

**GOWANUS CANAL SUPERFUND SITE
RTA1 REMEDIAL CONSTRUCTION
Water Quality Monitoring Weekly Data Summary**

PERIOD: October 18 - October 22, 2021

Date of Report: October 27, 2021

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Prepared by

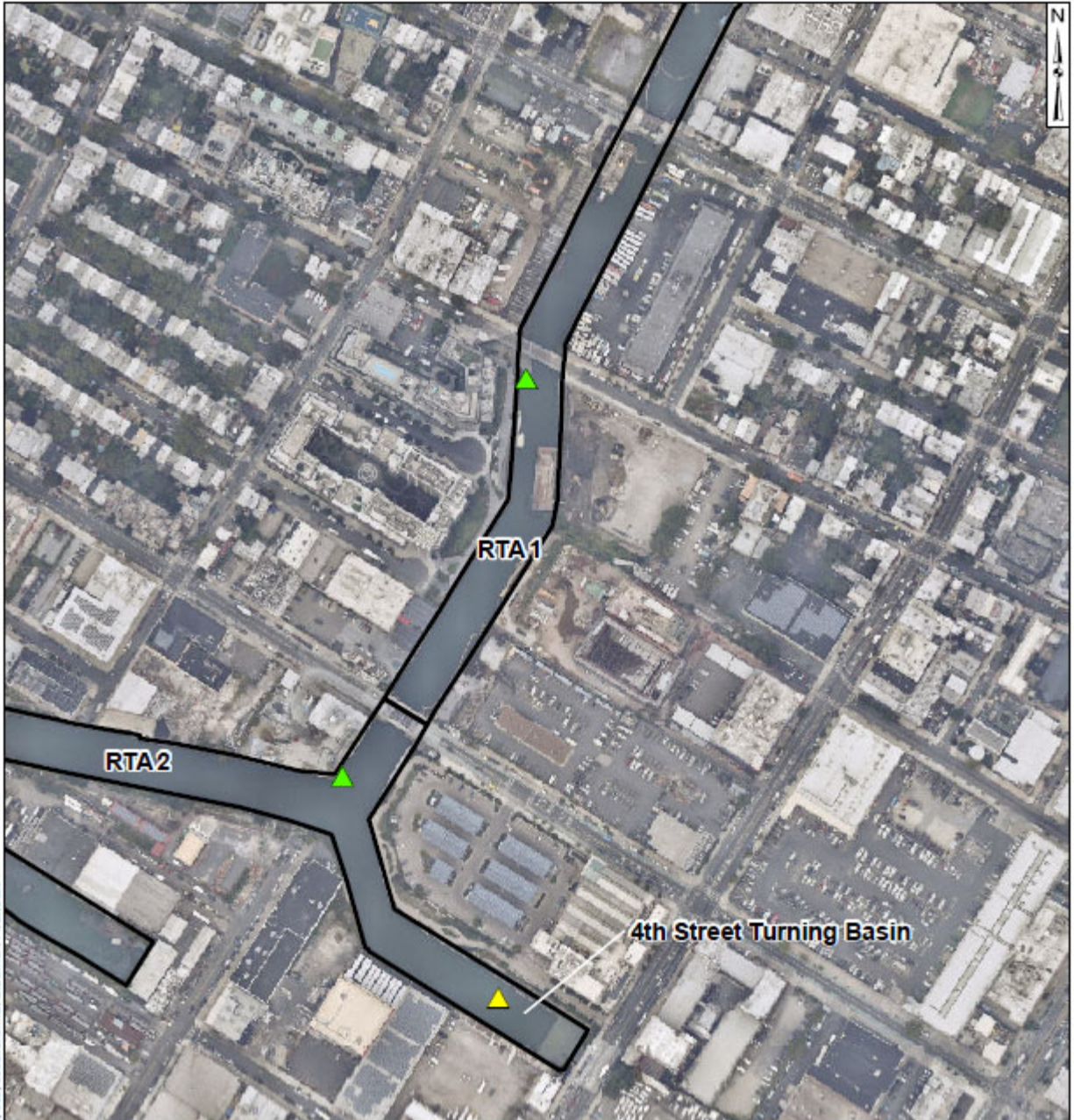
B&B Engineers & Geologists 
of new york, p.c.

an affiliate of Geosyntec Consultants

1255 Roberts Blvd, Suite 200
Kennesaw, GA 30144
Project Number JR0289A

1. SCOPE OF MONITORING

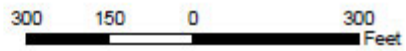
The following report summarizes water quality monitoring data collected during the week of October 18, 2021. In accordance with the Water Quality Monitoring Plan for In-waterway Construction Activities (WQMP) three turbidity buoys were deployed to monitor turbidity at the start of dredging between Carroll Street Bridge and 3rd Street Bridge. One turbidity buoy was deployed just south of the 3rd Street Bridge outside of the air curtain and traditional turbidity curtain. This buoy is referred to as the 3rd Street Sentinel Buoy. A second turbidity buoy was deployed just south of the Carroll Street Bridge and is referred to as the Carroll Street Sentinel Buoy. The third turbidity buoy was deployed in the Fourth Street Turning Basin in order to monitor background turbidity unaffected by in-water construction activities. This turbidity buoy is referred to as the Ambient Buoy. Prior to dredging north of the Union Street Bridge, on January 22, 2021 a fourth turbidity buoy was deployed just south of the Union Street Bridge and is referred to as the Union Street Sentinel Buoy. This fourth turbidity buoy was removed prior to the start of pipe pile installation. On Wednesday, September 22, 2021, the Carroll Street Sentinel Buoy was relocated to the west side of the canal where Degraw Street intersects the canal to monitor cofferdam removal activities conducted in the vicinity of the Flushing Tunnel. This buoy was renamed the Degraw Street Sentinel Buoy during cofferdam removal activities. On October 14, 2021, the Degraw Street Sentinel Buoy was removed from the canal for servicing. On October 20, 2021, the Degraw Street Sentinel Buoy was redeployed to its position south of the Carroll Street Bridge and was renamed to the Carroll Street Sentinel Buoy. A map indicating the approximate locations of the turbidity buoys during this reporting period is provided in **Figure 1**. Each turbidity buoy was equipped with a YSI EXO3 water quality meter with optical turbidity sensor. The buoys were field calibrated and programmed such that readings were collected every 15 minutes. After each measurement, the turbidity data were transmitted to a File Transfer Portal (FTP) site via telemetry. This report presents a summary of turbidity data collected from the ambient and sentinel buoys between 7 AM and 6 PM each day during the week of September 20. Daily turbidity data tables are provided in **Appendix A**. No handheld measurements were collected during this reporting period. Visual observations of turbidity and sheen are summarized in Section 4.



C:\Users\jw\OneDrive\Documents\Projects\Gowanus Canal\Turbidity Buoy Locations.mxd; 01/17/2021

Legend

- ▲ Ambient Buoy
- ▲ Sentinel Buoy
- RTA Boundary



Turbidity Buoy Locations

Gowanus Canal, Brooklyn, NY

B&B Engineers & Geologists
of new york, p.c.

an affiliate of Geosyntec Consultants

Kennesaw, GA

February 2021

Figure

1

2. REPORT OF EXCEEDANCES

An exceedance of the quantitative trigger criterion occurred on October 20, 2021 between 12:00 PM and 2:15 PM. No exceedance of the action criteria occurred during the reporting period.

- **Trigger criterion** – Any of the following:
 - The rolling average of the relevant 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 and in-waterway construction activities cannot be immediately excluded as the source following consultation with EPA; or
 - Either an oil sheen or a turbidity plume is visually observed at the relevant sentinel buoy and in-waterway construction activities are readily identified as the source.
- **Action criterion** – Any of the following:
 - The rolling average of the turbidity measurements of the sentinel buoy outside of RTA1 over a one-hour period exceeds the rolling average of the ambient buoy turbidity measurements by 40 NTU excluding any eliminated outlier measurements and in-waterway construction activities cannot be immediately excluded as the source following consultation with EPA; or
 - Either an oil sheen or a turbidity plume is visually observed outside of RTA1 and any deployed engineering controls and in-waterway construction activities are readily identified as the source.

An outlier is defined as a reading that is outside the range of 50 to 200 percent of the average of the three previous readings. In addition, to be considered an outlier, the subsequent reading must return to a range of 75 to 133 percent of the average of the three readings preceding the outlier.

2.1 Response to Criteria Exceedances

The trigger level criterion serves to provide early notification to the contractor of construction activities that may lead to an exceedance of the action level criterion. In the event of an exceedance to the trigger criterion, the contractor will not be stopped, and the contractor will be directed to investigate the source of the exceedance and evaluate Best Management Practices (BMPs). In the event of an exceedance to the action level criterion, in-waterway construction activities may be slowed or temporarily suspended as necessary while the contractor investigates the source of the exceedance and appropriate mitigation and corrective measures are determined. A more detailed description of responses to exceedances of the trigger and action level criteria is provided in Section 4.2 of the WQMP.

On October 20th, 2021 from 12:00 PM to 2:15 PM an exceedance of the trigger criterion occurred as a result of barge movements in preparation for ISS mixing. During this time period, no ISS mixing was occurring. No exceedance to action level criteria were observed during this reporting period.

3. TURBIDITY BUOY DATA

The following section provides turbidity data for the sentinel and ambient turbidity buoys from 7 AM to 6 PM from October 18 - October 22, 2021. On October 18th and October 19th, the Carroll Street Sentinel Buoy was pulled from the Canal for servicing. On October 20th, the Carroll Street Sentinel Buoy was redeployed prior to the start of ISS activities. On October 20th, 2021 from 12:00 PM to 2:15 PM an exceedance of the trigger criterion occurred as a result of barge movements in preparation for ISS mixing. No exceedances of the action level criteria occurred during this reporting period.

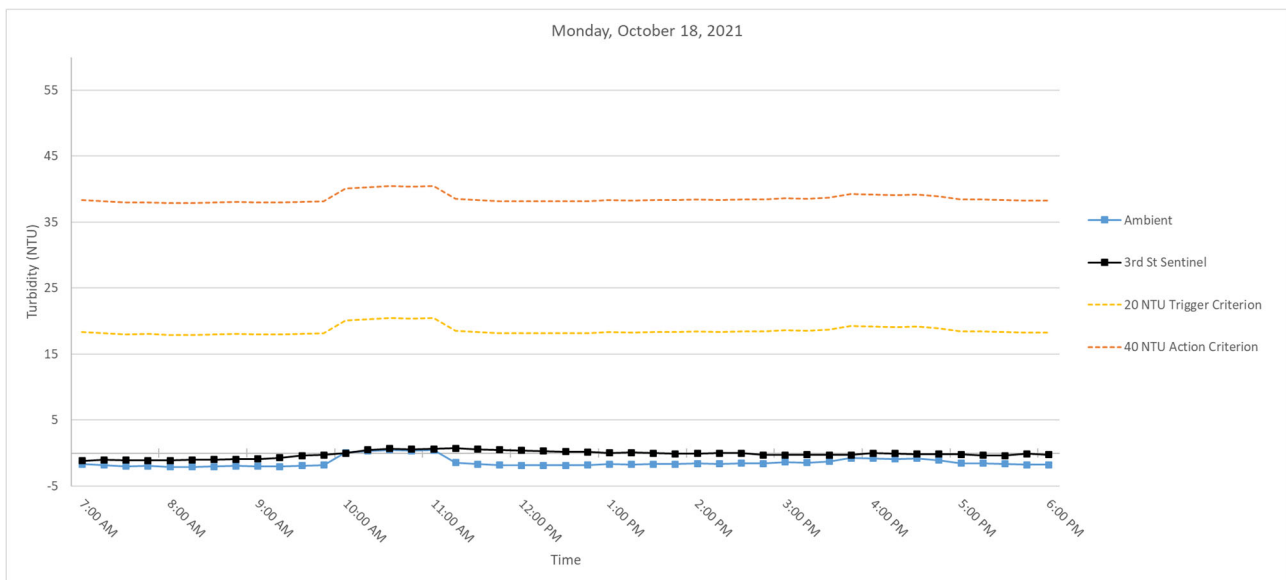
Section 2.1 contains further information on these exceedances. **Table 1** below provides a summary of the turbidity data for the reporting period.

Date	Average Rolling Average Difference (NTU)		Maximum Rolling Average Difference (NTU)	
	3rd St - Ambient	Carroll St - Ambient	3rd St - Ambient	Carroll St - Ambient
Monday, October 18, 2021	1.22	--	2.31	--
Tuesday, October 19, 2021	3.53	--	15.16	--
Wednesday, October 20, 2021	2.90	16.18	6.49	35.13
Thursday, October 21, 2021	2.57	6.70	4.75	8.72
Friday, October 22, 2021	1.88	5.13	4.05	6.51

Table 1. Daily average and maximum differences between the rolling average turbidity readings from RTA1 sentinel buoys and the ambient buoy between 7 AM and 6 PM

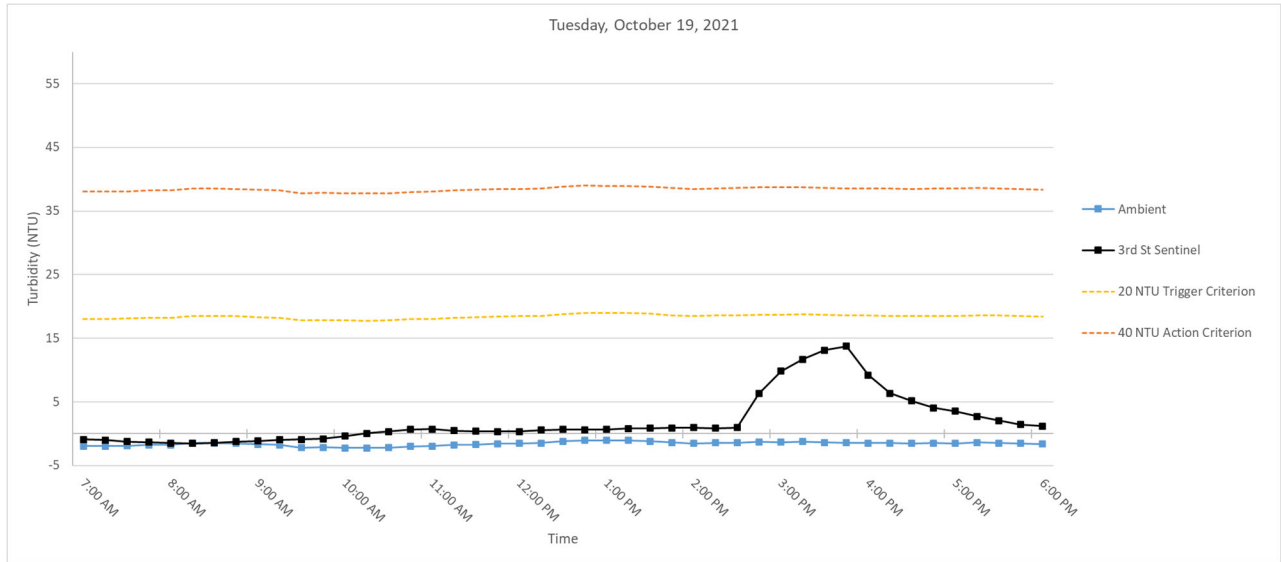
3.1 Monday, October 18, 2021

Figure 2. Hourly rolling average turbidity readings on Monday, October 18, 2021 from 7 AM to 6 PM.



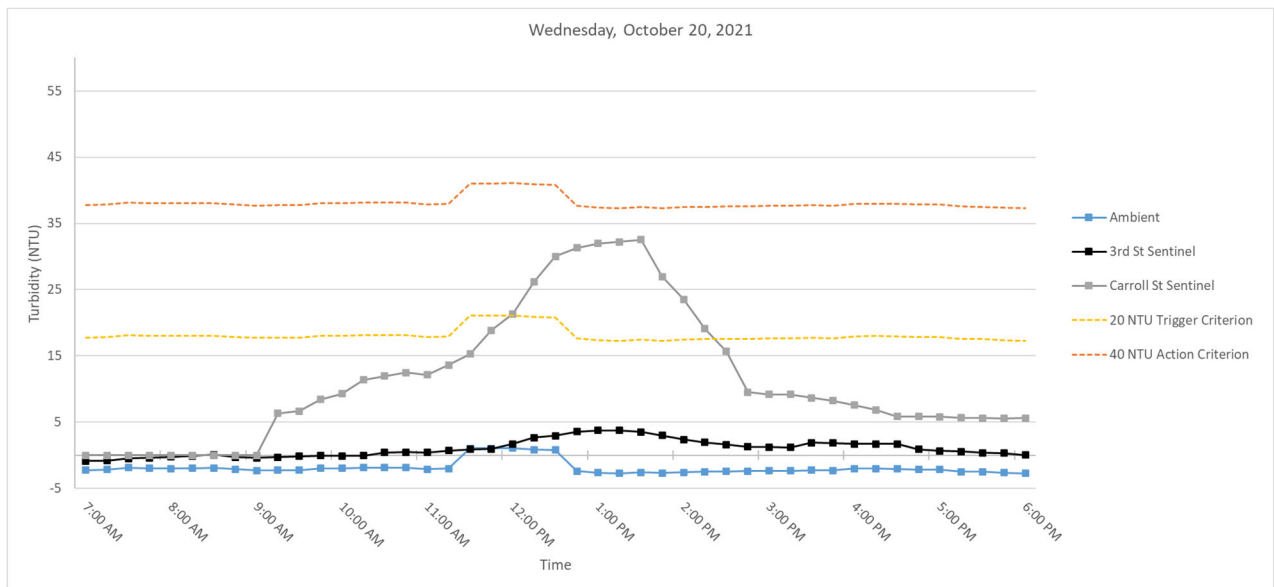
3.2 Tuesday, October 19, 2021

Figure 3. Hourly rolling average turbidity readings on Tuesday, October 19, 2021 from 7 AM to 6 PM.



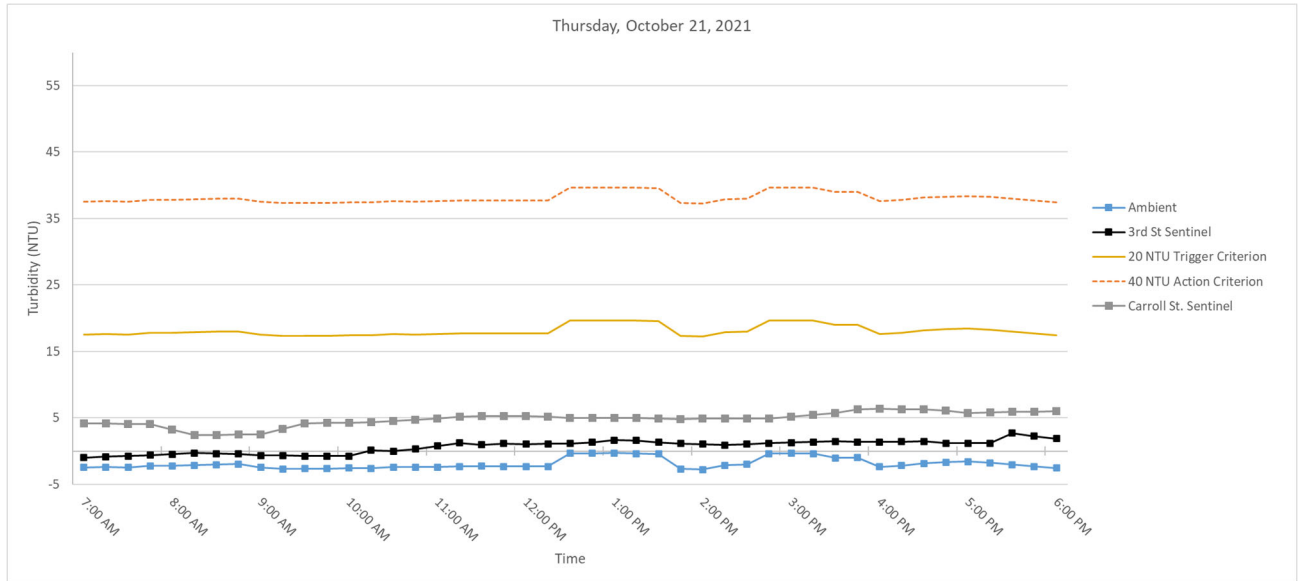
3.3 Wednesday, October 20, 2021

Figure 4. Hourly rolling average turbidity readings on Wednesday, October 20, 2021 from 7 AM to 6 PM.



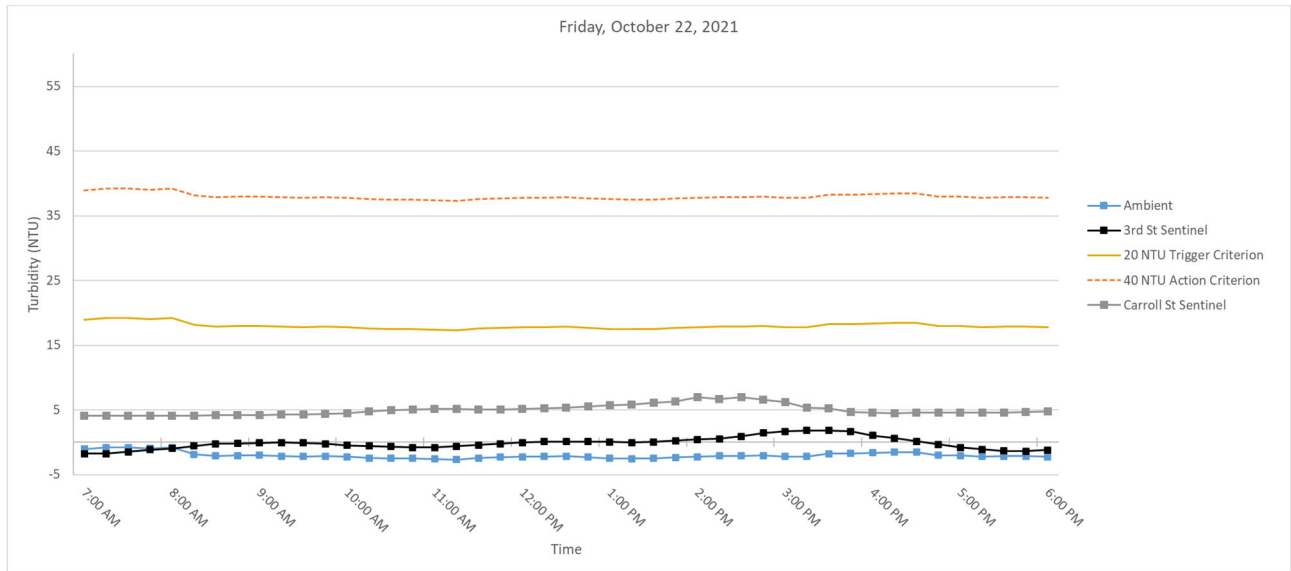
3.4 Thursday, October 21, 2021

Figure 5. Hourly rolling average turbidity readings on Thursday, October 21, 2021 from 7 AM to 6 PM.



3.5 Friday, October 22, 2021

Figure 6. Hourly rolling average turbidity readings on Friday, October 22, 2021 from 7 AM to 6 PM.



SUMMARY OF VISUAL OBSERVATIONS

No sheen above background conditions attributable to in-waterway construction activities was observed during this reporting period.

APPENDIX A
Turbidity Data Tables

Monday, October 18, 2021

Time	Turbidity (NTU)		Rolling Average Turbidity (NTU)		Difference (NTU)
	Ambient	3rd Street	Ambient	3rd Street	3rd St - Ambient
7:00:00	-2.01	-1.15	-1.67	-1.17	0.51
7:15:00	-2.37	-0.92	-1.82	-1.04	0.78
7:30:00	-2.31	-1.15	-1.99	-1.07	0.92
7:45:00	-1.89	-1.2	-1.96	-1.12	0.84
8:00:00	-1.92	-1.06	-2.10	-1.10	1.00
8:15:00	-1.93	-0.75	-2.08	-1.02	1.07
8:30:00	-2.11	-0.75	-2.03	-0.98	1.05
8:45:00	-1.93	-0.84	-1.96	-0.92	1.04
9:00:00	-2.05	-1.12	-1.99	-0.90	1.08
9:15:00	-2.09	0.04	-2.02	-0.68	1.34
9:30:00	-1.23	0.83	-1.88	-0.37	1.51
9:45:00	-1.78	--	-1.82	-0.27	1.54
10:00:00	7.63	0.25	0.10	0.00	-0.10
10:15:00	-0.95	0.81	0.32	0.48	0.17
10:30:00	-1.25	0.83	0.48	0.68	0.20
10:45:00	-1.77	0.47	0.38	0.59	0.21
11:00:00	-1.39	0.71	0.45	0.61	0.16
11:15:00	-1.91	0.72	-1.45	0.71	2.16
11:30:00	-2.07	0.17	-1.68	0.58	2.26
11:45:00	-1.9	0.42	-1.81	0.50	2.31
12:00:00	-1.98	-0.05	-1.85	0.39	2.24
12:15:00	-1.44	0.33	-1.86	0.32	2.18
12:30:00	-1.82	0.29	-1.84	0.23	2.07
12:45:00	-1.84	-0.12	-1.80	0.17	1.97
13:00:00	-1.26	-0.24	-1.67	0.04	1.71
13:15:00	-2.31	--	-1.73	0.07	1.80
13:30:00	-1.17	0.03	-1.68	-0.01	1.67
13:45:00	-1.76	--	-1.67	-0.11	1.56
14:00:00	-1.36	-0.03	-1.57	-0.08	1.49
14:15:00	-1.46	--	-1.61	0.00	1.61
14:30:00	-1.9	-0.09	-1.53	-0.03	1.50
14:45:00	-1.4	-0.8	-1.58	-0.31	1.27
15:00:00	-0.6	--	-1.34	-0.31	1.04
15:15:00	-1.73	0.15	-1.42	-0.25	1.17
15:30:00	-0.6	-0.37	-1.25	-0.28	0.97
15:45:00	0.7	-0.16	-0.73	-0.30	0.43
16:00:00	-1.8	0.29	-0.81	-0.02	0.78
16:15:00	-1.08	-0.19	-0.90	-0.06	0.85
16:30:00	-1.15	-0.34	-0.79	-0.15	0.63
16:45:00	-2.03	-0.34	-1.07	-0.15	0.92
17:00:00	-1.69	-0.47	-1.55	-0.21	1.34
17:15:00	-1.62	-0.33	-1.51	-0.33	1.18
17:30:00	-1.61	-0.32	-1.62	-0.36	1.26
17:45:00	-1.88	0.9	-1.77	-0.11	1.65
18:00:00	-2.02	-1.02	-1.76	-0.25	1.52

Tuesday, October 19, 2021

Time	Turbidity (NTU)		Rolling Average Turbidity (NTU)		Difference (NTU)
	Ambient	3rd Street	Ambient	3rd Street	3rd St - Ambient
7:00:00	-1.87	-1.28	-1.95	-0.90	1.05
7:15:00	-1.96	-1.48	-1.96	-1.02	0.94
7:30:00	-1.93	-1.95	-1.92	-1.25	0.67
7:45:00	-1.52	-1.3	-1.77	-1.32	0.46
8:00:00	-1.55	-1.45	-1.77	-1.49	0.27
8:15:00	-0.47	-1.33	-1.49	-1.50	-0.02
8:30:00	-1.93	-1.03	-1.48	-1.41	0.07
8:45:00	-2.24	-1.05	-1.54	-1.23	0.31
9:00:00	-2.23	-0.86	-1.68	-1.14	0.54
9:15:00	-2.04	-0.47	-1.78	-0.95	0.83
9:30:00	-2.5	-1.21	-2.19	-0.92	1.26
9:45:00	-1.75	-0.51	-2.15	-0.82	1.33
10:00:00	-2.58	1.12	-2.22	-0.39	1.83
10:15:00	-2.26	1.29	-2.23	0.04	2.27
10:30:00	-1.84	0.91	-2.19	0.32	2.51
10:45:00	-1.66	0.57	-2.02	0.68	2.69
11:00:00	-1.51	-0.41	-1.97	0.70	2.67
11:15:00	-1.53	0.09	-1.76	0.49	2.25
11:30:00	-1.95	0.83	-1.70	0.40	2.10
11:45:00	-1.3	0.64	-1.59	0.34	1.93
12:00:00	-1.35	0.62	-1.53	0.35	1.88
12:15:00	-1.25	0.62	-1.48	0.56	2.04
12:30:00	-0.1	0.61	-1.19	0.66	1.85
12:45:00	-1.18	0.56	-1.04	0.61	1.65
13:00:00	-1.35	1.02	-1.05	0.69	1.73
13:15:00	-1.4	1.26	-1.06	0.81	1.87
13:30:00	-1.81	0.82	-1.17	0.85	2.02
13:45:00	-1.25	0.77	-1.40	0.89	2.28
14:00:00	-1.78	0.88	-1.52	0.95	2.47
14:15:00	-1	0.69	-1.45	0.88	2.33
14:30:00	-1.23	1.74	-1.41	0.98	2.39
14:45:00	-1.13	27.51	-1.28	6.32	7.60
15:00:00	-1.47	18.39	-1.32	9.84	11.16
15:15:00	-1.42	10.06	-1.25	11.68	12.93
15:30:00	-1.57	7.85	-1.36	13.11	14.47
15:45:00	-1.54	4.85	-1.43	13.73	15.16
16:00:00	-1.3	4.95	-1.46	9.22	10.68
16:15:00	-1.66	4.15	-1.50	6.37	7.87
16:30:00	-1.63	4.03	-1.54	5.17	6.71
16:45:00	-1.2	2.2	-1.47	4.04	5.50
17:00:00	-1.71	2.25	-1.50	3.52	5.02
17:15:00	-0.77	1.02	-1.39	2.73	4.12
17:30:00	-1.96	0.69	-1.45	2.04	3.49
17:45:00	-1.98	1.04	-1.52	1.44	2.96
18:00:00	-1.68	0.99	-1.62	1.20	2.82

Wednesday, October 20, 2021

Time	Turbidity (NTU)			Rolling Average Turbidity (NTU)				Difference (NTU)		
	Ambient	3rd Street	Carroll Street	Ambient	3rd Street	Carroll Street	Union Street	3rd St - Ambient	Carroll St - Ambient	Union St - Ambient
7:00:00	-2.54	-1.54	--	-2.22	-0.87	--	--	1.35	--	--
7:15:00	-2.3	-1.28	--	-2.16	-0.82	--	--	1.34	--	--
7:30:00	-1.43	1.57	--	-1.88	-0.48	--	--	1.40	--	--
7:45:00	-1.59	0.01	--	-1.96	-0.39	--	--	1.57	--	--
8:00:00	-2.07	-0.06	--	-1.99	-0.26	--	--	1.73	--	--
8:15:00	-2.39	-0.64	7.29	-1.96	-0.08	7.29	--	1.88	9.25	--
8:30:00	-2.13	-0.38	7.32	-1.92	0.10	7.31	--	2.02	9.23	--
8:45:00	-2.42	-0.33	4.93	-2.12	-0.28	6.51	--	1.84	8.63	--
9:00:00	-2.4	-0.49	5.25	-2.28	-0.38	6.20	--	1.90	8.48	--
9:15:00	-1.86	0.45	6.86	-2.24	-0.28	6.33	--	1.96	8.57	--
9:30:00	-2.48	-0.1	9.09	-2.26	-0.17	6.69	--	2.09	8.95	--
9:45:00	-0.59	0.11	15.94	-1.95	-0.07	8.41	--	1.88	10.36	--
10:00:00	-2.42	-0.58	--	-1.95	-0.12	9.29	--	1.83	11.24	--
10:15:00	-2.08	-0.14	13.73	-1.89	-0.05	11.41	--	1.83	13.29	--
10:30:00	-1.71	2.83	9.08	-1.86	0.42	11.96	--	2.28	13.82	--
10:45:00	-2.59	0.16	11.25	-1.88	0.48	12.50	--	2.35	14.38	--
11:00:00	-1.8	-0.07	14.57	-2.12	0.44	12.16	--	2.56	14.28	--
11:15:00	-1.91	--	19.54	-2.02	0.70	13.63	--	2.71	15.65	--
11:30:00	13.22	0.76	22.02	1.04	0.92	15.29	--	-0.12	14.25	--
11:45:00	-1.68	2.96	27.02	1.05	0.95	18.88	--	-0.10	17.83	--
12:00:00	-2.26	3.29	23.65	1.11	1.74	21.36	--	0.62	20.25	--
12:15:00	-3.02	3.6	38.6	0.87	2.65	26.17	--	1.78	25.30	--
12:30:00	-2.19	4.22	38.84	0.81	2.97	30.03	--	2.15	29.21	--
12:45:00	-2.69	3.74	28.37	-2.37	3.56	31.30	--	5.93	33.66	--
13:00:00	-2.94	3.93	30.33	-2.62	3.76	31.96	--	6.38	34.58	--
13:15:00	-2.69	3.43	25.03	-2.71	3.78	32.23	--	6.49	34.94	--
13:30:00	-2.31	2.36	40.24	-2.56	3.54	32.56	--	6.10	35.13	--
13:45:00	-2.84	1.42	10.81	-2.69	2.98	26.96	--	5.67	29.65	--
14:00:00	-2.03	0.65	11.23	-2.56	2.36	23.53	--	4.92	26.09	--
14:15:00	-2.54	1.96	8.14	-2.48	1.96	19.09	--	4.45	21.57	--
14:30:00	-2.37	--	8.06	-2.42	1.60	15.70	--	4.02	18.11	--
14:45:00	-2.2	1.14	9.29	-2.40	1.29	9.51	--	3.69	11.90	--
15:00:00	-2.52	1.21	9.3	-2.33	1.24	9.20	--	3.57	11.54	--
15:15:00	-1.98	0.48	11.13	-2.32	1.20	9.18	--	3.52	11.51	--
15:30:00	-2.12	4.72	5.64	-2.24	1.89	8.68	--	4.13	10.92	--
15:45:00	-2.7	1.69	5.82	-2.30	1.85	8.24	--	4.15	10.54	--
16:00:00	-0.78	0.58	5.99	-2.02	1.74	7.58	--	3.76	9.60	--
16:15:00	-2.46	1.05	5.76	-2.01	1.70	6.87	--	3.71	8.88	--
16:30:00	-2.28	0.45	5.98	-2.07	1.70	5.84	--	3.77	7.91	--
16:45:00	-2.46	0.67	5.63	-2.14	0.89	5.84	--	3.02	7.97	--
17:00:00	-2.8	--	5.63	-2.16	0.69	5.80	--	2.84	7.95	--
17:15:00	-2.34	0.02	5.34	-2.47	0.55	5.67	--	3.02	8.14	--
17:30:00	-2.53	--	5.53	-2.48	0.38	5.62	--	2.86	8.10	--
17:45:00	-2.94	0.25	5.79	-2.61	0.31	5.58	--	2.93	8.20	--
18:00:00	-3.05	-0.14	5.83	-2.73	0.04	5.62	--	2.78	8.36	--

Thursday, October 21, 2021

Time	Turbidity (NTU)			Rolling Average Turbidity (NTU)			Difference (NTU)	
	Ambient	3rd Street	Carroll Street	Ambient	3rd Street	Carroll Street	3rd St - Ambient	Carroll St - Ambient
7:00:00	-2.72	-1.49	4.12	-2.44	-0.99	4.16	1.44	6.60
7:15:00	-2.74	-0.34	3.95	-2.42	-0.86	4.14	1.56	6.56
7:30:00	-2.82	-0.3	3.91	-2.46	-0.73	4.07	1.74	6.53
7:45:00	-0.44	0.19	4.08	-2.22	-0.60	4.05	1.62	6.26
8:00:00	-2.45	-0.5	0	-2.23	-0.49	3.21	1.75	5.45
8:15:00	--	-0.42	0	-2.11	-0.27	2.39	1.84	4.50
8:30:00	-2.47	-0.77	4.25	-2.05	-0.36	2.45	1.69	4.49
8:45:00	-2.51	-0.65	4.25	-1.97	-0.43	2.52	1.54	4.48
9:00:00	-2.45	-0.85	4.11	-2.47	-0.64	2.52	1.83	4.99
9:15:00	-3.24	--	4.06	-2.67	-0.67	3.33	2.00	6.00
9:30:00	-2.53	--	4.23	-2.64	-0.76	4.18	1.88	6.82
9:45:00	-2.46	-0.73	4.4	-2.64	-0.74	4.21	1.89	6.85
10:00:00	-2.14	-0.64	4.29	-2.56	-0.74	4.22	1.82	6.78
10:15:00	-2.58	1.79	4.71	-2.59	0.14	4.34	2.73	6.93
10:30:00	-2.29	-0.45	5.11	-2.40	-0.01	4.55	2.39	6.95
10:45:00	-2.68	1.66	5.23	-2.43	0.33	4.75	2.76	7.18
11:00:00	-2.38	1.5	5.01	-2.41	0.77	4.87	3.19	7.28
11:15:00	-1.64	1.73	6.04	-2.31	1.25	5.22	3.56	7.53
11:30:00	-2.45	0.32	5.17	-2.29	0.95	5.31	3.24	7.60
11:45:00	-2.47	0.49	4.9	-2.32	1.14	5.27	3.46	7.59
12:00:00	-2.62	1.19	5.06	-2.31	1.05	5.24	3.36	7.55
12:15:00	-2.39	1.82	4.91	-2.31	1.11	5.22	3.42	7.53
12:30:00	8.21	1.77	4.98	-0.34	1.12	5.00	1.46	5.35
12:45:00	-2.29	1.28	5.03	-0.31	1.31	4.98	1.62	5.29
13:00:00	-2.45	2.23	5.01	-0.31	1.66	5.00	1.97	5.31
13:15:00	-2.93	0.85	4.79	-0.37	1.59	4.94	1.96	5.31
13:30:00	-2.75	0.49	4.73	-0.44	1.32	4.91	1.77	5.35
13:45:00	-2.91	0.83	4.68	-2.67	1.14	4.85	3.80	7.51
14:00:00	-2.75	0.75	5.06	-2.76	1.03	4.85	3.79	7.61
14:15:00	0.75	1.54	5	-2.12	0.89	4.85	3.01	6.97
14:30:00	-2.26	1.66	4.85	-1.98	1.05	4.86	3.04	6.85
14:45:00	5.36	1.25	5.12	-0.36	1.21	4.94	1.57	5.30
15:00:00	-2.69	1.15	5.83	-0.32	1.27	5.17	1.59	5.49
15:15:00	-2.96	1.18	6.34	-0.36	1.36	5.43	1.72	5.79
15:30:00	-2.52	2.06	6.68	-1.01	1.46	5.76	2.47	6.78
15:45:00	-2.07	1.28	7.43	-0.98	1.38	6.28	2.36	7.26
16:00:00	-1.59	1.17	5.51	-2.37	1.37	6.36	3.73	8.72
16:15:00	-1.86	1.32	5.62	-2.20	1.40	6.32	3.60	8.52
16:30:00	-1.26	--	6.1	-1.86	1.46	6.27	3.32	8.13
16:45:00	-1.65	1.04	5.75	-1.69	1.20	6.08	2.89	7.77
17:00:00	-1.62	--	5.74	-1.60	1.18	5.74	2.77	7.34
17:15:00	-2.48	1.18	5.83	-1.77	1.18	5.81	2.95	7.58
17:30:00	-3.13	5.96	6.11	-2.03	2.73	5.91	4.75	7.93
17:45:00	-2.71	0.82	6.1	-2.32	2.25	5.91	4.57	8.22
18:00:00	-2.82	-0.53	6.1	-2.55	1.86	5.98	4.41	8.53

Friday, October 22, 2021

Time	Turbidity (NTU)			Rolling Average Turbidity (NTU)			Difference (NTU)	
	Ambient	3rd Street	Carroll Street	Ambient	3rd Street	Carroll Street	3rd St - Ambient	Carroll St - Ambient
7:00:00	3.39	-1.74	3.92	-1.06	-1.75	4.13	-0.69	5.87
7:15:00	-1.31	-1.89	4.03	-0.80	-1.75	4.10	-0.95	5.85
7:30:00	-2.2	-0.19	4.22	-0.82	-1.49	4.10	-0.67	5.58
7:45:00	-2.39	-0.37	4.03	-0.94	-1.16	4.07	-0.22	5.23
8:00:00	-1.62	-0.45	4.09	-0.83	-0.93	4.06	-0.10	4.99
8:15:00	-1.82	0.04	4.22	-1.87	-0.57	4.12	1.30	4.69
8:30:00	-2.4	--	4.36	-2.09	-0.24	4.18	1.84	4.43
8:45:00	-2.05	0.09	4.19	-2.06	-0.17	4.18	1.88	4.35
9:00:00	-2.03	--	4.28	-1.98	-0.11	4.23	1.88	4.33
9:15:00	-2.39	-0.22	4.26	-2.14	-0.03	4.26	2.11	4.29
9:30:00	-2.02	-0.11	4.24	-2.18	-0.08	4.27	2.10	4.35
9:45:00	-2.24	-0.59	4.73	-2.15	-0.21	4.34	1.94	4.55
10:00:00	-2.44	-0.89	5.03	-2.22	-0.45	4.51	1.77	4.96
10:15:00	-3.13	-0.99	5.47	-2.44	-0.56	4.75	1.88	5.31
10:30:00	-2.49	-0.75	5.11	-2.46	-0.67	4.92	1.80	5.58
10:45:00	-2.04	-0.75	5.11	-2.47	-0.79	5.09	1.67	5.88
11:00:00	-2.79	-0.54	4.87	-2.58	-0.78	5.12	1.79	5.90
11:15:00	-2.8	0.06	5.03	-2.65	-0.59	5.12	2.06	5.71
11:30:00	-2.07	-0.07	4.97	-2.44	-0.41	5.02	2.03	5.43
11:45:00	-1.76	0.22	5.22	-2.29	-0.22	5.04	2.08	5.26
12:00:00	-1.85	0.22	5.66	-2.25	-0.02	5.15	2.23	5.17
12:15:00	-2.49	--	5.23	-2.19	0.11	5.22	2.30	5.11
12:30:00	-2.67	0.09	5.61	-2.17	0.12	5.34	2.28	5.22
12:45:00	-2.77	-0.09	5.76	-2.31	0.11	5.50	2.42	5.39
13:00:00	-2.51	--	6.14	-2.46	0.07	5.68	2.53	5.61
13:15:00	-2.26	-0.07	6.44	-2.54	-0.02	5.84	2.52	5.86
13:30:00	-2.11	0.33	6.55	-2.46	0.07	6.10	2.53	6.04
13:45:00	-2.05	0.83	6.69	-2.34	0.25	6.32	2.59	6.07
14:00:00	-2.16	0.58	8.8	-2.22	0.42	6.92	2.64	6.51
14:15:00	-1.95	0.97	5.1	-2.11	0.53	6.72	2.63	6.19
14:30:00	-2.11	1.76	7.63	-2.08	0.89	6.95	2.97	6.06
14:45:00	-2.01	3	4.91	-2.06	1.43	6.63	3.48	5.20
15:00:00	-2.75	2.18	4.61	-2.20	1.70	6.21	3.89	4.51
15:15:00	-2.23	1.28	4.27	-2.21	1.84	5.30	4.05	3.47
15:30:00	0.29	0.98	4.71	-1.76	1.84	5.23	3.60	3.39
15:45:00	-1.96	0.98	4.71	-1.73	1.68	4.64	3.42	2.96
16:00:00	-1.34	0	4.46	-1.60	1.08	4.55	2.68	3.47
16:15:00	-2.35	0	4.4	-1.52	0.65	4.51	2.17	3.86
16:30:00	-2.26	-1.27	4.61	-1.52	0.14	4.58	1.66	4.44
16:45:00	-2.19	-1.46	4.64	-2.02	-0.35	4.56	1.67	4.91
17:00:00	-2.19	-1.21	4.79	-2.07	-0.79	4.58	1.28	5.37
17:15:00	-1.96	-1.5	4.52	-2.19	-1.09	4.59	1.10	5.68
17:30:00	-2.04	-1.17	4.55	-2.13	-1.32	4.62	0.81	5.94
17:45:00	-2.41	-1.62	4.67	-2.16	-1.39	4.63	0.77	6.03
18:00:00	-2.61	-0.34	5.23	-2.24	-1.17	4.75	1.07	5.92