State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

JAMIE FOX
Commissioner

May 26, 2015

Mr. Richard Cuttrell
Clerk, Neptune Township
25 Neptune Blvd.
Neptune, NJ 07753

RE: Waterfront Development Permit/WQC/AUD Application
Shark River Channel (#038) - Maintenance Dredging
Shark River Spur (#039) - Maintenance Dredging
Borough of Belmar, Monmouth County
Borough of Neptune City, Monmouth County
Neptune Township, Monmouth County

Dear Mr. Cuttrell:

This letter is to provide you with legal notification that an application will be submitted to the New Jersey Department of Environmental Protection (NJDEP) Office of Dredging and Sediment Technology for a permit for the proposed dredging project shown on the enclosed plan.

Three copies of the complete permit application are enclosed for your file and your review. Please distribute one copy to the planning board and one copy to the environmental commission. The third copy shall be maintained in the clerk's office and be made available for public review.

The NJDEP welcomes comments and any information that you and/or the public may provide concerning the proposed maintenance dredging project. Please submit your written comments within 15 days of receiving this letter to:

New Jersey Department of Environmental Protection
Office of Dredging and Sediment Technology
P.O. Box 420 Mail Code #401-06C
Trenton, New Jersey 08625-0420

If you have any questions or need any additional information, please contact Joselyn Wall at (609) 530-4772 or by e-mail at Joselyn.Wall@dot.nj.gov.

Sincerely,

Genevieve Clifton, Manager
Office of Maritime Resources

Enclosures

State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

JAMIE FOX
Commissioner

May 26, 2015

Suzanne U. Dietrick, Chief
NJDEP - Office of Dredging and Sediment Technology
401 East State Street, 6th Floor
P. O. Box 420, Mail Code#401-06C
Trenton, NJ 08625

RE: Waterfront Development Permit Application
Shark River Channel (#038) - Maintenance Dredging
Shark River Spur (#039) - Maintenance Dredging
Borough of Belmar, Monmouth County
Borough of Neptune City, Monmouth County
Neptune Township, Monmouth County

Dear Ms. Dietrick:

The New Jersey Department of Transportation, Office of Maritime Resources is requesting a Waterfront Development Permit application to conduct maintenance dredging within the Shark River Channel (#038) and Shark River Spur (#039) State channels, Borough of Belmar, Borough of Neptune City, and Neptune Township, Monmouth County to restore the channels to the authorized project depth for safe navigation. Dredged material is proposed to be dewatered on an adjacent area as shown on the project plans.

Please find the following enclosed for your review and approval:

1. Division of Land Use Application (DLUR) Application Form;
2. Project Location Map;
3. Public Notice Information
   - Copy of Municipal Clerk notification letter w/certified mail receipt;
   - Copy of County Planning Board, County Environmental Commission, Municipal Construction Official and U.S. Army Corps of Engineers notification letters w/certified mail receipts;
   - Copy of Newspaper Ad (proof of publication will be provided upon receipt);
4. Coastal Zone Management Compliance Statement (7 copies);
   May 6, 2015 Sediment Sampling Report (ASI Job #35-025) (1 hard copy and 1 electronic copy);
5. Copy of Tidelands Dredging License #0000-14-0005.1;

6. Consents:
   - Neptune Township's consent for dewatering location
   - Belmar Borough's consent for dewatering location
   - Monmouth County Landfill's consent for material placement; and
7. Site plans (7 sheets) (5 full size copies and 5 reduced size copies);

If you have any questions or need any additional information please contact Jo Wall at (609) 530-4772 or by e-mail at Joselyn.wall@dot.nj.gov.

Sincerely,

Genevieve Clifton, Manager
Office of Maritime Resources

Enclosures

c: Jodi McDonald, U.S. Corps of Engineers – New York District

State of New Jersey
Department of Environmental Protection
Division of Land Use Regulation Application Form (DLUR)
501 E. State Street Mail Code 501-02A P.O. Box 420
Trenton, NJ 08625-0420
Phone #: (609) 777-0454 Web: www.nj.gov/dep/landuse

Please print legibly or type the following: Complete all sections unless otherwise noted **Is this projectSuperstorm Sandy Related** Yes☑No ☐

1. **Applicant Name:** Mr./Ms./Mrs. NJDOT Office of Maritime Resources E-Mail:
   Address: 1035 Parkway Avenue, P.O. Box 600 Daytime
   Phone: Ext. Trenton, NJ 08625
   City/State: Zip Code Cell
   Phone: Cell Phone:

2. **Agent Name:** Mr./Ms./Mrs. Scott Douglas
   Firm Name: NJDOT E-Mail: SCOTT.DOUGLAS@dot.nj.gov
   Address: 1035 Parkway Ave Daytime 609-530-4773
   Phone: Ext. Trenton, NJ
   City/State: Zip Code 08625 Cell
   Phone: Cell Phone:

3. **Property Owner:** Mr./Ms./Mrs. State of New Jersey – State Channel E-mail:
   Address: Daytime Phone: Ext.
   City/State: Zip Code Cell Phone:

4. **Project Name:** Shark River and Spur (038 & 039) – Maint. Dredging Address/Location: Shark River Channel and Spur
   Municipality: Neptune Township, Boro of Neptune City, Belmar Boro County: Monmouth County
   Block(s): n/a Lot(s): n/a
   N.A.D. 1983 State Plane Coordinates(feet) E (x): 620,555.4 N(y): 492,568.4 *Not Longitude/Latitude* (Sta. 0+00 centerline)
   Watershed: Whale Pond Bk / Shark R / Wreck Pond Subwatershed: Shark River (below Remsen Mill gage)
   Nearest Waterway: Shark River
   Fees: Total Fee: n/a Check #: Project Cost:

5. **Project Description:** This application is for a Waterfront Development Permit for hydraulic maintenance dredging of the Shark River Channel and Spur to project depth including sediment deposited by Superstorm Sandy. Dredged material consisting predominantly of silt/sand shall be hydraulically pumped to the dewatering site at Block 108 Lot 1 ~~Borough of Belmar, Monmouth County or Block 563 Lots 1 & 2 Township of Neptune, Monmouth County.~~

Provide if applicable: Previous LUR File # (s): Waiver request ID # (s):

A. **SIGNATURE OF APPLICANT(required):**

I certify, under penalty of law, that the information provided in this document is true and accurate. I am aware that there are significant civil and criminal penalties for submitting false or inaccurate information. If corporate entity, print/type the name and title of the person signing on behalf of the corporate entity.

Signature of Applicant

Date 5.27.15

Genevieve Clifton, Manager
Print Name

Signature of Applicant

Date

Print Name

B. **PROPERTY OWNER'S CERTIFICATION**

I hereby certify that the undersigned is the **owner of the property** upon which the proposed work is to be done. This endorsement is certification that the owner grants permission for the conduct of the proposed activity. In addition, I hereby give unconditional written consent to allow access to the site by representatives or agents of the Department for the purpose of conducting a site inspection(s) or survey(s) of the property in question.

In addition, the undersigned property owner hereby certifies:

1. Whether any work is to be done within an easement? Yes☐ No☑
2. Whether any part of the entire project (e.g., pipeline, roadway, cable, transmission line, structure, etc.) will be located within property belonging to the State of New Jersey? Yes☑ No☐
3. Whether any work is to be done on any property owned by any public agency that would be encumbered by Green Acres? Yes☐ No☑
4. Whether any part of this project requires a Section 106(National Register of Historic Places) Determination as part of a federal permit or approval? Yes☑No☐

G Clifton
Signature of Owner

5.27.15
Date

Genevieve Clifton, Manager
Print Name

Signature of Owner

Date

Print Name

C. **APPLICANT'S AGENT** (Notary seal is required for Flood Hazard Area (FHA) applications)

I Genevieve Clifton, the Applicant/Owner and _____, co-Applicant/Owner authorize to act as my agent/representative in all matters pertaining to my application the following person:

Scott Douglas
Name of Agent

PROJECT MANAGER
Occupation/Profession of Agent

Signature of Applicant/Owner

Signature of co-Applicant/Owner

AGENT'S CERTIFICATION:

I agree to serve as agent for the above-referenced applicant:

M. Scott Douglas
Signature of Agent

NOTARY:

Sworn to me, this day of: _____, 20 ____

Notary Public

D. **STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS, SURVEYOR'S OR ENGINEER'S REPORT**

I hereby certify that the plans, specifications and engineer's report, if any, applicable to this project comply with the current rules and regulations of the New Jersey Department of Environmental Protection with the exceptions as noted. In addition, I certify the application is complete as per the appropriate checklist(s).

James D Heeren
Signature

James D. Heeren, PE
Print Name

Senior Environmental Engineer, Dewberry
Position & Name of Firm

24GE04031000
Professional License #

May 26, 2015
Date

E. **STATEMENT OF PREPARER OF APPLICATION, REPORTS AND/OR SUPPORTING DOCUMENTS (other than engineering)**

I certify under penalty of law that I have personally examined the information submitted in the document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining and preparing the information, I believe that the information is true, accurate and complete in accordance with the appropriate checklist(s). I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

M. Scott Douglas
Signature

Scott Douglas
Print Name

Project Manager/NJDOT
Position & Name of Firm

Professional License # (If Applicable)

May 26, 2015
Date

F. APPLICATION(S) FOR: (Check all that apply – follow directions on page 5)

	CAFRA	Fee Amount	Fee Paid
☐	Individual Permit		
☐	Exemption Request	$300.00	
☐	Permit Modification		
☐	CAFGP5 / Amusement Pier Exp	$600.00	
☐	CAFGP6 / Beach/Dune Maintenance	$600.00	
☐	CAFGP7 / Voluntary Reconstruction	$600.00	
☐	CAFGP8 / New Single Family or Duplex	$600.00	
☐	CAFGP9 / Reconstruct Single Fam/Dup	$600.00	
☐	CAFGP10 / New Bulkhead/Fill Lagoon	$600.00	
☐	CAFGP11 / Revetment	$600.00	
☐	CAFGP12 / Gabions	$600.00	
☐	CAFGP13 / Support Facilities/ Marina	$600.00	
☐	CAFGP14/Reconst Bulkhead above MHWL	$600.00	
☐	CAFGP15 / Hazard Waste Clean-up	$600.00	
☐	CAFGP16 / Landfall of Utilities	$600.00	
☐	CAFGP17 / Recreat Facility Public Park	$600.00	
☐	CAFGP18 / BulkheadConstuct/Fill upland	$600.00	
☐	CAFGP21 / Shoreline Stabilization	$600.00	
☐	CAFGP22 / Avian Nesting Structures	$600.00	
☐	CAFGP23 / Electrical Sub Facility	$600.00	
☐	CAFGP24 / Legalize Filling of Tidelands	$600.00	
☐	CAFGP25 / Construct Telecom Tower	$600.00	
☐	CAFGP26 / Tourism Indust. Construction	$600.00	
☐	CAFGP27 / Geotechnical Borings	$600.00	
☐	CAFGP29/Habitat Create/Restore/Enhance	$600.00	
☐	CAFGP30 / 1 to 3 Turbines < 200 Feet	$600.00	
☐	CAFGP31 / Wind Turbines < 250 Feet	$600.00	
☐	Individual Permit Equivalency/CERCLA	No Fee	No Fee

	Waterfront Development	Fee Amount	Fee Paid
☐	WDGP10 / New Bulkhead/Fill Lagoon ≤ 75'	$600.00	
☐	WDGP14 / Reconstruct Bulkhead	$600.00	
☐	WDGP19/Dock/Piers/Boat Lifts Lagoon	$600.00	
☐	WDGP20 / Minor Maint Dredge Lagoon	$600.00	
☐	WDGP21 / Shoreline Stabilization	$600.00	
☐	WDGP32 / Dredge Lagoon (post storm event)	$600.00	
☐	WDGP33 / Dredge post Bulkhead Failure	$600.00	
☐	WDGP34 / Dredge Marina (post storm event)	$600.00	
☐	WDGP35 / Aquaculture Activities	$600.00	
☐	WDGP36/Placement of Shell (shellfish areas)	$600.00	
☐	Individual Permit/Upland		
☑	**Individual Permit/Inwater**		
☐	Zane Letter	$300.00	
☐	Modification		
☐	Individual Permit Equivalency/CERCLA	No Fee	

	Coastal/Tidal Wetlands	Fee Amount	Fee Paid
☐	Coastal/Tidal Wetlands Permit		
☐	Coastal Wetland Permit Modification		

	Applicability Determination	Fee Amount	Fee Paid
☐	Coastal Jurisdictional Determination	No Fee	No Fee
☐	Highlands Jurisdictional Determination	No Fee	No Fee
☐	Flood Hazard Area Applicability	No Fee	No Fee
☐	Executive Order 215	No Fee	No Fee

	Flood Hazard Area	Fee Amount	Fee Paid
☐	FHA Verification		
☐	FHA Individual Permit		
☐	FHA Hardship Exception	$4,000.00	
☐	FHAGP1 / Chan Clean w/o Sed Removal	No Fee	No Fee
☐	FHAGP1 / Chan Clean w/Sed Removal	No Fee	No Fee
☐	FHAGP2A / Ag - Bank Restoration	$500.00	
☐	FHAGP2B / Ag - Channel Cleaning	$500.00	
☐	FHAGP2C / Ag - Road Crossing	$500.00	
☐	FHAGP2D / Ag - Wetlands Restoration	$500.00	
☐	FHAGP2E / Ag - Livestock Ford	$500.00	
☐	FHAGP2F / Ag - Livestock Fence	$500.00	
☐	FHAGP2G / Ag - Livestock Water Intake	$500.00	
☐	FHAGP3 / Bridge/Culvert Scour Protection	$500.00	
☐	FHAGP4 / Stormwater Maintenance	$500.00	
☐	FHAGP5 / Building Relocation	$500.00	
☐	FHAGP6 / Rebuild Damaged Home	No Fee	No Fee
☐	FHAGP7 / Residential in Tidal FHA	$500.00	
☐	FHAGP8 / Utility Crossing <50acres	$500.00	
☐	FHAGP9 / Road Crossing <50acres	$500.00	
☐	FHAGP10 / Stormwater Outfall <50acres	$500.00	
☐	Revision of a GP, IP or Verification		
☐	Transfer of an Approval	$200.00	
☐	FHA Indv. Permit Equivalency/CERCLA	No Fee	No Fee

	Stormwater Review Fees	Fee Amount	Fee Paid
☐	Fee for all Stormwater Reviews		

	Consistency Determination	Fee Amount	Fee Paid
☐	Water Quality Certificate		
☐	Federal Consistency	No Fee	No Fee
☐	HMC Water Quality Certificate		

	Highlands	Fee Amount	Fee Paid
☐	Emergency Permit		
☐	Pre-application Meeting	$500.00	
☐	Preservation Area Approval		
☐	Resource Area Determination footprint		
☐	Resource Area Determination ≤one acre	$500.00	
☐	Resource Area Determination >one acre		
☐	HPAAGP 1/ Habitat Creation/Enhance	No Fee	No Fee
☐	HPAAGP 2 Bank Stabilization	$500.00	
☐	PAA with Waiver (Specify type below)		

	Freshwater Wetlands	Fee Amount	Fee Paid
☐	FWGP1 / Main. & repair Exist Feature	$600.00	
☐	FWGP2 / Utility Crossing	$600.00	
☐	FWGP3 / Discharge of Return Water	$600.00	
☐	FWGP4 / Hazard Site Invest/Cleanup	$600.00	
☐	FWGP5 / Landfill Closure	$600.00	
☐	FWGP6 / Filling of NSWC	$600.00	
☐	FWGP6A /TA- Filling of NSWC	$600.00	
☐	FWGP7 / Fill ditch / swale	$600.00	
☐	FWGP8 / House Addition	$600.00	
☐	FWGP9 / Airport Sightline Clearing	$600.00	
☐	FWGP10A / Very Minor Road Crossing	$600.00	
☐	FWGP10B / Minor Road Crossing	$600.00	
☐	FWGP11 / Outfalls / Intakes	$600.00	
☐	FWGP12 / Survey / Investigation	$600.00	
☐	FWGP13 / Lake Dredging	$600.00	
☐	FWGP14 / Water Monitoring	$600.00	
☐	FWGP15 / Mosquito Control	$600.00	
☐	FWGP16 / Habitat Create / Enhance	No Fee	No Fee
☐	FWGP17 / Trails / Boardwalks	No Fee	No Fee
☐	FWGP17A / Multiuse paths	$600.00	
☐	FWGP18 / Dam Repairs	$600.00	
☐	FWGP19 / Dock or Pier	$600.00	
☐	FWGP20 / Bank Stabilization	$600.00	
☐	FWGP21 / Above Ground Utility	$600.00	
☐	FWGP23 / Expand Cranberry	No Fee	No Fee
☐	FWGP24 / Spring Developments	$600.00	
☐	FWGP25 / Malfunction Septic System	No Fee	No Fee
☐	FWGP26 / Channel / Stream Clean	$600.00	
☐	FWGP27 / Redevelop Disturbed Site	$600.00	
☐	FWGP Modification	$240.00	
☐	FWGP Extension	$240.00	

	Freshwater Wetlands	Fee Amount	Fee Paid
☐	Individual Wetlands Permit		
☐	Individual Open Water Permit		
☐	Individual Permit Mod. Major/Minor		
☐	Individual Permit Extension	$1,200.00	
☐	Wetlands Exemption	$240.00	
☐	Permit Equivalency/CERCLA	No Fee	No Fee

	Transition Area Waiver		
☐	Averaging Plan		
☐	Reduction		
☐	Hardship Reduction		
☐	Special Activity Stormwater		
☐	Special Activity Linear Development		
☐	Special Activity Redevelopment		
☐	Special Activity Individual Permit		
☐	Exemption	$240.00	
☐	Modification Major/Minor		
☐	Extension	$240.00	

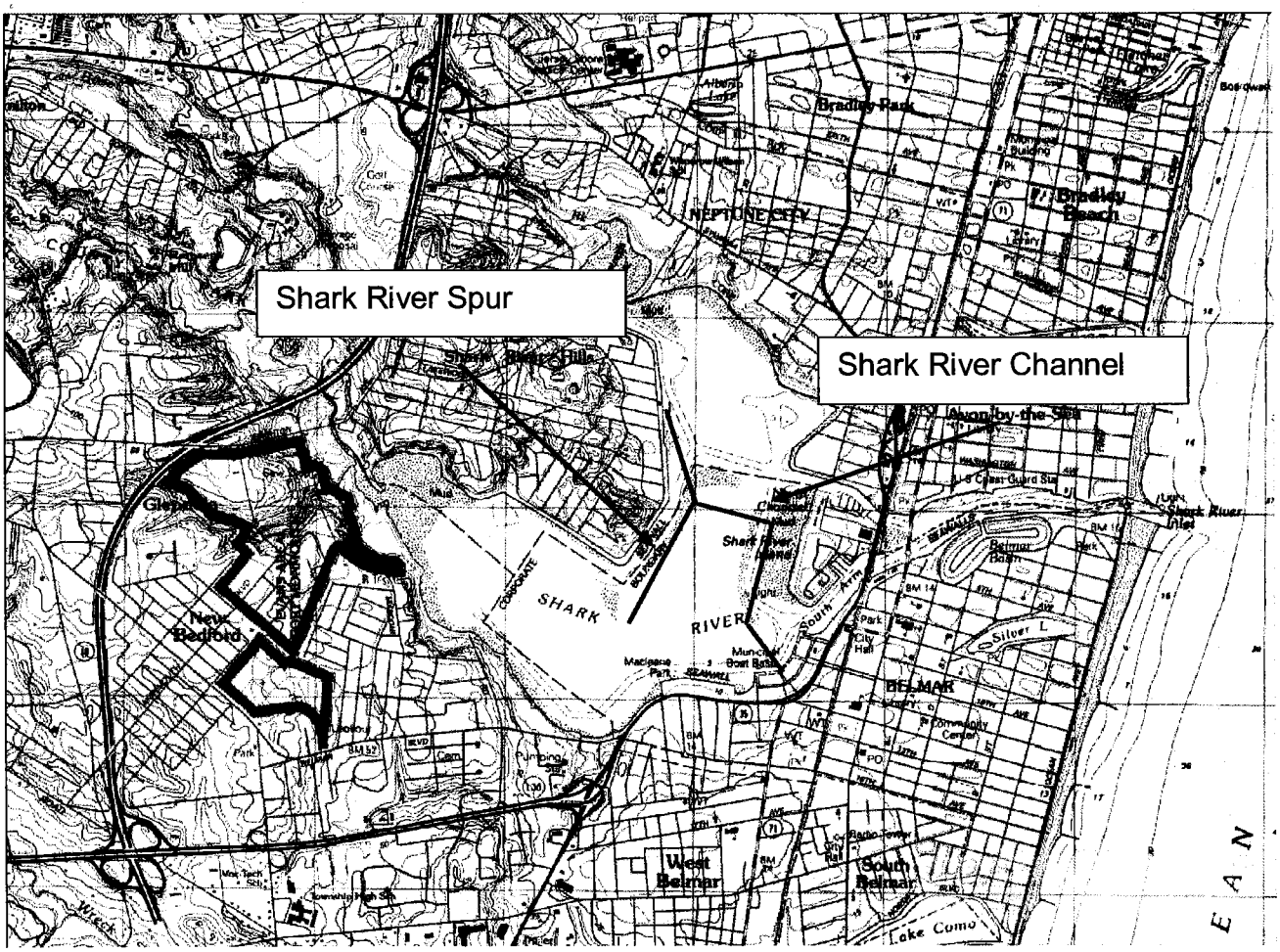
	Letter of Interpretation		
☐	Presence Absence	$240.00	
☐	Presence Absence Footprint	$480.00	
☐	Delineation ≤ 1.00 Acres	$600.00	
☐	Verification		
☐	Extension		

Please note: **If no fee amount is specified in the "Fee Amount" column, please refer to the Regulatory Fee Schedule which can be found at www.nj.gov/dep/landuse/forms.**

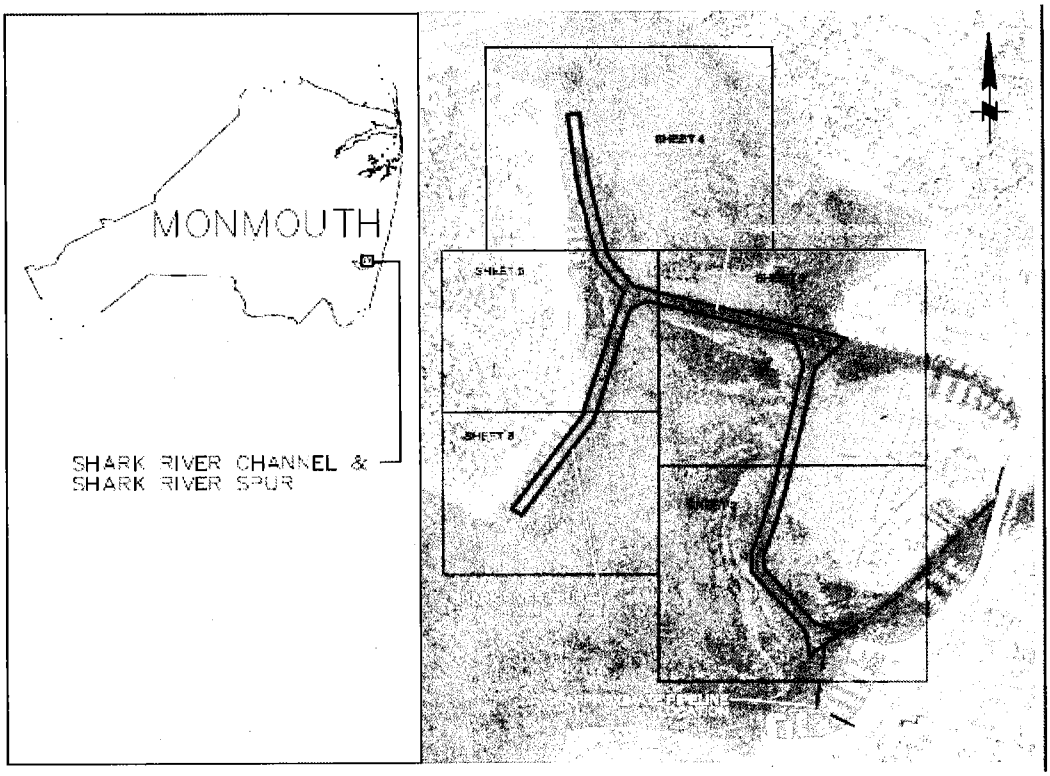
Also: **In addition to the standard paper submission, an electronic copy of the entire application, including plans, may be submitted on CD-ROM to assist the Department in the review this application. Plans should be submitted as a CAD file or Shapefile, georeferenced in NJ state plane feet NAD83.Please do NOT send the electronic version via E-Mail.**

Electonic permitting and/or application submittal is available for specific applications. Please see the Division website at www.nj.gov/dep/landuse/epermit.html for more information.

USGS Quad Map



Asbury Park, NJ
1995



Project Location Map

State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

JAMIE FOX
Commissioner

May 26, 2015

Jodi M. McDonald, Chief
U.S. Army Corps of Engineers
New York District – Regulatory Branch
Jacob K. Javits Federal Building
26 Federal Plaza, Room 1937
New York, NY 10278-0090

RE: Shark River Channel (#038) - Maintenance Dredging
Shark River Spur (#039) - Maintenance Dredging
Belmar Borough, Monmouth County
Borough of Neptune City, Monmouth County
Neptune Township, Monmouth County

Dear Ms. McDonald:

The New Jersey Department of Transportation, Office of Maritime Resources is requesting United States Army Corps of Engineers authorization to conduct maintenance dredging within the Shark River Channel and Shark River Spur. A ten year maintenance dredging provision is also requested in order to maintain safe navigation conditions in this channel.

Please find the following enclosed for your review and approval:

1. Department of the Army Permit Application, ENG Form 4345;
2. A completed Environmental Questionnaire;
3. A USGS Quadrangle map with the project area highlighted;
4. Project Location Map (aerial photo);
5. "Consistency Certification" with the New Jersey State Coastal Zone Management Program;
6. March 2015 NJDEP Compliance Statement;
7. "Public Notice" information, including project description, and mailing addresses of adjoining property owners, post office(s), city and county governments and the local newspaper(s).
8. Site plans (One (1) copy of full scale plans and three (3) copies reduced size (8.5" x 11")
9. November 15, 2013 Sediment Sampling Report (ASI Job #33-051 R9) (1 hard copy and 1 electronic copy);

An application for this project was also submitted to the New Jersey Department of Environmental Protection and is currently pending review.

If you have any questions or need any additional information please contact Jo Wall at (609) 530-4772 or by e-mail at Joselyn.wall@dot.nj.gov.

Sincerely,

Genevieve Clifton, Manager
Office of maritime Resources

Enclosures

c: Suzanne U. Dietrick, Chief, Office of Dredging and Sediment Technology

State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

JAMIE FOX
Commissioner

May 26, 2015

Mr. Ted Bianchi
Construction Official, Borough of Belmar
601 Main Street
Belmar, NJ 07719

RE: Waterfront Development Permit/WQC/AUD Application
Shark River Channel (#038) - Maintenance Dredging
Shark River Spur (#039) - Maintenance Dredging
Borough of Belmar, Monmouth County
Borough of Neptune City, Monmouth County
Neptune Township, Monmouth County

Dear Mr. Bianchi:

This letter is to provide you with legal notification that an application will be submitted to the New Jersey Department of Environmental Protection (NJDEP) Office of Dredging and Sediment Technology for a permit for maintenance dredging of the Shark River Channel and Shark River Spur navigation channels located in Borough of Belmar, Borough of Neptune City and Neptune Township, Monmouth County.

The complete permit application package can be reviewed at either the municipal clerk's office or by appointment at the Department of Environmental Protection's Trenton office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 days of receiving this letter to:

New Jersey Department of Environmental Protection
Office of Dredging and Sediment Technology
P.O. Box 420 Mail Code #401-06C
Trenton, New Jersey 08625-0420

If you have any questions or need any additional information please contact Jo Wall at (609) 530-4772 or by e-mail at Joselyn.wall@dot.nj.gov.

Sincerely,

Genevieve Clifton, Manager
Office of Maritime Resources

State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
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KIM GUADAGNO
Lt. Governor

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Commissioner

May 26, 2015

Mr. William J. Doolittle,
Construction Official, Borough of Neptune City
106 West Sylvania Avenue
Neptune City, NJ 07753

RE: Waterfront Development Permit/WQC/AUD Application
Shark River Channel (#038) - Maintenance Dredging
Shark River Spur (#039) - Maintenance Dredging
Borough of Belmar, Monmouth County
Borough of Neptune City, Monmouth County
Neptune Township, Monmouth County

Dear Mr. Doolittle:

This letter is to provide you with legal notification that an application will be submitted to the New Jersey Department of Environmental Protection (NJDEP) Office of Dredging and Sediment Technology for a permit for maintenance dredging of the Shark River Channel and Shark River Spur navigation channels located in Borough of Belmar, Borough of Neptune City and Neptune Township, Monmouth County.

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New Jersey Department of Environmental Protection
Office of Dredging and Sediment Technology
P.O. Box 420 Mail Code #401-06C
Trenton, New Jersey 08625-0420

If you have any questions or need any additional information please contact Jo Wall at (609) 530-4772 or by e-mail at Joselyn.wall@dot.nj.gov

Sincerely,

Genevieve Clifton, Manager
Office of Maritime Resources

State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
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KIM GUADAGNO
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May 26, 2015

Mr. William J. Doolittle,
Construction Official, Neptune Township
25 Neptune Boulevard
Neptune, NJ 07753

RE: Waterfront Development Permit/WQC/AUD Application
Shark River Channel (#038) - Maintenance Dredging
Shark River Spur (#039) - Maintenance Dredging
Borough of Belmar, Monmouth County
Borough of Neptune City, Monmouth County
Neptune Township, Monmouth County

Dear Mr. Doolittle:

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The complete permit application package can be reviewed at either the municipal clerk's office or by appointment at the Department of Environmental Protection's Trenton office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 days of receiving this letter to:

New Jersey Department of Environmental Protection
Office of Dredging and Sediment Technology
P.O. Box 420 Mail Code #401-06C
Trenton, New Jersey 08625-0420

If you have any questions or need any additional information please contact Jo Wall at (609) 530-4772 or by e-mail at Joselyn.wall@dot.nj.gov

Sincerely,

Genevieve Clifton, Manager
Office of Maritime Resources

State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
Governor

JAMIE FOX
Commissioner

KIM GUADAGNO
Lt. Governor

May 26, 2015

Mr. Edward Sampson, PP, AICP, Director
Monmouth County Division of Planning
Monmouth County Hall of Records
One East Main Street, P.O. Box 1255
Freehold, NJ 07728

RE: Waterfront Development Permit/WQC/AUD Application
Shark River Channel (#038) - Maintenance Dredging
Shark River Spur (#039) - Maintenance Dredging
Borough of Belmar, Monmouth County
Borough of Neptune City, Monmouth County
Neptune Township, Monmouth County

Dear Mr. Sampson:

This letter is to provide you with legal notification that an application will be submitted to the New Jersey Department of Environmental Protection (NJDEP) Office of Dredging and Sediment Technology for a permit for maintenance dredging of the Shark River Channel and Shark River Spur navigation channels located in Borough of Belmar, Borough of Neptune City, Neptune Township, Monmouth County.

The complete permit application package can be reviewed at either the municipal clerk's office or by appointment at the Department of Environmental Protection's Trenton office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 days of receiving this letter to:

New Jersey Department of Environmental Protection
Office of Dredging and Sediment Technology
P.O. Box 420 Mail Code #401-06C
Trenton, New Jersey 08625-0420

If you have any questions or need any additional information please contact Jo Wall at (609) 530-4772 or by e-mail at Joselyn.wall@dot.nj.gov.

Sincerely,

Genevieve Clifton, Manager
Office of Maritime Resources

State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

JAMIE FOX
Commissioner

May 26, 2015

Mr. Michael Meddis, MPH, Public Health Coordinator
Monmouth County Health Department
3435 Highway 9
Freehold, NJ 07728

RE: Waterfront Development Permit/WQC/AUD Application
Shark River Channel (#038) - Maintenance Dredging
Shark River Spur (#039) - Maintenance Dredging
Borough of Belmar, Monmouth County
Borough of Neptune City, Monmouth County
Neptune Township, Monmouth County

Dear Mr. Meddis:

This letter is to provide you with legal notification that an application will be submitted to the New Jersey Department of Environmental Protection (NJDEP) Office of Dredging and Sediment Technology for a permit for maintenance dredging of the Shark River Channel and Shark River Spur navigation channels, located in Borough of Belmar, Borough of Neptune City and Neptune Township, Monmouth County.

The complete permit application package can be reviewed at either the municipal clerk's office or by appointment at the Department of Environmental Protection's Trenton office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 days of receiving this letter to:

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Office of Dredging and Sediment Technology
P.O. Box 420 Mail Code #401-06C
Trenton, New Jersey 08625-0420

If you have any questions or need any additional information please contact Jo Wall at (609) 530-4772 or by e-mail at Joselyn.wall@dot.nj.gov.

Sincerely,

Genevieve Clifton, Manager
Office of Maritime Resources

State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

JAMIE FOX
Commissioner

May 26, 2015

Ms. Jodi McDonald, Chief
New York District -Regulatory Branch
United States Army Corps of Engineers
Jacob K. Javits Federal Building
26 Federal Plaza, Room 1937
New York, NY 10278-0090

RE: Waterfront Development Permit/WQC/AUD Application
Shark River Channel (#038) - Maintenance Dredging
Shark River Spur (#039) - Maintenance Dredging
Borough of Belmar, Monmouth County
Borough of Neptune City, Monmouth County
Neptune Township, Monmouth County

Dear Ms. McDonald:

This letter is to provide you with legal notification that an application will be submitted to the New Jersey Department of Environmental Protection (NJDEP) Office of Dredging and Sediment Technology for a permit for maintenance dredging of the Shark River Channel and Spur navigation channel located in Borough of Belmar, the Borough of Neptune City and Neptune Township, Monmouth County.

The complete permit application package can be reviewed at either the municipal clerk's office or by appointment at the Department of Environmental Protection's Trenton office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 days of receiving this letter to:

New Jersey Department of Environmental Protection
Office of Dredging and Sediment Technology
P.O. Box 420 Mail Code #401-06C
Trenton, New Jersey 08625-0420

If you have any questions or need any additional information please contact Joselyn Wall at (609) 530-4772 or by e-mail at Joselyn.wall@dot.nj.gov.

Sincerely,

Genevieve Clifton, Manager
Office of Maritime Resources

State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
Governor

JAMIE FOX
Commissioner

KIM GUADAGNO
Lt. Governor

May 26, 2015

Ms. April Claudio
Clerk, Borough of Belmar
601 Main Street
Belmar, NJ 07719

RE: Waterfront Development Permit/WQC/AUD Application
Shark River Channel (#038) - Maintenance Dredging
Shark River Spur (#039) - Maintenance Dredging
Borough of Belmar, Monmouth County
Borough of Neptune City, Monmouth County
Neptune Township, Monmouth County

Dear Ms. Claudio:

This letter is to provide you with legal notification that an application will be submitted to the New Jersey Department of Environmental Protection (NJDEP) Office of Dredging and Sediment Technology for a permit for the proposed dredging project shown on the enclosed plan.

Three copies of the complete permit application are enclosed for your file and your review. Please distribute one copy to the planning board and one copy to the environmental commission. The third copy shall be maintained in the clerk's office and be made available for public review.

The NJDEP welcomes comments and any information that you and/or the public may provide concerning the proposed maintenance dredging project. Please submit your written comments within 15 days of receiving this letter to:

New Jersey Department of Environmental Protection
Office of Dredging and Sediment Technology
P.O. Box 420 Mail Code #401-06C
Trenton, New Jersey 08625-0420

If you have any questions or need any additional information, please contact Joselyn Wall at (609) 530-4772 or by e-mail at Joselyn.Wall@dot.nj.gov.

Sincerely,

Genevieve Clifton, Manager
Office of Maritime Resources

Enclosures

State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

JAMIE FOX
Commissioner

May 26, 2015

Mr. Richard Cuttrell
Clerk, Neptune Township
25 Neptune Blvd.
Neptune, NJ 07753

RE: Waterfront Development Permit/WQC/AUD Application
Shark River Channel (#038) - Maintenance Dredging
Shark River Spur (#039) - Maintenance Dredging
Borough of Belmar, Monmouth County
Borough of Neptune City, Monmouth County
Neptune Township, Monmouth County

Dear Mr. Cuttrell:

This letter is to provide you with legal notification that an application will be submitted to the New Jersey Department of Environmental Protection (NJDEP) Office of Dredging and Sediment Technology for a permit for the proposed dredging project shown on the enclosed plan.

Three copies of the complete permit application are enclosed for your file and your review. Please distribute one copy to the planning board and one copy to the environmental commission. The third copy shall be maintained in the clerk's office and be made available for public review.

The NJDEP welcomes comments and any information that you and/or the public may provide concerning the proposed maintenance dredging project. Please submit your written comments within 15 days of receiving this letter to:

New Jersey Department of Environmental Protection
Office of Dredging and Sediment Technology
P.O. Box 420 Mail Code #401-06C
Trenton, New Jersey 08625-0420

If you have any questions or need any additional information, please contact Joselyn Wall at (609) 530-4772 or by e-mail at Joselyn.Wall@dot.nj.gov.

Sincerely,

Genevieve Clifton, Manager
Office of Maritime Resources

Enclosures

State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

JAMIE FOX
Commissioner

May 26, 2015

Ms. Mary Sapp
Clerk, Borough of Neptune City
106 W. Sylvania Ave
Neptune City, NJ 07753

RE: Waterfront Development Permit/WQC/AUD Application
Shark River Channel (#038) - Maintenance Dredging
Shark River Spur (#039) - Maintenance Dredging
Borough of Belmar, Monmouth County
Borough of Neptune City, Monmouth County
Neptune Township, Monmouth County

Dear Ms. Sapp:

This letter is to provide you with legal notification that an application will be submitted to the New Jersey Department of Environmental Protection (NJDEP) Office of Dredging and Sediment Technology for a permit for the proposed dredging project shown on the enclosed plan.

Three copies of the complete permit application are enclosed for your file and your review. Please distribute one copy to the planning board and one copy to the environmental commission. The third copy shall be maintained in the clerk's office and be made available for public review.

The NJDEP welcomes comments and any information that you and/or the public may provide concerning the proposed maintenance dredging project. Please submit your written comments within 15 days of receiving this letter to:

New Jersey Department of Environmental Protection
Office of Dredging and Sediment Technology
P.O. Box 420 Mail Code #401-06C
Trenton, New Jersey 08625-0420

If you have any questions or need any additional information, please contact Joselyn Wall at (609) 530-4772 or by e-mail at Joselyn.Wall@dot.nj.gov .

Sincerely,

Genevieve Clifton, Manager
Office of Maritime Resources

Enclosures

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Ted Bianchi
Construction Official, Borough of Belmar
601 Main Street
Belmar, NJ 07719

7005 0390 0000 9190 1334

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Michael Meddis, MPH
Public Health Coordinator
Monmouth County Health Department
3435 Highway 9
Freehold, NJ 07728

7005 0390 0000 9190 1297

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William Doolittle
Construction Official, Neptune Township
25 Neptune Boulevard
Neptune, NJ 07753

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William Doolittle
Construction Official, Bor. of Neptune City
106 W. Sylvania Avneue
Neptune City, NJ 07753

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Richard Cuttrell
Clerk, Neptune Township
25 Neptune Boulevard
Neptune, NJ 07753

PS Form 3800, June 2002 See Reverse for Instructions

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Mary Sapp
Clerk, Borough of Neptune City
106 W. Sylvania Avenue
Neptune City, NJ 07753

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Edward Sampson, PP, AICP, Director
Monmouth County Division of Planning
Monmouth County Hall of Records
One East Main Street, PO Box 1255
Freehold, NJ 07728

7005 0390 0000 9190 1273

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Sent To: April Claudio
Street, Apt. N or PO Box Nc: Belmar Borough Clerk
City, State, Zi: 601 Main Street
Belmar, NJ 07719

PS Form 3800, June 2002 — See Reverse for Instructions

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Postmark Here

Ms. Jodi McDonald, Chief
New York District Regulatory Branch, USACE
Jacob K. Javits Federal Building
26 Federal Plaza, Room 1937
New York, NY 10278-0090

PS Form 3800, June 2002 — See Reverse for Instructions

Take Notice that an application has been submitted to the New Jersey Department of Environmental Protection, Office of Dredging and Sediment Technology for a Waterfront Development Permit for the development described below:

APPLICANT: NJDOT Office of Maritime Resources

PROJECT NAME: Shark River Channel and Spur- Maintenance Dredging

PROJECT DESCRIPTION: Maintenance dredging by hydraulic method approximately 102,000 cubic yards of sediment from approximately 8,600 linear feet of the Shark River Channel and Spur (#038 and #039). The project depth is six feet below mean low water (-6' MLW) plus one foot (1') of allowable overdredge. The channel design width is 100'. Channel side-slopes are 3:1. Dredged material is proposed to be pumped to the dewatering site located at Block 108 Lot 1 Borough of Belmar, Monmouth County or Block 563 Lots 1 & 2 Township of Neptune, Monmouth County with final placement of dredged material at an approved landfill.

PROJECT STREET ADDRESS: Seaview Circle
BLOCK: 563 Dewatering Area)
LOTS: 1 & 2 (Dewatering Area)
MUNICIPALITY: Neptune Township
COUNTY: Monmouth

PROJECT STREET ADDRESS: Belmar Marina
BLOCK: 108 (Dewatering Area)
LOT: 1 (Dewatering Area)
MUNICIPALITY: Belmar Borough
COUNTY: Monmouth

The complete permit application package can be reviewed at either the municipal clerk's office or by appointment at the Department's Trenton office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 days of publication of this notice to:

New Jersey Department of Environmental Protection
Office of Dredging and Sediment Technology
PO Box 420
Mail Code: #401-06C
401 East State Street
Trenton, New Jersey 08625-0420

Compliance Statement

Coastal Zone Management Rules

(N.J.A.C. 7:7E)

Statutory authority:

N.J.S.A. 13:19-1, N.J.S.A. 12:3-1, N.J.S.A. 12:5-3, and N.J.S.A. 13:9A-1

Date last amended:

July 15, 2013

Shark River Channels (#38 #39)

Maintenance Dredging

Borough of Neptune City

Neptune Township

Borough of Belmar

New Jersey Department of Transportation
Office of Maritime Resources
P.O. Box 600
1035 Parkway Avenue
Trenton, New Jersey 08625

May 2014

Project Summary

Project: Shark River Channels – Maintenance Dredging

Municipality: Neptune City, Borough of Neptune City, Borough Of Belmar County: Monmouth

Dredged Material Quantity: ~102,000 yds^3

Project Depth: -6' MLW plus one foot of allowable over dredge.

Dredging Method: hydraulic

Temporary Dewatering Locations:

Belmar Marina
1024-1044 River Road
Belmar, NJ 07719
Tax Block: 108 Lot: 1
Borough of Belmar, Monmouth County

Or

Shark River Island
1701 New Jersey 35
Borough of Neptune City, NJ 07753
Tax Block: 563 Lots: 1 & 2
Township of Neptune, Monmouth County

Dredged Material Placement Locations:

Monmouth County Landfill
6000 Asbury Avenue

Tinton Falls 07753

State Plane Coordinates (NAD 1983):

Shark River Channel (038)		
Channel Centerline (Station 0+00)	E (x): 623,082.2	N(y): 491,356.8
Channel Centerline (Station 63+72.46):	E (x): 621,042.4	N(y): 496,212.8
Shark River Spur (039)		
Channel Centerline (Station 0+00)	E (x): 620,555.4	N(y): 492,568.4
Channel Centerline (Station 22+56.15):	E (x): 621,500.6	N(y): 494,587.6

Dewatering Location Coordinates

Shark River Island	E(x) 624,334.213	N (y) 493,139.450
Belmar Marina	E(x) 623,514.331	N (y) 490,716.722

Site Plans: Seven (7) sheets titled, "Maintenance Dredging and Channel Improvements for Shark River Channel & Shark River Spur" dated May 1, 2015, and prepared by Dewberry Engineers, Inc.

Project Description: The project consists of maintenance dredging within the Shark River Channel (#038) and Shark River Spur (#039) located in the Borough of Neptune City, and the Township of Neptune and the Borough of Belmar. This maintenance dredging event is limited to dredged material comprised of sand and silt (Station 0+00 to Station 63+72.46 and Station 0+00 to Station 22+56.15) with the material proposed to be dewatered at a nearby site location at the Belmar Marina located between 1024-1044 River Road Belmar, NJ 07719 or on Shark River Island located at 1701 New Jersey 35 Borough of Neptune City, NJ 07753.

Maintenance dredging shall consist of hydraulic dredging of approximately one hundred and one hundred and two thousand cubic yards cubic yards (~102,000 yds^3) of sediment comprised of sand and silt, from approximately eight thousand six hundred linear feet (~8,600') of the Shark River Channel and Shark River Spur (# 038 and # 039). The project depth is six feet below mean low water (-6' MLW), plus one foot (1') of allowable overdredge. The channel design width is 100 feet. Channel side slopes are 3:1. Maintenance dredging of the creek was last authorized by the State of New Jersey Department of Environmental Protection (NJDEP) in 1983, (permit #83-0043-1.)

Shoaling, including sediment deposited by Superstorm Sandy, has impeded navigation within this important channel. The maintenance dredging project is intended to restore the channel to the authorized project dimensions to allow safe passage for recreational and commercial marine traffic.

Material will be hydraulically dredged and transported via pipeline for mechanical dewatering to one of the proposed locations before being removed by truck to a permitted location at Monmouth County Landfill as fill. The dredge pipeline to the mechanical dewatering site will be floating except at channel crossings where it will be submerged to avoid a hazard or hindrance to navigation. The pipeline shall be marked as per USCG regulations.

The NJDOT Office of Maritime Resources conducted sediment sampling in May 2015 in preparation of maintenance dredging these channels. The sampling results indicate that the dredged material from this event (as delineated above) will need to be mechanically dewatered prior to beneficial use as landfill. Depending on target use, it may need to be amended with coarse grained material prior to placement. . Analysis of this data is provided in the Compliance Statement below. A copy of this data is provided within the Waterfront Development Permit application.

Permits Required:

State: Waterfront Development
Water Quality Certificate
Acceptable Use Determination
Tidelands Dredging License

Federal: Department of the Army Individual Permit

Environmental Assessment and Compliance - Rules on Coastal Zone Management (NJAC 7:7E).

The following constitutes an environmental assessment of the proposed project and its compliance with the Rules on Coastal Zone Management (N.J.A.C. 7:7E). Only the rules applicable to the project are addressed below. Text of the rules is not included. A complete listing of all rules and text are available on-line at http://www.nj.gov/dep/rules/rules/njac7_7e.pdf.

SUBCHAPTER 3. SPECIAL AREAS

7:7E-3.2 Shellfish habitat

According to the 1985 Shellfish Distribution Map (Appendix C), the Shark River Channel And Shark River Spur is located in shellfish habitat designated as high commercial value for hard clams. Maintenance dredging within shellfish habitat is conditionally acceptable, provided the disturbance to shellfish habitat is minimized to the greatest extent possible. The project is limited to the dimensions of the authorized channel and the minimum depth required for vessels currently using the channel. No expansion of the channel is proposed.

The shellfish growing water classification of the channel area to be dredged is classified as "special restricted" (see Appendix B). The proposed maintenance dredging project is not anticipated to result in the downgrading of the shellfish growing water classification.

The proposed maintenance dredging project is in compliance with this rule.

7:7E-3.5 Finfish migratory pathways

The proposed maintenance dredging project will not create any physical barriers to the movement of fish along finfish migratory pathways, and will not lower water quality to an extent that interferes with movement of fish along migratory pathways.

A temporary increase in turbidity is expected at the dredging site during active dredging, but generally hydraulic dredging reduces the generation of suspended sediment as compared to other dredging methods.

The proposed maintenance dredging project will comply with all recommended timing restrictions to minimize potential impacts to anadromous fish runs.

The proposed maintenance dredging project is in compliance with this rule.

7:7E-3.6 Submerged vegetation habitat

There is no known submerged aquatic vegetation habitat within the limits of the channel design or pipeline route. Therefore, no impact to submerged aquatic vegetation is anticipated.

The proposed maintenance dredging project is in compliance with this rule.

7:7E-3.7 Navigation channels

The Shark River Channel and Shark River Spur are an existing navigation channels serving several marinas and recreational and commercial marine traffic. The maintenance dredging project proposes to restore the existing channel to the required project depth for vessels currently using the channel. The project is intended to restore adequate depth for safe navigation.

The dredging equipment may cause a temporary impediment to navigation. However, all vessels and pipelines shall be marked and/or lighted as required by U. S. Coast Guard requirements.

The project does not propose construction of any structures.

The proposed maintenance dredging project is in compliance with this rule.

7:7E-3.15 Intertidal and subtidal shallows

Maintenance dredging of intertidal and subtidal shallows within the channel footprint is acceptable to maintain adequate water depths in accordance with N.J.A.C. 7:7E-4.6. The proposed maintenance dredging project is in compliance with the Maintenance Dredging Rule (N.J.A.C. 7:7E-4.6) (see below).

Maintenance dredging shall be limited to the authorized project depth and channel dimensions only. Therefore impacts to intertidal and subtidal shallows have been minimized to the maximum extent practicable.

The proposed maintenance dredging project is in compliance with this rule.

7:7E-3.36 Historic and archaeological resources

The project is maintenance dredging of an existing previously dredged navigation channel. The project is limited to the previously dredged channel dimensions. During the post-Superstorm Sandy debris scanning, a potential shipwreck was observed outside of the channel limits in the area shown in the plans on sheet 4 of 7. The 50-foot buffer extends into the channel area. This debris was not removed during the debris removal program and is likely still in place. However, due to the precision of hydraulic dredging, the proposed work is not anticipated to impact the potential resource. The contractor will be informed of the presence of the debris field and inspectors will be carefully monitoring the work activity. Should historic material be observed during dredging, SHPO will be contacted for direction. Additional information, in the form of side scan sonar of the debris field, has been previously provided to the Department, but can also be provided on request.

The proposed maintenance dredging project is in compliance with this rule.

7:7E-3.50 Lands and waters subject to public trust rights

All lands and waters associated with this maintenance dredging project are subject to public trust rights. Public access is currently available and will continue to be provided in accordance with the public access rule (see discussion of public access rule below (N.J.A.C. 7:7E-8.11)).

The proposed maintenance dredging project is in compliance with this rule.

SUBCHAPTER 4. GENERAL WATER AREAS

7:7E-4.6 Maintenance dredging

The proposed project is maintenance dredging of an existing, previously dredged State Channel. The project is limited to maintenance dredging to the authorized project depth and channel dimensions. The channel is currently used by several marinas and recreational and commercial marine vessels requiring the project depth. Dredged material comprised of sand and silt is proposed to be pumped to a site to be mechanically dewatered at the Belmar Marina between 1024-1044 River Road Belmar, NJ 07719 or 1701 New Jersey 35 Neptune City, NJ 07753 in Monmouth County. Maintenance dredging was last authorized by the State of New Jersey Department of Environmental Protection (NJDEP) in1983, (Permit #83-0043-1).

The NJDEP Bureau of Coastal Engineering conducted sediment sampling in March 2015 in preparation of maintenance dredging the Shark River Channel and Shark River Spur. The sediment sampling results from this event met the Residential Direct Contact Soil Remediation Standards, with minor exceptions as noted. Sediment results indicate that the material is suitable for placement at a licensed Solid Waste landfill.

Post-storm sediment sampling was conducted in March 2015 to support this permit application for the proposed maintenance dredging event. The bulk sediment chemistry results from this event met the Residential Direct Contact Soil Remediation Standards with the exception of benzo(a)pyrene in one composite at 370 ppb.

ASI Job # 35-025		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:ug/kg)			Unamen Sedim (Units:ug
				Comp A			Core 03
				20150288			201502
			PQL*	7825460			78254
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result**	**RL**	**Q**	**Result**
Benzidine	92-87-5	700	700	ND	5300	ND	ND
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	600	200	340	27		170
Benzo(a)pyrene	50-32-8	200	200	370	27		180
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	600	200	450	27		230
Benzo(g,h,i)perylene	191-24-2	380000000	200	220	27		120
Benzo(k)fluoranthene	207-08-9	6000	200	140	27		100
bis(2-Chloroethyl)ether	111-44-4	400	200	ND	53	ND	ND
Bis(2-chloroisopropyl) ether	39638-32-9	23000	200	ND	53	ND	ND
bis(2-Ethylhexyl)phthalate	117-81-7	35000	200	ND	270	ND	ND
Butyl benzyl phthalate	85-68-7	1200000	200	ND	270	ND	ND
Caprolactam	105-60-2	31000000	200	ND	270	ND	ND
Carbazole	86-74-8	24000	200	33	53	J	ND
Chrysene	218-01-9	62000	200	330	27		170

Dibenz(a,h)anthracene	53-70-3	200	200	63	27		20
	#N/A			#N/A	#N/A	#N/A	#N/A
Diethylphthalate	84-66-2	49000000	200	ND	270	ND	ND
Di-n-butylphthalate	84-74-2	6100000	200	ND	270	ND	ND
Di-n-octylphthalate	117-84-0	2400000	200	ND	270	ND	ND
Fluoranthene	206-44-0	2300000	200	500	27		290
Fluorene	86-73-7	2300000	200	43	27		27
Hexachloro-1,3-butadiene	87-68-3	6000	200	ND	53	ND	ND
Hexachlorobenzene	118-74-1	300	200	ND	27	ND	ND
Hexachlorocyclopentadiene	77-47-4	45000	200	ND	800	ND	ND
Hexachloroethane	67-72-1	35000	200	ND	270	ND	ND
Indeno(1,2,3-cd)pyrene	193-39-5	600	200	190	27		96
Isophorone	78-59-1	510000	200	ND	53	ND	ND
Naphthalene	91-20-3	6000	200	53	27		35
Nitrobenzene	98-95-3	31000	200	ND	53	ND	ND
N-Nitrosodimethylamine	62-75-9	700	700	ND	270	ND	ND
N-Nitroso-di-n-propylamine	621-64-7	200	200	ND	53	ND	ND
N-Nitrosodiphenylamine	86-30-6	99000	200	ND	53	ND	ND
Pentachlorophenol	87-86-5	3000	300	ND	270	ND	ND
Phenanthrene	85-01-8	N/A	200	270	27		150
Phenol	108-95-2	18000000	200	ND	53	ND	ND
Pyrene	129-00-0	1700000	200	540	27		290

Table 4a continued

Pesticide/Arochlor Analysis of Bulk Sedime

ASI Job # 35-025		**NJDEP Residential Direct Contact Soil Remediation Standards**		**Unamended Sediment (Units:ug/kg)**			**Unamen Sedim (Units:u**
				Comp A			**Core 03**
				20150288			**201502**
			PQL*	**7825460**			**78254**
Analyte Name	**CAS No.**	**ug/kg (ppb)**	**ug/kg**	**Result[1]**	**RL**	**Q**	**Result**
4,4'-DDD	72-54-8	3000	3	3.7	14	J P	32
4,4'-DDE	72-55-9	2000	3	ND	14	ND	ND
4,4'-DDT	50-29-3	2000	3	ND	14	ND	ND
Aldrin	309-00-2	40	2	7.4	6.6		ND
alpha-HCH (alpha-BHC)	319-84-6	100	2	ND	6.6	ND	ND
beta-HCH (beta-BHC)	319-85-7	400	2	ND	8	ND	39
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	400	2	ND	6.6	V	ND
alpha-Chlordane	5103-71-9	200	2	ND	6.6	ND	ND
gamma-Chlordane	5103-74-2	200	2	ND	6.6	ND	ND
Chlordane	57-74-9	200	2	0.0		ND	0.0
Dieldrin	60-57-1	40	3	ND	14	ND	ND

Endosulfan I	959-98-8	470000	3	3.3	6.6	J	ND
Endosulfan II	33213-65-9	470000	3	ND	14	ND	ND
Endosulfan I and II (alpha and beta)	115-29-7	470000	3	3.3		J	0.0
Endosulfan sulfate	1031-07-8	470000	3	ND	14	ND	21
Endrin	72-20-8	23000	3	ND	14	ND	ND
Heptachlor	76-44-8	100	2	ND	6.6	V	ND
Heptachlor epoxide	1024-57-3	70	2	ND	6.6	V	26
Methoxychlor	72-43-5	390000	20	ND	53	ND	ND
Toxaphene	8001-35-2	600	200	ND	260	ND	ND
Arochlor-1016	12674-11-2	200	30	ND	27	ND	ND
Arochlor-1221	11104-28-2	200	30	ND	27	ND	ND
Arochlor-1232	11141-16-5	200	30	ND	27	ND	ND
Arochlor-1242	53469-21-9	200	30	ND	27	ND	ND
Arochlor-1248	12672-29-6	200	30	ND	27	ND	ND
Arochlor-1254	11097-69-1	200	30	15	27	J	ND
Arochlor-1260	11096-82-5	200	30	ND	27	ND	ND
Total Arochlor(SUM)	1336-36-3	200	30	15		J	0.0

A complete electronic copy of the sediment sampling results are provided within the permit application.

The project will comply with all recommended seasonal timing restrictions to minimize potential impact to aquatic resources.

The project is in compliance with this Rule.

SUBCHAPTER 6. GENERAL LOCATION RULES

7:7E-6.2 Basic location rule

The project is a maintenance dredging project of an existing channel. No expansion or changes to the channel dimensions are proposed. Dredged material is proposed to be mechanically dewatered and sent to the Monmouth Country land fill as fill.

The project is in compliance with this Rule.

7:7E-6.3 Secondary impacts

The project proposes maintenance dredging of an existing State Channel to authorized project depth. The channel serves several marinas and recreational marine traffic. No expansions of the channel design or service area are proposed. The project is not anticipated to have secondary impacts.

The project is in compliance with this Rule.

SUBCHAPTER 7. USE RULES

7:7E-7.12 Dredged material placement on land

The beneficial use of dredged material of appropriate quality and particle size for landfill cover is encouraged provided that the use is protective of human health, groundwater quality, and surface water quality, and manages ecological risks.

The material quality has been reviewed by the LSRP and determined to be compatible for the use as land fill at the Monmouth County Landfill.

The project is in compliance with this Rule.

SUBCHAPTER 8. RESOURCE RULES

7:7E-8.2 Marine fish and fisheries

The project is limited to maintenance dredging of an existing channel. The proposed maintenance dredging project will comply with all recommended timing restrictions to minimize potential impacts to anadromous fish runs. No significant adverse impacts to marine fish or fisheries are anticipated.

The project is in compliance with this Rule.

7:7E-8.4 Water Quality

A temporary increase in turbidity in the water column is expected at the dredging site during active hydraulic dredging, but generally hydraulic dredging reduces the generation of suspended sediment as compared to other dredging methods. The discharge from the mechanical dewatering process shall meet the Surface Water Quality Standards before it is returned to the receiving water body.
The project is in compliance with this Rule.

7:7E-8.8 Vegetation

The project is in compliance with the submerged vegetation habitat rule (7:7E-3.6) above. There is no anticipated impact to terrestrial vegetation.

The project is in compliance with this Rule.

7:7E-8.11 Public access

The project consists of improving an existing State channel for public navigation. Public access to the immediate work area may be temporarily restricted during construction. However, all existing public access shall be maintained for the project area.

The project is in compliance with this Rule.

7:7E-8.13 Buffers and compatibility of uses

The project proposes maintenance dredging of an existing navigation channel. There are no proposed changes in use for the channel or surrounding area.

The proposed project is in compliance with this Rule.

Compliance Statement

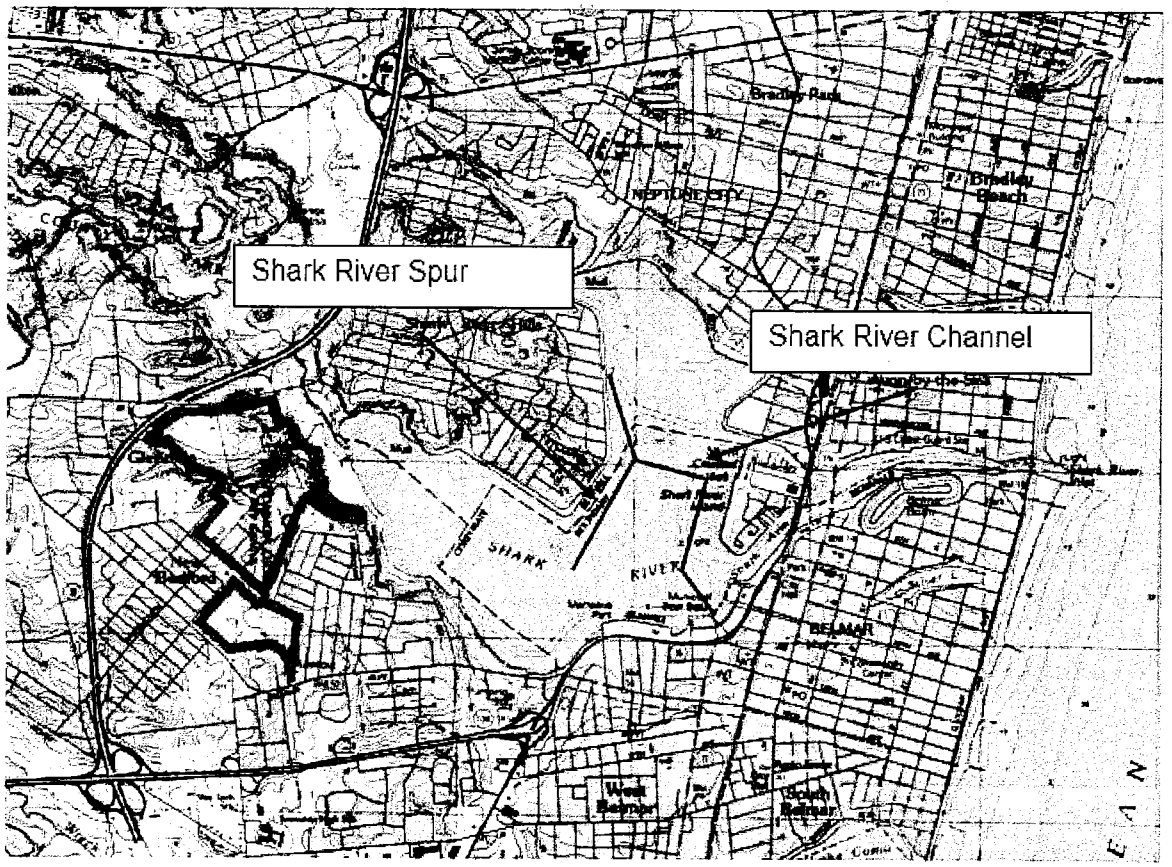
The proposed maintenance dredging project is in compliance with the applicable Rules on Coastal Zone Management (N.J.A.C. 7:7E) and is consistent with the eight basic coastal policies specified at N.J.A.C. 7:7E-1.1(c).

Based on the determination of compliance with the Coastal Zone Management Rules above, no significant environmental impacts are anticipated. All potential impacts have been minimized to the maximum extent practicable.

ATTACHMENTS

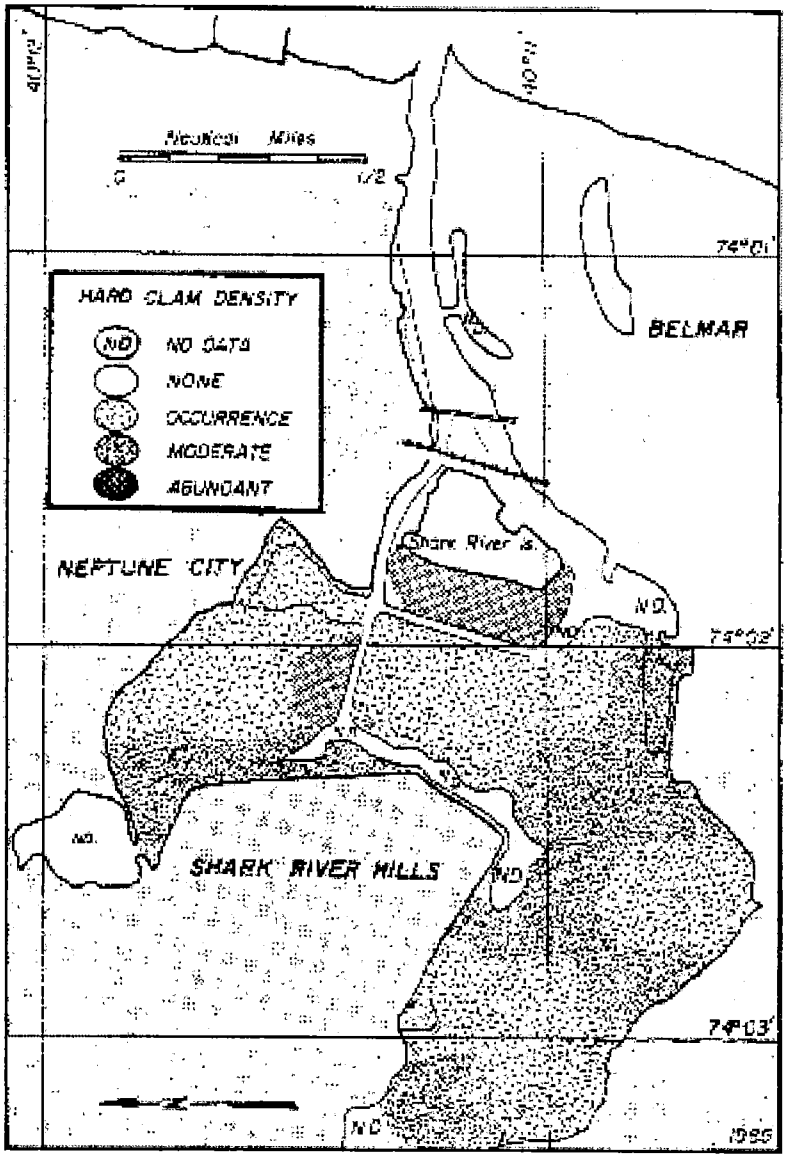
Appendix A

Shark River Channel and Shark River Spur(#38 and #039)
Township of Neptune, Borough of Neptune City, and the Borough of Belmar
Monmouth County
Project Location Map



Appendix B

Shark River Channel (#038)
Shark River Spur (#039)
Hard Clam Classification Map

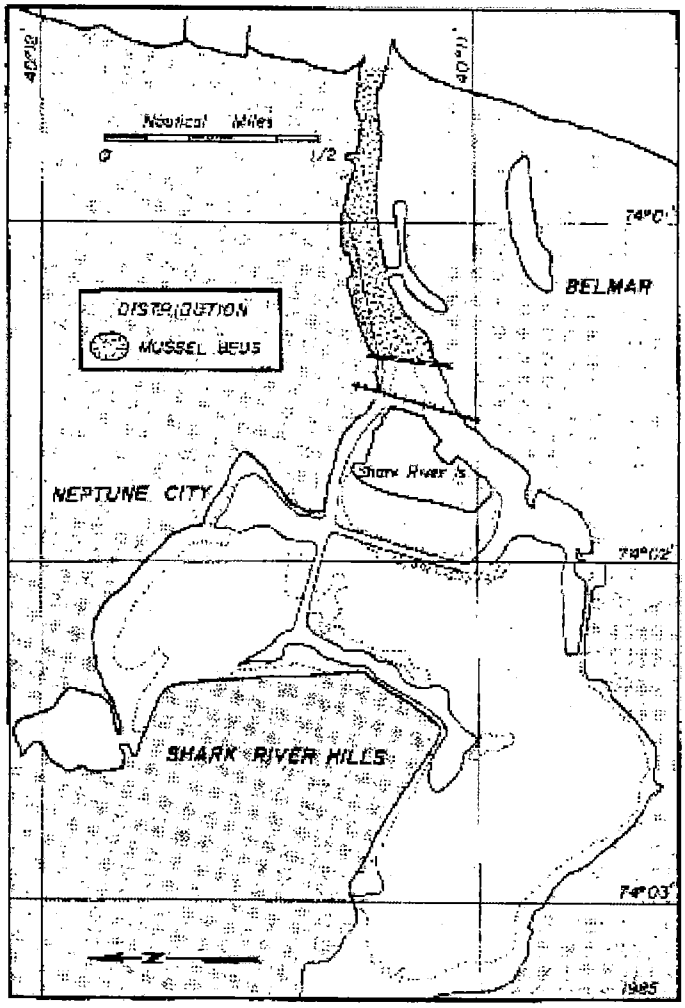


Appendix C

Shark River Channel (#038)

Shark River Spur (#039)

Mussel Bed Map (1963)

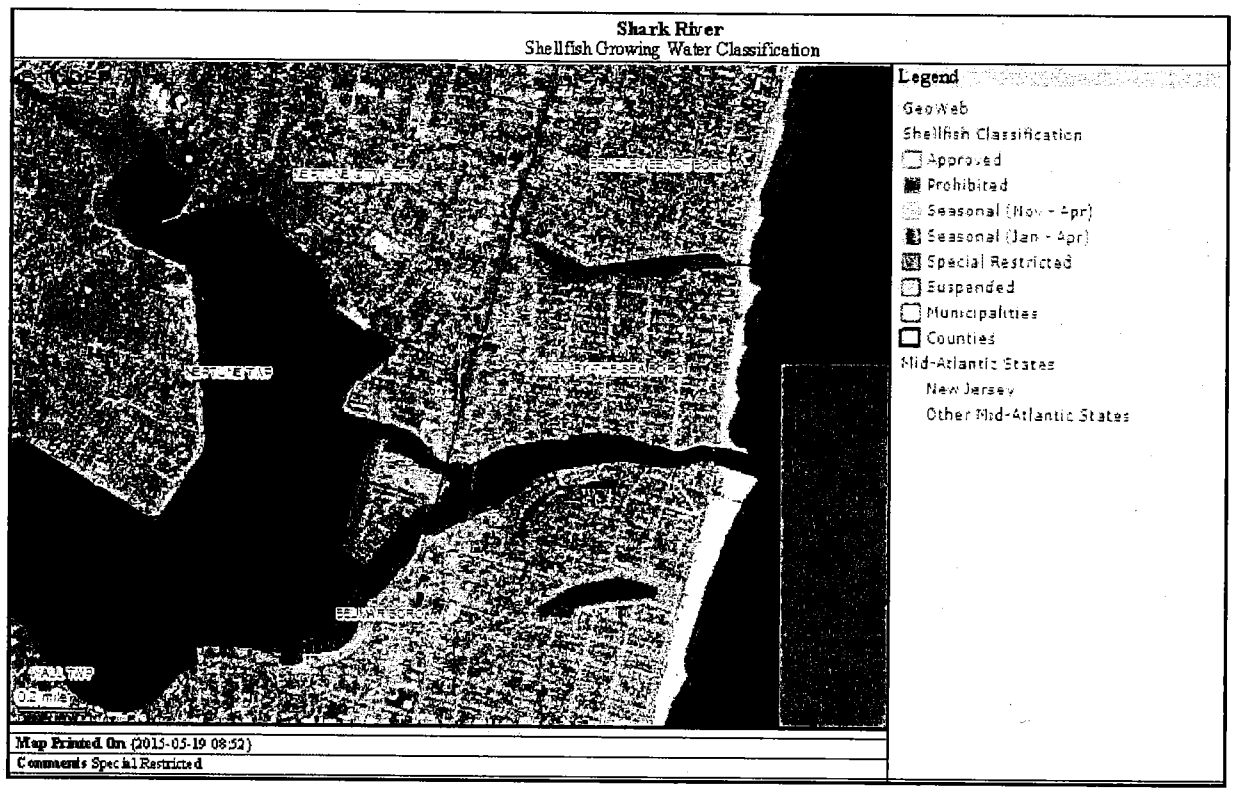


Appendix D

Shark River Channel (#038)

Shark River Spur (#039)

Shellfish Growing Water Classification



LEGEND:

- Dredge Staging Site
- Staging Site Parcel Boundary
- Channel and Spur Limits
- Historic Resources
- Historic Resources Buffer

Source: New Jersey 2013 High Resolution Orthophotography, NJDEP Shellfish Classification for New Jersey (Edition 2014)

NEW JERSEY DEPARTMENT OF TRANSPORTATION

SHARK RIVER CHANNEL AND SHARK RIVER SPUR HISTORIC RESOURCES MAP

Township of Neptune Township, Borough of Neptune City, and Borough of Belmar
Monmouth County, New Jersey

SCALE: 1" = 1000'

DATE: May 2015

Dewberry

Path: Q:\50069058\50069059\GIS\Mxd\Historic Resource Map.mxd

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Land Use Regulation
Bureau of Tidelands Management
P.O. Box 420 Code 501-02B
Trenton, NJ 08625-0420
Tel. # 609-777-0454
Fax # 609-777-3656

BOB MARTIN
Commissioner

FEB 5 _ 2015

NJDOT Office of Maritime Resources
PO BOX 837
1035 Parkway Ave
Trenton, NJ 08625

RE: NJDOT OFFICE OF MARITIME RESOURCES, New Dredging License application, Statewide, Atlantic City, Atlantic County

FILE: #0000-14-0005.1 TDI140001

Dear Applicant:

Please find the license document for the above-referenced dredging project enclosed with this correspondence.

The State of New Jersey may claim title to a portion of the property in-shore of the licensed area, and the state does not waive this claim by approving and issuing this license document.

Sincerely,

Ms. Madhu Guru, PE
Assistant Director
Bureau of Tidelands Management

MG/kd

FEB 12 2015

File No. 0000-14-0005.1 TDI140001

REVOCABLE DREDGING LICENSE
A Mineral Rights Agreement from the State of New Jersey

The Tidelands Resource Council in the Department of Environmental Protection, empowered under N.J.S.A. 13:1B-13 to approve licenses of lands owned by the State of New Jersey that are now or were formerly under tidewater, having due regard for the public interest, has approved a license to **NJDOT OFFICE OF MARITIME RESOURCES**, hereafter referred to as the licensee(s).

The licensee(s) has applied for the right to dredge an area of land under tidewater Statewide.

The license shall be in effect for twenty four (24) year from **MAY 7, 2014 TO MAY 7, 2038.** There will be no fee for this license.

This license may be revoked at any time and for any purpose deemed necessary and reasonable by the Tidelands Resource Council.

The licensee(s) may not further improve or develop the licensed area unless a permit, as per N.J.S.A. 12:5-3, and an additional license are obtained for that purpose. The licensee(s) may not appropriate the licensed area for exclusive use.

Madhu Guru, Assistant Director
Bureau of Tidelands Management
Division of Land Use Regulation
Department of Environmental Protection

9/5/2015

Date

Aqua Survey, Inc.

Volume I

Technical Report on the Sampling and Testing of Sediment From Shark River Channel and Shark River Spur

Prepared for:

Parsons Brinckerhoff
2000 Lenox Drive, Third Floor
Lawrenceville, NJ 08648

Issued:

May 6, 2015

ASI Job No. 35-025

469 Point Breeze Road
Flemington, NJ 08822

Phone: 908-788-8700
Fax: 908-788-9165
mail@aquasurvey.com
www.aquasurvey.com

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Figures and Tables

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Eurofins Lancaster Laboratories Chemical Analysis of the Composites and Field Blank

Information Page

Technical Report on the Sampling and Testing of Sediment From Shark River Channel and Shark River Spur

STUDY INITIATION DATE

March 23, 2015

STUDY COMPLETION DATE

May 6, 2015

PERFORMING LABORATORY

Aqua Survey, Inc.
469 Point Breeze Road
Flemington, New Jersey 08822

SPONSOR

Parsons Brinckerhoff
2000 Lenox Drive, Third Floor
Lawrenceville, NJ 08648

LABORATORY PROJECT ID

ASI Study No. 35-025

Signature Page

Technical Report on the Sampling and Testing of Sediment From Shark River Channel and Shark River Spur

Prepared for:

Parsons Brinckerhoff
2000 Lenox Drive, Third Floor
Lawrenceville, NJ 08648

This report, as well as all records and raw data were audited and found to be an accurate reflection of the study. Copies of raw data will be maintained by Aqua Survey, Inc, 469 Point Breeze Road, Flemington, New Jersey, 08822.

Robert M. Fristrom
Quality Assurance Officer

5/6/15
Date

Michelle Thomas
Laboratory Manager

5/6/15
Date

Jon Doi, Ph.D.
Executive Vice President

5-6-15
Date

I. INTRODUCTION

The objective of this project was to collect and analyze sediment from Shark River and Shark River Spur (Channels 038 and 039), Monmouth County, New Jersey. This work was conducted in accordance with Appendix B, Attachment 1, of the technical manual entitled "The Management and Regulation of Dredging Activities and Dredged Material in New Jersey's Tidal Waters" (Dredging Manual), October 1997 and the SAP from NJOT dated February 27, 2015.

ASI performed all sampling and physical analyses of the sediments. Eurofins Lancaster Laboratories (ELL) of Lancaster, PA performed the chemical analyses of the sediment composites and the field blank.

II. CORRESPONDENCE

The following pages provide relevant correspondence for this project.

State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

JAMIE FOX
Commissioner

February 27, 2015

Mr. Mark Davis
Office of Dredging and Sediment Technology
NJ Department of Environmental Protection
401 East State Street
Trenton, NJ 08625

Dear Mark:

The following sampling plan is based on the notes and diagram that was provided by Joel Pecchioli of the Office of Dredging and Sediment Technology via email on February 24 and 26, 2015. Please review the following for compliance with the current regulations and provide us with your response as to the adequacy of the testing approach for eventual inclusion in a dredging permit application.

The Shark River and Shark River Spur channels will be sampled to a project depth of 6 feet plus one foot below mean low water. Each core will be taken with a Vibracore device, following USACE sampling protocol for dredging projects. While the attached bathymetric plan shows approximate core locations, actual core locations will be recorded with GPS at the time of sampling. In general, cores should always be taken in the shallowest portion of the shoal; for this project, cores 1-5 should be 25 ft in from the south/east boundary of the channel, cores 6-8 should be 25 ft in from the north/west boundary, cores 9-10 should be taken mid-channel and 11-14 should be 25 feet from the south/west boundary.

Field observations of the type of sediment, stratification and depth of penetration will be performed and recorded at the time of sampling. If stratification layers greater than two feet are observed, strata will be stored separately and NJDEP will be contacted for further instruction.

Channel Number	Channel Name	Volume Range	Targeted Sample Depth	Composite Scheme
038	Shark River Channel	48,894 - 73,674 cyd	-7 MLW	Comp A: cores 1,2,3 Comp B: cores 4, 5 Comp C: cores 6,7,8 Comp D: cores 9,10
039	Shark River Spur	17,952 – 28,346 cyd	-7 MLW	Comp E; cores 11,12 13,14

In the Table is a summary of the channel samples, estimated volume range based on the 2013 surveys, targeted depth (max dredge depth), and compositing scheme that was previously provided by Mr. Pecchioli. Only cores of similar grain size should be composited. If grain size between cores targeted for composition varies by more than 20% upon visual inspection, please contact NJDEP for guidance.

The analytical approach for the sediment will be to analyze each core for grain size, percent moisture, and total organic carbon (TOC). Cores and strata (if present) should be homogenized prior to subsampling. An overnight grain size analysis will determine if a given core is at least 90% sand. If each core is less than 90% sand, then the compositing scheme listed will be followed. If each core is greater than 90% sand, no further analysis will be performed, other than the TOC and percent moisture. If a group of cores contains samples that are both over and under the 90% sand mark, then NJDEP will be consulted for guidance. Each composite prepared will be subjected to grain size by hydrometer method, TOC, and bulk sediment chemistry. No elutriates or site water analysis is required for this round of sampling. Target Analyte List will be as outlined in the NJDEP Dredging Manual (NJDEP, 1997), with detection limits appropriate for comparison to the Residential Soil Remediation Standards.

Please let me know if you have any questions, or if this reflects your understanding of our agreed sampling plan.

Sincerely,

W. Scott Douglas
Project Manager
NJDOT, Office of Maritime Resources

Jon Doi

From: Joel Pecchioli <Joel.Pecchioli@dep.nj.gov>
Sent: Thursday, March 26, 2015 3:36 PM
To: Douglas, Scott; Jon Doi; Grenier, Jennifer J.; Lunemann, Matthew; Marano, Mike J.
Cc: Mark Davis
Subject: RE: Shark River grain size question ...

Yes – I agree ...

From: Douglas, Scott [mailto:SCOTT.DOUGLAS@dot.nj.gov]
Sent: Thursday, March 26, 2015 3:21 PM
To: Jon Doi; Grenier, Jennifer J.; Lunemann, Matthew; Marano, Mike J.
Cc: Joel Pecchioli; Mark Davis
Subject: RE: Shark River grain size question ...

Sounds like a good plan Jon. I am copying Joel on this email. Joel, do you agree?

sd

From: Jon Doi [mailto:doi@aquasurvey.com]
Sent: Thursday, March 26, 2015 3:19 PM
To: Grenier, Jennifer J.; Lunemann, Matthew; Marano, Mike J.; Douglas, Scott
Subject: Shark River grain size question ...

We did a Quick Sieve grain size analysis on 3 samples that made up Composite A, i.e., 038-1, 038-2 and 038-3. We did this, because we thought 038-3 might be over 20% different than 038-1 or 038-2. That was, in fact, the case. The grain size values for the 3 samples are:

038-1: 67.3% sand;
038-2: 71.2% sand;
038-3: 41.0% sand.

Do you want 038-1 and 038-2 composited together and 038-3 run as a discrete sample? Please advise. Thank you.

Take care,
Jon

Jon Doi, Ph.D.
Principal/Executive Vice President
Aqua Survey, Inc.
469 Point Breeze Road
Flemington, NJ 08822
Phone: 908-788-8700
Fax: 908-788-9165
Cell: 908-347-3935
doi@aquasurvey.com
www.aquasurvey.com

III. TEST ADMINISTRATION

A. Sponsor

Parsons Brinckerhoff
2000 Lenox Drive, Third Floor
Lawrenceville, NJ 08648

B. Testing Facilities

Aqua Survey, Inc.
469 Point Breeze Road
Flemington, NJ 08822

Eurofins Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17601

C. Dates of Experimentation

Date of Study Initiation:	March 23, 2015
Date of Study Completion:	May 6, 2015

D. Study Participants

Jon Doi, Ph.D.	Executive Vice President
Thomas Dolce	Field Operations Manager
Robert Fristrom	Quality Assurance Officer
Elizabeth Horn	Scientist
Jim Karwacki	Field Operations Support
Kevin Sondag	Field Operations Specialist
Michelle Thomas	Laboratory Manager

IV. MATERIALS AND METHODS

All sampling and testing were performed in accordance with Appendix B, Attachment 1 of the technical manual "The Management and Regulation of Dredging Activities and Dredged Material in New Jersey's Tidal Waters" (NJDEP Dredging Manual), October 1997, and the SAP from NJDOT dated February 27, 2015.

A. Sampling

Test sediment from fourteen locations and a field blank were collected from the Shark River by Aqua Survey personnel March 23 and 25, 2015.

The vessel used for sampling, the R/V Raritan, was positioned using a Trimble SPS 855 Differential Global Positioning System (DGPS). Sediment collection was performed using a Rossfelder P-3 vibracore with flexible plastic core liners. The project depth was 7 feet Mean Low Water (MLW) including 1 foot overdredge allowance.

The core samples were inspected and photographed, and the characteristics were recorded on Sediment Core Logs. All samples were assigned unique ASI sample numbers. All samples were received at ASI in Flemington, NJ under chain of custody on ice and stored at 2-4 °C.

The appendices contain all supporting documentation including ASI sediment core logs (Appendix A), photographs (Appendix B) chains of custody (Appendix C), sample use forms (Appendix D), percent moisture and grain size distribution raw data (Appendix E) and TOC raw data (Appendix F).

B. Homogenizing and Compositing

Each of the fourteen core samples was carefully homogenized using a stainless steel mixer. This procedure followed the specific guidelines found on pages 9-11 and in Appendix A of the Dredging Manual and in ASI's standard operating procedure SOP/PRP/008. Samples were mixed until uniform in color and texture.

Using a #230 (62.5 micron) separation sieve, three (3) samples (038-1, 038-2 and 038-3) were analyzed for sand content based upon visual inspection. If samples that comprise a planned composite showed greater than 20% difference in sand content, the compositing scheme is altered to prevent dissimilar cores from being composited together. Results of the overnight sieve analysis for the three (3) samples were: 038-1: 67.3% sand; 038-2: 71.2% sand, and 038-3: 41.0%. As discussed with NJDOT and NJDEP, it was determined that one core, 038-3, was to be removed from compositing, and it was sent to the laboratory for full chemical analysis as a discrete sample. Five (5) composites were created from the cores. Complete sample identification numbers and the compositing scheme can be found in Table 2.

Sub-samples of each of the samples, both individual cores and composites, were reserved for the appropriate physical and chemical analyses. Subsamples of the composites were archived in the freezer.

C. Physical and Total Organic Carbon Analysis

All samples, both individual cores and composites, were analyzed by ASI for percent moisture and grain size distribution in accordance with the

Standard Test Method for Particle-Size Analysis of Soils, Designation ASTM D422-63, reapproved 2002.

Total Organic Carbon (TOC) was also determined at ASI based on the guidance from EPA Office of Solids Waste and Emergency Response SW-846 Method No. 9060 (Volume IC, Chapter 5, Revision 0, 9/86). The instrument for this analysis was the Dohrmann TOC Boat Sampler, Model 183 (Serial number 98202003), which was connected to the Dohrmann Apollo 9000 TOC Analyzer.

See Appendix E for the grain size distribution and percent moisture raw data. TOC raw data and a standard reference material control chart can be found in Appendix F.

D. Chemical Analyses

Sub-samples of the composites and the field blank were transferred to ELL following chain-of-custody procedures. The samples were placed in jars and shipped in coolers with ice packs.

The laboratory was responsible for chemical analysis of the samples. The sediment composites and the field blank were analyzed for all the analytes listed at this location: http://www.nj.gov/dep/srp/regs/rs/rs_appendix1.pdf, plus chromium speciation.

V. PHYSICAL AND CHEMICAL ANALYSIS RESULTS

The grain size distribution, percent moisture, and total organic carbon for each core are shown in Table 3. The results of the chemical analyses of the sediment composites and the field blank are provided in Tables 4 and 5.

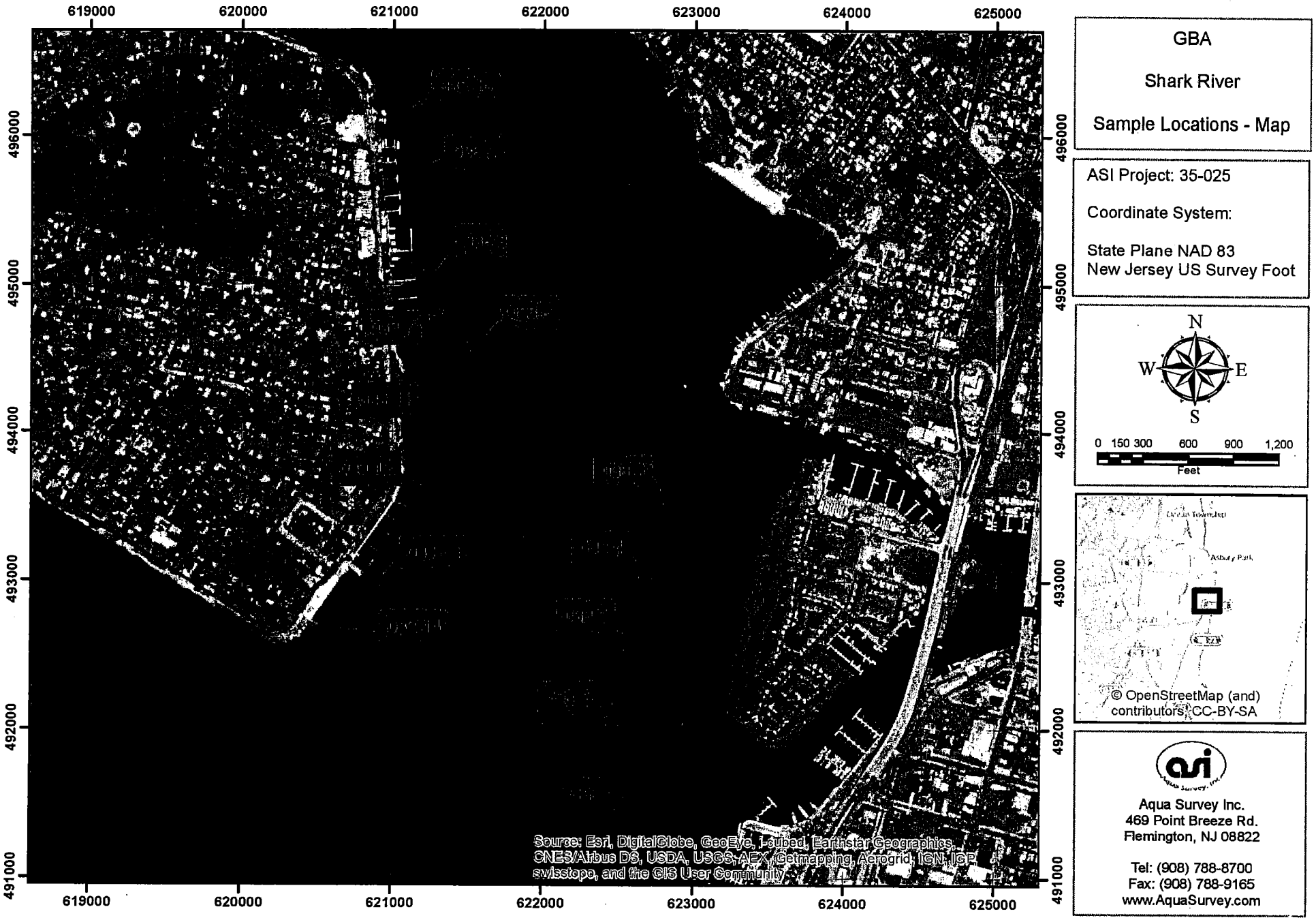

Figure 1. Site Map

Table 1 **DGPS Coordinates**

Location	Northings	Eastings
038-1	491626.4	622801.4
038-2	492022.8	622483.9
038-3	492557.5	622600.4
038-4	493021.3	622701.3
038-5	493529.2	622859.7
038-6	494594.2	621557.0
038-7	494796.0	621363.1
038-8	495067.1	621253.3
038-9	495742.5	621104.6
038-10	496138.0	621058.3
039-11	494116.4	621355.4
039-12	493622.2	621228.0
039-13	492986.7	620882.9
039-14	492687.0	620620.6

Table 2 **Sample Identification and Compositing Scheme**

Sample Name	Sample ID	Composite
038-1	20150273	Composite A 20150288
038-2	20150274	
038-3	20150275	Discrete Sample Core 038-3
038-4	20150276	Composite B 20150289
038-5	20150277	
038-6	20150278	Composite C 20150290
038-7	20150279	
038-8	20150280	
038-9	20150281	Composite D 20150291
038-10	20150282	
039-11	20150283	Composite E 20150292
039-12	20150284	
039-13	20150285	
039-14	20150286	
Field Blank	20150287	

Table 3 **Grain Size Distribution (USCS Classification), Percent Moisture and TOC**

Sample ID	ASI ID #	% Gravel		% Sand			% Silt	% Clay	Cc	Cu	% Moisture	TOC ppm	% TOC of Dry Weight
		Coarse	Fine	Coarse	Medium	Fine							
038-1	20150273	0.0	0.2	0.2	0.7	58.8	24.7	15.4	12.18	66.92	34.5	14,790	1.48
038-2	20150274	0.0	0.1	0.1	0.4	65.2	20.6	13.6	8.81	37.11	34.8	11,203	1.12
Comp A	20150288	0.1	0.3	0.2	0.6	61.6	23.7	13.5	7.70	44.60	34.9	12,752	1.28
038-3	20150275	0.0	0.0	0.0	0.8	34.9	47.2	17.1	2.54	42.44	59.5	26,860	2.69
038-4	20150276	0.5	1.6	0.3	0.4	32.7	43.4	21.1	—	—	51.2	23,381	2.34
038-4	20150276 dup	0.2	0.4	0.0	0.4	33.6	44.0	21.4	—	—			
038-4	20150276 trip	0.0	0.0	0.0	0.5	32.9	46.7	19.9	—	—			
038-5	20150277	0.0	0.0	0.0	0.4	8.8	68.6	22.2	—	—	64.2	37,776	3.78
Comp B	20150289	0.0	0.0	0.1	0.4	24.4	60.8	14.3	4.83	36.98	56.5	27,511	2.75
038-6	20150278	0.0	0.0	0.0	0.5	59.2	25.4	14.9	6.66	54.42	38.9	14,385	1.44
038-7	20150279	0.0	0.0	0.0	0.2	17.7	59.9	22.2	—	—	60.1	31,149	3.11
038-8	20150280	0.0	0.0	0.0	0.1	7.4	73.8	18.7	—	—	64.4	36,148	3.61
Comp C	20150290	0.0	0.0	0.0	0.3	35.3	48.5	15.9	1.22	23.64	53.2	23,867	2.39
Comp C	20150290 dup	0.0	0.0	0.0	0.2	36.0	49.6	14.2	2.56	36.70			
Comp C	20150290 trip	0.0	0.0	0.0	0.3	36.8	47.5	15.4	1.96	21.26			
038-9	20150281	0.0	0.0	0.0	0.1	5.6	77.9	16.4	—	—	66.6	36,879	3.69
038-10	20150282	0.0	0.0	0.0	0.2	2.3	73.7	23.8	—	—	66.0	40,516	4.05
Comp D	20150291	0.0	0.0	0.0	0.1	4.1	76.4	19.4	—	—	66.2	38,509	3.85

61.6 + 1.2 = 62.8 23.7 13.5
24.9 60.8 14.3
35.6 48.5 15.9
4.2 76.4 19.4
11.5 68.6 19.9
27.8 55.6 16.6

Table 3 (continued) **Grain Size Distribution (USCS Classification), Percent Moisture and TOC**

Sample ID	ASI ID #	% Gravel		% Sand			% Silt	% Clay	Cc	Cu	% Moisture	TOC ppm	% TOC of Dry Weight
		Coarse	Fine	Coarse	Medium	Fine							
039-11	20150283	0.0	0.0	0.0	0.3	21.8	64.2	13.7	2.80	25.55	55.8	26,831	2.68
039-11	20150283 dup	0.0	0.0	0.0	0.2	21.6	62.9	15.3	2.14	21.22			
039-11	20150283 trip	0.0	0.0	0.0	0.2	18.9	66.1	14.8	1.44	14.42			
039-12	20150284	0.0	0.0	0.0	0.5	10.4	67.4	21.7	—	—	63.1	34,121	3.41
039-13	20150285	0.0	0.0	0.0	0.2	1.9	78.8	19.1	—	—	67.5	42,530	4.25
039-14	20150286	0.0	0.0	0.0	0.3	4.0	78.1	17.6	—	—	68.0	38,135	3.81
Comp E	20150292	0.0	0.0	0.0	0.3	11.2	68.6	19.9	1.53	23.96	62.9	35,087	3.51
Comp E	20150292 dup										62.9		
Comp E	20150292 trip										62.9		

71.4 silt
18.4 clay
10.2 sand

27.8 sand
55.6
16.6

Chemical Analysis Tables
Information Page

List of Data Qualifiers:

J = Estimated value; the result is less than the LOQ but greater than or equal to the MDL

ND = Not detected

P = Concentration difference between the primary and confirmation column > 40%. The lower result is reported.

V = Concentration difference between the primary and confirmation column > 100%. The reporting limit is raised due to this disparity and evident interference.

Regulatory Standards:

Bulk Sediment Standards: Tables 1A and 1B, Residential Direct Contact Health Based Criteria and Soil Remediation Standards, N.J.A.C 7:26D Remediation Standards, June 2, 2008.

If the PQL for a specific analyte is greater than the most conservative health-based criterion then the PQL supersedes the criterion and is used as the Direct Contact Soil Remediation standard.

Note: Shaded values indicate that regulatory sediment or water criteria have been exceeded.

Analyte value (ND) exceeds NJDEP Criterion

Analyte value exceeds NJDEP Criterion

Table 4a

Semivolatile Analysis of Bulk Sediment (NJDEP, Residential)

ASI Job # 35-025		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp A			Core 038-3			Comp B		
				20150288			20150275			20150289		
			PQL*	7825460			7825459			7825461		
Analyte Name	CAS No.	ug/kg (ppb)	ug/kg	Result	RL	Q	Result	RL	Q	Result	RL	Q
1,1'-Biphenyl	92-52-4	3100000	200	ND	53	ND	ND	83	ND	ND	80	ND
1,2,4-Trichlorobenzene	120-82-1	73000	5	ND	53	ND	ND	83	ND	ND	80	ND
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	5300000	5	ND	53	ND	ND	83	ND	ND	80	ND
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	5300000	5	ND	53	ND	ND	83	ND	ND	80	ND
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	5000	5	ND	53	ND	ND	83	ND	ND	80	ND
1,2-Diphenylhydrazine	122-66-7	700	700	ND	53	ND	ND	83	ND	ND	80	ND
2,4,5-Trichlorophenol	95-95-4	6100000	200	ND	53	ND	ND	83	ND	ND	80	ND
2,4,6-Trichlorophenol	88-06-2	19000	200	ND	53	ND	ND	83	ND	ND	80	ND
2,4-Dichlorophenol	120-83-2	180000	200	ND	53	ND	ND	83	ND	ND	80	ND
2,4-Dimethylphenol	105-67-9	1200000	200	ND	53	ND	ND	83	ND	ND	80	ND
2,4-Dinitrophenol	51-28-5	120000	300	ND	1600	ND	ND	2500	ND	ND	2400	ND
2,4-Dinitrotoluene	121-14-2	700	200	ND	270	ND	ND	420	ND	ND	400	ND
2,6-Dinitrotoluene	606-20-2	700	200	ND	53	ND	ND	83	ND	ND	80	ND
2,4-Dinitrotoluene/2,6-Dinitrotoluene mix	25321-14-6	700	200	ND	270	ND	ND	420	ND	ND	400	ND
2-Chlorophenol (o-chlorophenol)	95-57-8	310000	200	ND	53	ND	ND	83	ND	ND	80	ND
2-Methylnaphthalene	91-57-6	230000	170	30	27		21	43	J	19	41	J
2-Methylphenol (o-Cresol)	95-48-7	310000	200	ND	53	ND	ND	83	ND	ND	80	ND
2-Nitroaniline	88-74-4	39000	300	ND	53	ND	ND	83	ND	ND	80	ND
3,3'-Dichlorobenzidine	91-94-1	1000	200	ND	530	ND	ND	830	ND	ND	800	ND
4,6- Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	534-52-1	6000	300	ND	800	ND	ND	1300	ND	ND	1200	ND
4-Methylphenol (p-Cresol)	106-44-5	31000	200	62	53		120	83		63	80	J
Acenaphthene	83-32-9	3400000	200	24	27	J	20	43	J	15	41	J
Acenaphthylene	208-96-8	N/A	200	65	27		32	43	J	33	41	J
Acetophenone	98-86-2	2000	200	ND	53	ND	ND	83	ND	ND	80	ND
Anthracene	120-12-7	17000000	200	160	27		89	43		65	41	
Atrazine	1912-24-9	210000	200	ND	270	ND	ND	420	ND	ND	400	ND
Benzaldehyde	100-52-7	6100000	200	ND	270	ND	ND	420	ND	ND	400	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 4a continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential) (continued)**

ASI Job # 35-025		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp A			Core 038-3			Comp B		
				20150288			20150275			20150289		
			PQL*	7825460			7825459			7825461		
Analyte Name	CAS No.	ug/kg (ppb)	ug/kg	Result	RL	Q	Result	RL	Q	Result	RL	Q
Benzidine	92-87-5	700	700	ND	5300	ND	ND	8300	ND	ND	8000	ND
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	600	200	340	27		170	43		180	41	
Benzo(a)pyrene	50-32-8	200	200	370	27		180	43		180	41	
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	600	200	450	27		230	43		210	41	
Benzo(g,h,i)perylene	191-24-2	380000000	200	220	27		120	43		110	41	
Benzo(k)fluoranthene	207-08-9	6000	200	140	27		100	43		97	41	
bis(2-Chloroethyl)ether	111-44-4	400	200	ND	53	ND	ND	83	ND	ND	80	ND
Bis(2-chloroisopropyl) ether	39638-32-9	23000	200	ND	53	ND	ND	83	ND	ND	80	ND
bis(2-Ethylhexyl)phthalate	117-81-7	35000	200	ND	270	ND	ND	430	ND	ND	410	ND
Butyl benzyl phthalate	85-68-7	1200000	200	ND	270	ND	ND	420	ND	ND	400	ND
Caprolactam	105-60-2	31000000	200	ND	270	ND	ND	420	ND	ND	400	ND
Carbazole	86-74-8	24000	200	33	53	J	ND	83	ND	ND	80	ND
Chrysene	218-01-9	62000	200	330	27		170	43		160	41	
Dibenz(a,h)anthracene	53-70-3	200	200	63	27		20	43	J	35	41	J
Diethylphthalate	84-66-2	49000000	200	ND	270	ND	ND	420	ND	ND	400	ND
Di-n-butylphthalate	84-74-2	6100000	200	ND	270	ND	ND	420	ND	ND	400	ND
Di-n-octylphthalate	117-84-0	2400000	200	ND	270	ND	ND	420	ND	ND	400	ND
Fluoranthene	206-44-0	2300000	200	500	27		290	43		250	41	
Fluorene	86-73-7	2300000	200	43	27		27	43	J	21	41	J
Hexachloro-1,3-butadiene	87-68-3	6000	200	ND	53	ND	ND	83	ND	ND	80	ND
Hexachlorobenzene	118-74-1	300	200	ND	27	ND	ND	43	ND	ND	41	ND
Hexachlorocyclopentadiene	77-47-4	45000	200	ND	800	ND	ND	1300	ND	ND	1200	ND
Hexachloroethane	67-72-1	35000	200	ND	270	ND	ND	420	ND	ND	400	ND
Indeno(1,2,3-cd)pyrene	193-39-5	600	200	190	27		96	43		100	41	
Isophorone	78-59-1	510000	200	ND	53	ND	ND	83	ND	ND	80	ND
Naphthalene	91-20-3	6000	200	53	27		35	43	J	39	41	J
Nitrobenzene	98-95-3	31000	200	ND	53	ND	ND	83	ND	ND	80	ND
N-Nitrosodimethylamine	62-75-9	700	700	ND	270	ND	ND	420	ND	ND	400	ND
N-Nitroso-di-n-propylamine	621-64-7	200	200	ND	53	ND	ND	83	ND	ND	80	ND
N-Nitrosodiphenylamine	86-30-6	99000	200	ND	53	ND	ND	83	ND	ND	80	ND
Pentachlorophenol	87-86-5	3000	300	ND	270	ND	ND	430	ND	ND	410	ND
Phenanthrene	85-01-8	N/A	200	270	27		150	43		100	41	
Phenol	108-95-2	18000000	200	ND	53	ND	ND	83	ND	ND	80	ND
Pyrene	129-00-0	1700000	200	540	27		290	43		250	41	

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 4a continued **Pesticide/Arochlor Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-025		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp A			Core 038-3			Comp B		
				20150288			20150275			20150289		
			PQL*	7825460			7825459			7825461		
Analyte Name	CAS No.	ug/kg (ppb)	ug/kg	Result[1]	RL	Q	Result	RL	Q	Result	RL	Q
4,4'-DDD	72-54-8	3000	3	3.7	14	J P	32	43	J	9.5	20	J
4,4'-DDE	72-55-9	2000	3	ND	14	ND	ND	43	ND	ND	20	ND
4,4'-DDT	50-29-3	2000	3	ND	14	ND	ND	43	ND	ND	20	ND
Aldrin	309-00-2	40	2	7.4	6.6		ND	21	ND	7.3	9.9	J P
alpha-HCH (alpha-BHC)	319-84-6	100	2	ND	6.6	ND	ND	21	ND	ND	9.9	ND
beta-HCH (beta-BHC)	319-85-7	400	2	ND	8	ND	39	25	P	ND	12	ND
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	400	2	ND	6.6	V	ND	21	ND	18	9.9	
alpha-Chlordane	5103-71-9	200	2	ND	6.6	ND	ND	21	ND	ND	9.9	ND
gamma-Chlordane	5103-74-2	200	2	ND	6.6	ND	ND	21	ND	ND	9.9	ND
Chlordane	57-74-9	200	2	0.0		ND	0.0		ND	0.0		ND
Dieldrin	60-57-1	40	3	ND	14	ND	ND	43	ND	ND	20	ND
Endosulfan I	959-98-8	470000	3	3.3	6.6	J	ND	21	V	ND	9.9	ND
Endosulfan II	33213-65-9	470000	3	ND	14	ND	ND	43	ND	ND	20	ND
Endosulfan I and II (alpha and beta)	115-29-7	470000	3	3.3		J	0.0		ND	0.0		ND
Endosulfan sulfate	1031-07-8	470000	3	ND	14	ND	21	43	J P	ND	20	ND
Endrin	72-20-8	23000	3	ND	14	ND	ND	43	ND	ND	20	ND
Heptachlor	76-44-8	100	2	ND	6.6	V	ND	21	ND	ND	9.9	ND
Heptachlor epoxide	1024-57-3	70	2	ND	6.6	V	26	21	0	3.2	9.9	J
Methoxychlor	72-43-5	390000	20	ND	53	ND	ND	170	ND	ND	80	ND
Toxaphene	8001-35-2	600	200	ND	260	ND	ND	830	ND	ND	390	ND
Arochlor-1016	12674-11-2	200	30	ND	27	ND	ND	42	ND	ND	40	ND
Arochlor-1221	11104-28-2	200	30	ND	27	ND	ND	42	ND	ND	40	ND
Arochlor-1232	11141-16-5	200	30	ND	27	ND	ND	42	ND	ND	40	ND
Arochlor-1242	53469-21-9	200	30	ND	27	ND	ND	42	ND	ND	40	ND
Arochlor-1248	12672-29-6	200	30	ND	27	ND	ND	42	ND	ND	40	ND
Arochlor-1254	11097-69-1	200	30	15	27	J	ND	42	ND	14	40	J
Arochlor-1260	11096-82-5	200	30	ND	27	ND	ND	42	ND	ND	40	ND
Total Arochlor(SUM)	1336-36-3	200	30	15		J	0.0		ND	14		J

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 4a continued **Metals Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-025		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)		
				Comp A			Core 038-3			Comp B		
				20150288			20150275			20150289		
			PQL*	7825460			7825459			7825461		
Analyte Name	**CAS No.**	**mg/kg (ppm)**	**mg/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Aluminum	7429-90-5	78000	20	9790	31.9		12700	50.4		15800	46.2	
Antimony	7440-36-0	31	6	3.81	3.19		3.98	5.04	J	5.38	4.62	
Arsenic**	7440-38-2	19	1	8.39	3.19		9.85	5.04		15.1	4.62	
Barium	7440-39-3	16000	20	30.4	0.797		39.6	1.26		54.8	1.16	
Beryllium	7440-41-7	16	0.5	0.907	0.797		1.11	1.26	J	1.27	1.16	
Cadmium	7440-43-9	78	0.5	0.306	0.797	J	0.516	1.26	J	0.816	1.16	J
Cobalt	7440-48-4	1600	5	4.92	0.797		5.8	1.26		7.58	1.16	
Copper	7440-50-8	3100	3	25.0	1.59		34.5	2.52		66.4	2.31	
Lead	7439-92-1	400	1	26.4	2.39		26.0	3.78		59.0	3.470	
Manganese	7439-96-5	11000	2	139	0.797		183	1.26		252	1.16	
Mercury	7439-97-6	23	0.1	0.433	0.149		0.385	0.24		1.08	0.232	
Nickel	7440-02-0	1600	4	14.3	1.59		22.2	2.52		25.3	2.33	
Selenium	7782-49-2	390	4	2.08	3.19	J	2.29	5.04	J	2.97	4.62	J
Silver	7440-22-4	390	1	0.835	0.797		ND	1.26	ND	1.71	1.16	
Thallium	7440-28-0	5	3	1.52	4.78	J	ND	7.56	ND	2.21	7.00	J
Vanadium	7440-62-2	78	5	37.7	0.797		48.7	1.26		61.3	1.16	
Zinc	7440-66-6	23000	6	112	3.19		127	5.04		189	4.62	
Cyanide	57-12-5	1600	3	ND	0.780	ND	ND	1.20	ND	ND	1.20	ND
Chromium, total	7440-47-3	N/A	N/A	51.8	2.39		57.7	3.78		86.4	3.47	
Hexavalent chromium	18540-29-9	N/A	N/A	ND	2.40	ND	ND	3.8	ND	ND	3.60	ND
Trivalent chromium	16065-83-1	N/A	N/A	51.8	2.40		57.7	3.8		86.4	3.60	
% Moisture	MOIST	N/A	N/A	37.9			60.3			58.4		
%Solids	N/A	N/A	N/A	62.1			39.7			41.6		

** Direct contact standard for arsenic is based on natural background.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 4b **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-025		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp C			Comp D			Comp E		
				20150290			20150291			20150292		
			PQL*	7825462			7825463			7825464		
Analyte Name	CAS No.	ug/kg (ppb)	ug/kg	Result	RL	Q	Result	RL	Q	Result	RL	Q
1,1'-Biphenyl	92-52-4	3100000	200	ND	74	ND	ND	100	ND	ND	99	ND
1,2,4-Trichlorobenzene	120-82-1	73000	5	ND	74	ND	ND	100	ND	ND	99	ND
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	5300000	5	ND	74	ND	ND	100	ND	ND	99	ND
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	5300000	5	ND	74	ND	ND	100	ND	ND	99	ND
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	5000	5	ND	74	ND	ND	100	ND	ND	99	ND
1,2-Diphenylhydrazine	122-66-7	700	700	ND	74	ND	ND	100	ND	ND	99	ND
2,4,5-Trichlorophenol	95-95-4	6100000	200	ND	74	ND	ND	100	ND	ND	99	ND
2,4,6-Trichlorophenol	88-06-2	19000	200	ND	74	ND	ND	100	ND	ND	99	ND
2,4-Dichlorophenol	120-83-2	180000	200	ND	74	ND	ND	100	ND	ND	99	ND
2,4-Dimethylphenol	105-67-9	1200000	200	ND	74	ND	ND	100	ND	ND	99	ND
2,4-Dinitrophenol	51-28-5	120000	300	ND	2200	ND	ND	3000	ND	ND	3000	ND
2,4-Dinitrotoluene	121-14-2	700	200	ND	370	ND	ND	500	ND	ND	490	ND
2,6-Dinitrotoluene	606-20-2	700	200	ND	74	ND	ND	100	ND	ND	99	ND
2,4-Dinitrotoluene/2,6-Dinitrotoluene mix	25321-14-6	700	200	ND	370	ND	ND	500	ND	ND	490	ND
2-Chlorophenol (o-chlorophenol)	95-57-8	310000	200	ND	74	ND	ND	100	ND	ND	99	ND
2-Methylnaphthalene	91-57-6	230000	170	23	38	J	20	51	J	24	50	J
2-Methylphenol (o-Cresol)	95-48-7	310000	200	ND	74	ND	ND	100	ND	ND	99	ND
2-Nitroaniline	88-74-4	39000	300	ND	74	ND	ND	100	ND	ND	99	ND
3,3'-Dichlorobenzidine	91-94-1	1000	200	ND	740	ND	ND	1000	ND	ND	990	ND
4,6- Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	534-52-1	6000	300	ND	1100	ND	ND	1500	ND	ND	1500	ND
4-Methylphenol (p-Cresol)	106-44-5	31000	200	53	74	J	ND	100	ND	ND	99	ND
Acenaphthene	83-32-9	3400000	200	18	38	J	15	51	J	10	50	J
Acenaphthylene	208-96-8	N/A	200	36	38	J	27	51	J	32	50	J
Acetophenone	98-86-2	2000	200	ND	74	ND	ND	100	ND	ND	99	ND
Anthracene	120-12-7	17000000	200	70	38		69	51		46	50	J
Atrazine	1912-24-9	210000	200	ND	370	ND	ND	500	ND	ND	490	ND
Benzaldehyde	100-52-7	6100000	200	ND	370	ND	ND	500	ND	ND	490	ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 4b continued **Semivolatile Analysis of Bulk Sediment (NJDEP, Residential) (continued)**

ASI Job # 35-025		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp C			Comp D			Comp E		
				20150290			20150291			20150292		
			PQL*	7825462			7825463			7825464		
Analyte Name	CAS No.	ug/kg (ppb)	ug/kg	Result	RL	Q	Result	RL	Q	Result	RL	Q
Benzidine	92-87-5	700	700	ND	7400	ND	ND	10000	ND	ND	9900	ND
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	600	200	160	38		140	51		120	50	
Benzo(a)pyrene	50-32-8	200	200	170	38		150	51		140	50	
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	600	200	210	38		240	51		180	50	
Benzo(g,h,i)perylene	191-24-2	380000000	200	120	38		130	51		110	50	
Benzo(k)fluoranthene	207-08-9	6000	200	88	38		99	51		81	50	
bis(2-Chloroethyl)ether	111-44-4	400	200	ND	74	ND	ND	100	ND	ND	99	ND
Bis(2-chloroisopropyl) ether	39638-32-9	23000	200	ND	74	ND	ND	100	ND	ND	99	ND
bis(2-Ethylhexyl)phthalate	117-81-7	35000	200	ND	380	ND	ND	510	ND	ND	500	ND
Butyl benzyl phthalate	85-68-7	1200000	200	ND	370	ND	ND	500	ND	ND	490	ND
Caprolactam	105-60-2	31000000	200	ND	370	ND	ND	500	ND	ND	490	ND
Carbazole	86-74-8	24000	200	ND	74	ND	ND	100	ND	ND	99	ND
Chrysene	218-01-9	62000	200	170	38		170	51		120	50	
Dibenz(a,h)anthracene	53-70-3	200	200	34.0	38	J	64	51		45	50	J
Diethylphthalate	84-66-2	49000000	200	ND	370	ND	ND	500	ND	ND	490	ND
Di-n-butylphthalate	84-74-2	6100000	200	ND	370	ND	ND	500	ND	ND	490	ND
Di-n-octylphthalate	117-84-0	2400000	200	ND	370	ND	ND	500	ND	ND	490	ND
Fluoranthene	206-44-0	2300000	200	260	38		ND	51	ND	200	50	
Fluorene	86-73-7	2300000	200	29.0	38	J	25	51	J	22	50	J
Hexachloro-1,3-butadiene	87-68-3	6000	200	ND	74	ND	ND	100	ND	ND	99	ND
Hexachlorobenzene	118-74-1	300	200	ND	38	ND	ND	51	ND	ND	50	ND
Hexachlorocyclopentadiene	77-47-4	45000	200	ND	1100	ND	ND	1500	ND	ND	1500	ND
Hexachloroethane	67-72-1	35000	200	ND	370	ND	ND	500	ND	ND	490	ND
Indeno(1,2,3-cd)pyrene	193-39-5	600	200	100	38		120	51		97	50	
Isophorone	78-59-1	510000	200	ND	74	ND	ND	100	ND	ND	99	ND
Naphthalene	91-20-3	6000	200	45	38		35	51	J	39	50	J
Nitrobenzene	98-95-3	31000	200	ND	74	ND	ND	100	ND	ND	99	ND
N-Nitrosodimethylamine	62-75-9	700	700	ND	370	ND	ND	500	ND	ND	490	ND
N-Nitroso-di-n-propylamine	621-64-7	200	200	ND	74	ND	ND	100	ND	ND	99	ND
N-Nitrosodiphenylamine	86-30-6	99000	200	ND	74	ND	ND	100	ND	ND	99	ND
Pentachlorophenol	87-86-5	3000	300	ND	380	ND	ND	510	ND	ND	500	ND
Phenanthrene	85-01-8	N/A	200	160	38		94	51		82	50	
Phenol	108-95-2	18000000	200	ND	74	ND	ND	100	ND	ND	99	ND
Pyrene	129-00-0	1700000	200	290	38		230	51		190	50	

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 4b continued

Pesticide/Arochlor Analysis of Bulk Sediment (NJDEP, Residential)

ASI Job # 35-025		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)			Unamended Sediment (Units:ug/kg)		
				Comp C			Comp D			Comp E		
				20150290			20150291			20150292		
			PQL*	7825462			7825463			7825464		
Analyte Name	CAS No.	ug/kg (ppb)	ug/kg	Result[1]	RL	Q	Result	RL	Q	Result	RL	Q
4,4'-DDD	72-54-8	3000	3	32	19		17	26	J	16	25	J
4,4'-DDE	72-55-9	2000	3	8	19	J	8.2	26	J	ND	25	ND
4,4'-DDT	50-29-3	2000	3	ND	19	V	ND	26	V	ND	25	ND
Aldrin	309-00-2	40	2	ND	9.2	ND	ND	13	ND	4.6	12	J P
alpha-HCH (alpha-BHC)	319-84-6	100	2	ND	9.2	ND	ND	13	ND	ND	12	ND
beta-HCH (beta-BHC)	319-85-7	400	2	ND	11	ND	15	15	J P	ND	15	ND
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	400	2	26	9.2	P	25	13	P	ND	12	ND
alpha-Chlordane	5103-71-9	200	2	ND	9.2	ND	ND	13	ND	ND	12	ND
gamma-Chlordane	5103-74-2	200	2	ND	9.2	ND	ND	13	ND	ND	12	ND
Chlordane	57-74-9	200	2	0.0		ND	0.0		ND	0.0		ND
Dieldrin	60-57-1	40	3	ND	19	ND	ND	26	ND	ND	25	ND
Endosulfan I	959-98-8	470000	3	ND	9.2	V	ND	13	V	ND	12	ND
Endosulfan II	33213-65-9	470000	3	ND	19	ND	19	26	J	ND	25	ND
Endosulfan I and II (alpha and beta)	115-29-7	470000	3	0.0		ND	19		J	0.0		ND
Endosulfan sulfate	1031-07-8	470000	3	37	19		ND	26	V	ND	25	ND
Endrin	72-20-8	23000	3	ND	19	V	ND	26	ND	ND	25	ND
Heptachlor	76-44-8	100	2	ND	46	ND	ND	13	ND	ND	12	ND
Heptachlor epoxide	1024-57-3	70	2	16	9.2	P	ND	13	V	4.0	12	J
Methoxychlor	72-43-5	390000	20	ND	74	ND	ND	100	ND	ND	100	ND
Toxaphene	8001-35-2	600	200	ND	370	ND	ND	500	ND	ND	490	ND
Arochlor-1016	12674-11-2	200	30	ND	38	ND	ND	52	ND	ND	51	ND
Arochlor-1221	11104-28-2	200	30	ND	38	ND	ND	52	ND	ND	51	ND
Arochlor-1232	11141-16-5	200	30	ND	38	ND	ND	52	ND	ND	51	ND
Arochlor-1242	53469-21-9	200	30	ND	38	ND	ND	52	ND	ND	51	ND
Arochlor-1248	12672-29-6	200	30	ND	38	ND	ND	52	ND	ND	51	ND
Arochlor-1254	11097-69-1	200	30	ND	38	ND	ND	52	ND	ND	51	ND
Arochlor-1260	11096-82-5	200	30	ND	38	ND	ND	52	ND	ND	51	ND
Total Arochlor(SUM)	1336-36-3	200	30	0.0		ND	0.0		ND	0.0		ND

[1] When summing compounds, NDs are counted as zero.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 4b continued **Metals Analysis of Bulk Sediment (NJDEP, Residential)**

ASI Job # 35-025		NJDEP Residential Direct Contact Soil Remediation Standards		Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)			Unamended Sediment (Units:mg/kg)		
				Comp C			Comp D			Comp E		
				20150290			20150291			20150292		
			PQL*	7825462			7825463			7825464		
Analyte Name	**CAS No.**	**mg/kg (ppm)**	**mg/kg**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**	**Result**	**RL**	**Q**
Aluminum	7429-90-5	78000	20	15000	44.6		20300	59.8		19700	57.8	
Antimony	7440-36-0	31	6	4.62	4.46		5.04	5.98	J	6.35	5.78	
Arsenic**	7440-38-2	19	1	12.9	4.46		16.8	5.98		17.9	5.78	
Barium	7440-39-3	16000	20	51.3	1.12		69.1	1.49		66.5	1.44	
Beryllium	7440-41-7	16	0.5	1.26	1.12		1.45	1.49	J	1.54	1.44	
Cadmium	7440-43-9	78	0.5	0.563	1.12	J	0.858	1.49	J	1.06	1.44	J
Cobalt	7440-48-4	1600	5	7.33	1.12		9.43	1.49		9.23	1.44	
Copper	7440-50-8	3100	3	57.5	2.23		90.4	2.99		86.4	2.89	
Lead	7439-92-1	400	1	48.7	3.35		77.3	4.48		75.3	4.33	
Manganese	7439-96-5	11000	2	228	1.12		304	1.49		289	1.44	
Mercury	7439-97-6	23	0.1	0.695	0.212		1.05	0.283		1.15	0.296	
Nickel	7440-02-0	1600	4	24.3	2.19		34.9	3.02		31.9	2.89	
Selenium	7782-49-2	390	4	2.54	4.46	J	3.28	5.98	J	3.1	5.78	J
Silver	7440-22-4	390	1	1.45	1.12		1.95	1.49		2.19	1.44	
Thallium	7440-28-0	5	3	1.79	6.57	J	3.2	9.06	J	2.36	8.66	J
Vanadium	7440-62-2	78	5	59.9	1.12		73.7	1.49		74.1	1.44	
Zinc	7440-66-6	23000	6	171	4.46		232	5.98		241	5.78	
Cyanide	57-12-5	1600	3	ND	1.10	ND	ND	1.50	ND	ND	1.50	ND
Chromium, total	7440-47-3	N/A	N/A	80.8	3.35		99.5	4.48		103	4.33	
Hexavalent chromium	18540-29-9	N/A	N/A	ND	3.30	ND	ND	4.60	ND	ND	4.50	ND
Trivalent chromium	16065-83-1	N/A	N/A	80.8	3.30		99.5	4.60		103	4.50	
% Moisture	MOIST	N/A	N/A	55.2			67.2			66.7		
%Solids	N/A	N/A	N/A	44.8			32.8			33.3		

** Direct contact standard for arsenic is based on natural background.

* = Required Practical quantitation level, N.J.A.C. 7:26E-1.8. N/A - Not Applicable, no value on the NJDEP Residential Direct Contact Health Base Criteria and Soil Remediation Standards Table 1A.

Table 5 **Semivolatile Analysis of Field Blank**

ASI Job # 35-025		Field Blank (Units: ug/L)		
		20150287		
		7825465		
		Field Blank		
Analyte	CAS No.	Result	RL	Q
1,1'-Biphenyl	92-52-4	ND	1.0	ND
1,2,4-Trichlorobenzene	120-82-1	ND	1.0	ND
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	ND	1.0	ND
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	ND	1.0	ND
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	ND	1.0	ND
1,2-Diphenylhydrazine	122-66-7	ND	1.0	ND
2,4,5-Trichlorophenol	95-95-4	ND	1.0	ND
2,4,6-Trichlorophenol	88-06-2	ND	1.0	ND
2,4-Dichlorophenol	120-83-2	ND	1.0	ND
2,4-Dimethylphenol	105-67-9	ND	1.0	ND
2,4-Dinitrophenol	51-28-5	ND	32	ND
2,4-Dinitrotoluene	121-14-2	ND	5.0	ND
2,6-Dinitrotoluene	606-20-2	ND	1.0	ND
2,4-Dinitrotoluene/2,6-Dinitrotoluene mix	25321-14-6	ND	5.0	ND
2-Chlorophenol (o-chlorophenol)	95-57-8	ND	1.0	ND
2-Methylnaphthalene	91-57-6	ND	0.5	ND
2-Methylphenol (o-Cresol)	95-48-7	ND	1.0	ND
2-Nitroaniline	88-74-4	ND	1.0	ND
3,3'-Dichlorobenzidine	91-94-1	ND	5.0	ND
4,6- Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	534-52-1	ND	16	ND
4-Methylphenol (p-Cresol)	106-44-5	ND	1.0	ND
Acenaphthene	83-32-9	ND	0.50	ND
Acenaphthylene	208-96-8	ND	0.50	ND
Acetophenone	98-86-2	ND	1.0	ND
Anthracene	120-12-7	ND	0.50	ND
Atrazine	1912-24-9	ND	5.0	ND
Benzaldehyde	100-52-7	ND	5.0	ND

Table 5 continued **Semivolatile Analysis of Field Blank (continued)**

ASI Job # 35-025		Field Blank (Units: ug/L)		
		20150287		
		7825465		
		Field Blank		
Analyte	CAS No.	Result	RL	Q
Benzidine	92-87-5	ND	64	ND
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	ND	0.50	ND
Benzo(a)pyrene	50-32-8	ND	0.50	ND
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	ND	0.50	ND
Benzo(g,h,i)perylene	191-24-2	ND	0.50	ND
Benzo(k)fluoranthene	207-08-9	ND	0.50	ND
bis(2-Chloroethyl)ether	111-44-4	ND	1.0	ND
Bis(2-chloroisopropyl) ether	39638-32-9	ND	1.0	ND
bis(2-Ethylhexyl)phthalate	117-81-7	ND	5.0	ND
Butyl benzyl phthalate	85-68-7	ND	5.0	ND
Caprolactam	105-60-2	ND	16	ND
Carbazole	86-74-8	ND	1.0	ND
Chrysene	218-01-9	ND	0.50	ND
Dibenz(a,h)anthracene	53-70-3	ND	0.50	ND
Diethylphthalate	84-66-2	ND	5.0	ND
Di-n-butylphthalate	84-74-2	ND	5.0	ND
Di-n-octylphthalate	117-84-0	ND	5.0	ND
Fluoranthene	206-44-0	ND	0.50	ND
Fluorene	86-73-7	ND	0.50	ND
Hexachloro-1,3-butadiene	87-68-3	ND	1.0	ND
Hexachlorobenzene	118-74-1	ND	0.50	ND
Hexachlorocyclopentadiene	77-47-4	ND	16	ND
Hexachloroethane	67-72-1	ND	5.0	ND
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.50	ND
Isophorone	78-59-1	ND	1.0	ND
Naphthalene	91-20-3	ND	0.50	ND
Nitrobenzene	98-95-3	ND	1.0	ND
N-Nitrosodimethylamine	62-75-9	ND	5.0	ND
N-Nitroso-di-n-propylamine	621-64-7	ND	1.0	ND
N-Nitrosodiphenylamine	86-30-6	ND	1.0	ND
Pentachlorophenol	87-86-5	ND	5.0	ND
Phenanthrene	85-01-8	ND	0.50	ND
Phenol	108-95-2	ND	1.0	ND
Pyrene	129-00-0	ND	0.50	ND

Table 5 continued **Pesticide/Arochlor Analysis of Field Blank**

ASI Job # 35-025		Field Blank (Units: ug/L)		
		20150287		
		7825465		
		Field Blank		
Analyte	CAS No.	Result	RL	Q
4,4'-DDD	72-54-8	ND	0.017	ND
4,4'-DDE	72-55-9	ND	0.017	ND
4,4'-DDT	50-29-3	ND	0.017	ND
Aldrin	309-00-2	ND	0.0083	ND
alpha-HCH (alpha-BHC)	319-84-6	ND	0.0083	ND
beta-HCH (beta-BHC)	319-85-7	ND	0.0083	ND
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	ND	0.0083	ND
alpha-Chlordane	5103-71-9	ND	0.0083	ND
gamma-Chlordane	76-44-8	ND	0.0083	ND
Chlordane (alpha and gamma)	57-74-9	0.0		ND
Dieldrin	60-57-1	ND	0.017	ND
Endosulfan I	959-98-8	ND	0.0083	ND
Endosulfan II	33213-65-9	ND	0.025	ND
Endosulfan I and II (alpha and beta)	115-29-7	0.0		ND
Endosulfan sulfate	1031-07-8	ND	0.017	ND
Endrin	72-20-8	ND	0.017	ND
Heptachlor	76-44-8	ND	0.0083	ND
Heptachlor epoxide	1024-57-3	ND	0.0083	ND
Methoxychlor	72-43-5	ND	0.083	ND
Toxaphene	8001-35-2	ND	0.83	ND
Arochlor-1016	12674-11-2	ND	0.41	ND
Arochlor-1221	11104-28-2	ND	0.41	ND
Arochlor-1232	11141-16-5	ND	0.41	ND
Arochlor-1242	53469-21-9	ND	0.41	ND
Arochlor-1248	12672-29-6	ND	0.41	ND
Arochlor-1254	11097-69-1	ND	0.41	ND
Arochlor-1260	11096-82-5	ND	0.41	ND
Total Arochlor(SUM)	1336-36-3	0		ND

Table 5 continued **Metal Analysis of Field Blank**

ASI Job # 35-025		Field Blank (Units: mg/L)		
		20150287		
		7825465		
		Field Blank		
Analyte	CAS No.	Result	RL	Q
Aluminum	7429-90-5	0.0964	0.20	J
Antimony	7440-36-0	ND	0.02	ND
Arsenic	7440-38-2	ND	0.002	ND
Barium	7440-39-3	0.00065	0.005	J
Beryllium	7440-41-7	ND	0.005	ND
Cadmium	7440-43-9	ND	0.005	ND
Cobalt	7440-48-4	ND	0.005	ND
Copper	7440-50-8	ND	0.010	ND
Lead	7439-92-1	ND	0.001	ND
Manganese	7439-96-5	ND	0.005	ND
Mercury	7439-97-6	ND	0.0002	ND
Nickel	7440-02-0	ND	0.01	ND
Selenium	7782-49-2	ND	0.02	ND
Silver	7440-22-4	ND	0.005	ND
Thallium	7440-28-0	ND	0.0005	ND
Vanadium	7440-62-2	ND	0.005	ND
Zinc	7440-66-6	ND	0.02	ND
Cyanide	57-12-5	ND	0.01	ND
Chromium, total	7440-47-3	ND	0.015	ND
Hexavalent Chromium	18540-29-9	ND	0.02	ND
Trivalent Chromium	16065-83-1	ND	0.02	ND