Generic Community Air Monitoring Plan, Revision 1, June 2000" guidelines as presented in Appendix 1A and Appendix 1B "Fugitive Dust and Particulate Monitoring" of the NYS DEC, Final DER-10, "Technical Requirements for Site Remediation,'" dated May 2010.

Potential Air Emission Sources

Potential sources of the air quality parameters of concern (VOCs and particulates) include excavating for test pits, drilling/augering, well installation and development, materials handling, and vehicular traffic. The proposed boring locations for the construction phase of the new anaerobic digesters are included in Attachment B.

Community Air Monitoring Program

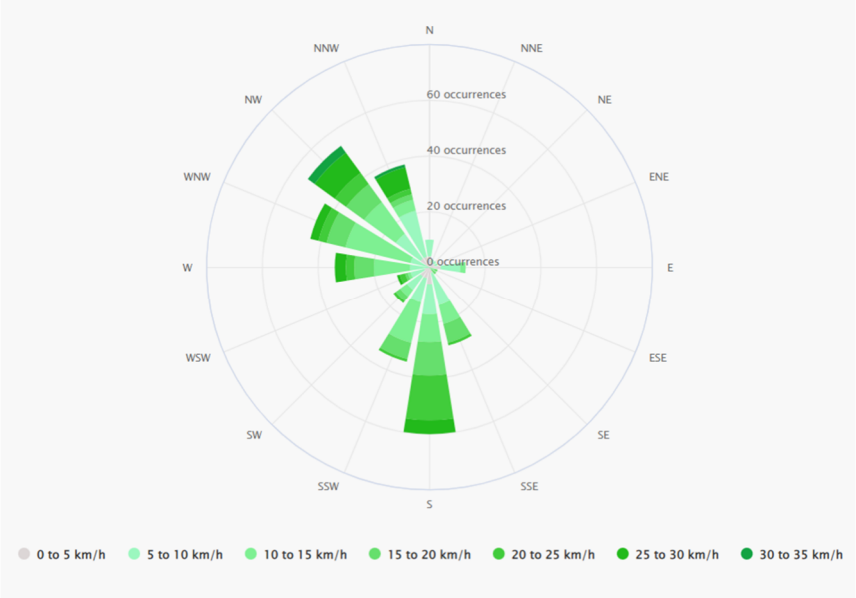
The NYSDOH generic CAMP requires continuous air monitoring along the perimeter during all ground intrusive activities. The CAMP for this boring program will follow the previously submitted CAMP for the soil borings during the design phase of this project, included in Appendix C, with a couple of updates described below.

Site Wind Rose and Station Layout

The previous CAMP includes a wind rose from 2017, showing the primary direction of the wind from the north/northwest and the secondary direction from the southwest (and the south). A wind rose using data from June 6, 2022 through June 20, 2022 shows the wind primarily from the south and secondarily from the northwest. This second wind rose is shown in Figure 1, below.[1]

[1] *Wind Rose The Bronx*. (n.d.). Meteoblue. Retrieved June 20, 2022, from https://www.meteoblue.com/en/weather/archive/windrose/the-bronx_united-states_5110266?daterange=2022-06-06%20-%202022-06-20&domain=NEMSGLOBAL&params=wind%2Bdir10m&windRoseDegreeResolution=22.5&windRoseValueResolution=5&velocityunit=KILOMETER_PER_HOUR

Figure 1: Wind Rose from June 6, 2022 through June 20, 2022



Meteorological Station

In lieu of a separate meteorological station, each air monitoring station may be equipped with weather monitoring equipment including windspeed, wind direction, temperature, and relative humidity.

Action Levels and Responses

Action levels and the corresponding responses will follow Tables 1 and 2 in the previously submitted CAMP for the design phase. These are again included below only for easy reference below.

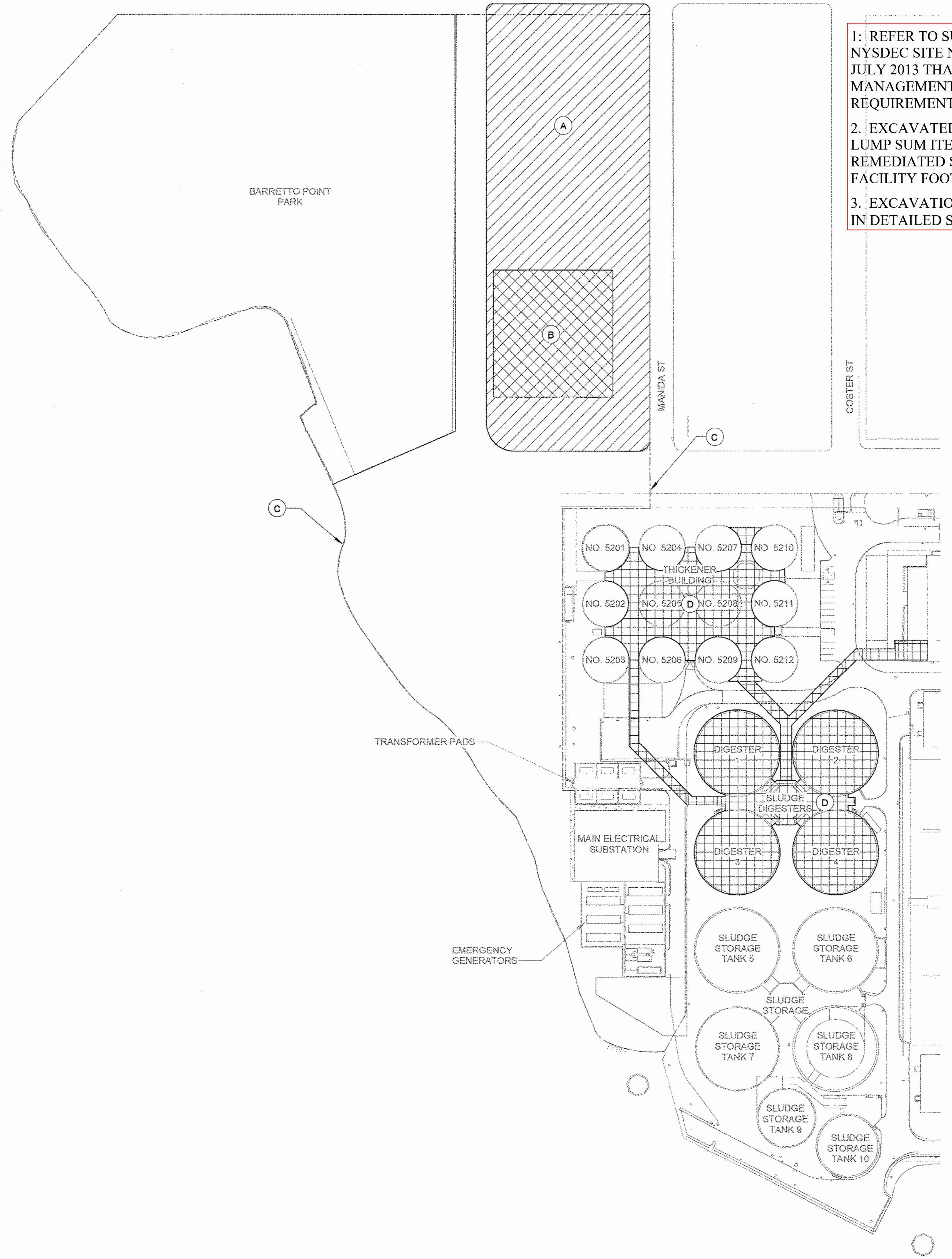
Table 1. Volatile Organic Vapor Action Levels

Action Level	Response
< 2.5 ppm above background for the 15-minute average	Continue and/or resume work activities
> 2.5 ppm to <5.0 ppm above background (15-minute average)	Notify contractor of need to implement mitigation measures. Employ vapor/dust suppression techniques or modify work activities.
> 5 ppm above background (15-minute average) or odors are observed at the site perimeter	Work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring. Mitigation measures will be implemented to keep odors at a minimum. Notify PM of exceedance and corrective measures implemented.
>5 ppm to <25 ppm above background (15-minute average)	Work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total volatile organic vapor level 200 feet downwind of the site perimeter or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average. Notify PM of exceedance and corrective measures implemented.
>25 ppm above background (15-minute average)	Activities must be shut down. Notify PM of exceedance and corrective measures implemented.

Table 2 Action Levels for Particulates	
Action Level	Response
Below 100 µg/m³ above background for the 15-minute average	Continue and/or resume work activities
> 100 to < 150 µg/m³ above background for the 15-minute average or if airborne dust is observed leaving the site perimeter	Dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM10 particulate levels do not exceed 150 µg/m³ above the upwind level and provided that no visible dust is migrating from the site perimeter.
If, after implementation of dust suppression techniques, downwind PM10 particulate levels are greater than 150 µg/m³ above the upwind level	Work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM10 particulate concentration to within 150 µg/m³ of the upwind level and in preventing visible dust migration. Notify PM of exceedance and corrective measures implemented.

Appendix A: Site Plan

A5



1: REFER TO SUPPLEMENTAL DOCUMENTS SITE MANAGEMENT PLAN, NYSDEC SITE NUMBER 800032-2, PREPARED BY URS CORPORATION, DATED JULY 2013 THAT INCLUDES EXCAVATION WORK PLAN, AND SITE MANAGEMENT PLAN ADDENDA DATED JULY 2021 FOR ADDITIONAL REQUIREMENTS.

2. EXCAVATED SOIL AVAILABLE FOR UNRESTRICTED ON-SITE REUSE UNDER LUMP SUM ITEM 3 LOCATED WITHIN DEMARCATION OF PREVIOUSLY REMEDIATED SOILS WITHIN FORMER PAINT AND VARNISH MANUFACTURING FACILITY FOOTPRINT.

3. EXCAVATION AND DISPOSAL OF SOIL SHALL BE CONDUCTED AS SPECIFIED IN DETAILED SPECIFICATION 02316- EXCAVATION.

GENERAL NOTES

1. REFER TO APPENDIX A OF CONTRACT DOCUMENTS FOR EXCAVATION WORK PLAN, OF SITE MANAGEMENT PLAN, NYSDEC SITE NUMBER B00032-2, PREPARED BY URS CORPORATION, DATED JULY 2013 FOR ADDITIONAL REQUIREMENTS.
2. EXCAVATED SOIL AVAILABLE FOR UNRESTRICTED ON-SITE REUSE UNDER LUMP SUM ITEM 1 LOCATED WITHIN DEMARCATION OF PREVIOUSLY REMEDIATED SOILS WITHIN FORMER PAINT AND VARNISH MANUFACTURING FACILITY FOOTPRINT.
3. UNIT ITEM 3C EXCAVATION AND OFF-SITE DISPOSAL OF CONTAMINATED SOIL, APPLIES TO ALL EXCAVATED SOILS OUTSIDE OF FORMER PAINT AND VARNISH MANUFACTURING FACILITY FOOTPRINT DEMARCATION. ENGINEER SHALL DIRECT CONTRACTOR IN WRITING PRIOR TO USE OF UNIT ITEM 3C. UNIT ITEM BASED ON ACTUAL VOLUME OF SOIL EXCAVATED AND DISPOSED OFF SITE.
4. UNIT ITEM 3D ON-SITE REUSE OF EXCAVATION SOIL, APPLIES TO ALL EXCAVATED SOILS OUTSIDE OF FORMER PAINT AND VARNISH MANUFACTURING FACILITY FOOTPRINT DEMARCATION RE-USED ON-SITE AS FILL. ENGINEER SHALL DIRECT CONTRACTOR IN WRITING PRIOR TO USE OF UNIT ITEM 3D. UNIT ITEM BASED ON ACTUAL VOLUME OF SOIL EXCAVATED AND RE-USED ON-SITE.
5. EXCAVATION AND DISPOSAL OF SOIL SHALL BE CONDUCTED AS SPECIFIED IN DETAILED SPECIFICATION 02316 - EXCAVATION.

KEY NOTES

(A) AREAS PREVIOUSLY REMEDIATED PER SITE MANAGEMENT PLAN, NYSDEC SITE NUMBER: B00032-2, PREPARED BY URS CORPORATION, DATED JULY 2013.

(B) APPROXIMATE EXTENTS OF FORMER PAINT AND VARNISH MANUFACTURING FACILITY AND PREVIOUSLY REMEDIATED PER SITE MANAGEMENT PLAN.

(C) BOUNDARY OF EXISTING NYSDEC "BARRETTO POINT SITE" PER ENVIRONMENTAL RESTORATION RECORD OF DECISION, SITE NUMBER B-00032-2, DATED DECEMBER 2003.

(D) AREAS SAMPLED AND ASSESSED FOR HAZARDOUS MATERIALS UNDER NYCDEP CONTRACT HP-238. REFERENCE DOCUMENT HUNTS POINT WASTEWATER TREATMENT PLANT NEW ANAEROBIC DIGESTER FACILITIES, HAZARD MITIGATION REPORT, BROWN AND CALDWELL, DATED NOVEMBER 2018. APRIL 2019

0 100 200 FT.
1"=100'

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CHECKED BY: A. SEHLOFF
DESIGN LEAD: A. SEHLOFF
SECTION MANAGER: G. NEWMAN
DRAWN BY: G. MCDONNELL

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK · JEAN-PIERRE HOURANI · LICENSED PROFESSIONAL ENGINEER · 087424-1

NYC Environmental Protection

ACCOUNTABLE MANAGER: L. JOSEPH
PORTFOLIO MANAGER: N. SHAH, P.E.

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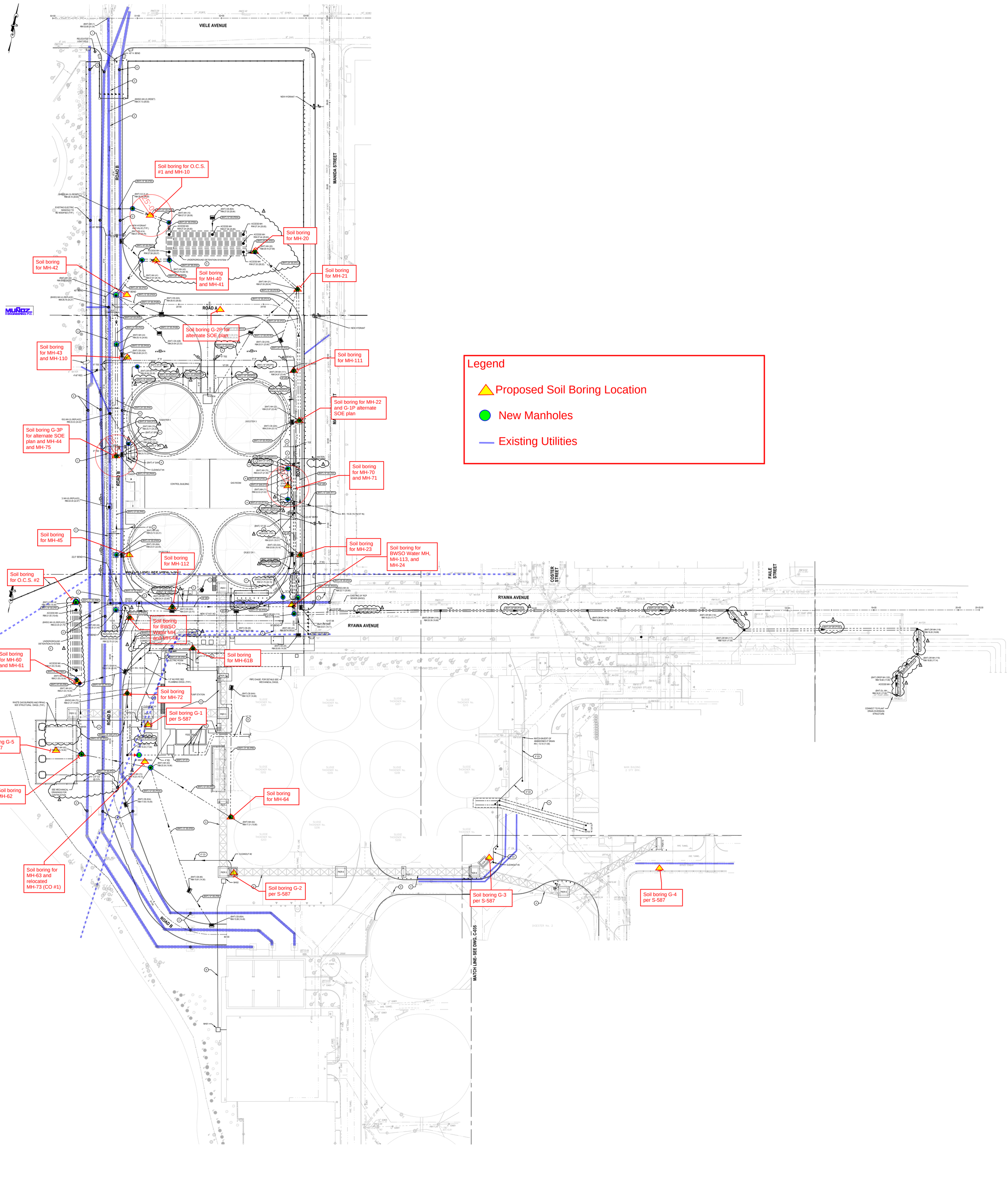
HP-238 HUNTS POINT WWTP
NEW ANAEROBIC DIGESTER FACILITIES
GENERAL
HAZARDOUS MATERIALS MANAGEMENT

DATE: 06/21/2021
SCALE: 1" = 100'-0"
SHEET NO: 15 OF 691
DRAWING NO. G-015

Appendix B: Boring Location Plan

HP-238 Digesters - Geotechnical Soil Boring Plan



Appendix C: Community Air Monitoring Plan for the Design Phase

Draft Community Air Monitoring Plan for Design Investigations Related to HP-238 New Anaerobic Digester Facilities

Prepared for
New York City Department of Environmental Protection
November 2017

Prepared by: Bidwell Environmental, LLC
1353 Kings Highway
P.O. Box 266
Sugar Loaf, NY 10981-0266

For:

Brown and Caldwell Associates
1359 Broadway, Suite 1140
New York, NY 10018

Table of Contents

List of Abbreviations

µg/m^3	micrograms per cubic meter
BEDC	Bureau of Engineering, Design, and Construction
CAMP	Community Air Monitoring Plan
DEC	New York State Department of Environmental Conservation
DEP	New York City Department of Environmental Protection
DOH	New York State Department of Health
HASP	Health and Safety Plan
PAH	Petroleum Aromatic Hydrocarbons
PID	photoionization detector
PDI	predesign investigation
PM	project manager
PM10	particulate matter
PPM	parts per million
TWA	time-weighted average
VOC	Volatile Organic Compounds
WWTP	Waste Water Treatment Plant

Section 1

Introduction and Purpose

This Community Air Monitoring Plan (CAMP) has been prepared on behalf of The New York City Department of Environmental Protection (DEP) Bureau of Engineering Design & Construction (BEDC) for use during Design Phase intrusive field investigations to be conducted to support the design of the new anaerobic digester facilities at Hunt's Point Waste Water Treatment Plant (WWTP). The Hunts Point WWTP is located on Ryawa Ave in the Hunt's Point section of Bronx County, NY,

As detailed in the Site Plan provided as Appendix A, the new anaerobic sludge digestion facilities will be constructed in a vacant area located immediately north of the Hunts Point WWTP, between Viele Avenue and Ryawa Avenue to the north and south, respectively, and Manida Street and Barretto Street to the east and west, respectively. The property is owned by the City of New York, and is part of the larger Barretto Point Site, which was previously subject to remedial action under the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation. Remaining contamination consists mostly of petroleum aromatic hydrocarbons (PAHs) and lower concentrations of volatile organic compounds (VOCs).

A geotechnical and environmental investigation will be performed during the Design Phase of the project, to determine subsurface conditions, and characterize soil and groundwater at the proposed site. The subsurface investigation will consist of a two phase boring program. Phase I of the investigation includes the advancement of ten borings as shown on the boring location plan presented in Appendix B. Seven of these borings will be located inside the footprint of the former paint and varnish manufacturing facility, and three will be located outside this footprint. Geotechnical samples will be collected from each boring to a depth of approximately 35 to 40 feet, and environmental samples will be collected from six of these borings to a depth of approximately 35 to 40 feet, with a minimum of 10 feet into bedrock. Monitoring wells will be installed at two of these boring locations for subsequent groundwater sampling. One well will be screened in bedrock, and the other will be screened in glacial sands.

During Phase II of the subsurface investigation, an additional five geotechnical borings will be advanced, including one within the footprint of the former paint and varnish manufacturing facility and four outside. The depths of the Phase II borings are also anticipated to be 35 to 40 feet, with a minimum of 10 feet into bedrock.

1.1 Community Air Monitoring Plan (CAMP) Purpose

The community air monitoring program will generate data to document that the quality of the air at the site perimeter during implementation of intrusive field investigations does not exceed applicable

criteria as a result of the potential release of site-related contaminants. Furthermore, the data will be used to confirm that the air quality in adjacent neighborhoods is not being adversely impacted. This CAMP conforms to the requirements of the New York State Department of Health (DOH) "Generic Community Air Monitoring Plan, Revision 1, June 2000" guidelines as presented in Appendix 1A and Appendix 1B "Fugitive Dust and Particulate Monitoring" of the New York State Department of Environmental Conservation (DEC), Final DER-10, "Technical Requirements for Site Remediation", dated May 2010. This CAMP will also provide a basis for implementation of response actions to mitigate potential air emissions that may result from intrusive field activities.

A site-specific Health and Safety Plan (HASP) has been prepared which addresses potential exposures to on-site personnel implementing the investigations. The HASP specifies air monitoring requirements within the work zone. Thus, this CAMP is focused on perimeter monitoring during intrusive field activities.

1.2 Potential Air Emission Sources

The primary air quality concern during implementation of intrusive field activities is the generation and migration of volatile organic compounds (VOCs) and particulates (i.e., dust). Potential activities which could impact air quality at the site perimeter include drilling, well installation and development, soil borings and sampling, materials handling, and vehicular traffic.

Section 2

Community Air Monitoring Program

DOH Generic CAMP protocol requires continuous perimeter air monitoring during all ground intrusive activities. Ground intrusive activities are defined in the DOH Generic CAMP protocol as including, but not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

DOH Generic CAMP protocol requires periodic monitoring for VOCs during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from monitoring wells. Examples of "periodic" monitoring presented in the DOH Generic CAMP include collection of air quality data upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well bailing/purging, and prior to leaving a sample location. DOH Generic CAMP protocol further states that in some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities.

This CAMP will consist primarily of continuous air monitoring during drilling, soil sampling, and monitoring well installation activities, with the use of periodic monitoring on an as needed basis during non-intrusive activities, such as well development and ground water sampling. For the continuous air monitoring, a minimum of two air monitoring stations will be established and monitored for 1 day prior to the start of intrusive activities to establish background conditions.

2.1 Continuous Air Monitoring

Continuous monitoring of particulates and VOCs will be conducted at each of the air monitoring stations. Real-time data will be recorded in 15-minute intervals. Continuous monitoring will be conducted prior to commencement of work to establish baseline conditions, and throughout the duration of intrusive field activities. Monitoring will occur continuously during working hours at each of the stations. Data will be downloaded once every 24 hours by on-site oversight personnel. Alarms will sound when recorded levels exceed action levels.

2.1.1 Station Layout

The initial location of the air monitoring stations will consist of a minimum of one upwind and one downwind of each boring location at the site perimeter, and placement will be based on prevailing wind directions and the direction of potential off-site receptors. The wind direction will be checked periodically throughout the day and the locations of the upwind and downwind stations will be adjusted, if needed.

A wind rose[1] for the Site appears in Appendix C. The following observations can be made:

- The primary wind direction across Bronx, NY is from the West/Northwest.
- Secondary wind directions across Bronx, NY are from the Southwest and to a lesser extent, the south.

Any adjustments to the station layout will be recorded in the daily field reports generated during documentation of the field work.

Meteorological instrumentation will be installed at the Site to measure wind speed and direction, ambient temperature, and relative humidity.

2.1.2 Analytical Instrumentation

Each monitoring station will be equipped with a particulate meter and a photoionization detector (PID) for continuous measurement of air quality parameters in the ambient air. The particulate meters and the PIDs will each be configured to provide 15-minute time-weighted average (TWA) values. Both instruments will be housed in weather tight enclosures.

2.1.3 Meteorological System

As indicated above, a meteorological station will be installed at the site to measure wind speed, direction, ambient temperature, and relative humidity. The system computes the five-minute running average wind direction which will be used to identify which of the monitoring stations is upwind, downwind, or crosswind. Meteorological data will be stored electronically.

2.2 Action Levels

Action levels are designated with either a “Green”, “Yellow” or “Red” status. These color-coded levels correspond to points at which the Field Team Lead and Project Manager (PM) will be notified that the activities being performed are having an impact on air quality and that immediate mitigation is necessary (e.g., control measures are to be implemented). The mitigation/control measures shall be determined by the drilling contractor in consultation with the Field Team Lead and/or PM. The types of mitigation measures which may be used include, but are not limited to:

- Wetting of soil and other media or other means to control dust;
- Modification of work activities to control odors or dust;
- Application of suppressant foams to control odors.

Due to the industrial nature of the area surrounding the site, elevated levels of ambient (background) suspended particulates and VOCs may occur. The use of upwind and downwind

[1] Wind rose obtained from the New York State Small Wind Explorer website: http://nyswe.awstruepower.com, Accessed November 14, 2017.

monitoring is critical to assess whether action level conditions are the result of intrusive field activities or ambient (background) conditions (i.e., migration from upgradient or localized conditions). Therefore, a baseline round of continuous monitoring (1 day) will be conducted to establish background levels of particulates and VOCs prior to the start of field activities.

2.2.1 Volatile Organic Vapor Action Levels

In accordance with the DOH Generic CAMP, if the ambient air concentration of total volatile organic vapors at the downwind site perimeter exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total volatile organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

To mitigate the chance that field activities will generate air impacts at or in excess of 5 ppm above background, a tiered approach to alarm levels consisting of a lower (yellow) action level, and a high-action level (red) will be established. Mitigation/control measures will be implemented based on the level of the alarm, progressively becoming more urgent until a halt work is required. The alarm will be triggered based on total levels, but work would not be halted or any mitigation measures implemented unless the differential between background and downwind readings exceeds the action levels. In the case of this CAMP, no mitigation measures will be required for total volatile organic vapor levels below 2.5 ppm above background as indicated in the green color code in Table 1 below.

Data from continuous monitoring will be used to calculate 15-minute time-weighted average (TWA) values for comparison to the action level.

Table 1 details the action levels for total volatile organic vapors:

Table 1. Volatile Organic Vapor Action Levels	
Action Level	**Response**
< 2.5 ppm above background for the 15-minute average	Continue and/or resume work activities
> 2.5 ppm to <5.0 ppm above background (15-minute average)	Notify contractor of need to implement mitigation measures. Employ vapor/dust suppression techniques or modify work activities.
> 5 ppm above background (15-minute average) or odors are observed at the site perimeter	Work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring. Mitigation measures will be implemented to keep odors at a minimum. Notify PM of exceedance and corrective measures implemented.
>5 ppm to <25 ppm above background (15-minute average)	Work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total volatile organic vapor level 200 feet downwind of the site perimeter or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average. Notify PM of exceedance and corrective measures implemented.
>25 ppm above background (15-minute average)	Activities must be shut down. Notify PM of exceedance and corrective measures implemented.

The 15-minute readings will be recorded and maintained. Instantaneous readings, if any, used for decision making purposes will also be recorded.

2.2.1.1 Odor Complaints

Community complaints regarding odors and the response taken will be documented. Response actions taken will depend on the number and/or magnitude of the complaints. At a minimum the response action will consist of documenting the date and time the complaint is received. In accordance with the Action Levels presented above, response actions will progressively become more urgent until a halt work is required. The Project Manager will be notified about the complaints and the corrective measures implemented.

2.2.2 Particulate Matter (PM10) Action Levels

In accordance with the DOH Generic CAMP protocol, the action level for perimeter air monitoring at the Site is 150 micrograms per cubic meter (µg/m^3) of respirable particulate matter above background for the 15-minute average. Particulates that are 10 microns or smaller and are considered respirable are known as PM10. In addition, no visible dust can be seen migrating from the site perimeter. Particulate data from continuous monitoring will be used to calculate 15-minute TWA values for comparison to the action level.

To mitigate the chance that field activities will generate visible dust or air impacts at or above 150 µg/m^3 above background, a tiered approach described below will be established. In the case of this CAMP, no mitigation measures will be required for particulate matter below 100 µg/m^3 above background as indicated in the green color code in Table 2 below. Table 2 details the action levels for particulates:

Table 2 Action Levels for Particulates

Action Level	Response
Below 100 µg/m^3 above background for the 15-minute average	Continue and/or resume work activities
> 100 to < 150 µg/m^3 above background for the 15-minute average or if airborne dust is observed leaving the site perimeter	Dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM10 particulate levels do not exceed 150 µg/m^3 above the upwind level and provided that no visible dust is migrating from the site perimeter.
If, after implementation of dust suppression techniques, downwind PM10 particulate levels are greater than 150 µg/m^3 above the upwind level	Work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM10 particulate concentration to within 150 µg/m^3 of the upwind level and in preventing visible dust migration. Notify PM of exceedance and corrective measures implemented.

The 15-minute readings will be recorded and be maintained.

2.3 Data Usability

Factors that affect data usability generated as part of an ambient air monitoring program are generally known and consist of but are not limited to:

- High relative humidity.
- Excessive moisture (i.e., rain).
- Proximity to non-remedial activities (i.e., truck traffic).
- Internal contamination of instrumentation.

Steps will be taken to limit these impacts on the field instruments by using weather shelters, modifying monitoring locations to limit impacts from activities not related to intrusive field work, performing maintenance in accordance with manufacturer specifications and replacing or rotating instruments out for off-site servicing on an as needed basis.

Section 3

Procedures

This section outlines the routine and contingency procedures for implementation of the CAMP. The air monitoring activities will be directed by the Field Team Lead. During the implementation of field work, the Field Team Lead will report to the PM.

3.1 Ambient Air Monitoring Program Schedule

The CAMP is anticipated to consist of baseline monitoring and daily monitoring for the duration of intrusive field activities.

3.1.1 Baseline Monitoring

Prior to commencement of field activities, monitoring will be conducted to establish baseline conditions and evaluate the potential range of background concentrations that may be present during implementation of field work. To establish baseline conditions, continuous monitoring will be conducted at the monitoring stations for at least one day (minimum of 8-hour period).

3.1.2 Daily Monitoring

Daily monitoring will consist of a combination of continuous air monitoring and periodic monitoring. Continuous air monitoring will be executed for the duration of intrusive field work when there is the potential for exposure to contaminants. Ambient air monitoring data will be collected via the two monitoring stations located upwind and downwind of the proposed boring locations (Appendix B) for the entire work day.

3.2 Routine Procedures

Routine air monitoring procedures will consist of the following:

- Daily inspection of the monitoring stations to confirm that they are secure and operating properly. Check for damage, loss of air flow, dirt or moisture buildup, and replace inlet filters, as necessary, or as prescribed by the manufacturer of the monitoring equipment.
- Daily calibration of particulate meters in accordance with manufacturer specifications. Calibration frequency may be modified, as appropriate, based on communication with manufacturer/vendor.
- Daily calibration of PID in accordance with manufacturer specifications. Calibration frequency may be modified, as appropriate, based on communication with manufacturer/vendor.

- Daily inspection of operational set points on particulate meters.
- Daily inspection of the meteorological station for proper operation.
- Troubleshooting of potential system issues.
- Observe daily conditions, including particulate levels and meteorological data. Based on wind direction, adjust location of air monitoring stations, as appropriate.
- Monitor each station throughout the workday for action level conditions. Section 3.3 outlines response procedures to action level conditions.
- Generate daily field reports. Document system troubleshooting, station layout adjustments, action level conditions and corresponding response actions, if any.
- Back-up air monitoring data onto thumb drive or other suitable transportable media. Transport back-up files off site to a remote project record file.

3.3 Response Procedures

As detailed in Section 2.2, the "red" action level for community air monitoring at the site perimeter is 5 ppm and above for VOCs and 150 µg/m^3 for PM10. The system will be monitored for potential exceedances of the established action level(s). The lower "yellow" action levels have been established to implement control measures before reaching the stop work ("Red") action level.

Due to the active commercial/industrial operations at and surrounding the site, elevated levels of ambient VOCs and suspended particulates are anticipated. As a result, the use of upwind and work zone monitoring is critical to assess whether action level conditions are the result of intrusive field activities or ambient (background) conditions (i.e., migration from upgradient or localized conditions). Work would not be halted or control measures implemented until upwind and work zone readings are compared to the continuous monitoring readings, with the exception of visible dust or odoriferous conditions.

The following steps outline the procedures the Field Team Lead shall follow in response to action level conditions:

1. Identify whether the station is upwind, downwind, or crosswind to the work area.
   a. If station is upwind, then continue work with air monitoring. Note the condition and response in the Daily Field Report.
   b. If station is downwind or crosswind, then proceed to Step 2.
2. Compare the reading to upwind readings.
   a. If the upwind reading is above action levels, then continue work with air monitoring. Note the condition and response in the Daily Field Report.
   b. If the upwind reading is below action levels, then proceed to Step 3.

3. Determine the difference between the readings obtained at the upwind and downwind stations. Based on visual determination, assess whether the exceedance is due to a localized ambient (background) condition (i.e., dust from upwind sites or roadways) in the vicinity of the station:
    a. If it is suspected that the reading is not the result of a localized ambient (background) condition, then inform the drilling contractor to take corrective action. Note the condition, response and corrective actions implemented in the Daily Field Report.
    b. If it is suspected that the reading is the result of a localized background condition, then obtain readings from the downwind boundary of the work zone with a handheld instrument and compare to the station reading.
        i. If the work zone reading is less than the station reading, then continue work with air monitoring. Note the condition and response in the Daily Field Report.
        ii. If work zone reading is greater than the station reading, then inform the drilling contractor to take corrective action.

Visible dust or odors emanating from the site perimeter will require immediate implementation of mitigation measures without progressing through the steps outlined above.

3.3.1 VOCs

If intrusive activities result in a concentration of total volatile organic vapors at the downwind site perimeter in excess of 5 ppm over background, activities will be managed in accordance with DOH Generic CAMP guidance as follows:

- If the concentration of total volatile organic vapors at the downwind site perimeter exceeds 5 ppm over background, but less than 25 ppm, for a 15-minute average, work activities will be temporarily halted and monitoring continued. If concentrations drop rapidly, work activities can resume with continued monitoring.
- If concentrations between 5 ppm and 25 ppm above background persist, work must be stopped and the source of the vapors identified and mitigated. Mitigation measures may include engineering controls such as application of foam or the use of temporary enclosures and modification of work protocols (e.g., drilling procedures). After work activities resume, the total organic vapor concentration at the contingency location (defined as 200 feet downwind of the site perimeter or half the distance to the nearest receptor, whichever is less) must remain below 5 ppm on a 15-minute-averaged basis.
- If the concentrations exceed 25 ppm at the site perimeter, work activities will be halted. Air sampling in accordance with this CAMP will continue in the event that elevated PID levels are detected, so that this information will be available to assess the potential impacts to offsite receptors or to develop mitigation measures.

3.3.2 Particulates

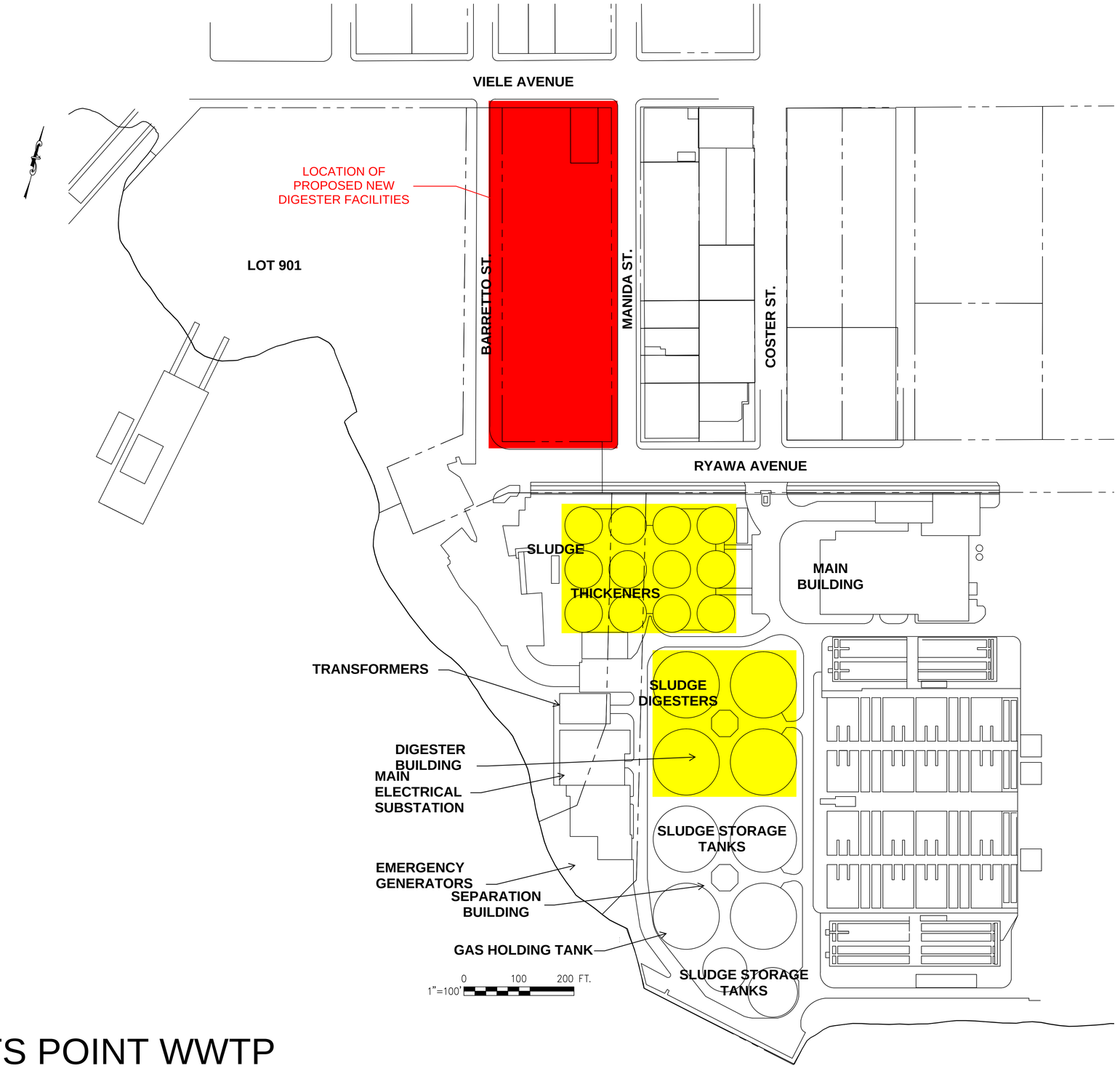
Dust suppression levels are implemented at the yellow action level (initially 100 µg/m^3 of PM10). DOH CAMP provides the following guidance:

- If the concentration of total PM10 particulates at the downwind site perimeter exceeds 100 µg/m^3 over background for a 15-minute average, dust suppression techniques must be instituted.
- Work may continue after employment of dust suppression as long as the downwind perimeter PM10 levels are below 150 µg/m^3 over background and there is no visible dust emanating from the Site.
- If levels below 150 µg/m^3 cannot be achieved, work must stop and can only resume when additional controls are successful in keeping perimeter dust levels less than 150 µg/m3 above background.

3.4 Communication Plan

Any "Red" stop-work condition, the associated control measures implemented by the drilling contractor and the resumption of field work will each be immediately communicated to the PM upon occurrence. The PM will also be notified if response actions are not implemented according to this plan. All daily field reports and air monitoring data will be recorded in the project files and will be available for NYSDEC and NYSDOH review.

Appendix A: Site Plan

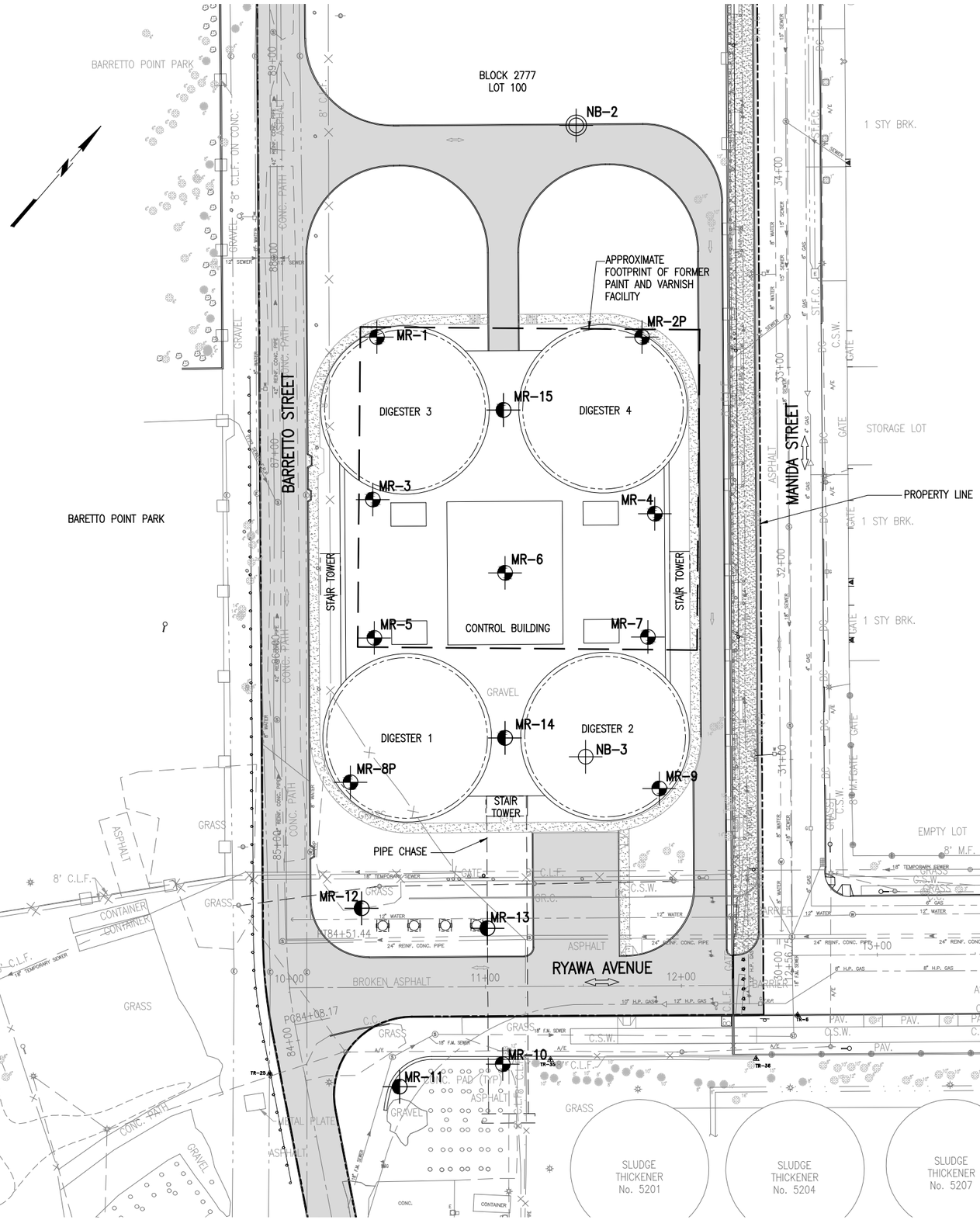


HP-238 HUNTS POINT WWTP

SITE PLAN

Brown AND Caldwell

Appendix B: Boring Location Plan



DRILLING PROCEDURE FOR PROPOSED BORINGS:

1. ALL BORINGS SHALL BE MADE AT LOCATIONS SHOWN ON THE BORING LOCATION PLAN.
2. BORINGS SHALL BE MADE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SUBSURFACE BORINGS AND SAMPLING BY MUESER RUTLEDGE CONSULTING ENGINEERS (MRCE).
3. THE TOP 6 FEET OF EACH BORING SHALL BE HAND AUGERED TO CLEAR UTILITIES.
4. THE BORING DIAMETER SHALL BE MINIMUM 3.5 INCHES. BORINGS SHALL BE MADE WITH A TRUCK MOUNTED DRILL RIG USING MUD-ROTARY DRILLING METHODS EMPLOYING DRILLING FLUIDS TO MAINTAIN A STABLE BOREHOLE. CASING SHALL BE USED ON AN AS-NEEDED BASIS TO SUPPLEMENT DRILLING FLUIDS.
5. CONTINUOUS SPLIT-SPOON SAMPLES WILL BE COLLECTED IN SOIL TO THE DEPTH OF WEATHERED ROCK/ROCK, USING A 2 INCH O.D. SPLIT-SPOON SAMPLER ADVANCED WITH A 140 LB HAMMER FALLING 30 INCHES.
6. BORINGS SHALL EXTEND A MINIMUM OF 10 FEET INTO COMPETENT BEDROCK. CORING SHALL BE DONE WITH AN N-SIZE, DOUBLE TUBE CORE BARREL.
7. A POSITIVE HEAD USING HEAVY DRILLING FLUID MUST BE MAINTAINED AT ALL TIMES.
8. PIEZOMETERS SHALL CONSIST OF 2-INCH MINIMIM I.D. WITH A MINIMUM OF 10 FEET IN LENGTH, 0.01" SLOTTED SCREEN AND SOLID PVC RISER UP TO THE GROUND SURFACE. THE ESTIMATED DEPTH OF EACH WELL IS APPROXIMATELY 30 FEET (SCREENED IN SOIL) AND 40 FEET (SCREENED IN BEDROCK).
9. ALL BORINGS NOT RECEIVING PIEZOMETER SHALL BE TREMIE GROUTED UPON COMPLETION AND SURFACE PATCHED IN KIND TO MATCH EXISTING SURFACE.
10. ALL BORINGS WILL BE MADE UNDER THE CONTINUOUS INSPECTION OF MRCE.

NOTES:

1. THE PLAN IS BASED ON TOPOGRAPHIC SURVEY BY MUNOZ ENGINEERING, P.C. DATED DECEMBER 9, 2016.
2. PROPOSED DIGESTER FACILITY FOOTPRINT WAS PROVIDED BY BROWN AND CALDWELL ON OCTOBER 9, 2017.
3. LIMITS OF FORMER PAINT AND VARNISH MANUFACTURING FACILITY IS BASED ON AREA SHOWN IN ENVIRONMENTAL RESTORATION RECORD OF DECISION REPORT, FIGURE 5, PREPARED BY DEC, DATED DECEMBER 2003.
4. BORING NOS. NB-1 THROUGH NB-3 WERE MADE BY AQUIFER DRILLING AND TESTING, INC. (ADT) IN 2002 UNDER INSPECTION BY URS. BORING LOCATIONS ARE BASED ON BORING LOCATION PLAN, FIGURE 2, PREPRAPED BY URS, FROM ENGINEERING EVALUATION AND FOUNDATION RECOMMENDATIONS PHASES I AND II DRAFT REPORT, DATED APRIL 30, 2002.
5. THE BORING CONTRACTOR SHALL LOCATE ALL UTILITIES, OBTAIN ALL NECESSARY PERMITS AND INSURANCE PRIOR TO PERFORMING WORK.

LEGEND:

NB-3 – PREVIOUS BORING (URS 2002)

NB-2 – PREVIOUS BORING AND MONITORING WELL (URS 2002)

MR-3P – PROPOSED PHASE I BORING "P" INDICATES PIEZOMETER

MR-14 – PROPOSED PHASE II BORING

GRAPHIC SCALE
30' 20' 10' 0 30' 60'

REV.	DATE	BY	DESCRIPTION

HP-238 HUNTS POINT WWTP – NEW ANAEROBIC DIGESTER FACILITIES
BRONX NEW YORK

BROWN AND CALDWELL
NEW YORK NEW YORK

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 W. 34TH STREET, NY, NY 10122

SCALE	MADE BY: L.R.	DATE: 10-16-2017	FILE NUMBER
GRAPHIC	CH'KD BY: S.M.R.	DATE: 10-16-2017	12591

PROPOSED BORING LOCATION PLAN — DRAWING NUMBER PB-1

Last saved by: bsummerville on Monday, Oct 16, 2017 – 3:31:51 PM
Printed on: Monday, Oct 16, 2017 – 03:33:40 PM
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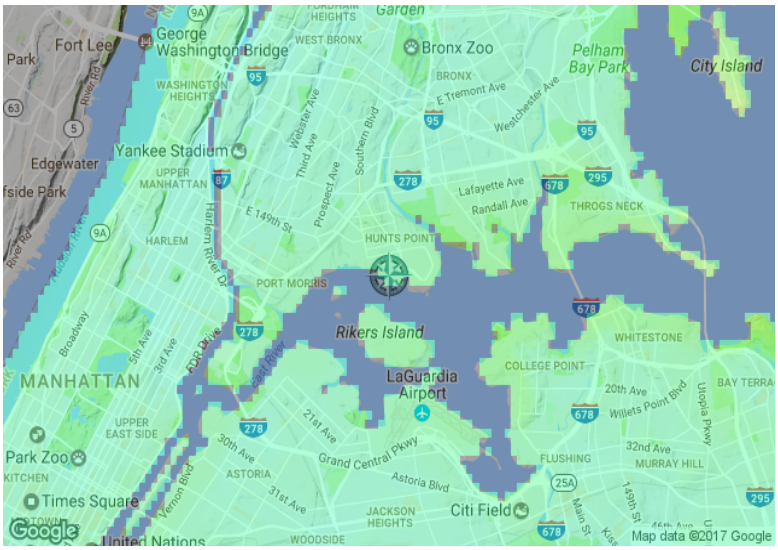
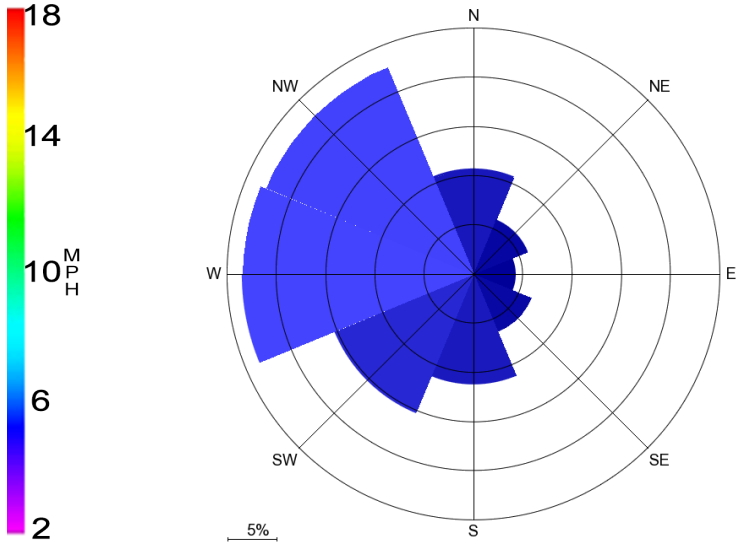
Appendix C: Site Wind Rose

WIND ROSE


George Washington Bridge
Fort Lee Park
Edgewater
Yankee Stadium
Bronx Zoo
Pelham Bay Park
City Island
MANHATTAN
HARLEM
Rikers Island
LaGuardia Airport
Citi Field
Times Square
Park Zoo
Map data ©2017 Google


18
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