

**Water Quality Monitoring Plan**  
**Annual Monitoring Report**  
**2016 Monitoring Activities**  
*for the*  
**New NY Bridge Project**

**Revision 0**  
**February 15, 2017**

*Prepared by*  
**Tappan Zee Constructors, LLC**  
555 White Plains Road, Suite 400  
Tarrytown, NY 10591



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## **1.0 Introduction**

This report summarizes the results of water quality monitoring in 2016 for the following operations:

- Cofferdam reprofiling
- Barge decanting
- Drilled shafts decanting
- Drilled shafts turbidity observed

This report summarizes the visual observations of turbidity for activities listed below in accordance with New York State Department of Environmental Conservation (NYSDEC) Permit DEC ID 3-9903-00043/00013 (Permit) Condition 65.

- Cofferdam dewatering
- Cofferdam reprofiling
- Concrete placement
- Drilled shafts; excavation and rock drilling
- Drilled shafts decanting
- General construction
- Barge decanting
- Pile dewatering
- Pile excavations
- Production pile driving outside zone C

### **1.1 Permit Modifications**

The New York State Thruway Authority (NYSTA) and Tappan Zee Constructors, LLC (TZC) did not receive any modifications to the NYSDEC Permit Conditions 59 through 67 during 2016.

#### **1.1 Plan Revisions**

The Water Quality Monitoring Plan (WQMP) was revised twice in 2016.

Revision 7 of the WQMP was approved by NYSDEC on June 14, 2016.

Revision 8 of the WQMP was provided to NYSDEC for review and comment on October 14, 2016. As of the date of this report, comments have not been provided.

## **2.0 Monitored Construction Activities**

The following construction activities were monitored by TZC in 2016 per the Water Quality Monitoring Plan.

## **2.1 Cofferdam Reprofiling**

Cofferdam Reprofiling commenced on March 24, 2016 and was completed on May 20, 2016. Cofferdam dewatering was performed by TZC using a barge mounted excavator to displace sediment in preparation for the installation of floating cofferdams [REDACTED]. A turbidity curtain was in place surrounding the work area.

## **2.2 Production Pile Driving Outside of Zone C**

Production Pile Driving outside of Zone C (pile driving outside zone C) previously took place in 2013, 2014, and 2015. In 2016, pile driving outside zone C commenced on April 14, 2016 and was completed on October 4, 2016. Pile driving performed by TZC was scheduled to occur intermittently between 7AM to 7PM from Monday through Friday and from 12PM to 7PM on Saturday during this period, with the exception of [REDACTED] piles at [REDACTED] which were approved to commence as early as 5AM on April 30, 2016. Pile driving performed by Trevcon Construction Company (TCC) was scheduled to occur intermittently between 8AM and 5PM from Monday through Friday. [REDACTED] piles were driven by TZC [REDACTED] and by TCC [REDACTED] during this period. Pile driving was performed by TZC and TCC using barge or trestle based cranes.

## **2.3 Concrete Placement**

### **2.3.1 Tremie Concrete**

Tremie concrete was previously placed in 2014 and 2015. In 2016, tremie concrete placement commenced on May 13, 2016, and continued through the end of the year. TZC placed tremie concrete in the annular space between the piles and floating cofferdam [REDACTED]. TCC placed tremie concrete in the annular space between piles and the high density polyethylene (HDPE) sleeves surrounding the piles [REDACTED]. Case Foundation Company (CFC) placed tremie concrete in the [REDACTED] rock sockets and [REDACTED] diameter shafts [REDACTED]. The placement of tremie concrete was monitored for observations of turbidity extending outside of the pile sleeve or cofferdam during the pour.

### **2.3.2 Non-Tremie Concrete**

TZC placed concrete [REDACTED] in 2016. Concrete placements included barrier pours, deck closure pours, expansion joints, over head sign structures, pile plugs, cast-in-place pile caps, pre-cast pile cap infill, columns, cast-in-place pier caps, pedestals, and tower pylons. Concrete placement was monitored for observations of turbidity in the Hudson River.

## **2.4 Drilled Shafts: Shaft Excavation, Rock Drilling, Decanting**

Drilled Shaft operations were conducted by Case Foundation Company (CFC) and TCC as subcontractors to TZC. CFC and TCC performed all activities related to the drilled shafts operations [REDACTED] [REDACTED] respectively.

Drilled Shaft excavation commenced on June 21, 2016 and continued intermittently through the end of the year. A crane mounted auger was used to excavate the overburden in the shafts. Rock drilling commenced on September 01, 2016 and continued intermittently through the end of the year. The drill cuttings were discharged into a scow [REDACTED] or a water tight roll off container [REDACTED]. After a 12 hour minimum settling period the overlying water was decanted to the river within a turbidity curtain. Decanting was performed using both submersible and suction pumps. Drilled shaft decanting commenced on September 8, 2016 and continued intermittently through the end of the year.

## **2.5 Pile Dewatering**

Pile dewatering previously took place in 2014 and 2015. Pile dewatering continued in 2016, beginning on July 1, 2016, and was completed on November 3, 2016. Pile dewatering was performed by TZC and TCC using suction and/or hydraulically driven submersible pumps. Pile dewatering occurred [REDACTED].

## **2.6 Pile Excavation**

Pile excavation previously took place in 2014 and 2015. Pile excavation continued in 2016, beginning on June 23, 2016, and was completed on November 03, 2016. Pile excavation was performed by TCC [REDACTED] and by TZC [REDACTED]. Pile excavation was completed by TZC and TCC using a crane mounted, cable-actuated spherical grab or a crane mounted auger.

## **2.7 Barge Decanting**

Barge decanting previously took place in 2015. In 2016, barge decanting commenced and was completed on July 11, 2016. The sediment scow associated with the drilled shaft excavation operation was decanted one time during the operation. A suction pump was used by CFC for this operation in the vicinity of [REDACTED].

## **2.8 Cofferdam Dewatering**

Cofferdam dewatering previously took place in 2014 and 2015. Following the installation of the cofferdam [REDACTED] on April 13, 2016, cofferdam dewatering occurred as necessary through the end of the year. Cofferdam dewatering took place [REDACTED]. Cofferdam dewatering was performed by TZC and CFC using suction pumps and submersible pumps.

### 3.0 Water Quality Monitoring Activities

Water quality monitoring was performed in accordance with the WQMP throughout 2016. Visual observations of activities were conducted and documented by a barge-based or vessel-based observer during the activities identified in Table 1 of the WQMP, Revision 8.

A total of two samples required by the WQMP were missed as described below:

- On September 14, 2016 TZC failed to collect a sample in response to an observation of turbidity outside of the turbidity curtain during rock drilling operations [REDACTED]. A sample was not collected because the observed plume of turbidity dissipated before the water quality sampling crew arrived on site. The NYSDEC IOECM was not immediately notified at the time of the incident. A description of the incident and subsequent resolution is contained in NCR-1560.
- On October 19, 2016 TZC failed to collect a sample in response to an observation of turbidity outside of the turbidity curtain during rock drilling operations [REDACTED]. A sample was not collected because the observed plume of turbidity dissipated before the water quality sampling crew arrived on site. The NYSDEC IOECM was notified at the time of the incident and subsequently notified the NYSDEC.

### 4.0 Results

Analytical results of whole water quality samples collected for 2016 are summarized in Table 1 and described below. There were no exceedances of the permit standards for dissolved mercury, dissolved nickel, dissolved copper, dissolved lead, dissolved zinc, PCBs, naphthalene, and benzo(a)pyrene. During the 2016 water quality monitoring program, 21 of the 22 samples (95%) collected over 18 sampling events 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

<b>Construction Activity</b>	<b>No. of Samples</b>	<b>No. of Sample Exceedances</b>	<b>Percent of Samples Under Permit Limits</b>
Cofferdam Reprofiling	3	0	100%
Non-Dredge Barge Decanting	1	0	100%
Drilled Shaft Barge Decanting	15	0	100%
Turbidity Observed: Drilled Shafts	3	1	67%
<b>Total</b>	<b>22</b>	<b>1</b>	<b>95%</b>

TZC also monitored construction operations through daily visual monitoring for turbidity that results in a substantial visible contrast to the ambient conditions of the Hudson River. Visual monitoring was documented through environmental checklists, visual inspection forms, and/or field compliance reports. For a summary of where visible turbidity was observed by activity, date, location, and monitoring method see Attachment 5. Table 2 below summarizes the visual monitoring completed for construction operations per the plan.

Table 2. Summary of Visual Monitoring for Turbidity from  
January 1, 2016 to December 31, 2016

<b>Construction Activity</b>	<b>No. of Observations</b>	<b>No. of Observations with Visible Turbidity<sup>1</sup></b>	<b>Percent of Observations Free of Visible Turbidity<sup>1</sup></b>
Barge Decanting, Drilled Shaft	14	0	100%
Barge Decanting	1	0	100%
Cofferdam Dewatering	2	0	100%
Cofferdam Reprofiling	2	0	100%
Concreting	413	25	94%
Drilled Shafts <sup>2</sup>	121	6	95%
General Construction <sup>3</sup>	42	3	93%
Pile Dewatering	17	0	100%
Pile Driving Outside Zone C	25	0	100%
<b>Total</b>	<b>637</b>	<b>34</b>	<b>95%</b>

<sup>1</sup>Turbidity observations and compliance monitoring can be found in Table 1 of the WQMP.

<sup>2</sup>Includes casing installation, shaft excavation, and rock drilling.

<sup>3</sup>General construction work includes, but is not limited to, the following activities: pile excavation, formwork, pile splicing, installation of piles under self-weight, power washing of piles, rebar installation, or other above water construction.

#### 4.1 Cofferdam Re-profiling

Attachment 1 provides a summary of samples collected for cofferdam re-profiling. TZC collected three whole water quality samples during two days of monitoring. Water quality results indicate there were no exceedances on the monitored days (Attachment 1). Visual monitoring for turbidity was conducted for each day that cofferdam re-profiling occurred. There were no exceedances of turbidity observed extending beyond the turbidity curtain.

#### 4.2 Barge Decanting

Attachment 2 provides a summary of samples collected for barge decanting. TZC collected one whole water quality sample during one day of monitoring. Water quality results indicate there were no exceedances on monitored days (Attachment 2). Visual monitoring for turbidity was conducted on days that barge decanting occurred. There were no exceedances of turbidity observed extending beyond the turbidity curtain.

#### 4.3 Drilled Shafts

##### 4.3.1 Drilled Shafts, Decanting

Attachment 3 provides a summary of samples collected for decanting related to the drilled shafts operations. TZC collected [REDACTED] water quality samples during 12 days of monitoring. Water quality results indicate there were no exceedances on the monitored days (Attachment 3). Visual monitoring for turbidity was conducted for each day that drilled shafts decanting occurred. There were no exceedances of turbidity observed extending beyond the turbidity curtain.

##### 4.3.2 Drilled Shafts: Rock Drilling, Turbidity Observed

Attachment 4 provides a summary of samples collected following the observation of turbidity outside of the turbidity curtain during rock drilling operations. TZC collected three whole water quality samples during three days of monitoring in response to turbidity observations. Water quality results indicate there was one TSS exceedance during rock drilling. Table 3 below provides a summary of the exceedance. Visual monitoring for turbidity was conducted for each day that rock drilling occurred. There were five exceedances of turbidity observed extending beyond the turbidity curtain (Attachment 5).

Table 3. TSS Exceedance during 2016 Rock Drilling

Date (mm/dd/yy)	Tide Cycle	Sample Depth	Up-current concentration (mg/L)	Down-current concentration <sup>1</sup> (mg/L)
10/21/16	Flood	Mid	41.8	149.0

<sup>1</sup> Permit limit is 100 mg/L above up-current or ambient.



**Attachment 1**

**Summary of Cofferdam Re-Profiling Water Quality Monitoring**

Cofferdam Re-Profiling Water Quality Monitoring  
 New NY Bridge Project  
 3/24/2016 - 5/20/2016



Date (mm/dd/yyyy)	Tidal Cycle (Flood or Ebb)	Sample Depth <sup>1</sup> (S, M, B)	Sample Time (24 00)	Upcurrent Samples											Downcurrent Samples											Sample Status <sup>2</sup> (Exceedances and other observations)				
				Total Suspended Solids (ppm)	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benzopyrene	Sample Time (24 00)	Total Suspended Solids (ppm)	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benzopyrene		
										Anchor 1242	Anchor 1246	Anchor 1254	Anchor 1266										Anchor 1242	Anchor 1246	Anchor 1254				Anchor 1266	
3/24/2016	Flood	S	10:51	40.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
3/24/2016	Flood	B	10:49	52.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
5/20/2016	Ebb	M	16:23	37.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance

Notes: <sup>1</sup> S = Near Surface M = Mid-Depth B = Near Bottom

<sup>2</sup> Exceedances based on New York State Department of Environmental Conservation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00013

Upcurrent samples collected at a location upcurrent of the source where water quality effects of the project are no longer discernible

Downcurrent samples collected as close to turbidity curtain as practicable

ND = Not Detected

**Attachment 2**

**Summary of Barge Decanting Water Quality Monitoring**



**Attachment 3**

**Summary of Drilled Shaft Water Quality Monitoring**

Drilled Shaft Decanting Water Quality Monitoring  
 New NY Bridge Project  
 9/08/2016 - 12/22/2016

TAPPAN ZEE  
 CONSTRUCTORS, LLC

Date (mm/dd/yyyy)	Tidal Cycle (Flood or Ebb)	Sample Depth <sup>1</sup> (S, M, B)	Sample Time (24 00) (ppm)	Upcurrent Samples											Downcurrent Samples											Sample Status <sup>2</sup> (Exceedances and other observations)			
				Total Suspended Solids	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benzopyrene	Total Suspended Solids	Mercury	Nickel	Copper	Lead	Zinc	PCB					Naphthalene	Benzopyrene	
										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260									Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260				
9/8/2016	Ebb	M	7:55	27.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
9/15/2016	Flood	M	7:53	21.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
9/19/2016	Flood	M	8:08	36.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
9/22/2016	Ebb	M	9:15	34.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
9/27/2016	Flood	M	7:38	15.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
11/3/2016	Flood	M	7:38	14.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
11/22/2016	Ebb	S	8:15	118.0	0.056 <sup>3</sup>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent Hg 0.056 downcurrent Hg ND is not an exceedance
11/22/2016	Ebb	B	8:12	118.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
11/28/2016	Flood	S	8:12	7.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
11/28/2016	Flood	B	8:07	12.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
11/30/2016	Flood	S	10:59	38.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
11/30/2016	Flood	B	10:56	43.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
12/8/2016	Ebb	M	7:36	58.8	ND	a	a	a	a	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
12/9/2016	Ebb	M	8:35	27.0	ND	a	a	a	a	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance
12/22/2016	Ebb	M	10:22	31.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No exceedance

Notes:  
<sup>1</sup> S = Near Surface M = Mid-Depth B = Near Bottom  
<sup>2</sup> Exceedances based on New York State Department of Environmental Conservation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00013  
<sup>3</sup> Upcurrent (ambient) concentrations exceeds the Water Quality Standard Downcurrent concentration is less than 30% over background.  
 Upcurrent samples collected at a location upcurrent of the source where water quality effects of the project are no longer discernible  
 Downcurrent samples collected as close to turbidity curtain as practicable  
 ND = Not Detected  
 RMPs= Rockland Permanent Maintenance Platform  
 a=Data not available due to equipment malfunction

**Attachment 4**

**Summary of Drilled Shafts Turbidity Observed Water Quality Monitoring**

Drilled Shafts Turbidity Observed Water Quality Monitoring  
 New NY Bridge Project  
 09/14/2016 -10/27/2016



Date (mm/dd/yyyy)	Tidal Cycle (Flood or Ebb)	Sample Depth <sup>1</sup> (S, M, B)	Sample Time (24 00)	Upcurrent Samples												Downcurrent Samples												Sample Status <sup>2</sup> (Exceedances and other observations)	
				Total Suspended Solids (ppm)	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene	Benzophenone	Sample Time (24 00)	Total Suspended Solids (ppm)	Mercury	Nickel	Copper	Lead	Zinc	PCB				Naphthalene		Benzophenone
										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260										Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
10/20/2016	Flood	M	13:10	8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Exceedance. Sample collected from barge approximately 5 feet from curtain.
10/21/2016	Flood	M	10:00	41.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9:43	149.0 <sup>3</sup>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Upcurrent TSS 41.8 ppm 149.0 ppm is an exceedance. Sample collected from barge approximately 5 feet from curtain.
10/27/2016	Flood	M	10:00	45.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9:45	50.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Exceedance. Sample collected from barge approximately 5 feet from curtain.

Notes: <sup>1</sup> S = Near Surface M = Mid-Depth B = Near Bottom

<sup>2</sup> Exceedances based on New York State Department of Environmental Conservation (NYSDEC) Permit Condition 61 of the NYSDEC Permit ID 3-9903-00043/00013

Upcurrent samples collected at a location upcurrent of the source where water quality effects of the project are no longer discernible

Downcurrent samples collected as close to turbidity curtain as practicable

ND = Not Detected



**Attachment 5**

**Summary of Visual Observations of Turbidity**

Summary of Visual Turbidity Observations  
01/01/2016-12/31/2016



Activity	Date	Inspection Start Time <sup>1</sup>	Inspection End Time <sup>1</sup>	Inspection Method <sup>2</sup>
Concreting	2016-01-15	08:00	16:00	FCI, ENV CL
Concreting	2016-02-22	06:00	16:00	FCI, ENV CL
Concreting	2016-04-08	12:00	13:00	FCI
Concreting	2016-04-21	06:30	13:15	FCI, ENV CL
Concreting	2016-05-13	08:15	16:05	FCI
Concreting	2016-07-06	07:00	13:00	FCI
Concreting	2016-07-12	07:45	13:45	FCI
Concreting	2016-07-28	10:05	10:50	FCI
Concreting	2016-08-04	07:30	13:30	FCI, ENV CL
Concreting	2016-08-04	07:45	13:24	FCI
Concreting	2016-08-15	08:00	12:00	FCI
Concreting	2016-08-16	NP	NP	ENV CL
Concreting	2016-08-18	07:35	13:30	FCI
Concreting	2016-08-23	07:30	15:00	FCI
Concreting	2016-08-25	07:25	14:00	FCI
Concreting	2016-08-26	07:00	14:00	FCI, ENV CL
Concreting	2016-09-12	10:00	17:00	FCI, ENV CL
Concreting	2016-09-27	07:00	16:00	FCI
Concreting	2016-10-11	07:00	18:00	FCI
Concreting	2016-10-18	08:00	17:00	FCI
Concreting	2016-10-19	08:00	16:00	FCI
Concreting	2016-10-29	07:00	15:00	FCI
Concreting	2016-11-02	07:00	14:00	FCI, ENV CL
Concreting	2016-11-28	07:00	13:00	FCI, ENV CL
Concreting	2016-08-17	08:45	13:40	FCI
Drilled Shafts	2016-09-01	07:30	15:00	ENV CL
Drilled Shafts	2016-09-14	NP	NP	ENV CL
Drilled Shafts	2016-10-19	14:50	15:00	FCI
Drilled Shafts	2016-10-20	12:50	13:20	FCI
Drilled Shafts	2016-10-21	09:43	10:00	FCI, ENV CL
Drilled Shafts	2016-10-27	09:45	10:00	FCI
General Construction	2016-02-05	08:00	13:15	FCI
General Construction	2016-08-04	07:45	13:24	FCI
General Construction	2016-08-24	09:23	09:50	FCI

Notes:

<sup>1</sup> NP= Not Provided on Environmental Checklist

<sup>2</sup> ENV CL= Environmental Checklist FCI = Field Compliance Inspection

# The New NY Bridge Project



## Summary of Visual Turbidity – IOECM Observations - 2016

Activity	Date	Inspection Start Time	Inspection End Time	Notes
Concreting	2016-07-14	14:28	15:52	Overhead Sign Structure (OHSS) pour. The form extended out over the water and the crew tried to place the rake of the scow underneath the form to catch any concrete that might escape the form. However, there was a gap between the scow and the pile cap. Concrete fell from the form into the gap, causing 2-3 cups of concrete to enter the River and causing a turbidity plume of approximately 1' by 2'.  Issue resolved immediately.
Concreting	2016-10-28	10:20	12:10	Concrete barrier pour. Release of an unknown volume of concrete to the river at around 11:19 AM. It led to a plume of about 3' by 3' in the river  NCR 1724 issued
Concreting	2016-12-07	10:25	16:00	TZC was pouring concrete at a stem pour [REDACTED]. A small amount of concrete impacted water leaked into the river.
General Construction	2016-07-20	11:00		IOECM observed turbidity in the river caused by the discharge of excavated sediment during pile excavation activities  NCR 1388 issued
General Construction	2016-09-19	8:30		Discharge of accumulated river water within the floating cofferdam caused visual contrast to natural conditions in the River extending outside of the turbidity curtain  NCR 1542 issued
Soil Boring	2016-10-13	9:30	11:25	Soil boring activities taking place [REDACTED]. [REDACTED] caused potential substantial visual contrast to natural conditions.  NCR Pending