

WEEKLY PROGRESS REPORT – TRC SOLUTIONS

**Gowanus Canal Turning Basin 4 Dredging and Capping Pilot Study
Brooklyn, New York**

Project number: 283126

Period: November 19 to 21, 2018

Date of Report: November 28, 2018

Rev: 0

Prepared For: Gowanus Environmental Remediation Trust



On-Site Activities Conducted During Week:

Sevenson Environmental Services (SES)

Turbidity Monitoring

- Turbid water not observed migrating from the 4th Street Turning Basin.

TB4 Demobilization Activities

- Complete cutting of installed sheet piles to final elevations. Cut and remove 12.5 pairs adjacent to Whole Foods.
- Commence removal of hydraulic capping piping from Canal.

Citizens Site Demobilization Activities

- Continue decontaminating and demobilizing equipment.

Quality Assurance and Control – Geosyntec

- Measurements for 11/19/18:
 - *Data from Monday, November 19th, 2018 did not meet data quality requirements for accuracy and were rejected.*
- Measurements for 11/20/18:
 - *Data from Tuesday, November 20th, 2018 did not meet data quality requirements for accuracy and were rejected.*
- Measurements for 11/21/18:
 - *Data from Wednesday, November 21st, 2018 did not meet data quality requirements for accuracy and were rejected*

Community Air Monitoring Program – TRC CAMP

- Operated and maintained two (2) air monitoring stations at the upland staging area and five (5) monitoring station at the 4th Street Turning Basin Area.
- No exceedances of particulate matter of 10 microns in diameter or smaller (PM₁₀) or total volatile organic compounds (TVOC) of the action level of 150 micrograms per cubic meter or 1,000 parts per billion, respectively.
- Maximum weekly measurements of PM₁₀ in µg/m³
 - Station 1 – 47 µg/m³ recorded on 11/19/18
 - Station 2 – 42 µg/m³ recorded on 11/19/18
 - Station 3 – 89 µg/m³ recorded on 11/19/18
 - Station 4 – 51 µg/m³ recorded on 11/19/18
 - Station 5 – 51 µg/m³ recorded on 11/19/18
 - Station 6 – <1 µg/m³ recorded throughout the week
 - Station 7 – <1 µg/m³ recorded throughout the week
- Maximum weekly measurements of TVOC in ppb
 - Station 1 – <1 ppb recorded throughout the week
 - Station 2 – <1 ppb recorded throughout the week
 - Station 3 – 14 ppb recorded on 11/19 and 11/20/18
 - Station 4 – <1 ppb recorded throughout the week
 - Station 5 – <1 ppb recorded throughout the week
 - Station 6 – <1 ppb recorded throughout the week
 - Station 7 – <1 ppb recorded throughout the week
- 23-hour samples collected at ST-1 collected on 11/20 through 11/21 and ST-2 collected on 11/19 through 11/20. Laboratory turnaround time is 10 business days.



- All real-time readings of formaldehyde, hydrogen sulfide, or ammonia less than instrument reporting limit.

Noise and Vibration Monitoring – Wilson Ihrig

- Operated and maintained two (2) noise monitors: NM-1 (north side of canal on Whole Foods promenade) and NM-2 (south side of canal on southeast corner of 386 3rd Avenue).
- No exceedances of the hourly Leq noise limit of 80 dBA.
- Greatest hourly Leq noise measurements
 - Northern monitor (NM-1) – 70.8 dBA during 0800-0900 on 11/19/18
 - Southern monitor (NM-2) – 69 dBA during 1300-1400 on 11/20/18

Cultural Natural Resource Monitoring – Archeology and Historic Resource Services (AHRS)

- No activities during week.

Two-Week Look Ahead:

Sevenson:

- Transport for off-site disposal gravel and liner from dredge water treatment system pad.
- Perform optical monitoring of bulkheads and surrounding structures with autonomous total survey stations. Along with weekly optical surveys conducted by subcontractor.
- Place stone between installed sheet pile and existing bulkhead on southern side of TB4.
- Continue to demobilize equipment and materials from Citizens Site.
- Restore Citizens Site in accordance with specifications.

Geosyntec – Perform construction quality assurance responsibilities.

TRC CAMP Monitoring – Perform community air monitoring.

Wilson Ihrig – Perform noise monitoring.

AHRS – Finalize final report for EPA review.

Key Milestones

- Complete cutting of installed sheet piles to final elevations on 11/20/18.

Attachments:

1. Geosyntec In-Canal Water Quality Monitoring Weekly Data Summary
2. TRC Weekly CAMP Report
3. Wilson Ihrig Weekly Noise and Vibration Monitoring Report
4. AHRS Weekly Report (no activities during week)
5. Water Treatment System Monitoring Analytical Laboratory Data (no activities during week)
6. Cumulative Dredged Material Chart (no activities during week)



Client Name: Gowanus ERT	Site Location: TB-4 Pilot Study	Project No.: 283126.0000.0001
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Photo No. 001	Date 11-19-2018
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Description
Removal of cut portions of sheet piling adjacent to Whole Foods.



Photo No. 002	Date 11-19-2018
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Description
Decontamination of bag filter housing.



Client Name: Gowanus ERT	Site Location: TB-4 Pilot Study	Project No.: 283126.0000.0001
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Photo No. 003	Date 11-19-2018
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Description
Cut lines on sheet pile prior to removal.



Photo No. 004	Date 11-20-2018
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Description
Demobilization of bag filter housing.



Client Name: Gowanus ERT	Site Location: TB-4 Pilot Study	Project No.: 283126.0000.0001
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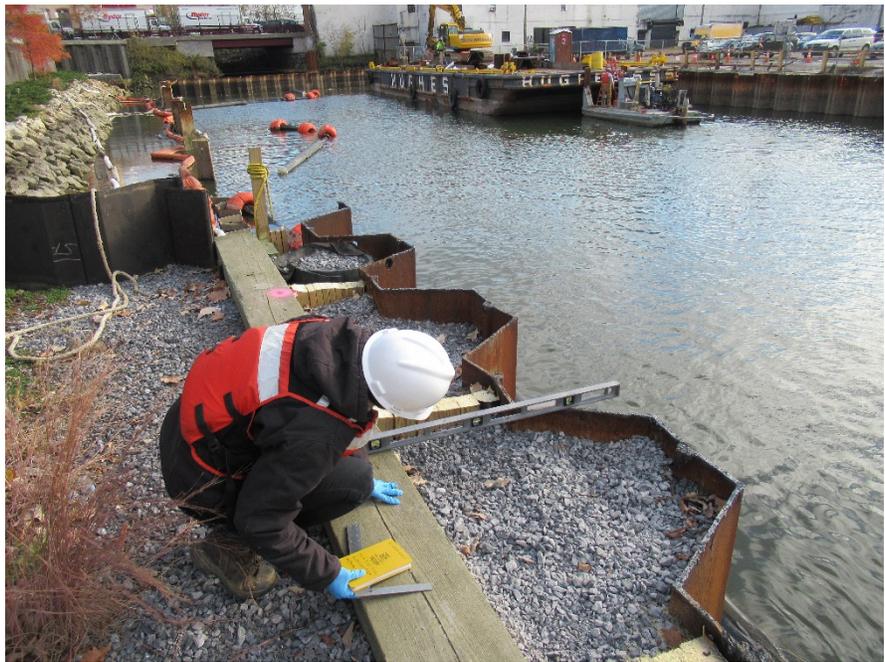
Photo No. 005	Date 11-20-2018
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Description
Cutting of sheet pile to final height adjacent to Whole Foods.



Photo No. 006	Date 11-20-2018
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Description
Quality assurance measurements of cut sheet pile.



Client Name: Gowanus ERT	Site Location: TB-4 Pilot Study	Project No.: 283126.0000.0001
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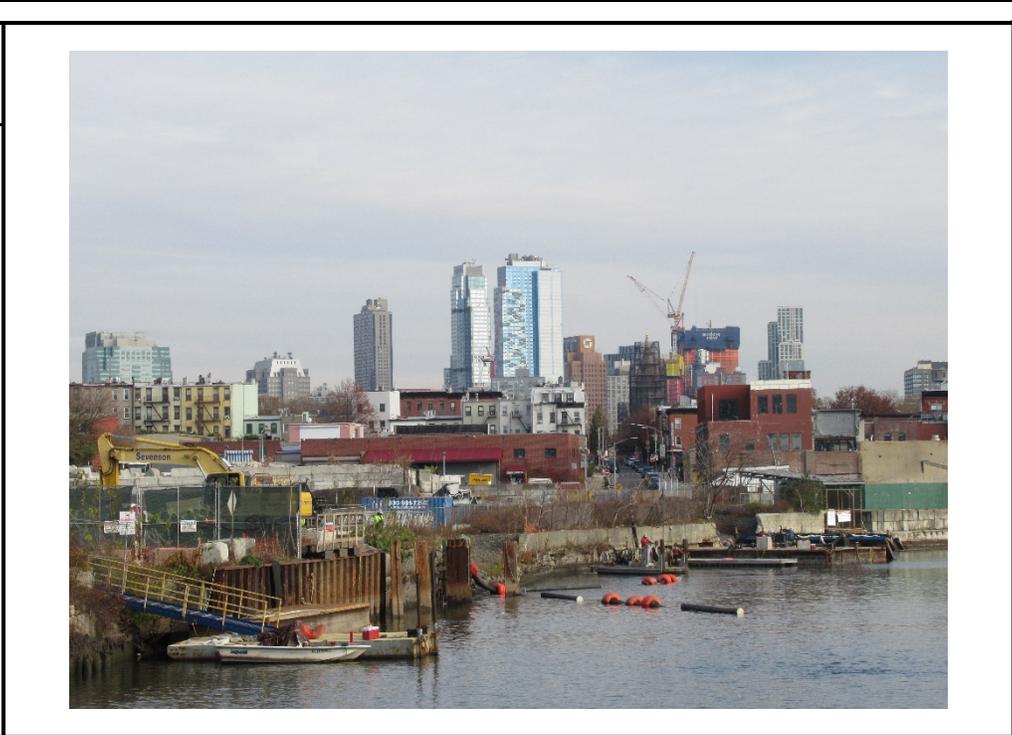
Photo No. 007	Date 11-21-2018
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Description
Hydraulic capping piping relocation to asphalt pad for decontamination.



Photo No. 008	Date 11-21-2018
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Description
Hydraulic capping piping removal activities at Citizens Site.



GEOSYNTEC IN-CANAL WATER QUALITY MONITORING WEEKLY DATA SUMMARY



GOWANUS CANAL SUPERFUND SITE DREDGING AND CAPPING PILOT STUDY Water Quality Monitoring Weekly Data Summary

Week of November 19th, 2018

Report Contents

- Scope of Monitoring
- Turbidity Buoy Data
- Handheld Measurements
- Summary of Visual Observations
 - Report of Exceedances

Prepared by

Geosyntec  **Beech and Bonaparte** 
consultants engineering p.c.

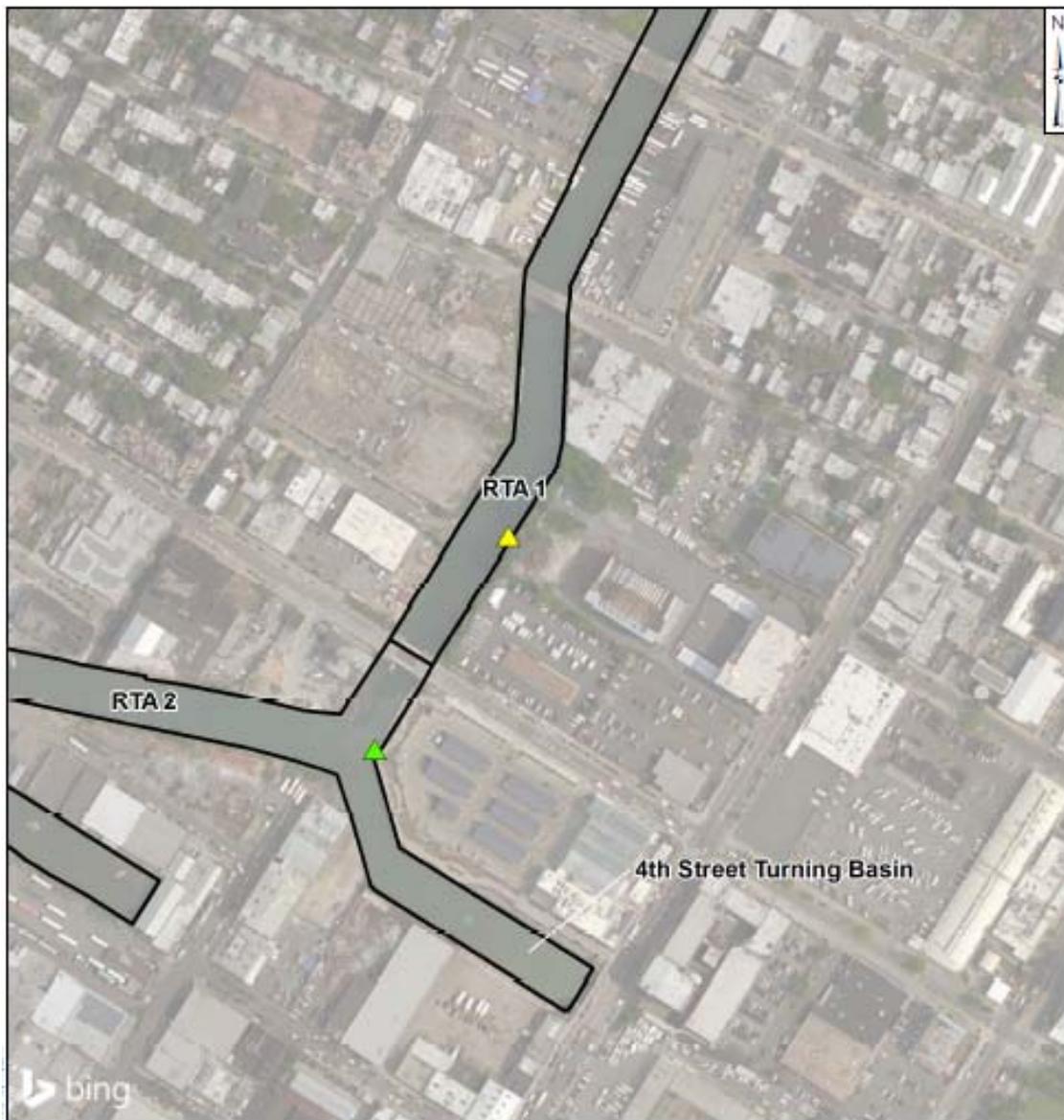
engineers | scientists | innovators

an affiliate of Geosyntec Consultants

7 Graphics Drive, Suite 106
Ewing, NJ 08628
Project Number HPH106A (52)

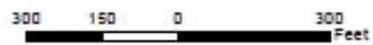
1. SCOPE OF MONITORING

The following report summarizes water quality monitoring data collected during the week of November 19th, 2018. Two turbidity buoys were deployed to monitor turbidity during the pilot study. One turbidity buoy was deployed just outside of the 4th Street Turning Basin and is referred to as the sentinel buoy. A second turbidity buoy was deployed further upstream in RTA1 in order to monitor background turbidity unaffected by on-water construction activities. This turbidity buoy is referred to as the ambient buoy. A map indicating the approximate locations of the turbidity buoys is provided in Figure 1. Each turbidity buoy was equipped with a YSI 600 OMS water quality meter with optical turbidity sensor. The buoys were programmed such that readings were collected every 15 minutes. After each measurement, the turbidity data were transmitted to a FTP site via telemetry. Turbidity readings from this reporting period did not meet data quality criteria and were rejected. This failure was due to biofouling of the turbidity sensors causing the sensors to fail calibration checks. Limited waterway construction activities occurred on this reporting period and consisted of sheet pile cutting. No handheld measurements were collected during this reporting period. Visual observations of turbidity and sheen are summarized in Section 4.



Legend

-  Ambient Buoy
-  Sentinel Buoy
-  RTA Boundary



Turbidity Buoy Locations

Gowanus Canal, Brooklyn, NY

Gowanus Canal Remedial Design Group | Geosyntec consultants | Beech and Benaparte engineering p.c. an affiliate of Geosyntec Consultants

Ewing, NJ

October 2017

Figure

1

2. TURBIDITY BUOY DATA

Turbidity buoy data from this reporting period have not been provided due to failure to meet data quality requirements for accuracy. Activities on the Canal were limited and consisted of sheet pile cutting.

2.1 Monday, November 19th, 2018

Data from Monday, November 19th, 2018 did not meet data quality requirements for accuracy and were rejected.

2.2 Tuesday, November 20th, 2018

Data from Tuesday, November 20th, 2018 did not meet data quality requirements for accuracy and were rejected.

2.3 Wednesday, November 21st, 2018

Data from Wednesday, November 21st, 2018 did not meet data quality requirements for accuracy and were rejected

3. HANDHELD MEASUREMENTS

No handheld measurements were collected during this reporting period.

4. SUMMARY OF VISUAL OBSERVATIONS

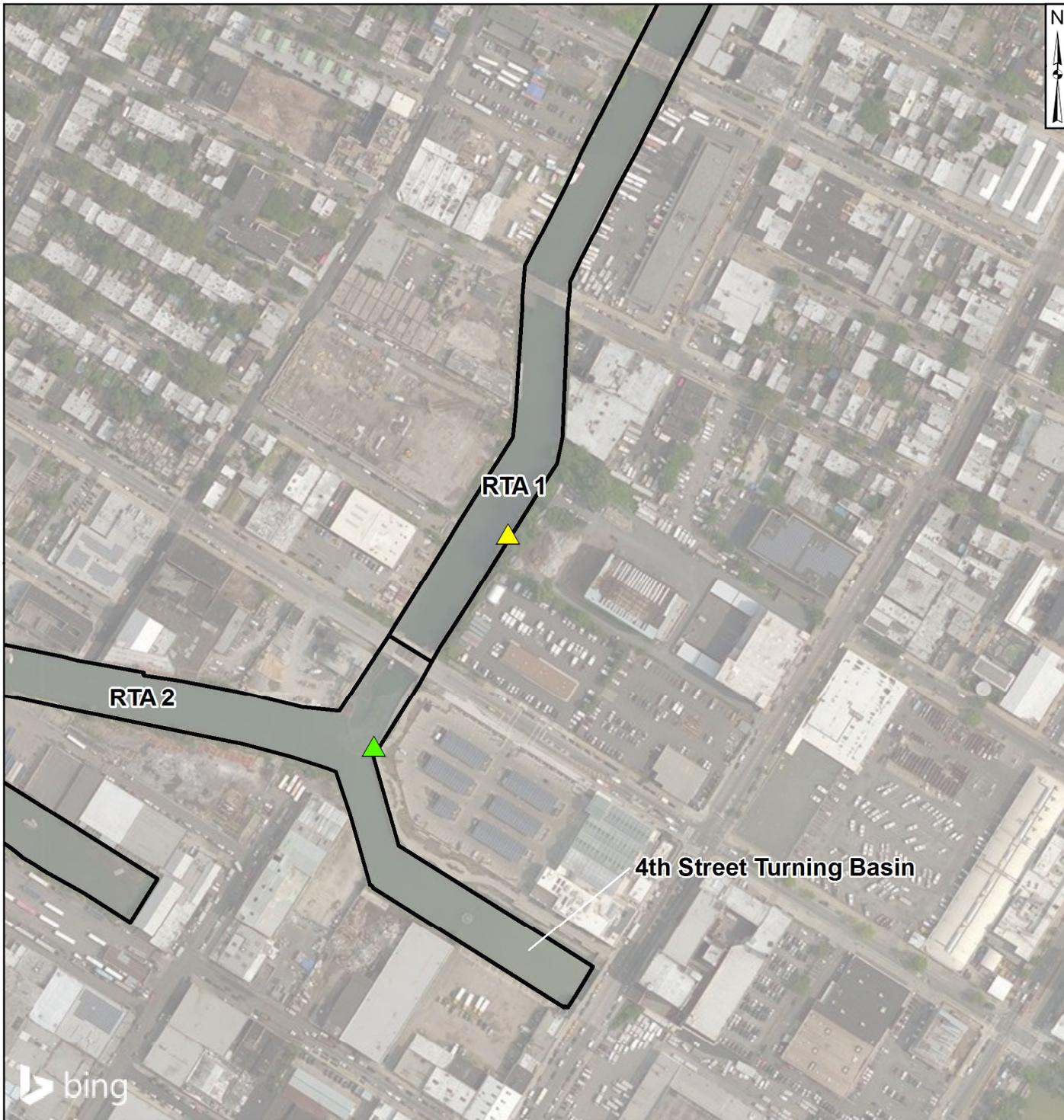
Visual observations were consistent with background conditions.

5. REPORT OF EXCEEDANCES

Turbidity buoy data was rejected for the week of November 19th due to data failing to meet data quality requirements. Refer to the Water Quality Monitoring Plan for In-waterway Construction Activities (Geosyntec 2017) for further information regarding the Trigger and Action Criteria. Threshold criteria are summarized as follows:

- **Trigger criterion** – Any of the following:
 - The rolling average of the sentinel buoy turbidity measurements over a one-hour period exceeds the rolling average of the ambient buoy turbidity measurements by 20 NTU excluding any eliminated outlier measurements; or
 - Either an oil sheen or a turbidity plume is visually observed outside of engineering controls and in-waterway construction activities cannot be immediately excluded as the source.
- **Action criterion** – Any of the following:
 - The rolling average of the sentinel buoy turbidity measurements over a one-hour period exceeds the rolling average of the ambient buoy turbidity measurements by 40 NTU excluding any eliminated outlier measurements; or
 - Either an oil sheen or a turbidity plume is visually observed outside of engineering controls and in-waterway construction activities are readily identified as the source.

FIGURES



X:\03_GIS\mxd\Canal_Wide_Turbidity_Buoy_Locations.mxd; acarnes; 10/19/2017

Legend

-  Ambient Buoy
-  Sentinel Buoy
-  RTA Boundary



Turbidity Buoy Locations

Gowanus Canal, Brooklyn, NY

Gowanus Canal Remedial Design Group Geosyntec consultants Beech and Bonaparte engineering p.c. an affiliate of Geosyntec Consultants

Figure 1

Ewing, NJ

October 2017

1

APPENDIX A
PRE-DREDGE TURBIDITY BUOY DATA

Time (Local)	Ambient Turbidity (NTU)	Sentinel Turbidity (NTU)	Sentinel> Ambient (Y/N)	Time (Local)	Ambient Turbidity (NTU)	Sentinel Turbidity (NTU)	Sentinel> Ambient (Y/N)	Time (Local)	Ambient Turbidity (NTU)	Sentinel Turbidity (NTU)	Sentinel> Ambient (Y/N)
10/3/2017 15:00	7.4	2.7	N	10/4/2017 4:30	4.8	7.1	Y	10/4/2017 18:00	6.9	2.7	N
10/3/2017 15:15	6.6	2.4	N	10/4/2017 4:45	5	6.3	Y	10/4/2017 18:15	7.2	2.7	N
10/3/2017 15:30	6.4	2.7	N	10/4/2017 5:00	4.7	6	Y	10/4/2017 18:30	7.8	3.4	N
10/3/2017 15:45	6.9	2	N	10/4/2017 5:15	5.1	6.4	Y	10/4/2017 18:45	8.2	4.4	N
10/3/2017 16:00	6.3	2.1	N	10/4/2017 5:30	5	7.3	Y	10/4/2017 19:00	7.5	3.1	N
10/3/2017 16:15	6.5	2.4	N	10/4/2017 5:45	5.4	7.8	Y	10/4/2017 19:15	8.7	3.6	N
10/3/2017 16:30	7.1	2.9	N	10/4/2017 6:00	5.5	8.3	Y	10/4/2017 19:30	8.7	4.5	N
10/3/2017 16:45	6.1	2.8	N	10/4/2017 6:15	5.2	9	Y	10/4/2017 19:45	9.4	4.1	N
10/3/2017 17:00	7	2.8	N	10/4/2017 6:30	5.8	7.2	Y	10/4/2017 20:00	8.4	4	N
10/3/2017 17:15	7	4.4	N	10/4/2017 6:45	5.4	8.8	Y	10/4/2017 20:15	8.2	4	N
10/3/2017 17:30	7	4.7	N	10/4/2017 7:00	5.5	8	Y	10/4/2017 20:30	9	3.6	N
10/3/2017 17:45	6.3	4	N	10/4/2017 7:15	5.6	7.5	Y	10/4/2017 20:45	8.4	3.5	N
10/3/2017 18:00	6.5	6.9	Y	10/4/2017 7:30	6.9	7.2	Y	10/4/2017 21:00	9.5	4.7	N
10/3/2017 18:15	7.8	6.7	Y	10/4/2017 7:45	6.8	6.1	N	10/4/2017 21:15	10.2	3.9	N
10/3/2017 18:30	7.9	6.5	N	10/4/2017 8:00	6.7	7.4	Y	10/4/2017 21:30	9.5	3.5	N
10/3/2017 18:45	8.5	5.9	N	10/4/2017 8:15	7.3	6.1	N	10/4/2017 21:45	8.9	3.6	N
10/3/2017 19:00	7.9	6	N	10/4/2017 8:30	7.2	4.6	N	10/4/2017 22:00	8.6	2.9	N
10/3/2017 19:15	7.4	6.3	N	10/4/2017 8:45	6.6	9	Y	10/4/2017 22:15	8.7	3.6	N
10/3/2017 19:30	7.4	4.3	N	10/4/2017 9:00	9.2	14.1	Y	10/4/2017 22:30	8.4	6.3	N
10/3/2017 19:45	8.3	4.6	N	10/4/2017 9:15	7.9	4.8	N	10/4/2017 22:45	7.3	3.3	N
10/3/2017 20:00	8.9	5.2	N	10/4/2017 9:30	9.3	4.6	N	10/4/2017 23:00	7.4	3.8	N
10/3/2017 20:15	8.6	4.5	N	10/4/2017 9:45	7.6	5.1	N	10/4/2017 23:15	7.1	4.5	N
10/3/2017 20:30	8	4.9	N	10/4/2017 10:00	8.1	3.9	N	10/4/2017 23:30	7	3.8	N
10/3/2017 20:45	10.6	4.3	N	10/4/2017 10:15	7.8	3.1	N	10/4/2017 23:45	8.3	5.3	N
10/3/2017 21:00	11.1	4.6	N	10/4/2017 10:30	7.3	4.5	N	10/5/2017 0:00	7.7	6.2	N
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10/3/2017 21:45	9	4.7	N	10/4/2017 11:15	6.5	16.7	Y	10/5/2017 0:45	7	5.4	N
10/3/2017 22:00	8.3	4.8	N	10/4/2017 11:30	7.4	6	N	10/5/2017 1:00	7.5	4.9	N
10/3/2017 22:15	7.3	6.1	N	10/4/2017 11:45	6.8	5.3	N	10/5/2017 1:15	7	8.2	Y
10/3/2017 22:30	7	4.7	N	10/4/2017 12:00	7.7	5.1	N	10/5/2017 1:30	8.1	4.9	N
10/3/2017 22:45	6.6	5.3	N	10/4/2017 12:15	6.6	6.1	N	10/5/2017 1:45	9.1	6.5	N
10/3/2017 23:00	7.1	6.1	N	10/4/2017 12:30	7.6	4	N	10/5/2017 2:00	9.2	5.2	N
10/3/2017 23:15	6.5	6	N	10/4/2017 12:45	7.7	3.9	N	10/5/2017 2:15	8.5	3.7	N
10/3/2017 23:30	6.6	6.9	Y	10/4/2017 13:00	8.3	4.8	N	10/5/2017 2:30	10.2	5.2	N
10/3/2017 23:45	7.2	5.2	N	10/4/2017 13:15	8.5	3.9	N	10/5/2017 2:45	10.1	4.2	N
10/4/2017 0:00	6.8	6.3	N	10/4/2017 13:30	9.2	5.5	N	10/5/2017 3:00	10.3	4.9	N
10/4/2017 0:15	7.2	5.6	N	10/4/2017 13:45	9.4	4.5	N	10/5/2017 3:15	9	6.3	N
10/4/2017 0:30	7.4	6.4	N	10/4/2017 14:00	11.1	3.1	N	10/5/2017 3:30	9.2	4.5	N
10/4/2017 0:45	7.1	5	N	10/4/2017 14:15	10	2.5	N	10/5/2017 3:45	8.4	4.1	N
10/4/2017 1:00	7.1	4.3	N	10/4/2017 14:30	9.8	2	N	10/5/2017 4:00	7.4	4.4	N
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10/4/2017 1:45	7.9	4.5	N	10/4/2017 15:15	8.5	2.1	N	10/5/2017 4:45	6.2	5.1	N
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10/4/2017 2:30	7.2	5.5	N	10/4/2017 16:00	7.3	1.6	N	10/5/2017 5:30	4.8	5	Y
10/4/2017 2:45	6.6	4.8	N	10/4/2017 16:15	6.4	1.8	N	10/5/2017 5:45	5.7	5	N
10/4/2017 3:00	6.6	5.7	N	10/4/2017 16:30	7	1.6	N	10/5/2017 6:00	5.6	4.8	N
10/4/2017 3:15	6.2	5.1	N	10/4/2017 16:45	7.5	2.6	N	10/5/2017 6:15	5.4	4.9	N
10/4/2017 3:30	5.9	4.7	N	10/4/2017 17:00	6.4	2.7	N	10/5/2017 6:30	6.1	5.7	N
10/4/2017 3:45	5.5	5.9	N	10/4/2017 17:15	6.5	2	N	10/5/2017 6:45	5.9	6.4	Y
10/4/2017 4:00	4.9	6.4	Y	10/4/2017 17:30	6.7	2.3	N	10/5/2017 7:00	6.1	7.8	Y
10/4/2017 4:15	5.1	7	Y	10/4/2017 17:45	6.6	2.1	N				
Average	7.5	6.0	N								
Maximum	11.1	16.7	Y								

TRC WEEKLY COMMUNITY AIR MONITORING PROJECT REPORT





**Gowanus Canal Superfund Site
TB-4 Dredging and Capping Pilot Study
Brooklyn, New York
Weekly Report
(TRC Project No.274286-0000-00000)**

**Community Air Monitoring Project
59th Weekly Monitoring Period
Summary Report:**

November 19th, through November 21st, 2018

Report Contents

- Executive Summary
- Daily Data Summary Report – PM₁₀/TVOC
 - Daily Meteorological Summary Report
 - Periodic Monitoring Results

Gowanus Canal Superfund Site TB-4 Dredging and Capping Pilot Study Brooklyn, New York

Executive Summary – Week 59 Monitoring Period November 19th through November 21st, 2018

The following report summarizes site air monitoring activities for the Week 59 monitoring period from November 19th through November 21st, 2018. The start and stop times associated with each daily monitoring period are listed on the respective daily reports.

TRC continued to operate two (2) air monitoring stations on the Citizen Property or Staging Area, and five (5) air monitoring stations in the 4th St Turning Basin Area using the equipment specified previously in the *Gowanus Canal TB-4 Dredging and Pilot Study Executive Summary – Background Monitoring Period Report*. During the Week 59 monitoring period there were no PM₁₀ or TVOC exceedances of the action level of 150 ug/m³ or 1,000 ppb respectively as defined in the *Community Air Monitoring Plan for the Gowanus Canal TB-4 Dredging and Pilot Study Project Brooklyn, NY, August 2017*.

Figure 1 depicts Total Volatile Organics (TVOC) daily averages and maximums. Figure 2 depicts particulate monitoring (PM₁₀) daily averages and maximums. Figure 3 depicts the station locations along the Gowanus Canal.

Additional monitoring for hydrogen sulfide, ammonia, and formaldehyde took place at all stations throughout the Week 59 monitoring period twice daily (only once in morning November 21, 2018). The results of these measurements are shown in Table 1.

During the Week 59 monitoring period of November 19th through November 21st, 2018 TRC conducted Volatile Organic Compounds (USEPA Method TO-15) sampling at Stations 1 and 2. The ST-1 sample was collected on November 20th through November 21st, 2018 and the ST-2 sample was collected on November 19th through November 20th, 2018. Both samples were collected over a 23-hour period and shipped to Con-Test

Analytical Laboratory for analyses. The results of the summa canister sampling are pending lab analyses.

Site activities which were conducted at the Citizen Property during November 19th through November 21st, 2018 included the following:

- Material and equipment deliveries on Citizen Property
- General vehicular traffic site-wide throughout the monitoring period
- Maintenance of the barges and equipment
- Continued decon and demobilization of equipment off site

Site activities which were conducted at the 4th St Turning Basin Area of the Canal during November 19th through November 21st, 2018 included the following:

- Finished cutting of installed sheet piles to final elevations
- Started removing capping pipe from Turning Basin
- Cut and removed 12.5 pairs of installed sheet pile along northern bulkhead

Gowanus Canal Superfund Site
TB-4 Dredging and Capping Pilot Study
Brooklyn, New York
Daily Station Report – TVOC/PM₁₀
(TRC Project No.274286-0000-00000)
11/19/2018 06:30 AM - 11/19/2018 23:45 PM

Station 1 (Citizen Property near Construction Trailers)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	47	ug/m ³
Avg.	<1	ppb	Avg.	33	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 2 (Citizen Property near Pad Area)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	42	ug/m ³
Avg.	<1	ppb	Avg.	30	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 3 (Whole Foods Property NW Riverwalk Location)

TVOC			PM ₁₀		
Max.	14	ppb	Max.	89	ug/m ³
Avg.	13	ppb	Avg.	63	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 4 (Whole Foods Property Central Riverwalk Location)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	51	ug/m ³
Avg.	<1	ppb	Avg.	32	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 5 (Whole Foods Property near 3rd Avenue Bridge)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	51	ug/m ³
Avg.	<1	ppb	Avg.	35	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 6 (Maritime Estates Property along Canal Fencing)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	<1	ug/m ³
Avg.	<1	ppb	Avg.	<1	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 7 (386 3rd Avenue along Canal Fencing)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	<1	ug/m ³
Avg.	<1	ppb	Avg.	<1	ug/m ³
Exc.	0	total	Exc.	0	Total

TVOC – Total Volatile Organic Compounds

PM₁₀ – Particulates as PM₁₀

Max. – Maximum daily average (15 min. avg. – TVOC / 15 min. avg. – PM₁₀)

Avg. – Daily average (15 min. avg. – TVOC / 15 min. avg. – PM₁₀)

Exc. – Total # of averages which exceed the action level (≥1 ppm - TVOC / ≥150 ug/m³ - PM₁₀)

**Gowanus Canal Superfund Site
TB-4 Dredging and Capping Pilot Study
Brooklyn, New York
Daily Station Report – TVOC/PM₁₀
(TRC Project No.274286-0000-00000)
11/20/2018 00:00 AM - 11/20/2018 23:45 PM**

Station 1 (Citizen Property near Construction Trailers)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	39	ug/m ³
Avg.	<1	ppb	Avg.	16	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 2 (Citizen Property near Pad Area)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	34	ug/m ³
Avg.	<1	ppb	Avg.	15	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 3 (Whole Foods Property NW Riverwalk Location)

TVOC			PM ₁₀		
Max.	14	ppb	Max.	64	ug/m ³
Avg.	10	ppb	Avg.	14	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 4 (Whole Foods Property Central Riverwalk Location)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	37	ug/m ³
Avg.	<1	ppb	Avg.	15	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 5 (Whole Foods Property near 3rd Avenue Bridge)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	41	ug/m ³
Avg.	<1	ppb	Avg.	18	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 6 (Maritime Estates Property along Canal Fencing)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	<1	ug/m ³
Avg.	<1	ppb	Avg.	<1	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 7 (386 3rd Avenue along Canal Fencing)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	<1	ug/m ³
Avg.	<1	ppb	Avg.	<1	ug/m ³
Exc.	0	total	Exc.	0	Total

TVOC – Total Volatile Organic Compounds

PM₁₀ – Particulates as PM₁₀

Max. – Maximum daily average (15 min. avg. – TVOC / 15 min. avg. – PM₁₀)

Avg. – Daily average (15 min. avg. – TVOC / 15 min. avg. – PM₁₀)

Exc. – Total # of averages which exceed the action level (≥1 ppm - TVOC / ≥150 ug/m³ - PM₁₀)

Gowanus Canal Superfund Site
TB-4 Dredging and Capping Pilot Study
Brooklyn, New York
Daily Station Report – TVOC/PM₁₀
(TRC Project No.274286-0000-00000)
11/21/2018 00:00 AM - 11/21/2018 12:00 PM

Station 1 (Citizen Property near Construction Trailers)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	15	ug/m ³
Avg.	<1	ppb	Avg.	6	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 2 (Citizen Property near Pad Area)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	12	ug/m ³
Avg.	<1	ppb	Avg.	5	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 3 (Whole Foods Property NW Riverwalk Location)

TVOC			PM ₁₀		
Max.	4	ppb	Max.	<1	ug/m ³
Avg.	1	ppb	Avg.	<1	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 4 (Whole Foods Property Central Riverwalk Location)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	<1	ug/m ³
Avg.	<1	ppb	Avg.	<1	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 5 (Whole Foods Property near 3rd Avenue Bridge)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	<1	ug/m ³
Avg.	<1	ppb	Avg.	<1	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 6 (Maritime Estates Property along Canal Fencing)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	<1	ug/m ³
Avg.	<1	ppb	Avg.	<1	ug/m ³
Exc.	0	total	Exc.	0	Total

Station 7 (386 3rd Avenue along Canal Fencing)

TVOC			PM ₁₀		
Max.	<1	ppb	Max.	<1	ug/m ³
Avg.	<1	ppb	Avg.	<1	ug/m ³
Exc.	0	total	Exc.	0	Total

TVOC – Total Volatile Organic Compounds

PM₁₀ – Particulates as PM₁₀

Max. – Maximum daily average (15 min. avg. – TVOC / 15 min. avg. – PM₁₀)

Avg. – Daily average (15 min. avg. – TVOC / 15 min. avg. – PM₁₀)

Exc. – Total # of averages which exceed the action level (≥1 ppm - TVOC / ≥150 ug/m³ - PM₁₀)

Figure 1
Gowanus Canal Superfund Site -TB4 Dredging and Capping Pilot Program
TVOC Monitoring Data - Week 59

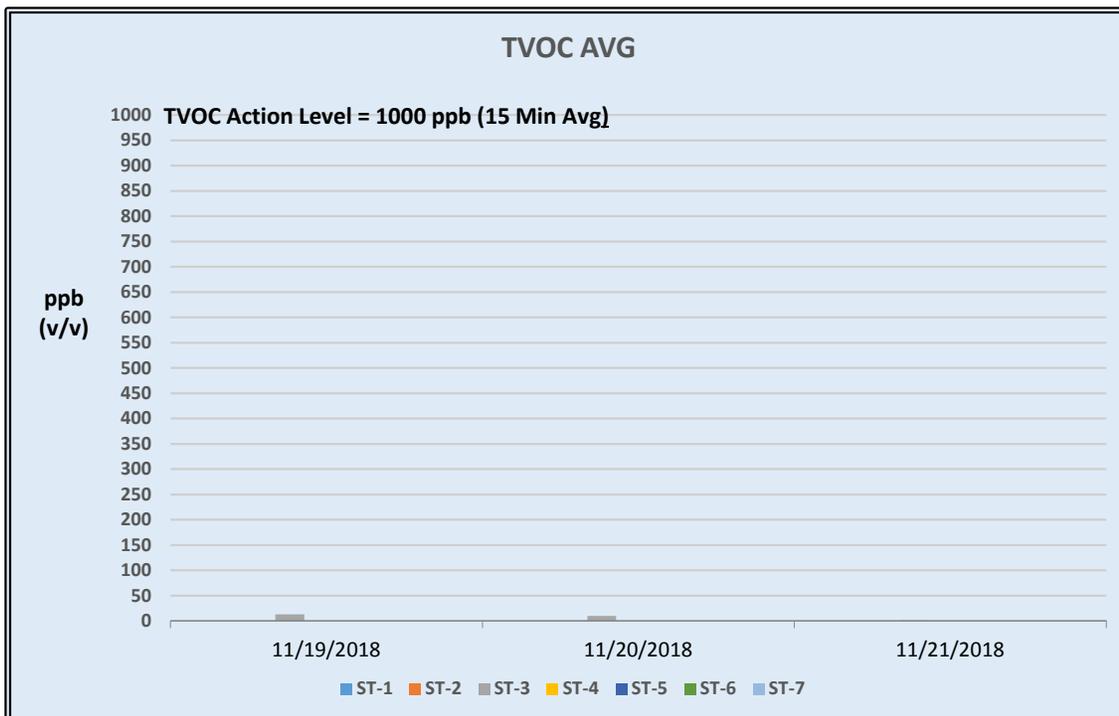
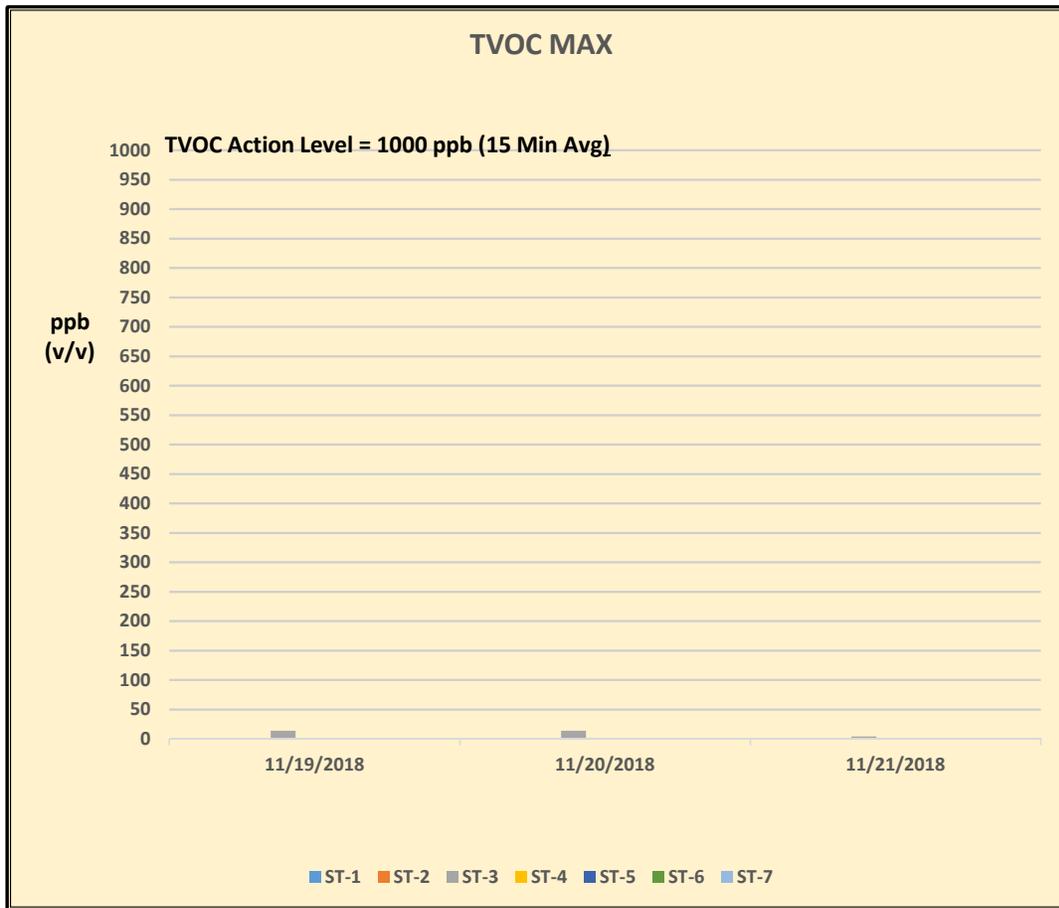
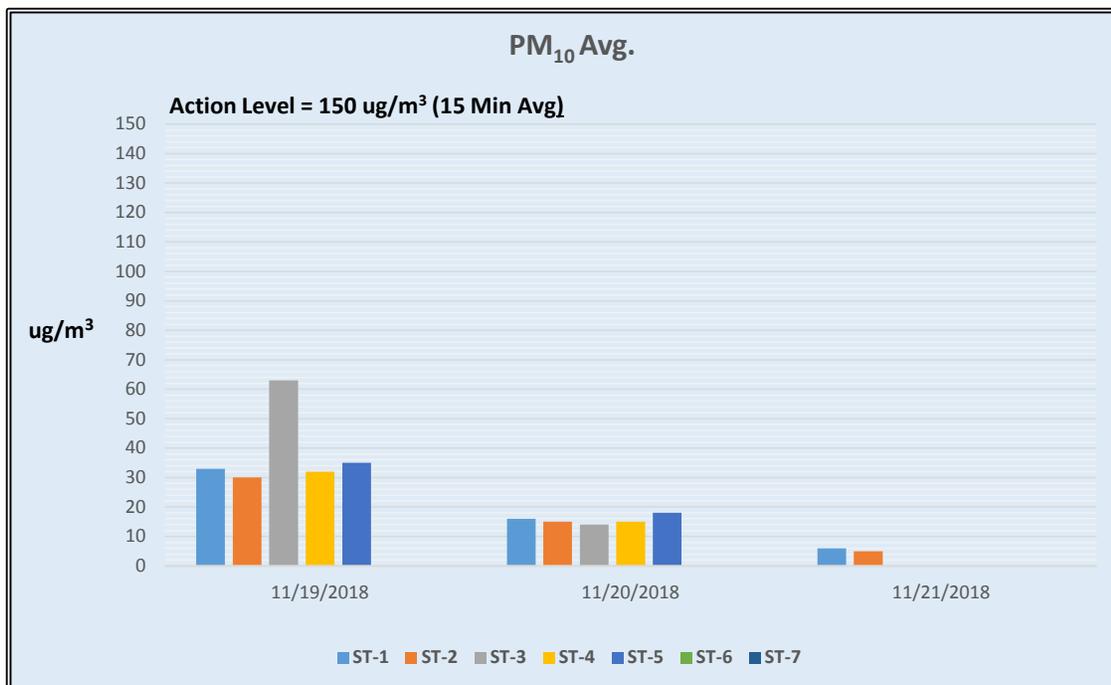
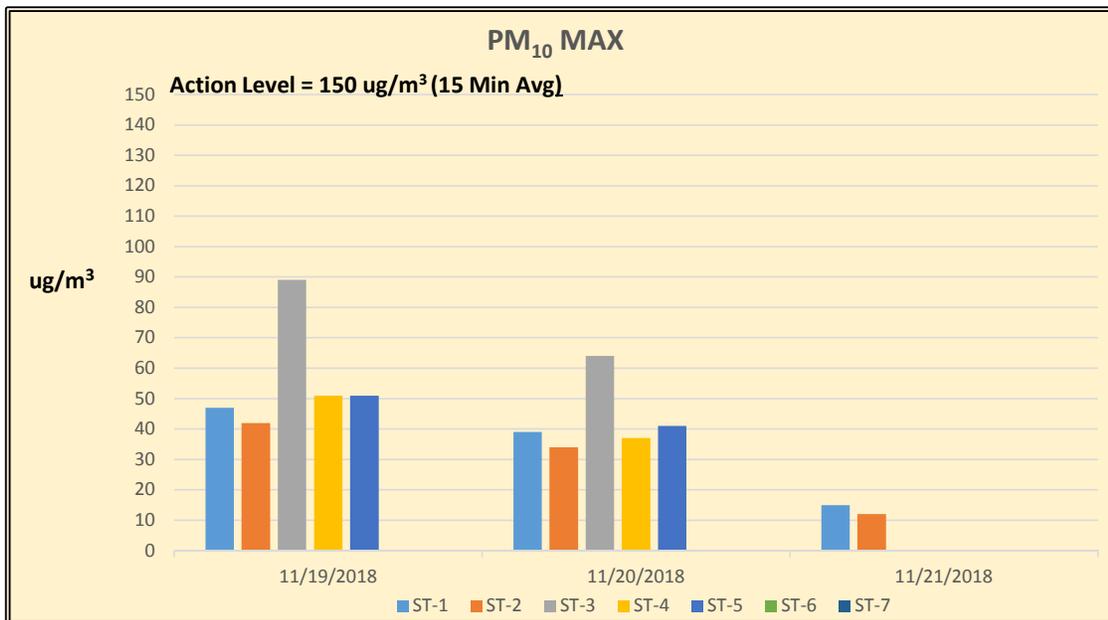


Figure 2
Gowanus Canal Superfund Site - TB4 Dredging and Capping Pilot Program
PM₁₀ Monitoring Data - Week 59



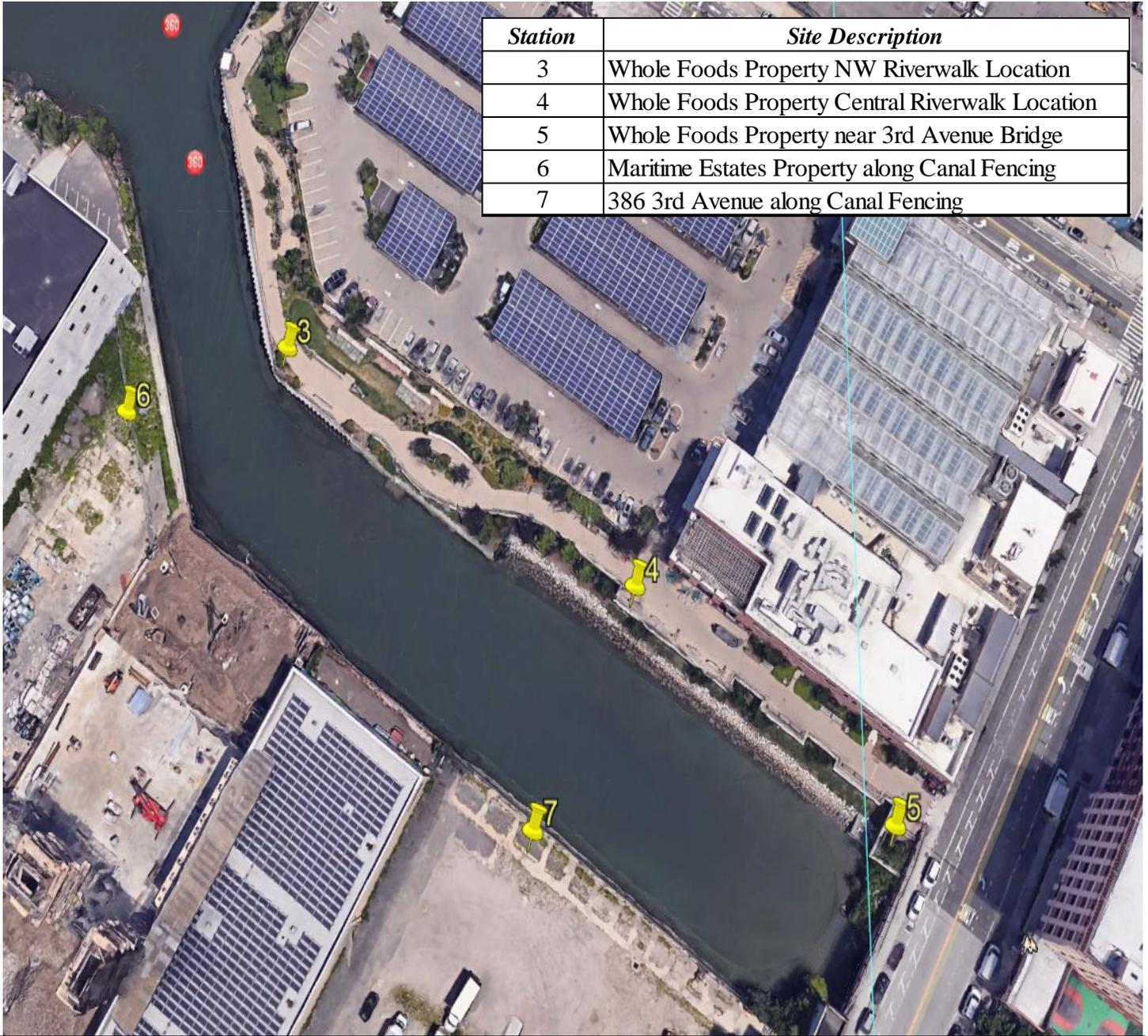


FIGURE 3
Gowanus Canal Superfund Site-TB4
Dredging and Capping Pilot Program

Table 1

Week 59

Summary of Additional Periodic (Daily) Monitoring Data

November 19 th , 2018				
Station Id	Time	Formaldehyde (CHO) (ppb)*	Hydrogen Sulfide (H ₂ S) (ppb)*	Ammonia (NH ₃) (ppm)**
ST-1	8:00	<50	<3	<1.0
	14:00	<50	<3	<1.0
ST-2	8:10	<50	<3	<1.0
	14:10	<50	<3	<1.0
ST-3	8:30	<50	<3	<1.0
	15:00	<50	<3	<1.0
ST-4	8:40	<50	<3	<1.0
	15:10	<50	<3	<1.0
ST-5	8:50	<50	<3	<1.0
	15:20	<50	<3	<1.0
ST-6	9:20	<50	<3	<1.0
	15:50	<50	<3	<1.0
ST-7	9:40	<50	<3	<1.0
	16:10	<50	<3	<1.0
November 20 th , 2018				
Station Id	Time	Formaldehyde (CHO) (ppb)*	Hydrogen Sulfide (H ₂ S) (ppb)*	Ammonia (NH ₃) (ppm)**
ST-1	7:00	<50	<3	<1.0
	14:00	<50	<3	<1.0
ST-2	7:05	<50	<3	<1.0
	14:10	<50	<3	<1.0
ST-3	7:15	<50	<3	<1.0
	14:30	<50	<3	<1.0
ST-4	7:20	<50	<3	<1.0
	14:40	<50	<3	<1.0
ST-5	7:30	<50	<3	<1.0
	14:50	<50	<3	<1.0
ST-6	7:50	<50	<3	<1.0
	15:10	<50	<3	<1.0
ST-7	8:10	<50	<3	<1.0
	16:00	<50	<3	<1.0

Table 1

Week 59

Summary of Additional Periodic (Daily) Monitoring Data

November 21 st , 2018				
Station Id	Time	Formaldehyde (CHO) (ppb)*	Hydrogen Sulfide (H ₂ S) (ppb)*	Ammonia (NH ₃) (ppm)**
ST-1	8:00	<50	<3	<1.0
ST-2	8:10	<50	<3	<1.0
ST-3	8:30	<50	<3	<1.0
ST-4	8:40	<50	<3	<1.0
ST-5	9:00	<50	<3	<1.0
ST-6	9:20	<50	<3	<1.0
ST-7	9:40	<50	<3	<1.0

*(ppb) Indicates results reported in parts per billion

** (ppm) Indicates results reported in parts per million



**Gowanus Canal Superfund Site
TB-4 Dredging and Capping Pilot Study
Brooklyn, New York**

Meteorological Summary

November 19th through November 21st, 2018

November 19th, 2018 *		
Wind Direction (°)	Wind Speed (mph)	Temperature (°F)
SSE	1.71	47.0

November 20th, 2018 **		
Wind Direction (°)	Wind Speed (mph)	Temperature (°F)
SSE	3.41	46.3

November 21st, 2018 ***		
Wind Direction (°)	Wind Speed (mph)	Temperature (°F)
WSW	1.79	46.5

* Monday's meteorological data represents an average for the time period of 06:30 to 23:45.

** Tuesday's meteorological data represents averages for the time period of 00:00 to 23:45.

*** Wednesday's meteorological data represents an average for the time period of 00:00 to 12:00.

WILSON IHRIG WEEKLY NOISE AND VIBRATION MONITORING REPORT





WI #15-081

MEMORANDUM

November 26, 2018

To: William Lee/ de maximis, inc.
Kirsten Meyers / TRC

From: Silas Bensing, Ani Toncheva / Wilson Ihrig

Subject: Gowanus Canal 4th Street Turning Basin Dredging and Capping Pilot Study, Weekly Noise Monitoring Report, 19 - 23 November, 2018

Noise Monitoring Locations

Figure 1 shows the noise monitoring locations. NM-1 is installed at a light pole on the north side of TB4 and is approximately 25 feet from the north edge of the canal. NM-2 is installed at the existing guard rail on the south side of TB4, approximately 4 feet from the south edge of the canal. Photos 1 and 2 show the recent field conditions at the monitors.

Noise Monitoring Results

Figures 2 through 11 present the hourly Leq noise levels compared with the noise thresholds discussed in the noise monitoring plan¹. Commercial and Industrial land uses are assigned an hourly Leq noise limit of 80 dBA for Daytime and Evening time periods. The average baseline noise measured in the project area in 2015 are also shown for reference².

¹ Wilson Ihrig. *Gowanus Canal 4th Street Turning Basin Dredging and Capping Pilot Study Noise and Vibration Monitoring Plan*. California: prepared for Gowanus Canal Remedial Design Group, DRAFT May 2017

² Wilson Ihrig. *Gowanus Canal Remedial Design Project RTA-1 Noise and Vibration Baseline Report*. California: prepared for Geosyntec Consultants Inc., October 2015.

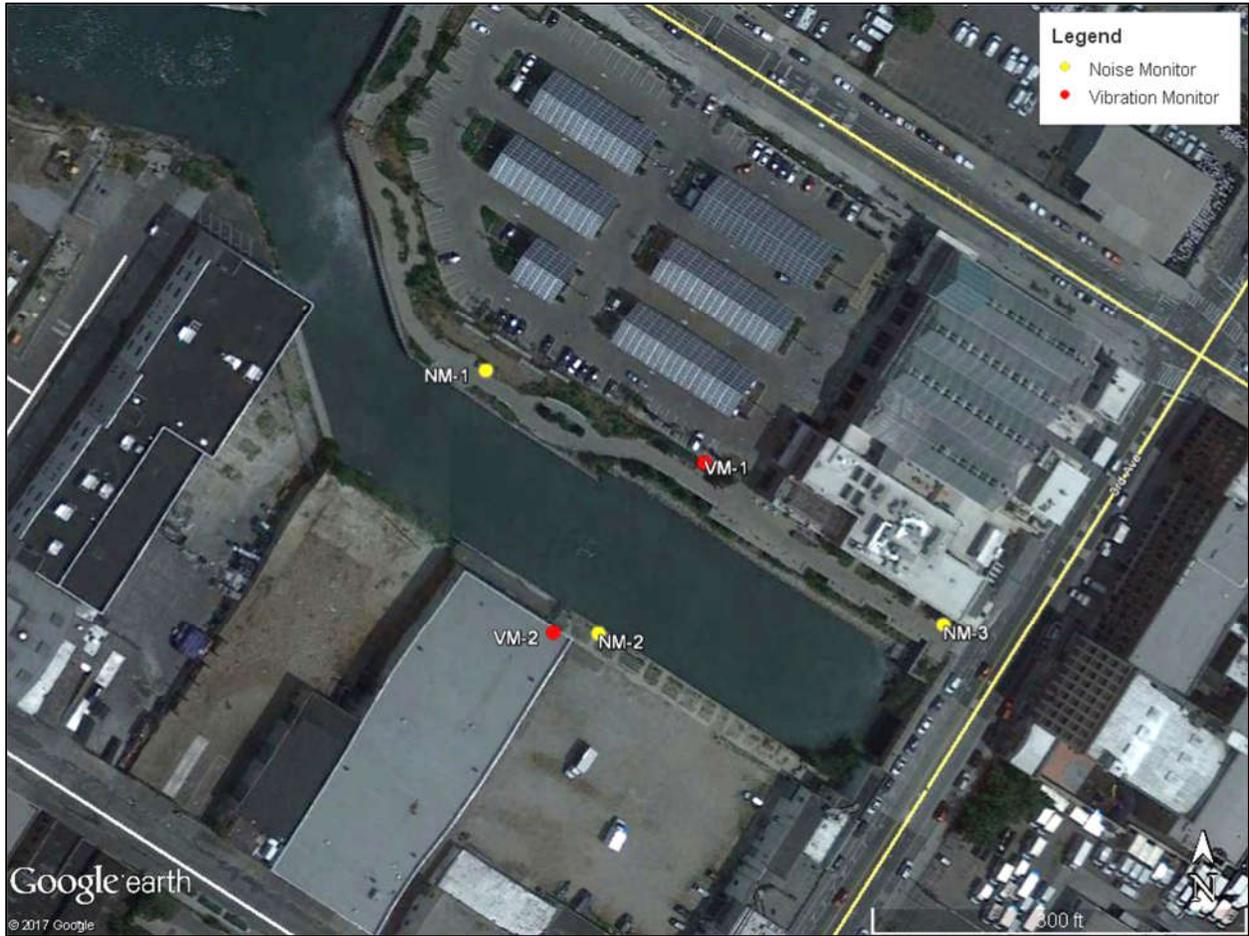
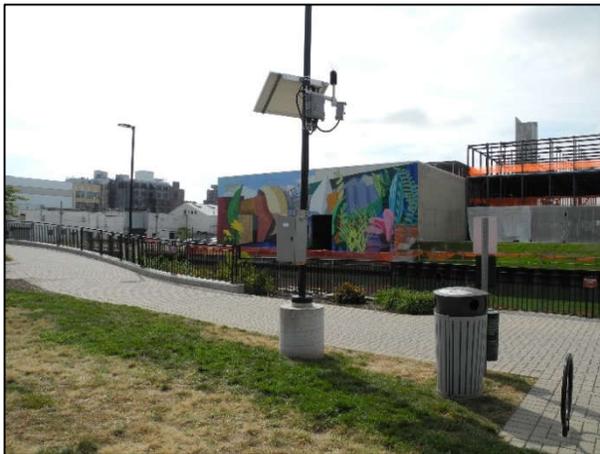


Figure 1: Long-term Noise and Vibration Monitoring Locations for Gowanus TB4 Dredging and Capping Pilot Study



**Photo 1: Noise Monitoring Location NM-1
(26 September 2017)**



**Photo 2: Noise Monitoring Location NM-2
(25 September 2017)**

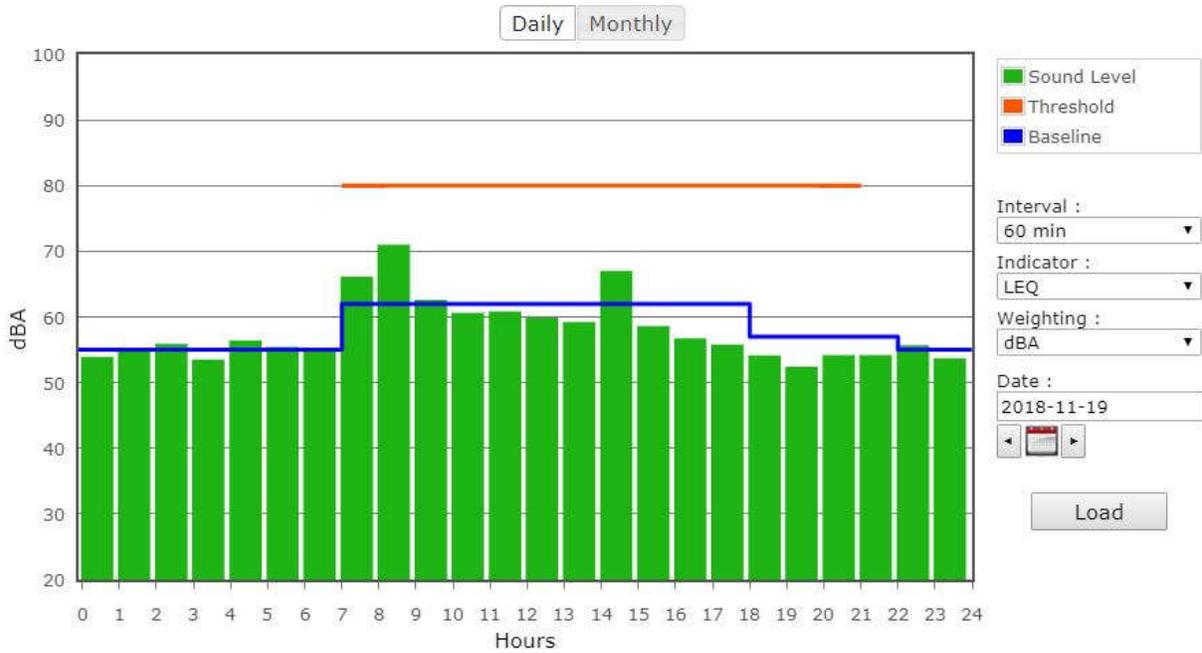


Figure 2: North Monitor NM-1 on Monday

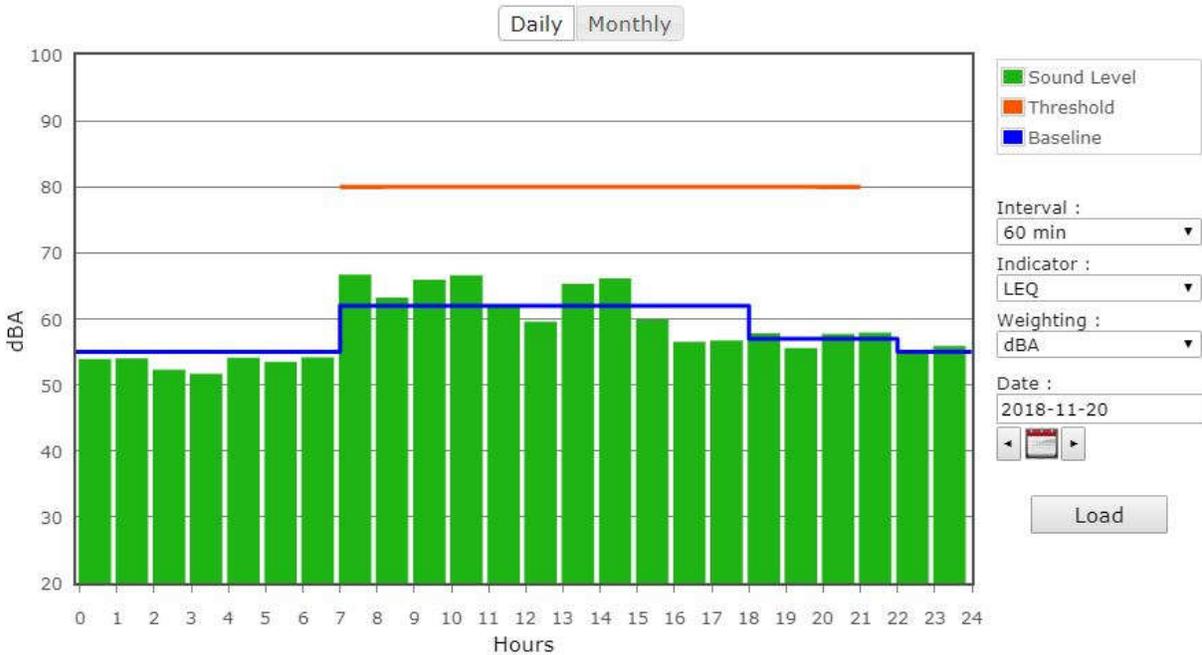


Figure 3: North Monitor NM-1 on Tuesday

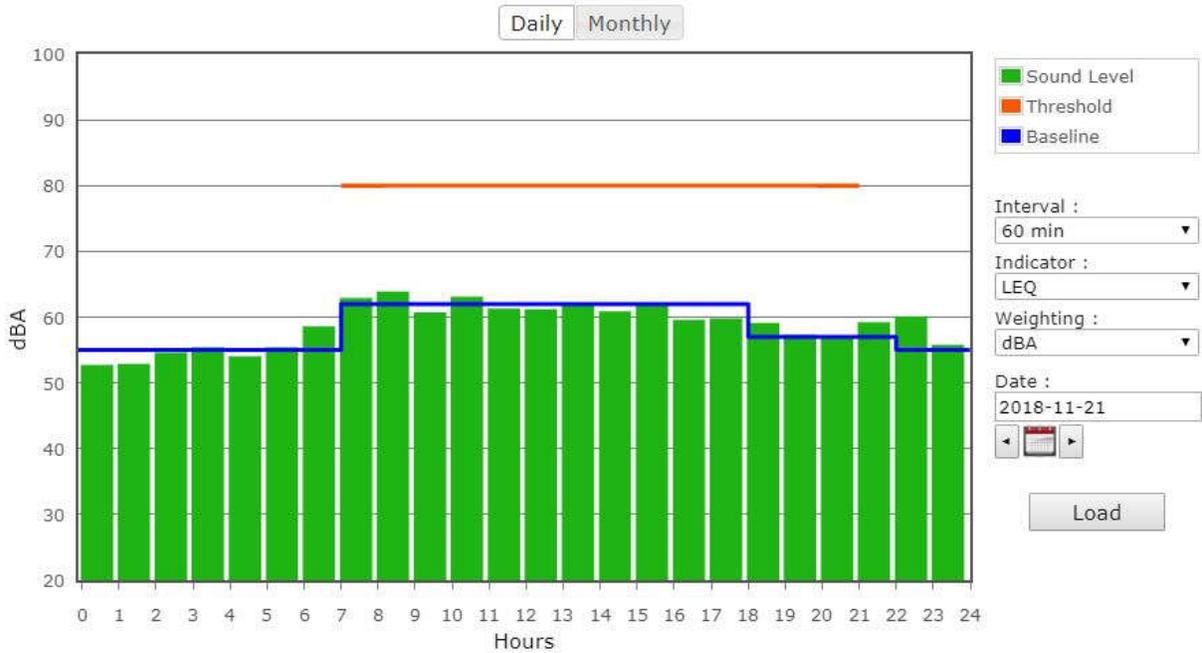


Figure 4: North Monitor NM-1 on Wednesday

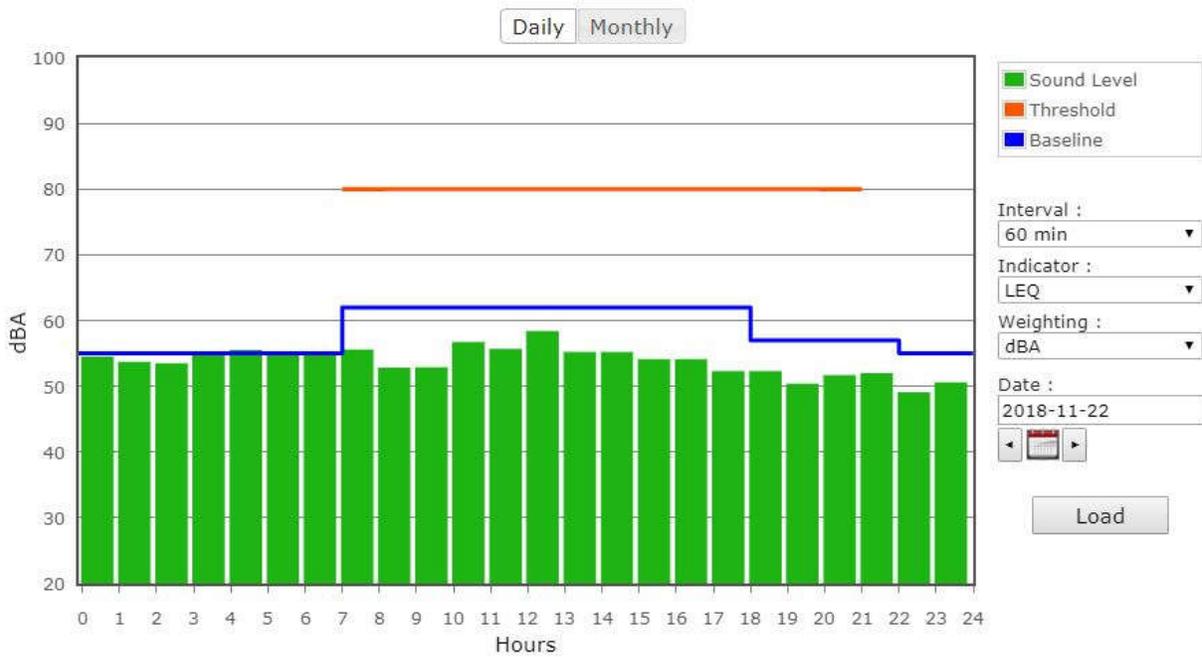


Figure 5: North Monitor NM-1 on Thursday

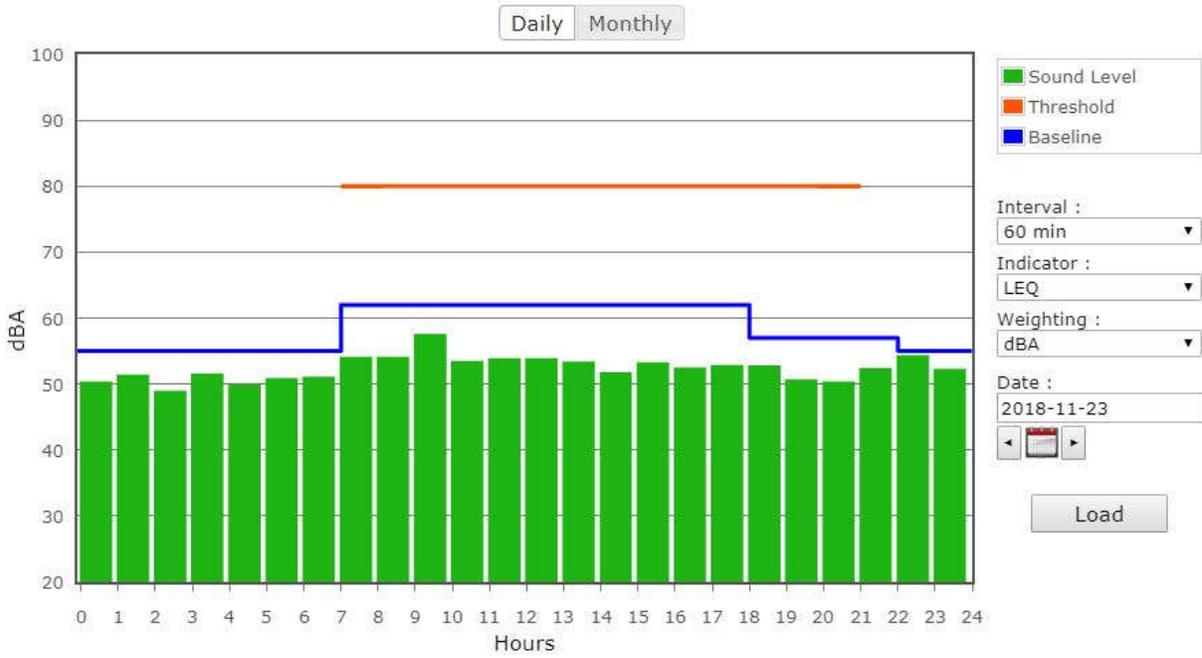


Figure 6: North Monitor NM-1 on Friday

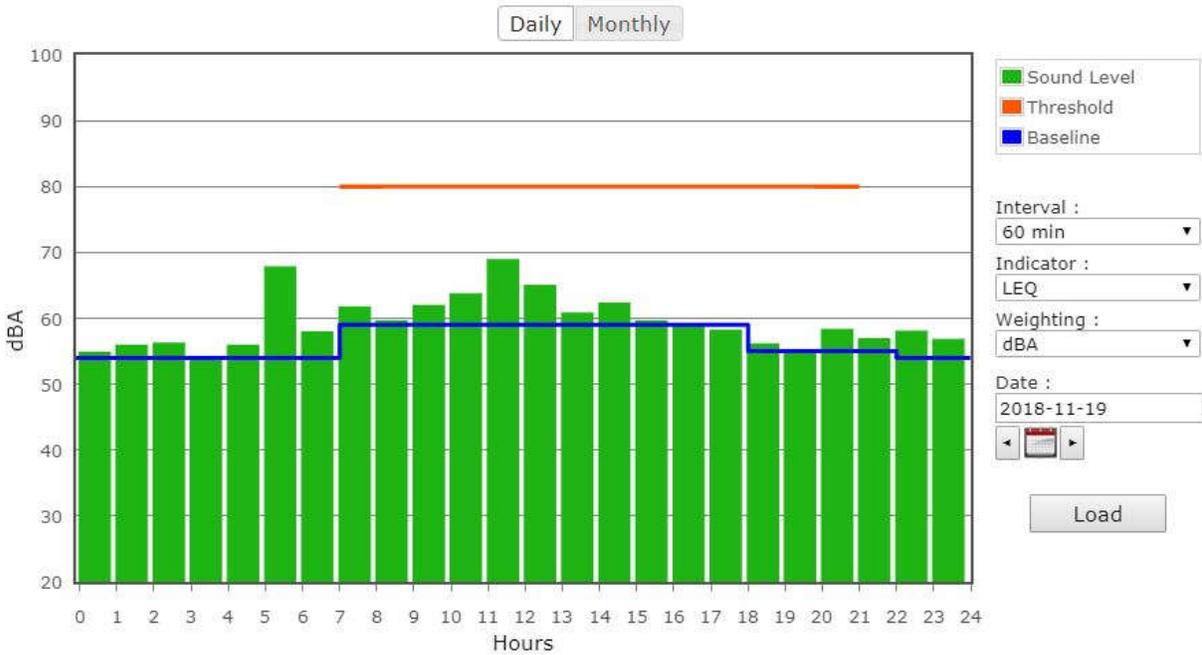


Figure 7: South Monitor NM-2 on Monday

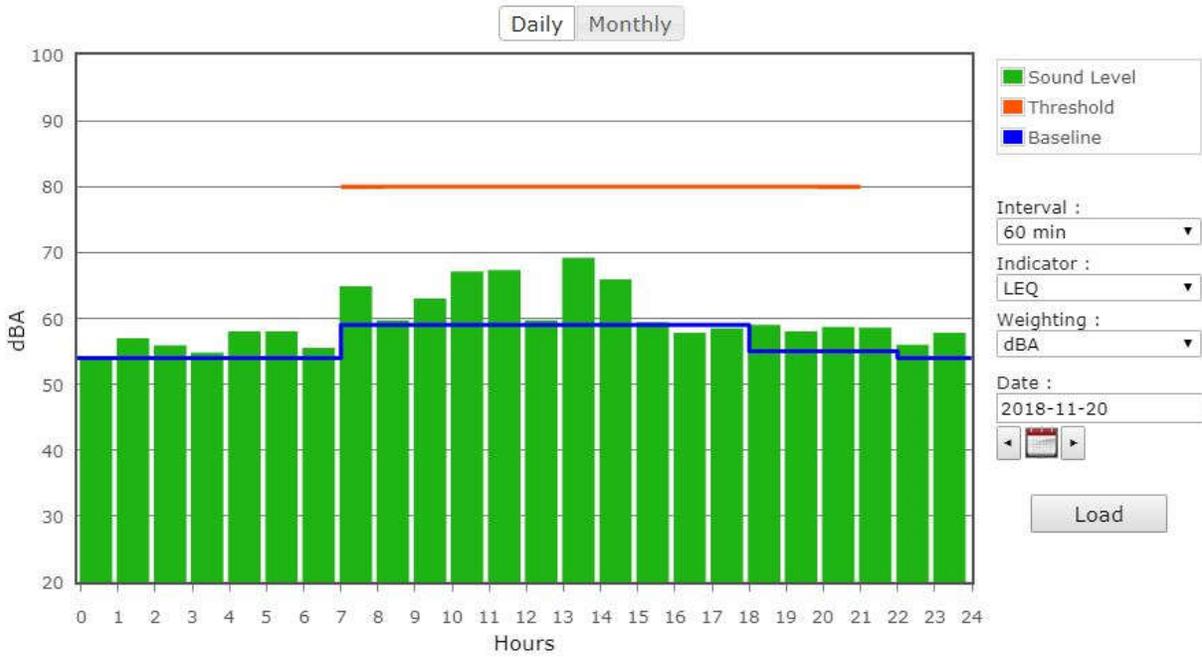


Figure 8: South Monitor NM-2 on Tuesday

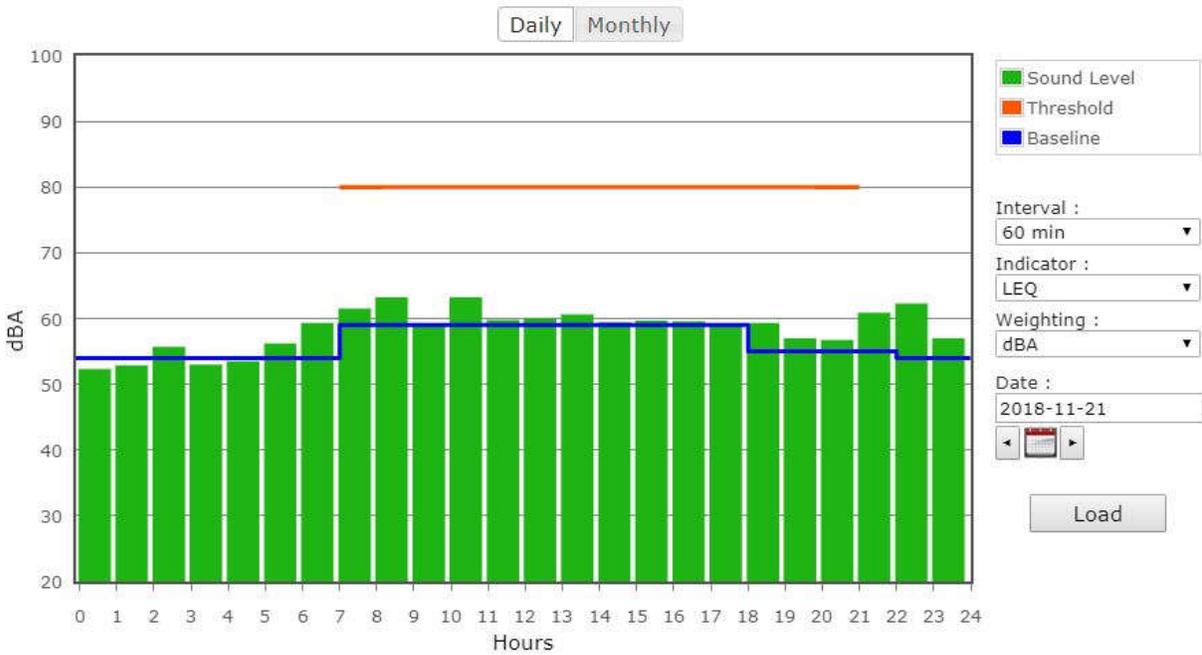


Figure 9: South Monitor NM-2 on Wednesday

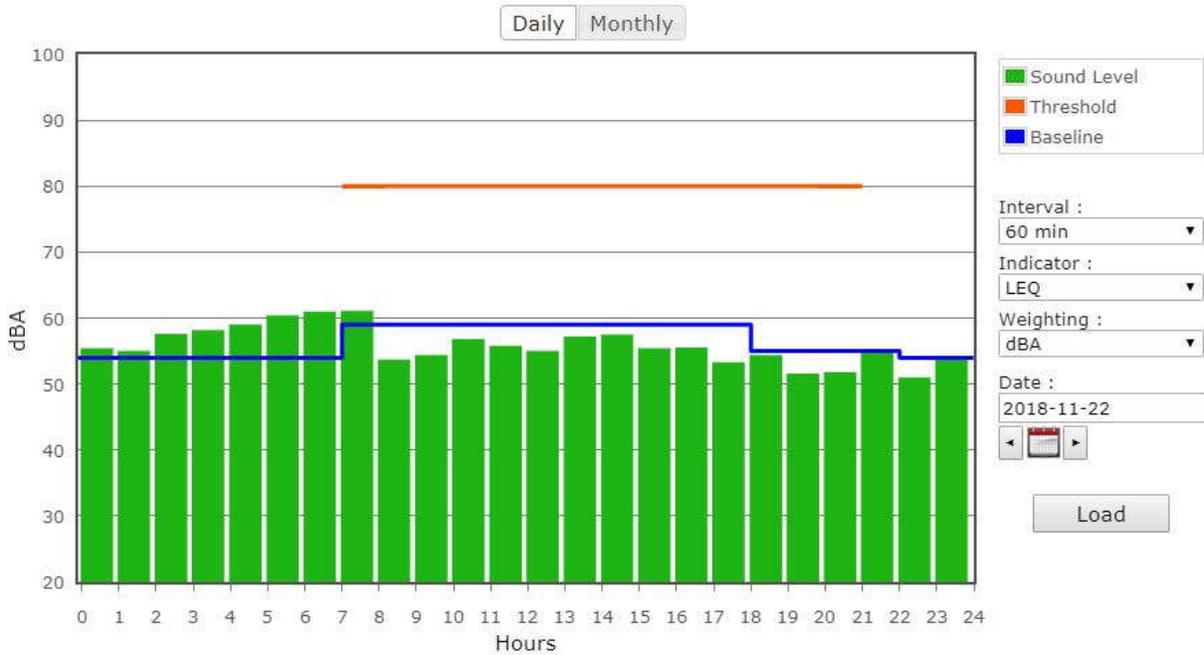


Figure 10: South Monitor NM-2 on Thursday

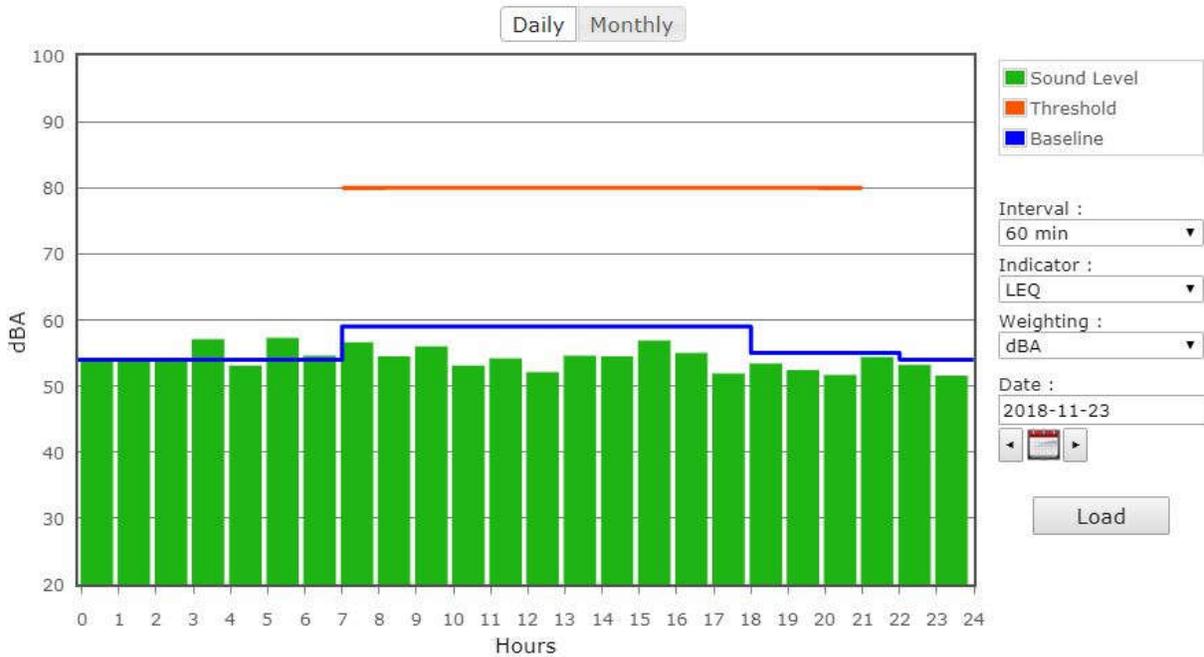


Figure 11: South Monitor NM-2 on Friday

AHRS WEEKLY REPORT
(NO ACTIVITIES DURING WEEK)



**WATER TREATMENT SYSTEM MONITORING LABORATORY ANALYTICAL DATA
(NO ACTIVITIES DURING WEEK)**



**CUMULATIVE DREDGED MATERIAL CHART
(NO ACTIVITIES DURING WEEK)**

