Water Quality Monitoring Plan
for the
New NY Bridge Project

Revision 07
June 2016

Prepared by
Tappan Zee Constructors, LLC
555 White Plains Rd., Suite 400
Tarrytown, NY 10591

Document History			
Issue Date	**Description**	**By**	**Revision**
3/06/13	Submitted for NYSTA review	SZ/VW	0
4/11/13	Revised per NYSTA comments	SZ/WV	1
5/02/13	Revised per NYSDEC comments	VW	2
08/21/13	Revised per NYSDEC Permit Modification	VW	3
7/15/14	Revised per NYSDEC Permit Modification	CC	4
7/25/14	Revised per NYSTA comments	CC	5
8/1/2014	Revised per NYSDEC comments	CC	6
6/3/2016	Revised to include Drilled Shaft Monitoring	CC	7

Table of Contents

Attachments

1.0 Introduction

The New York State Department of Environmental Conservation Permit DEC ID 3-9903-00043/00012 (NYSDEC Permit) and subsequent modifications through and including July 3, 2014 letter from NYSDEC for the Tappan Zee Hudson River Crossing Project (Project) sets forth the requirements for water quality monitoring during construction. This Water Quality Monitoring Plan reflects these requirements and meets the Environmental Performance Commitments (EPCs) identified in the Final Environmental Impact Statement (FEIS). The Water Quality Monitoring Plan is described in the sections below.

2.0 Monitoring Objectives

The overall objective of this program is to monitor construction activities for total suspended solids (TSS) and contaminants via the collection and analysis of whole water samples or for turbidity through visual inspection as described in Table 1.

Table 1. Water Quality Monitoring Required by Construction Activities Associated with the Tappan Zee Hudson River Crossing Project

Construction Activity	Water Quality Monitoring
Pile Driving Operations in Zone C	Daily visual monitoring for turbidity extending beyond 500-ft mixing zone during pile driving operations; collection of whole water samples for TSS and contaminants for compliance with WQ Standard Permit Condition 60, 61, and 64 at the edge of a 500-foot mixing zone daily (every day the activity occurs) at the start of pile driving, once during the flood or once during the ebb tide stage as the activity and tidal stages provide. Per NYSDEC approval: Reduced to daily visual monitoring for turbidity extending beyond the 500-ft mixing zone during pile driving operations.
Pile Driving Operations Outside Zone C	Daily visual monitoring for turbidity extending beyond 500-ft mixing zone during pile driving operations.
Pile Dewatering	Daily visual monitoring for turbidity in the vicinity of the pump discharge during pile dewatering.
Cofferdam Construction	Daily visual monitoring for turbidity extending beyond 500-ft mixing zone during sheet pile driving. Daily visual monitoring for turbidity extending beyond 500-ft mixing zone during construction within the cofferdam.
Cofferdam Dewatering	Daily visual monitoring for turbidity in the vicinity of the pump discharge during cofferdam dewatering.
Dredging and Bottom Profiling	Daily visual monitoring for turbidity extending beyond 500-ft mixing zone; collection of whole water samples for TSS and contaminants for compliance with WQ Standard Permit Condition 60, 61, and 64 at the edge of a 500-foot mixing zone daily (every day the activity occurs) at the start of the dredging, once during the flood or once during the ebb tide stage as the activity and tidal stages provide. Per NYSDEC approval: Reduced to daily visual monitoring for turbidity extending beyond 500-ft mixing zone; collection of whole water samples for TSS twice per week or twice per every seven days dredging occurs;

Construction Activity	Water Quality Monitoring
Dredging of East Sediment Mound #3 and Dredging of Stage 2 Access Area	Daily visual monitoring for turbidity extending beyond 500-ft mixing zone; collection of whole water samples for TSS and contaminants for compliance with WQ Standard Permit Condition 60, 61, and 64 at the edge of a 500-foot mixing zone daily (every day the activity occurs) at the start of the dredging, once during the flood or once during the ebb tide stage as the activity and tidal stages provide. Per NYSDEC approval: Reduced to daily visual monitoring for turbidity extending beyond 500-ft mixing zone; collection of whole water samples for TSS twice per week or twice per every seven days dredging occurs;
Barge Decanting	Daily visual monitoring for turbidity extending beyond 500-ft mixing zone; Collection of whole water samples for TSS and contaminants for compliance with WQ Standard Permit Condition 60, 61, and 64 at the edge of a 500-foot mixing zone daily (every day the activity occurs) at the start of barge decanting, once during the flood or once during the ebb tide stage as the activity and tidal stages provide. Per NYSDEC approval: Reduced to daily visual monitoring for turbidity extending beyond 500-ft mixing zone.
Dredged Area Armoring	Daily visual monitoring for turbidity extending beyond 500-ft mixing zone; Collection of whole water samples for TSS and contaminants for compliance with WQ Standard Permit Condition 60, 61, and 64 at the edge of a 500-foot mixing zone daily (every day the activity occurs) at the start of dredged area armoring, once during the flood or once during the ebb tide stage as the activity and tidal stages provide. Per NYSDEC approval: Reduced to daily visual monitoring for turbidity extending beyond 500-ft mixing zone.
[redacted] Drilled Shafts	Daily visual monitoring for visible turbidity extending beyond the turbidity curtain secured to the floating cofferdam; In the event a visible plume beyond the turbidity curtain is observed, collection of whole water samples for TSS and contaminants for compliance with WQ Standards Permit Condition 60, 61, and 64 collected at the nearest practicable distance from the turbidity curtain. Whole water samples are only required in the event a plume is observed
Drilled Shaft Barge Decanting	Daily visual monitoring for visible turbidity extending beyond the turbidity curtain; Collection of whole water samples for TSS and contaminants for compliance with WQ Standard Permit Condition 60, 61, and 64 at the nearest practicable distance from a turbidity curtain daily (every day the activity occurs) at the start of decanting once during the flood or once during the ebb tide stage as the activity and tidal stages provide. Per NYSDEC approval: Reduced to daily visual monitoring for visible turbidity extending beyond the turbidity curtain.
Bridge Demolition (subsurface pile, cofferdam, and debris field removal) and Other Activities that may Resuspend Bottom Sediments	Daily visual monitoring for turbidity extending beyond 500-ft mixing zone or at the nearest practicable distance outside of a silt curtain should one be used; Collection of whole water samples for TSS and contaminants for compliance with WQ Standard Permit Condition 60, 61, and 64 at the edge of a 500-foot mixing zone or at the nearest practicable distance from a silt curtain, should one be used, within the first five days or tide stages of monitoring. The NYSDEC may specify water quality monitoring requirements that differ from those listed in conditions 59 through 67 to reflect the details of the demolition plans or for other activates that may suspend bottom sediments. Per NYSDEC approval: Reduced to daily visual monitoring for turbidity extending beyond 500-ft mixing zone; Collection of whole water samples for TSS twice per week or twice per every seven days the activity occurs following the first five days or tide stages of whole water sample collection.

3.0 Methods

Water quality monitoring methods will vary based on in-water construction activity (i.e. visual observation or vessel based whole water sample collection). Based on the width of the Hudson River and hydrodynamics in the area, multiple activities can be monitored or sampled each day with one survey crew. If all activities can not be monitored or sampled by a single crew, additional crews or vessels will be used as necessary.

The sections below describe the methods for the water quality monitoring plan.

3.1 Visual Observations

Visual observations of activities will be conducted by a barge-based or vessel-based observer during the activities identified in Table 1.

An observation of turbidity that extends beyond the 500-ft mixing zone or in the vicinity of the construction activity, as specified in Table 1, will be reported immediately to the Environmental Compliance Manager (ECM) or designee who will then inform NYSTA, OECM, and NYSDEC. The ECM or designee will immediately coordinate with Tappan Zee Constructors, LLC. (TZC) operations to implement corrections actions as to comply with water quality standards.

Visual observations will be documented on one or more field forms (Attachment A). Observations forms include but are not limited to:

- Environmental Checklists (ENV CL)
- Field Compliance Reports (FCR)
- Visual Inspection Forms (VIF)

If an exceedance is reported during reduced monitoring for an activity listed in Table 1 then additional monitoring will be implemented as specified in Section 3.3.

3.2 Vessel Based Whole Water Samples

Vessel-based water quality monitoring will be conducted for activities as specified in Table 1. TSS and contaminant whole water samples will be collected during either the flood or ebb tide stage during daylight hours. Water quality monitoring via whole water sample collection will be conducted daily for each activity.
Daily visual observations as described in Section 3.1 will continue through the duration of activities described in Permit Condition 59. If there is an exceedance of 100 mg/l above ambient TSS value or the observation of turbidity extending beyond 500-ft mixing zone, then corrective actions will be taken and the NYSDEC will be consulted to determine if additional monitoring is required. The NYSTA and OECM will notify NYSDEC to any corrective actions implemented. Vessel-based monitoring may be temporarily suspended due to weather or other safety concerns. If monitoring is temporarily suspended NYSTA and OECM will be notified who will inform the NYSDEC. Conditions resulting in suspension of monitoring due to weather or other safety concerns will be documented in the reports described in Section 4.1 and 4.3.

3.2.1 In-Plume (Downcurrent)

In-plume surveys will be collected at the edge of the 500-ft mixing zone, or at the nearest practicable proximity to a silt curtain, if one is used. An Acoustic Doppler Current Profiler (ADCP) will be used to identify the plume. An Optical Backscatter Sensor (OBS) configured to record turbidity (NTU), depth (meters), temperature (°C) and salinity (ppt) will be mounted to a submersible pump and used to collect vertical profiles at water sample station locations. Simultaneously, the pump will be used to collect discrete whole water samples at separate depths for laboratory analysis of TSS and contaminants. When water depth is less than 10 feet only mid-depth samples will be collected. When water depth is between 10 and 20 feet samples will be taken from near-surface and near-bottom. When water depth is greater than 20 feet samples will be taken from near-surface, mid-depth, and near-bottom. Near-surface samples will be collected from approximately three feet below the surface, mid-depth will be collected approximately half-way between the bottom and surface and bottom samples from approximately three feet above the bottom. The water samples will be preserved at 4° C and sent to the laboratory for analysis under full Chain-of-Custody protocols.

3.2.2 Background (Upcurrent)

In addition to in-plume surveys, ambient surveys will be conducted using the same methods and procedures described above. Ambient surveys will be conducted along a transect a minimum of 500-ft up current of the source to provide data for comparison with the in plume surveys. This transect will be conducted at a location up current of the source where the water quality effects of the project are no longer discernible. Samples will be collected in the same manner as the in-plume surveys.

3.2.3 Contaminant Analyses

To obtain measurements of water quality within the water column, whole water samples will be collected per Section 2.0 during each survey at the upcurrent and downcurrent transect. These samples will be collected using the pump sampler at the required depths, and will be analyzed for the parameters listed in Permit Condition 61.

The samples to be analyzed for dissolved nickel, copper, lead and zinc will be filtered in the field. All samples will be prepared, preserved as required, maintained at 4°C and shipped to a New York State Department of Health Environmental Laboratory Approval Program certified lab under full Chain-of-Custody protocols.

If an exceedance is reported during reduced monitoring for an activity listed in Table 1 then additional monitoring will be implemented as specified in Section 3.3.

3.3 Reduced Water Quality Monitoring

Following the receipt of five consecutive water quality monitoring events with no water quality standard exceedances for an activity listed in Table 1, TZC will provide the results to NYSTA, OECM, and NYSDEC and request to follow a reduced monitoring schedule per Permit Condition 64. Following approval by NYSDEC, documented in the form of a letter or e-mail, TZC will follow the reduced monitoring schedule for that activity as stated in Table 1.

If, during the reduced sampling for any activity, visible turbidity is observed immediately outside of a silt curtain or at the edge of the 500-foot mixing zone (per Table 1) or if there is an exceedance of 100 mg/L above the ambient TSS value, corrective action shall be taken and TSS monitoring frequency shall return to daily (every day that the activity occurs) for that activity until such time as TSS concentrations are less than 100 mg/L above ambient values on two consecutive measurements and visible turbidity is not observed immediately outside of a silt curtain or at the edge of the 500-ft mixing zone (per Table 1).

NYSDEC may specify additional monitoring until compliance is demonstrated. Samples shall be collected until NYSDEC approves resumption of reduced monitoring.

4.0 Reporting

4.1 Analytical Results

All analytical results (i.e. TSS and contaminants) of water samples collected in Section 3.1. will be provided to NYSTA and OECM. The OECM will transmit the analytical results to the NYSDEC by fax or email within 48 hours of receipt of the data results from TZC. Any exceedances will be highlighted by TZC. Exceedances will be based on differences in TSS and contaminant concentrations from analytical results of the water samples between the upcurrent and downcurrent stations, when the background concentration exceeds the water quality standards or detection limits in Permit Condition 61. Otherwise, exceedances will be based on the water quality standards or detection limits in Permit Condition 61.

Following receipt of five samples for an activity monitoring TZC will provide the results and request for reduced monitoring to NYSTA and OECM who will forward it to NYSDEC. TZC will follow the reduced sampling schedules provided in Table 1 once approved by NYSDEC.

4.2 Water Quality Standard Exceedances

In the event of an exceedance of a water quality standard for TSS and contaminants based on the analytical results of the water samples or field form documented visual inspections of turbidity as described in Permit Condition 65.c, NYSTA, OECM, and NYSDEC will be notified. Corrective actions will be taken and TSS monitoring will return to daily for that activity until TSS concentrations are less than 100 mg/l above ambient values on two consecutive measurements and turbidity is not observed extending beyond the 500-ft mixing zone. With NYSDEC approval, activity monitoring would return to the reduced schedule stated in Table 1. Based on the plan, in consultation with OECM and NYSDEC, the in-water activities will be re-evaluated in consultation with NYSDEC to determine the need for procedural changes. If an exceedance of the water quality standards occurs during the dredging operation a Corrective Action Plan (CAP) will be developed as appropriate. The CAP will be provided to NYSTA and OECM within 24 hours of the exceedance.

4.3 Reporting

Within 15 days of completion of the dredging operation in any calendar year, three (3) copies of the annual dredging monitoring report will be submitted to the New York State Thruway Authority (NYSTA) and provided to NYSDEC within 30 days of completion of dredging. Three (3) copies of the annual water quality monitoring report, summarizing the results of the water quality monitoring program and analyses will be submitted to NYSDEC for review within 30 days following the New Year.

ATTACHMENT A
Visual Observation Forms

TAPPAN ZEE CONSTRUCTORS, LLC

ARMORING BARGE ENVIRONMENTAL CHECKLIST

INSTRUCTIONS: Complete Section A and B for all work.

CHECK POINTS (CP) must be initialed by responsible person before work progresses. Return completed form at end of shift.

Date (mm/dd/yy)**:**	**Barge:**	**Superintendent:**

SECTION A. BARGE ACTIVITY INFORMATION

A1. Environmental Compliance Team (ECT) Notification (initial or circle NA if not applicable to barge activity, see below for ECT Contact Information)

(CP) Notify ECT **TWO** hours prior to start of armoring	Notification Time (hh:mm):	NA	Initial Here

A2. Armoring Information

Initial Daily Activity Start Time (hh mm):	Final Daily Activity End Time (hh:mm):
Dredged location where armor will be placed:	

A3. Spill Prevention

(CP) Spill Kit and SPCC Plan onboard (confirm spill kit content list is stocked, circle and initial)			Y	Initial Here
Sheen or spill of ANY size observed		Y	N	
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified (hh:mm):		

A4. Environmental Controls

2-mm Wedgewire screen used for intakes from Hudson River	Y	N	NA

SECTION B. ARMORING

B1. Armoring Placement (reconfirm each CP prior to starting armoring following barge movement or temporary suspension of armoring; record time, circle and initial prior to start; use back for additional space)

	Start Time (hh:mm)		Start Time (hh mm)		Start Time (hh:mm)		Start Time (hh:mm)	
(CP) Discharge chute at proper depth	Y		Y		Y		Y	
(CP) Conveyor RTK DGPS working properly	Y		Y		Y		Y	
(CP) Conveyor belt speed is constant and being recorded	Y		Y		Y		Y	
(CP) Operator computer display working properly	Y		Y		Y		Y	

B2. Water Quality

Turbidity observed resulting in a turbid visible contrast >500-ft from pile (circle):	Y	N
If Yes, immediately notify ECT and take corrective action		
Persons Notified:	Time Notified (hh mm):	

B3. Sturgeon See below for examples. Complete at end of shift or when fish/ birds observed.

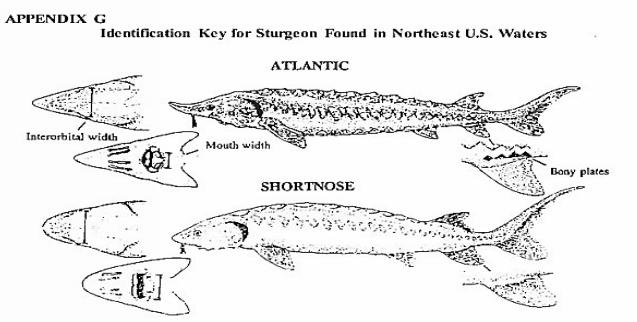
Observer Name:	Sturgeon observed (circle):	Y	N	Time(s) observed (hh:mm):
If Yes immediately notify ECT Persons Notified:				Time Notified (hh:mm):

Environmental Compliance Team Contacts

(contact in order shown until someone is reached)

1. Joseph Cassone	845-367-2099
2. Jefferey Kapus	646-823-4685
3. Zach Osei	917-559-6611
3. Christopher Coccaro	914-907-2024
5. John Duschang	845-596-7953
6. Elena Barnett	914-514-5324

Examples of a Sturgeon



Name: _____ Signature: _____

(print) (by signing I certify I have performed the above checks and believe them to be accura

SECTION B. ARMORING (continued)

B1 (cont.). Armoring Placement (reconfirm each CP prior to starting armoring following barge movement or temporary suspension of armoring; record time, circle and initial prior to start)

	Start Time (hh:mm)		Start Time (hh:mm)		Start Time (hh:mm)		Start Time (hh:mm)	
(CP) Discharge chute at proper depth	Y		Y		Y		Y	
(CP) Conveyor RTK DGPS working properly	Y		Y		Y		Y	
(CP) Conveyor belt speed is constant and being recorded	Y		Y		Y		Y	
(CP) Operator computer display working properly	Y		Y		Y		Y	

B1 (cont.). Armoring Placement (reconfirm each CP prior to starting armoring following barge movement or temporary suspension of armoring; record time, circle and initial prior to start)

	Start Time (hh:mm)		Start Time (hh:mm)		Start Time (hh:mm)		Start Time (hh:mm)	
(CP) Discharge chute at proper depth	Y		Y		Y		Y	
(CP) Conveyor RTK DGPS working properly	Y		Y		Y		Y	
(CP) Conveyor belt speed is constant and being recorded	Y		Y		Y		Y	
(CP) Operator computer display working properly	Y		Y		Y		Y	

B1 (cont.). Armoring Placement (reconfirm each CP prior to starting armoring following barge movement or temporary suspension of armoring; record time, circle and initial prior to start)

	Start Time (hh:mm)		Start Time (hh:mm)		Start Time (hh:mm)		Start Time (hh:mm)	
(CP) Discharge chute at proper depth	Y		Y		Y		Y	
(CP) Conveyor RTK DGPS working properly	Y		Y		Y		Y	
(CP) Conveyor belt speed is constant and being recorded	Y		Y		Y		Y	
(CP) Operator computer display working properly	Y		Y		Y		Y	

B1 (cont.). Armoring Placement (reconfirm each CP prior to starting armoring following barge movement or temporary suspension of armoring; record time, circle and initial prior to start)

	Start Time (hh:mm)		Start Time (hh:mm)		Start Time (hh:mm)		Start Time (hh:mm)	
(CP) Discharge chute at proper depth	Y		Y		Y		Y	
(CP) Conveyor RTK DGPS working properly	Y		Y		Y		Y	
(CP) Conveyor belt speed is constant and being recorded	Y		Y		Y		Y	
(CP) Operator computer display working properly	Y		Y		Y		Y	

B1 (cont.). Armoring Placement (reconfirm each CP prior to starting armoring following barge movement or temporary suspension of armoring; record time, circle and initial prior to start)

	Start Time (hh:mm)		Start Time (hh:mm)		Start Time (hh:mm)		Start Time (hh:mm)	
(CP) Discharge chute at proper depth	Y		Y		Y		Y	
(CP) Conveyor RTK DGPS working properly	Y		Y		Y		Y	
(CP) Conveyor belt speed is constant and being recorded	Y		Y		Y		Y	
(CP) Operator computer display working properly	Y		Y		Y		Y	

Notes: ______________________________

____

TAPPAN ZEE
CONSTRUCTORS, LLC

PILE BARGE ENVIRONMENTAL CHECKLIST

INSTRUCTIONS: Complete Section A for all work. Complete Sections B-D as work progresses for those activities. **CHECK POINTS (CP) must be initialed by responsible person before work progresses.** Return completed form at end of shift.

Date (mm/dd/yy):	**Barge:**	**Superintendent:**

SECTION A. BARGE ACTIVITY INFORMATION

A1. Environmental Compliance Team (ECT) Notification (initial or circle NA if not applicable to barge activity, see back for ECT Contact Information)

Notify ECT **TWO** hours prior to start of pile driving or dewatering	Notification Time (hh mm):	NA

A2. Activity Information (circle one): **B. Vibratory Driving / Removal** **C. Impact Driving** **D. Dewatering**

Pier No(s).:	Pile Dia(s).:	Activity Start Time at First Pile (hh:mm):
Hammer Model (enter NA if not applicable):		Activity End Time at Last Pile (hh:mm):

A3. Spill Prevention (circle NA if not applicable to daily barge activity)

(CP) Spill Kit and SPCC Plan onboard (confirm spill kit content list is stocked, circle and initial)		Y	N	Initial Here
(CP) Containment boom deployed around template or work area (circle one and initial)		Y	N	Initial Here
If No, immediately notify ECT and take corrective action	Persons Notified:	Time Notified (hh:mm):		
Sheen or spill of ANY size observed		Y	N	
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified (hh:mm):		

A4. Peregrine Falcon Protection (circle NA if not applicable to barge activity)

Checkerboard flag installed at top of cranes (circle one)	Y	N

SECTION B. VIBRATORY PILE DRIVING / REMOVAL

B1. Sturgeon See Page 2 for Examples. Complete at end of shift or when fish/ birds observed.

Observer Name:	Sturgeon observed (circle):	Y	N	Time(s) observed (hh:mm):
If Yes immediately notify ECT	Persons Notified:			Time Notified (hh mm):
B2. Water Quality	Turbidity observed extending >500-ft from pile (circle):		Y	N
If Yes, immediately notify ECT and take corrective action	Persons Notified:		Time Notified (hh:mm):	

SECTION C. IMPACT PILE DRIVING

C1. Shroud, Noise Attenuation System (NAS) - Bubble Curtain and Pile Tap (perform visual inspection of water surface to confirm NAS is operating properly)

(CP) 40-ft Shroud Deployed (circle and initial):	Y	Initial Here	**(CP)** NAS Deployed and Operating (initial below prior to driving each pile):

C2. Bubble Curtain Log for piles >48-inches (record air pressure and flow approx. 5 mins after NAS is on)

Pile No.	NAS (CP) (initial)	Pile Tapped (circle one)	NAS Cables Taut (circle one)	Air Pressure (psi) at Reservoir Tank Outlets/ Air Flow (cfm) at Meter (if available)									
				1		2		3		4		5	
				Visually Checked	PSI	Visually Checked	PSI	Visually Checked	PSI	Visually Checked	PSI	Visually Checked	PSI
	Initial Here	Y / N	Y / N	Y / N		Y / N		Y / N		Y / N		Y / N	
	Initial Here	Y / N	Y / N	Y / N		Y / N		Y / N		Y / N		Y / N	
	Initial Here	Y / N	Y / N	Y / N		Y / N		Y / N		Y / N		Y / N	
	Initial Here	Y / N	Y / N	Y / N		Y / N		Y / N		Y / N		Y / N	
	Initial Here	Y / N	Y / N	Y / N		Y / N		Y / N		Y / N		Y / N	
	Initial Here	Y / N	Y / N	Y / N		Y / N		Y / N		Y / N		Y / N	
	Initial Here	Y / N	Y / N	Y / N		Y / N		Y / N		Y / N		Y / N	
	Initial Here	Y / N	Y / N	Y / N		Y / N		Y / N		Y / N		Y / N	
If NAS not operational per plan, immediately notify ECT					Persons Notified:					Time Notified (hh:mm):			

C3. Fish (Monitoring Vessel Available on Channel 18A) See Page 2 for Examples. Complete at end of shift or when fish/ birds observed.

Observer Name:			Sturgeon observed (circle):	Y	N	If Yes immediately notify ECT
Time(s) observed (hh:mm):			Persons Notified:			Time Notified (hh mm):
Other fish observed (circle):	Y	N	Scavenger bird activity (circle):	Y	N	
Time Observed:	Species (if known):		Quantity Observed:		Condition:	
Time Observed:	Species (if known):		Quantity Observed:		Condition:	
C4. Water Quality	Turbidity observed extending >500-ft from pile (circle):				Y	N
If Yes, immediately notify ECT and take corrective action	Persons Notified:				Time Notified (hh:mm):	

Name: ______________________ Signature: ______________________________

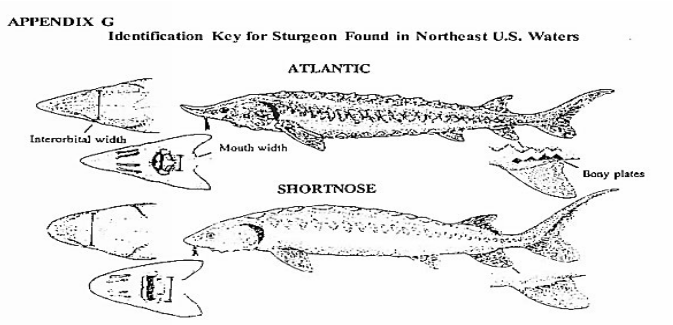
(print) (by signing I certify I have performed the above checks and believe them to be accurate)

Environmental Compliance Team Contacts

(contact in order shown until someone is reached)

1. Jefferey Kapus	646-823-4685
2. Donald Henshaw	845-821-4306
3. Christopher Coccaro	914-907-2024
4. Zach Osei	917-559-6611
5. John Duschang	845-596-7953

Examples of a Sturgeon



SECTION D. DEWATERING INFORMATION

(Complete D1 and D2 for each pile. **Check Points (CP)** must be initialed by responsible person before work progresses. Use additional sheets as necessary. See ITP TZC 0033 for mudline elevation.)

D1.1 Pile Information (complete for each pile, circle NA if not applicable barge activity) **Pier No.:** **Pile No.:** **NA**

(CP) Confirm 2-ft min separation between pump and mudline elev. (initial)	Initial Here	Mudline elevation:	ft
Discharge hose consistent with construction work plan (circle one)	Y	N	

D2.1 Water Quality

Turbidity observed in the vicinity of the pump discharge (circle):	Y	N
If Yes, immediately notify ECT and take corrective action		
Persons Notified: Time Notified:		

D1.2 Pile Information (complete for each pile, circle NA if not applicable barge activity) **Pier No.:** **Pile No.:** **NA**

(CP) Confirm 2-ft min separation between pump and mudline elev. (initial)	Initial Here	Mudline elevation:	ft
Discharge hose consistent with construction work plan (circle one)	Y	N	

D2.2 Water Quality

Turbidity observed in the vicinity of the pump discharge (circle):	Y	N
If Yes, immediately notify ECT and take corrective action		
Persons Notified: Time Notified:		

D1.3 Pile Information (complete for each pile, circle NA if not applicable barge activity) **Pier No.:** **Pile No.:** **NA**

(CP) Confirm 2-ft min separation between pump and mudline elev. (initial)	Initial Here	Mudline elevation:	ft
Discharge hose consistent with construction work plan (circle one)	Y	N	

D2.3 Water Quality

Turbidity observed in the vicinity of the pump discharge (circle):	Y	N
If Yes, immediately notify ECT and take corrective action		
Persons Notified: Time Notified:		

TAPPAN ZEE CONSTRUCTORS, LLC

PILE AND FORMWORK CLEAN-OUT ENVIRONMENTAL CHECKLIST

INSTRUCTIONS: Complete Section A for all work. Complete Sections B-D as work progresses for those activites.
CHECK POINTS (CP) must be initialed by responsible person before work progresses. Return completed form at end of shift.

Date (mm/dd/yy)**:**	**Barge:**	**Superintendent:**

SECTION A. BARGE ACTIVITY INFORMATION

A1. Activity Information (circle one) **B. Pile Dewatering** **C. Pile Excavation** **D. Formwork Cleanout**

Pier No EB/WB.:	Start Time:	End Time:

A2. Environmental Controls (circle NA if not applicable to daily barge activity)

(CP) Spill Kit and SPCC Plan onboard (confirm spill kit content list is stocked, circle and initial)			Y	Initial Here
Sheen or spill of ANY size observed		Y	N	
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified (hh mm):		
Checkerboard flag installed at top of cranes (circle one)		Y	N	NA
2-mm Wedgewire screen used for intakes from Hudson River		Y	N	NA
Dewatering controls (cage, filter fabric, turbidity curtain, etc.) checked and in working order (i.e. Substantially free of sediment) prior to use (circle one)		Y	N	NA

SECTION B. PILE DEWATERING INFORMATION

(Complete B1 and B2 for each pile. **Check Points (CP)** must be initialed by responsible person before work progresses.
Use additional sheets as necessary. See ITP TZC 0033 for mudline elevation.)

B1.1 Pump Information (complete for each pile, circle NA if not applicable barge activity) **Pier No.:** **Pile No.:** **NA**

(CP) Pump discharge line diameter:	2"	4"	Pump Elevation	ft	Initial Here
(CP) Confirm separation between pump and mudline elev. (initial)	1-ft	5-ft	Mudline elevation:	ft	Initial Here
Discharge hose conveyed to dewater cage (approach) or turbidity curtain (main span) (circle one)			Y	N	Initial Here

B2.1 Water Quality

Turbidity observed outside of outer turbidity curtain (circle):		Y	N
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified:	
If corrective action taken, state action taken:			

B1.2 Pump Information (complete for each pile, circle NA if not applicable barge activity) **Pier No.:** **Pile No.:** **NA**

(CP) Pump discharge line diameter:	2"	4"	Pump Elevation	ft	Initial Here
(CP) Confirm separation between pump and mudline elev. (initial)	1-ft	5-ft	Mudline elevation:	ft	Initial Here
Discharge hose conveyed to dewater cage (approach) or turbidity curtain (main span) (circle one)			Y	N	Initial Here

B2.2 Water Quality

Turbidity observed outside of outer turbidity curtain (circle):		Y	N
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified:	
If corrective action taken, state action taken:			

B1.3 Pump Information (complete for each pile, circle NA if not applicable barge activity) **Pier No.:** **Pile No.:** **NA**

(CP) Pump discharge line diameter:	2"	4"	Pump Elevation	ft	Initial Here
(CP) Confirm separation between pump and mudline elev. (initial)	1-ft	5-ft	Mudline elevation:	ft	Initial Here
Discharge hose conveyed to dewater cage (approach) or turbidity curtain (main span) (circle one)			Y	N	Initial Here

B2.3 Water Quality

Turbidity observed outside of outer turbidity curtain (circle):		Y	N
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified:	
If corrective action taken, state action taken:			

B1.4 Pump Information (complete for each pile, circle NA if not applicable barge activity) **Pier No.:** **Pile No.:** **NA**

(CP) Pump discharge line diameter:	2"	4"	Pump Elevation	ft	Initial Here
(CP) Confirm separation between pump and mudline elev. (initial)	1-ft	5-ft	Mudline elevation:	ft	Initial Here
Discharge hose conveyed to dewater cage (approach) or turbidity curtain (main span) (circle one)			Y	N	Initial Here

B2.4 Water Quality

Turbidity observed outside of outer turbidity curtain (circle):		Y	N
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified:	
If corrective action taken, state action taken:			

Name: _____ Signature: _____

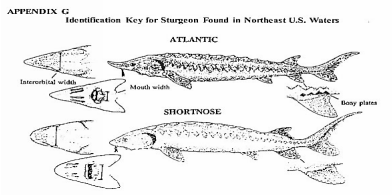
(print) (by signing I certify I have performed the above checks and believe them to be accurate)

Environmental Compliance Team Contacts

(contact in order shown until someone is reached)

1. Jefferey Kapus	646-823-4685
2. Elena Barnett	914-391-8950
3. Christopher Coccaro	914-907-2024
4. Zach Osei	917-559-6611
5. Tim Piazza	845-709-1396

Examples of a Sturgeon



SECTION C. PILE EXCAVATION INFORMATION

(Complete C1 and C2 for each pile. Use additional sheets as necessary.)

C1.1 Pile Information (complete for each pile, circle NA if not applicable barge activity)	**Pier No.:**	**Pile No.:**		**NA**
C2.1 Water Quality Excavated Material Placed into Hudson River (circle):			Y	N

C1.2 Pile Information (complete for each pile, circle NA if not applicable barge activity)	**Pier No.:**	**Pile No.:**		**NA**
C2.2 Water Quality Excavated Material Placed into Hudson River (circle):			Y	N

C1.3 Pile Information (complete for each pile, circle NA if not applicable barge activity)	**Pier No.:**	**Pile No.:**		**NA**
C2.3 Water Quality Excavated Material Placed into Hudson River (circle):			Y	N

C1.4 Pile Information (complete for each pile, circle NA if not applicable barge activity)	**Pier No.:**	**Pile No.:**		**NA**
C2.4 Water Quality Excavated Material Placed into Hudson River (circle):			Y	N

SECTION D. FORMWORK CLEAN-OUT INFORMATION

(Complete D1 and D2 for each location, Check Points (CP) must be initialed by responsible person before work progresses.)

D1.1 Pump Information (complete for each pile, circle NA if not applicable barge activity) **Pier Number:**

(CP) Confirm screen or similar control is in place between pump(s) and sediments. (initial)	Y	N	Initial Here
If No, place control or provide reason for operation without control:			
Discharge hose conveyed to dewater cage (approach) or turbidity curtain (main span) (circle one):	Y	N	Initial Here
If No, state discharge point:			

D2.1 Water Quality

Turbidity observed outside of turbidity curtain (circle):		Y	N
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified:	
If corrective action taken, state action taken:			

D1.2 Pump Information (complete for each pile, circle NA if not applicable barge activity) **Pier Number:**

(CP) Confirm screen or similar control is in place between pump(s) and sediments. (initial)	Y	N	Initial Here
If No, place control or provide reason for operation without control:			
Discharge hose conveyed to dewater cage (approach) or turbidity curtain (main span) (circle one):	Y	N	Initial Here
If No, state discharge point:			

D2.2 Water Quality

Turbidity observed outside of turbidity curtain (circle):		Y	N
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified:	
If corrective action taken, state action taken:			

D1.3 Pump Information (complete for each pile, circle NA if not applicable barge activity) **Pier Number:**

(CP) Confirm screen or similar control is in place between pump(s) and sediments. (initial)	Y	N	Initial Here
If No, place control or provide reason for operation without control:			
Discharge hose conveyed to dewater cage (approach) or turbidity curtain (main span) (circle one):	Y	N	Initial Here
If No, state discharge point:			

D2.3 Water Quality

Turbidity observed outside of turbidity curtain (circle):		Y	N
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified:	
If corrective action taken, state action taken:			

TAPPAN ZEE CONSTRUCTORS, LLC

CONCRETE BATCH PLANT ENVIRONMENTAL CHECKLIST

INSTRUCTIONS: Complete Section A for all work. Complete Sections B and C as work progresses for those activities. **CHECK POINTS (CP) must be initialed by responsible person before work progresses.** Return completed form at end of shift.

Date (mm/dd/yy)**:**	**Plant # :**	**Pier #:**	**Superintendent:**
Activity Start Time (hh mm):		Activity End Time (hh:mm):	

SECTION A. CONCRETE BATCH PLANT ACTIVITY INFORMATION

A1. Spill Prevention (circle NA if not applicable to daily barge activity)

(CP) Spill Kit and SPCC Plan onboard (confirm spill kit content list is stocked, circle and initial)		Y	initial here
Sheen or spill of ANY size observed	Y	N	
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified (hh mm):	

SECTION B. CONCRETE PRODUCTION INFORMATION

B1.1 Concrete Batch Plant Controls

1. Fugitive dust emissions controlled as per plan	Y	N	If no, immediately notify Environmental Compliance Team (ECT) and take corrective action	
Persons Notified:		Time Notified:		
2. Baghouse/filter sock controls in place and operational	Y	N	If no, immediately notify ECT and take corrective action	
Persons Notified:		Time Notified:		
3. Wastewater sump capacity is adequate for operation/storm	Y	N	If no, immediately notify ECT and take corrective action	
Persons Notified:		Time Notified:		
4. Equipment and hoses inspected for signs of potential leaks	Y	N	If no, immediately notify ECT and take corrective action	
Persons Notified:		Time Notified:		
5. If utilized, concrete bucket properly maintained and sealed	Y	N	NA	If no, immediately notify ECT and take corrective action
Persons Notified:		Time Notified:		
6. Equipment properly washed down per control plan:	Y	N	If no, immediately notify ECT and take corrective action	
Persons Notified:		Time Notified:		
7. Excess concrete produced	Y	N		
Volume:		Disposal Method:		
8. Waste bin capacity is adequate for operations	Y	N	If no, immediately notify ECT and take corrective action	
Persons Notified:		Time Notified:		

SECTION C. WATER QUALITY AND SPILL PREVENTION

C1.1 Water Quality

1. River free of turbidity in the vicinity of newly placed concrete	Y	N	If no, immediately notify ECT and take corrective action	
Persons Notified:		Time Notified:		
2. Hose end covered per plan while transiting over Hudson River	Y	N	NA	If no, immediately notify ECT and take corrective action
Persons Notified:		Time Notified:		
3. Swing path minimized over open water to extent practicable	Y	N	If no, immediately notify ECT and take corrective action	
Persons Notified:		Time Notified:		

Name: _____ (print)

Signature: _____ (by signing I certify I have performed the above checks and believe them to be accurate)

See back for list of ECT and PPT contact information

TAPPAN ZEE
CONSTRUCTORS, LLC

CONCRETE BATCH PLANT ENVIRONMENTAL CHECKLIST

Environmental Compliance Team (ECT) Contacts
(contact in order shown until someone is reached)

1. Jefferey Kapus	646-823-4685
2. Donald Henshaw	845-821-4306
3. Christopher Coccaro	914-907-2024
4. Zach Osei	917-559-6611
5. John Duschang	845-596-7953

Pollution Prevention Team (PPT) Contacts
(contact in order shown until someone is reached)

1. Kelly Kyle	(985) 445-3512
2. Kraig Kyle	(914) 584-1094
3. Ted Shaw	(914) 447-6007
4. Drew Merritts	(757) 613-1654
5. Wayne Dabrowski	(985) 258-1584
6. Jefferey Kapus	(646) 823-4685
7. John Duschang	(845) 596-7953

TAPPAN ZEE CONSTRUCTORS, LLC

COFFERDAM ENVIRONMENTAL CHECKLIST

INSTRUCTIONS: Complete Section A for all work. Complete Sections B-D as work progresses for those activites. **CHECK POINTS (CP) must be initialed by responsible person before work progresses.** Return completed form at end of shift.

Date (mm/dd/yy)**:**	**Location:**	**Superintendent:**

SECTION A. ACTIVITY INFORMATION

A1. Activity Information (circle one): **B. Vibratory Driving / Removal** **C. Dewatering** **D. Excavation**

Pier No(s).:	Sheet size(s).:	Activity Start Time (hh:mm):
Hammer Model (enter NA if not applicable):		Activity End Time (hh:mm):

A3. Environmental Controls (circle NA if not applicable to daily barge activity)

(CP) Spill Kit and SPCC Plan onboard (confirm spill kit content list is stocked, circle and initial)			Y	Initial Here
(CP) Containment boom deployed around template or work area (circle one and initial)		Y	NA	Initial Here
Sheen or spill of ANY size observed		Y	N	
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified (hh:mm):		
Checkerboard flag installed at top of cranes (circle one)		Y	N	NA
2-mm Wedgewire Screen on intakes from the Hudson River (circle one)		Y	N	NA

SECTION B. VIBRATORY SHEET DRIVING / REMOVAL

B1. Sturgeon See Page 2 for Examples. Complete at end of shift or when fish/ birds observed.

Observer Name:	Sturgeon observed (circle):	Y	N	Time(s) observed (hh:mm):
If Yes immediately notify ECT Persons Notified:				Time Notified (hh mm):

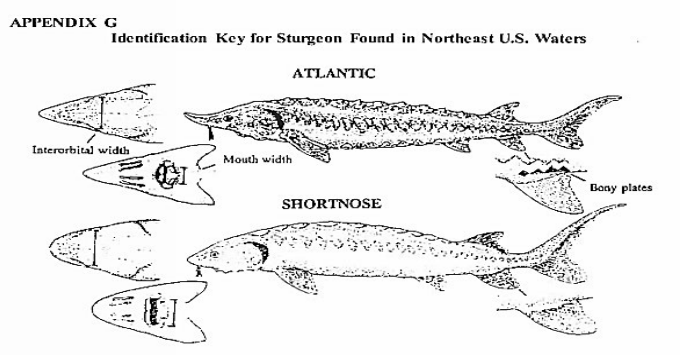
B2. Water Quality

Turbidity observed extending >500-ft from cofferdam (circle):		Y	N	
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified (hh:mm):		

Environmental Compliance Team Contacts
(contact in order shown until someone is reached)

1. Jefferey Kapus	646-823-4685
2. Donald Henshaw	845-821-4306
3. Christopher Coccaro	914-907-2024
4. Zach Osei	917-559-6611
5. John Duschang	845-596-7953

APPENDIX G
Identification Key for Sturgeon Found in Northeast U.S. Waters



Name: _____ Signature: _____

(print) (by signing I certify I have performed the above checks and believe them to be accurate)

SECTION C. DEWATERING INFORMATION

(Complete C1 and C2 for each cofferdam **Check Points (CP)** must be initialed by responsible person before work progresses.
Use additional sheets as necessary. See ITP TZC 0033 for mudline elevation.)

C1.1 Cofferdam Information (complete for each pile, circle NA if not applicable barge activity) **Pier No.:** **NA**

(CP) Confirm 2-ft min separation between pump and mudline elev. (initial)	Initial Here	Mudline elevation:	ft
Pump discharge consistent with construction work plan (circle one):	Y	N	

C1.2. Water Quality

Turbidity observed in the vicinity of pump discharge (circle):		Y	N
If Yes, immediately notify ECT and take corrective action	Persons Notified:		Time Notified (hh:mm):

SECTION D. EXCAVATION INFORMATION

(Complete D1 and D2 for each cofferdam **Check Points (CP)** must be initialed by responsible person before work progresses.

D1.1 Cofferdam Information (complete for each cofferdam, circle NA if not applicable activity) **Pier No.:** **NA**

(CP) Confirm Dredge Environmental Seal in Proper Wording Order. (initial)		Initial Here	
Dredge Bucket closed while transiting over Hudson River	Y	N	
Excavated material only placed in dredge scow	Y	N	
If No, immediately notify ECT and take corrective action	Persons Notified:		Time Notified (hh:mm):

D1.2. Water Quality

Turbidity observed extending >500-ft from cofferdam (circle):		Y	N
If Yes, immediately notify ECT and take corrective action	Persons Notified:		Time Notified (hh:mm):
Sheen or Spill Observed		Y	N
If Yes, immediately notify ECT and take corrective action	Persons Notified:		Time Notified (hh:mm):

Comments

TAPPAN ZEE CONSTRUCTORS, LLC

DREDGE BARGE ENVIRONMENTAL CHECKLIST

Instructions: Complete Section A and B for all work.

CHECK POINTS (CP) must be initialed by responsible person before work progresses. Return completed form at end of shift.

Date (mm/dd/yy):	**Dredge:**	**Superintendent:**

SECTION A. DREDGE BARGE ACTIVITY INFORMATION

A1. Environmental Controls (initial or circle NA if not applicable to barge activity, see below for ECT Contact Information)

(CP) Notify ECT **2-hours** prior to re-start of dredging following a shutdown	Notification Time (hh:mm):		NA	Initial Here
(CP) Spill Kit and SPCC Plan onboard (confirm spill kit content list is stocked, circle and initial)			Y	Initial Here
Sheen or spill of ANY size observed		Y	N	
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified (hh:mm):		

A2. Activity Information

Location where Dredging will take place (circle one):	South Dredge Area	Access. Area	Sediment Mound #3		
(CP) USACE Permit onboard Dredge (permit onboard when actively engaged in dredging)			Y	NA	Initial Here
(CP) Dredge and Pile Driving Monitoring Plan onboard Dredge (permit onboard when actively engaged in dredging)			Y	NA	Initial Here
(CP) Dredging was conducted using an environmental, closed clamshell dredge bucket			Y	NA	Initial Here

A3. Sturgeon Recovery & Fish Handling Equipment (circle NA if not applicable to daily barge activity)

(CP) NMFS Certified Observer onboard and provided safe, well-lit area to observe dredging (circle one):	Y	N	Initial Here
(CP) Long-handled Dip Net, Fish Sling, 150-Gal Poly Holding Tank, Pump & Hose	Y	N	Initial Here

SECTION B. DREDGING

B1. Dredging Operations (reconfirm each CP prior to starting dredging following barge movement or temporary suspension of dredging; record time, circle and initial prior to start; use back for additional space)

	Start Time (hh:mm)		Start Time (hh mm)		Start Time (hh mm)	
(CP) Sufficient time between each dredging cycle for observer to inspect bucket / scow	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Bucket loads were released at the level of the barge gunwales	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Bucket was lifted in a continuous motion through the water into the barge	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Bucket decanting minimized to the maximum extent practicable	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) All material removed was placed directly into sealed scows	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) No sidecasting of dredged sediment was executed	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) No barge overflow occurred during filling with dredged material	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Equipment was operated in a manner to minimize re-suspension of sediments	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Dredged material removed from site by barge	Y	Initial Here	Y	Initial Here	Y	Initial Here
Investigated excessive loss of material from the bucket (if necessary)			Y	N	NA	
Persons Notified:	Time Notified (hh mm):		Corrective Action:			

B4. Water Quality

Turbidity observed extending greater than 500-ft from the Dredge (circle):	Y	N
If Yes, immediately notify ECT and take corrective action		
Persons Notified:	Time Notified (hh:mm):	

B3. Sturgeon See below for examples. Complete at end of shift or when fish/ birds observed.

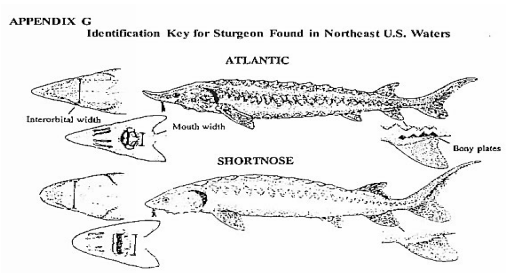
Observer Name:	Sturgeon observed (circle):	Y	N	Time(s) observed (hh:mm):
If Yes immediately notify ECT Persons Notified:				Time Notified (hh:mm):

Environmental Compliance Team Contacts

(contact in order shown until someone is reached)

1. Jefferey Kapus	646-823-4685
2. Zach Osei	917-559-6611
3. Christopher Coccaro	914-907-2024
4. Joseph Cassone	845-367-2099
5. Elena Barnett	914-514-5324
6. Donald Henshaw	845-821-4306

Examples of a Sturgeon



Name: _____ Signature: _____

(print) (by signing I certify I have performed the above checks and believe them to be accurate)

SECTION B. DREDGING (continued)

B1. Dredging Operations (reconfirm each CP prior to starting dredging following barge movement or temporary suspension of dredging; record time, circle and initial prior to start)

	Start Time (hh mm)		Start Time (hh mm)		Start Time (hh mm)	
(CP) Sufficent time between each dredging cycle for observer to inspect bucket / scow	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Bucket loads were released at the level of the barge gunwales	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Bucket was lifted in a continuous motion through the water into the barge	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Bucket decanting minimized to the maximum extent practicable	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) All material removed was placed directly into sealed scows	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) No sidecasting of dredged sediment was executed	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) No barge overflow occurred during filling with dredged material	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Equipment was operated in a manner to minimize re-suspension of sediments	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Dredged material removed from site by barge	Y	Initial Here	Y	Initial Here	Y	Initial Here
Investigated excessive loss of material from the bucket (if necessary)				Y	N	NA
Persons Notified:	Time Notified (hh mm):		Corrective Action:			

B1. Dredging Operations (reconfirm each CP prior to starting dredging following barge movement or temporary suspension of dredging; record time, circle and initial prior to start)

	Start Time (hh mm)		Start Time (hh mm)		Start Time (hh mm)	
(CP) Sufficent time between each dredging cycle for observer to inspect bucket / scow	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Bucket loads were released at the level of the barge gunwales	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Bucket was lifted in a continuous motion through the water into the barge	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Bucket decanting minimized to the maximum extent practicable	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) All material removed was placed directly into sealed scows	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) No sidecasting of dredged sediment was executed	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) No barge overflow occurred during filling with dredged material	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Equipment was operated in a manner to minimize re-suspension of sediments	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Dredged material removed from site by barge	Y	Initial Here	Y	Initial Here	Y	Initial Here
Investigated excessive loss of material from the bucket (if necessary)				Y	N	NA
Persons Notified:	Time Notified (hh mm):		Corrective Action:			

B1. Dredging Operations (reconfirm each CP prior to starting dredging following barge movement or temporary suspension of dredging; record time, circle and initial prior to start)

	Start Time (hh mm)		Start Time (hh mm)		Start Time (hh mm)	
(CP) Sufficent time between each dredging cycle for observer to inspect bucket / scow	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Bucket loads were released at the level of the barge gunwales	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Bucket was lifted in a continuous motion through the water into the barge	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Bucket decanting minimized to the maximum extent practicable	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) All material removed was placed directly into sealed scows	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) No sidecasting of dredged sediment was executed	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) No barge overflow occurred during filling with dredged material	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Equipment was operated in a manner to minimize re-suspension of sediments	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Dredged material removed from site by barge	Y	Initial Here	Y	Initial Here	Y	Initial Here
Investigated excessive loss of material from the bucket (if necessary)				Y	N	NA
Persons Notified:	Time Notified (hh mm):		Corrective Action:			

B1. Dredging Operations (reconfirm each CP prior to starting dredging following barge movement or temporary suspension of dredging; record time, circle and initial prior to start)

	Start Time (hh mm)		Start Time (hh mm)		Start Time (hh mm)	
(CP) Sufficent time between each dredging cycle for observer to inspect bucket / scow	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Bucket loads were released at the level of the barge gunwales	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Bucket was lifted in a continuous motion through the water into the barge	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Bucket decanting minimized to the maximum extent practicable	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) All material removed was placed directly into sealed scows	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) No sidecasting of dredged sediment was executed	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) No barge overflow occurred during filling with dredged material	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Equipment was operated in a manner to minimize re-suspension of sediments	Y	Initial Here	Y	Initial Here	Y	Initial Here
(CP) Dredged material removed from site by barge	Y	Initial Here	Y	Initial Here	Y	Initial Here
Investigated excessive loss of material from the bucket (if necessary)				Y	N	NA
Persons Notified:	Time Notified (hh mm):		Corrective Action:			

TAPPAN ZEE CONSTRUCTORS, LLC

BARGE DECANTING ENVIRONMENTAL CHECKLIST

Instructions: Complete Section A and B for all work.

CHECK POINTS (CP) must be initialed by responsible person before work progresses. Return completed form at end of shift.

Date (mm/dd/yy)**:**	**Scow:**	**Superintendent:**

SECTION A. DREDGE BARGE ACTIVITY INFORMATION

A1. Environmental Controls (initial or circle NA if not applicable to barge activity, see below for ECT Contact Information)

(CP) Notify ECT **2-hours** prior to start of decanting operation	Notification Time (hh:mm):		NA	Initial Here
(CP) Spill Kit and SPCC Plan onboard (confirm spill kit content list is stocked, circle and initial)			Y	Initial Here
Sheen or spill of ANY size observed		Y	N	
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified (hh:mm):		

SECTION B. DECANTING

B1. Decanting Operations (confirm each CP prior to starting decanting following 12-hour settling time)

Location where decanting will take place:	**Barge or Pier Number:**			
Start date and time of decanting (mm/dd/yy hh:mm):				
End date and time of decanting (mm/dd/yy hh:mm):				
(CP) Minimum of 12 hours of settling time provided prior to decanting water to the Hudson River:		Y	N	Initial Here
BMPs in place prior to transferring sediments between barges:		Y	N	NA
If No immediately notify ECT	Persons Notified:	Time Notified (hh mm):		
(CP) Equipment was operated in a manner to avoid re-suspension of sediments		Y	N	Initial Here
If No immediately notify ECT	Persons Notified:	Time Notified (hh mm):		

B4. Water Quality

Turbidity observed extending beyond 500-ft mixing zone (circle):		Y	N
If Yes, immediately notify ECT and take corrective action			
Persons Notified:	Time Notified (hh mm):		

B3. Sturgeon See below for examples. Complete at end of shift or when fish/ birds observed.

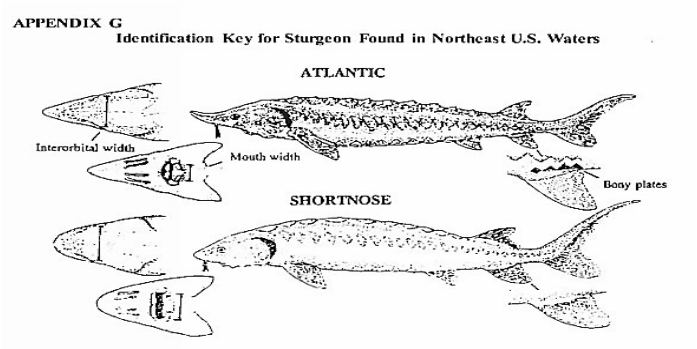
Observer Name:	Sturgeon observed (circle):	Y	N	Time(s) observed (hh:mm):
If Yes immediately notify ECT	Persons Notified:			Time Notified (hh mm):

Environmental Compliance Team Contacts

(contact in order shown until someone is reached)

1. Jefferey Kapus	646-823-4685
2. Zach Osei	917-559-6611
3. Christopher Coccaro	914-907-2024
4. Joseph Cassone	845-367-2099
5. Elena Barnett	914-514-5324
6. Donald Henshaw	845-821-4306

Examples of a Sturgeon



Name: _____ Signature: _____

(print) (by signing I certify I have performed the above checks and believe them to be accurate)

TAPPAN ZEE
CONSTRUCTORS, LLC

P41/P42 DRILLED SHAFT ENVIRONMENTAL CHECKLIST

INSTRUCTIONS: Complete Section A for all work. Complete Sections B-D as work progresses for those activities. **CHECK POINTS (CP) must be initialed by responsible person before work progresses.** Return completed form at end of shift.

Date (mm/dd/yy)**:**	**Pier Number:**	**Superintendent:**

SECTION A. BARGE ACTIVITY INFORMATION

A1. Environmental Compliance Team (ECT) Notification (initial or circle NA if not applicable to barge activity, see back for ECT Contact Information)

Notify ECT **TWO** hours prior to start of Drilled Shaft Installation	Notification Time (hh:mm):	NA

A2. Activity Information (circle one): **B. Casing Installation / Removal** **C. Casing Clean-out** **D. Rock Drilling**

Casing Dia(s).:	Activity Start Time (hh:mm):	Activity End Time (hh:mm):

A3. Spill Prevention (circle NA if not applicable to daily barge activity)

(CP) Spill Kit and SPCC Plan onboard (confirm spill kit content list is stocked, circle and initial)	Initial Here	Y	N
Sheen or spill of ANY size observed		Y	N
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified (hh:mm):	

A4. Peregrine Falcon Protection (circle NA if not applicable to barge activity)

Checkerboard flag installed at top of cranes (circle one)	Y	N

SECTION B. CASING INSTALLATION / REMOVAL

B1. Sturgeon See Page 2 for Examples. Complete at end of shift or when fish observed.

Observer Name:	Sturgeon observed (circle):	Y	N	Time(s) observed (hh:mm):
If Yes immediately notify ECT	Persons Notified:			Time Notified (hh:mm):

B2. Turbidity Curtain

Full-depth turbidity curtain installed prior to any twisting of the Kelly Bar(circle):	Initial Here	Y	N
Turbidity observed extending beyond the turbidity curtain (circle):		Y	N
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified (hh:mm):	

SECTION C. CASING CLEANOUT

C1. Cleanout (complete for each pile, circle NA if not applicable barge activity) **Pier No.:** **Shaft No.:** **NA**

(CP) Re-enforced Poly-liner or Filter Fabric placed along swing arc of crane (circle):	Initial Here	Y	N
Excavated Material prevented from entering Hudson River (circle):		Y	N
(CP) 2mm wedge-wire screen used on intake pump for sprayer (circle):	Initial Here	Y	N
Spraying of auger or bucket done over scow (circle):		Y	N

SECTION D. ROCK DRILLING

D1. Reverse Circulation Drill (complete for each pile, circle NA if not applicable barge activity) **Pier No.:** **Shaft No.:** **NA**

(CP) reverse circulation drill plumbed to a closed-loop system prior to drilling (circle):	Initial Here	Y	N
Turbidity observed extending beyond the turbidity curtain (circle):		Y	N
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified (hh:mm):	

Name: _____ Signature: _____

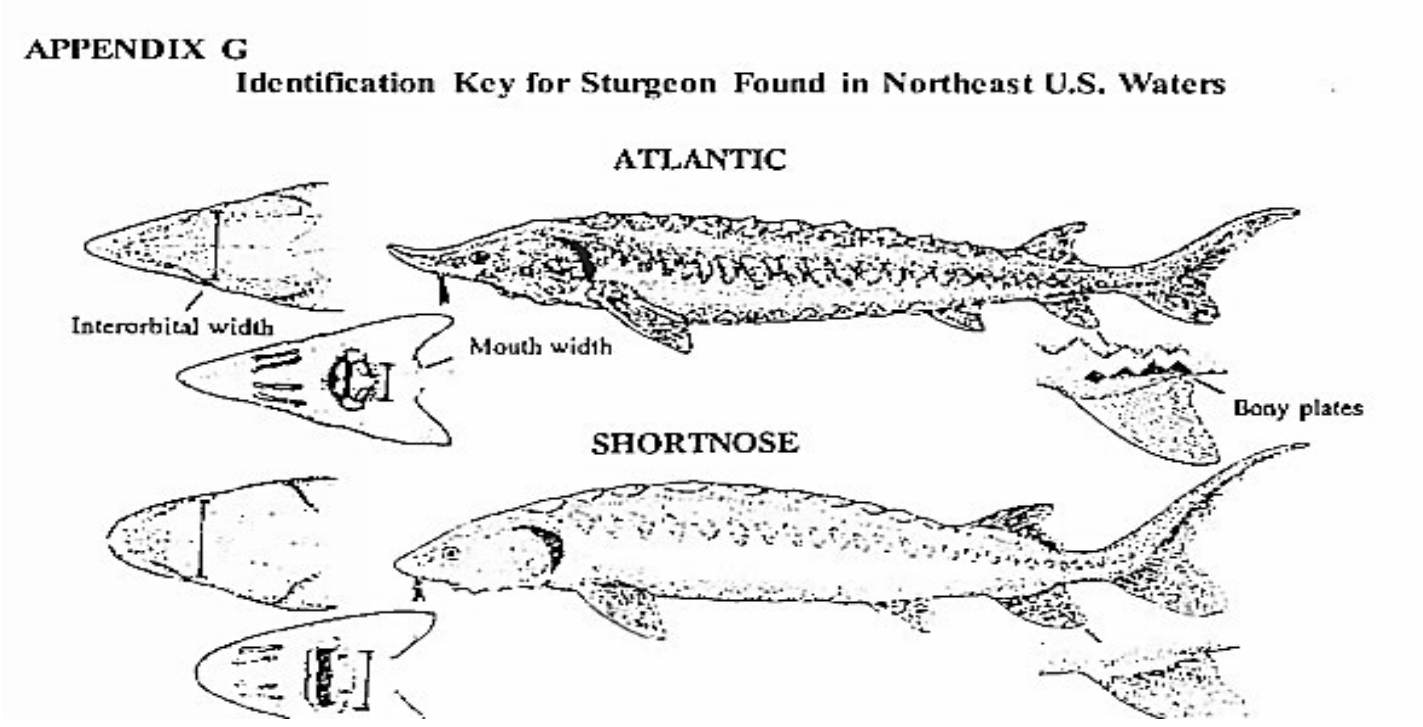
(print) (by signing I certify I have performed the above checks and believe them to be accurate)

Environmental Compliance Team Contacts

(contact in order shown until someone is reached)

1. Jefferey Kapus	646-823-4685
2. Christopher Coccaro	914-907-2024
3. Zach Osei	917-559-6611
4. Elena Barnett	914-391-8950
5. Tim Piazza	845-709-1396

Examples of a Sturgeon



TAPPAN ZEE CONSTRUCTORS, LLC

ROAD DECK CONCRETE PLACEMENT ENVIRONMENTAL CHECKLIST

INSTRUCTIONS: Complete Section A for all work. Complete Sections B-C as work progresses for those activities. **CHECK POINTS (CP) must be initialed by responsible person before work progresses.** Return completed form at end of shift.

Date (mm/dd/yy)**:**	**Span:**	**Superintendent:**

SECTION A. SPAN ACTIVITY INFORMATION

A1. Spill Prevention (circle NA if not applicable to daily barge activity)

(CP) Spill Kit and SPCC Plan onboard (confirm spill kit content list is stocked, circle and initial)		Y	initial here
Sheen or spill of ANY size observed		Y	N
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified (hh:mm):	

A2. Peregrine Falcon Protection (circle NA if not applicable to barge activity)

Checkerboard flag installed at top of cranes (circle one)	Y	N	NA

SECTION B. CONCRETE PLACEMENT INFORMATION

(Complete B1. Use additional sheets as necessary.)

B1.1 Water Quality

1. **(CP)** Secondary containment implemented per plan prior to concrete placement:				initial here	Y	N
Type of pour (circle):	Deck Joints		Haunches	Approx. Volume (cu yds.):		
2. Concrete contained within primary formwork (circle):			Y	N		
If No, Notify ECT and take corrective action						
Persons Notified:		Time Notified:				
3. Concrete contained within secondary formwork (circle):			Y	N		
If No, immediately notify ECT and take corrective action		Approx. Volume (cu. feet.):				
Persons Notified:		Time Notified:				
4. Secondary containment in place throughout pour			Y	N		
If No, immediately notify ECT and take corrective action						
Persons Notified:		Time Notified:				

Environmental Compliance Team Contacts

(contact in order shown until someone is reached)

1. Jefferey Kapus	646-823-4685
2. Elena Barnett	914-391-8950
3. Christopher Coccaro	914-907-2024
4. Zachariah Osei	917-559-6611
5. Tim Piazza	845-709-1396

Name: _____ Signature: _____

(print) (by signing I certify I have performed the above checks)

TAPPAN ZEE CONSTRUCTORS, LLC

IN WATER CONCRETE PLACEMENT ENVIRONMENTAL CHECKLIST

INSTRUCTIONS: Complete Section A for all work. Complete Sections B-C as work progresses for those activities. **CHECK POINTS (CP) must be initialed by responsible person before work progresses.** Return completed form at end of shift.

Date (mm/dd/yy)**:**	**Pier:**	**Superintendent:**

SECTION A. PIER ACTIVITY INFORMATION

A1. Spill Prevention (circle NA if not applicable to daily barge activity)

(CP) Spill Kit and SPCC Plan onboard (confirm spill kit content list is stocked, circle and initial)			Y	initial here
Sheen or spill of ANY size observed		Y	N	
If Yes, immediately notify ECT and take corrective action	Persons Notified:	Time Notified (hh:mm):		

A2. Peregrine Falcon Protection (circle NA if not applicable to barge activity)

Checkerboard flag installed at top of cranes (circle one)	Y	N	NA

SECTION B. CONCRETING INFORMATION

(Complete B1. Use additional sheets as necessary.)

B1.1 Water Quality **Pier No.:**

1. **(CP)** Formwork properly sealed per plan prior to concrete placement:	initial here	Y	N
List location of pour (i.e. Pile Plug, Pile Cap, Column, Pier Cap, etc.):	Approx. Volume (cu yds.):		
2. Adequate waste receptacle for concrete, concrete leachate, and concrete-impacted water available:		Y	N
3. Turbidity observed outside of concrete formwork		Y	N
If Yes, immediately notify ECT and take corrective action			
Persons Notified:	Time Notified:		
3. Fresh concrete placed into Hudson River		Y	N
If Yes, immediately notify ECT and take corrective action	Approx. Volume (cu. yds.):		
Persons Notified:	Time Notified:		
5. Water containing concrete impacted water placed into Hudson River		Y	N
If Yes, immediately notify ECT and take corrective action	Approx. Volume (gal.):		
Persons Notified:	Time Notified:		

SECTION C. DEWATERING INFORMATION

(Complete C1 and for each pile cap. Use additional sheets as necessary.)

C1.1 Water Quality

Turbidity observed in the vicinity of pump discharge (circle):	Y	N
If Yes, immediately notify ECT and take corrective action		
Persons Notified:	Time Notified:	

C2.1 Fish See Page 2 for Examples. Complete at end of shift or when fish/ birds observed.

Observer Name:			Sturgeon observed (circle):	Y	N	If Yes immediately notify ECT
Time(s) observed (hh:mm):			Persons Notified:			Time Notified (hh:mm):
Other fish observed (circle):	Y	N	Scavenger bird activity (circle):	Y	N	
Time Observed:	Species (if known):		Quantity Observed:			Condition:

Name: _____ Signature: _____

(print) (by signing I certify I have performed the above checks)

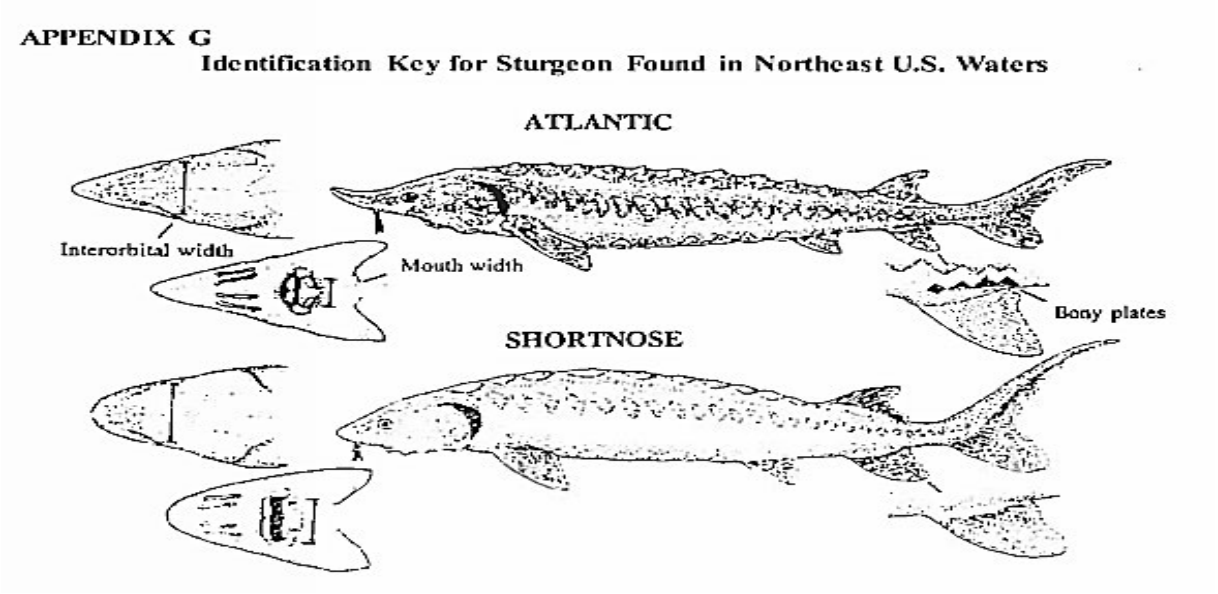
Environmental Compliance Team Contacts

(contact in order shown until someone is reached)

1. Jefferey Kapus	646-823-4685
2. Elena Barnett	914-391-8950
3. Christopher Coccaro	914-907-2024
4. Zachariah Osei	917-559-6611
5. Tim Piazza	845-709-1396

APPENDIX G

Identification Key for Sturgeon Found in Northeast U.S. Waters



WATER QUALITY MONITORING PLAN: VISUAL INSPECTION FORM
New NY Bridge Project

TAPPAN ZEE
CONSTRUCTORS, LLC

Inspector: _____ **Date:** _____

Part 1: Observation of Turbidity Resulting in a Substantial Visible Contrast

Location	In Water Activity	Time In (24-Hr)	Time Out (24-Hr)	Turbidity Observed?	Time of Observation	Time of Notification	Containment Boom in Place?	Sturgeon Observed (Yes / No)

In-Water Activities: Dredging/Armoring/Cofferdam Construction/Cofferdam De-watering/Impact Pile Driving/Vibratory Pile Driving/Pile Extraction/Pile De-watering/Other (write in)

Comments: **(Include file number of any photographs)**

Environmental Compliance Field Report

Observer:			**Location:**				
Date:		**Day:**		**Time:**		**Weather:**	
Work Observed:							

Compliance Plan:	**Work Performed in Compliance: Yes/No**	**Comments:**

Land Compliance Plan Check List: Place yes or no in box. If activity is not occurring select NA

Location	**Inspected**	**Stock Piles Covered**	**SWPP BMPs Effective**	**Evidence of Spill Present**	**Airborne Dust Observed**	**Materials Labeled Properly**	**Non-Sticker Equipment used**	**Vehicle Tracking Observed**	**Comments**
Interchange 10									
Rockland Bulkhead									
River Road & Maintenance Ramps									
Interchange 12									
Westchester Landing									
Hudson Harbor									
Tomkins Cove									
Other									

General Notes:

Environmental Actions Taken:

Environmental Compliance Field Report

Observer:			**Location:**				
Date:		**Day:**		**Time:**		**Weather:**	
Work Observed:							

Compliance Plan:	**Work Performed in Compliance with Plan: Yes/No**	**Comments:**

Marine Compliance Plan Check List: Place yes or no in box. If activity is not occurring select NA

Operation	**Inspected**	**Pier**	**Turbidity Observed**	**Boom in Place**	**Sheen Observed**	**Spill Kits Stocked**	**SPCC Plan Site**	**Sturgeon Observed**	**Flag on Crane**	**Stickers on Operating Equipment**	**Comments**
Pile Driving											
Armoring											
Pile Dewatering											
Cofferdam Dewatering											
Concreting											

Pile Driving Activity Check List:

Pier	**PD Start Time**	**Pile Numbers**	**NAS Operating During PD**	**Boom in Place**	**Ring psi Within Specs**	**Cables Taut**	**No. of Shroud Sections**	**Barge Monitor**	**On Barge Form in Progress**	**Comments**

General Notes:

Environmental Actions Taken:

Figure 1 –	Figure 2 –
Figure 3 –	Figure 4 –

Figure 5 –	Figure 6 –
Figure 7 –	Figure 8 –