Individual Flood Hazard Area Permit

For

Newton Lake Dredging & Reclamation Project
Haddon Township, Oaklyn Township, Collingswood Borough, Audubon Borough, and Audubon Park Borough
Camden County, New Jersey

January 2018

Submitted To:

New Jersey Department of Environmental Protection
Division of Land Use Regulation
Mail Code 501-02A
PO Box 420
Trenton, NJ 08625

Submitted on Behalf of:

Camden County Municipal Utilities Authority
1645 Ferry Avenue
Camden, NJ 08104

Prepared By:

F. X. BROWNE, INC.
1101 South Broad Street
Lansdale, PA 19446
**Individual Flood Hazard Area Permit**

**Newton Lake Maintenance Dredging Project**

**Table of Contents**

<table>
<thead>
<tr>
<th>Attachment</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment 1:</td>
<td>DLUR Application Form</td>
</tr>
<tr>
<td>Attachment 2:</td>
<td>Public Notice Receipts</td>
</tr>
<tr>
<td>Attachment 3:</td>
<td>Permit Fee</td>
</tr>
<tr>
<td>Attachment 4:</td>
<td>Site Plans</td>
</tr>
<tr>
<td>Attachment 5:</td>
<td>State Plane Coordinates</td>
</tr>
<tr>
<td>Attachment 6:</td>
<td>Site Photographs</td>
</tr>
<tr>
<td>Attachment 7:</td>
<td>Calculations and Analyses</td>
</tr>
<tr>
<td>Attachment 8:</td>
<td>Impact Descriptions</td>
</tr>
<tr>
<td>Attachment 9:</td>
<td>Natural Heritage Database Data Request Response</td>
</tr>
<tr>
<td>Attachment 10:</td>
<td>Pinelands Information</td>
</tr>
<tr>
<td>Attachment 11:</td>
<td>Mitigation Proposal</td>
</tr>
<tr>
<td>Attachment 12:</td>
<td>Engineering Report</td>
</tr>
<tr>
<td>Attachment 13:</td>
<td>Environmental Report</td>
</tr>
<tr>
<td>Attachment 14:</td>
<td>Endangered Species Survey</td>
</tr>
<tr>
<td>Attachment 15:</td>
<td>Riparian Zone Compliance</td>
</tr>
</tbody>
</table>
Individual Flood Hazard Area Permit
Newton Lake Maintenance Dredging Project

Attachment 1
DLUR Application Form

Contents:

• Completed DLUR Application Form
State of New Jersey
Department of Environmental Protection
Division of Land Use Regulation
Application for Permit(s)/Authorization(s)
801 E. State Street Mall Code 601-02A P.O. Box 420
Trenton, NJ 08625-0420
Phone #: (609) 777-0194 Web: www.nj.gov/dep/landuse

Please print legibly or type the following: Complete all sections and pages unless otherwise noted. Is this project Beverages Related? Yes ☐ No ☐

1. Applicant Name: Camden County Municipal Utilities Authority (DEP/MAA/ATH/Andy Kisson, PC)
Applicant Address: 1655 Fair Avenue
City/State: Camden, N.J.
Daytime Phone: 856-541-9790 E-Mail: andrew.kisson@mycamden.gov Ext.
Zip Code: 08104 Cell Phone: ____________________________

2. Agent Name: Frank X. Bianco
Firm Name: X.X. Bianco Inc.
Address: 101 South Board Street
City/State: Lumberton, NJ
Daytime Phone: 215-292-5979 E-Mail: frank@xxbianco.com or bgianco@lumberton.com Ext. 15
Zip Code: 08094 Cell Phone: ____________________________

3. Property Owner: Camden County Park Commission
Owner Address: Newton Lake Park, Collingswood, NJ
Daytime Phone: 856-512-3705 (Camden County)
Zip Code: 08108-08107 Cicero Avenue, Oaklyn, NJ (for two (2) sediment dewatering sites)
Daytime Phone: 856-512-2457 (Oaklyn Borough)
City/State: Audubon Park, Collingswood, and Oaklyn Boroughs and Audubon and Haddon Townships
Zip Code: 08108-08107

4. Project Name: Newton Lake Dredging and Reclamation Project
Address/Locality: Newton Lake, Peter Creek and Michelle Pond (statewide)
Newton Lake Park, Collingswood, NJ (Newton Lake Drive and Whitehorse Pike) and 200 & 300 W. Cedar Avenue (two (2) dewatering sites)
City/State: Camden County
Zip Code: 08108-08107

5. Project Description: The project is a lake dredging operation on Newton Lake, Peter Creek and Michelle Pond. The purpose of the project is to restore lake depths for coping with dam and improving the overall ecological health of the lake. The two upland sites to be used in sediment dewatering operations are located at Newton Lake Park (Whitehorse Pike and Newton Lake Drive) and Oaklyn Public Works Yard.

A. SIGNATURE OF APPLICANT (required):
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this 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. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment. If the applicant is an organization such as a corporation, partnership, trust, estate, association, etc., the party responsible for the application shall sign on behalf of the organization.

Signature of Applicant: ____________________________ Date: ____________________________
______________________________
Andrew Kisson (Camden County) Print Name: ____________________________

______________________________
Signature of Applicant: ____________________________ Date: ____________________________
______________________________
Print Name: ____________________________
D. 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/lessee/tenant/governing entity holds permission for the conduct of the proposed activity. In addition, written consent is hereby given 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 ☑
   (If answer is “Yes” – Signature of responsible party is required below)
2. Whether any part of the entire project 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 Open Space? Yes ☐ No ☑
4. Whether this project requires a Section 106 (National Register of Historic Places) Determination as part of a federal approval? Yes ☐ No ☑

Signature of Owner

Date 1-8-18

Print Name ROSS C. ANGELELLA

Signature of Owner/Lessee/Governing Entity Holder

Date 1-18-18

Print Name ROBERT FORBES

C. APPLICANT’S AGENT

Andy Wilson (CCMA/VA), the Applicant/Owner, authorize to act as my agent/representative in all matters pertaining to my application.

Name of Agent

Signature of Agent

D. STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS, SURVEYORS OR ENGINEER’S REPORT

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this 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. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

Signature

Print Name

Position & Name of Firm

Professional License #

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 and am familiar with the information submitted in this 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. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

Signature

Print Name

Position & Name of Firm

Professional License #

Date
### APPLICATION(S) FOR:

- [ ] Individual Permit Equivalency/CERCLA
- [ ] Minor Technical Modification of a Coastal Waterfront Development
- [ ] CZM
- [ ] CZMGP31 Placement of Shell (shellfish areas)
- [ ] CZMGP32 Application of Pesticides in Coastal Wetlands
- [ ] CZM Permit by-Certification
- [ ] 1.000.00
- [ ] Fee Amount
- [ ] Fee Paid

### Coastal General Permits

<table>
<thead>
<tr>
<th>Permit</th>
<th>Fee Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZMGP1 Amusement Pier Expansion</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP2 Beach/Dune Activities</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP3 Voluntary Reconstruction Certain Residential/Commercial Dev</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP4 Development of one or two SFH or Duplexes</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP5 Expansion or Reconstruction SFH/Duplex</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP6 New Bulkhead/Fill Lagoon</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP7 Revetment at SFH/Duplex</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP8 Gabions at SFH/Duplex</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP9 Support Facilities at a Marina</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP10 Reconstruction of Existing Bulkhead</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP11 Hazard Waste Clean-up</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP12 Landfill of Utilities</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP13 Recreation Facility at Public Park</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP14 Bulkhead Construction &amp; Fill Placement</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP15 Construction of Piers/Docks/Ramps in Lagoons</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP16 Minor Maintenance Dredging in Lagoons</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP17 Eroded Shoreline Stabilization</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP18 Avian Nesting Structures</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP19 Modification of Electrical Substations</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP20 Legalization of the Filling of Tidelands</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP21 Construction of Telecommunication Towers</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP22 Construction of Tourism Structures</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP23 Geotechnical Survey Boring</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP24 Habitat Creation/Restoration/Enhancement/Living Shorelines</td>
<td>No Fee</td>
</tr>
<tr>
<td>CZMGP25 1 to 3 Turbines &lt; 200 Feet</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP26 Wind Turbines &lt; 250 Feet</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP27 Dredge Lagoon (post storm event)</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP28 Dredge post Bulkhead Failure</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP29 Dredge Marina (post storm event)</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP30 Aquaculture Activities</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP31 Placement of Shell (shellfish areas)</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZMGP32 Application of Pesticides in Coastal Wetlands</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>CZM General Permit Extension</td>
<td>$240.00</td>
</tr>
<tr>
<td>CZM Permit by-Certification (On-line application ONLY)</td>
<td>$600.00</td>
</tr>
</tbody>
</table>

### Flood Hazard Area General Permits

<table>
<thead>
<tr>
<th>Permit</th>
<th>Fee Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHAGP1 Channel Clean w/o Sediment Removal</td>
<td>No Fee</td>
</tr>
<tr>
<td>FHAGP2 Mosquito Control</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>FHAGP3 Scour Protection Bridges/Culverts</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>FHAGP4,5 Creation/Restoration/Enhancement of Habitat and Water Quality Values and Functions</td>
<td>No Fee</td>
</tr>
<tr>
<td>FHAGP5 Reconstruction and/or Elevation of Building in a Floodway</td>
<td>No Fee</td>
</tr>
<tr>
<td>FHAGP6 Construction of One SFH/Duplex and Driveway</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>FHAGP7 Relocation of Manmade Roadside Ditches for Public Roadway Improvements</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>FHAGP9 Placement of Storage Tanks</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>FHAGP10 Construction/Reconstruction of Bride/Culvert Across Water &lt; 50 Acres</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>FHAGP11 Stormwater Outfall Along Regulated Water &lt;50 Acres</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>FHAGP12 Construction of Footbridges</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>FHAGP13 Construction of Trails and Boardwalks</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>FHA General Permit Extension</td>
<td>$240.00</td>
</tr>
<tr>
<td>FHA Permit by-Certification (Except PBC 4 &amp; 5) (On-line application ONLY)</td>
<td>$1,000.00</td>
</tr>
</tbody>
</table>

### Stormwater Review Fees

<table>
<thead>
<tr>
<th>Permit</th>
<th>Fee Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHA Verification</td>
<td>$4,000.00</td>
</tr>
<tr>
<td>FHA Individual Permit</td>
<td>$4,000.00</td>
</tr>
<tr>
<td>FHA Hardship Exception (Must be submitted with a paid FHA IP)</td>
<td>$4,000.00</td>
</tr>
<tr>
<td>FHA Minor Technical Modification of a GP, IP or Verification</td>
<td>$4,000.00</td>
</tr>
<tr>
<td>FHA Major Technical Modification of a GP, IP or Verification</td>
<td>$4,000.00</td>
</tr>
<tr>
<td>FHA Extension of an IP or Verification</td>
<td>$4,000.00</td>
</tr>
</tbody>
</table>

### Applicability Determination

<table>
<thead>
<tr>
<th>Permit</th>
<th>Fee Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal Applicability Determination</td>
<td>No Fee</td>
</tr>
<tr>
<td>Flood Hazard Applicability Determination</td>
<td>No Fee</td>
</tr>
<tr>
<td>Highlands Jurisdictional Determination</td>
<td>No Fee</td>
</tr>
<tr>
<td>Executive Order 215</td>
<td>No Fee</td>
</tr>
</tbody>
</table>

### Highlands

<table>
<thead>
<tr>
<th>Permit</th>
<th>Fee Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Permit</td>
<td>$500.00</td>
</tr>
<tr>
<td>Pre-application Meeting</td>
<td>$500.00</td>
</tr>
<tr>
<td>Resource Area Determination &gt; one acre</td>
<td>No Fee</td>
</tr>
<tr>
<td>HPAAGP1 Habitat Creation/Enhance</td>
<td>No Fee</td>
</tr>
<tr>
<td>HPAAGP2 Bank Remediation</td>
<td>$500.00</td>
</tr>
<tr>
<td>Preservation Area Approval (PAA)</td>
<td>No Fee</td>
</tr>
<tr>
<td>PAA with Waiver (Specify type below)</td>
<td>No Fee</td>
</tr>
</tbody>
</table>

### Coastal Wetlands

<table>
<thead>
<tr>
<th>Permit</th>
<th>Fee Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal/Tidal Wetlands Permit</td>
<td>No Fee</td>
</tr>
<tr>
<td>Coastal Wetland Permit Modification</td>
<td>No Fee</td>
</tr>
</tbody>
</table>
### Freshwater Wetlands Fee Schedule

<table>
<thead>
<tr>
<th>Freshwater Wetlands</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>FWGP1 Main. &amp; repair Exist Feature</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP2 Utility Crossing</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP3 Discharge of Return Water</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP4 Hazard Site Invest/Cleanup</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP5 Landfill Closure</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP6 Filling of NSWC</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP10A Very Minor Road Crossing</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP10B Minor Road Crossing</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP11 Outfalls / Intakes</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP12 Survey / Investigation</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP13 Lake Dredging</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>FWGP14 Water Monitoring</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP15 Mosquito Control</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP16 Habitat Create / Enhance</td>
<td>No Fee</td>
<td>No Fee</td>
</tr>
<tr>
<td>FWGP17 Trails / Boardwalks</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP17A Multiuse paths</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP18 Dam Repairs</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP19 Dock or Pier</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP20 Bank Stabilization</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP21 Above Ground Utility</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP23 Expand Cranberry</td>
<td>No Fee</td>
<td>No Fee</td>
</tr>
<tr>
<td>FWGP24 Spring Developments</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP25 Malfunction Septic System</td>
<td>No Fee</td>
<td>No Fee</td>
</tr>
<tr>
<td>FWGP26 Channel / Stream Clean</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP27 Redevelop Disturbed Site</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>FWGP Modification</td>
<td>$500.00</td>
<td></td>
</tr>
<tr>
<td>FWGP Extension</td>
<td>$500.00</td>
<td></td>
</tr>
</tbody>
</table>

### Freshwater Wetlands Fee Schedule

<table>
<thead>
<tr>
<th>Freshwater Wetlands</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Wetlands Permit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual Open Water Permit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual Permit Mod. Major/Minor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual Permit Extension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetlands Exemption</td>
<td>$500.00</td>
<td></td>
</tr>
<tr>
<td>Permit Equivalency/CERCLA</td>
<td>No Fee</td>
<td>No Fee</td>
</tr>
</tbody>
</table>

### Transition Area Waiver Fee Schedule

<table>
<thead>
<tr>
<th>Transition Area Waiver</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Averaging Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardship Reduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Activity Stormwater</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Activity Linear Development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Activity Redevelopment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Activity Individual Permit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Activity Modification Major/Minor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extension</td>
<td>$500.00</td>
<td></td>
</tr>
</tbody>
</table>

### Letter of Interpretation Fee Schedule

<table>
<thead>
<tr>
<th>Letter of Interpretation</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence Absence</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>Presence Absence Footprint</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>Delineation &lt; 1.00 Acres</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>Verification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extension</td>
<td>$500.00</td>
<td></td>
</tr>
</tbody>
</table>

### Consistency Determination Fee Schedule

<table>
<thead>
<tr>
<th>Consistency Determination</th>
<th>Fee Amount</th>
<th>Fee Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Quality Certificate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal Consistency</td>
<td>No Fee</td>
<td>No Fee</td>
</tr>
<tr>
<td>HMC Water Quality Certificate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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.html](http://www.nj.gov/dep/landuse/forms.html).

The following types of applications DO NOT require a fee submittal:

- Coastal Permitting
  - General Permit # 24 - Habitat creation, restoration, enhancement and living shoreline activities
  - Individual Permit Equivalency – CERCLA
  - Administrative Modifications

- Applicability Determinations
  - Coastal Applicability Determination
  - Highlands Jurisdictional Determination
  - Flood Hazard Area Applicability
  - Executive Order 215

- Flood Hazard Area
  - General Permit #1 – Channel cleaning under the Stream Cleaning Act
  - General Permit #4 – Creation, restoration, and enhancement of habitat and water quality values and functions
  - General Permit #5 – Reconstruction and/or elevation of a building in a floodway
  - Transfer of Approval
  - Administrative Modifications
  - Individual Permit Equivalency – CERCLA

- Federal Consistency
  - Federal Consistency Determination

- Highlands
  - General Permit #1 - Habitat Creation, Restoration, Enhancement

- Freshwater Wetlands
  - General Permit #16 - Habitat creation and enhancement activities
  - General Permit #17 - Trails and Boardwalks (NO FEE when the activity is proposed on publicly owned lands)
  - General Permit #23 – Expansion of cranberry growing operations in the Pinelands
  - General Permit #25 – Malfunctioning individual subsurface sewage disposal (septic) systems
  - Individual Permit Equivalency – CERCLA

### 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 reviewing the 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.

Electronic permitting and/or application submittal is available for specific applications. Please see the Division website at [www.nj.gov/dep/landuse/epermit.html](http://www.nj.gov/dep/landuse/epermit.html) for more information.
APPLICATION FORM - APPENDIX I

Section 1: Please provide the following information for the overall project site. All area measurements shall be recorded in acres to the nearest thousandth (0.001 acres).

<table>
<thead>
<tr>
<th>PROPOSED:</th>
<th>PRESERVED</th>
<th>UNDISTURBED</th>
<th>DISTURBED</th>
</tr>
</thead>
<tbody>
<tr>
<td>RIPARIAN ZONE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CZMRA FORESTED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(CZMRA IP – Only)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E &amp; T HABITAT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endangered and/or Threatened</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRESHWATER WETLANDS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.784 ac (temp.)</td>
</tr>
</tbody>
</table>

Section 2: Please provide the following information for each permit/authorization requested pursuant to the Freshwater Wetlands Protection Act. All area measurements shall be recorded in acres to the nearest thousandth (0.001 acres). Use additional sheets if necessary.

<table>
<thead>
<tr>
<th>PERMIT TYPE</th>
<th>WETLAND TYPE</th>
<th>PALUSTRINE FORESTED, EMERGENT AND SCRUB-SHRUB</th>
<th>RESOURCE CLASSIFICATION</th>
<th>DISTURBED</th>
</tr>
</thead>
<tbody>
<tr>
<td>FWW-GP13</td>
<td>Emergent, Forest, Shrub, Etc.</td>
<td>Intermediate/Exceptional</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROPOSED DISTURBANCE:</td>
<td>WETLANDS</td>
<td>TRANSITION AREA</td>
<td>SOW</td>
<td></td>
</tr>
<tr>
<td>FILLED</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXCAVATED</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLEARED</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.970 ac</td>
<td>0.576 ac</td>
<td>110.020 ac</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PERMIT TYPE</th>
<th>WETLAND TYPE</th>
<th>PALUSTRINE FORESTED, EMERGENT AND SCRUB-SHRUB</th>
<th>RESOURCE CLASSIFICATION</th>
<th>DISTURBED</th>
</tr>
</thead>
<tbody>
<tr>
<td>IFHA</td>
<td>Emergent, Forest, Shrub, Etc.</td>
<td>Intermediate/Exceptional</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROPOSED DISTURBANCE:</td>
<td>WETLANDS</td>
<td>TRANSITION AREA</td>
<td>SOW</td>
<td></td>
</tr>
<tr>
<td>FILLED</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXCAVATED</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLEARED</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.970 ac</td>
<td>0.576 ac</td>
<td>110.02 ac</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Appendix II - Fee Calculation Sheet (Required)**

**Directions:**

The Fee Calculation sheet is broken down by the types of programs administered by the Division of Land Use Regulation: Coastal, Flood Hazard Area, Freshwater Wetlands, Stormwater Review.

Use the abbreviation key below in order to identify the type(s) of applications that you need to submit for your project. Once you find your application type(s) work through the **calculation column** and place the figure on the **fee amount** line. Do this for each application type and subtotal each section. In section 5 – enter the subtotals as indicated and add the fee figures to find your total fee.

- Whenever the calculation requires an acreage figure, you will need to round UP to the nearest whole number, for example: 0.25 acres gets rounded up to one (1) acre or 2.61 acres gets rounded up to three (3) acres.
- The maximum fee for a CAFRA Individual permit, an Upland Waterfront Development permit, or an In-Waterfront Development permit is $30,000 per permit type. For example: if you are applying for both an upland and an in-water Waterfront Development the maximum fee is applied to each permit for a maximum total of $60,000 plus any applicable stormwater review fee.
- No matter how many types of applications are required, the stormwater review fee is applied only one time.

**Abbreviation KEY**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZM</td>
<td>Coastal Zoning Permit</td>
</tr>
<tr>
<td>CSW</td>
<td>Coastal Wetlands Permit</td>
</tr>
<tr>
<td>WD</td>
<td>Waterfront Development Permit</td>
</tr>
<tr>
<td>FWW</td>
<td>Freshwater Wetland Permit</td>
</tr>
<tr>
<td>IP</td>
<td>Individual Permit</td>
</tr>
<tr>
<td>GP</td>
<td>General Permit</td>
</tr>
<tr>
<td>TAW</td>
<td>Transition Area Waiver</td>
</tr>
<tr>
<td>MHWL</td>
<td>Mean High Water Line</td>
</tr>
<tr>
<td>LOI</td>
<td>Letter of Interpretation</td>
</tr>
<tr>
<td>VER</td>
<td>Verification</td>
</tr>
<tr>
<td>WQC</td>
<td>Water Quality Certificate</td>
</tr>
</tbody>
</table>

**Section 1 - Coastal Application Type**

<table>
<thead>
<tr>
<th>Calculation</th>
<th>Fee Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>All General Permits (Except for Coastal GP #4)</td>
<td>$1,000 x # of GPs requested</td>
</tr>
<tr>
<td>CZM – IP SFH or Duplex</td>
<td>$2,000</td>
</tr>
<tr>
<td>CZM – IP Residential other than SFH/Duplex</td>
<td>$3,000 x # of units</td>
</tr>
<tr>
<td>CZM – IP Commercial, Industrial or Public</td>
<td>$3,000 x # of acres of the site</td>
</tr>
<tr>
<td>CSW – IP SFH or Duplex</td>
<td>$2,000</td>
</tr>
<tr>
<td>CSW – IP All Development other than SFH/Duplex</td>
<td>$3,000 x # of acres of wetlands disturbed</td>
</tr>
<tr>
<td>WD - IP SFH or Duplex (Landward of MHWL)</td>
<td>$2,000</td>
</tr>
<tr>
<td>WD – IP Residential other than SFH/Duplex (Landward of MHWL)</td>
<td>$3,000 x # of units</td>
</tr>
<tr>
<td>WD – IP Commercial, Industrial or Public Development</td>
<td>$3,000 x # of acres of the site</td>
</tr>
<tr>
<td>WD - IP SFH or Duplex (Waterward of MHWL)</td>
<td>$2,000</td>
</tr>
<tr>
<td>WD – IP All Development other than SFH/Duplex (Waterward of MHWL)</td>
<td>$3,000 x # of acres of water area impacted</td>
</tr>
<tr>
<td>CZM, CSW, WD – Minor Technical Modification (GP/IP)</td>
<td>$500 x # of items to be revised</td>
</tr>
<tr>
<td>CZM, CSW, WD – Major Technical Modification (GP/IP)</td>
<td>0.30 x original fee = Fee (Minimum $500)</td>
</tr>
<tr>
<td>General Permit Extension</td>
<td>$240 x # of GPs to be extended</td>
</tr>
<tr>
<td>WD – IP Permit Extension</td>
<td>0.25 x original fee = Fee (Maximum $3,000)</td>
</tr>
<tr>
<td>CZM, CSW, WD – Exemption Request</td>
<td>$500 x # of exemptions requested</td>
</tr>
</tbody>
</table>

**Subtotal for Coastal Applications**

**Section 2 - Freshwater Wetlands Application Type**

<table>
<thead>
<tr>
<th>Calculation</th>
<th>Fee Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>All General Permits (Except those listed in notes on Page 4)</td>
<td>$1,000 x # of GPs requested</td>
</tr>
<tr>
<td>FWW – LOI Presence/Absence, Footprint, Delineation &lt; 1 acre</td>
<td>$1,000</td>
</tr>
<tr>
<td>FWW – LOI Line Verification</td>
<td>$1,000 + ($100 x # of acres of the site)</td>
</tr>
<tr>
<td>FWW – TAW with valid LOI</td>
<td>$1,000 + ($100 x # acres FWW disturbed)</td>
</tr>
<tr>
<td>FWW – TAW without valid LOI</td>
<td>$1,000 + ($100 x # acres of wetlands disturbed) + LOI Fee</td>
</tr>
<tr>
<td>FWW – IP or Open Water Fill SFH or Duplex</td>
<td>$2,000</td>
</tr>
<tr>
<td>FWW – IP or Open Water Fill other than SFH or Duplex</td>
<td>$5,000 + ($2,500 x # acres FWW disturbed)</td>
</tr>
<tr>
<td>FWW – GP, TAW, IP, Open Water Fill Minor Modification</td>
<td>$500 x # of items to be revised</td>
</tr>
<tr>
<td>FWW – GP, TAW, IP, Open Water Fill Major Modification</td>
<td>0.30 x original fee (Minimum $500)</td>
</tr>
<tr>
<td>FWW – EXT LOI Presence/Abence, Footprint, Delineation &lt; 1 acre</td>
<td>$500</td>
</tr>
<tr>
<td>FWW – EXT LOI Line Verification</td>
<td>0.50 x original fee (Minimum $500)</td>
</tr>
<tr>
<td>FWW – EXT GP or TAW</td>
<td>$500 x # of items to be extended</td>
</tr>
<tr>
<td>FWW – EXT IP or Open Water Fill</td>
<td>0.50 x original fee (Minimum $500)</td>
</tr>
</tbody>
</table>

**Subtotal for Freshwater Wetlands Applications**

$1,000
## Appendix II - Fee Calculation Sheet - Continued

### Section 3 - Flood Hazard Area Application Type

<table>
<thead>
<tr>
<th>Calculation</th>
<th>Fee Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>All General Permits (Except for FHAGP 1, 4, 5)</td>
<td>$1,000 x ______# of GPs requested</td>
</tr>
<tr>
<td>FHA – VER Methods 1, 2, 3, 5 (Fee not applicable to one (1) SFH)</td>
<td>$1,000</td>
</tr>
<tr>
<td>FHA – VER Method 4 or 6</td>
<td>$4,000 + ($400 x ______per 100 linear feet)</td>
</tr>
<tr>
<td>FHA – Delineation of Riparian Zone Only</td>
<td>$1,000</td>
</tr>
<tr>
<td>FHA – IP SFH and/or Accessory Structures</td>
<td>$2,000</td>
</tr>
<tr>
<td>FHA – IP * Fee not applicable to one (1) SFH</td>
<td>$3,000 base + $1,000</td>
</tr>
</tbody>
</table>

*Bank/Channel (stabilization, reestablishment, etc.) No Calculation Review - + $1,000

*Bank/Channel (stabilization, reestablishment, etc.) With Calculation + ($4,000 + ($400 x _____ per 100 linear ft.))

*Bridge, Culvert, Footbridge, Low Dam, etc. No Calculation Review - + $1,000 x _____# of structures

*Bridge, Culvert, Footbridge, Low Dam, etc. With Calculation Review - + $4,000 x _____# of structures

*Review of Flood Storage Displacement (net fill) Calculations - + $4,000

Review of Hardship Exception Request - + $4,000

*Utility Line - + $1,000 x _____# of water crossings

FHA – VER, IP, GP Minor Technical Modification | $500 x _____# of project elements to be revised

FHA – VER, IP, GP Major Technical Modification | 0.30 x _____original fee (Minimum $500)

FHA – Extension of Verification - Method 1, 2, 3, 5, Riparian Zone | $240.00

FHA - Extension of Verification - Method 4 or 6 | 0.25 x _____original fee

FHA – Extension of a General Permit | $240.00 x _____# of GPs to be extended

FHA – Extension of an Individual Permit | 0.25 x _____original fee

FHA – Department Delineation Minor Revision | $500

FHA – Department Delineation Major Revision | $4,000 + ($400 x _____ per 100 linear feet)

**Subtotal for Flood Hazard Area Applications**

### Section 4 – Individual Water Quality Certificate

<table>
<thead>
<tr>
<th>Calculation</th>
<th>Fee Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>WQC (NOTE: No fee required under the coastal program)</td>
<td>$5,000 + ($2,500 x _____# acres regulated area disturbed)</td>
</tr>
</tbody>
</table>

### Section 5 - Additional Stormwater Review Fee

<table>
<thead>
<tr>
<th>Calculation</th>
<th>Fee Amount</th>
</tr>
</thead>
</table>
| Stormwater Review | $3,000 base

- Review of Groundwater Recharge Calculations - + $250 x _____# acres disturbed

- Review of Runoff Quantity Calculations - + $250 x _____# acres disturbed

- Review of Water Quality Calculations - + $250 x _____# acres impervious surface

**Subtotal of Stormwater Review Fee**

### Section 6 – Total of Application Fees

<table>
<thead>
<tr>
<th>Calculation</th>
<th>Fee Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subtotal of Section 1 - Coastal Applications</td>
<td></td>
</tr>
<tr>
<td>Subtotal of Section 2 - Freshwater Wetlands Applications</td>
<td>$1,000</td>
</tr>
<tr>
<td>Subtotal of Section 3 - Flood Hazard Area Applications</td>
<td>$4,000</td>
</tr>
<tr>
<td>Subtotal of Section 4 – Individual Water Quality Certificate</td>
<td></td>
</tr>
<tr>
<td>Subtotal of Section 5 - Additional Stormwater Review</td>
<td></td>
</tr>
</tbody>
</table>

**Total Application Fee**

**Total Fee:** $5,000

**Check #: 160050**
Instructions for completing the Application Form for Permits/Authorizations from the Division of Land Use Regulation
(Please print clearly or type all information in every section)

Section 1. Applicant Information
✓ Please check off whether the project is Superstorm Sandy related.
✓ Make sure all applicant information is correct and up to date.
✓ Do not provide telephone numbers with call intercept.
✓ Must include correct E-mail address.

Section 2. Agent Information
✓ Make sure all agent information is correct and up to date.
✓ Do not provide telephone numbers with call intercept.
✓ If you do not have an agent, leave this section blank.
✓ Must include correct E-mail address.

Section 3. Property Owner Information
✓ Identify the property owner if different from applicant.

Section 4. Project Site Information/Fees and Costs
✓ List the street address if known (or nearest crossroads) along with the correct zip code for the property.
✓ List all blocks and lots if more space is needed please attach a list to the application form.
✓ Make sure the state plane coordinates are given and that they are 1983 datum otherwise the application will be rejected.
  - Applicants can find state plane coordinates on USGS maps or by going to the NJDEP website and using the GeoWeb feature to find the location of property and the exact state plane coordinates

Section 5. Project Description
✓ Briefly describe what you are proposing to construct within regulated areas. In addition, list any previous LUR file number(s) and if a Waiver Request has been submitted to the Office of Permit Coordination and Environmental Review please list the Waiver Request ID number(s) on the line provided.

Section A. Applicant’s Signature
✓ The person or responsible party representative applying for this permit and to whom the permit will be issued must sign here.

Section B. Property Owner’s Signature
✓ The legal owner of the property on which the regulated activities are proposed must sign here and certify items one through four in this section. In additional, all easement owners on the project site are also required to sign the certification.

Section C. Applicant’s Agent Authorization
✓ If the applicant is represented by a consultant or engineer, that individual shall fill out this section.

Section D. Statement of the Preparer of Plans, Specifications, Surveyor’s of Engineer’s Report
✓ All Flood Hazard Area and Waterfront Development applications require that the person preparing the plans and reports fill out this section

Section E. Statement of the Preparer of Application, Reports and Supporting Documents
✓ Anyone who prepares and is the responsible person for part of the application, reports or supporting documents must fill out this section

Section F. Type of Application you are submitting
✓ Place a check mark next to each type of activity you are requesting in this application package. Please fill in the amount of fee required for each permit and the amount of fees paid for each permit. The fee paid may be different from the amount required for each permit since the amount required may differ due the three payment plan for fees in excess of $1,000. A Fee Calculation Sheet is now included to allow an applicant to determine the fee for applications where the fee will vary due to size of site, impacts, etc.

Appendices
✓ Please follow the directions as outlined for each Appendix.
  - Both Appendix I and II are required to be filled-out and submitted in order for the application form to be considered completed

Please Note: The following permits and authorizations are available as on-line applications at http://www.nj.gov/dep/landuse under "Electronic Services":
- Coastal General Permits-by-Certification #10 and #15
- Flood Hazard Area Permits-by-Certification #1 thru #15
- Freshwater Wetlands General Permits #8 and #25
- Freshwater Wetlands E-LOI (submittal only)
Individual Flood Hazard Area Permit
Newton Lake Maintenance Dredging Project

Attachment 2
Public Notice Receipts

Contents:

- Regional Newspaper Advertisement - Copy
- Letter to Neighboring Landowners - Copy
- Certified Mail Receipts
PUBLIC NOTICE

Date: November 25, 2017
Re: Flood Hazard Area (FHA) Individual Permit Application submission by:
Camden County Municipal Utilities Authority (CCMUA)
Regarding property at:
Newton Lake and Peter Creek open waters
Multiple Blocks and Lots within: Oaklyn, Collingswood, & Audubon Park Boroughs and Haddon & Audubon Townships, Camden County, New Jersey
Please take notice that an application for a FHA individual permit will be submitted to the New Jersey Department of Environmental Protection (NJDEP), Division of Land Use Regulation for the proposed Maintenance Dredging project described below:
Applicant: CCMUA
Project Name: Newton Lake - Maintenance Dredging Project
Project Description: The project consists of lake sediment dredging operations within the open waters of the lake and dewatering on land.
A complete copy of the application package will be available for review at either the municipal clerk’s office or by appointment at the Department’s Trenton Office once submitted. The NJDEP welcomes comments and any information that you may provide concerning the proposed maintenance dredging project. Please submit your written comments within 15 calendar days of the date of this notice to:
New Jersey Department of Environmental Protection
Division of Land Use Regulation
P.O. Box 420, Code 501-02A
501 East State Street
Trenton, New Jersey 08625
Attn: Camden County Supervisor
($924.00)
F. X. Browne, Inc.
“A Tradition of Innovation and Excellence”
1101 S. Broad Street; P.O. Box 401
Lansdale, PA 19446
Phone: 215-362-3878

Date: November 30, 2017

Re: Division of Land Use Regulation (DLUR), Freshwater Wetlands General and Floodway Hazard Area Permit Application submissions by: Camden County Municipal Utilities Authority (CCMUA)

Regarding properties at:
Newton Lake Park
Newton Lake Drive and White Horse Pike
Collingswood, NJ 08107
Camden County

Oaklyn Cougars Field and Public Works Yard
220 West Cedar Avenue
Oaklyn, NJ 08107
Camden County

Dear Interested Party:

This letter is being sent to you on behalf of the Camden County Municipal Utilities Authority (CCMUA) as a legal notification that the CCMUA is submitting permit applications to the Division of Land Use Regulation (DLUR) under the New Jersey Department of Environmental Protection (NJDEP). The purpose of the applications is to obtain permitting for the proposed dredging of excess sediment from Newton Lake, Peter Creek, and Nichols Pond. In addition to the DLUR permit application, public notices have been posted in the Courier Post regarding the Freshwater Wetlands and Flood Hazard Area permits that are being applied for due to the proposed dredging.

You are being notified due to your property’s proximity to one of the proposed sediment dewatering sites listed above. During the dredging operations, these sites will be used to stage dewatering equipment and prepare sediment for removal from the site. Each site will be fenced off and closed for public use during the dredging operations and while equipment remains on site.

If you would like to inspect a copy of any of the CCMUA applications pertaining to this project, once submitted, they will be on file at the Municipal Clerk’s Office in all municipalities in which the project will take place: Oaklyn Borough, Collingswood Borough, Audubon Park Borough, Haddon Township, and Audubon Township or you can call the NJDEP at (609) 777-0454 to make an appointment to see the CCMUA application at NJDEP offices in Trenton during normal business hours.

The rules governing freshwater wetlands permits and approvals are found in the NJDEP’s Freshwater Wetlands Protection Act rules at N.J.A.C. 7:7A. You can view or download these
rules on the NJDEP Land Use Regulation Program website at: www.state.nj.us/dep/landuse, or you can find a copy of these rules in the county law library in your county courthouse.

As part of the NJDEP’s review of the applications, NJDEP personnel may visit this property, and the portion of any neighboring property that lies within 150 feet of the property line, to perform a site inspection. This site inspection will involve only a visual inspection and possibly minor soil borings using a 4” diameter hand auger. The inspection will not result in any damage to vegetation or to property improvements.

The NJDEP welcomes any comments you may have on these applications. If you wish to comment on these applications, comments should be submitted to the NJDEP in writing within 30 days after the Department publishes notice of the application in the DEP Bulletin. The Department shall consider all written comments submitted within this time. The Department may, in its discretion, consider comments submitted after this date. Comments cannot be accepted by telephone. Please submit any comments you may have in writing, along with a copy of this letter, to:

New Jersey Department of Environmental Protection  
Division of Land Use Regulation  
Mail Code 501-02A  
P.O. Box 420  
Trenton, New Jersey 08625  
ATT: Camden County Section Chief

When the NJDEP has decided whether or not the CCMUA’s applications qualify for approval, NJDEP will notify the municipal clerk of the final decision on the application.

If you have questions about this application, you can contact the CCMUA at the address below.

Sincerely,

Joshua A. Castillo, P.E.

F.X. Browne, Inc  
1101 S. Broad Street  
Lansdale, PA 19446

On Behalf Of: Camden County Municipal Utilities Authority  
1647 Ferry Avenue  
Camden, NJ 08104  
Phone: 1-856-541-3700  
Fax: 1-856-964-1829  
mail@ccmua.org
<table>
<thead>
<tr>
<th>U.S. Postal Service™</th>
<th>CERTIFIED MAIL™ RECEIPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Domestic Mail Only; No Insurance Coverage Provided)</td>
<td></td>
</tr>
</tbody>
</table>

### Official Use

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postage</td>
<td>$4.21</td>
</tr>
<tr>
<td>Certified Fee</td>
<td>$3.75</td>
</tr>
<tr>
<td>Restricted Delivery Fee</td>
<td>$0.00</td>
</tr>
<tr>
<td>Total Postage &amp; Fees</td>
<td>$4.21</td>
</tr>
</tbody>
</table>

**Shipped To:**
- **18 Village LLC**
- **Or Current Resident**
- **111 W. Nicholson Road**
- **Audubon, NJ 08106**

### Official Use

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postage</td>
<td>$4.21</td>
</tr>
<tr>
<td>Certified Fee</td>
<td>$3.75</td>
</tr>
<tr>
<td>Restricted Delivery Fee</td>
<td>$0.00</td>
</tr>
<tr>
<td>Total Postage &amp; Fees</td>
<td>$4.21</td>
</tr>
</tbody>
</table>

**Shipped To:**
- **235 Trans Group LLC**
- **Or Current Resident**
- **235 W. Nicholson Road**
- **Audubon, NJ 08106**

### Official Use

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postage</td>
<td>$4.21</td>
</tr>
<tr>
<td>Certified Fee</td>
<td>$3.75</td>
</tr>
<tr>
<td>Restricted Delivery Fee</td>
<td>$0.00</td>
</tr>
<tr>
<td>Total Postage &amp; Fees</td>
<td>$4.21</td>
</tr>
</tbody>
</table>

**Shipped To:**
- **Perry Argentina**
- **1102 North American St.**
- **#1 Philadelphia, PA 19123**

### Official Use

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postage</td>
<td>$4.21</td>
</tr>
<tr>
<td>Certified Fee</td>
<td>$3.75</td>
</tr>
<tr>
<td>Restricted Delivery Fee</td>
<td>$0.00</td>
</tr>
<tr>
<td>Total Postage &amp; Fees</td>
<td>$4.21</td>
</tr>
</tbody>
</table>

**Shipped To:**
- **Amberly Arnold**
- **Or Current Resident**
- **80 Morris Avenue**
- **Thorofare, NJ 08086**

### Official Use

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postage</td>
<td>$4.21</td>
</tr>
<tr>
<td>Certified Fee</td>
<td>$3.75</td>
</tr>
<tr>
<td>Restricted Delivery Fee</td>
<td>$0.00</td>
</tr>
<tr>
<td>Total Postage &amp; Fees</td>
<td>$4.21</td>
</tr>
</tbody>
</table>

**Shipped To:**
- **Garnett A. Arnold**
- **80 Morris Avenue**
- **Thorofare, NJ 08086**

### Official Use

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postage</td>
<td>$4.21</td>
</tr>
<tr>
<td>Certified Fee</td>
<td>$3.75</td>
</tr>
<tr>
<td>Restricted Delivery Fee</td>
<td>$0.00</td>
</tr>
<tr>
<td>Total Postage &amp; Fees</td>
<td>$4.21</td>
</tr>
</tbody>
</table>

**Shipped To:**
- **Daniel A. Artuz & Beltran Velez Vane**
- **Or Current Resident**
- **506 West Cedar Avenue**
- **Oaklyn, NJ 08107**

---

**Note:** The information is displayed in a tabular format for clarity and ease of reading.
<table>
<thead>
<tr>
<th>Recipient</th>
<th>Address Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard G. Battipaglia &amp; Teres Hicks</td>
<td>28 Village Court, Audubon, NJ 08106</td>
</tr>
<tr>
<td>Marc &amp; Clair Becker</td>
<td>504 W. Cedar Ave, Oaklyn, NJ 08107</td>
</tr>
<tr>
<td>Fanni Blando</td>
<td>16 Village Court, Audubon, NJ 08106</td>
</tr>
<tr>
<td>Brian E. &amp; Jennie Berryhill</td>
<td>502 W. Cedar Ave, Oaklyn, NJ 08107</td>
</tr>
<tr>
<td>U.S. Postal Service™ CERTIFIED MAIL™ RECEIPT</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>(Domestic Mail Only; No Insurance Coverage Provided)</td>
<td></td>
</tr>
</tbody>
</table>

**Sent To:**
- CCMUA
  - 1645 Ferry Avenue
  - Camden, NJ 08101

**Date:** 11/30/2017

**Postage:** $3.84
**Certified Fee:** $3.75
**Return Receipt Fee (Endorsement Required):** $0.00
**Restricted Delivery Fee (Endorsement Required):** $0.00
**Total Postage & Fees:** $7.59

---

**Sent To:**
- Ronald Coo & Susan M. Sharkey
  - Or Current Resident
  - 724 Everett Avenue
  - Collingswood, NJ 08107

**Date:** 1/30/2017

**Postage:** $4.21
**Certified Fee:** $3.00
**Return Receipt Fee (Endorsement Required):** $0.00
**Restricted Delivery Fee (Endorsement Required):** $0.00
**Total Postage & Fees:** $7.21

---

**Sent To:**
- Coldsteel LLC
  - Or Current Resident
  - 110 White Horse Pike
  - Oaklyn, NJ 08107

**Date:** 11/30/2017

**Postage:** $4.60
**Certified Fee:** $3.75
**Return Receipt Fee (Endorsement Required):** $0.00
**Restricted Delivery Fee (Endorsement Required):** $0.00
**Total Postage & Fees:** $8.35

---

**Sent To:**
- Peter L. & Joan S. Corelli
  - 1209 Wyndmoor Ave
  - Cherry Hill, NJ 08034

**Date:** 11/30/2017

**Postage:** $3.84
**Certified Fee:** $3.75
**Return Receipt Fee (Endorsement Required):** $0.00
**Restricted Delivery Fee (Endorsement Required):** $0.00
**Total Postage & Fees:** $7.64

---

**Sent To:**
- Sheri A. Cronin
  - Or Current Resident
  - 411 West Cedar Avenue
  - Oaklyn, NJ 08107

**Date:** 11/30/2017

**Postage:** $4.60
**Certified Fee:** $3.75
**Return Receipt Fee (Endorsement Required):** $0.00
**Restricted Delivery Fee (Endorsement Required):** $0.00
**Total Postage & Fees:** $8.35

---

**Sent To:**
- Richard G. Cushman Jr. & Jaime L. Cushman
  - Or Current Resident
  - 204½ W. Cedar Avenue
  - Oaklyn, NJ 08107

**Date:** 11/30/2017

**Postage:** $4.60
**Certified Fee:** $3.75
**Return Receipt Fee (Endorsement Required):** $0.00
**Restricted Delivery Fee (Endorsement Required):** $0.00
**Total Postage & Fees:** $8.35
<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
<th>City, State, ZIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amy Fitzpatrick</td>
<td>1017 Maple Avenue, Oaklyn, NJ 08107</td>
<td></td>
</tr>
<tr>
<td>Patricia L. Fusco</td>
<td>634 Newton Avenue, Collingswood, NJ 08107</td>
<td></td>
</tr>
<tr>
<td>Marcia Gazdzinski</td>
<td>505 W. Cedar Avenue, Oaklyn, NJ 08107</td>
<td></td>
</tr>
<tr>
<td>Luis &amp; Elena Gongora</td>
<td>713 W. Browning Road, Collingswood, NJ 08107</td>
<td></td>
</tr>
<tr>
<td>U.S. Postal Service™</td>
<td>U.S. Postal Service™</td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------</td>
<td></td>
</tr>
<tr>
<td>CERTIFIED MAIL™ RECEIPT</td>
<td>CERTIFIED MAIL™ RECEIPT</td>
<td></td>
</tr>
<tr>
<td>(Domestic Mail Only; No Insurance Coverage Provided)</td>
<td>(Domestic Mail Only; No Insurance Coverage Provided)</td>
<td></td>
</tr>
</tbody>
</table>

For delivery information visit our website at www.usps.com.

**Sent To:**
- Laura T. Gustafson
  - 233 W. Nicholson Road
  - Audubon, NJ 08106

**Postage:** $4.21
**Certified Fee:** $3.75
**Total Postage & Fees:** $4.21

**Postmark Here:** 11/30/2017

---

**Sent To:**
- Matthew H. & Kristen A. Hale
  - 600 Yale Street
  - #1701
  - Harrisburg, PA 17111

**Postage:** $4.21
**Certified Fee:** $3.75
**Total Postage & Fees:** $4.21

**Postmark Here:** 11/30/2017

---

**Sent To:**
- Frank & Edna Hofmann
  - 712 Everett Avenue
  - Collingswood, NJ 08107

**Postage:** $4.21
**Certified Fee:** $3.75
**Total Postage & Fees:** $4.21

**Postmark Here:**

---

**Sent To:**
- Jeffrey Kasten & Samantha Williams
  - 5 E. Lakeview Avenue
  - Oaklyn, NJ 08107

**Postage:** $4.21
**Certified Fee:** $3.75
**Total Postage & Fees:** $4.21

**Postmark Here:**

---

**Sent To:**
- Eleanor G. Kirchgassner
  - 406 W. Cedar Ave.
  - Oaklyn, NJ 08107

**Postage:** $4.21
**Certified Fee:** $3.75
**Total Postage & Fees:** $4.21

**Postmark Here:**

---

**Sent To:**
- Mark A. & Therese A. Kocher
  - 716 Everett Ave.
  - Collingswood, NJ 08107

**Postage:** $4.21
**Certified Fee:** $3.75
**Total Postage & Fees:** $4.21

**Postmark Here:**

---
Cynthia Konccko &
Katherine Cheetham
Or Current Resident
13 E. Lakeview Ave.
Oaklyn, NJ 08107

Frank Lengetti
Or Current Resident
200 West Cedar Avenue
Oaklyn, NJ 08107

Robert P. Lewis & D. Ercole ME
Or Current Resident
414 W. Cedar Ave.
Oaklyn, NJ 08107

Frances M. Marazzo
Or Current Resident
208 West Cedar Avenue
Oaklyn, NJ 08107

Diane Marini
Or Current Resident
738 White Horse Pike
Collingswood, NJ 08108

Christopher & Kehmika Marks
Or Current Resident
731 Richey Avenue
Collingswood, NJ 08107
<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
<th>Town</th>
<th>State</th>
<th>Zip Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porfirio Martinez &amp; Keila Feliciano</td>
<td>201 West Cedar Avenue, Oaklyn, NJ 08107</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>James G. &amp; Linda R. McAlear</td>
<td>916 Mt. Vernon Ave, Haddonfield, NJ 08033</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traci M. McDonald</td>
<td>23 Village Court, Audubon, NJ 08106</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robert McHugh</td>
<td>500 West Cedar Avenue, Oaklyn, PA 08107</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ernest Merritt Jr. &amp; Debra A. Merritt</td>
<td>719 Richey Avenue, Collingswood, NJ 08107</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doreen L. Miller</td>
<td>632 Newton Ave, Collingswood, NJ 08107</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. Postal Service™ CERTIFIED MAIL™ RECEIPT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Domestic Mail Only; No Insurance Coverage Provided)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For delivery information visit our website at www.usps.com

<table>
<thead>
<tr>
<th>Postage $</th>
<th>Certified Fee $</th>
<th>Return Receipt Fee $</th>
<th>Restricted Delivery Fee $</th>
<th>Total Postage &amp; Fees $</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Sent To</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Thomas C. Murphy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Or Current Resident</td>
</tr>
<tr>
<td>169 Congress Avenue</td>
</tr>
<tr>
<td>Oaklyn, NJ 08107</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alfred &amp; Virginia Murray</th>
</tr>
</thead>
<tbody>
<tr>
<td>Or Current Resident</td>
</tr>
<tr>
<td>8 Village Court</td>
</tr>
<tr>
<td>Audubon, NJ 08106</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sandra Niemotka</th>
</tr>
</thead>
<tbody>
<tr>
<td>Or Current Resident</td>
</tr>
<tr>
<td>11 E. Lakeview Avenue</td>
</tr>
<tr>
<td>Oaklyn, NJ 08107</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oaklyn Borough</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 White Horse Pike</td>
</tr>
<tr>
<td>Oaklyn, NJ 08107</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oaklyn Equities#2090-01-CVS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accting Dept.-One CVS Drive</td>
</tr>
<tr>
<td>Woonsocket, RI 02895</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Elizabeth P. Paprzycki</th>
</tr>
</thead>
<tbody>
<tr>
<td>Or Current Resident</td>
</tr>
<tr>
<td>412 W. Cedar Ave.</td>
</tr>
<tr>
<td>Oaklyn, NJ 08107</td>
</tr>
</tbody>
</table>

M-N-O-P
U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery Information visit our website at www.usps.com.

For delivery Information visit our website at www.usps.com.

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery Information visit our website at www.usps.com.

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery Information visit our website at www.usps.com.

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)
For delivery Information visit our website at www.usps.com.

Sent To
Jim F. & Freny J. Ranji
Or Current Resident
726 White Horse Pike
W. Collingswood, NJ 08107

Sent To
Joseph P. Rath
% Jos. P. Rath Jr.
4439 Terrace Avenue
Pennsauken, NJ 08109

Sent To
The Betty J. Ravendo Revocable Trust
Or Current Resident
21 Village Court
Auburn, NJ 08106

Sent To
Stephen Romanowski L/E
Or Current Resident
402 West Cedar Avenue
Oaklyn, NJ 08107

Sent To
Steven W. Ruoff
324 W. Pine St.
Auburn, NJ 08106

Sent To
Emily Rupnik
Or Current Resident
9 Village Court
Auburn, NJ 08106
| U.S. Postal Service™ CERTIFIED MAIL™ RECEIPT  
| For delivery information visit our website at www.usps.com™  

| OFFICIAL USE  
| Postage | $0.46  
| Certified Fee | $3.75  
| Total Postage & Fees | $4.21  

| Sent To  
| Brian C. & Sharon J. Russell  
| Or Current Resident  
| 15 W. Beechwood Ave.  
| Oaklyn, NJ 08107  

---

| U.S. Postal Service™ CERTIFIED MAIL™ RECEIPT  
| For delivery information visit our website at www.usps.com™  

| OFFICIAL USE  
| Postage | $0.46  
| Certified Fee | $3.75  
| Total Postage & Fees | $4.21  

| Sent To  
| Lynette Salas  
| Or Current Resident  
| 920 Maple Ave.  
| Oaklyn, NJ 08107  

---

| U.S. Postal Service™ CERTIFIED MAIL™ RECEIPT  
| For delivery information visit our website at www.usps.com™  

| OFFICIAL USE  
| Postage | $0.46  
| Certified Fee | $3.75  
| Total Postage & Fees | $4.21  

| Sent To  
| Sam’s Route 73 LLC  
| 331 Radnor-Chester Road  
| Villanova, PA 19085  

---

| U.S. Postal Service™ CERTIFIED MAIL™ RECEIPT  
| For delivery information visit our website at www.usps.com™  

| OFFICIAL USE  
| Postage | $0.46  
| Certified Fee | $3.75  
| Total Postage & Fees | $4.21  

| Sent To  
| Joseph P. Santini  
| Or Current Resident  
| 17 W. Beechwood Ave.  
| Oaklyn, NJ 08107  

---

| U.S. Postal Service™ CERTIFIED MAIL™ RECEIPT  
| For delivery information visit our website at www.usps.com™  

| OFFICIAL USE  
| Postage | $0.46  
| Certified Fee | $3.75  
| Total Postage & Fees | $4.21  

| Sent To  
| James M. Schwartz  
& Mela Gianferrara  
| Or Current Resident  
| 10 Village Court  
| Audubon, NJ 08106  

---

| U.S. Postal Service™ CERTIFIED MAIL™ RECEIPT  
| For delivery information visit our website at www.usps.com™  

| OFFICIAL USE  
| Postage | $0.46  
| Certified Fee | $3.75  
| Total Postage & Fees | $4.21  

| Sent To  
| Swen & Loretta Seniuk  
| Or Current Resident  
| 25 Village Court  
| Audubon, NJ 08106  

---

| R-S |
Individual Flood Hazard Area Permit
Newton Lake Maintenance Dredging Project

Attachment 3
Permit Fee

Contents:

- Check, made payable to “Treasurer, State of New Jersey”
  - $1,000 - FWW
  - $4,000 - FHA
CAMDEN COUNTY MUNICIPAL UTILITIES AUTHORITY
1645 FERRY AVENUE CAMDEN, NJ 08104

1/02/18 FWWGP13
0118 FWW - GP13 PERMIT FEE
1,000.00

1/02/18 IFHA
0118 IFHA PERMIT FEE
4,000.00

CAMDEN COUNTY MUNICIPAL UTILITIES AUTHORITY
1645 FERRY AVENUE CAMDEN, NJ 08104
DISBURSEMENT ACCOUNT

ORIGINAL DOCUMENT PRINTED ON CHEMICAL REACTIVE PAPER WITH MICROPRINTED BORDER

CAMDEN COUNTY MUNICIPAL UTILITIES AUTHORITY
1645 FERRY AVENUE CAMDEN, NJ 08104
DISBURSEMENT ACCOUNT

165050
5-786/312

*******5000 DOLLARS AND 00 CENTS

PAY TO THE ORDER OF
TREASURER STATE OF NEW JERSEY
NEW JERSEY DEP
DIVISION OF REVENUE
CN 417
TRENTON NJ 08646

1/05/2018 165050 $5,000.00

Michael S. Sinclaire
CHAIRMAN

TREASURER
Individual Flood Hazard Area Permit
Newton Lake Maintenance Dredging Project

Attachment 4
Site Plans

Contents:

- 4 Copies of the Site Plans
Individual Flood Hazard Area Permit
Newton Lake Maintenance Dredging Project

Attachment 5
State Plane Coordinates

Contents:

- Camden County Quadrangle Map
- State Plane Coordinates
[PLACEHOLDER --- INSERT HARD COPY PLAN]
Newton Lake State Plane Coordinates

Listed below are the coordinates approximately every 1000 feet along the project length.

<table>
<thead>
<tr>
<th>Location</th>
<th>Northing</th>
<th>Easting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning of Section 1</td>
<td>390750.18</td>
<td>334583.41</td>
</tr>
<tr>
<td>Middle of Section 1</td>
<td>391130.06</td>
<td>333606.30</td>
</tr>
<tr>
<td>Beginning of Section 2</td>
<td>391011.87</td>
<td>332652.00</td>
</tr>
<tr>
<td>Adjacent to Section 2 playground</td>
<td>391090.44</td>
<td>332026.04</td>
</tr>
<tr>
<td>End of Section 2</td>
<td>392132.52</td>
<td>331896.14</td>
</tr>
<tr>
<td>Beginning of Section 3</td>
<td>392701.60</td>
<td>331081.92</td>
</tr>
<tr>
<td>Middle of Section 3</td>
<td>392354.32</td>
<td>330270.62</td>
</tr>
<tr>
<td>End of Section 3</td>
<td>392004.11</td>
<td>329304.64</td>
</tr>
<tr>
<td>Beginning of Section 4</td>
<td>391793.99</td>
<td>329803.68</td>
</tr>
<tr>
<td>End of Section 4</td>
<td>391385.42</td>
<td>327442.73</td>
</tr>
<tr>
<td>Beginning of Section 5</td>
<td>390769.65</td>
<td>326523.45</td>
</tr>
<tr>
<td>Middle of Section 5</td>
<td>390148.04</td>
<td>325866.82</td>
</tr>
<tr>
<td>Section 5 Inlet</td>
<td>390113.73</td>
<td>327688.62</td>
</tr>
<tr>
<td>End of Section 5</td>
<td>389590.63</td>
<td>325364.86</td>
</tr>
<tr>
<td>Downstream end of Peter Creek</td>
<td>389473.90</td>
<td>325589.57</td>
</tr>
<tr>
<td>Peter Creek – Dove Terrace</td>
<td>389018.63</td>
<td>326424.22</td>
</tr>
<tr>
<td>Peter Creek – Washington Avenue</td>
<td>388612.98</td>
<td>327355.18</td>
</tr>
<tr>
<td>Peter Creek – Landis Avenue</td>
<td>388169.39</td>
<td>328256.95</td>
</tr>
<tr>
<td>Beginning of Peter Creek</td>
<td>387657.50</td>
<td>328702.90</td>
</tr>
</tbody>
</table>
Individual Flood Hazard Area Permit
Newton Lake Maintenance Dredging Project

Attachment 6
Site Photographs

Contents:

- Site Photographs
Newton Lake Photos
Section 1

1: Lake inlet under West Cuthbert Boulevard (facing East)

2: Looking upstream from Lees Lane bridge
3: Looking towards Cuthbert Ave, upstream end of lake (facing East)

4: Looking downstream from northern bank of lake (facing West)
5: Looking downstream from northern shore pier (facing West)

6: Looking upstream from northern shore pier (facing East)
Section 2

7: Looking downstream from Lees Lane (facing Southwest)

8: Looking upstream from Bettlewood Avenue (facing Southeast)
11: Looking upstream along lake from Eastern shore (facing South)

12: Looking towards Bettlewood Ave. bridge at downstream end of lake (facing West)
Nichol’s Pond

13: Nichol’s Pond from Merrick Ave (facing North)

14: Broken pond aerator
15: Culvert to Section 2 (facing South)

16: Culvert between Section 2 and Nichol’s Pond (from Section 2)
17: Sediment deposition along Northwestern bank and in pond (facing Southeast)

18: Sediment deposition along Northwestern shoreline
Section 3

19: Looking upstream from White Horse Pike bridge (facing East)

20: Looking upstream from White Horse Pike bridge (facing Northeast)
21: Looking upstream from White Horse Pike bridge (facing Southeast)

22: Boat launch at downstream end of lake (proposed return water location)
23: White Horse Pike bridge from boat launch

24: Lake from parking lot near boat launch (facing South)
Section 4

25: Looking downstream from White Horse Pike bridge

26: Aquatic plants and algae; looking towards White Horse Pike bridge from Northern bank
27: Spatterdock along Southern shore (from Northern bank)

28: Aquatic plants and algae; looking South (same view as Photo #27)
29: Spatterdock in middle of lake from Northern shore (facing West)

30: Aquatic plants and vegetation; looking West (same view as Photo #29)
31: Downstream after growing season, looking West (same view as Photos #29 and #30)

32: Spatterdock, algae, and other aquatic plant growth near upstream end of lake (facing East)
Section 5

33: Looking upstream from Northern shore, June 2016 (facing Northeast)

34: Upstream from Northern shore, algae/plant growth, August 2016 (same view as Photo #33)
35: Lake from Northern shore, June 2016 (facing Southeast)

36: Lake from Northern shore, algae/plant growth, August 2016 (same view as Photo #35)
37: Looking downstream from Northern shore, June 2016 (facing Southwest)

38: Downstream from North shore, algae/plant growth, August 2016 (same view as Photo #37)
39: Looking downstream from Southern shore at spatterdock, June 2016 (facing Southwest)

40: View of spatterdock at entrance to Southern cove, June 2016 (facing Southeast)
Peter Creek

41: Upstream island from Oaklyn Lions Memorial Park (facing Southeast)

42: Looking downstream from Oaklyn Lions Memorial Park (facing Northwest)
43: Culvert at Oaklyn Lions Memorial Park (facing Northwest)

44: Downstream aquatic plants from Memorial Park, November (facing Northwest)
45: Looking to Oaklyn Lions Memorial Park from Southern shore (facing Southeast)

46: Spatterdock and debris from Southern shore (facing Northeast)
47: Spatterdock near Oaklyn Lions Memorial Park (facing Southeast)

48: Looking downstream from Southern shore (facing Northwest)
Individual Flood Hazard Area Permit
Newton Lake Maintenance Dredging Project

Attachment 7
Calculations and Analyses

Contents:

- Calculations and analyses
- N.J.A.C. 7:13-18.2(j) certification
Calculations and Analysis

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this 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. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

Joshua A. Castillo (applicant agent)

Printed Name of Applicant

Signature of Applicant/Agent

01/18/2018

Date

This project is not a major development as defined by N.J.A.C. 7:8-1.2.

Dredging Calculations

The sediment volumes that the proposed dredging will remove were calculated using a Cut-Fill Analysis of AutoCAD Civil3D Surfaces that compared the Existing and Proposed lakebed surface elevations.

Table 1: Maximum Sediment Volumes to be Dredged per Lake Section

<table>
<thead>
<tr>
<th>Section</th>
<th>Volume (CY)</th>
<th># of Sediment Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1</td>
<td>15,000</td>
<td>2</td>
</tr>
<tr>
<td>Section 2</td>
<td>17,000</td>
<td>2</td>
</tr>
<tr>
<td>Section 3</td>
<td>8,000</td>
<td>2</td>
</tr>
<tr>
<td>Section 4</td>
<td>58,000</td>
<td>7</td>
</tr>
<tr>
<td>Section 5</td>
<td>78,000</td>
<td>10</td>
</tr>
<tr>
<td>Peter Creek</td>
<td>80,000</td>
<td>10</td>
</tr>
<tr>
<td>Nichol’s Pond</td>
<td>2,000</td>
<td>1</td>
</tr>
<tr>
<td>Pond 2</td>
<td>2,000</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>260,000</strong></td>
<td><strong>35</strong></td>
</tr>
</tbody>
</table>
Stormwater Calculations

No permanent disturbance to wetlands and/or transition areas and no increase in impervious surfaces is proposed, so the project permit does not require any stormwater design. The only proposed disturbances are due to the access requirements for dredging and dewatering equipment; these disturbances will be temporary and all disturbed areas will be returned to existing conditions. Because the lake is being dredged and a large quantity of sediment is being removed, there will be a significant increase in the lake’s stormwater storage volume.
Individual Flood Hazard Area Permit
Newton Lake Maintenance Dredging Project

Attachment 8
Impact Descriptions

Contents:

- Impact Descriptions
Anticipated Impacts Descriptions

Initial Impacts

No permanent impacts are foreseen prior to the commencement of dredging and dewatering operations for this project.

Main Impacts

The main scope of the project, which includes the dredging and dewatering work, has temporary land and water disturbances associated with it. Although no upland excavations are proposed for this project, temporary land disturbances will be caused by access areas and the dewatering operations, while temporary water disturbances will include increased turbidity from the dredging operations. All disturbances will be temporary and will be minimized to the maximum extent practicable. Mitigation will be performed as required, and in accordance with New Jersey DEP standards.

Temporary land disturbances include only the minor earthwork necessary to install proper erosion and sedimentation control measures. The dewatering sites will require rock construction entrances, and if necessary wheel wash stations. Equipment access areas will not require rock construction entrances or wheel wash stations; however, all measures must be taken to avoid tracking sediment from the areas. Vegetation removal for access areas will be kept to a minimum and is not required in most cases. All access areas will remain under 1,000 sf of vegetation disturbance. All areas will require properly-sized compost filter socks, tree protection fences, and construction site fencing where necessary. Some access areas may require wetland matting where mobilization equipment access requires this temporarily. Once the project is completed all disturbed areas will be returned to preexisting conditions or better.

The impacts that are anticipated to arise from the dredging process are temporary. Sediment and debris resuspension and water turbidity will be the obvious temporary impact. The main goal of the project itself will be the other temporary impact; which is sediment and debris removal from the lake. The sediment resuspension is unavoidable due to the equipment that will be in the lake to dredge it, the cavitation caused by the hydraulic dredge will resuspend some sediment while in use. Resuspension will be mitigated through the usage of turbidity curtains at the downstream end of the lake, these curtains will be well marked and will remain in place until the turbidity in the lake decreases to match pre-existing conditions. The removal process will require removal of some aquatic vegetation; as this project is being performed to better the health of the lake, partially reducing aquatic vegetation will benefit the area ecologically.

Shoreline stabilization and upstream streambank stabilization are anticipated to be designed and implemented in order to help support the long-term effects of the dredging project, however the activities may take place along a different schedule. These activities would be under a separate permit application from the proposed dredging and may require additional erosion and sedimentation control measures. Additional measures will be placed as needed.
Monitoring

Over the course of the project, and continuing after the completion of dredging, on-site water quality monitoring will be taking place to ensure that excess sediment does not enter the downstream portions of the waterbody. Turbidity curtains will be installed at the beginning of the project and will remain in place until it is determined that the clarity of the water has decreased to acceptable levels.

Wetlands, Transition Zones, Riparian Zones, & State Open Waters Impacts

This project will have temporary impacts associates with wetlands, wetland transition zones, riparian buffer zones and New Jersey State open waters. Please see the DLUR application and the impact table in this section of the report for details.
**TEMPORARY OPEN WATER AND WETLAND IMPACT TABLE**

**NEWTON LAKE DREDGING & RECLAMATION PROJECT**

Last Revised 01/17/2018

### OVERALL PROJECT SUMMARY

<table>
<thead>
<tr>
<th></th>
<th>NJDEP</th>
<th>ACOE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Square Feet</td>
<td>Linear Feet</td>
</tr>
<tr>
<td><strong>Overall Project</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent</td>
<td>To Waters:</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>To Wetlands:</td>
<td>-</td>
</tr>
<tr>
<td>Temporary</td>
<td>To Waters: 4,792,471</td>
<td>16,219</td>
</tr>
<tr>
<td></td>
<td>Riparian Zones:</td>
<td>92,129</td>
</tr>
<tr>
<td></td>
<td>Transition Zones:</td>
<td>25,077</td>
</tr>
<tr>
<td></td>
<td>To Wetlands: 42,243</td>
<td>1,228</td>
</tr>
</tbody>
</table>

### INDIVIDUAL AREA BREAKDOWN

<table>
<thead>
<tr>
<th>Dredging Operations (Sections 1 - 5, Peter Creek, Pond 2 and Nichols Pond)</th>
<th>NJDEP</th>
<th>ACOE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Square Feet</td>
<td>Linear Feet</td>
</tr>
<tr>
<td><strong>Permanent</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Waters:</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>To Wetlands:</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Temporary</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Waters: 4,792,471</td>
<td>16,219</td>
<td>-</td>
</tr>
<tr>
<td>To Wetlands: 17,672</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Section 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Waters:</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>To Wetlands:</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Temporary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Waters: 272,682</td>
<td>1,703</td>
<td>-</td>
</tr>
<tr>
<td>Riparian Zones:</td>
<td>840</td>
<td>150</td>
</tr>
<tr>
<td>Transition Zones:</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>To Wetlands: 540</td>
<td>150</td>
<td>-</td>
</tr>
<tr>
<td><strong>Section 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Waters:</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>To Wetlands:</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Temporary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Waters: 644,331</td>
<td>2,977</td>
<td>-</td>
</tr>
<tr>
<td>Riparian Zones:</td>
<td>1,000</td>
<td>25</td>
</tr>
<tr>
<td>Transition Zones:</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>To Wetlands:</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Section 3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Waters:</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>To Wetlands:</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Temporary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To Waters: 1,011,267</td>
<td>2,845</td>
<td>-</td>
</tr>
<tr>
<td>Riparian Zones:</td>
<td>60,156</td>
<td>815</td>
</tr>
<tr>
<td>Transition Zones:</td>
<td>14,476</td>
<td>815</td>
</tr>
<tr>
<td>To Wetlands:</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
## TEMPORARY OPEN WATER AND WETLAND IMPACT TABLE

NEWTON LAKE DREDGING & RECLAMATION PROJECT  

(last revised 01/17/2018)

**INDIVIDUAL AREA BREAKDOWN**

<table>
<thead>
<tr>
<th>Section 4</th>
<th>Permanent</th>
<th>To Waters</th>
<th>Square Feet</th>
<th>Linear Feet</th>
<th>To Wetlands</th>
<th>Square Feet</th>
<th>Linear Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Temporary</td>
<td>To Waters</td>
<td>789,440</td>
<td>1,907</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Riparian Zones</td>
<td>-</td>
<td>1,000</td>
<td>25</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transition Zones</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To Wetlands</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

| Section 5 | Permanent | To Waters | 1,101,018 | 2,527 | - | - |
|-----------|-----------|-----------|-------------|----------|-------------|-------------|-------------|
|           | Temporary | To Waters | - | - | - | - |
|           | Riparian Zones | - | - | - | - | - |
|           | Transition Zones | - | - | - | - | - |
|           | To Wetlands | - | - | - | - | - |

| Peter Creek | Permanent | To Waters | 941,175 | 3,675 | - | - |
|-------------|-----------|-----------|-------------|----------|-------------|-------------|-------------|
|             | Temporary | To Waters | - | - | - | - |
|             | Riparian Zones | - | 2,338 | 25 | - | - |
|             | Transition Zones | - | 10,518 | 1,028 | - | - |
|             | To Wetlands | - | 22,030 | 1,028 | - | - |

| Pond 2 | Permanent | To Waters | 16,032 | 266 | - | - |
|--------|-----------|-----------|-------------|----------|-------------|-------------|-------------|
|        | Temporary | To Waters | - | - | - | - |
|        | Riparian Zones | - | 3,614 | 266 | - | - |
|        | Transition Zones | - | - | - | - | - |
|        | To Wetlands | - | 18,672 | 25 | - | - |

| Nichols Pond | Permanent | To Waters | 16,526 | 253 | - | - |
|--------------|-----------|-----------|-------------|----------|-------------|-------------|-------------|
|               | Temporary | To Waters | - | - | - | - |
|               | Riparian Zones | - | 23,181 | 25 | - | - |
|               | Transition Zones | - | 83 | 25 | - | - |
|               | To Wetlands | - | 1,000 | 25 | - | - |
Individual Flood Hazard Area Permit
Newton Lake Maintenance Dredging Project

Attachment 9
Natural Heritage Database Data Request Response

Contents:

- NJDEP Office of Natural Lands Management Natural Heritage Database data request response
1. Name: Ethan Henbest, E.I.T. 
   Agency/Company: F. X. Browne, Inc. 
   Address: 1101 South Broad Street 
   City: Lansdale 
   State: PA 
   Zip: 19446 
   Daytime Phone: 215-362-3878 
   Ext.: 17 
   Cell Phone: ________________ 
   Email: ehenbest@fxbrowne.com 

2. Project Name: Newton Lake Dredging Project 
   Municipality(ies): Audubon Park, Collingswood, & Oaklyn Boroughs 
   and Audubon & Haddon Townships 
   County(ies): Camden 
   Block(s): Multiple (Open Water Dredging) 
   and Blocks 37 & 187 (Dewatering Sites) 
   Lot(s): Multiple (Open Water Dredging), Lot 20 (Block 187 Dewatering Site) 
   N.A.D. 1983 State Plane Coordinates (feet) 6 digits only: 
   Long. (x): 75° 04' 52" W (Collingswood) 
   Lat. (y): 39° 54' 32" N (Collingswood) 
   75° 04' 45" W (Oaklyn) 
   39° 53' 44" N (Oaklyn) 

3. Project Description: The project is a lake dredging operation on Newton Lake, Peter Creek, and Nichols Pond. The purpose of the project is to restore lake depths for easing boat passage and improving the overall ecological health of the lake. The two upland sites to be used in sediment dewatering operations are located at Newton Lake Park (White Horse Pike and Newton Lake Drive) and Oaklyn Public Works Yard. 

4. USGS Quad: X. A copy of a USGS quad map(s) that clearly indicates the site boundary is included with this form. Specify name of USGS quad(s): Camden Quad 

(USGS quad maps are required, unless prior arrangements have been made to submit site boundaries in an alternate format. Responses will be delayed if site locations are not delineated in a suitable format.) 

5. Flood Hazard Control Act Use: Is this request submitted as part of a Flood Hazard Area Control Act rule (N.J.A.C. 7:13) application? Yes X No ____

6. Acknowledgement & Signature: Any material supplied by the Office of Natural Lands Management will not be published without crediting the Natural Heritage Database as the source of the material. It is understood that there will be a charge of $70.00 per hour for the services requested. An invoice will be sent with the request response and payment should be made by check or money order payable to "Office of Natural Lands Management." 

Signed ........................................................................... Date __________ 

Time Frame for Response: 
Data requests are processed in the order in which they are received; please allow 30 days for response. If you would like to send in your data request via email, you may do so by sending it to Natlands@dep.nj.gov. Due to the number of attachments, we cannot fax results. Unless you specifically request that your response be mailed or the response is unusually large, your response will be emailed to the address you provide. 

FOR OFFICE USE ONLY 

DATE RECEIVED ____________________________

Item Code: REG _____ ST _____ RTC _____ NC _____ RECEO _____ STEO _____ RTCEO _____ NCEO _____

Hrs: ________________

Project Code: ____________________________ Inv. #: ___________
Individual Flood Hazard Area Permit
Newton Lake Maintenance Dredging Project

Attachment 10
Pinelands Information

Contents:

• Pinelands Area Statement
**Pinelands Statement**

The proposed project is not located in any municipalities that fall within the New Jersey Pinelands area as listed by the Pinelands Commission. Therefore, the Pinelands will not be impacted in any way from the proposed dredging project.

Joshua A. Castillo (applicant agent)

______________________________
Printed Name of Applicant

______________________________
Signature of Applicant/Agent

01/18/2018

Date
Individual Flood Hazard Area Permit
Newton Lake Maintenance Dredging Project

Attachment 11
Mitigation Proposal

Contents:

- Mitigation Proposal
Mitigation Proposal

Upon completion of the proposed activities, the sites will be returned to their pre-construction state. Since there are no permanent impacts proposed to the riparian zone, mitigation is not needed in accordance with N.J.A.C. 7:13-13.

Joshua A. Castillo (applicant agent)

Printed Name of Applicant

Signature of Applicant/Agent

01/18/2018

Date
Individual Flood Hazard Area Permit
Newton Lake Maintenance Dredging Project

Attachment 12
Engineering Report

Contents:

- Engineering Report
Engineering Report

Compliance Statement

I, Joshua A. Castillo, P.E., do hereby certify pursuant to the penalties of 18 Pa. C.S.A., Section 4904 to the best of my knowledge, information and belief, that the information contained in the accompanying plans, specifications and reports has been prepared in accordance with accepted engineering practice, is true and correct, and is in conformance with the rules and regulations of the Department of Environmental Protection.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this 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. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

Joshua A. Castillo (applicant agent)

________________________________________
Printed Name of Applicant

________________________________________
Signature of Applicant/Agent

01/18/2018

Date

For questions concerning information found in this report contact:

Joshua A. Castillo, P.E.
F. X. Browne, Inc.
1101 South Broad Street
Lansdale, PA 19446
215-362-3878
Calculations and Methodologies

The main calculations for this project are regarding the volume of sediment that is to be dredged from Newton Lake, Peter Creek, and Nichols Pond. A bathymetric survey of the lakebed was performed to determine elevations of the existing lakebed conditions; this data was used to develop an Existing Conditions Surface in AutoCAD Civil3D. Using a Proposed Conditions Surface, the sediment volumes that the proposed dredging will remove were calculated using a Cut-Fill Analysis in AutoCAD Civil3D.

Table 1: Maximum Sediment Volumes to be Dredged per Lake Section

<table>
<thead>
<tr>
<th>Section</th>
<th>Volume (CY)</th>
<th># of Sediment Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1</td>
<td>15,000</td>
<td>2</td>
</tr>
<tr>
<td>Section 2</td>
<td>17,000</td>
<td>2</td>
</tr>
<tr>
<td>Section 3</td>
<td>8,000</td>
<td>2</td>
</tr>
<tr>
<td>Section 4</td>
<td>58,000</td>
<td>7</td>
</tr>
<tr>
<td>Section 5</td>
<td>78,000</td>
<td>10</td>
</tr>
<tr>
<td>Peter Creek</td>
<td>80,000</td>
<td>10</td>
</tr>
<tr>
<td>Nichols Pond</td>
<td>2,000</td>
<td>1</td>
</tr>
<tr>
<td>Pond 2</td>
<td>2,000</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>260,000</strong></td>
<td><strong>35</strong></td>
</tr>
</tbody>
</table>

All above calculations satisfy the requirements listed in N.J.A.C. 7:8.

Calculation Narrative

A cut-fill analysis was essential to determine the amount of sediment to be removed. The flood storage calculations are minimal because the proposed activities will not add any impervious surface; following the completion of the dredging work a significant increase in stormwater volume storage within the lake will be realized. The surface area of all sections of lake is 110.02 acres, the lake itself is the only permanent disturbance as the dredging will be removing sediment from the lakebed.

Approximately 5.11 acres of land being used for dewatering will be temporarily disturbed; this area includes the proposed dewatering locations (total of 4.23 acres), booster pump stations (total of 0.35 acres), and access points for both the dredging barge and piping (total of 0.53 acres). No permanent disturbance to wetlands and/or transition areas and no increase in impervious surfaces is proposed, so the project permit does not require any stormwater design. The only proposed disturbances are due to the access requirements for dredging and dewatering equipment; these disturbances will be temporary, and all disturbed areas will be returned to existing conditions. No upland excavations are proposed for this project. All upland dewatering facilities will have proper erosion and sediment control installed at all times which equipment is mobilized on sites.

This project is not located in the Central Passaic Basin.
Individual Flood Hazard Area Permit
Newton Lake Maintenance Dredging Project

Attachment 13
Environmental Report

Contents:

- Environmental Report
Environmental Report

Introduction

Purpose

Newton Lake, Nichols Pond, and Peter Creek, located in various municipalities in Camden County, NJ (Haddon and Audubon Townships and Collingswood, Oaklyn, and Audubon Park Boroughs), have the potential to be a great recreation destination. However, years of urban runoff has contributed to significant sediment deposition and rampant growth of aquatic vegetation, both native and invasive; this has decreased the navigability, aesthetic value, and water quality of the lakes. In an effort to enhance the community’s use of the lakes, this project intends to dredge and dispose of the sediment and debris.

Background

The project scope includes Newton Lake, which is a man-made lake on Newton Creek, as well as Peter Creek, which is a smaller body of water to the southwest. Newton Lake has five notable sections, three of which fall under the jurisdiction of Newton Lake Park, in Haddon Township. The other two sections run from White Horse Pike to Black Horse Pike, and are separated by a train line. One additional smaller section is known as Nichols Pond, which is bounded by Belmont, Merrick, and Bettlewood Avenues. A second smaller section is a pond bounded by Harding Terrace, North Newton Lake Drive, and Bettlewood Avenue. Peter Creek flows northwestward into Newton Lake just prior to the Black Horse Pike bridge. The overall project area is approximately 110 acres. Maps of the environmental features of these areas are included in the Appendix. These maps include details of the freshwater wetlands, USDA soil survey, and a copy of a FEMA flood insurance rate maps.

Proposed Activities

Newton Lake, Nichols Pond, and Peter Creek will be dredged to a water depth of 5 feet in the center of each section: there will be a 3:1 slope from 2 feet (minimum) off of the shoreline to a water depth of 4 feet, followed by a 20:1 slope to the maximum water depth of 5 feet. It is not feasible to extend this depth to the very edges of the lake due to the shoreline stability issues that this would present, and so some littoral vegetation may remain even after dredging. Both Existing and Proposed lake contours are shown in the project plans that are attached to this permit application package. Due to the terrain of the lakebed, accessibility, and ecological impact of dewatering the lake, it is recommended that hydraulic dredging be used, rather than mechanical dredging, for the vast majority of the project. Mechanical dredging is proposed for Nichols Pond and Pond 2.

The dredged material will be pumped from the dredging barge to one of two proposed mechanical dewatering locations on the shore of the lake at the locations seen in the Proposed Dredging and Sediment Management Area plan sheets, near the boat ramp at Newton Lake Park on the corner
of White Horse Pike and Newton Lake Drive in Collingswood, NJ and at the Oaklyn Cougars Football Field at 220 West Cedar Avenue, Oaklyn, NJ. Once the sediment has been dewatered, it will be transported to a nearby facility for disposal. Several sites have been identified as possibilities for the handling of the dredged sediment; these include Kinsley’s Landfill in Sewell, NJ and the Clean Earth Facility in South Philadelphia.

**Proposed Structures**

This project will not include the construction of any additional impervious surfaces or structures. All land disturbances are anticipated to be temporary. Land disturbances include equipment access points, dewatering areas, and booster pump stations; these disturbances will include minor disturbances to the riparian zone for access to the lake. Removal of vegetation in the riparian zone will be kept to the minimal extent practicable, any removed vegetation will be replaced in kind for zero net loss.

**Table 1: List of Disturbances and Characteristics for Each Proposed Regulated Activity**

<table>
<thead>
<tr>
<th>Proposed Regulated Activity</th>
<th>Maximum Allowable Area of Vegetation Disturbance (SF/acc)</th>
<th>Proposed Areas of Disturbance (SF/acc)</th>
<th>Temporary or Permanent</th>
<th>Mitigation Required:Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Removal of sediment and/or debris from a waterbody</td>
<td>1000 SF per access point</td>
<td>&lt;1000 SF per access point</td>
<td>Temporary</td>
<td>1:1</td>
</tr>
</tbody>
</table>

All potential adverse environmental impacts will be temporary. The main impact will be the discharge of sediment-laden water from the dredging site. This will be minimized through the use of turbidity curtains and return water filter bags. There are no alternatives to this, as the dredging is inherent to the project completion. Because this is a temporary impact, there is no mitigation required.
Custom Soil Resource Report for
Camden County, New Jersey
Newton Lake

September 13, 2017
Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require
alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.
Contents

Preface........................................................................................................................................... 2
How Soil Surveys Are Made........................................................................................................... 5
Soil Map......................................................................................................................................... 8
Soil Map......................................................................................................................................... 9
Legend...........................................................................................................................................10
Map Unit Legend.........................................................................................................................11
Map Unit Descriptions.................................................................................................................11
  Camden County, New Jersey........................................................................................................13
    FmhAt—Fluvaquents, loamy, 0 to 3 percent slopes, frequently flooded.................. 13
    FrpB—Freehold-Downer-Urban land complex, 0 to 5 percent slopes.................14
    FrpC—Freehold-Downer-Urban land complex, 5 to 10 percent slopes..............16
    HowC—Howell-Urban land complex, 5 to 10 percent slopes............................19
    PssA—Psamments, 0 to 3 percent slopes...........................................................20
    UR—Urban land.................................................................................................................22
    WATER—Water.................................................................................................................22
References......................................................................................................................................24
How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil
scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and
identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.
The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Camden County, New Jersey
Survey Area Data: Version 10, Sep 28, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 15, 2014—Jun 24, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
Map Unit Legend

<table>
<thead>
<tr>
<th>Map Unit Symbol</th>
<th>Map Unit Name</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>FmhAt</td>
<td>Fluvaquents, loamy, 0 to 3 percent slopes, frequently flooded</td>
<td>28.9</td>
<td>1.7%</td>
</tr>
<tr>
<td>FrpB</td>
<td>Freehold-Downer-Urban land complex, 0 to 5 percent slopes</td>
<td>535.6</td>
<td>31.2%</td>
</tr>
<tr>
<td>FrpC</td>
<td>Freehold-Downer-Urban land complex, 5 to 10 percent slopes</td>
<td>0.3</td>
<td>0.0%</td>
</tr>
<tr>
<td>HowC</td>
<td>Howell-Urban land complex, 5 to 10 percent slopes</td>
<td>25.8</td>
<td>1.5%</td>
</tr>
<tr>
<td>PssA</td>
<td>Psamments, 0 to 3 percent slopes</td>
<td>48.2</td>
<td>2.8%</td>
</tr>
<tr>
<td>UR</td>
<td>Urban land</td>
<td>962.1</td>
<td>56.1%</td>
</tr>
<tr>
<td>WATER</td>
<td>Water</td>
<td>113.0</td>
<td>6.6%</td>
</tr>
<tr>
<td><strong>Totals for Area of Interest</strong></td>
<td></td>
<td><strong>1,713.9</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a
given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a soil series. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into soil phases. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A complex consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An undifferentiated group is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include miscellaneous areas. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.
Camden County, New Jersey

FmhAt—Fluvaquents, loamy, 0 to 3 percent slopes, frequently flooded

Map Unit Setting
National map unit symbol: rvvq
Mean annual precipitation: 30 to 64 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 131 to 178 days
Farmland classification: Not prime farmland

Map Unit Composition
Fluvaquents, loamy, frequently flooded, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fluvaquents, Loamy, Frequently Flooded

Setting
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Recent alluvium

Typical profile
A1 - 0 to 5 inches: loam
A2 - 5 to 12 inches: silt loam
C1 - 12 to 18 inches: sandy clay loam
C2 - 18 to 24 inches: sandy clay loam
C3 - 24 to 60 inches: sandy loam

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Available water storage in profile: Moderate (about 6.1 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Hydric soil rating: No

Minor Components
Udifluvents, frequently flooded
Percent of map unit: 10 percent
Landform: Flood plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Fluvaquents, loamy, frequently flooded
Percent of map unit: 10 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

FrpB—Freehold-Downer-Urban land complex, 0 to 5 percent slopes

Map Unit Setting
National map unit symbol: rvq1
Elevation: 10 to 170 feet
Mean annual precipitation: 28 to 59 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 161 to 231 days
Farmland classification: Not prime farmland

Map Unit Composition
Freehold and similar soils: 35 percent
Downer and similar soils: 30 percent
Urban land: 20 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Freehold
Setting
Landform: Flats, low hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Glaucocite bearing loamy eolian deposits and/or glauconite bearing loamy fluviomarine deposits

Typical profile
A - 0 to 9 inches: fine sandy loam
BE - 9 to 15 inches: fine sandy loam
Bt1 - 15 to 20 inches: sandy loam
Bt2 - 20 to 30 inches: sandy loam
BC - 30 to 42 inches: sandy loam
C - 42 to 60 inches: stratified loamy sand to sandy loam
Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Downer

Setting

Landform: Low hills
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy fluviomarine deposits and/or gravelly fluviomarine deposits

Typical profile

Ap - 0 to 12 inches: sandy loam
Bt - 12 to 24 inches: sandy loam
BC - 24 to 30 inches: gravelly loamy sand
C - 30 to 60 inches: stratified gravelly sand to loamy sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 48 to 118 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Hydric soil rating: No

Description of Urban Land

Setting

Landform: Flats, low hills
Parent material: Surface covered by pavement, concrete, buildings, and other structures underlain by disturbed and natural soil material
Typical profile
C - 0 to 60 inches: variable

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Minor Components
Shrewsbury
Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Holmdel
Percent of map unit: 5 percent
Landform: Flats
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Collington
Percent of map unit: 5 percent
Landform: Interfluves, low hills
Down-slope shape: Convex, linear
Across-slope shape: Linear
Hydric soil rating: No

FrpC—Freehold-Downer-Urban land complex, 5 to 10 percent slopes

Map Unit Setting
National map unit symbol: rvq2
Elevation: 10 to 170 feet
Mean annual precipitation: 28 to 59 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 161 to 231 days
Farmland classification: Not prime farmland

Map Unit Composition
Freehold and similar soils: 35 percent
Downer and similar soils: 30 percent
Urban land: 20 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Freehold

Setting
- **Landform:** Knobs, hillslopes
- **Landform position (two-dimensional):** Backslope
- **Landform position (three-dimensional):** Side slope
- **Down-slope shape:** Linear
- **Across-slope shape:** Linear
- **Parent material:** Glaucosite bearing loamy eolian deposits and/or glauconite bearing loamy fluviomarine deposits

Typical profile
- **A - 0 to 9 inches:** fine sandy loam
- **E - 9 to 15 inches:** fine sandy loam
- **Bt - 15 to 35 inches:** sandy loam
- **C - 35 to 60 inches:** stratified loamy sand to sandy loam

Properties and qualities
- **Slope:** 5 to 15 percent
- **Depth to restrictive feature:** More than 80 inches
- **Natural drainage class:** Well drained
- **Runoff class:** Medium
- **Capacity of the most limiting layer to transmit water (Ksat):** Moderately high to high (0.60 to 2.00 in/hr)
- **Depth to water table:** More than 80 inches
- **Frequency of flooding:** None
- **Frequency of ponding:** None
- **Available water storage in profile:** Moderate (about 8.3 inches)

Interpretive groups
- **Land capability classification (irrigated):** None specified
- **Land capability classification (nonirrigated):** 4e
- **Hydrologic Soil Group:** B
- **Hydric soil rating:** No

Description of Downer

Setting
- **Landform:** Low hills
- **Down-slope shape:** Linear
- **Across-slope shape:** Linear
- **Parent material:** Loamy fluviomarine deposits and/or gravelly fluviomarine deposits

Typical profile
- **Ap - 0 to 10 inches:** sandy loam
- **E - 10 to 16 inches:** sandy loam
- **Bt - 16 to 24 inches:** stratified very gravelly loamy sand to sandy loam
- **C - 24 to 60 inches:** stratified gravelly sand to loamy sand

Properties and qualities
- **Slope:** 5 to 15 percent
- **Depth to restrictive feature:** More than 80 inches
- **Natural drainage class:** Well drained
- **Runoff class:** Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: About 48 to 118 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.5 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Hydric soil rating: No

Description of Urban Land

Setting
Landform: Flats, low hills
Parent material: Surface covered by pavement, concrete, buildings, and other structures underlain by disturbed and natural soil material

Typical profile
C - 0 to 60 inches: variable

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Minor Components
Shrewsbury
Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Holmdel
Percent of map unit: 5 percent
Landform: Flats
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Collington
Percent of map unit: 5 percent
Landform: Interfluves, low hills
Down-slope shape: Convex, linear
Across-slope shape: Linear
Hydric soil rating: No
HowC—Howell-Urban land complex, 5 to 10 percent slopes

Map Unit Setting

- National map unit symbol: rvqd
- Elevation: 10 to 170 feet
- Mean annual precipitation: 28 to 59 inches
- Mean annual air temperature: 46 to 79 degrees F
- Frost-free period: 161 to 231 days
- Farmland classification: Not prime farmland

Map Unit Composition

- Howell and similar soils: 55 percent
- Urban land: 30 percent
- Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Howell

Setting

- Landform: Hills
- Landform position (two-dimensional): Shoulder
- Down-slope shape: Linear
- Across-slope shape: Convex
- Parent material: Unconsolidated sediments fine-loamy diatomaceous earth and/or greensands

Typical profile

- Ap - 0 to 10 inches: loam
- BA - 10 to 15 inches: loam
- Bt - 15 to 25 inches: clay loam
- BC - 25 to 32 inches: clay loam
- C - 32 to 60 inches: silty clay

Properties and qualities

- Slope: 5 to 10 percent
- Depth to restrictive feature: More than 80 inches
- Natural drainage class: Well drained
- Runoff class: Medium
- Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
- Depth to water table: About 36 inches
- Frequency of flooding: None
- Frequency of ponding: None
- Available water storage in profile: High (about 11.6 inches)

Interpretive groups

- Land capability classification (irrigated): None specified
**Land capability classification (nonirrigated):** 3e

**Hydrologic Soil Group:** C

**Hydric soil rating:** No

### Description of Urban Land

**Setting**
- **Landform:** Low hills
- **Down-slope shape:** Convex, linear
- **Across-slope shape:** Linear
- **Parent material:** Surface covered by pavement, concrete, buildings, and other structures underlain by disturbed and natural soil material

**Interpretive groups**
- **Land capability classification (irrigated):** None specified
- **Land capability classification (nonirrigated):** 8s
- **Hydric soil rating:** Unranked

### Minor Components

**Freehold**
- **Percent of map unit:** 10 percent
- **Landform:** Knobs, hillslopes
- **Landform position (two-dimensional):** Backslope
- **Landform position (three-dimensional):** Side slope
- **Down-slope shape:** Convex, linear
- **Across-slope shape:** Convex, linear
- **Hydric soil rating:** No

**Holmdel**
- **Percent of map unit:** 5 percent
- **Landform:** Flats
- **Down-slope shape:** Linear
- **Across-slope shape:** Linear
- **Hydric soil rating:** No

---

**PssA—Psamments, 0 to 3 percent slopes**

**Map Unit Setting**
- **National map unit symbol:** rvr8
- **Mean annual precipitation:** 28 to 59 inches
- **Mean annual air temperature:** 46 to 79 degrees F
- **Frost-free period:** 161 to 231 days
- **Farmland classification:** Not prime farmland

**Map Unit Composition**
- **Psamments, nearly level, and similar soils:** 85 percent
- **Minor components:** 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*
Description of Psamments, Nearly Level

Setting
- **Landform**: Depressions
- **Landform position (two-dimensional)**: Toeslope
- **Landform position (three-dimensional)**: Base slope
- **Down-slope shape**: Concave
- **Across-slope shape**: Concave
- **Parent material**: Sandy lateral spread deposits

Typical profile
- **A - 0 to 6 inches**: fine sand
- **C1 - 6 to 30 inches**: sand
- **C2 - 30 to 72 inches**: coarse sand

Properties and qualities
- **Slope**: 0 to 3 percent
- **Depth to restrictive feature**: More than 80 inches
- **Natural drainage class**: Well drained
- **Runoff class**: Very low
- **Capacity of the most limiting layer to transmit water (Ksat)**: High to very high (6.00 to 20.00 in/hr)
- **Depth to water table**: About 48 inches
- **Frequency of flooding**: None
- **Frequency of ponding**: None
- **Available water storage in profile**: Low (about 3.9 inches)

Interpretive groups
- **Land capability classification (irrigated)**: None specified
- **Land capability classification (nonirrigated)**: 7s
- **Hydrologic Soil Group**: A
- **Hydric soil rating**: No

Minor Components

Atsion
- **Percent of map unit**: 5 percent
- **Landform**: Depressions
- **Landform position (two-dimensional)**: Toeslope
- **Landform position (three-dimensional)**: Base slope
- **Down-slope shape**: Concave
- **Across-slope shape**: Concave
- **Hydric soil rating**: Yes

Berryland, rarely flooded
- **Percent of map unit**: 5 percent
- **Landform**: Depressions
- **Landform position (two-dimensional)**: Toeslope
- **Landform position (three-dimensional)**: Base slope
- **Down-slope shape**: Concave
- **Across-slope shape**: Concave
- **Hydric soil rating**: Yes

Mullica
- **Percent of map unit**: 5 percent
- **Landform**: Depressions
- **Landform position (two-dimensional)**: Toeslope
**Landform position (three-dimensional):** Base slope  
*Down-slope shape:* Concave  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

**UR—Urban land**

**Map Unit Setting**  
*National map unit symbol:* rvrf  
*Elevation:* 0 to 170 feet  
*Mean annual precipitation:* 30 to 64 inches  
*Mean annual air temperature:* 46 to 79 degrees F  
*Frost-free period:* 131 to 178 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**  
*Urban land:* 95 percent  
*Minor components:* 5 percent  
*Estimates are based on observations, descriptions, and transects of the map unit.*

**Description of Urban Land**

**Setting**  
*Parent material:* Surface covered by pavement, concrete, buildings, and other structures underlain by disturbed and natural soil material

**Interpretive groups**  
*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 8s  
*Hydric soil rating:* Unranked

**Minor Components**

**Udorthents**  
*Percent of map unit:* 5 percent  
*Landform:* Low hills  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

**WATER—Water**

**Map Unit Setting**  
*National map unit symbol:* rvrh  
*Mean annual precipitation:* 30 to 64 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 131 to 178 days
Farmland classification: Not prime farmland

Map Unit Composition
Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.
References


WETLAND DELINEATION REPORT

For:

Newton Lake Dredging Project

Haddon Township, Audubon, Audubon Park, Collingswood, and Oaklyn Boroughs

Camden County, New Jersey

December 26, 2017

PREPARED FOR:
F.X. Browne, Inc.
1101 South Broad Street
Lansdale, PA 19446
Attn: Ethan S. Henbest, EIT

PREPARED BY:
Amy S. Greene Environmental Consultants, Inc.
4 Walter E Foran Boulevard, Suite 209
Flemington, NJ 08822
Attn: Harry Strano, Project Manager

ASGECI #4200
# TABLE OF CONTENTS

I. INTRODUCTION AND SITE DESCRIPTION .......................................................... 1

II. WETLAND DETERMINATION METHODOLOGY ............................................. 1

III. WETLAND DELINEATION .............................................................................. 3

IV. WETLAND RESOURCE AND THREATENED AND ENDANGERED SPECIES .... 8

APPENDICES

APPENDIX A: SITE MAPS
   Figure 1: Site Location Map
   Figure 2: USGS Topographic Map
   Figure 3: SSURGO Soils Map
   Figure 4: NJDEP Wetlands Map
   Figure 5: Landscape Project Map

APPENDIX B: SAMPLING STATION DATA SHEETS

APPENDIX C: PHOTOGRAPHS WITH DESCRIPTIONS

APPENDIX D: WETLAND LOCATION MAP
I. INTRODUCTION AND SITE DESCRIPTION

This report presents the results of a wetland delineation completed by Amy S. Greene Environmental Consultants, Inc. (ASGECI) on October 26 and 30, 2017 within various parcels within Haddon Township, Audubon, Audubon Park, Collingswood, and Oaklyn Boroughs, Camden County, New Jersey (See Appendix A, Figure 1). The delineation was completed on areas proposed as pipe/equipment access areas for dredging activities to take place at the Newton Lake Dam. These access areas (herein, project areas) include the following:

- The northern and southern edges of Peter Creek, a NJ State Open Water; from the Oaklyn Borough Public Works Yard, west to Landis Avenue at the Oaklyn Public School recreational fields.
- Two small ponds connected to Newton Lake; one is located immediately east of N Newton Lake Drive, the second is located east of Bettlewood Avenue and north of Merrick Avenue.
- Two small areas at the south end of Cattell Avenue and the south end of Comly Avenue, both within the Collingswood Borough Public Works Yard.
- The western end of Newton Lake Park, east of the White Horse Pike and south of Newton Lake Drive, adjacent to the public boat launch.
- Two small areas on the eastern end of Newton Lake Park, south of Lakeshore Drive, east of Lees Lane.

Dense residential development surrounds most of the above-described project areas, as well as municipal public yards and some maintained parkland. All project areas are on or immediately adjacent to portions of Newton Lake, and are located within the Newton Creek drainage basin. Ten (10) wetland areas (A-J) have been identified within the project areas, and are documented in this report (See Appendix D, Wetland Delineation Map). The anticipated jurisdictional status of each wetland is described further in this report. Peter Creek and Newton Lake are two State Open Waters occurring within and adjacent to the project areas; both are classified as Freshwater 2, Non-Trout (FW2-NT) waterways under the Surface Water Quality Standards at N.J.A.C. 7:9B-1.4. Portions of the project area associated with Peter Creek are mapped by the New Jersey Department of Environmental Protection (NJDEP) as containing palustrine forested, scrub-shrub, and emergent wetlands (See Appendix A, Figure 4, NJDEP Wetlands Map).

II. WETLAND DETERMINATION METHODOLOGY

A wetland is defined by the NJ Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-3) as:

“An area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.”

Wetlands generally include swamps, marshes, bogs, and similar areas. The New Jersey Department of Environmental Protection (NJDEP) regulates the filling of open waters and disturbance of wetlands under the Freshwater Wetlands Protection Act Rules (NJAC 7:7A). The NJDEP has adopted the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (January, 1989) as the technical basis for delineating wetlands in New Jersey. This manual was prepared by the Federal Interagency Committee for Wetland Delineation (FICWD) consisting of representatives from the US Army Corps of Engineers, US Environmental Protection Agency, the US Fish and Wildlife Service (USFWS), and the USDA Soil Conservation Service (SCS).
In accordance with this methodology, the following three parameters are diagnostic of wetlands: 1) the land is dominated by hydrophytes; 2) the substrate is undrained hydric soil; and 3) the substrate is saturated with groundwater or flooded for a significant part (1 week or more) of the growing season each year. All three parameters must be present in order for an area to be identified as wetland, unless abnormal circumstances are determined to be present. Examples of abnormal circumstances may include modified wetlands that have been converted to lawns or agricultural fields.

A hydrophyte is any plant "growing in water, soil, or on a substrate that is at least periodically deficient of oxygen as a result of excessive water content" (FICWD, 1989). Plant species are assigned a wetland indicator status in the Atlantic and Gulf Coastal Plain 2016 Regional Wetland Plant List (Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016) according to the following:

**Plant Affinity for Wetland Conditions:**

<table>
<thead>
<tr>
<th>Classification</th>
<th>% Occurrence in Wetland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obligate (OBL)</td>
<td>&gt; 99</td>
</tr>
<tr>
<td>Facultative Wet (FACW)</td>
<td>67 – 99</td>
</tr>
<tr>
<td>Facultative (FAC)</td>
<td>34 – 66</td>
</tr>
<tr>
<td>Facultative Upland (FACU)</td>
<td>1 – 33</td>
</tr>
<tr>
<td>Upland (UPL)</td>
<td>&lt; 1</td>
</tr>
</tbody>
</table>

Hydrophytic vegetation is present if greater than 50% of the dominant plant species from all strata are OBL, FACW, and/or FAC. When greater than or equal to 50% of the dominant species are FACU and/or UPL and hydric soils and wetland hydrology are present, the area is also considered to have hydrophytic vegetation. If hydric soils and wetland hydrology are lacking, and normal circumstances exist, then an area is considered to be upland. In order to determine the dominance of each plant species, the cover class (based on percent aerial cover) is determined.

Hydric soils are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in a major part of the root zone. Soils are considered hydric when they are: 1) somewhat poorly drained and have a seasonal high water table less than 0.5 feet from the surface, or 2) poorly drained or very poorly drained and have a seasonal high water table less than 1.0 or 1.5 feet from the surface. This high water table must be present for a week or more during the growing season (FICWD, 1989). Soils that are ponded or flooded for long or very long duration during the growing season are also classified as hydric. All organic soils (histosols) or mineral soils with a histic epipedon are hydric soils.

In the field, a hand-held auger is used for sampling the soil to examine indicators of hydric soils such as low chroma colors, redox features, organic accumulation, and high water table. Soils are generally examined to a depth of 18 to 24 inches. Hydric conditions for mineral soils with low to moderate organic content are most commonly demonstrated by gleying and redox features. Mineral soils are examined with a Munsell Soil Color Chart (Kollmorgan Corp, 1985). These soils are considered hydric when they are gleyed or when the top of the B horizon has chroma of 2 or less if redox features are present, or chroma of 1 or less if no redox features are present. Low chroma numbers are an index of the degree of soil reduction as a result of anaerobic soil conditions. These criteria allow most soils to be classified as either hydric or nonhydric. Hydric soils that have been effectively drained may, however, still show low chroma colors, but are no longer considered to be hydric because they lack the hydrology. Low chroma colors may also not be used as an indicator of hydric soils in those soils that are sandy, are deeply colored as a result of their parent materials, or have recently been formed (i.e., alluvial). These soils must be
evaluated more carefully under the procedures for problem area wetlands outlined by the Federal Manual (FICWD, 1989).

Wetland hydrology encompasses the hydrologic characteristics of areas that are inundated or have saturated soils for sufficient duration to support hydrophytic vegetation. Hydrologic indicators are generally used to determine the presence or absence of a wetland. Of the three technical criteria, wetland hydrology is generally the least exact and most difficult to establish in the field due to annual, seasonal, and daily fluctuations (FICWD, 1989). An area has wetland hydrology if the soil is saturated to the surface by groundwater or ponded or flooded with surface water for one week or more during the growing season. Saturation to the surface can occur when the water table is 0.5 to 1.5 feet below the surface depending on soil permeability.

Indicators of wetland hydrology are divided into recorded data and field data. Recorded data may be obtained from aerial photographs, soil surveys, historical data, floodplain delineations, or tide/stream gauges. In the field, wetland hydrology may be evidenced by visual observation of saturation, inundation, or depth to standing water. However, it is not necessary to directly demonstrate the hydrology. Other field indicators of wetland hydrology include morphological plant adaptations, oxidized root channels, water marks, surface scouring, water-stained leaves, sediment deposits, drift lines, and moss trim lines. Unless an area has been hydrologically modified, the hydrologic parameter may also be inferred from the soil profile.

III. WETLAND DELINEATION

Existing published information was studied to determine the approximate extent of wetlands in the project area. SSURGO soils mapping and NJDEP wetlands mapping (Appendix A, Figure 3 and Figure 4, respectively) were utilized to aid in determining wetland extent prior to and during the investigation. Vegetation, soils, and hydrology were examined for evidence of wetland characteristics according to the methodology outlined in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (Federal Interagency Committee on Wetland Delineation, 1989). See Appendix B for Sampling Station Sheets, Appendix C for Photographs with Descriptions, and Appendix E for Wetland Location Maps.

Field-Delineated Wetlands

Wetlands delineated within the above-described project areas were primarily narrow fringes associated with Newton Lake and Peter Creek, and included palustrine forested, emergent, and scrub-shrub communities. Some areas adjacent to State Open Water did not have wetland characteristics. These areas were marked as Open Waters (OW) in the field.

The following wetlands were identified and delineated:

*Wetland Flags A1 through A40* delineate the boundary of a palustrine forested, scrub-shrub, and emergent wetlands along the southern edge of Peter Creek, a Freshwater-2, non-trout waterway. The forested portion of the wetland fans out at some locations, into areas of sparse vegetation and hydric, alluvial soils. Areas of palustrine emergent wetlands occur at wetland flags A20 and A24. Scrub-shrub vegetation becomes more prevalent at flag A30, near the creek edge. Lacustrine wetlands and aquatic vegetation are prevalent near the western portion of the delineation where Peter Creek becomes ponded. The wetlands continue west, beyond the limits of the project area. Portions are NJDEP State-mapped wetlands.

*Wetland Flags OW-B0 through B11, and C1 through C3* delineate the northern boundary of Peter Creek, which includes areas of palustrine emergent, scrub-shrub, and forested wetlands. The creek contains areas of alluvial sediment deposits and fill, some of which were populated with hydrophytic vegetation. Some
pockets of wetlands appeared to occur on private properties (Wetland C); these areas were remotely recorded with GPS, but no flags were hung in these locations. Lacustrine wetlands dominated by true aquatic vegetation and open water occur within and beyond the western limits of the project area.

**Wetland Flags D1 through OWD-4** delineate the boundary the northern boundary of Peter Creek, immediately south of the Oaklyn Public School recreation fields, at the western limits of the project area. Flags D1 and D2 delineate a small palustrine scrub-shrub/emergent wetland fringe, which converts to a bulkhead lake edge at D3.

**Wetland Flags E1 through E14** delineate the boundary of a small pond connected to Newton Lake, east of N Newton Lake Drive. Areas surrounding the pond contained palustrine forested, scrub-shrub, and emergent wetland fringes.

**Wetland Flags F1 through OW-F20** delineate the boundary of a small pond connected to Newton Lake, east of Bettlewood Avenue and north of Merrick Avenue. The pond is bounded by steep slopes and outfalls are present on the north and south ends. Palustrine forested and scrub-shrub wetland fringes occur in multiple locations around the pond.

**Wetland Flags G0A through G13** delineate the boundary of a wetland complex located within Newton Lake Park, immediately east of the public boat launch and adjacent to Newton Lake. The complex includes palustrine emergent wetland and adjacent, low areas of maintained lawn containing hydric soils (modified, disturbed wetlands). The complex contains several low areas that receive overflow from Newton Lake, including an inundated depression at the eastern end that is dominated by obligate wetland vegetation. The maintained lawn and areas within the palustrine wetland show signs of disturbance, including the placement of sandy fill; however, the underlying native soils are hydric, with low chroma (10YR 2/2) and redox features (mottling) ranging from 20 to 40 percent (Appendix C, Photo18).

**Wetland Flags H1 through H4** delineate the boundary of a small palustrine scrub-shrub/emergent wetland fringe located at the bottom of a steep slope, at the west end of the Collingswood Public Works Yard (Comly Avenue). The wetland is located beneath a large outfall pipe at the edge of Newton Lake. The proposed access area at the east end of the yard (off of Comly Road) was also checked for wetlands; this area was dominated by upland vegetation characteristic of secondary successional forest and successional fields. A washout conveying water to Newton Lake was identified within the easternmost limits of the proposed access area, but this did not contain hydric soils or vegetation.

**Wetland Flags I1 through I4** delineate the boundary of a palustrine emergent wetland fringe along Newton Lake, south of Lakeshore Drive and east of Conard Avenue. The feature continues beyond the proposed project area limits.

**Wetland Flags J1 through J5** delineate the boundary of a palustrine emergent wetland fringe along Newton Lake, south of Lakeshore Drive and west of Conard Avenue. The feature continues beyond the project area limits and is dominated by similar vegetation as observed in Wetland I.

**Project Area Soils and Topography**
Topography within the project areas is generally concave, caused by the placement of fill creating moderate to steep slopes around Newton Lake, its associated ponds, and Peter Creek. Elevations were generally between 40 and 10 feet above mean sea level (AMSL). In many cases, the upland-wetland boundaries were easily discernible due to marked changes in topography. The adjacent uplands of Wetland A, particularly along its southern boundary, are steeply sloped in many locations.
Soil mapping reveals two (2) soil types as occurring within the project areas, one of which containing hydric inclusions. Soil Survey Geographic (SSURGO) mapping (See Appendix A, Figure 3, SSURGO Soils Maps) indicates the following soil types within the project area:

<table>
<thead>
<tr>
<th>Soil Unit</th>
<th>Hydric Listing*</th>
</tr>
</thead>
<tbody>
<tr>
<td>FrpB</td>
<td>HI</td>
</tr>
<tr>
<td>UR</td>
<td>NL</td>
</tr>
</tbody>
</table>

* Hydric (H), Not Listed as Hydric (NL)

Hydric soils characterized by low chroma matrix and redox features were identified in the delineated wetland areas. Wetland H featured a thin layer of organic muck overlaying gravelly clay. The maintained portions of Wetland G contained hydric soils overlaid with a layer of sand, suggesting that the area was filled in the past.

Documentation of soil characteristics found within wetlands and adjacent uplands is provided in Appendix B.

**Project Area Hydrology**

Direct evidence of wetland hydrology observed during the field investigation included soil saturation, a high water table, bare or lightly vegetated ground, topographic depressions, water-stained leaves, drift deposits, and oxidized rhizospheres. A distinct hydrogen sulfide odor was observed in the soil sample taken in Wetland E, an indicator of prolonged inundation. Several wetlands showed a distinct topographic line along the toe of a slope created by fill. Most wetlands, including the western portions of Wetland A, are associated with lake or pond edges and derive hydrology from these sources.

Documentation of hydrological features found within wetlands and adjacent uplands is provided in Appendix B.

**Project Area Vegetation**

To be considered a wetland, the area must be vegetated with a predominance of hydrophytes. A hydrophyte is any plant “growing in water, soil, or on a substrate that is at least periodically deficient of oxygen as a result of excessive water content.” Since most plant species tolerate a range of growing conditions, individual species are not restricted to either wetland or upland communities. See Section III Wetland Delineation Methodology for plant affinity classifications.

Wetlands observed within the project areas included palustrine forested, scrub-shrub, and emergent wetlands, most of which occurred as fringes along State Open Waters. Wetland G includes an area of modified, disturbed wetland, which is maintained as lawn. Lacustrine wetlands dominated by true aquatic vegetation were observed in areas of Peter Creek, Newton Lake, and associated ponds near the project areas. Although some wetlands contain small populations of facultative upland (FACU) and upland (UPL), most are dominated by facultative (FAC), facultative wet (FACW), and obligate woody and herbaceous species. Many of the delineated wetlands contained similar suites of species, but in varying quantities.

The wetland and upland vegetation associated with each of the wetland areas is described below. Additional information specific to sample stations is provided in Appendix B.
**Wetland A:**
Wetland A occurs along the southern edge of Peter Creek, bound by moderate to steep slopes (Appendix C, Photo 1). The wetland is mainly forested, but contains areas of emergent vegetation communities. Scrub-shrub communities grow more prevalent along the western limits of the wetland.

The forest canopy is dominated by box elder (*Acer negundo*, FAC) and silver maple (*Acer saccharinum*, FAC), with lesser numbers of black willow (*Salix nigra*, OBL), American sycamore (*Planatus occidentalis*, FACW), green ash (*Fraxinus pennsylvanica*, FACW), and pin oak (*Quercus palustris*, FACW). Areas of emergent vegetation occur at wetland flags A20 and A24; these are dominated by common reed (*Phragmites australis*, FACW), spotted jewelweed (*Impatiens capensis*, FACW), fowl manna grass (*Glyceria striata*, OBL), and smaller numbers of lesser celandine (*Ranunculus ficaria*, FAC) and Japanese honeysuckle (*Lonicera japonica*, FACU). At wetland flag A30, where the wetland thins out to the edge of the creek, shrub species dominate the community, including gray dogwood (*Cornus racemose*, FAC), southern arrowwood (*Viburnum dentatum*, FAC), coastal sweet pepperbush (*Clethra alnifolia*, FACW), and buttonbush (*Cephalanthus occidentalis*, OBL). This area also includes small populations of swamp loosestrife (*Decodon verticillatus*, OBL) at the water’s edge.

The forested upland contains Norway maple (*Acer platanoides*, UPL), sassafras (*Sassafras albidum*, FACU), red oak (*Quercus rubra*, FACU), and black walnut (*Juglans nigra*, UPL) within the canopy. Tree-of-heaven (*Ailanthus altissima*, FACU) and northern catalpa (*Catalpa speciosa*, FACU) occur in the subcanopy stratum. Stands of Japanese knotweed (*Reynoutria japonica*, UPL) dominate portions of the shrub layer. Woody vines such as English ivy (*Hedera helix*, FACU), green catbrier (*Smilax rotundifolia*, FAC), Virginia creeper (*Parthenocissus quinquefolia*, FACU), and Japanese wisteria (*Wisteria floribunda*, NL) also occur throughout the understory. Very little herbaceous vegetation is present.

**Wetland B and Wetland C:**
Wetlands B and C occur along the northern boundary of Peter Creek, and contain vegetation similar to what was observed in Wetland A. Palustrine forested fringes are dominated by box elder and silver maple. Most of the forested wetland fringe contains an understory of woody vines, with Japanese knotweed occurring along the wetland-upland boundary. Alluvial mounds within Peter Creek contain a variety of species, including black willow, mild water pepper (*Persicaria hydropiper*, OBL), spotted lady’s thumb (*Persicaria maculosa*, FACW), clearweed (*Pilea pumila*, FACW), swamp loosestrife, and swamp rosemallow (*Hibiscus grandiflorus*, OBL). Most of these species also occur in the palustrine emergent fringe delineated as Wetland C. The upland adjacent to Wetlands B and C contained areas of maintained lawn, as well as various oaks (*Quercus spp.*), red maple (*Acer rubrum*, FAC), and Norway maple.

**Wetland D:**
Wetland D is a small palustrine forested/scrub-shrub fringe that converts to bulkheaded open water along the northern edge of Peter Creek (Appendix C, Photo C). Plant species observed in this feature included green ash, false indigo bush, and swamp rosemallow. Spatterdock occurs in the shallow water immediately adjacent to the bulkhead and lakeshore. The adjacent upland is primarily maintained lawn, dominated by various grasses, smartweeds, English plantain, and sheep sorrel (*Rumex acetosella*, FACU).

**Wetland E:**
Wetland E comprises palustrine forested, scrub-shrub, and emergent fringes along the edge of a small pond (Appendix C, Photo 11) connected to Newton Lake (Appendix C, Photos 3 and 4). Tree species dominating the forest component include black willow, pin oak, and hackberry (*Celtis occidentalis*, FACU). Pin oak saplings, buttonbush, false indigo bush, multiflora rose, and red osier dogwood (*Cornus alba*, FACW) dominate the scrub-shrub community. The emergent fringes are dominated by swamp rosemallow, spotted jewelweed, and green arrow arum (*Peltandra virginica*, OBL). Spatterdock occurs throughout the lake.
Adjacent upland includes maintained lawn with a variety of planted trees, as well as disturbed successional edges. Dominant woody vegetation includes Norway maple, black cherry (*Prunus serotina*, FACU), eastern red cedar (*Juniperus virginiana*, FACU), false indigo bush, multiflora rose, and elms (*Ulmus* sp.). English ivy and porcelain berry (*Amelopsis brevipedunculata*, UPL) dominate the woody vine stratum, and the herbaceous stratum includes white snakeroot (*Ageratina altissima*, FACU), English plantain, dandelion, and a variety of grasses.

**Wetland F:**
Wetland F occurs along the edge of a pond associated with Newton Lake, and contains palustrine forested and scrub-shrub plant communities (Appendix C, Photo 12). The forest canopy is dominated by red maple, pin oak, silver maple, and hackberry. False indigo bush and red osier dogwood occur in the shrub stratum; swamp rose-mallow and small populations of spotted jewelweed occur in the herbaceous stratum. The adjacent upland includes steeply-sloped areas dominated by mulberry (*Morus* sp.), northern catalpa, tree-of-heaven, poison ivy (*Toxicodendron radicans*, FAC), Oriental bittersweet (*Celastrus orbiculatus*, FACU), English ivy, and porcelain berry.

**Wetland G:**
Wetland G is a complex of palustrine emergent, modified disturbed, and palustrine scrub-shrub communities, adjacent to Newton Lake (Appendix C, Photos 5 and 6). The unmowed emergent/scrub-shrub wetland is dominated by various sedges and asters, false indigo bush, purple loosestrife, and swamp rose-mallow, with smaller populations of wormwood (*Artemisia* sp.) and mannagrass (*Glyceria* sp.). The community also contained young cypress (*Taxodium* sp.), black willow, and red maple. The flooded portion near the east end of the feature was dominated by floating primrose-willow (*Ludwigia peploides*, OBL), with asters and switchgrass (*Panicum virgatum*, FAC) along the edges.

The modified, disturbed wetland is dominated by maintained turf (grasses, English plantain), as well as some black willows. The surrounding upland includes areas of maintained lawn and planted trees.

**Wetland H:**
Wetland H comprises a small palustrine emergent/scrub-shrub wetland fringe at the edge of Newton Lake, beneath a large outfall pipe (Appendix C, Photo 15). Dominant vegetation includes green ash, pin oak, and hackberry (saplings and adults), with buttonbush along the west end, and swamp rose-mallow along the east edge. Spatterdock occurs in the shallow water adjacent to the feature. The surrounding upland is a steeply-sloped fill pile dominated by common reed and black locust (*Robinia pseudoacacia*, UPL).

The east end of the Collingswood Public Works Yard, which was also checked for wetlands, contained secondary successional upland forest and successional fields. Dominant vegetation within the forested area include black cherry, eastern red cedar, black walnut, wineberry (*Rubus phoenicolasius*, FACU), black raspberry (*Rubus occidentalis*, UPL), and mugwort. Other species observed include tree-of-heaven, English plantain, white clover, Japanese honeysuckle, white snakeroot, and various cool season grasses.

**Wetlands I and J:**
Wetland I and J comprise narrow palustrine emergent wetland fringes along Newton Lake. Dominant vegetation includes arrow-leaf tearthumb (*Persicaria sagittata*, OBL), false indigo bush, swamp rose-mallow, pickerelweed (*Pontederia cordata*, OBL), asters, reed canary grass (*Phalaris arundinacea*, OBL) (Appendix C, Photos 7, 8 and 17). Red osier dogwood occurs in both wetlands, but is more prevalent in Wetland J, which also contains irises (*Iris* sp.) and black willows. Spatterdock occurs within flooded areas of the wetland, as well as in the lake adjacent to the feature.
Early successional vegetation occurs along the edge of both wetlands, as well as areas of maintained lawn. Dominant vegetation includes asters, evening primrose (*Oenothera biennis*, FACU), white clover, English plantain, common ragweed (*Ambrosia artemisifolia*, FACU), and various grasses. The upland adjacent to Wetland J also contains large, planted trees, including one willow oak (*Quercus phellos*, FACW), and other oak species.

V. WETLAND RESOURCE VALUE AND THREATENED AND ENDANGERED SPECIES

Wetlands are classified according to their resource value, as determined by the *Freshwater Wetlands Protection Act Rules* at NJAC 7:7A. Wetlands that discharge into FW1 or FW2 trout-production waters, or those which are documented habitat for endangered or threatened species, are classified as exceptional resource value wetlands. See Figure 5 for NJDEP Landscape Project mapping of threatened and endangered species habitat identified as Ranks 3, 4 and 5. Ordinary resource value wetlands are ditches, swales, detention basins and certain isolated wetlands. All other wetlands are intermediate resource value. Exceptional resource value wetlands are subject to a 150-foot standard transition area. Wetlands of intermediate resource value are subject to a 50-foot standard transition area. No transition area is required for ordinary resource value wetlands.

The following section describes the anticipated freshwater wetland transition area (TA) widths for the delineated wetlands.

Peter Creek and Newton Lake are classified as Freshwater 2, Non-Trout waterbodies (FW2-NT) under the *Surface Water Quality Standards* at N.J.A.C. 7:9B-1.4. This specific classification does not trigger an exceptional resource value wetland designation. Therefore, threatened and endangered species habitat is the only resource considered for the exceptional resource value wetland designation.

ASGECI reviewed NJ Landscape Project V.3.3 mapping (Figure 4), which identified the following threatened or endangered species occurring on and adjacent to the subject property:

- Bald eagle (*Haliaeetus leucocephalus*) - foraging, State-endangered (breeding population), State-threatened (non-breeding population)
- Great blue heron (*Ardea herodias*) - foraging, State-special concern (breeding population)

Wetlands A, B, C, D occur in an area mapped by the NJ Landscape Project as bald eagle foraging habitat, which typically triggers an exceptional resource value classification and the designation of a 150-foot transition area for those wetlands. All remaining wetlands would likely be designated as of intermediate resource value, and assigned a standard transition area of 50 feet. The results and findings of this wetland delineation are subject to review and verification by the NJDEP.

Federal-Listed Species

The United States Fish and Wildlife (IPaC Report preliminary review on September 29) did not identify any federally-listed species, critical habitats, national wildlife refuges, or fish hatcheries within the project areas. Audubon Township and Oaklyn Borough are listed by the NJDEP Division of Land Use Regulation (October, 2008) as municipalities in which bog turtles (*Clemmys muhlenbergii* -- Federally-listed Threatened) have been known to occur. However, a 2013 municipal list published by the USFWS New Jersey Field Office describes the species as having been extirpated from these two municipalities. Neither the IPaC Report nor the NJ Landscape Project identify bog turtle populations within the project areas.

ASGECI can further coordinate with USFWS if requested; however, based on these database findings, coordination with the USFWS regarding bog turtle is not required. During the field investigation, USFWS
Qualified Bog Turtle Surveyor Harry Strano did preliminary evaluate wetlands for bog turtle habitat. Suitable bog turtle habitat was not identified in any of the delineated wetlands. The habitat for bog turtle requires spring fed wetlands and mucky soils. All wetlands surveyed lacked spring–fed hydrology and most soils were firm. Areas containing soft soils were associated with the hydrology of the adjacent waterbody (pond or lake) and were not the result of springs or flowing groundwater.
APPENDIX A: SITE MAPS

Figure 1: Site Location Map
Figure 2: USGS Topographic Map
Figure 3: SSURGO Soils Map
Figure 4: NJDEP Wetlands Map
Figure 5: Landscape Project Map
Figure 2
USGS Topographic Map

Newton Lake Dredging Project
Audubon Borough, Audubon Park
Borough, Collingswood Borough,
Haddon Township, and Oaklyn Borough
Camden County, New Jersey

ASGECI Project # 4200

Legend

- Project Area

New Jersey State Plane Coordinates in NAD83
for the approximate center of each project area -
South of Comley Ave - N: 391,663' / E: 327,619'
South of Cattell Ave - N: 391,897' / E: 328,044'
near Public Boat Launch - N: 392,205' / E: 329,107'
Pond by Newton Lake Dr - N: 393,006' / E: 331,323'
Pond by Bettlewood Ave - N: 392,756' / E: 331,900'
East of Lees Lane - N: 391,311' / E: 333,219'
East of Conard Ave - N: 391,067' / E: 334,027'
portion of Peter Creek - N: 387,618' / E: 328,862'

Source:
Figure 3  
SSURGO Soils Map

Newton Lake Dredging Project  
Audubon Borough, Audubon Park  
Borough, Collingswood Borough,  
Haddon Township, and Oaklyn Borough  
Camden County, New Jersey

ASGECI Project # 4200

Legend

- Project Area

SOILS LIST:
FrpB - Freehold-Downer-Urban land complex,  
0 to 5 percent slopes [HI]  
UR - Urban land [NL]

Sources:
Soil Survey Geographic (SSURGO) Database for Camden County, New Jersey,  
New Jersey 2015 High Resolution Orthophotography, NAD83 NJ State Plane Feet, MrSID Tiles, State of New Jersey -  
Legend

- Project Area
- Streams with Water Quality
- NJDEP Freshwater Wetlands
- NJDEP Tidal Wetlands
- NJDEP Linear Wetlands

WETLAND CLASSIFICATIONS:
- PFO1B - Palustrine, Forested, Broad-Leaved Deciduous, Saturated
- PSS1B/PEM1B - Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Saturated / Palustrine, Emergent, Persistent, Saturated

Sources:

This (map/publication/report) was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.

Figure 4
NJDEP Wetlands and Streams Map
Newton Lake Dredging Project
Audubon Borough, Audubon Park Borough, Collingswood Borough, Haddon Township, and Oaklyn Borough
Camden County, New Jersey

ASGECI Project # 4200
Figure 5
Landscape Project Map

Newton Lake Dredging Project
Audubon Borough, Audubon Park Borough, Collingswood Borough, Haddon Township, and Oaklyn Borough
Camden County, New Jersey

ASGECI Project # 4200

Legend

- Project Area
- Rank 1 Habitat
- Rank 2 Habitat
- Rank 3 Habitat
- Rank 4 Habitat
- Rank 5 Habitat

SPECIES LIST:
- 214632 - Bald Eagle (Foraging)
- 248903 & 259278 - Bald Eagle (Foraging)
  & Great Blue Heron (Foraging)
- 248913, 248916, 248917, 248918, 248919, & 248921 - Great Blue Heron (Foraging)

Sources: NJDEP Species Based Habitat by Landscape Region (Version 3.3), New Jersey Department of Environmental Protection, Division of Fish and Wildlife, Endangered Non-Game Species Program, vector digital data, Division of Information Technology, Bureau of Geographic Information Systems, Trenton, NJ, May 2017.


This (map/publication/report) was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.
Table 1: Sampling Data and Determinations for Newton Lake Dredging Project. Haddon Township, Audubon, Audubon Park, Collingswood, and Oaklyn Boroughs, Camden County, New Jersey. Performed October 26 & 30, 2017.

<table>
<thead>
<tr>
<th>Station: 1</th>
<th>Flag: A14</th>
<th>Date: October 26, 2017</th>
<th>Project: 4200</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VEGETATION</strong></td>
<td><strong>SOIL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Species (1)</td>
<td>Indicator Status (2)</td>
<td>Cover</td>
<td>DEPTH (inches)</td>
</tr>
<tr>
<td>AGCP</td>
<td>Class (3)</td>
<td></td>
<td>0-2</td>
</tr>
<tr>
<td>1. CANOPY</td>
<td></td>
<td></td>
<td>2-5</td>
</tr>
<tr>
<td>Box elder</td>
<td>FAC</td>
<td>4</td>
<td>*</td>
</tr>
<tr>
<td>Green ash</td>
<td>FACW</td>
<td>3</td>
<td>*</td>
</tr>
<tr>
<td>Silver maple</td>
<td>FAC</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td>2. SUBCANOPY/ SAPLINGS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silver maple</td>
<td>FAC</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td>3. SHRUBS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japanese knotweed</td>
<td>UPL</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td>Multiflora rose</td>
<td>FACU</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td>Silver maple</td>
<td>FAC</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td>4. WOODY VINES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. HERBACEOUS/TREE SEEDLINGS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spotted jewelweed</td>
<td>FACW</td>
<td>3</td>
<td>*</td>
</tr>
<tr>
<td>Fowl mannagrass</td>
<td>OBL</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td>Japanese honeysuckle</td>
<td>FACU</td>
<td>2</td>
<td>*</td>
</tr>
</tbody>
</table>

**HYDROLOGY**

- Soil Unit as Mapped (7): Urban land [UR]
- Drainage Class as Mapped: NA
- Soil Classification as Mapped (8): Non-hydrick
- Soil Classification of Sample (9): Hydrick
- Depth to Soil Saturation: At surface
- Depth to Standing Water (10): 12'
- Ponding: No
- Flooded: No
- Other (11): D, M
- Wetland Hydrology: Present

**SUMMARY**

- VEGETATION: Hydrophytic
- SOILS: Hydrick
- HYDROLOGY: Present
- DETERMINATION: Wetland

Community Type: Palustrine forested wetland with emergent component
Classification (4): Hydrophytic
PHOTOGRAPH: A
Table 1: Continued

<table>
<thead>
<tr>
<th>Station: 2</th>
<th>Flag: A14</th>
<th>Date: October 26, 2017</th>
<th>Project: 4200</th>
</tr>
</thead>
</table>

**VEGETATION**

<table>
<thead>
<tr>
<th>Species (1)</th>
<th>Indicator Status (2)</th>
<th>Cover Class (3)</th>
<th>DEPTH (inches)</th>
<th>MATRIX COLOR (5)</th>
<th>MOTTLING COLOR</th>
<th>TEXTURE (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red oak</td>
<td>FACU</td>
<td>4</td>
<td>0-2</td>
<td>10YR 3/3</td>
<td>None</td>
<td>SL with some gravel</td>
</tr>
<tr>
<td>Black walnut</td>
<td>UPL</td>
<td>3</td>
<td>2-6</td>
<td>10YR 3/3</td>
<td>None</td>
<td>SL with some gravel</td>
</tr>
</tbody>
</table>

2. SUBCANOPY/ SAPLINGS

<table>
<thead>
<tr>
<th>Species</th>
<th>Indicator Status</th>
<th>Cover Class</th>
<th>DEPTH (inches)</th>
<th>MATRIX COLOR (5)</th>
<th>MOTTLING COLOR</th>
<th>TEXTURE (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern catalpa</td>
<td>FACU</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tree-of-Heaven</td>
<td>FACU</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. SHRUBS

None

4. WOODY VINES

<table>
<thead>
<tr>
<th>Species</th>
<th>Indicator Status</th>
<th>Cover Class</th>
<th>DEPTH (inches)</th>
<th>MATRIX COLOR (5)</th>
<th>MOTTLING COLOR</th>
<th>TEXTURE (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>English ivy</td>
<td>FACU</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. HERBACEOUS/TREE SEEDLINGS

<table>
<thead>
<tr>
<th>Species</th>
<th>Indicator Status</th>
<th>Cover Class</th>
<th>DEPTH (inches)</th>
<th>MATRIX COLOR (5)</th>
<th>MOTTLING COLOR</th>
<th>TEXTURE (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pokeweed</td>
<td>FACU</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japanese knotweed</td>
<td>UPL</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White snakeroot</td>
<td>FACU</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SOIL**

Soil Unit as Mapped (7): Urban land [UR]
Drainage Class as Mapped: NA
Soil Classification as Mapped (8): Non-hydric
Soil Classification of Sample (9): Non-hydric

**HYDROLOGY**

- Depth to Soil Saturation: ND
- Depth to Standing Water (10): ND
- Ponding: No
- Flooded: No
- Other (11): Wetland Hydrology: Absent

**SUMMARY**

VEGETATION: Hydrophytic
SOILS: Nonhydric
HYDROLOGY: Absent

Community Type: Upland successional forest
Classification (4): Non-hydrophytic

DETERMINATION: Upland

PHOTOGRAPH: B
<table>
<thead>
<tr>
<th>Station: 3</th>
<th>Flag: E2</th>
<th>Date: October 26, 2017</th>
<th>Project: 4200</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VEGETATION</strong></td>
<td><strong>SOIL</strong></td>
<td><strong>DEPTH</strong></td>
<td><strong>MATRIX</strong></td>
</tr>
<tr>
<td>Species (1)</td>
<td>Indicator Status (2)</td>
<td>Cover</td>
<td>Color (5)</td>
</tr>
<tr>
<td>AGCP</td>
<td>Class (3)</td>
<td>(inches)</td>
<td>COLOR</td>
</tr>
<tr>
<td><strong>1. CANOPY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hackberry</td>
<td>FACU</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td>American sycamore</td>
<td>FACW</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td>Black willow</td>
<td>OBL</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td><strong>2. SUBCANOPY/ SAPLINGS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3. SHRUBS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>False indigo bush</td>
<td>FACW</td>
<td>3</td>
<td>*</td>
</tr>
<tr>
<td>Red osier dogwood</td>
<td>FACW</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td><strong>4. WOODY VINES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5. HERBACEOUS/TREE SEEDLINGS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swamp rose mallow</td>
<td>OBL</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td>Arrow arum</td>
<td>OBL</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td><strong>HYDROLOGY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil Unit as Mapped (7): Urban land [UR]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drainage Class as Mapped: NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil Classification as Mapped (8): Non-hydric</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil Classification of Sample (9): Hydric</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth to Soil Saturation: At surface</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth to Standing Water (10): 10”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ponding: Yes</td>
<td>Flooded: Yes</td>
<td>Other (11): M</td>
<td></td>
</tr>
<tr>
<td>Wetland Hydrology: Present</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SUMMARY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VEGETATION: Hydrophytic</td>
<td>PHOTOGRAPH: C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOILS: Hydric</td>
<td>HYDROLOGY: Present</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DETERMINATION: Wetland</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Community Type: Palustrine forested/emergent fringe wetland Classification (4): Hydrophytic
### Table 1: Continued

<table>
<thead>
<tr>
<th>Station: 4</th>
<th>Flag: E2</th>
<th>Date: October 26, 2017</th>
<th>Project: 4200</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VEGETATION</strong></td>
<td><strong>SOIL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Species (1)</td>
<td>Indicator Status (2)</td>
<td>Cover Class (3)</td>
<td>DEPTH (inches)</td>
</tr>
<tr>
<td>1. CANOPY</td>
<td></td>
<td></td>
<td>0-10</td>
</tr>
<tr>
<td>Norway maple</td>
<td>UPL</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td>2. SUBCANOPY/ SAPLINGS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black cherry</td>
<td>FACU</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td>3. SHRUBS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>False indigo bush</td>
<td>FACW</td>
<td>2</td>
<td>*</td>
</tr>
<tr>
<td>Eastern red cedar</td>
<td>FACU</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td>Multiflora rose</td>
<td>FACU</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td>Elm sp.</td>
<td>NIS</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4. WOODY VINES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English ivy</td>
<td>FACU</td>
<td>3</td>
<td>*</td>
</tr>
<tr>
<td>Porcelainberry</td>
<td>UPL</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td>5. HERBACEOUS/TREE SEEDLINGS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fescue sp.</td>
<td>NIS</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>White snakeroot</td>
<td>FACU</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td>English plantain</td>
<td>FACU</td>
<td>1</td>
<td>*</td>
</tr>
<tr>
<td>Dandelion</td>
<td>FACU</td>
<td>1</td>
<td>*</td>
</tr>
</tbody>
</table>

**HYDROLOGY**

- Depth to Soil Saturation: ND
- Depth to Standing Water (10): ND
- Ponding: No
- Flooded: No
- Other (11): Wetland Hydrology: Absent

**SUMMARY**

- VEGETATION: Non-hydrophytic
- SOILS: Non-hydric
- HYDROLOGY: Absent
- DETERMINATION: Upland

**Community Type:** Disturbed successional edge/manicured lawn
**Classification (4):** Nonhydrophytic

**PHOTOGRAPH:** D
Table 1: Continued

Station: 5  Flag: G2  October 30, 2017  Project: 4200

<table>
<thead>
<tr>
<th>VEGETATION</th>
<th>SOIL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Species (1)</strong></td>
<td><strong>DEPTH</strong></td>
</tr>
<tr>
<td><strong>Indicator Status (2)</strong></td>
<td><strong>(inches)</strong></td>
</tr>
<tr>
<td><strong>Cover Class (3)</strong></td>
<td>0-4</td>
</tr>
<tr>
<td><strong>FAC</strong></td>
<td>4-24</td>
</tr>
</tbody>
</table>

1. CANOPY
   - Silver maple  FAC  1  *

2. SUBCANOPY/ SAPLINGS
   - Sweet gum  FAC  1  *
   - Silver maple  FAC  1  *

3. SHRUBS
   - False indigo bush  FACW  2  *

4. WOODY VINES
   - None

5. HERBACEOUS/TREE SEEDLINGS
   - Purple loosestrife  OBL  4  *
   - Carex sp.  NIS  4  *
   - Aster sp.  NIS  3  *
   - Fescue sp.  NIS  3  *
   - Swamp rose mallow  OBL  3  *

Soil Unit as Mapped (7): Urban land [UR]
Drainage Class as Mapped: NA
Soil Classification as Mapped (8): Hydric

**HYDROLOGY**
- Depth to Soil Saturation: At Surface
- Depth to Standing Water: 0" (10)
- Wetland Hydrology: Present
- Flooded: Yes

**SUMMARY**
- VEGETATION: Hydrophytic
- SOILS: Hydric
- HYDROLOGY: Present
- DETERMINATION: Wetland

Community Type: Palustrine emergent wetland
Classification (4): Hydrophytic
Table 1: Continued

Station: 6  Flag: G2  October 30, 2017  Project: 4200

<table>
<thead>
<tr>
<th>VEGETATION</th>
<th>SOIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species (1)</td>
<td>Indicator Status (2)</td>
</tr>
<tr>
<td>AGCP Region</td>
<td></td>
</tr>
<tr>
<td>1. CANOPY</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. SUBCANOPY/ SAPLINGS
None

3. SHRUBS
None

4. WOODY VINES
None

5. HERBACEOUS/TREE SEEDLINGS
- Cool season grass sp. NIS 6
- White clover FACU 2
- English plantain UPL 1
- Sheep sorrel FACU 1

Community Type: Maintained lawn
Classification (4): Nonhydrophytic

Soil Unit as Mapped (7): Urban land [UR]
Drainage Class as Mapped: NA
Soil Classification as Mapped (8): Non-hydic

HYDROLOGY
- Depth to Soil Saturation: ND
- Depth to Standing Water (10): ND
- Ponding: No
- Flooded: No
- Other (11): Wetland Hydrology: Absent

SUMMARY

VEGETATION: Nonhydrophytic
SOILS: Nonhydic
HYDROLOGY: Absent

DETERMINATION: Upland

PHOTOGRAPH: F
<table>
<thead>
<tr>
<th>Station: 7</th>
<th>Flag: I1</th>
<th>Date: October 30, 2017</th>
<th>Project: 4200</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VEGETATION</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Species (1)</td>
<td>Indicator Status (2)</td>
<td>Cover AGCP Region</td>
<td>Class (3)</td>
</tr>
<tr>
<td>1. CANOPY</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>False indigo bush</td>
<td>FACW</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2. SUBCANOPY/ SAPLINGS</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. SHRUBS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arrow-leaf tearthumb</td>
<td>OBL</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Swamp rose mallow</td>
<td>OBL</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Pickerelweed</td>
<td>OBL</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Reed canary grass</td>
<td>OBL</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Beggartick sp.</td>
<td>NIS</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>SOIL</strong></td>
<td><strong>DEPTH</strong> (inches)</td>
<td><strong>MATRIX COLOR (5)</strong></td>
<td><strong>MOTTLING % COLOR</strong></td>
</tr>
<tr>
<td>0-3</td>
<td>10YR 2/1</td>
<td>None</td>
<td>grS</td>
</tr>
<tr>
<td>3-10</td>
<td>10YR 4/1</td>
<td>40% 7.5YR 5/8</td>
<td>SC</td>
</tr>
<tr>
<td>10-24</td>
<td>10YR 4/1</td>
<td>10% 7.5YR 5/8</td>
<td>C</td>
</tr>
<tr>
<td><strong>SUMMARY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil Unit as Mapped (7): Freehold-Downer-Urban land complex, 0-5% slopes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drainage Class as Mapped: Well-drained</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil Classification as Mapped (8): Hydric Inclusions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil Classification of Sample (9): Hydric</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HYDROLOGY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth to Soil Saturation: At surface</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth to Standing Water (10): 10&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ponding: Yes Flooded: No Other (11): I</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland Hydrology: Present</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SUMMARY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VEGETATION: Hydrophytic Photograph: G</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOILS: Hydric</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HYDROLOGY: Present</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Type: Palustrine emergent wetland fringe Classification (4): Hydrophytic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DETERMINATION: Wetland</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 1: Continued

<table>
<thead>
<tr>
<th>Station: 8</th>
<th>Flag: I1</th>
<th>Date: October 30, 2017</th>
<th>Project: 4200</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEGETATION</td>
<td>SOIL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Species (1)</td>
<td>Indicator Status (2)</td>
<td>Cover Class (3)</td>
<td>DEPTH (inches)</td>
</tr>
<tr>
<td>AGCP Region</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. CANOPY</td>
<td>None</td>
<td></td>
<td>0-18</td>
</tr>
<tr>
<td>2. SUBCANOPY/ SAPLINGS</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. SHRUBS</td>
<td>Allegheny blackberry</td>
<td>UPL</td>
<td>2</td>
</tr>
<tr>
<td>4. WOODY VINES</td>
<td>Trailing wild bean</td>
<td>FAC</td>
<td>2</td>
</tr>
<tr>
<td>5. HERBACEOUS/TREE SEEDLINGS</td>
<td>Aster sp.</td>
<td>NIS</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Fescue sp.</td>
<td>NIS</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Evening primrose</td>
<td>FACU</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>English plantain</td>
<td>UPL</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Common ragweed</td>
<td>FACU</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>White clover</td>
<td>FACU</td>
<td>1</td>
</tr>
</tbody>
</table>

| Soil Unit as Mapped (7): Freehold-Downer-Urban land complex, 0-5% slopes |
| Drainage Class as Mapped: Well-drained |
| Soil Classification as Mapped (8): Hydric Inclusions |
| Soil Classification of Sample (9): Non-hydric |

| HYDROLOGY |                        |                        |                        |
| Depth to Soil Saturation: ND |
| Depth to Standing Water (10): ND |
| Ponding: No Flooded: No Other (11): |
| Wetland Hydrology: Absent |

| SUMMARY |                        |                        |                        |
| VEGETATION: Nonhydrophytic |
| SOILS: Nonhydric |
| HYDROLOGY: Absent |

Community Type: Maintained lawn/early successional edge
Classification (4): Nonhydrophytic

DETERMINATION: Upland
NOTES:

1. Common names according to Reed (1988).
2. Wetland Indicator Status according to Lichvar (2013) for Atlantic Gulf Coastal Plain (AGCP) region
   NIS = not identified sufficiently to determine status. NL = not listed.
3. Value equals cover class (all layers).
   Braun-Blanquet Cover Scale (with midpoints):
   T......present, less than 1% (0)
   1......1 to 5 % (3.0)  5......51 to 75% (63.0)
   2......6 to 15% (10.5)  6......76 to 95% (85.5)
   3......16 to 25% (20.5)  7......96 to 100% (98.0)
   4......26 to 50% (38.0)
   * denotes a dominant species at this station.
4. HYDROPHYTIC = dominated by >50% FAC, FACW, or OBL plant species.
   NON-HYDROPHYTIC = dominated by >50% FACU or UPL plant species.
6. USDA Soil Textures:
   C....CLAY       ch....CHANNERY       O....ORGANIC MATERIALS
   L....LOAM      co....COBBLY
   S....SAND      gr....GRAVELLY
   Si....SILT     sh....SHALY
7. Soil mapping unit and drainage class as described in USDA SCS Soil Conservation Service soil surveys.
10. ND = no water observed to depth of sample.
11. I = hydrology inferred from soil profile.
    D = drift lines, debris, water stained leaves.
    M = morphological evidence (butressing, hummocks, exposed roots, etc.).
    O = organic surface accumulations.
APPENDIX C: PHOTOGRAPHS WITH DESCRIPTIONS
Photo 01: Facing northeast, showing Wetland A, Sample Station 1.

Photo 02: Facing southwest, showing Sample Station 2, adjacent to Wetland A.
Photo 03: Facing east, showing Wetland E, Sample Station 3.

Photo 04: Facing west, showing Sample Station 4, adjacent to Wetland E.
Photo 05: Facing east, showing Wetland G, Sample Station 5.

Photo 06: Facing northwest, showing Sample Station 6, adjacent to Wetland G.
Photo 07: Facing southeast, showing Wetland I, Sample Station 7

Photo 08: Facing east, showing Sample Station 8, adjacent to Wetland I
Photo 09: Facing east, showing eastern limits of Peter Creek project area.

Photo 10: Facing west, south Oaklyn Borough Public School recreational fields; showing Wetland D flagging (orange) and Open Water D flagging (blue).
Photo 11: Facing northeast, showing pond associated with Wetland E.

Photo 12: Facing north, showing pond associated with Wetland F.
Photo 13: Facing east, showing mowed, modified wetland with unmowed, palustrine emergent community visible to the right. Note the slight depression and presence of standing water in the lawn- indicators of wetland hydrology.

Photo 14: Facing east, at edge of Newton Lake, south of Comly Avenue. No wetlands were identified in this proposed project access area.
Photo 15: Facing east, showing upland area south of Comly Avenue.

Photo 16: Facing south, showing Wetland H below outfall, at west end of Collingswood Public Works Yard.
Photo 17: Facing west, showing Wetland J, adjacent to Newton Lake.

Photo 17: Showing hydric soils within maintained lawn (modified portion of Wetland G).
APPENDIX D: WETLAND LOCATION MAP
Legend

- Wetland Flag
- Wetland Line

Wetland Location Map

Wetland Lines A, B & C

Newton Lake Dredging Project
Audubon Borough, Audubon Park Borough, Collingswood Borough, Haddon Township, & Oaklyn Borough
Camden County, New Jersey

ASGECI Project #4200

Legend

- Wetland Flag
- Wetland Line

Sources:
Legend
- Wetland Flag
- Wetland Line

Wetland Location Map

Wetland Line D
Newton Lake Dredging Project
Audubon Borough, Audubon Park Borough, Collingswood Borough, Haddon Township, & Oaklyn Borough
Camden County, New Jersey
ASGECI Project #4200

Sources:
Wetland Location Map
Newton Lake Dredging Project
Audubon Borough, Audubon Park Borough, Collingswood Borough, Haddon Township, & Oaklyn Borough
Camden County, New Jersey
ASGECI Project #4200

Legend

- Wetland Flag

- Wetland Line

Sources:
Legend
- Wetland Flag
- Wetland Line

Sources:

Wetland Location Map

Wetland Line I
Newton Lake Dredging Project
Audubon Borough, Audubon Park Borough, Collingswood Borough, Haddon Township, & Oaklyn Borough
Camden County, New Jersey
ASGECI Project #4200
Wetland Location Map

Legend

- Wetland Flag

- Wetland Line

Sources:
Individual Flood Hazard Area Permit
Newton Lake Maintenance Dredging Project

Attachment 14
Endangered Species Survey

Contents:

• Endangered Species Survey
Endangered Species Statement

Per our wetland and endangered species survey, performed by Amy S. Greene Environmental Consultants, Inc., some of the properties adjacent to the proposed project are identified as foraging habitats for state-protected species by the NJ Landscape Project V.3.3; the species in question are the Bald Eagle and the Great Blue Heron. The Bald Eagle is listed in New Jersey as “Endangered” and “Threatened” for the breeding and non-breeding populations, respectively, the areas adjacent to the proposed work is listed only as foraging habitat, and not as a nesting location for the bird. Similarly, the area is a foraging habitat for the Great Blue Heron, whose breeding population is listed as “Special Concern” in the state. The areas identified as potential foraging habitats for these animals is outside of the scope of the dredging, but would be used as piping access to one of the dewatering sites which is to be located at the Oaklyn Borough Public Works Yard and Oaklyn Cougars Field on West Cedar Avenue. Any disturbance caused by the piping would be temporary and limited, once installed the area will not be disturbed again until the pipe is to be removed, barring any unforeseen circumstances or emergencies.

According to NJDEP Freshwater Wetlands Permit Attachment C, the project site is not located within any municipalities known to be inhabited by the endangered plant Helonias bullata (swamp pink).

According to NJDEP Freshwater Wetlands Permit Attachment D, the endangered species known as the bog turtle (Glyptemys muhlenbergii) is present in Oaklyn Borough and Audubon Township, Camden County, New Jersey. Due to the fact that Sections 4 and 5 of Newton Lake are located within Oaklyn Borough, and that Peter Creek is located within both Oaklyn Borough and Audubon Township, the site is located within at least one municipality known to contain the endangered bog turtle. Per the wetland and endangered species survey, performed by USFWS Qualified Bog Turtle Surveyor Harry Strano (through Amy S. Greene Environmental Consultants, Inc., performed 10/26/17 and 10/30/17), there is no evidence of bog turtle habitat on the project site (see attached report). This aligns with the 2013 USFWS list published by the New Jersey field office stating that the bog turtle population in Oaklyn Borough and Audubon Township has been fully wiped out.

Joshua A. Castillo (applicant agent)

Printed Name of Applicant

Signature of Applicant/Agent

01/18/2018

Date
The table below lists the municipalities in which swamp pink is known to occur in New Jersey as of October 2008. This table is subject to change as new information becomes available.
## KNOWN LOCATIONS OF SWAMP PINK IN NEW JERSEY
(As of October 2008)

<table>
<thead>
<tr>
<th>COUNTY</th>
<th>MUNICIPALITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATLANTIC</td>
<td>City of Pleasantville, Egg Harbor Township, Hammonton Township, Mullica Township</td>
</tr>
<tr>
<td>BURLINGTON COUNTY</td>
<td>Evesham Township, Medford Township, Maple Shade Township, Pemberton Township, Southampton Township, Woodland Township</td>
</tr>
<tr>
<td>CAMDEN COUNTY</td>
<td>Berlin Borough, Berlin Township, Clementon Borough, Gibbstboro Borough, Gloucester Township, Haddonfield Township, Lindenwold Borough, Pine Hill Borough, Pine Valley Borough, Runnemede Borough, Voorhees Township, Waterford Township, Winslow Township</td>
</tr>
<tr>
<td>CAPE MAY COUNTY</td>
<td>Cape May Point Borough, Dennis Township, Lower Township, Middle Township, Upper Township</td>
</tr>
</tbody>
</table>
| CUMBERLAND COUNTY | Bridgeton City  
|                  | Downe Township  
|                  | Fairfield Township  
|                  | Hopewell Township  
|                  | Lawrence Township  
|                  | Maurice River Township  
|                  | Millville City  
|                  | Stow Creek Township  
|                  | Upper Deerfield Township  
|                  | Vineland City  

| GLOUCESTER COUNTY | Clayton Borough  
|                  | Deptford Township  
|                  | East Greenwich Township  
|                  | Elk Township  
|                  | Franklin Township  
|                  | Glassboro Borough  
|                  | Mantua Township  
|                  | Monroe Township  
|                  | Newfield Borough  
|                  | South Harrison Township  
|                  | Washington Township  
|                  | Wenonah Borough  
|                  | West Deptford Township  
|                  | Woodbury Heights  
|                  | Woolwich Township  

| MERCER COUNTY | West Windsor Township  

| MIDDLESEX COUNTY | East Brunswick Township  
|                  | Edison Township  
|                  | New Brunswick City  
|                  | Perth Amboy City  
|                  | Sayreville Borough  

<table>
<thead>
<tr>
<th>COUNTY</th>
<th>TOWNSHIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONMOUTH COUNTY</td>
<td>Brielle Borough, Colts Neck Township, Freehold Township, Howell Township, Manalapan Township, Millstone Township, Wall Township</td>
</tr>
<tr>
<td>MORRIS COUNTY</td>
<td>Mount Olive Township, Randolph Township, Roxbury Township</td>
</tr>
<tr>
<td>OCEAN COUNTY</td>
<td>Barnegat Township, Brick Township, Dover Township, Jackson Township, Lacey Township, Lakewood Township, Little Egg Harbor Township, Manchester Township, Plumsted Township, Stafford Township</td>
</tr>
<tr>
<td>SALEM COUNTY</td>
<td>Alloway Township, Lower Alloways Creek Township, Pittsgrove Township, Quinton Township, Upper Pittsgrove Township</td>
</tr>
</tbody>
</table>
The table below lists the municipalities in which bog turtles are known to occur (or in which there is suitable bog turtle habitat within a drainage area with active bog turtle sites) in New Jersey as of October 6, 2008. This table is subject to change as new information becomes available.

### KNOWN LOCATIONS OF BOG TURTLES IN NEW JERSEY
(as of October 2008)

<table>
<thead>
<tr>
<th>COUNTY</th>
<th>MUNICIPALITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATLANTIC COUNTY</td>
<td>Egg Harbor Township, Hammonton Township</td>
</tr>
<tr>
<td>BERGEN COUNTY</td>
<td>Alpine Borough, Hackensack City, Montvale Borough, Northvale Borough, Old Tappan Borough, River Vale Township, Tenafly Borough</td>
</tr>
</tbody>
</table>
| BURLINGTON COUNTY   | Bass River Township  
|                    | Bordentown Township  
|                    | Burlington Township  
|                    | Chesterfield Township  
|                    | Delanco Township  
|                    | Delran Township  
|                    | Edgewater Park Township  
|                    | Evesham Township  
|                    | Mansfield Township  
|                    | Medford Township  
|                    | Mount Laurel Township  
|                    | New Hanover Township  
|                    | North Hanover Township  
|                    | Springfield Township  
|                    | Washington Township  
|                    | Westampton Township  |
| CAMDEN COUNTY       | Audubon Township  
|                    | Gloucester Township  
|                    | Oaklyn Borough  
|                    | Pine Hill Borough  |
| CAPE MAY COUNTY     | Upper Township  |
| GLOUCESTER COUNTY   | East Greenwich Township  
|                    | Harrison Township  
|                    | South Harrison Township  
|                    | Washington Township  
|                    | Woolwich Township  |
| HUNTERDON COUNTY    | Alexandria Township  
|                    | Bethlehem Township  
|                    | Clinton Township  
|                    | Franklin Township  
|                    | Glen Gardner Borough  
|                    | Lebanon Township  
|                    | Quinton Township  
|                    | Readington Township  
|                    | Tewksbury Township  
<p>|                    | Union Township  |
| MERCER COUNTY       | Hamilton Township  |
| MIDDLESEX COUNTY    | Sayreville Borough  |
| MONMOUTH COUNTY                                      | Freehold Township  |
|                                                    | Howell Township    |
|                                                    | Long Branch City   |
|                                                    | Manalapan Township |
|                                                    | Millstone Township |
|                                                    | Roosevelt Borough  |
|                                                    | Upper Freehold Township |
|                                                    | Wall Township      |
| MORRIS COUNTY                                      | Boonton Township   |
|                                                    | Chatham Township   |
|                                                    | Chester Township   |
|                                                    | Chester Borough    |
|                                                    | Denville Township  |
|                                                    | Dover Township     |
|                                                    | Florham Park Borough|
|                                                    | Hanover Township   |
|                                                    | Harding Township   |
|                                                    | Jefferson Township |
|                                                    | Long Hill Township |
|                                                    | Mine Hill Township |
|                                                    | Morris Township    |
|                                                    | Mount Olive Township|
|                                                    | Parsippany Troy Hills Township |
|                                                    | Passaic Township   |
|                                                    | Randolph Township  |
|                                                    | Rockaway Township  |
|                                                    | Roxbury Township   |
|                                                    | Washington Township|
|                                                    | Wharton Borough    |
| OCEAN COUNTY                                        | Berkeley Township  |
|                                                    | Brick Township     |
|                                                    | Lakehurst Borough  |
|                                                    | Manchester Township|
|                                                    | Plumsted Township  |
| PASSAIC COUNTY                                      | Wayne Township     |
|                                                    | West Milford Township|
| SALEM COUNTY                                        | Mannington Township|
|                                                    | Pilesgrove Township|
|                                                    | Quinton Township   |
|                                                    | Upper Pittsgrove Township |</p>
<table>
<thead>
<tr>
<th>COUNTY</th>
<th>TOWNSHIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOMERSET COUNTY</td>
<td>Bedminster Township</td>
</tr>
<tr>
<td></td>
<td>Bernards Township</td>
</tr>
<tr>
<td></td>
<td>Chatham Township</td>
</tr>
<tr>
<td></td>
<td>Far Hills Borough</td>
</tr>
<tr>
<td></td>
<td>Franklin Township</td>
</tr>
<tr>
<td></td>
<td>Montague Township</td>
</tr>
<tr>
<td></td>
<td>Peapack-Gladstone Township</td>
</tr>
<tr>
<td></td>
<td>Warren Township</td>
</tr>
<tr>
<td></td>
<td>Watchung Township</td>
</tr>
<tr>
<td>SUSSEX COUNTY</td>
<td>Andover Township</td>
</tr>
<tr>
<td></td>
<td>Byram Township</td>
</tr>
<tr>
<td></td>
<td>Frankford Township</td>
</tr>
<tr>
<td></td>
<td>Franklin Boro</td>
</tr>
<tr>
<td></td>
<td>Franklin Township</td>
</tr>
<tr>
<td></td>
<td>Fredon Township</td>
</tr>
<tr>
<td></td>
<td>Green Township</td>
</tr>
<tr>
<td></td>
<td>Hamburg Boro</td>
</tr>
<tr>
<td></td>
<td>Hamburg Township</td>
</tr>
<tr>
<td></td>
<td>Hampton Township</td>
</tr>
<tr>
<td></td>
<td>Hardyston Township</td>
</tr>
<tr>
<td></td>
<td>Lafayette Township</td>
</tr>
<tr>
<td></td>
<td>Montague Township</td>
</tr>
<tr>
<td></td>
<td>Ogdensburg Borough</td>
</tr>
<tr>
<td></td>
<td>Sandyston Township</td>
</tr>
<tr>
<td></td>
<td>Sparta Township</td>
</tr>
<tr>
<td></td>
<td>Stillwater Township</td>
</tr>
<tr>
<td></td>
<td>Vernon Township</td>
</tr>
<tr>
<td></td>
<td>Walpack Township</td>
</tr>
<tr>
<td></td>
<td>Wantage Township</td>
</tr>
<tr>
<td>UNION COUNTY</td>
<td>Berkeley Heights Township</td>
</tr>
<tr>
<td></td>
<td>Mountainside Borough</td>
</tr>
<tr>
<td></td>
<td>Scotch Plains Township</td>
</tr>
<tr>
<td>WARREN COUNTY</td>
<td>Allamuchy Township</td>
</tr>
<tr>
<td></td>
<td>Franklin Township</td>
</tr>
<tr>
<td></td>
<td>Frelinghuysen Township</td>
</tr>
<tr>
<td></td>
<td>Hardwick Township</td>
</tr>
<tr>
<td></td>
<td>Harmony Township</td>
</tr>
<tr>
<td></td>
<td>Hope Township</td>
</tr>
<tr>
<td></td>
<td>Independence Township</td>
</tr>
<tr>
<td></td>
<td>Liberty Township</td>
</tr>
<tr>
<td></td>
<td>Oxford Township</td>
</tr>
<tr>
<td></td>
<td>Washington Township</td>
</tr>
<tr>
<td></td>
<td>White Township</td>
</tr>
</tbody>
</table>
Individual Flood Hazard Area Permit
Newton Lake Maintenance Dredging Project

Attachment 15
Riparian Zone Compliance

Contents:

- Riparian Zone Compliance Statement
Administrative Order No. 2016-06 Compliance

The proposed activities are necessary for the environmental health of Newton Lake and Peter Creek, while also increasing the recreational and aesthetic value for the municipalities that use the waterbodies for boating and fishing. Dredging of the lake is essential for improving the accessibility of the lake and for reducing the excessive growth of spatterdock, algae, and other aquatic plants through the removal of excess soil. Any disturbance associated with the access areas are necessary to facilitate the dredging of the lake, and all will be temporary; there are no practicable alternatives to these activities.

All disturbances will be minimized to the maximum extent practicable. All activities will comply with any applicable water quality standards and requirements.

This project is intended to benefit the public interest through improving the overall health of the lakes while also increasing the recreational and aesthetic value. There are no alternative locations for dredging, but the proposed access areas are selected to produce the minimum disturbance to the surrounding residents and environment.

Any potential adverse impacts to the downstream waterbodies due to the dredging process will be mitigated through the use of turbidity curtains, compost filter socks, and return water filter bags. In the long term, the impacts on public health, safety, and welfare, and the environment, will be positive, in the increased utilization of the water body and in the reduction of excessive aquatic plant growth.

Joshua A. Castillo (applicant agent)

Printed Name of Applicant

Signature of Applicant/Agent

01/18/2018

Date