



ATLANTIC TESTING LABORATORIES

WBE certified company

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June 25, 2020

McFarland-Johnson, Inc.
60 Railroad Place, Suite 402
Saratoga Springs, New York 12866

Attn: Georgie Nugent

Re: Sediment Sampling and Analysis Plan
Port of Albany Expansion Project
Beacon Island Parcel
Bethlehem, Albany County, New York
MJ Project No. 18641.02
ATL Report No. AT5596CE-02-06-20

Ladies/Gentlemen:

Enclosed is a copy of the Sediment Sampling and Analysis Plan prepared for the referenced site. This report was completed in accordance with the standard form of agreement between McFarland Johnson, Inc., and Atlantic Testing Laboratories, Limited.

Please contact our office should you have any questions, or if we may be of further assistance.

Sincerely,
ATLANTIC TESTING LABORATORIES, Limited

Cheyenne J. Dashnaw, P.E.
Senior Engineer

CJD/cjd

Enclosures

SEDIMENT SAMPLING AND ANALYSIS PLAN

**PORT OF ALBANY EXPANSION PROJECT
BEACON ISLAND PARCEL
BETHLEHEM, ALBANY COUNTY, NEW YORK**



WBE certified company

PREPARED BY:

**ATLANTIC TESTING LABORATORIES, LIMITED
22 Corporate Drive
Clifton Park, New York 12065**

PREPARED FOR:

**McFarland Johnson, Inc.
60 Railroad Place, Suite 402
Saratoga Springs, New York 12866
*MJ Project No. 18641.02***

**Albany Port District Commission
106 Smith Boulevard
Albany, New York 12202**

ATL REPORT NO. AT5596CE-02-06-20

June 26, 2020

TABLE OF CONTENTS

1.0 INTRODUCTION	1
1.1 Purpose.....	1
1.2 Project Description	1
2.0 PREVIOUS SEDIMENT SAMPLING AND ANALYSIS	1
3.0 SEDIMENT SAMPLING	2
3.1 Proposed Cores	2
3.2 Sediment Sampling and Screening	2
3.3 Sample Collection for Laboratory Analysis.....	3
4.0 DATA EVALUATION AND SITE MANAGEMENT	3

APPENDICES

Site Location Map	A
Drawing for Scheduled Cuts (prepared by McFarland Johnson)	B
Proposed Core Location Plan	C
Summary of Data from Previous Sediment Sampling	D
Sampling and Analysis Schedule	E

1.0 INTRODUCTION

1.1 Purpose

Atlantic Testing Laboratories, Limited (ATL) was retained by McFarland Johnson, Inc., on behalf of the Albany Port District Commission, to conduct sediment sampling and analysis for an area of proposed dredging associated with planned redevelopment at the Beacon Island parcel in Bethlehem, Albany County, New York. The purpose of this Sediment Sampling and Analysis Plan is to summarize the planned sediment sampling and analysis activities, identify the proposed sample locations and laboratory analysis, and describe how the data will be evaluated relative to the planned site work.

1.2 Project Description

The project site is the Beacon Island parcel located to the east of River Road (County Route 144) and along the west side of the Hudson River, in the Town of Bethlehem, Albany County, New York. The Beacon Island parcel is comprised of approximately 80 acres, and is the site of a planned expansion for the Port of Albany. A Site Location Map, showing the approximate location of the subject site, is included in Appendix A.

Information provided to ATL by McFarland Johnson, Inc., indicates that planned redevelopment includes dredging sediment for the area along the Hudson River, as shown on the drawing for scheduled cuts in Appendix B. The dredging is proposed to encompass an area of approximately 160,000 square feet, over depths ranging from 5 to 48 feet, for a total of approximately 107,000 cubic yards.

2.0 PREVIOUS SEDIMENT SAMPLING AND ANALYSIS

Sediment sampling and analysis was performed for 5 core locations by ATL in June 2019. The approximate locations of the cores from the previous investigation are included on the Proposed Core Location Plan in Appendix C.

The 5 cores included in the investigation by ATL in June 2019 were advanced to 10 feet, and a sample was collected from each core for subsequent laboratory analysis. Each of the samples was laboratory analyzed for metals (arsenic, cadmium, copper, lead, mercury); benzene, total benzene, toluene, and xylenes (BTX); total polycyclic aromatic hydrocarbons (PAH); pesticides (sum of DDT+DDE+DDD, dieldrin, mirex, chlordane, sum of chlordane isomers); polychlorinated biphenyls (PCB); and cyanide. Additionally, the sample with the highest PCB concentration was also laboratory analyzed for dioxins/furans. The selected analytical parameters are consistent with those listed in the New York State Department of Environmental Conservation (NYSDEC) Technical & Operational Guidance Series (TOGS) 5.1.9, In-Water and Riparian Management of Sediment and Dredged Material. A summary of the laboratory analysis results for the 5 sediment samples collected by ATL in June 2019 is provided in Table D-1 of Appendix D. Appendix D also includes a copy of the Core Logs prepared during the previous sediment sampling.

3.0 SEDIMENT SAMPLING

3.1 Proposed Cores

The data from the previous sediment sampling and analysis (reference Section 2.0 and Appendix D) did not identify evidence of appreciable contamination at sampled core locations. All analytical results from the previous sediment sampling and analysis were below the TOGS 5.1.9 Class A Sediment Quality Threshold Values, with the exception of PCB and sum of chlordanes isomers for one of the samples (core C-2). The sample collected from core C-2 had a PCB concentration of 0.178 parts per million (ppm) (slightly higher than the Class A Sediment Quality Threshold Value of 0.1 ppm) and a sum of chlordanes isomers at 0.00533 (slightly higher than the Class A Sediment Quality Threshold Value of 0.003 ppm).

Per Table B-1 (Baldock Method for Selection of Sample Size) of TOGS 5.1.9, and a dredging area of approximately 18,000 square yards, 5 to 6 samples would be applicable using a dredge factor of 1 and 10 to 12 samples would be applicable using a dredge factor of 2. In consideration of having data from 2 of the 5 previous sediment cores within the area currently proposed for dredging, it is proposed that 10 additional cores be advanced to collect sediment samples. This quantity of samples would be sufficient for applying a dredge factor of 2 for the Baldock's Method for selection of sample size, in addition to providing data for assessing reuse options for the dredged material. Approximate locations of proposed cores are shown on the proposed Core Location Plan in Appendix C. Due to the variation in dredging depths for the area, the depths of the proposed cores will vary. The following table identifies proposed depths for the cores.

Proposed Core Location	Proposed Depth ¹
C-6	15 feet
C-7	20 feet
C-8	10 feet
C-9	10 feet
C-10	10 feet
C-11	25 feet
C-12	10 feet
C-13	15 feet
C-14	25 feet
C-15	15 feet

¹ Proposed depth is based on approximated depths of scheduled cuts; Cores will be advanced to these depths or to practical refusal, whichever is encountered first.

3.2 Sediment Sampling and Screening

Cores will be accessed via a pontoon sampling boat, with navigation using Differential Global Positioning System (DGPS) technology. Cores will be advanced utilizing a Rossfelder P-3 Vibracore with a 4-inch diameter core tube and disposable cellulose acetate butyrate (CAB) liners. Sediment samples will be collected continuously at each core location through the depth of advancement. If practical refusal is encountered prior to reaching the scheduled depth, a single additional core will be advanced within 5 feet of the original location. If insufficient sediment is recovered for sampling at a single core

location, additional cores will be advanced in the same vicinity to obtain supplemental material.

Recovered sediment material will be visually classified and examined relative to general sediment type, color, and odor. The material will be subsequently processed for collection of a composite sample, as described in Section 3.3.

3.3 Sample Collection for Laboratory Analysis

Selected sediment samples will be collected for laboratory analysis. Based on the relative consistency of the sediment material observed for previously advanced cores (to depths of 10 feet), one composite sediment sample is planned to be collected from each of the advanced cores. Each composite soil sample will be laboratory analyzed for total organic carbon (TOC), particle size analysis (without hydrometer analysis), volatile organic compounds (VOC), semi-VOC, target analyte list (TAL) metals, PCB, and pesticides. Dioxins/furans analysis was performed for one of the sediment samples collected in June 2019, with a result for toxic equivalency (TEQ) below the TOGS 5.1.9 Sediment Quality Threshold Value for Class A. Analysis for dioxins/furans is not proposed for the additional sediment sampling and analysis described herein.

In addition to the sediment samples from the cores, Quality Assurance/Quality Control (QA/QC) samples will be collected to include a field duplicate and a matrix spike/matrix spike duplicate (MS/MSD). Collected samples will be contained within CAB liners and an equipment/rinseate blank will not be collected. The QA/QC samples will be laboratory analyzed for VOC, semi-VOC, TAL metals, PCB, and pesticides. The laboratory will have additional laboratory QA/QC samples.

Samples being processed for subsequent laboratory analysis will be collected in clean laboratory glassware, with Teflon-lined lids, in accordance with industry standard protocol. Disposable sampling equipment (i.e., nitrile gloves, CAB or lexan liners) will be utilized to collect and process samples, and the samples will be stored in a cooler, with ice, during storage, transport and delivery to the laboratory.

Other than material for particle size analysis, collected samples will be submitted to a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) approved laboratory. The particle size analysis will be performed at one of ATL's laboratories. Reference Table E-1 of Appendix E for additional details pertaining to proposed sampling and analysis.

4.0 DATA EVALUATION AND SITE MANAGEMENT

Data collected during performance of the sediment sampling and analysis will be evaluated to determine appropriate methods for handling and management/disposal of the sediment during dredging. Laboratory analysis results for sediment samples will be compared to NYSDEC TOGS 5.1.9 Sediment Quality Threshold Values for dredging classification, and to NYSDEC Part 375/CP-51 Soil Cleanup Objectives (SCO) and 6 NYCRR Part 360 fill material beneficial use criteria for evaluation of reuse considerations.

APPENDIX A
Site Location Map



Site Location Map

Drawn by:
TSP

Scale:
Not to scale

Project No.:
AT5596

Date:
May 2020

**Beacon Island Parcel
Bethlehem, Albany County, New York**

ATLANTIC TESTING LABORATORIES, Limited

Albany, NY
Poughkeepsie,

Binghamton, NY
Syracuse, NY

Canton, NY
Rochester, NY

Elmira, NY
Utica, NY

Plattsburgh, NY
Watertown, NY

APPENDIX B

**Drawing for Scheduled Cuts
(Prepared by McFarland Johnson)**

Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	-47.920	-25.000	Red
2	-25.000	-15.000	Yellow
3	-15.000	-10.000	Green
4	-10.000	-5.000	Blue
5	-5.000	0.000	Purple




McFarland Johnson
 60 RAILROAD PLACE
 SUITE 402
 SARATOGA SPRINGS, NEW YORK 12866
 P:518-580-9380 F:518-580-9383
 mjinc.com

PROJECT MILESTONE
CONCEPT DESIGN

NO.	DATE	DESCRIPTION

CLIENT:
ALBANY PORT DISTRICT COMMISSION
 ALBANY, NEW YORK

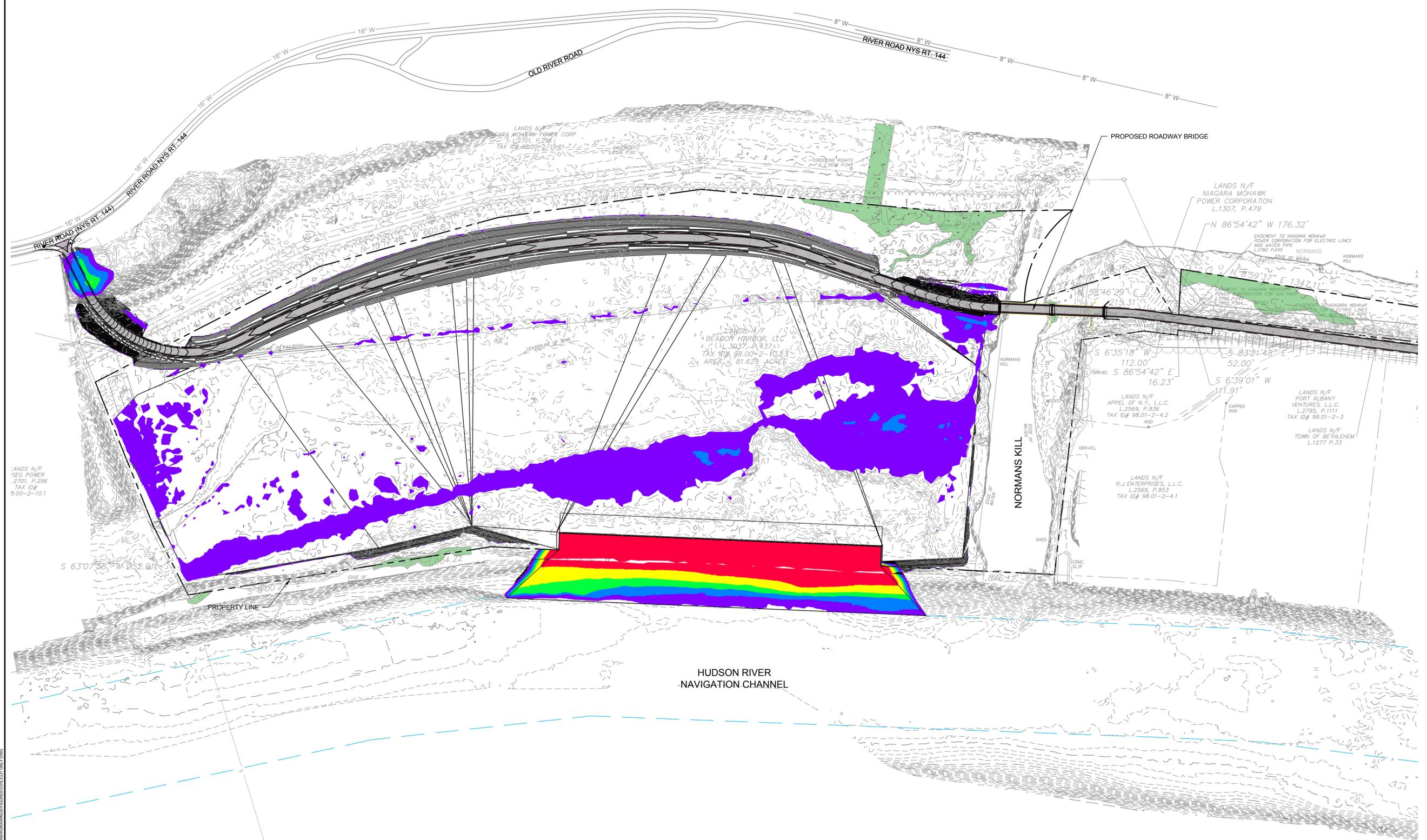
PROJECT:

DRAWN	JES
DESIGNED	NSO
CHECKED	AJF
SCALE	1"=150'
DATE	JUNE 2020
PROJECT	18641.00

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DRAWING TITLE
CUT ONLY

DRAWING NUMBER
C-01



N:\18641\ALBANY PORT DISTRICT COMMISSION\DRAWINGS\CONCEPT DESIGN ONLY.DWG

APPENDIX C

Proposed Core Location Plan



Approx. Area of Dredging
(see Sediment Sampling and Analysis Plan)

 **Beacon Island Parcel**
Scale: NTS

LEGEND :

C-3  Approximate Location of Previous Core (June 2019)

C-9  Proposed Core Location for Additional Sediment Sampling

PROPOSED CORE LOCATION PLAN	Drawn By:	Drawing:	Scale:	Project No.:	Date :
	CJD	1 of 1	As Noted	AT5596	June 2020
Beacon Island Parcel Bethlehem, Albany County, New York		 ATLANTIC TESTING LABORATORIES, Limited Albany, NY Binghamton, NY Canton, NY Elmira, NY Poughkeepsie, NY Plattsburgh, NY Rochester, NY Syracuse, NY Utica, NY Watertown, NY <small>WBE Certified Company www.AtlanticTesting.com</small>			

APPENDIX D

Summary of Data from Previous Sediment Sampling

**Table D-1
Summary of Data from Previous Sediment Sampling**

Sample Number	B-1	B-2	B-3	B-4	B-5	NYSDEC TOGS 5.1.9 Sediment Quality Threshold Values		
Core Number	C-1	C-2	C-3	C-4	C-5			
Depth of Sample	0-10'	0-10'	0-10'	0-10'	0-10'			
Date Collected	06/13/19	06/13/19	06/13/19	06/13/19	06/13/19	Class A	Class B	Class C
Metals (mg/kg)								
Arsenic	2.19	3.96	4.47	4.13	4.75	<14	14 - 53	>53
Cadmium	0.042	0.306	0.045	0.047	0.091	<1.2	1.2 - 9.5	>9.5
Copper	3.70	17.6	4.03	5.00	6.52	<33	33 - 207	>207
Lead	4.08	18.9	3.48	5.29	5.56	<33	33 - 166	>166
Mercury	0.004	0.041	0.007	0.011	0.008	<0.17	0.17 - 1.6	>1.6
PAH and Petroleum-Related Compounds (mg/kg)								
Benzene	<0.00024	<0.00017	<0.00018	<0.00020	<0.00022	<0.59	0.59 - 2.16	>2.16
Total BTX	ND	ND	ND	ND	ND	<0.96	0.96 - 5.9	>5.9
Total PAH	0.0287	1.024	0.0497	0.0641	0.469	<4	4 - 35	>35
Pesticides (mg/kg)								
Sum of DDT+DDE+DDD	<0.000042	0.00363	0.000167	0.000277	0.000875	<0.003	0.003 - 0.03	>0.03
Dieldrin	<0.000042	<0.000045	<0.000041	<0.000039	<0.000054	<0.11	0.11 - 0.48	>0.48
Mirex	<0.000042	<0.000045	<0.000041	<0.000039	<0.000054	<0.0014	0.0014 - 0.014	>0.014
Chlordane	<0.00214	<0.00226	<0.00206	<0.00199	<0.00272	<0.003	0.003 - 0.036	>0.036
Sum of Chlordane Isomers	ND	0.00533	0.000182	ND	ND			
PCB (mg/kg)								
PCB (sum of aroclors)	<0.00104	0.178	0.00454	0.028	0.0103	<0.1	0.1 - 1	>1
Cyanide (mg/kg)								
Cyanide	<0.00026	<0.00027	<0.00026	<0.00024	<0.00034	--	--	--

Notes: Samples collected by representatives of ATL and analyzed by Alpha Analytical (NYSDOH No. 11148). Laboratory reports and sample custody documentation are contained in Appendix C. All laboratory results are expressed in units indicated. ND = Not detected above the laboratory method detection limit. NYSDEC = New York State Department of Environmental Conservation. TOGS 5.1.9 = Technical and Operation Guidance Series 5.1.9, "In-Water and Riparian Management of Sediment and Dredged Material"

**Core Logs
Cores C-1 through C-5
Advanced on June 15, 2019**



ATLANTIC TESTING LABORATORIES

Beacon Island Project
Glenmont, Albany County, New York
ATL Report No. CD4644D-01-07-19

SEDIMENT CORE NUMBER: C-1
 METHOD OF CORE ADVANCEMENT: Vibracore
 ADVANCEMENT DATE: June 13, 2019
 NORTHING: 1375609.822
 EASTING: 690526.583
 SEDIMENT SAMPLING CREW: Tim Parker
Mark Childs
Kevin Jones

Depth (feet)	Recovery (in.)	Depth (feet)	Classification of Material*
0	37"	0.0-10.0	Brown cmf SAND; little SILT
2			
4			
6			
8			
10			
NOTES:			
Sample of Core sediment composited for laboratory analysis.			
Water depth measured at 14'4".			



ATLANTIC TESTING LABORATORIES

Beacon Island Project
Glenmont, Albany County, New York
ATL Report No. CD4644D-01-07-19

SEDIMENT CORE NUMBER: C-2
METHOD OF CORE ADVANCEMENT: Vibracore
ADVANCEMENT DATE: June 13, 2019
NORTHING: 1374929.407
EASTING: 690498.44
SEDIMENT SAMPLING CREW: Tim Parker
Mark Childs
Kevin Jones

Depth (feet)	Recovery (in.)	Depth (feet)	Classification of Material*
0	37"	0.0-10.0	Brown cmf SAND
2			
4			
6			
8			
10			
NOTES: Sample of Core sediment composited for laboratory analysis. Water depth measured at 6'2".			



ATLANTIC TESTING LABORATORIES

Beacon Island Project
Glenmont, Albany County, New York
ATL Report No. CD4644D-01-07-19

SEDIMENT CORE NUMBER: C-3
METHOD OF CORE ADVANCEMENT: Vibracore
ADVANCEMENT DATE: June 13, 2019
NORTHING: 1374258.273
EASTING: 690523.641
SEDIMENT SAMPLING CREW: Tim Parker
Mark Childs
Kevin Jones

Depth (feet)	Recovery (in.)	Depth (feet)	Classification of Material*
0	29"	0.0-10.0	Brown cmf SAND
2			
4			
6			
8			
10			

NOTES:
Sample of Core sediment composited for laboratory analysis.
Water depth measured at 12'.



ATLANTIC TESTING LABORATORIES

Beacon Island Project
Glenmont, Albany County, New York
ATL Report No. CD4644D-01-07-19

SEDIMENT CORE NUMBER: C-4
METHOD OF CORE ADVANCEMENT: Vibracore
ADVANCEMENT DATE: June 13, 2019
NORTHING: 1373595.753
EASTING: 690523.641
SEDIMENT SAMPLING CREW: Tim Parker
Mark Childs
Kevin Jones

Depth (feet)	Recovery (in.)	Depth (feet)	Classification of Material*
0	26"	0.0-10.0	Brown cmf SAND; some SILT
2			
4			
6			
8			
10			
NOTES: Sample of Core sediment composited for laboratory analysis. Water depth measured at 11'8".			



ATLANTIC TESTING LABORATORIES

Beacon Island Project
Glenmont, Albany County, New York
ATL Report No. CD4644D-01-07-19

SEDIMENT CORE NUMBER: C-5
METHOD OF CORE ADVANCEMENT: Vibracore
ADVANCEMENT DATE: June 13, 2019
NORTHING: 1373042.121
EASTING: 690620.728
SEDIMENT SAMPLING CREW: Tim Parker
Mark Childs
Kevin Jones

Depth (feet)	Recovery (in.)	Depth (feet)	Classification of Material*
0	42"	0.0-10.0	Brown cmf SAND; some SILT
2			
4			
6			
8			
10			
10			
			Core terminated at 10.0 feet.
NOTES:			
Sample of Core sediment composited for laboratory analysis.			
Water depth measured at 12".			

APPENDIX E

Sampling and Analysis Schedule

**TABLE E-1
SAMPLING AND ANALYSIS SCHEDULE**

Core ID	Advancement Method	Approximate Location	Scheduled Depth of Sample	Composite Sample No.	Laboratory Analysis
C-6	Vibracore	Refer to Appendix C	15 feet	S-6	See Note 1 Below
C-7	Vibracore	Refer to Appendix C	20 feet	S-7	
C-8	Vibracore	Refer to Appendix C	10 feet	S-8	
C-9	Vibracore	Refer to Appendix C	10 feet	S-9	
C-10	Vibracore	Refer to Appendix C	10 feet	S-10	
C-11	Vibracore	Refer to Appendix C	25 feet	S-11	
C-12	Vibracore	Refer to Appendix C	10 feet	S-12	
C-13	Vibracore	Refer to Appendix C	15 feet	S-13	
C-14	Vibracore	Refer to Appendix C	25 feet	S-14	
C-15	Vibracore	Refer to Appendix C	15 feet	S-15	
<p>Note 1: Laboratory analysis to be performed including the following:</p> <ul style="list-style-type: none"> • Particle Size Analysis of Soils (without Hydrometer analysis) (ASTM D 422) and Total Organic Carbon (EPA 9060A) • Volatile Organic Compounds (EPA Method 8260) • Semi-Volatile Organic Compounds (EPA Method 8270 – Base/Neutral Extractables) • Target Analyte List Metals (EPA Methods 6010 and 7470) • Pesticides (EPA Method 8081) • Polychlorinated Biphenyls (EPA Method 8082) 					