Water Quality Monitoring Plan
Annual Monitoring Report
2013 Monitoring Activities
for the
New NY Bridge Project

Revision 0
January 31, 2014

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Document History			
Issue Date	**Description**	**By**	**Revision**
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1.0 Introduction

This report summarizes the results of water quality monitoring for fender removal, dredging, armoring, bottom profiling, cofferdam construction, pile driving and production pile driving in Zone C, in accordance with New York State Department of Environmental Conservation Permit DEC ID 3-9903-00043/00012 (NYSDEC Permit) Condition 65.

1.1 Permit Modifications

The New York State Thruway Authority (NYSTA) and Tappan Zee Constructors, LLC (TZC) received the following modifications to the NYSDEC Permit during 2013:

- August 6, 2013 – Permit Condition 60: (iii) requires the collection of whole water samples in the vertical water column (from at least three depths in waters greater than 20 feet deep, from two depths in waters between 10 and 20 feet deep and at mid-depth in waters less than 10 feet deep) along a transect in the plume;
- August 6, 2013 – Permit Condition 61: Modified the water quality standard for dissolved copper from 3.4 µg/L to 5.6 µg/L.
- October 21, 2013 – Permit Condition 27A: For the remaining dredging that is conducted in calendar year 2013, only, the overlying water in the barge may be pumped to the water column after 12 hours of settling.

2.0 Monitored Construction Activities

2.1 Fender Removal

Fender removal commenced on June 25, 2013 and ended on July 18, 2013. Fender removal activities were scheduled for 4 days a week, 10 hours per day during this period. Fender removal operations were performed by Trevcon Construction Company, Inc. (TCC) as subcontractor to TZC.

2.2 Cofferdam Construction

Cofferdam construction commenced on October 1, 2013 and ended on December 16, 2013. Construction was scheduled for 4 days a week, 10 hours per day during this period. Cofferdams were constructed about the footprints of Piers 39WB (westbound), 40WB, 41WB, and 42 WB. Cofferdam construction was performed by TCC as subcontractor to TZC. None of the cofferdams constructed during 2013 were dewatered.

2.3 Pile Driving (Platforms)

The Westchester temporary north trestle (platform) construction commenced on May 10, 2013 and is ongoing. Temporary platform construction was scheduled to occur 4 days a week 10

hours per day during this period. Temporary platform construction operations were performed by TCC as subcontractor to TZC.

The Rockland temporary north trestle and permanent platform construction commenced on September 10, 2013 and is ongoing. Platform construction is scheduled to occur 5 days a week, 8 hours per day during this period. Rockland platform construction is being performed by TZC.

2.4 Dredging and Decanting

Dredging commenced on August 2, 2013 and ended on October 31, 2013. Dredging was scheduled to occur 7 days a week, 24 hours per day. Dredging was performed by Weeks Marine Inc. (WMI) as subcontractor to TZC.

Decanting of dredged material prior to transport to upland placement facilities commenced on August 2, 2013 and ended on October 31, 2013. Decanting activities were scheduled to occur when necessary during dredging.

2.5 Bottom Profiling and Armoring

Bottom profiling with a specific-use drag barge commenced on October 21, 2013 and finished on October 31, 2013. Bottom profiling was scheduled to occur 24/7 Monday through Saturday on an as-needed basis. Armoring commenced on October 24, 2013 and is scheduled to continue through Spring 2014. Armoring is scheduled to occur 6 days a week (Monday through Saturday), 10 hours per day during this period. Armoring was completed by WMI. The East Dredge Area was armored from October 24, 2013 to December 10, 2013; armoring the West Dredge Area began December 12, 2013 and is still in progress.

2.6 Production Pile Driving in Zone C

Production Pile Driving in Zone C (pile driving) commenced on October 10, 2013 and is scheduled to continue through 2014. Pile driving is scheduled to occur between 7AM to 7PM from Monday through Friday and from 12PM to 7PM on Saturday during this period. Pile driving was performed by TZC using two barge-based cranes.

3.0 Water Quality Monitoring Activities

Water quality monitoring was performed in accordance with the Water Quality Monitoring Plan (Plan) through-out 2013. Visual monitoring was performed by observation from TZC field engineers, supervisors, and superintendents trained to monitor for turbidity that results in a substantial visible contrast to the Hudson River, in accordance with the NYSDEC Permit and Environmental Compliance Plan, and through periodic checks by Environmental Compliance Team (ECT) staff. In addition, the vessel-based water quality monitoring crew routinely inspected all in-water activities occurring on a given day.

Due to logistical (e.g., dredge scow availability) and equipment mechanical issues, there were multiple days or tides when construction activities did not occur such that water quality samples were not collected. High winds and severe weather suspended water quality monitoring on 1 day (August 8, 2013) during dredging and 3 days (November 1, November 8, and December 5, 2013) during armoring activities.

4.0 Results

During 2013, there were no observations of turbidity resulting in substantial visible contrasts from ambient conditions to the Hudson River from cofferdam installation or pile driving associated with platform construction. Also, there were no observations of turbidity resulting in substantial visible contrasts from ambient conditions to the Hudson River outside of the 500-foot mixing zone from dredging or bottom profiling.

A substantial visible contrast from ambient conditions to the Hudson River outside of the 500-foot mixing zone was observed during vessel-based monitoring of armoring on October 28, 2013. Additionally, five occurrences of visible plumes were observed in the vicinity of the armoring operation between October 24 and October 31, 2013. Based on the available reporting guidance and ongoing discussions with NYSDEC, these observations were recorded as visible plumes from the armoring operation. Based on field instrumentation data, TSS samples were collected on those days from within the observed plume. Analytical results showed that all samples collected were within permit limits. As a result of the observations, WMI extended the discharge tube a minimum of four feet below the water surface which reduced turbidity. This change was documented in the *Tappan Zee Hudson River Crossing Armor Placement Plan, Revision 5*. During this time there were no reported exceedances for TSS or contaminants (Attachment 3).

Analytical results of whole water sample collections are summarized in Table 1 and described below. There were no exceedances of the permit limits for dissolved lead, dissolved zinc, PBCs, naphthalene, and benzo(a)pyrene. During the 2013 water quality monitoring program, 96% of the 698 samples collected were reported at concentrations below the water quality limits as set forth in NYSDEC Permit Condition 61 (Table 1).

Table 1. Construction Activity Whole Water Sample Exceedances

Construction Activity	No. of Samples	Exceedances	Percent of Samples Under Permit Limits
Fender Removal	66	5	92%
Dredging	338	11	97%
Decanting	120	1	99%
Bottom Profiling	14	1	93%
Armoring	110	4	96%
Pile Driving	50	4	92%
Total	**698**	**26**	**96%**

4.1 Fender Removal

Attachment 1 provides a summary of the water quality monitoring for fender removal. TZC collected 66 whole water quality samples over 15 days during fender removal. Water quality monitoring results indicate that there were no water quality exceedances for 10 of the 15 days sampled (Attachment 1).

There were five permit limit exceedances during the 2013 fender removal. The total suspended solids (TSS) permit limit was exceeded in one sample, the dissolved copper limit was exceeded in one sample, the dissolved nickel limit was exceeded in one sample, and the total mercury limit was exceeded in two samples collected on the same day (exceedances were reported at two depths). Table 2Table **2.** Reported Exceedances during the 2013 Fender Removal below provides a summary of reported exceedances for fender removal.

Table 2. Reported Exceedances during the 2013 Fender Removal

Date (mm/dd/yy)	Tide Cycle	Depth of Sample	Water Quality Analyte	Permit Limit	Up-current concentration	Down-current concentration
06/25/13	Ebb	Surface	Total Mercury	0.0007 ppb	ND	0.1 ppb
06/25/13	Ebb	Bottom	Total Mercury	0.0007 ppb	ND	0.1 ppb
06/26/13	Flood	Surface	Dissolved Copper	5.6 ppb	ND	5.8 ppb
07/01/13	Ebb	Bottom	TSS	<100ppm above ambient	25.6 ppm	371 ppm
07/10/13	Flood	Surface	Dissolved Nickel	8.2 ppb	ND	11 ppb

ND = Not detected

Fender removal was the first activity monitored for water quality in 2013. As seen in Table 2, exceedances for total mercury, dissolved copper, and TSS were reported in the first few days of monitoring. In an email dated July 24, 2013, the NYSDEC indicated that these exceedances were not indicative of the construction activity but the difficulties associated with beginning a new water quality monitoring program in shallow waters. As a result, the NYSDEC issued the modifications to Permit Condition 60 and 61 described in Section 1.1 on August 6, 2013.

4.2 Dredging and Decanting

Attachment 2 provides a summary of all samples collected for dredging and decanting. TZC collected 458 water whole water samples over 91 days during dredging and decanting operations. Water quality monitoring results indicate that there were no water quality exceedances during 82 of the 91 days sampled (Attachment 2).

There were 12 permit limit exceedances during the 2013 dredging. The TSS limit was exceeded in 9 samples and the dissolved copper limit was exceeded in three samples. Table 3 below provides a summary of reported exceedances.

Table 3. Reported Exceedances during the 2013 Dredging

Date (mm/dd/yy)	Dredging Operation	Tide Cycle	Sample Depth	Analyte	Permit Limit	Up-current concentration	Down-current concentration
08/06/13	551 Barge	Flood	Mid-water	Dissolved Copper	5.6 ppb	5.6 ppb	6.5 ppb
08/06/13	551 Barge	Flood	Bottom	Dissolved Copper	5.6 ppb	4.9 ppb	6.2 ppb
08/08/13	551 Barge	Flood	Mid-water	Dissolved Copper	5.6 ppb	5.1 ppb	5.9 ppb
08/18/13	211 Barge	Ebb	Bottom	Dissolved Copper	5.6 ppb	3.4 ppb	14 ppb
08/18/13	551 Barge	Flood	Mid-water	TSS	<100 ppm above ambient	26.0 ppm	128 ppm
08/20/13	506 Barge	Flood	Surface	TSS	<100 ppm above ambient	52.8 ppm	160 ppm
08/23/13	506 Barge	Ebb	Bottom	TSS	<100 ppm above ambient	30.4 ppm	166 ppm
09/02/13	506 Barge	Flood	Bottom	TSS	<100 ppm above ambient	29.0 ppm	203 ppm
09/07/13	506 Barge	Ebb	Mid-water	TSS	<100 ppm above ambient	22.0 ppm	186 ppm
10/21/13	551 Barge	Flood	Bottom	TSS	<100 ppm above ambient	32.8 ppm	160 ppm
10/30/13	551 Barge	Flood	Mid-water	TSS	<100 ppm above ambient	9.6 ppm	143 ppm

4.2.1 12-Hour Decant Pilot Study Results

TZC completed a pilot study to determine if reducing the required decant water holding time from 24 hours to 12 hours would still meet permit established limits for TSS. Six samples were collected from September 27, 2013 to October 3, 2013 at mid-depth of the water in settling barges. Each of these samples was analyzed for TSS. Table 4 below provides a summary of samples collected for the 12-hr Decant Pilot Study.

Table 4. Summary of 12-hr Decant Pilot Study Samples

Sample Number	Sample Date and Time	12-hr Decant TSS (ppm)
1	9/27/2013 01:40	50.4
2	9/27/2013 14:40	72.0
3	9/29/2013 01:30	52.4
4	9/30/2013 16:30	113.0
5	10/1/2013 14:20	51.2
6	10/3/2013 12:30	98.0

These results demonstrate that TSS for 5 of the 6 samples collected were below 100 ppm and would be acceptable to decant at 12-hrs rather than the original permit-mandated 24-hrs.

The only sample with TSS above 100 ppm was Sample 4, collected on September 30, 2013 at 16:30 from settling barge 3001. The water in the settling barge appeared eutrophic and the high TSS was likely a result of a high algae concentration rather than suspended sediments (Figure 1).

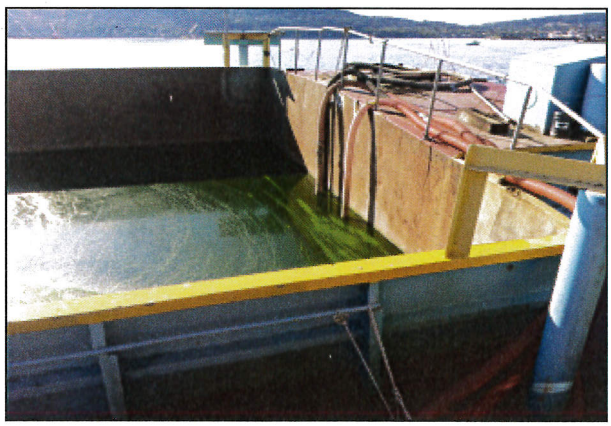

Figure 1 – Scow 3001 prior to collection of Sample 4. Decant water appears green from high concentration of algae.

This sample was not considered typical for decanted waters. This scow took approximately three days to fill as the dredging operations were producing little decant water. The algal bloom is believed to be the result of the decant water having a longer than typical holding time which provided additional time for the algae to grow prior to decanting.

4.3 Bottom Profiling and Armoring

Attachment 3 provides a summary of samples collected for bottom profiling and armoring. TZC collected 14 whole water quality samples during five days of monitoring for bottom profiling. Water quality results indicate there were no exceedances on four of the five monitored days (Attachment 3). TZC collected 110 whole water quality samples during 48 days of monitoring. Water quality results indicate there were no exceedances on 45 of the 48 monitored days (Attachment 3).

There was one reported exceedance during bottom profiling and there were four reported exceedances during the armoring operation in 2013. The TSS limit was exceeded in one bottom profiling sample. The TSS limit was exceeded in one sample and the dissolved copper limit was exceeded in three samples (exceedances were reported in the flood and ebb samples on one day) for armoring. Table 5 below provides a summary of the reported exceedances.

Table 5. Reported Exceedances during the 2013 Bottom Profiling and Armoring

Date (mm/dd/yy)	Operation	Tide Cycle	Sample Depth	Analyte	Water Quality Limit	Up-current concentration	Down-current concentration
10/29/2013	Bottom Profiling	Flood	Mid-water	TSS	<100 ppm above ambient	14.4 ppm	123 ppm
11/6/13	Armoring	Flood	Bottom	Dissolved Copper	5.6 ppb	4.4 ppb	7.3 ppb
11/6/13	Armoring	Ebb	Mid-water	Dissolved Copper	5.6 ppb	3.3 ppb	8.8 ppb
11/7/13	Armoring	Ebb	Bottom	Dissolved Copper	5.6 ppb	4.0 ppb	6.0 ppb
11/27/13	Armoring	Flood	Mid-water	TSS	<100 ppm above ambient	16.4 ppm	121 ppm

4.4 Pile Driving in Zone C

Attachment 4 provides a summary of samples collected for pile driving. TZC collected 50 whole water quality samples during 11 days of monitoring in 2013. Water quality results indicate that there were no exceedances for 9 of the 11 days sampled (Attachment 4).

There were four reported exceedances associated with pile driving in 2013. Per Permit Condition 61, the TSS limit was exceeded in one sample and the dissolved copper limit was exceeded in three samples (exceedances were reported on the flood and ebb samples on one day). Table 6 below provides a summary of reported exceedances.

Table 6. Reported Exceedances during the 2013 Pile Driving in Zone C

Date (mm/dd/yy)	Location	Tide	Sample Depth	Analyte	Permit Limit	Up-current concentration	Down-current concentration
10/19/13	Pier 31	Flood	Bottom	TSS	<100 ppm above ambient	40.8 ppm	160 ppm
11/07/13	Pier 32	Flood	Surface	Dissolved Copper	5.6 ppb	4.7 ppb	8.9 ppb
11/07/13	Pier 32	Flood	Mid-water	Dissolved Copper	5.6 ppb	6.3 ppb	12.0 ppb
11/07/13	Pier 32	Ebb	Surface	Dissolved Copper	5.6 ppb	3.5 ppb	8.0 ppb

Attachment 1

Summary of Fender Removal Water Quality Monitoring

Attachment 1: Summary of Fender Removal Water Quality Monitoring
New NY Bridge Project
6/24/2013 - 7/18/2013

TAPPAN ZEE CONSTRUCTORS, LLC

Created by: Christopher Coccaro, January 10, 2013
Checked by: Paul Moccio, January 14, 2014

Date	Pier Number	Tidal Cycle	Sample Depth[1]	Total Suspended Solids	Total Mercury	Dissolved Nickel	Dissolved Copper	Dissolved Lead	Dissolved Zinc	PCB				Naphthalene	Benzo(a)pyrene	Sample Status[2,3]
										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
(mm/dd/yyyy)	(##)	(Flood or Ebb)	(S, M, B)	(ppm)	(ppb)											(Exceedances and other observations)
6/25/2013	4	Ebb	S	62.0	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Mercury was ND, 0.1 ppb is an exceedance
6/25/2013	4	Ebb	M	78.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
6/25/2013	4	Ebb	B	112	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Mercury was ND, 0.1 ppb is an exceedance
6/25/2013	5	Flood	S	68.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
6/25/2013	5	Flood	M	106	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 62.0 ppm, 106 ppm is not an exceedance
6/25/2013	5	Flood	B	112	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 78.0 ppm, 112 ppm is not an exceedance
6/26/2013	6	Flood	S	59.0	ND	ND	5.8	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Copper was ND, 5.8 ppb is an exceedance.
6/26/2013	6	Flood	M	70.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
6/26/2013	6	Flood	B	74.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
6/27/2013	8	Ebb	S	40.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
6/27/2013	8	Ebb	M	59.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
6/27/2013	8	Ebb	B	40.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
6/27/2013	9	Flood	S	53.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
6/27/2013	9	Flood	M	48.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
6/27/2013	9	Flood	B	68.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
7/1/2013	11	Ebb	S	26.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
7/1/2013	11	Ebb	M	36.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
7/1/2013	11	Ebb	B	371	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 25.6 ppm, 371 ppm is an exceedance
7/2/2013	13	Flood	S	30.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
7/2/2013	13	Flood	M	25.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
7/2/2013	13	Flood	B	36.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
7/2/2013	14	Ebb	S	23.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.28	ND	No exceedance
7/2/2013	14	Ebb	M	53.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.35	ND	No exceedance
7/2/2013	14	Ebb	B	42.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.21	ND	No exceedance
7/3/2013	15	Flood	S	23.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.22	ND	No exceedance
7/3/2013	15	Flood	M	22.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
7/3/2013	15	Flood	B	72.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	ND	No exceedance
7/3/2013	16	Ebb	S	28.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	ND	No exceedance
7/3/2013	16	Ebb	M	32.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.9	ND	No exceedance
7/3/2013	16	Ebb	B	49.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.2	ND	No exceedance
7/8/2013	17	Flood	S	20.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
7/8/2013	17	Flood	M	36.4	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
7/8/2013	17	Flood	B	41.6	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND	No exceedance
7/9/2013	19	Ebb	S	23.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10	ND	No exceedance
7/9/2013	19	Ebb	M	23.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
7/9/2013	19	Ebb	B	30.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.50	ND	No exceedance
7/10/2013	20	Ebb	S	24.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.13	ND	No exceedance
7/10/2013	20	Ebb	M	32.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.074	ND	No exceedance
7/10/2013	20	Ebb	B	28.0	ND	ND	3.4	ND	12	ND	ND	ND	ND	0.23	ND	No exceedance
7/10/2013	21	Flood	S	25.2	ND	11	ND	ND	11	ND	ND	ND	ND	0.19	ND	Upcurrent Nickel was ND, 11 ppb is an exceedance
7/10/2013	21	Flood	M	47.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.33	ND	No exceedance
7/10/2013	21	Flood	B	32.8	ND	ND	ND	ND	10	ND	ND	ND	ND	0.21	ND	No exceedance
7/11/2013	22	Ebb	S	58.0	ND	ND	3.6	ND	10	ND	ND	ND	ND	1.2	ND	No exceedance
7/11/2013	22	Ebb	M	78.8	ND	ND	3.5	ND	13	ND	ND	ND	ND	2.4	ND	No exceedance
7/11/2013	22	Ebb	B	92.8	ND	ND	3.5	ND	10	ND	ND	ND	ND	3.3	ND	No exceedance
7/11/2013	23	Flood	S	26.4	ND	ND	3.5	ND	ND	ND	ND	ND	ND	2.8	ND	No exceedance
7/11/2013	23	Flood	M	35.2	ND	ND	3.5	ND	ND	ND	ND	ND	ND	0.94	ND	No exceedance
7/11/2013	23	Flood	B	18.0	ND	ND	4.3	ND	16	ND	ND	ND	ND	0.89	ND	No exceedance
7/15/2013	24	Ebb	S	23.2	ND	ND	4.4	ND	10	ND	ND	ND	ND	0.93	ND	Upcurrent Cu was 4.2, 4.4 not an exceedance despite surpassing target limit on this date.

Attachment 1: Summary of Fender Removal Water Quality Monitoring
New NY Bridge Project
6/24/2013 - 7/18/2013

7/15/2013	24	Ebb	M	24.4	ND	ND	4.8	ND	12	ND	ND	ND	ND	0.21	ND	Upcurrent Cu was 4.2, 4.8 not an exceedance despite surpassing target limit on this date.
7/15/2013	24	Ebb	B	35.2	ND	ND	4.1	ND	14	ND	ND	ND	ND	4.4	ND	Upcurrent Cu was 4.3, 4.1 not an exceedance despite surpassing target limit on this date.
7/15/2013	26	Flood	S	23.2	ND	ND	4.5	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 4.3, 4.5 not an exceedance despite surpassing target limit on this date.
7/15/2013	26	Flood	M	16.8	ND	ND	4.3	ND	10	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 4.4, 4.3 not an exceedance despite surpassing target limit on this date.
7/15/2013	26	Flood	B	22.0	ND	ND	4.6	ND	ND	ND	ND	ND	ND	0.26	ND	Upcurrent Cu was 4.4, 4.6 not an exceedance despite surpassing target limit on this date.
7/16/2013	27	Ebb	S	59.2	ND	ND	4.0	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 3.8, 4.0 not an exceedance despite surpassing target limit on this date.
7/16/2013	27	Ebb	M	31.2	ND	ND	4.0	ND	ND	ND	ND	ND	ND	0.063	ND	Upcurrent Cu was 3.8, 4.0 not an exceedance despite surpassing target limit on this date.
7/16/2013	27	Ebb	B	39.2	ND	ND	4.1	ND	ND	ND	ND	ND	ND	0.16	ND	Upcurrent Cu was 4.1, 4.1 not an exceedance despite surpassing target limit on this date.
7/16/2013	28	Flood	S	58.0	ND	ND	4.0	ND	ND	ND	ND	ND	ND	0.70	ND	Upcurrent Cu was 4.2, 4.0 not an exceedance despite surpassing target limit on this date.
7/16/2013	28	Flood	M	74.0	ND	ND	3.8	ND	ND	ND	ND	ND	ND	0.13	ND	Upcurrent Cu was 3.8, 3.8 not an exceedance despite surpassing target limit on this date.
7/16/2013	28	Flood	B	40.4	ND	ND	4.5	ND	12	ND	ND	ND	ND	0.95	ND	Upcurrent Cu was 4.2, 4.5 not an exceedance despite surpassing target limit on this date.
7/17/2013	29	Ebb	S	27.2	ND	ND	3.7	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 4.0, 3.7 not an exceedance despite surpassing target limit on this date.
7/17/2013	29	Ebb	M	38.0	ND	ND	4.0	ND	11	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 3.9, 4.0 not an exceedance despite surpassing target limit on this date.
7/17/2013	29	Ebb	B	50.8	ND	ND	4.0	ND	11	ND	ND	ND	ND	0.51	ND	Upcurrent Cu was 3.9, 4.0 not an exceedance despite surpassing target limit on this date.
7/18/2013	31	Flood	S	12.8	ND	ND	4.4	ND	19	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 4.2, 4.4 not an exceedance despite surpassing target limit on this date.
7/18/2013	31	Flood	M	14.0	ND	ND	4.1	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 4.0, 4.1 not an exceedance despite surpassing target limit on this date.
7/18/2013	31	Flood	B	39.2	ND	ND	3.9	ND	11	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 4.2, 3.9 not an exceedance despite surpassing target limit on this date.

Notes: [1] S = Near Surface, M = Mid-Depth, B = Near Bottom

[2] Exceedances based on New York State Department of Environmental Conversation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00012

[3] Upcurrent samples information not included unless noted

Upcurrent (ambient) concentration exceeds the Water Quality Standard, Downcurrent concentration is less than 30% over background.

Samples collected at the edge of the 500 ft mixing zone

ND = Not Detected, NS = Not Sampled

Attachment 2

Summary of Dredging and Decanting Water Quality Monitoring

Attachment 2: Summary of Dredging and Decanting Water Quality Monitoring
New NY Bridge Project
08/01/2013 - 10/31/2013
211 Barge Data

TAPPAN ZEE
CONSTRUCTORS, LLC

Created by: Christopher Coccaro, January 14, 2014
Checked by: Paul Moccio, January 16, 2014

Date	Sample Time	Tidal Cycle	Sample Depth[1]	Total Suspended Solids	Total Mercury	Dissolved Nickel	Dissolved Copper	Dissolved Lead	Dissolved Zinc	PCB				Naphthalene	Benzo(a)pyrene	Comments[2,3]
										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
(mm/dd/yyyy)	(24:00)	(Flood or Ebb)	(S, M, B)	(ppm)	(ppb)											(Exceedances and other observations)
8/7/2013	NA	Flood	S	34	ND	ND	3.4	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/7/2013	NA	Flood	B	72	ND	ND	3.3	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/11/2013	NA	Ebb	S	32	ND	ND	3.8	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/11/2013	NA	Ebb	B	31	ND	ND	3.9	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/11/2013	NA	Flood	S	28	ND	ND	3.7	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
8/11/2013	NA	Flood	B	32	ND	ND	3.4	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
8/12/2013	NA	Flood	S	12	ND	ND	4.4	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/12/2013	NA	Flood	B	21	ND	ND	4	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/12/2013	NA	Ebb	S	37	ND	ND	4.1	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
8/12/2013	NA	Ebb	B	73	ND	ND	3.9	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/13/2013	NA	Ebb	S	44.0	ND	ND	3.6	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/13/2013	NA	Ebb	B	36.4	ND	ND	3.6	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/15/2013	NA	Flood	S	18.0	ND	ND	4.3	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/15/2013	NA	Flood	B	31.0	ND	ND	3.3	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
8/16/2013	NA	Flood	S	18.0	ND	ND	3.7	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/16/2013	NA	Flood	B	22.0	ND	ND	3.7	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/16/2013	NA	Ebb	S	24.0	ND	ND	4.2	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/16/2013	NA	Ebb	B	27.0	ND	ND	3.7	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
8/17/2013	NA	Ebb	S	14	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/17/2013	NA	Ebb	B	19	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/18/2013	NA	Flood	S	20.0	ND	ND	3.6	ND	18	ND	ND	ND	ND	ND	ND	No exceedance
8/18/2013	NA	Flood	B	29.6	ND	ND	3.6	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/18/2013	NA	Ebb	S	48.8	ND	ND	3.3	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/18/2013	NA	Ebb	B	51.6	ND	ND	14	ND	15	ND	ND	ND	ND	ND	ND	Upcurrent concentration was 3.4 ppb, 14 ppb was an exceedance.
8/19/2013	NA	Ebb	S	60.0	ND	ND	3.6	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
8/19/2013	NA	Ebb	B	52.4	ND	ND	3.5	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/21/2013	NA	Ebb	S	65.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/21/2013	NA	Ebb	B	77.2	ND	ND	3.2	ND	18	ND	ND	ND	ND	ND	ND	No exceedance
8/25/2013	13:43	Flood	S	58.0	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/25/2013	13:43	Flood	B	70.0	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/26/2013	8:57	Ebb	S	70.0	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/26/2013	8:57	Ebb	B	84.0	ND	ND	3.0	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/28/2013	13:31	Flood	S	26.0	ND	ND	4.0	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
8/28/2013	13:31	Flood	B	41.0	ND	ND	3.8	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
8/31/2013	10:03	Ebb	S	27	ND	ND	5.6	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/31/2013	10:03	Ebb	B	24	ND	ND	4.7	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/1/2013	13:07	Ebb	S	27.0	ND	ND	3.3	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/1/2013	13:07	Ebb	B	24.0	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
9/2/2013	18:30	Flood	S	28.0	ND	ND	3.4	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
9/2/2013	18:30	Flood	B	39.0	ND	ND	3.1	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/6/2013	9:22	Flood	S	51.0	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/6/2013	9:22	Flood	B	54.0	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
9/9/2013	9:19	Ebb	S	26.8	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/9/2013	9:19	Ebb	B	18.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/9/2013	10:36	Flood	S	26.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
9/9/2013	10:36	Flood	B	26.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
9/10/2013	17:02	Ebb	S	9.60	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/10/2013	17:02	Ebb	B	18.4	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/11/2013	9:42	Ebb	S	30.4	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/11/2013	9:42	Ebb	B	22.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/12/2013	10:25	Ebb	S	32.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/12/2013	10:25	Ebb	B	17.2	ND	ND	3.4	ND	13	ND	ND	ND	ND	ND	ND	No exceedance

Attachment 2: Summary of Dredging and Decanting Water Quality Monitoring
New NY Bridge Project
08/01/2013 - 10/31/2013
211 Barge Data

TAPPAN ZEE CONSTRUCTORS, LLC

Created by: Christopher Coccaro, January 14, 2014
Checked by: Paul Moccio, January 16, 2014

Date	Sample Time	Tidal Cycle	Sample Depth[1]	Total Suspended Solids	Total Mercury	Dissolved Nickel	Dissolved Copper	Dissolved Lead	Dissolved Zinc	PCB				Naphthalene	Benzo(a)pyrene	Comments[2,3]
										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
(mm/dd/yyyy)	(24:00)	(Flood or Ebb)	(S, M, B)	(ppm)	(ppb)											(Exceedances and other observations)
9/12/2013	12:02	Flood	S	5.20	ND	ND	3.5	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/12/2013	12:02	Flood	B	9.60	ND	ND	3.5	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/13/2013	11:12	Ebb	S	26.0	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/13/2013	11:12	Ebb	B	30.0	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
9/13/2013	13:30	Flood	S	24.0	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
9/13/2013	13:30	Flood	B	37.2	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/15/2013	10:58	Ebb	S	12.4	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/15/2013	10:58	Ebb	B	14.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/20/2013	17:21	Ebb	S	42.0	ND	ND	3.4	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/20/2013	17:21	Ebb	B	36.8	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/22/2013	8:21	Ebb	S	22.8	ND	ND	3.2	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/22/2013	8:21	Ebb	B	31.2	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/22/2013	10:27	Flood	S	19.6	ND	ND	3.8	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/22/2013	10:27	Flood	B	50.8	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/23/2013	8:19	Ebb	S	28.0	ND	ND	3.5	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/23/2013	8:19	Ebb	B	31.6	ND	ND	4.3	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/24/2013	9:22	Ebb	S	28.4	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/24/2013	9:22	Ebb	B	53.2	ND	ND	3.7	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/24/2013	10:51	Flood	S	14.4	ND	ND	3.0	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/24/2013	10:51	Flood	B	15.2	ND	ND	3.0	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/27/2013	14:07	Flood	S	7.20	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/27/2013	14:07	Flood	B	14.8	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/29/2013	14:02	Ebb	S	6.40	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/29/2013	14:02	Ebb	B	11.6	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/29/2013	14:51	Flood	S	9.60	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/29/2013	14:51	Flood	B	65.6	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/1/2013	8:47	Flood	S	8.80	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/1/2013	8:47	Flood	B	19.6	ND	ND	ND	ND	23	ND	ND	ND	ND	ND	ND	No exceedance
10/1/2013	10:22	Ebb	S	12.0	ND	ND	4.0	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/1/2013	10:22	Ebb	B	15.6	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	No exceedance
10/4/2013	11:02	Flood	S	15.2	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
10/4/2013	11:02	Flood	B	25.6	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/4/2013	12:43	Ebb	S	23.2	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/4/2013	12:43	Ebb	B	24.0	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/5/2013	9:19	Flood	S	52.4	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/5/2013	9:19	Flood	B	61.6	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/7/2013	13:17	Flood	S	80.0	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/7/2013	13:17	Flood	B	95.2	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
10/8/2013	14:05	Flood	S	24.4	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	No exceedance
10/8/2013	14:06	Flood	B	49.2	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	No exceedance
10/8/2013	15:35	Ebb	S	19.6	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/8/2013	15:35	Ebb	B	35.6	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
10/10/2013	9:19	Ebb	S	45.6	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
10/10/2013	9:19	Ebb	B	64.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/12/2013	16:33	Flood	S	25.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/12/2013	16:33	Flood	B	45.6	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/14/2013	7:28	Flood	S	9.20	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/14/2013	7:28	Flood	B	26.8	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
10/14/2013	9:46	Ebb	S	13.6	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/14/2013	9:46	Ebb	B	32.8	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/17/2013	14:54	Ebb	S	31.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/17/2013	14:54	Ebb	B	30.8	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance

Attachment 2: Summary of Dredging and Decanting Water Quality Monitoring
New NY Bridge Project
08/01/2013 - 10/31/2013
211 Barge Data

TAPPAN ZEE
CONSTRUCTORS, LLC

Created by: Christopher Coccaro, January 14, 2014
Checked by: Paul Moccio, January 16, 2014

Date	Sample Time	Tidal Cycle	Sample Depth[1]	Total Suspended Solids	Total Mercury	Dissolved Nickel	Dissolved Copper	Dissolved Lead	Dissolved Zinc	PCB				Naphthalene	Benzo(a)pyrene	Comments[2,3]
										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
(mm/dd/yyyy)	(24:00)	(Flood or Ebb)	(S, M, B)	(ppm)	(ppb)											(Exceedances and other observations)
10/18/2013	14:44	Ebb	S	40.4	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/18/2013	14:44	Ebb	B	52.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/20/2013	15:22	Ebb	S	32.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/20/2013	15:22	Ebb	B	22.4	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/22/2013	8:11	Ebb	S	26.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/22/2013	8:11	Ebb	B	45.2	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/22/2013	15:00	Flood	S	24.4	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
10/22/2013	15:00	Flood	B	30.8	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/24/2013	11:56	Flood	S	22.0	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/24/2013	11:56	Flood	B	20.8	ND	ND	3.1	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/29/2013	10:35	Ebb	S	7.20	ND	ND	3.6	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/29/2013	10:35	Ebb	B	15.6	ND	ND	4.1	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/30/2013	17:27	Flood	S	4.80	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/30/2013	17:27	Flood	B	27.6	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/31/2013	14:07	Ebb	S	38.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/31/2013	14:07	Ebb	B	64.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance

Notes:
[1] S = Near Surface, M = Mid-Depth, B = Near Bottom
[2] Exceedances based on New York State Department of Environmental Conversation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00012
[3] Upcurrent samples information not included unless noted
Samples collected at the edge of the 500 ft mixing zone
NA = Not Available, ND = Not Detected

Attachment 2: Summary of Dredging and Decanting Water Quality Monitoring
New NY Bridge Project
08/01/2013 - 10/31/2013
551 Dredge Data

TAPPAN ZEE
CONSTRUCTORS, LLC

Created by: Christopher Coccaro, January 15, 2014
Checked by: Paul Moccio, January 17, 2014

Date	Sample Time	Tidal Cycle	Sample Depth[1]	Total Suspended Solids	Total Mercury	Dissolved Nickel	Dissolved Copper	Dissolved Lead	Dissolved Zinc	PCB				Naphthalene	Benzo(a)pyrene	Comments[2,3]
										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
(mm/dd/yyyy)		(Flood or Ebb)	(S, M, B)	(ppm)	(ppb)											(Exceedances and other observations)
8/2/2013	NA	Ebb	S	9.60	ND	ND	4.6	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/2/2013	NA	Ebb	M	13.2	ND	ND	4.3	ND	18	ND	ND	ND	ND	ND	ND	No exceedance
8/2/2013	NA	Ebb	B	12.8	ND	ND	4.2	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
8/3/2013	NA	Ebb	S	22.0	ND	ND	4.2	ND	23	ND	ND	ND	ND	ND	ND	No exceedance
8/3/2013	NA	Ebb	M	13.6	ND	ND	4.5	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
8/3/2013	NA	Ebb	B	16.0	ND	ND	4.4	ND	50	ND	ND	ND	ND	ND	ND	No exceedance
8/6/2013	NA	Flood	S	24	ND	ND	6.2	ND	14	ND	ND	ND	ND	ND	ND	Upcurrent Cu exceeded the Water Quality Standard, downcurrent Cu was less than 30% over background.
8/6/2013	NA	Flood	M	24	ND	ND	6.5	ND	33	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 5.6 ppb, 6.5 is an exceedance.
8/6/2013	NA	Flood	B	33	ND	ND	6.2	ND	12	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 4.9 ppb, 6.2 is an exceedance.
8/7/2013	NA	Ebb	M	28.4	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
8/7/2013	NA	Flood	S	36.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/7/2013	NA	Flood	B	46.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/8/2013	NA	Ebb	M	58	ND	ND	5.9	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 5.1 ppb, 5.9 ppb Cu is an exceedance.
8/8/2013	NA	Flood	S	31	ND	ND	4.5	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/8/2013	NA	Flood	B	28	ND	ND	5.2	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
8/9/2013	NA	Ebb	M	45.0	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	Upcurrent Zinc was 78 ppb.
8/10/2013	NA	Flood	M	43	ND	ND	3.9	ND	8.6	ND	ND	ND	ND	ND	ND	No exceedance
8/10/2013	NA	Ebb	S	32	ND	ND	3.4	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/10/2013	NA	Ebb	B	41	ND	ND	3.8	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/11/2013	NA	Ebb	M	49	ND	ND	3.6	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/11/2013	NA	Flood	M	31	ND	ND	3.3	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/12/2013	NA	Ebb	M	79	ND	ND	3.3	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/12/2103	NA	Flood	M	38	ND	ND	3.8	ND	19	ND	ND	ND	ND	ND	ND	No exceedance
8/13/2013	NA	Ebb	M	54.8	ND	ND	3.4	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/15/2013	NA	Flood	M	24.0	ND	ND	4.2	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/15/2013	NA	Ebb	M	42.0	ND	ND	4.0	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/16/2013	NA	Flood	M	103	ND	ND	3.7	ND	12	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 16.0 mg/L, 103 mg/L is not an exceedance.
8/18/2013	NA	Flood	M	128	ND	ND	3.1	ND	15	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 26 mg/L, 128 mg/L TSS is an exceedance.
8/19/2013	NA	Ebb	M	54.0	ND	ND	3.1	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/20/2013	NA	Ebb	M	51.6	ND	ND	3.0	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/20/2013	NA	Flood	M	42.8	ND	ND	3.4	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
8/21/2013	NA	Ebb	M	34.8	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
8/22/2013	NA	Ebb	M	57.2	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/23/2013	NA	Flood	M	70.0	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/23/2013	NA	Ebb	M	42.0	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/24/2013	15:30	Ebb	M	32	ND	ND	4.6	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/25/2013	16:48	Ebb	M	26.0	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/25/2013	14:10	Flood	M	29.0	ND	ND	3.2	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/26/2013	11:52	Flood	M	62.0	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/26/2013	8:27	Ebb	M	43.0	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/27/2013	8:32	Ebb	M	40.0	ND	ND	3.2	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
8/27/2013	16:30	Flood	M	34.0	ND	ND	3.0	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/30/2013	12:17	Ebb	M	24.0	ND	ND	3.2	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
8/30/2013	15:24	Flood	M	27.0	ND	ND	3.6	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/1/2013	12:29	Ebb	M	27.0	ND	ND	3.1	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/2/2013	12:41	Ebb	M	28.0	ND	ND	3.3	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
9/2/2013	10:12	Flood	M	54.0	ND	ND	3.3	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/5/2013	17:13	Ebb	M	55.0	ND	ND	ND	ND	25	ND	ND	ND	ND	ND	ND	No exceedance
9/6/2013	11:12	Flood	M	41	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/7/2013	10:37	Flood	M	11.6	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	No exceedance
9/7/2013	15:04	Ebb	M	23.6	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/8/2013	12:53	Flood	M	21.0	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/8/2013	15:18	Ebb	M	26.0	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/9/2013	10:16	Flood	M	57.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance

Attachment 2: Summary of Dredging and Decanting Water Quality Monitoring
New NY Bridge Project
08/01/2013 - 10/31/2013
551 Dredge Data

TAPPAN ZEE CONSTRUCTORS, LLC

Created by: Christopher Coccaro, January 15, 2014
Checked by: Paul Moccio, January 17, 2014

Date	Sample Time	Tidal Cycle	Sample Depth[1]	Total Suspended Solids	Total Mercury	Dissolved Nickel	Dissolved Copper	Dissolved Lead	Dissolved Zinc	PCB Aroclor 1242	PCB Aroclor 1248	PCB Aroclor 1254	PCB Aroclor 1260	Naphthalene	Benzo(a)pyrene	Comments[2,3]
(mm/dd/yyyy)		(Flood or Ebb)	(S, M, B)	(ppm)	(ppb)											(Exceedances and other observations)
9/10/2013	11:15	Flood	M	73.6	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/10/2013	17:16	Ebb	M	14.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/11/2013	11:52	Flood	M	17.2	ND	ND	3.0	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
9/12/2013	10:04	Ebb	M	16.4	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
9/12/2013	15:34	Flood	M	10.8	ND	ND	3.1	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/13/2013	10:39	Ebb	M	15.6	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/13/2013	13:01	Flood	M	12.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
9/15/2013	17:31	Flood	M	20.8	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/15/2013	10:37	Ebb	M	12.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/16/2013	7:36	Flood	M	12.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/16/2013	10:16	Ebb	M	38.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/17/2013	8:41	Flood	M	22.4	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
9/17/2013	11:57	Ebb	M	81.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/18/2013	7:40	Flood	M	19.6	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/18/2013	13:11	Ebb	M	4.80	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/19/2013	11:26	Flood	S	18.8	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/19/2013	11:26	Flood	B	32.8	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/19/2013	13:56	Ebb	M	11.6	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
9/20/2013	11:44	Flood	S	29.6	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/20/2013	11:44	Flood	B	24.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/20/2013	16:49	Ebb	M	67.2	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/21/2013	12:32	Flood	S	22.4	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/21/2013	12:32	Flood	B	38.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/21/2013	14:28	Ebb	M	21.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/22/2013	7:51	Ebb	M	38.8	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/22/2013	10:00	Flood	M	19.6	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/23/2013	8:53	Ebb	M	24.8	ND	ND	3.0	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/23/2013	9:40	Flood	M	26.0	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/24/2013	8:54	Ebb	M	30.8	ND	ND	3.7	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/24/2013	10:26	Flood	M	65.2	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/25/2013	8:41	Ebb	M	20.8	ND	ND	3.2	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/25/2013	12:52	Flood	M	27.2	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/26/2013	10:18	Ebb	M	26.4	ND	ND	4.4	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/26/2013	12:34	Flood	M	40.8	ND	ND	3.7	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
9/27/2013	12:54	Flood	M	55.6	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/28/2013	11:13	Ebb	M	74.0	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/28/2013	14:22	Flood	M	110	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 18.0 mg/L, 110 mg/L TSS was not an exceedance.
9/29/2013	11:38	Ebb	M	13.6	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/29/2013	17:26	Flood	M	36.4	ND	ND	ND	ND	22	ND	ND	ND	ND	ND	ND	No exceedance
9/30/2013	12:57	Ebb	M	45.6	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/1/2013	9:04	Flood	M	24.4	ND	ND	3.6	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/1/2013	11:06	Ebb	M	44.4	ND	ND	3.6	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/2/2013	10:37	Ebb	M	21.2	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/4/2013	10:16	Flood	M	21.2	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/5/2013	13:26	Ebb	M	20.4	ND	ND	ND	ND	19	ND	ND	ND	ND	ND	ND	No exceedance
10/6/2013	14:15	Ebb	M	44.4	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
10/7/2013	13:58	Flood	M	38.0	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
10/8/2013	11:09	Flood	M	21.6	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/10/2013	8:31	Ebb	M	57.2	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
10/12/2013	12:03	Ebb	M	35.6	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/12/2013	14:35	Flood	M	48.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/13/2013	10:00	Ebb	M	50.4	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
10/15/2013	8:11	Flood	M	82.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/15/2013	12:46	Ebb	M	19.2	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No exceedance

Attachment 2: Summary of Dredging and Decanting Water Quality Monitoring
New NY Bridge Project
08/01/2013 - 10/31/2013
551 Dredge Data

TAPPAN ZEE
CONSTRUCTORS, LLC

Created by: Christopher Coccaro, January 15, 2014
Checked by: Paul Moccio, January 17, 2014

Date	Sample Time	Tidal Cycle	Sample Depth[1]	Total Suspended Solids	Total Mercury	Dissolved Nickel	Dissolved Copper	Dissolved Lead	Dissolved Zinc	PCB				Naphthalene	Benzo(a)pyrene	Comments[2,3]
										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
(mm/dd/yyyy)		(Flood or Ebb)	(S, M, B)	(ppm)	(ppb)											(Exceedances and other observations)
10/16/2013	11:06	Ebb	M	42.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/16/2013	8:41	Flood	S	16.4	ND	ND	ND	ND	20	ND	ND	ND	ND	ND	ND	No exceedance
10/16/2013	8:41	Flood	B	42.4	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/17/2013	10:26	Flood	S	20.0	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/17/2013	10:26	Flood	B	28.0	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/17/2013	12:21	Ebb	S	16.8	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/17/2013	12:21	Ebb	B	26.0	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/18/2013	14:58	Ebb	M	40.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/19/2013	10:11	Flood	S	45.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/19/2013	10:11	Flood	B	40.8	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
10/20/2013	10:20	Flood	S	85.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/20/2013	10:20	Flood	B	88.4	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/20/2013	13:53	Ebb	M	29.2	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/21/2013	14:42	Ebb	M	22.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/21/2013	12:45	Flood	S	24.4	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/21/2013	12:45	Flood	B	160	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 32.8 mg/L, 160 mg/L TSS is an exceedance.
10/22/2013	10:00	Flood	M	40.4	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
10/23/2013	16:32	Ebb	M	53.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/24/2013	7:55	Ebb	M	48.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/24/2013	10:56	Flood	M	66.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/25/2013	12:18	Flood	M	65.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/26/2013	9:01	Ebb	M	35.6	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/27/2013	10:45	Ebb	M	14.4	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/28/2013	8:21	Ebb	M	14.4	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/28/2013	15:15	Flood	M	114	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 27.6 mg/L, 114 mg/L TSS is not an exceedance.
10/29/2013	8:59	Ebb	M	16.0	ND	ND	3.5	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
10/29/2013	16:23	Flood	M	86.0	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/30/2013	10:04	Ebb	M	15.6	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/30/2013	15:53	Flood	M	143	ND	ND	5.6	ND	14	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 9.60 mg/L, 143 mg/L TSS was an exceedance.

Notes:

[1] S = Near Surface, M = Mid-Depth, B = Near Bottom

[2] Exceedances based on New York State Department of Environmental Conversation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00012

[3] Upcurrent samples information not included unless noted

[4] Upcurrent (ambient) concentration exceeds the Water Quality Standard, Downcurrent concentration is less than 30% over background.

Samples collected at the edge of the 500 ft mixing zone

NA = Not Available, ND = Not Detected

Attachment 2: Summary of Dredging and Decanting Water Quality Monitoring
New NY Bridge Project
08/01/2013 - 10/31/2013
506 Dredge Data

TAPPAN ZEE
CONSTRUCTORS, LLC

Created by: Christopher Coccaro, January 15, 2014
Checked by: Paul Moccio, January 20, 2014

Date	Sample Time	Tidal Cycle	Sample Depth[1]	Total Suspended Solids	Total Mercury	Dissolved Nickel	Dissolved Copper	Dissolved Lead	Dissolved Zinc	PCB Aroclor 1242	PCB Aroclor 1248	PCB Aroclor 1254	PCB Aroclor 1260	Naphthalene	Benzo(a)pyrene	Comments[2,3]
(mm/dd/yyyy)		(Flood or Ebb)	(S, M, B)	(ppm)	(ppb)											(Exceedances and other observations)
8/2/2013	NA	Ebb	S	53.6	ND	ND	4.0	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
8/2/2013	NA	Ebb	M	48.4	ND	ND	4.2	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
8/2/2013	NA	Ebb	B	66.4	ND	ND	4.2	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
8/3/2013	NA	Ebb	S	17.2	ND	ND	4.0	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/3/2013	NA	Ebb	M	51.2	ND	ND	4.3	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/3/2013	NA	Ebb	B	3.80	ND	ND	4.1	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
8/3/2013	NA	Flood	S	12.0	ND	ND	4.1	ND	19	ND	ND	ND	ND	ND	ND	No exceedance
8/3/2013	NA	Flood	M	10.4	ND	ND	4.1	ND	18	ND	ND	ND	ND	ND	ND	No exceedance
8/3/2013	NA	Flood	B	12.0	ND	ND	4.5	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
8/4/2013	NA	Flood	S	26	ND	ND	4.5	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/4/2013	NA	Flood	M	40	ND	ND	4.3	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/4/2013	NA	Flood	B	59	ND	ND	4.5	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/5/2013	NA	Ebb	S	89.0	ND	ND	4.4	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/5/2013	NA	Ebb	M	70.0	ND	ND	4.1	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/5/2013	NA	Ebb	B	104	ND	ND	4.1	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 21.6 mg/L, 104 mg/L was not an exceedance.
8/5/2013	NA	Flood	S	21.2	ND	ND	4.2	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
8/5/2013	NA	Flood	M	60.0	ND	ND	4.2	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
8/5/2013	NA	Flood	B	123	ND	ND	4.0	ND	15	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 43.2 mg/L, 123 mg/L was not an exceedance.
8/6/2013	NA	Ebb	S	96	ND	ND	5.6	ND	12	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 6.1 ppb, 5.6 ppb was not an exceedance.
8/6/2013	NA	Ebb	M	110	ND	ND	6.0	ND	14	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 33 mg/L, 110 mg/L TSS was not an exceedance. Upcurrent Cu was 6.1 ppb, 6.0 ppb was not an exceedance.
8/6/2013	NA	Ebb	B	100	ND	ND	5.8	ND	13	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 65 mg/L, 100 mg/L TSS was not an exceedance. Upcurrent Cu was 5.8 ppb, 5.8 ppb was not an exceedance.
8/7/2013	NA	Ebb	S	30.4	ND	ND	3.3	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/7/2013	NA	Ebb	B	39.2	ND	ND	3.2	ND	17	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 7.9 ppb
8/7/2013	NA	Flood	S	59.0	ND	ND	3.1	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/7/2013	NA	Flood	B	71.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/8/2013	NA	Flood	S	47.0	ND	ND	5.7	ND	14	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 6.3 ppb, 5.7 ppb was not an exceedance.
8/8/2013	NA	Flood	B	54.0	ND	ND	6.2	ND	11	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 6.5 ppb, 6.2 ppb was not an exceedance.
8/9/2013	NA	Ebb	S	39	ND	ND	3.0	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/9/2103	NA	Ebb	B	45	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/9/2103	NA	Flood	S	30	ND	ND	3.5	ND	18	ND	ND	ND	ND	ND	ND	No exceedance
8/9/2103	NA	Flood	B	71	ND	ND	3.8	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
8/10/2103	NA	Ebb	S	46	ND	ND	4.3	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/10/2103	NA	Ebb	B	54	ND	ND	4.0	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/10/2103	NA	Flood	S	80	ND	ND	3.8	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/10/2103	NA	Flood	B	74	ND	ND	3.8	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
8/11/2013	NA	Ebb	S	35	ND	ND	3.9	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/11/2013	NA	Ebb	B	39	ND	ND	3.5	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/11/2013	NA	Flood	S	51	ND	ND	3.3	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/11/2013	NA	Flood	B	93	ND	ND	3.5	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/12/2013	NA	Ebb	S	79	ND	ND	3.7	ND	21	ND	ND	ND	ND	ND	ND	No exceedance
8/12/2013	NA	Ebb	B	77	ND	ND	5.4	3	22	ND	ND	ND	ND	ND	ND	No exceedance
8/13/2013	NA	Flood	S	62.0	ND	ND	3.5	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/13/2013	NA	Flood	B	72.0	ND	ND	3.5	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/13/2013	NA	Ebb	S	27.6	ND	ND	3.8	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/13/2013	NA	Ebb	B	27.6	ND	ND	3.9	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/14/2013	NA	Flood	S	24.8	ND	ND	3.7	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/14/2013	NA	Flood	B	33.2	ND	ND	4.4	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/14/2013	NA	Ebb	S	42.8	ND	ND	4.1	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
8/14/2013	NA	Ebb	B	54.0	ND	ND	4.2	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
8/15/2013	NA	Ebb	M	44.0	ND	ND	4.2	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/15/2013	NA	Flood	S	32.0	ND	ND	4.5	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/15/2013	NA	Flood	B	45.0	ND	ND	4.3	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/18/2013	NA	Ebb	S	36.8	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
8/18/2013	NA	Ebb	B	40.8	ND	ND	3.2	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/19/2013	NA	Flood	S	81.6	ND	ND	3.4	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/19/2013	NA	Flood	B	86.8	ND	ND	3.2	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/19/2013	NA	Ebb	S	101	ND	ND	3.3	ND	12	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 70.4 mg/L, 101 mg/L TSS is not an exceedance.
8/19/2013	NA	Ebb	B	111	ND	ND	3.3	ND	15	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 79.6 mg/L, 111 mg/L TSS is not an exceedance.

Attachment 2: Summary of Dredging and Decanting Water Quality Monitoring
New NY Bridge Project
08/01/2013 - 10/31/2013
506 Dredge Data

TAPPAN ZEE
CONSTRUCTORS, LLC

Created by: Christopher Coccaro, January 15, 2014
Checked by: Paul Moccio, January 20, 2014

Date	Sample Time	Tidal Cycle	Sample Depth[1]	Total Suspended Solids	Total Mercury	Dissolved Nickel	Dissolved Copper	Dissolved Lead	Dissolved Zinc	PCB				Naphthalene	Benzo(a)pyrene	Comments[2,3]
										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
(mm/dd/yyyy)		(Flood or Ebb)	(S, M, B)	(ppm)	(ppb)											(Exceedances and other observations)
8/20/2013	NA	Flood	S	160	ND	ND	3.7	ND	15	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 52.8.6 mg/L, 160 mg/L TSS is an exceedance.
8/20/2013	NA	Flood	B	78.8	ND	ND	3.9	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
8/20/2013	NA	Ebb	S	57.6	ND	ND	3.5	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/20/2013	NA	Ebb	B	60.8	ND	ND	3.4	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/21/2013	NA	Flood	M	44.8	ND	ND	3.6	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/21/2013	NA	Ebb	S	40.8	ND	ND	3.2	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
8/21/2013	NA	Ebb	B	40.8	ND	ND	3.3	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/22/2013	14:09	Ebb	S	57.6	ND	ND	3.1	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/22/2013	14:09	Ebb	B	166	ND	ND	3.0	ND	12	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 30.4 mg/L, 166 mg/L TSS is an exceedance.
8/23/2013	14:52	Ebb	S	55.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/23/2013	14:52	Ebb	B	54.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/23/2013	12:53	Flood	S	52.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/23/2013	12:53	Flood	B	55.0	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/24/2013	11:47	Flood	S	62	ND	ND	4.8	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
8/24/2013	11:47	Flood	B	82	ND	ND	5.1	ND	14	ND	ND	ND	ND	0.20	ND	No exceedance
8/24/2013	15:08	Ebb	S	32	ND	ND	4.5	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/24/2013	15:08	Ebb	B	35	ND	ND	5.5	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/25/2013	12:43	Flood	S	50.0	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/25/2013	12:43	Flood	B	121	ND	ND	3.1	ND	12	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 157 mg/L, 121 mg/L TSS is not an exceedance.
8/26/2013	9:44	Ebb	M	69.0	ND	ND	3.1	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
8/27/2013	9:10	Ebb	S	62.0	ND	ND	3.4	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/27/2013	9:10	Ebb	B	62.0	ND	ND	3.4	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
8/29/2013	11:35	Ebb	S	28.0	ND	ND	3.5	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/29/2013	11:35	Ebb	B	24.0	ND	ND	3.9	ND	18	ND	ND	ND	ND	ND	ND	No exceedance
8/30/2013	13:27	Ebb	S	28.0	ND	ND	3.7	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
8/30/2013	13:27	Ebb	B	40.0	ND	ND	3.4	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
8/30/2013	14:44	Flood	S	19.0	ND	ND	3.7	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
8/30/2013	14:44	Flood	B	19.0	ND	ND	3.5	ND	10	ND	ND	ND	ND	ND	ND	No exceedance
8/31/2013	7:09	Flood	S	38	ND	ND	4.9	ND	9.7	ND	ND	ND	ND	ND	ND	No exceedance
8/31/2013	7:09	Flood	B	64	ND	ND	5.9	ND	15	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 5.7 ppb, 5.9 ppb Cu is not an exceedance.
8/31/2013	11:31	Ebb	S	43	ND	ND	5.2	ND	11	ND	ND	ND	ND	ND	ND	Upcurrent Cu was 5.9 ppb, 5.2 ppb Cu is not an exceedance.
8/31/2013	11:31	Ebb	B	46	ND	ND	5.0	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/2/2013	9:18	Flood	S	62.0	ND	ND	3.3	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
9/2/2013	9:18	Flood	B	203	ND	ND	3.4	ND	14	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 29 mg/L, 203 mg/L TSS is an exceedance.
9/2/2013	14:14	Ebb	S	32.0	ND	ND	3.5	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/2/2013	14:14	Ebb	B	35.0	ND	ND	3.5	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/3/2013	9:33	Flood	S	46.0	ND	ND	3.0	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
9/3/2013	9:33	Flood	B	61.0	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/4/2013	10:28	Flood	S	44.0	ND	ND	3.2	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
9/4/2013	10:28	Flood	B	43.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
9/5/2013	17:29	Ebb	M	84.0	ND	ND	ND	3.7	16	ND	ND	ND	ND	ND	ND	No exceedance
9/6/2013	10:37	Flood	S	81.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/6/2013	10:37	Flood	B	93.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/7/2013	11:42	Flood	S	79.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/7/2013	11:42	Flood	B	77.2	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/7/2013	16:32	Ebb	M	186	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 22.0 mg/L, 186 mg/L TSS is an exceedance.
9/8/2013	12:12	Flood	S	50.0	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/8/2013	12:12	Flood	B	53.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/9/2013	12:24	Flood	S	78.0	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/9/2013	12:24	Flood	B	69.0	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/10/2013	10:18	Flood	M	40.4	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/11/2013	11:11	Flood	M	57.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/13/2013	10:14	Ebb	M	34.8	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/14/2013	11:53	Ebb	M	67.6	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	No exceedance
9/14/2013	15:00	Flood	M	49.2	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/15/2013	11:30	Ebb	M	42.0	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/15/2013	17:15	Flood	S	35.2	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/15/2013	17:15	Flood	B	38.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance

Attachment 2: Summary of Dredging and Decanting Water Quality Monitoring
New NY Bridge Project
08/01/2013 - 10/31/2013
506 Dredge Data

TAPPAN ZEE
CONSTRUCTORS, LLC

Created by: Christopher Coccaro, January 15, 2014
Checked by: Paul Moccio, January 20, 2014

Date	Sample Time	Tidal Cycle	Sample Depth[1]	Total Suspended Solids	Total Mercury	Dissolved Nickel	Dissolved Copper	Dissolved Lead	Dissolved Zinc	PCB				Naphthalene	Benzo(a)pyrene	Comments[2,3]
										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
(mm/dd/yyyy)		(Flood or Ebb)	(S, M, B)	(ppm)	(ppb)											(Exceedances and other observations)
9/16/2013	8:09	Flood	S	50.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/16/2013	8:09	Flood	B	50.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/16/2013	9:58	Ebb	S	13.6	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/16/2013	9:58	Ebb	B	13.6	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
9/17/2013	9:23	Flood	S	32.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/17/2013	9:23	Flood	B	121	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 56.4 mg/L, 121 mg/L TSS was not an exceedance.
9/17/2013	12:18	Ebb	S	52.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/17/2013	12:18	Ebb	B	58.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/26/2013	10:55	Ebb	S	73.6	ND	ND	4.0	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/26/2013	10:55	Ebb	B	94.4	ND	ND	4.0	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/26/2013	13:33	Flood	S	52.4	ND	ND	4.1	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
9/26/2013	13:33	Flood	B	70.0	ND	ND	3.6	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/27/2013	11:17	Ebb	S	120	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 8.4 mg/L, 120 mg/L TSS was an exceedance. However, this sample was considered to be influenced by tug activity.
9/27/2013	11:17	Ebb	B	100	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
9/27/2013	16:50	Flood	S	49.5	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/27/2013	16:50	Flood	B	26.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/28/2013	13:10	Ebb	M	9.60	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
9/28/2013	14:13	Flood	M	46.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
9/29/2013	16:53	Flood	M	8.40	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
9/30/2013	12:38	Ebb	M	7.20	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
10/1/2013	7:51	Flood	S	19.6	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	No exceedance
10/1/2013	7:51	Flood	B	58.8	ND	ND	ND	ND	19	ND	ND	ND	ND	ND	ND	No exceedance
10/1/2013	11:29	Ebb	M	19.2	ND	ND	3.2	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/2/2013	9:31	Flood	M	17.2	ND	ND	3.3	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
10/3/2013	9:06	Flood	M	30.0	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/3/2013	12:52	Ebb	M	108	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 14.4 mg/L, 108 mg/L TSS was not an exceedance.
10/4/2013	13:50	Ebb	M	29.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/4/2013	11:31	Flood	S	14.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/4/2013	11:31	Flood	B	47.2	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/5/2013	16:04	Ebb	M	58.0	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
10/6/2013	9:34	Flood	S	34.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/6/2013	9:34	Flood	B	43.6	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
10/6/2013	14:28	Ebb	M	37.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/8/2013	11:19	Flood	S	35.2	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/8/2013	11:19	Flood	B	83.6	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/8/2013	16:10	Ebb	M	32.0	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
10/9/2013	10:17	Flood	S	52.8	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/9/2013	10:17	Flood	B	47.2	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/9/2013	8:01	Ebb	M	107	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 37.6 mg/L, 107 mg/L TSS was not an exceedance.
10/10/2013	8:53	Ebb	M	102	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 34.8 mg/L, 102 mg/L TSS was not an exceedance.
10/10/2013	11:37	Flood	S	54.0	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/10/2013	11:37	Flood	B	38.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/11/2013	8:56	Ebb	M	32.8	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/12/2013	9:57	Ebb	M	29.2	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/12/2013	14:48	Flood	S	47.2	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/12/2013	14:48	Flood	B	61.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/13/2013	9:07	Ebb	S	26.0	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/13/2013	9:07	Ebb	B	24.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/13/2013	13:58	Flood	S	8.80	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/13/2013	13:58	Flood	B	8.40	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/14/2013	8:00	Flood	S	24.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/14/2013	8:00	Flood	B	38.4	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	No exceedance
10/14/2013	11:02	Ebb	M	35.6	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/15/2013	8:27	Flood	S	33.2	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/15/2013	8:27	Flood	B	34.4	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
10/15/2013	11:02	Ebb	S	33.6	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/15/2013	11:02	Ebb	B	39.2	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/17/2013	9:48	Flood	S	34.0	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance

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New NY Bridge Project
08/01/2013 - 10/31/2013
506 Dredge Data

TAPPAN ZEE CONSTRUCTORS, LLC

Created by: Christopher Coccaro, January 15, 2014
Checked by: Paul Moccio, January 20, 2014

Date	Sample Time	Tidal Cycle	Sample Depth[1]	Total Suspended Solids	Total Mercury	Dissolved Nickel	Dissolved Copper	Dissolved Lead	Dissolved Zinc	PCB Aroclor 1242	PCB Aroclor 1248	PCB Aroclor 1254	PCB Aroclor 1260	Naphthalene	Benzo(a)pyrene	Comments[2,3]
(mm/dd/yyyy)		(Flood or Ebb)	(S, M, B)	(ppm)	(ppb)											(Exceedances and other observations)
10/17/2013	9:48	Flood	B	43.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/18/2013	15:19	Ebb	S	34.4	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
10/18/2013	15:19	Ebb	B	53.6	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/19/2013	10:39	Flood	S	77.6	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
10/19/2013	10:39	Flood	B	105	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 142 mg/L, 105 mg/L TSS was not an exceedance.
10/20/2013	10:50	Flood	S	74.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/20/2013	10:50	Flood	B	125	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 77.6 mg/L, 125 mg/L TSS was not an exceedance.
10/21/2013	11:21	Flood	S	32.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/21/2013	11:21	Flood	B	40.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/22/2013	7:42	Ebb	M	88.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/22/2013	9:32	Flood	M	79.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/23/2013	15:16	Flood	S	18.0	ND	ND	ND	ND	19	ND	ND	ND	ND	ND	ND	No exceedance
10/23/2013	15:16	Flood	B	22.4	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
10/23/2013	16:21	Ebb	S	52.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/23/2013	16:21	Ebb	B	50.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/24/2013	9:17	Ebb	M	59.2	ND	ND	3.7	ND	20	ND	ND	ND	ND	ND	ND	No exceedance
10/24/2013	10:25	Flood	M	17.2	ND	ND	3.4	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/25/2013	12:26	Flood	M	31.2	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
10/26/2013	8:33	Ebb	M	26.0	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
10/27/2013	12:20	Ebb	M	8.80	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	No exceedance
10/27/2013	13:42	Flood	S	13.6	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
10/27/2013	13:42	Flood	B	17.6	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/28/2013	15:00	Flood	S	15.6	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No exceedance
10/28/2013	15:00	Flood	B	13.6	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
10/28/2013	12:13	Ebb	S	31.2	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
10/28/2013	12:13	Ebb	B	58.4	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No exceedance
10/29/2013	16:17	Flood	M	45.6	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance

Notes:

[1] S = Near Surface, M = Mid-Depth, B = Near Bottom

[2] Exceedances based on New York State Department of Environmental Conversation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00012

[3] Upcurrent samples information not included unless noted

Samples collected at the edge of the 500 ft mixing zone

NA = Not Available, ND = Not Detected

Attachment 3

Summary of Bottom Profiling and Armoring Water Quality Monitoring

Attachment 3: Summary of Bottom Profiling and Armoring Water Quality Monitoring
New NY Bridge Project
10/24/2013 - 12/30/2013
263 Barge Data

TAPPAN ZEE CONSTRUCTORS, LLC

Created by: Christopher Coccaro, January 9, 2014
Checked by: Paul Moccio, January 13, 2014

Date	Access Channel	Sample Time	Tidal Cycle	Sample Depth[1]	Total Suspended Solids	Total Mercury	Dissolved Nickel	Total Copper	Dissolved Lead	Dissolved Zinc	PCB				Naphthalene	Benzo(a)pyrene	Sample Status[2,3]
											Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
10/24/2013	East	8:27	Ebb	M	59.2	ND	ND	3.6	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
10/24/2013	East	11:16	Flood	M	21.6	ND	ND	3.0	ND	13	ND	ND	ND	ND	ND	ND	No Exceedance
10/25/2013	East	8:59	Ebb	M	32.4	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No Exceedance
10/25/2013	East	14:25	Flood	M	10.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Exceedance
10/26/2013	East	9:20	Ebb	M	72.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
10/26/2013	East	16:06	Flood	S	57.2	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No Exceedance
10/26/2013	East	16:06	Flood	B	59.6	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No Exceedance
10/28/2013	East	8:53	Ebb	M	14.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
10/29/2013	East	14:43	Flood	M	11.6	ND	ND	ND	3.0	15	ND	ND	ND	ND	ND	ND	No Exceedance
10/30/2013	East	11:29	Ebb	M	17.2	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
10/31/2013	East	13:22	Ebb	M	20.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
11/2/2013	East	10:45	Flood	S	30.8	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
11/2/2013	East	10:45	Flood	B	65.2	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No Exceedance
11/2/2013	East	13:23	Ebb	M	23.6	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
11/5/2013	East	14:25	Ebb	M	14.4	ND	ND	6.0	ND	31	ND	ND	ND	ND	ND	ND	Upcurrent copper value is 8.9 ppb, 6.0 ppb is not an exceedance.
11/6/2013	East	12:09	Flood	S	21.6	ND	ND	5.5	ND	21	ND	ND	ND	ND	ND	ND	No Exceedance
11/6/2013	East	12:09	Flood	B	46.4	ND	ND	7.3	ND	25	ND	ND	ND	ND	ND	ND	Upcurrent copper value is 4.4 ppb, 7.3 ppb is an exceedance.
11/6/2013	East	14:37	Ebb	M	17.6	ND	ND	8.8	ND	23	ND	ND	ND	ND	ND	ND	Upcurrent copper value is 3.3 ppb, 8.8 ppb is an exceedance.
11/7/2013	East	16:37	Ebb	S	44.4	ND	ND	4.9	ND	20	ND	ND	ND	ND	ND	ND	No Exceedance
11/7/2013	East	16:37	Ebb	B	43.2	ND	ND	6.0	ND	22	ND	ND	ND	ND	ND	ND	Upcurrent copper value is 4.0 ppb, 6.0 ppb is an exceedance.
11/8/2013	East	9:24	Flood	M	22.8	ND	ND	4.5	ND	18	ND	ND	ND	ND	ND	ND	No Exceedance
11/9/2013	East	11:24	Flood	M	44.8	ND	ND	3.8	ND	18	ND	ND	ND	ND	ND	ND	No Exceedance
11/12/2013	East	15:01	Flood	M	49.2	ND	ND	ND	ND	19	ND	ND	ND	ND	ND	ND	No Exceedance
11/13/2013	East	11:52	Ebb	M	94.4	ND	ND	3.8	ND	22	ND	ND	ND	ND	ND	ND	No Exceedance
11/13/2013	East	15:55	Flood	M	26.4	ND	ND	ND	ND	21	ND	ND	ND	ND	ND	ND	No Exceedance
11/14/2013	East	9:01	Flood	M	37.2	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	No Exceedance
11/14/2013	East	10:25	Ebb	S	16.4	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No Exceedance
11/14/2013	East	10:25	Ebb	B	50.8	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	No Exceedance
11/15/2013	East	9:11	Flood	S	36.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
11/15/2013	East	9:11	Flood	B	57.6	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
11/16/2013	East	9:35	Flood	S	19.6	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No Exceedance
11/16/2013	East	9:35	Flood	B	40.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
11/16/2013	East	11:27	Ebb	M	23.2	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
11/18/2013	East	11:56	Flood	S	16.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
11/18/2013	East	11:56	Flood	B	26.4	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
11/18/2013	East	14:22	Ebb	M	15.6	ND	ND	ND	ND	43	ND	ND	ND	ND	ND	ND	No Exceedance
11/19/2013	East	10:32	Flood	M	62.8	ND	ND	3.1	ND	13	ND	ND	ND	ND	ND	ND	No Exceedance
11/19/2013	East	14:36	Ebb	M	103	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	Upcurrent TSS value was 115 ppm, 103 is not an exceedance.
11/20/2013	East	11:15	Flood	M	388	ND	ND	3.3	ND	14	ND	ND	ND	ND	ND	ND	Weather conditions, including choppy and generally turbid water and vessel movements during sampling period, prevented crews from obtaining a water quality sample solely related to armoring at that location.
11/20/2013	East	13:59	Ebb	M	50.4	ND	ND	ND	ND	20	ND	ND	ND	ND	ND	ND	No Exceedance
11/21/2013	East	9:51	Flood	M	38.8	ND	ND	3.4	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
11/21/2013	East	15:23	Ebb	M	35.2	ND	ND	3.3	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
11/22/2013	East	9:50	Flood	M	26.0	ND	ND	3.2	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
11/22/2013	East	15:26	Ebb	M	20.8	ND	ND	3.5	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
11/23/2013	East	11:29	Flood	M	63.2	ND	ND	3.2	ND	13	ND	ND	ND	ND	ND	ND	No Exceedance
11/25/2013	East	11:08	Flood	M	19.6	ND	ND	3.7	ND	18	ND	ND	ND	ND	ND	ND	No Exceedance
11/26/2013	East	9:40	Ebb	M	94.0	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
11/26/2013	East	12:54	Flood	M	12.0	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
11/27/2013	East	12:30	Ebb	M	70.4	ND	ND	3.1	ND	20	ND	ND	ND	ND	ND	ND	No Exceedance
11/27/2013	East	14:31	Flood	M	121	ND	ND	3.3	ND	16	ND	ND	ND	ND	ND	ND	Upcurrent TSS value was 16.4 ppm, 121 is an exceedance.

Attachment 3: Summary of Bottom Profiling and Armoring Water Quality Monitoring
New NY Bridge Project
10/24/2013 - 12/30/2013
263 Barge Data

TAPPAN ZEE CONSTRUCTORS, LLC

Created by: Christopher Coccaro, January 9, 2014
Checked by: Paul Moccio, January 13, 2014

Date	Access Channel	Sample Time	Tidal Cycle	Sample Depth[1]	Total Suspended Solids	Total Mercury	Dissolved Nickel	Total Copper	Dissolved Lead	Dissolved Zinc	PCB				Naphthalene	Benzo(a)pyrene	Sample Status[2,3]
											Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
11/29/2013	East	11:21	Ebb	M	34.8	ND	ND	5.1	ND	17	ND	ND	ND	ND	ND	ND	No Exceedance
12/2/2013	East	9:46	Flood	M	35.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Exceedance
12/2/2013	East	11:27	Ebb	M	41.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Exceedance
12/3/2013	East	10:25	Flood	S	28.4	ND	ND	3.2	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
12/3/2013	East	10:25	Flood	B	38.4	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
12/3/2013	East	12:34	Ebb	M	28.0	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
12/4/2013	East	10:52	Flood	S	42.8	ND	ND	3.0	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
12/4/2013	East	10:52	Flood	B	75.2	ND	ND	3.5	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
12/4/2013	East	13:06	Ebb	M	73.2	ND	ND	3.1	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
12/6/2013	East	9:53	Flood	M	101	ND	ND	3.0	ND	16	ND	ND	ND	ND	ND	ND	Upcurrent TSS value was 43.2 ppm, 101 ppm is not an exceedance.
12/6/2013	East	14:43	Ebb	M	48.4	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
12/9/2013	East	10:24	Ebb	M	35.6	ND	ND	3.9	ND	18	ND	ND	ND	ND	ND	ND	No Exceedance
12/9/2013	East	11:47	Flood	M	39.6	ND	ND	3.3	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
12/10/2013	East	10:16	Ebb	M	41.2	ND	ND	3.4	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
12/10/2013	East	12:23	Flood	M	59.2	ND	ND	3.5	ND	17	ND	ND	ND	ND	ND	ND	No Exceedance
12/13/2013	West	14:31	Ebb	S	95.6	ND	ND	3.8	4.0	20	ND	ND	ND	ND	ND	ND	No Exceedance
12/13/2013	West	14:31	Ebb	B	96.4	ND	ND	4.0	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
12/16/2013	West	10:27	Flood	S	34.8	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
12/16/2013	West	10:27	Flood	B	38.4	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No Exceedance
12/16/2013	West	13:44	Ebb	S	102	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	Upcurrent TSS value was 73.2 ppm, 102 ppm is not an exceedance.
12/16/2013	West	13:44	Ebb	B	137	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	Upcurrent TSS value was 57.2 ppm, 137 ppm is not an exceedance.
12/17/2013	West	10:12	Flood	S	103	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND	Upcurrent TSS value was 34.0 ppm, 103 ppm is not an exceedance.
12/17/2013	West	10:12	Flood	B	48.0	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No Exceedance
12/17/2013	West	13:43	Ebb	S	34.4	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
12/17/2013	West	13:43	Ebb	B	38.4	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
12/18/2013	West	11:30	Flood	S	41.6	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
12/18/2013	West	11:30	Flood	B	50.0	ND	ND	4.2	ND	17	ND	ND	ND	ND	ND	ND	No Exceedance
12/18/2013	West	14:18	Ebb	S	41.6	ND	ND	3.1	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
12/18/2013	West	14:18	Ebb	B	42.4	ND	ND	3.6	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
12/19/2013	West	8:40	Flood	S	58.0	ND	ND	3.0	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
12/19/2013	West	8:40	Flood	B	76.4	ND	ND	4.1	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
12/19/2013	West	13:33	Ebb	S	49.2	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
12/19/2013	West	13:33	Ebb	B	66.8	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No Exceedance
12/20/2013	West	8:56	Flood	S	73.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
12/20/2013	West	8:56	Flood	B	76.0	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
12/20/2013	West	14:17	Ebb	S	39.6	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	No Exceedance
12/20/2013	West	14:17	Ebb	B	56.0	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
12/21/2013	West	8:24	Flood	S	36.8	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
12/21/2013	West	8:24	Flood	B	47.2	ND	ND	3.8	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
12/21/2013	West	14:33	Ebb	S	39.2	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
12/21/2013	West	14:33	Ebb	B	44.0	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
12/23/2013	West	9:13	Ebb	S	41.6	ND	ND	3.7	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
12/23/2013	West	9:13	Ebb	B	43.2	ND	ND	3.6	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
12/23/2013	West	10:39	Flood	S	33.2	ND	ND	3.8	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
12/23/2013	West	10:39	Flood	B	98.8	ND	ND	3.4	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
12/24/2013	West	9:41	Ebb	S	38.4	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
12/24/2013	West	9:41	Ebb	B	36.4	ND	ND	3.3	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
12/26/2013	West	10:46	Ebb	S	30.4	ND	ND	3.3	ND	ND	ND	ND	ND	ND	ND	ND	No Exceedance
12/26/2013	West	10:46	Ebb	B	36.0	ND	ND	3.1	ND	ND	ND	ND	ND	ND	ND	ND	No Exceedance
12/26/2013	West	12:29	Flood	S	23.2	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No Exceedance
12/26/2013	West	12:29	Flood	B	23.2	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	No Exceedance
12/27/2013	West	10:37	Ebb	S	36.8	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	No Exceedance

Attachment 3: Summary of Bottom Profiling and Armoring Water Quality Monitoring
New NY Bridge Project
10/24/2013 - 12/30/2013
263 Barge Data

TAPPAN ZEE CONSTRUCTORS, LLC

Created by: Christopher Coccaro, January 9, 2014
Checked by: Paul Moccio, January 13, 2014

Date	Access Channel	Sample Time	Tidal Cycle	Sample Depth[1]	Total Suspended Solids	Total Mercury	Dissolved Nickel	Total Copper	Dissolved Lead	Dissolved Zinc	PCB				Naphthalene	Benzo(a)pyrene	Sample Status[2,3]
											Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
12/27/2013	West	10:37	Ebb	B	47.6	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	No Exceedance
12/27/2013	West	13:38	Flood	M	34.0	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No Exceedance
12/28/2013	West	7:54	Ebb	S	32.0	ND	ND	3.1	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
12/28/2013	West	7:54	Ebb	B	56.8	ND	ND	3.3	ND	12	ND	ND	ND	ND	ND	ND	No Exceedance
12/28/2013	West	14:32	Flood	S	34.8	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	No Exceedance
12/28/2013	West	14:32	Flood	B	38.0	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	No Exceedance
12/30/2013	West	12:07	Ebb	S	46.0	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No Exceedance
12/30/2013	West	12:07	Ebb	B	44.4	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No Exceedance

Notes:

[1] S = Near Surface, M = Mid-Depth, B = Near Bottom

[2] Exceedances based on New York State Department of Environmental Conversation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00012

[3] Upcurrent samples information not included unless noted

Upcurrent (ambient) concentration exceeds the Water Quality Standard, Downcurrent concentration is less than 30% over background.

Samples collected at the edge of the 500 ft mixing zone

ND = Not Detected

Attachment 3: Summary of Bottom Profiling and Armoring Quality Monitoring
New NY Bridge Project
10/24/2013 - 10/31/2013
Bottom Profiling Data

TAPPAN ZEE
CONSTRUCTORS, LLC

Created by: Christopher Coccaro, January 14, 2014
Checked by: Paul Moccio, January 16, 2014

Date	Sample Time	Tidal Cycle	Sample Depth[1]	Total Suspended Solids	Total Mercury	Dissolved Nickel	Dissolved Copper	Dissolved Lead	Dissolved Zinc	PCB				Naphthalene	Benzo(a)pyrene	Sample Status[2,3]
										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
10/24/2013	13:02	Flood	S	48.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
10/24/2013	13:02	Flood	B	59.6	ND	ND	3.1	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
10/28/2013	11:01	Ebb	M	32.4	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	No Exceedance
10/28/2013	17:01	Flood	S	14.0	ND	ND	3.1	ND	13	ND	ND	ND	ND	ND	ND	No Exceedance
10/28/2013	17:01	Flood	B	20.0	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	No Exceedance
10/29/2013	13:58	Ebb	M	20.4	ND	ND	3.7	ND	13	ND	ND	ND	ND	ND	ND	No Exceedance
10/29/2013	15:42	Flood	M	123	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 14.4 mg/L, 123 mg/L TSS was an exceedance.
10/30/2013	8:49	Flood	S	26.4	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
10/30/2013	8:49	Flood	B	79.6	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No Exceedance
10/30/2013	10:37	Ebb	M	16.8	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
10/31/2013	8:39	Flood	S	27.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
10/31/2013	8:39	Flood	B	12.0	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
10/31/2013	10:57	Ebb	S	23.6	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	No Exceedance
10/31/2013	10:57	Ebb	B	14.4	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance

Notes:

[1] S = Near Surface, M = Mid-Depth, B = Near Bottom

[2] Exceedances based on New York State Department of Environmental Conversation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00012

[3] Upcurrent samples information not included unless noted

Samples collected at the edge of the 500 ft mixing zone

ND = Not Detected

Attachment 4

Summary of Pile Driving Water Quality Monitoring

Attachment 4: Summary of Pile Driving Water Quality Monitoring
New NY Bridge Project
10/19/2013 - 12/18/2013

TAPPAN ZEE CONSTRUCTORS, LLC

Created by: Christopher Coccaro, January 10, 2014
Checked by: Paul Moccio, January 13, 2014

Date	Pier Number	Driving Method	Sample Time	Tidal Cycle	Sample Depth[1]	Total Suspended Solids	Total Mercury	Dissolved Nickel	Dissolved Copper	Dissolved Lead	Dissolved Zinc	PCB Aroclor 1242	PCB Aroclor 1248	PCB Aroclor 1254	PCB Aroclor 1260	Naphthalene	Benzo(a)pyrene	Sample Status[2,3]
(mm/dd/yyyy)	(P31 or P32)	(Vibratory or Impact)	(24:00)	(Flood or Ebb)	(S, M, B)	(ppm)	(ppb)											(Exceedances and other observations)
10/19/2013	P31	Impact	12:16	Flood	S	29.2	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
10/19/2013	P31	Impact	12:16	Flood	M	28.0	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
10/19/2013	P31	Impact	12:16	Flood	B	160	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	Upcurrent TSS was 40.8 ppm, 160 ppm is an exceedance
10/19/2013	P31	Impact	14:13	Ebb	S	16.4	ND	ND	ND	ND	19	ND	ND	ND	ND	ND	ND	No exceedance
10/19/2013	P31	Impact	14:13	Ebb	M	19.2	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
10/19/2013	P31	Impact	14:13	Ebb	B	18.8	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	No exceedance
11/7/2013	P32	Impact	14:46	Flood	S	10.8	ND	ND	8.9	ND	22	ND	ND	ND	ND	ND	ND	Upcurrent copper was 4.7 ppb, 8.9 ppb is an exceedance
11/7/2013	P32	Impact	14:46	Flood	M	13.6	ND	ND	12	ND	20	ND	ND	ND	ND	ND	ND	Upcurrent copper was 6.3 ppb, 12 ppb is an exceedance
11/7/2013	P32	Impact	14:46	Flood	B	25.6	ND	ND	9.6	ND	21	ND	ND	ND	ND	ND	ND	Upcurrent copper was 7.5 ppb, 9.6 ppb is not an exceedance
11/7/2013	P32	Impact	16:28	Ebb	S	8.40	ND	ND	8.0	3.4	21	ND	ND	ND	ND	ND	ND	Upcurrent copper was 3.5 ppb, 8.0 ppb is an exceedance
11/7/2013	P32	Impact	16:28	Ebb	M	8.80	ND	ND	ND	ND	22	ND	ND	ND	ND	ND	ND	No Exceedance
11/7/2013	P32	Impact	16:28	Ebb	B	14.4	ND	ND	ND	ND	21	ND	ND	ND	ND	ND	ND	No Exceedance
11/12/2013	P31	Impact	11:09	Ebb	S	11.6	ND	ND	3.1	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
11/12/2013	P31	Impact	11:09	Ebb	M	32.4	ND	ND	3.1	ND	19	ND	ND	ND	ND	ND	ND	No exceedance
11/12/2013	P31	Impact	11:09	Ebb	B	32.8	ND	ND	4.0	ND	18	ND	ND	ND	ND	ND	ND	No exceedance
11/13/2013	P31	Impact	13:03	Ebb	S	21.2	ND	ND	3.3	ND	19	ND	ND	ND	ND	ND	ND	No exceedance
11/13/2013	P31	Impact	13:03	Ebb	M	26.4	ND	ND	3.4	ND	19	ND	ND	ND	ND	ND	ND	No exceedance
11/13/2013	P31	Impact	13:03	Ebb	B	25.6	ND	ND	3.2	ND	20	ND	ND	ND	ND	ND	ND	No exceedance
11/13/2013	P31	Impact	16:28	Flood	S	14.4	ND	ND	3.1	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
11/13/2013	P31	Impact	16:28	Flood	M	14.8	ND	ND	3.2	ND	20	ND	ND	ND	ND	ND	ND	No exceedance
11/13/2013	P31	Impact	16:28	Flood	B	16.4	ND	ND	3.0	ND	20	ND	ND	ND	ND	ND	ND	No exceedance
11/22/2013	P32	Vibratory	13:18	Flood	S	14.4	ND	ND	3.8	ND	13	ND	ND	ND	ND	ND	ND	No Exceedance
11/22/2013	P32	Vibratory	13:18	Flood	M	24.8	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
11/22/2013	P32	Vibratory	13:18	Flood	B	46.0	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
11/26/2013	P31	Impact	14:14	Flood	S	ND	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
11/26/2013	P31	Impact	14:14	Flood	M	ND	ND	ND	ND	ND	21	ND	ND	ND	ND	ND	ND	No exceedance
11/26/2013	P31	Impact	14:14	Flood	B	19.0	ND	ND	ND	ND	22	ND	ND	ND	ND	ND	ND	No exceedance
11/29/2013	P31	Impact	12:42	Ebb	S	10.8	ND	ND	4.8	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
11/29/2013	P31	Impact	12:42	Ebb	M	20.4	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
11/29/2013	P31	Impact	12:42	Ebb	B	27.6	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	No exceedance
11/30/2013	P32	Impact	12:49	Ebb	S	20.0	ND	ND	4.2	ND	17	ND	ND	ND	ND	ND	ND	No Exceedance
11/30/2013	P32	Impact	12:49	Ebb	M	26.0	ND	ND	3.4	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
11/30/2013	P32	Impact	12:49	Ebb	B	38.0	ND	ND	3.6	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
12/2/2013	P32	Impact	9:01	Flood	S	40.4	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No Exceedance
12/2/2013	P32	Impact	9:01	Flood	M	65.2	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
12/2/2013	P32	Impact	9:01	Flood	B	66.8	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No Exceedance
12/2/2013	P32	Impact	13:34	Ebb	S	20.8	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	No Exceedance
12/2/2013	P32	Impact	13:34	Ebb	M	24.4	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	No Exceedance
12/2/2013	P32	Impact	13:34	Ebb	B	34.4	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No Exceedance
12/7/2013	P31	Impact	12:09	Flood	S	37.2	ND	ND	3.9	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
12/7/2013	P31	Impact	12:09	Flood	M	73.2	ND	ND	3.5	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
12/7/2013	P31	Impact	12:09	Flood	B	78.0	ND	ND	3.5	ND	25	ND	ND	ND	ND	ND	ND	No exceedance
12/7/2013	P31	Impact	15:58	Ebb	S	37.6	ND	ND	3.2	ND	14	ND	ND	ND	ND	ND	ND	No exceedance
12/7/2013	P31	Impact	15:58	Ebb	M	38.4	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	No exceedance
12/7/2013	P31	Impact	15:58	Ebb	B	38.0	ND	ND	3.0	ND	15	ND	ND	ND	ND	ND	ND	No exceedance
12/11/2013	P32	Vibratory	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	No sample collected
12/12/2013	P31	Vibratory	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	No sample collected
12/18/2013	P31	Vibratory	8:38	Flood	S	25.6	ND	ND	3.1	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
12/18/2013	P31	Vibratory	8:38	Flood	M	80.0	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	No exceedance
12/18/2013	P31	Vibratory	8:38	Flood	B	91.2	ND	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	No exceedance

Notes:
[1] S = Near Surface, M = Mid-Depth, B = Near Bottom
[2] Exceedances based on New York State Department of Environmental Conversation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00012
[3] Upcurrent samples information not included unless noted
Upcurrent (ambient) concentration exceeds the Water Quality Standard, Downcurrent concentration is less than 30% over background.
Samples collected at the edge of the 500 ft mixing zone
ND = Not Detected, NS = Not Sampled