Appendix E – Pertinent Correspondence

Project Management

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

JUL 9 9 2014

REPLY TO
ATTENTION OF

CENAP-PL-PC

MEMORANDUM FOR: Commander, North Atlantic Division, CENAD-PD-P (Joe Forcina)

SUBJECT: Revision One to the Project Management Plans (PMP) and Review Plans for the Delaware River Dredged Material Utilization Studies for NJ and DE

1. References:
   a. CEPCX-CSRM Memorandum dated 24 February 2014, Subject: Review Plan for New Jersey Beneficial Use of Dredged Material for the Delaware River Feasibility Study.
   b. MFR, Delaware River, NJ and DE Dredged Material Utilization dated 27 May 2014.
   c. CENAD-PD-P Memorandum dated 16 June 2014, Subject: Delaware River Dredged Material Utilization Studies in New Jersey and Delaware.
   d. CENAD-PD-CS Memorandum dated 27 June 2014, Subject: NAD Comment on Delaware River Dredged Material Utilization Studies in New Jersey and Delaware Project Management Plan.

2. Enclosed for your review are updated Project Management Plans (PMPs) and Review Plans for the Delaware River Dredged Material Utilization Study, DE and the Delaware River Dredged Material Utilization Study, NJ. The District revised each PMP in accordance with References (c) and (d) above to reduce the total study cost to $2M per study. This reflects a reduction of $890,000 for each study since the execution of the Feasibility Cost Share Agreements (FCSA).

3. The District maintains its position expressed during the 22 April 2014 checkpoint meeting. The District agreed to re-scope each project and reduce total project costs within acceptable risk boundaries. The target for each study was $2M. The District believes the $2M target opens these complex studies to significant risk. To address this increased risk, the District maximized use of the Risk Register to document changes in scope and budget. In accordance with SMART Planning, the Risk Register will aid the Vertical Team in completing both studies within acceptable risk boundaries.

4. The Coastal Storm Risk Management Planning Center of Expertise approved the Review Plans for each study via memorandum on 24 February 2014. Changes to the review plan include only minor editorial modifications. Those changes are documented in each Review Plan.

5. In particular, the District focused scope and cost reductions to the following areas:

    a. The District will limit the focus of Plan Formulation to fewer geographic areas with an emphasis on only the highest risk areas. This reduction in effort reduces the overall study cost, but leaves opportunities un-studied for each study authority. This includes such opportunities as those suggested by NAD through the Systems Approach to Geomorphic Engineering (SAGE).

    b. The type and level of public involvement is another area the District targeted for study cost reductions. The District will limit public involvement to the minimum requirements of the National Environmental Policy Act (NEPA). This includes eliminating NEPA scoping workshops and other public meetings beyond the minimum NEPA requirements. In the past, the Delaware Riverkeeper Network has shown intense interest in all things related to dredging the Delaware River. A reduced public involvement effort may result in study cost increases associated with actions taken by the DRN if they choose to challenge the results of the study.

    c. The District applied an approximate 12% cost reduction across most study tasks contained in the PMP. Some additional rounding was applied to several budget items to reach $2M. The District believes this broad cost reduction minimizes the risk to any one task by sharing the risk across the study. Without budgeted contingencies, this approach lessens the impact to any individual task if project risks become reality.

6. The District looks forward to working with you to achieve high quality studies and agrees that study scope and costs should be monitored and re-visited continuously, consistent with the iterative Planning Process. We would welcome further discussions with your team as the studies progress or if you find these risks outlined above to be inappropriate and have other suggestions regarding the study scope and costs.

7. If you have any questions please contact my Project Development Branch Chief, Erik Rourke, at (215) 656-6616.

FOR THE COMMANDER:

Enclosures

PETER R. BLUM, P.E.
Chief, Planning Division

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3391

REPLY TO
ATTENTION OF

FEB 13 2015

CENAP-PL-PC

MEMORANDUM FOR: Commander, North Atlantic Division, CENAD-PD-P (Joe Vietri)

SUBJECT: NAD/NAP Vertical Coordination Meeting for NJ and DE Beneficial Use of Dredged Material for the Delaware River (DMU) Feasibility Studies

1. Background

The purpose of this memorandum is to document the conclusions and recommendations made at the North Atlantic Division (NAD)/Philadelphia District (NAP) Vertical Coordination Meeting that was held at NAP from February 4-6, 2015 on the NJ and DE DMU feasibility studies. Representatives from NAD, NAP, the Project Delivery Team (PDT), and Delaware Department of Natural Resources and Environmental Control (DNREC) participated in the meeting. The meeting participant list is in Enclosure 1.

2. Discussion & Agreements

NAD and NAP agreed that the NJ and DE DMU feasibility studies are addressing high priority flood risk management (FRM) problem areas that warrant further analysis under the "Ongoing Sandy Study," as identified in the Second Interim Report (Disaster Relief Appropriations Act, 2013) submitted by the Assistant Secretary of the Army for Civil Works (May 30, 2013). Furthermore, NAD concurred with NAP's ongoing plan formulation strategy for these studies, as described below.

- Problem Area Identification - FRM problem areas were initially identified through coordination and outreach efforts with other Federal agencies and state, local and tribal officials conducted under the purview of the NACCS. After identifying the FRM problem areas, two questions were posed by the PDT to potentially screen down and focus the number of FRM problem areas applicable for further analysis under this "Ongoing Sandy Study."

    - Question 1 - Is FRM the "primary" problem in this problem area (Y/N)? Based on the weighting used to develop the NACCS Composite Exposure Index in the DMU study area, the PDT assumes that areas with a high Composite Exposure Index are high risk FRM areas in which FRM is the "primary" problem.

If the answer is N to Question 1, the problem area is screened out and recommended for further analysis under another ("non-Sandy") authority. If the answer is Y to Question 1, proceed to Question 2.

- Question 2: Is dredged material a feasible measure for FRM in this problem area (Y/N)? Qualitative criteria is used to determine if dredged material is a feasible FRM measure in different problem areas:

    - Proximity of a dredged material source to the problem area
    - Amount of space and land available to place dredged material at the problem area
    - Applicability of dredged material for a given shoreline type at the problem area, per the NACCS

  If the answer is N to Question 2, the problem area is screened out and recommended for further analysis under another authority. If the answer is Y to Question 2, carry the problem area forward for further analysis under this "Sandy Study".

NAD expressed concern over the level of detail that NAP will provide in the Alternatives Milestone read-ahead material, particularly the without project conditions. NAP will establish the without project conditions in accordance with the following:

- Existing conditions will be established with available data, including local sponsor and stakeholder accounts, existing reports/studies, data gathered in the NACCS and FEMA NFIP claim information from 1978 to 2014.
- For the future without project conditions, the following level of detail is anticipated:

    - Shoreline erosion rates will be projected based on existing studies conducted for both NJ and DE.
    - The USACE historical sea level rise scenario, as documented in the NACCS, will be assumed for the study area.
    - NACCS inundation mapping for the annual chance exceedance (ACE) of .1% (10-year return period flood) and 1% ACE (100-year return period flood) will be used to determine the approximate flood inundation in each problem area for each of the aforementioned return periods.
    - A GIS-based structural inventory will be completed for the problem areas, including approximate structure values in the problem areas.

As indicated in the enclosed strategy paper (Enclosure 2 – Delaware & New Jersey Beneficial Use of Dredged Material for the Delaware River Feasibility Studies Strategy Paper), NAP will employ the Corps Six-Step Planning Process throughout the establishment of the baseline conditions, the focused array of alternatives and ultimately the identification of the tentatively selected plan (TSP). Formulated measures will include structural and non-structural measures developed to meet study objectives.

3. Path Forward

NAP will continue to coordinate with the VT in order develop a VT-aligned study approach and continue to move toward the Alternatives Milestone. Specifically, NAP will provide the required Alternatives Milestone read-ahead materials by March 17, 2015. Note: NAP will continue to work with the VT on the enclosed tools: Risk Register and Decision Log (Enclosure 3 and 4, respectively).

4. Please contact Mr. Scott Sanderson at 215.656.6571 if there are any questions and/or concerns.

FOR THE COMMANDER:

PETER R. BLUM, P.E.
Chief, Planning Division

Encl (4)
Enclosure 1: Meeting Participant List
Enclosure 2: Delaware & New Jersey Beneficial Use of Dredged Material for the Delaware River Feasibility Studies Strategy Paper
Enclosure 3: Risk Register
Enclosure 4: Decision Log

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
100 EAST PENN SQUARE, FLOOR 7, WANAMAKER BUILDING
PHILADELPHIA, PENNSYLVANIA 19107-3390

CENAP-PL-PC

MEMORANDUM FOR RECORD: 20 September 2016

SUBJECT: Tentatively Selected Plan (TSP) meeting, 26 July 2016 for the New Jersey and Delaware Beneficial Use of Dredged Material for the Delaware River (DMU) feasibility studies.

REFERENCE: Memorandum for Commander, Headquarters, U.S. Army Corps of Engineers 12 July 2016.

1. Location: HQUSACE, Conference Room 3Y10, Washington, D.C.

2. Day/Time: 26 July 2016, 0900 to 1200

3. Attendees:

   a. HQUSACE: Theodore Brown, Scott Murphy, Jeremy LaDart, Mark Matusiak, Jitka Braeden, Raymond Wimbrough, Catherine Shuman, Paula Retzler, Chuck Moeslein, Mayeley Boyce, Mike Sterling.

   b. CENAD (via teleconference): Naomi Fraenkel, Russ Smith, Rena Weichenberg, Joe Forcina, Ann Marie Dilorenzo, Wilson Miller, Donald Cresitello, Young Kim.

   c. CENAP: Peter Blum, Scott Sanderson, Erik Rourke, Brian Bogle, Preston Oakley.

   d. CENAP (via teleconference): Laura Bittner, Nikki Minnichbach, Barbara Conlin, Jake Helminiak, Bob Selsor, Jeff Gebert, Dan Caprioli, Charles MacIntosh.

   e. CENAB (via teleconference): Heather Sachs

   f. ERDC (via teleconference): Mark Gravens

   g. Contractors (via teleconference): Howard Marlowe, Rich Ring, Jake Assael

   h. Non-Federal Sponsors (via teleconference): Megan Rutkowski (NJDEP), Abbie Tang-Smith (NJDEP)

4. Purposes of TSP Milestone Meeting: To obtain vertical team agreement on the Project Delivery Team's (PDT's) recommendation of a tentatively selected plan and proposed way forward on developing sufficient cost and design information for the final feasibility study report.

5. Summary: The District received vertical team concurrence of each study's tentatively selected plan during the July 2016 TSP meeting. The goals of the meeting were to discuss each study's progress to date, concur with the results of the tentatively selected plan determination, and gain approval to release the draft feasibility report. Peter Blum, Chief of Philadelphia District Planning Division, presented a summary of the work completed to date, including a description of the study area, problems and opportunities, future without project conditions, the formulation and evaluation of alternative plans, and the environmental analyses. Read ahead material for the TSP meeting included a report synopsis, report synopsis abstract, decision log, decision management plan, risk register, study issue checklist, and a draft of the presentation.

6. Discussion:

   a. Introductory Comments (Theodore Brown)

      1. Mr. Brown discussed the meeting purpose, which was to obtain vertical team alignment (and approval by Mr. Brown) of the TSP for each study. In addition, Mr. Brown indicated that each draft report should be released within 30 to 60 days of the TSP meeting.

      2. Mr. Brown further stated the following:

         - Concurrent public, technical, legal, and policy review of the draft report and NEPA document must be complete prior to the Agency Decision Milestone (ADM). Prior to the ADM, the vertical team will determine which comments need to be addressed pre-ADM and post-ADM. The Decision Management Plan needs to include a discussion of how the comments will be addressed post-ADM.

         - The ADM should be planned for approximately 4 months after the TSP to allow time for coordination of comments.

         - The purpose of the ADM is to obtain Senior Leader agreement on the steps necessary to complete feasibility-level design and validate the TSP.

- The Civil Works Review Board (CWRB) is approximately 60 days after the Division Engineer submittal of the final feasibility report, with the Chief's Report approximately 3 months later.

b. TSP Presentation (Peter Blum) – The meeting generally followed the attached slide presentation with discussions on various topics throughout the presentation. Since the pre-TSP meeting (23 June 2016), 5 potential placement sites were added to the NJ DMU (all sites except for Villas).

c. General Policy Issues

1. The project team must determine if the project is providing flood risk management (FRM) or coastal storm risk management (CSRM), as this affects future project cost sharing requirements.

2. Because the TSP is proposing a Federal beach restoration project, the recommended plan must comply with Federal beach access/parking requirements and state regulatory agencies.

3. The project team must ensure Executive Order 11988 compliance and documentation.

4. The project team must evaluate the current project schedule and adjust if necessary.

d. With and Without Project Conditions - The draft report narrative must explain the need for the feasibility study and the compelling rationale for implementation of the recommended plan in terms of with and without project conditions. It must clearly address how critical infrastructure (fire/police stations, hospitals, nursing homes, schools, evacuation routes, etc.) and life safety and loss of life are impacted by storms and how the project will help reduce risk for each, as well as residential/industrial structures. It must discuss routes of egress and ingress for evacuations and emergency personnel. Explain the project so the Office of Management and Budget (OMB) understands the importance of the project.

e. Plan Formulation Risk-based Assumptions – Risk-based assumptions that helped guide the plan formulation were discussed and require additional analysis and validation.

1. For the proposed dredged material project source area (Miah Maull and Brandywine Ranges of Lower Reach E of the Delaware River/Bay Main Channel), clarification is needed on the quantities of available dredged material projected to be available after the channel is deepened to 45 feet. Clarification is needed on the placement assumptions, if any, of the latest Dredged Material Management Plan (DMMP). Jeff Gebert clarified that the DMMP is only necessary where the project is reaching placement capacity in the existing disposal facilities, which is not the case for the Delaware Deepening.

   - What were the dredged material quantity estimates from the original feasibility study completed for the Delaware River deepening project?

   - How do the estimates from the original feasibility study compare to more recent analysis and potential ground-truthing in a more recent decision document?

2. For the proposed dredged material project source area, clarification is needed on the Federal Standard that would be applied in the absence of Federal DMU CSRM project.

   - How long will the Delaware River – Philadelphia to the Sea Navigation Project continue to use the Buoy 10 open water disposal site as the Federal Standard disposal area for the Miah Maull and Brandywine Ranges of Lower Reach E?

   - If Buoy 10 has finite capacity, what will be the future Federal Standard for the aforementioned ranges of Lower Reach E?

   - What is the status of the DMMP for the Delaware River – Philadelphia to the Sea Navigation Project?

f. Environmental Compliance – Resource agency concurrence of the recommended plan is necessary prior to the CWRB. Specifically, complete resource agency concurrence (i.e. 401 Certification) is ideal, or at a minimum, a letter of support from the resource agencies indicating no foreseeable issues on issuing a Water Quality Certificate is necessary.

1. On 20 November 2015, National Marine Fisheries Service (NMFS) issued a Biological Opinion (BO) for the Delaware River Deepening project.

2. In the 2015 BO, NMFS concluded for the deepening project that any effects of the deepening and subsequent maintenance of the 45 feet channel on Atlantic sturgeon spawning will be insignificant and discountable. There are no sturgeon concerns for Lower Reach E.

3. No need for re-initiation of Section 7 coordination since the agencies "did not perceive the placement sites change to be any different to warrant recordation."

4. All currently proposed dredged material placement areas and dredged material source areas are located outside of the Coastal Barrier Resources Act (CBRA) units. CBRA compliance will be further analyzed and confirmed during optimization of the recommended plan.

5. Dredged material disposal and placement must be consistent with sound engineering practices and meet all Federal environmental requirements, including those established under Section 404 of the Clean Water Act and the Marine Protection, Research and Sanctuaries Act (MPRSA) – Ocean Dumping Act.

6. The project team needs to confirm if there are any Coastal Zone Management (CZM) issues resulting from the recommended plan.

g. Economics & With Project Benefits

1. For the NJ DMU and DE DMU system-based plans, the BCRs with a 3.125% discount rate are currently 2.3 and 2.0, respectively.

2. Each dredged material placement location within the TSP system must be incrementally justified. Therefore, the draft report must contain caveats that the current list of placement locations may change pending plan optimization and additional analysis.

3. While the plan justification is based on CSRM, the full environmental benefits/impacts of the project must be articulated in the feasibility report

4. Sea Level Change (SLC) must be addressed and coordinated with the Institute for Water Resources (IWR) Climate Preparedness and Resiliency Community of Practice during plan optimization.

5. Although not required for the feasibility report, the team should be able to explain the economics using a 7% discount rate to aid in discussions with OMB.

h. Engineering Considerations

1. Cost Engineering

- The current cost estimate for each DMU is approximately $54,000,000. Ultimately project cost estimates will need to be certified by USACE's Walla Walla Cost Engineering Center of Expertise.

- The draft report must clearly explain the methodology and risk-based assumptions applied to the development of the project cost estimates.

- Project costs must be clearly broken out between initial construction and re-nourishment in the draft report.

2. Civil Design

- The draft report must clearly explain the process used to determine the original berm and dune dimensions for the TSP.

- The draft report should reference feasibility level design, not 30% feasibility level design.

i. Results and Future Actions

1. The Chief of Planning and Policy approved the tentatively selected plan for each feasibility study.

2. Per the direction of the Chief of Planning and Policy, the District will do the following:

   - Validate each study's schedule and revise them if necessary.

   - Clearly define the project costs and benefits and address the System of Accounts (National Economic Development, Regional Economic Development, Other Social Effects and Environmental Quality)

   - Address and describe the incremental justification of each dredged material placement location and explain how the placement locations are connected as one system.

   - Determine if the project is providing FRM or CSRM, as this affects future project cost sharing requirements.

   - Determine the status of the DMMP for the Delaware River – Philadelphia to the Sea navigation project to define the navigation project's base plan. After establishing the base plan, define the period of analysis for the DMU CSRM project(s).

   - Provide a breakout of initial construction and re-nourishment costs for the recommended plan in the draft report.

   - Prepare an effects determination for endangered species and provide official concurrence from the USFWS and NMFS as part of the ESA compliance documentation.

CENAP-PL-PC
SUBJECT: Tentatively Selected Plan (TSP) meeting, 26 July 2016 for the New Jersey and Delaware Beneficial Use of Dredged Material for the Delaware River (DMU) feasibility studies.

- Ensure public beach access/parking compliance for the TSP placement locations by coordinating with state regulatory agencies and Federal beach access/parking requirements.

- Document compliance with EO 11988

- Document in the draft report that the current list of placement locations may change pending plan optimization and additional analysis.

for C. MacIntosh
Peter R. Blum, P.E.
Chief, Planning Division

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT
100 PENN SQUARE EAST
PHILADELPHIA, PA 19107-3390

Executive Office

JUN 10 2016

Mr. David Rosenblatt
Assistant Commissioner
New Jersey Department of Environmental Protection
401 East State StreetTrenton, New Jersey 08608

Dear Mr. Rosenblatt:

Section 1002 of the Water Resources Reform and Development Act (WRRDA) allows for greater transparency in the notification and reporting of feasibility study milestones and requires the U.S. Army Corps of Engineers (USACE) District Engineer to provide non-Federal interests of written notification of five key milestone dates. The Act also requires that I notify you when a milestone is not met and to provide an explanation.

On September 11, 2015, I provided to you a study schedule for the *Delaware River, New Jersey Beneficial Use of Dredged Material Feasibility Study.* The Corps has been unable to meet the "Release of the Draft Feasibility Report Milestone" contained in that letter due to additional time required to complete the complex modeling used to analyze the economic benefits of the tentatively selected plan.. The table below provides an updated scheduled.

Milestone Date	Milestone
September 23, 2016	Release of the Draft Feasibility Report
March 21 2017	District Submittal of the Final Feasibility Report
April 28, 2017	MSC Transmittal of the Final Feasibility Report
June 23, 2017	Civil Works Review Board
September 7, 2017	Signed Chief's Report

Schedules are based on the assumption of full-funding (Federal and non-Federal) over the course of the study. Up-to-date study schedules will be posted and available to the public on the (Insert name/link to public website) website. All schedules and missed deadlines will also be submitted in an annual report to Congress. If you have any questions please contact Erik Rourke, Chief Project Development Branch at (215) 656-6616 or through email at erik.j.rourke@usace.army.mil.

Sincerely,

MICHAEL A. BLISS, P.E.
Lieutenant Colonel, Corps of Engineers
District Commander

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
100 PENN SQUARE EAST, 7th FLOOR WANAMAKER BUILDING
PHILADELPHIA, PENNSYLVANIA 19107-3390

CENAP-DE

JUN 15 2017

Mr. David Rosenblatt
Assistant Commissioner
New Jersey Department of Environmental Protection
Engineering and Construction 501 East State Street
Mail Code 501-01-A
P.O. Box 420
Trenton, NJ 08625

Dear Mr. Rosenblatt:

Section 1002 of the Water Resources Reform and Development Act (WRRDA) allows for greater transparency in the notification and reporting of feasibility study milestones and requires the U.S. Army Corps of Engineers (USACE) District Engineer to provide non-Federal interests written notification of five key milestone dates. The Act also requires that I notify you when a milestone is not met and to provide an explanation.

On June 10, 2016, I provided you an updated study schedule for the New Jersey Beneficial Use of Dredged Material for the Delaware River Feasibility Study. The Corps has further revised the schedule due to additional time required to complete the modeling used to analyze the economic benefits of the recommended plan.

The table below provides an updated schedule:

Milestone Date	Milestone
October 18, 2017	Release of the Draft Feasibility Report
July 2, 2018	District Submittal of the Final Feasibility Report
August 14, 2018	MSC Transmittal of the Final Feasibility Report
November 1, 2018	Civil Works Review Board
February 7, 2019	Signed Chief's Report

Schedules are based on the assumption of full funding over the course of the study. Up-to-date study schedules will be posted and available to the public on the website (http://www.nap.usace.army.mil/Missions/Factsheets/GI-Schedules/).

All schedules and missed deadlines will also be submitted in an annual report to Congress.

If you have any questions, please contact Brian Bogle, Chief Project Development Branch at (215) 656-6585 or through email at Brian.P.Bogle@usace.army.mil.

Sincerely,

MICHAEL A. BLISS, P.E.
Lieutenant Colonel, Corps of Engineers
District Commander

Environmental Coordination

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT
100 PENN SQUARE EAST
PHILADELPHIA, PA 19107-3390

CENAP-PL-E

APR 27 2015

Ms. Grace Musumeci, Chief
Environmental Review Section
Strategic Planning and Multi-Media Programs Branch
USEPA Region II
290 Broadway
New York, NY 10007-1866

Dear Ms. Musumeci:

In accordance with the National Environmental Policy Act of 1969, as amended, the U.S. Army Corps of Engineers (USACE) Philadelphia District is evaluating the feasibility of providing flood risk management improvements within risk prone areas of the Delaware Estuary within the states of Delaware and New Jersey through the beneficial use of dredged material. Consistent with USACE policies, the investigation of Federal interest must be based on an appraisal of the costs, benefits, and environmental impacts of any recommended project plan.

In follow-up to our initial coordination letter of 24 November 2014, the USACE has considered input received and has initiated a screening process to focus the study scope on potential project sites with a high potential for flood-related damages. This letter serves to inform you of progress, to date, identify the focus areas of study, and to solicit any further comments or concerns you may have specific to these potential project locations.

The goal of the study, following passage of the Disaster Relief Appropriations Act, 2013 (PL 113-2) in October 2012 and Second Interim Report to Congress (dated 30 May 2013), is to combine risk reduction of flood-prone bayshore community areas with enhancement of shoreline resiliency using dredged material beneficially. The Philadelphia District has narrowed the list of potential project sites to 13 in Delaware and 9 in New Jersey (see attached) based on the extent of damages resulting from flooding and available land and shoreline characteristics of the problem areas for dredged material placement. Potential project sites may be further screened based on distance from available dredged material sources.

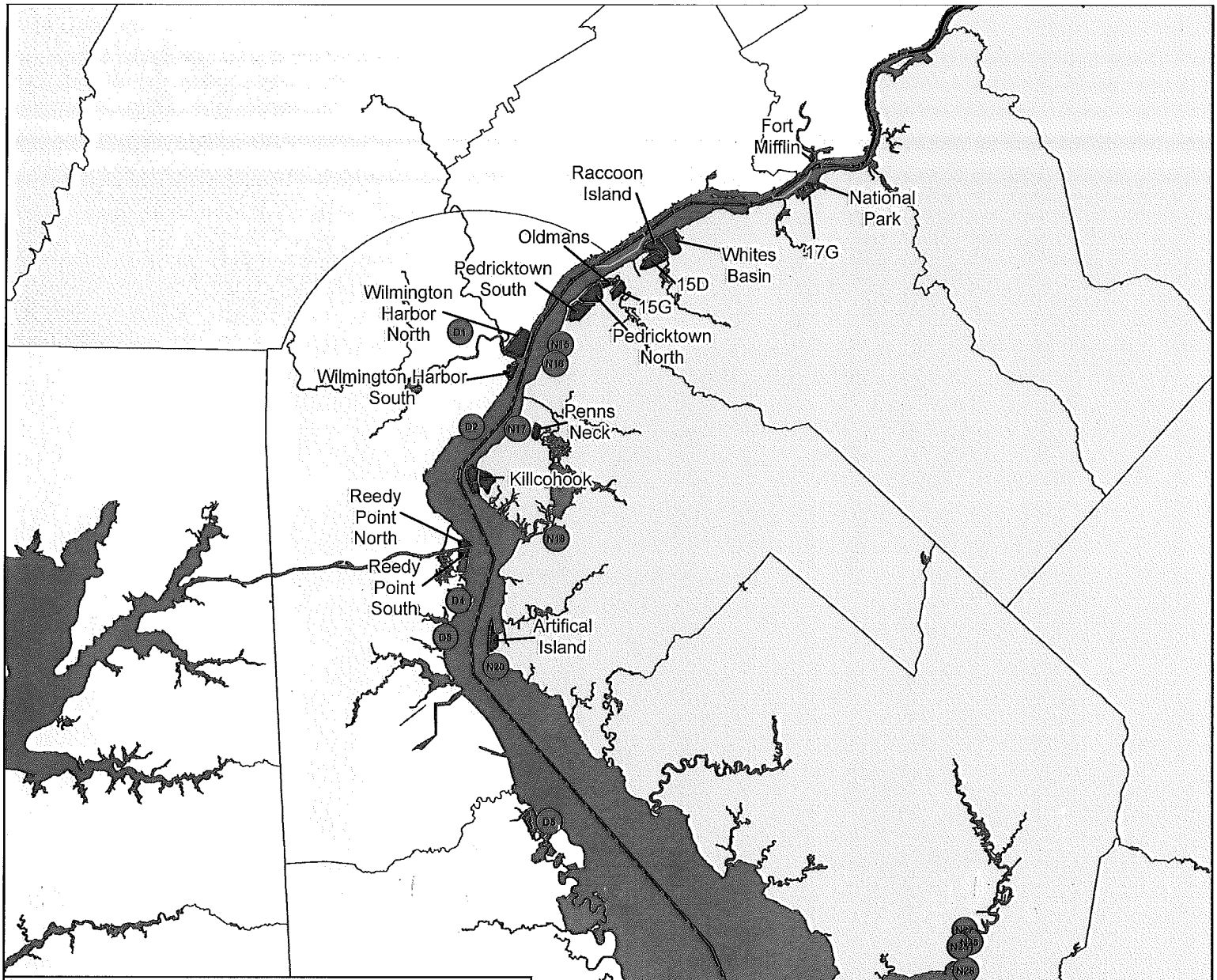
The study will evaluate opportunities of using dredged material for beach nourishment to establish berms and dunes, marsh enhancement, riverine levees, and living shorelines with or without hardened support structures such as groins or breakwaters. Delaware's Department of Natural Resources and Environmental Control and New Jersey's Department of Environmental Protection will serve as the nonfederal sponsors to these respective projects. The study is scheduled to be completed by August 2017 and is 100% Federally funded.

If you have any further comments or concerns regarding the attached list of screened potential project sites or would like to suggest preferred storm protection design strategies, we invite your input. If you have any questions, please contact Ms. Barbara Conlin of the Environmental Resources Branch at (215) 656-6557 or Mr. Scott Sanderson of Coastal Section at (215) 656-6571.

Sincerely,

Peter R. Blum, P.E.
Chief, Planning Division

Enclosure



DELAWARE	
ID	Name
D1	Wilmington
D2	New Castle
D4	Augustine Beach
D5	Bay View Beach
D6	Woodland Beach
D9	Pickering Beach
D10	Kitts Hummock
D11	Bowers Beach
D12	South Bowers Beach
D13	Big Stone Beach
D14	Mispillion River Inlet / Slaughter Beach
D17	Prime Hook Beach
D18	Lewes Beach

NEW JERSEY	
ID	Name
N15	Penns Grove
N16	Deepwater
N17	Pennsville
N18	City of Salem
N20	Lower Alloways Creek
N25	Bivalve (Commercial Twp)
N26	Shellpile (Commercial Twp)
N27	Port Norris (Commercial Twp)
N28	Maurice River

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT
100 PENN SQUARE EAST
PHILADELPHIA, PA 19107-3390

CENAP-PL-E

APR 27 2015

Ms. Mary A. Colligan
Assistant Regional Administrator
for Protected Resources
National Marine Fisheries Service
Northeast Region
One Blackburn Drive
Gloucester, MA 01930-2298

Dear Ms. Colligan:

In accordance with the National Environmental Policy Act of 1969, as amended, the U.S. Army Corps of Engineers (USACE) Philadelphia District is evaluating the feasibility of providing flood risk management improvements within risk prone areas of the Delaware Estuary within the states of Delaware and New Jersey through the beneficial use of dredged material. Consistent with USACE policies, the investigation of Federal interest must be based on an appraisal of the costs, benefits, and environmental impacts of any recommended project plan.

In follow-up to our initial coordination letter of 24 November 2014, the USACE has considered input received and has initiated a screening process to focus the study scope on potential project sites with a high potential for flood-related damages. This letter serves to inform you of progress, to date, identify the focus areas of study, and to solicit any further comments or concerns you may have specific to these potential project locations.

The goal of the study, following passage of the Disaster Relief Appropriations Act, 2013 (PL 113-2) in October 2012 and Second Interim Report to Congress (dated 30 May 2013), is to combine risk reduction of flood-prone bayshore community areas with enhancement of shoreline resiliency using dredged material beneficially. The Philadelphia District has narrowed the list of potential project sites to 13 in Delaware and 9 in New Jersey (see attached) based on the extent of damages resulting from flooding and available land and shoreline characteristics of the problem areas for dredged material placement. Potential project sites may be further screened based on distance from available dredged material sources.

The study will evaluate opportunities of using dredged material for beach nourishment to establish berms and dunes, marsh enhancement, riverine levees, and living shorelines with or without hardened support structures such as groins or breakwaters. During the development of the tentatively selected plan, the USACE will be cognizant of designated EFH, species of concern, and ecologically sensitive aquatic resources and habitats, as noted in your 22 December 2014 letter. Delaware's Department of Natural Resources and Environmental Control and New Jersey's Department of Environmental Protection will serve as the nonfederal sponsors to these respective projects.

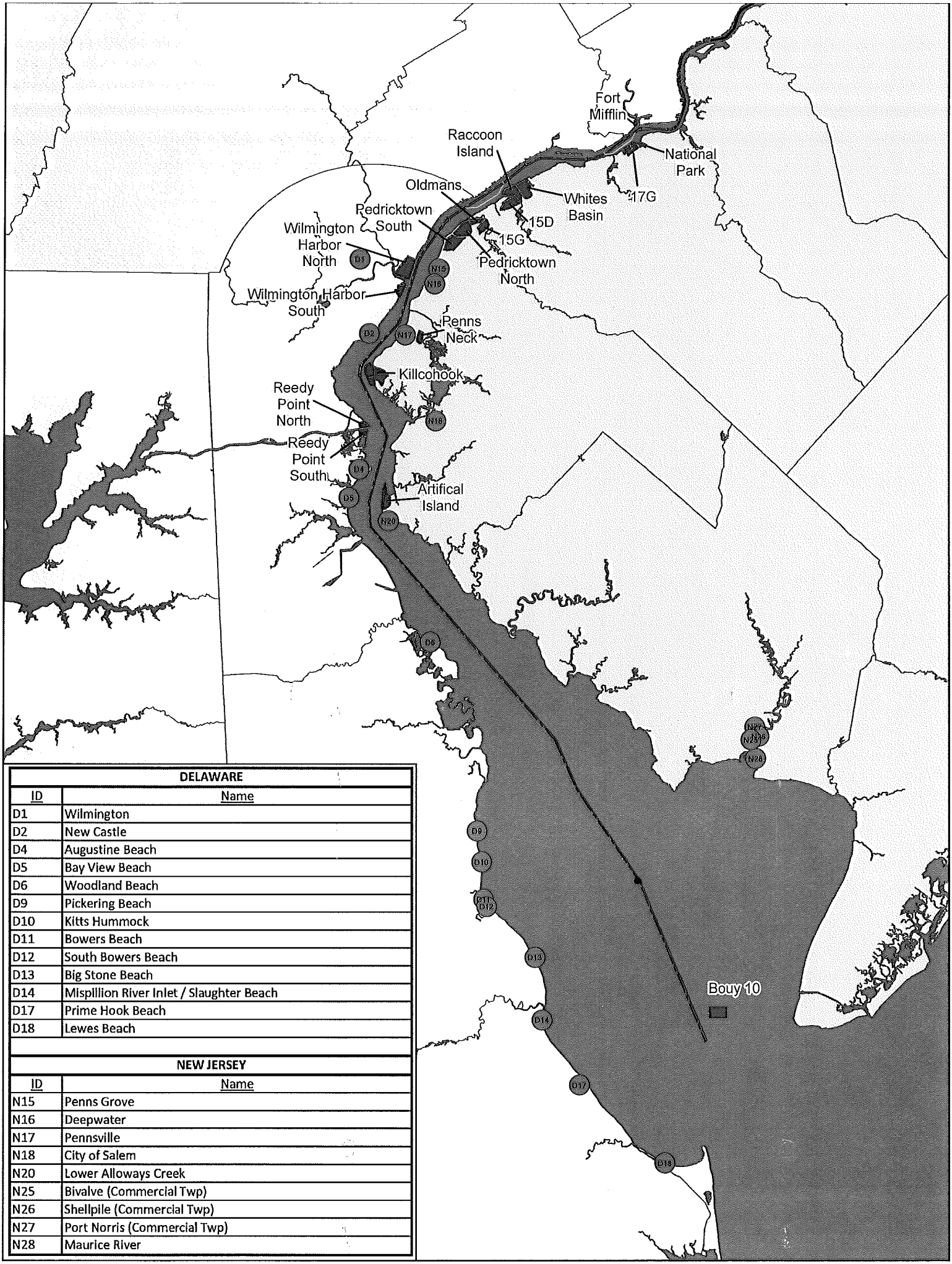
The study is scheduled to be completed by August 2017 and is 100% federally funded.

The USACE welcomes your continued input in regards to the protection of fish and wildlife resources. If you have any further comments or concerns regarding the attached list of screened potential project sites or would like to suggest preferred storm protection design strategies, we invite your input. If you have any questions, please contact Ms. Barbara Conlin of the Environmental Resources Branch at (215) 656-6557 or Mr. Scott Sanderson of Coastal Section at (215) 656-6571.

Sincerely,

Peter R. Blum, P. E.
Chief, Planning Division

Enclosure



DELAWARE	
ID	Name
D1	Wilmington
D2	New Castle
D4	Augustine Beach
D5	Bay View Beach
D6	Woodland Beach
D9	Pickering Beach
D10	Kitts Hummock
D11	Bowers Beach
D12	South Bowers Beach
D13	Big Stone Beach
D14	Mispillion River Inlet / Slaughter Beach
D17	Prime Hook Beach
D18	Lewes Beach

NEW JERSEY	
ID	Name
N15	Penns Grove
N16	Deepwater
N17	Pennsville
N18	City of Salem
N20	Lower Alloways Creek
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DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT
100 PENN SQUARE EAST
PHILADELPHIA, PA 19107-3390

CENAP-PL-E

APR 27 2015

Mr. Randy Pomponio, Chief
Environmental Review Section
Environmental Assessment and Innovation Division
USEPA Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Dear Mr. Pomponio:

In accordance with the National Environmental Policy Act of 1969, as amended, the U.S. Army Corps of Engineers (USACE) Philadelphia District is evaluating the feasibility of providing flood risk management improvements within risk prone areas of the Delaware Estuary within the states of Delaware and New Jersey through the beneficial use of dredged material. Consistent with USACE policies, the investigation of Federal interest must be based on an appraisal of the costs, benefits, and environmental impacts of any recommended project plan.

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The study will evaluate opportunities of using dredged material for beach nourishment to establish berms and dunes, marsh enhancement, riverine levees, and living shorelines with or without hardened support structures such as groins or breakwaters. Delaware's Department of Natural Resources and Environmental Control and New Jersey's Department of Environmental Protection will serve as the nonfederal sponsors to these respective projects. The study is scheduled to be completed by August 2017 and is 100% Federally funded.

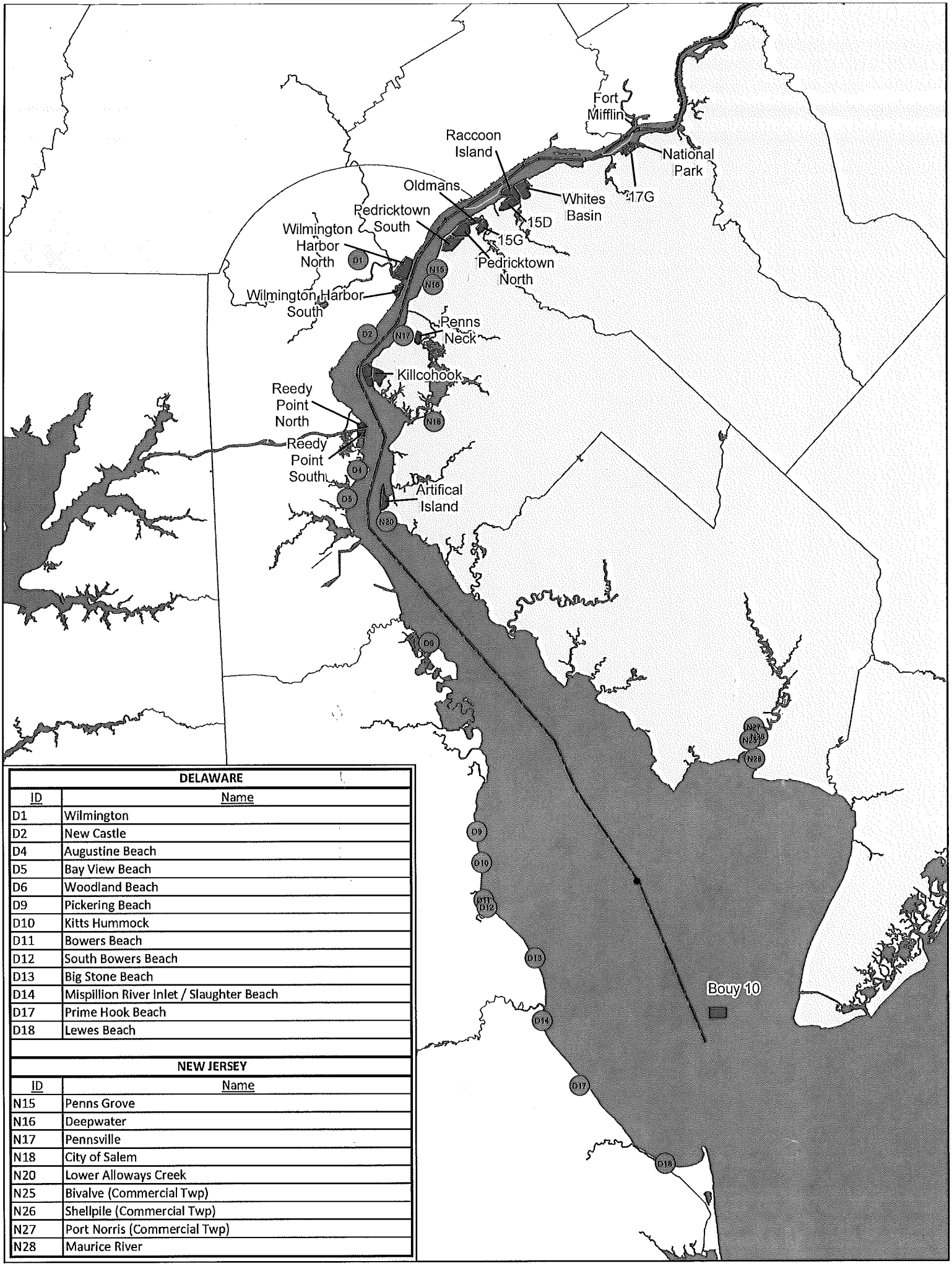
If you have any further comments or concerns regarding the attached list of screened potential project sites or would like to suggest preferred storm protection design strategies, we invite your input. If you have any questions, please contact Ms. Barbara Conlin of the Environmental Resources Branch at (215) 656-6557 or Mr. Scott Sanderson of Coastal Section at (215) 656-6571.

Sincerely,

Peter R. Blum

Peter R. Blum, P.E
Chief, Planning Division

Enclosure



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DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT
100 PENN SQUARE EAST
PHILADELPHIA, PA 19107-3390

CENAP-PL-E

APR 27 2015

Mr. David Rosenblatt, Administrator
Natural and Historic Resources
Engineering and Construction
New Jersey Department of Environmental Protection
1510 Hooper Avenue
Toms River, NJ 08753

Dear Mr. Rosenblatt:

In accordance with the National Environmental Policy Act of 1969, as amended, the U.S. Army Corps of Engineers (USACE) Philadelphia District is evaluating the feasibility of providing flood risk management improvements within risk prone areas of the Delaware Estuary within the states of Delaware and New Jersey through the beneficial use of dredged material. Consistent with USACE policies, the investigation of Federal interest must be based on an appraisal of the costs, benefits, and environmental impacts of any recommended project plan.

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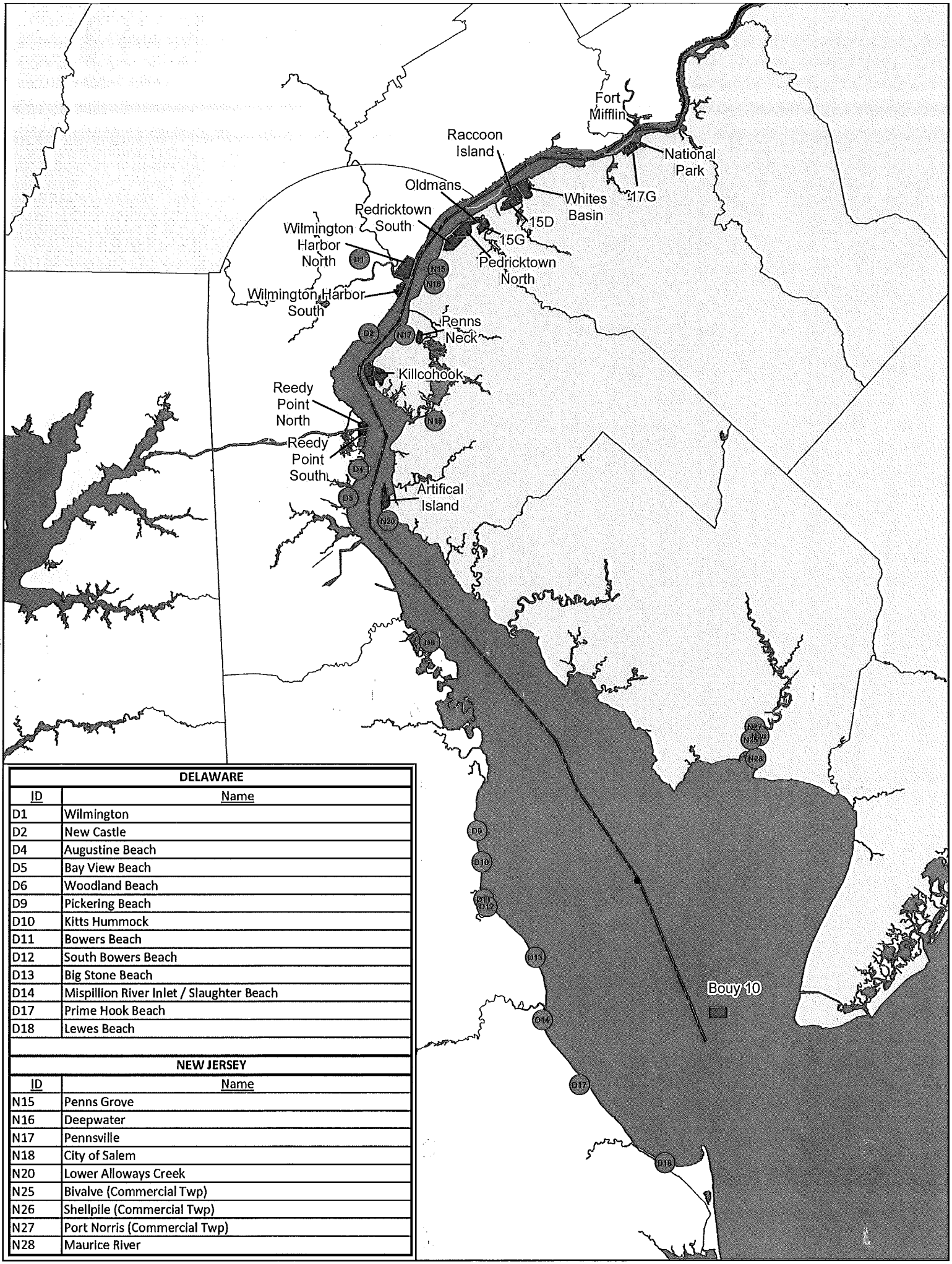
If you have any further comments or concerns regarding the attached list of screened potential project sites or would like to suggest preferred storm protection design strategies, we invite your input. If you have any questions, please contact Ms. Barbara Conlin of the Environmental Resources Branch at (215) 656-6557 or Mr. Scott Sanderson of Coastal Section at (215) 656-6571.

Sincerely,

Peter R. Blum, P. E.
Chief, Planning Division

Enclosure



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DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT
100 PENN SQUARE EAST
PHILADELPHIA, PA 19107-3390

APR 27 2015

CENAP-PL-E

Dave Saveikis
Director
Delaware Department of Natural Resources and Environmental Control
Division of Fish and Wildlife
89 Kings Highway
Dover, DE 19901

Dear Mr. Saveikis:

In accordance with the National Environmental Policy Act of 1969, as amended, the U.S. Army Corps of Engineers (USACE) Philadelphia District is evaluating the feasibility of providing flood risk management improvements within risk prone areas of the Delaware Estuary within the states of Delaware and New Jersey through the beneficial use of dredged material. Consistent with USACE policies, the investigation of Federal interest must be based on an appraisal of the costs, benefits, and environmental impacts of any recommended project plan.

In follow-up to our initial coordination letter of 24 November 2014, the USACE has considered input received and has initiated a screening process to focus the study scope on potential project sites with a high potential for flood-related damages. This letter serves to inform you of progress, to date, identify the focus areas of study, and to solicit any further comments or concerns you may have specific to these potential project locations.

The goal of the study, following passage of the Disaster Relief Appropriations Act, 2013 (PL 113-2) in October 2012 and Second Interim Report to Congress (dated 30 May 2013), is to combine risk reduction of flood-prone bayshore community areas with enhancement of shoreline resiliency using dredged material beneficially. The Philadelphia District has narrowed the list of potential project sites to 13 in Delaware and 9 in New Jersey (see attached) based on the extent of damages resulting from flooding and available land and shoreline characteristics of the problem areas for dredged material placement. Potential project sites may be further screened based on distance from available dredged material sources.

The study will evaluate opportunities of using dredged material for beach nourishment to establish berms and dunes, marsh enhancement, riverine levees, and living shorelines with or without hardened support structures such as groins or breakwaters. During the development of the tentatively selected plan, the USACE will be cognizant of the importance of Delaware Estuary coastal habitats to fish and wildlife. The USACE also recognizes the significance of incorporating environmental windows (15 April through 31 August) into beach construction projects in order to avoid adverse impacts to spawning horseshoe crabs and foraging migratory shorebirds. Delaware's Department of Natural Resources and Environmental Control and New Jersey's Department of Environmental Protection will serve as the nonfederal sponsors to these respective projects. The study is scheduled to be completed by August 2017 and is 100%

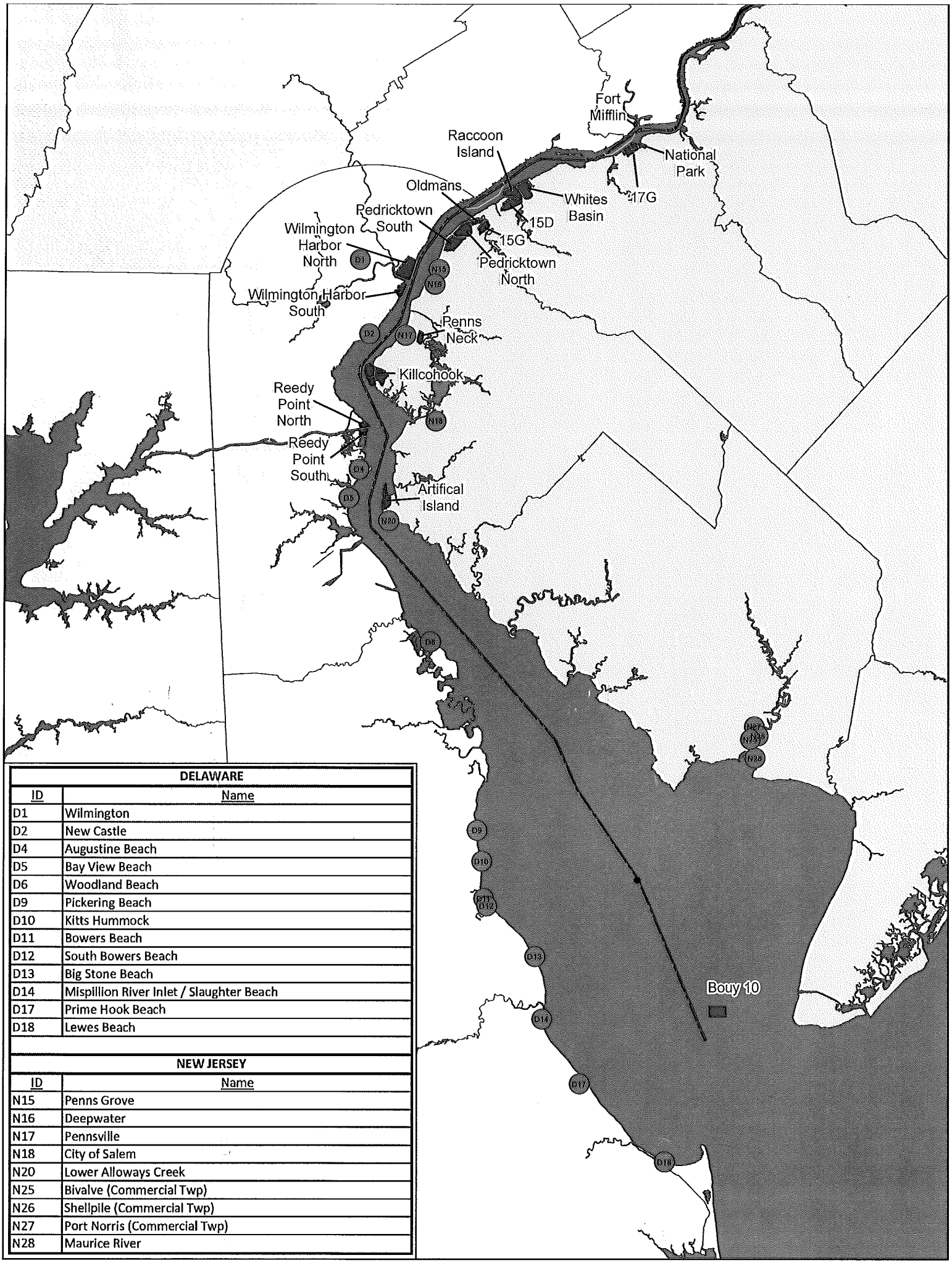
federally funded.

In response to your 22 December 2014 letter, the USACE wishes to continue to involve your agency in discussion of the evaluation of alternative plans, and to receive your input in regards to the protection of fish and wildlife resources. If you have any further comments or concerns regarding the attached list of screened potential project sites or would like to suggest preferred storm protection design strategies, we invite your input. If you have any questions, please contact Ms. Barbara Conlin of the Environmental Resources Branch at (215) 656-6557 or Mr. Scott Sanderson of Coastal Section at (215) 656-6571.

Sincerely,

Peter R. Blum. P. E.
Chief, Planning Division

Enclosure



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DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT
100 PENN SQUARE EAST
PHILADELPHIA, PA 19107-3390

APR 27 2015

CENAP-PL-E

Mr. Eric Schrading
Field Supervisor
U.S. Fish and Wildlife Service
927 N. Main Street, Building D
Pleasantville, NJ 08232

Dear Mr. Schrading:

In accordance with the National Environmental Policy Act of 1969, as amended, the U.S. Army Corps of Engineers (USACE) Philadelphia District is evaluating the feasibility of providing flood risk management improvements within risk prone areas of the Delaware Estuary within the states of Delaware and New Jersey through the beneficial use of dredged material. Consistent with USACE policies, the investigation of Federal interest must be based on an appraisal of the costs, benefits, and environmental impacts of any recommended project plan.

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The goal of the study, following passage of the Disaster Relief Appropriations Act, 2013 (PL 113-2) in October 2012 and Second Interim Report to Congress (dated 30 May 2013), is to combine risk reduction of flood-prone bayshore community areas with enhancement of shoreline resiliency using dredged material beneficially. The Philadelphia District has narrowed the list of potential project sites to 13 in Delaware and 9 in New Jersey (see attached) based on the extent of damages resulting from flooding and available land and shoreline characteristics of the problem areas for dredged material placement. Potential project sites may be further screened based on distance from available dredged material sources.

The study will evaluate opportunities of using dredged material for beach nourishment to establish berms and dunes, marsh enhancement, riverine levees, and living shorelines with or without hardened support structures such as groins or breakwaters. During the development of the tentatively selected plan, the USACE will be cognizant of the Service's preference for using sand for beach nourishment and the importance of Delaware Estuary habitats to listed species, as identified in your 2 February 2015 letter. The USACE recognizes the significance of incorporating environmental windows (15 April through 31 August) into proposed beach construction projects in order to avoid adverse impacts to spawning horseshoe crabs and foraging migratory shorebirds. Delaware's Department of Natural Resources and Environmental Control and New Jersey's Department of Environmental Protection will serve as the nonfederal sponsors

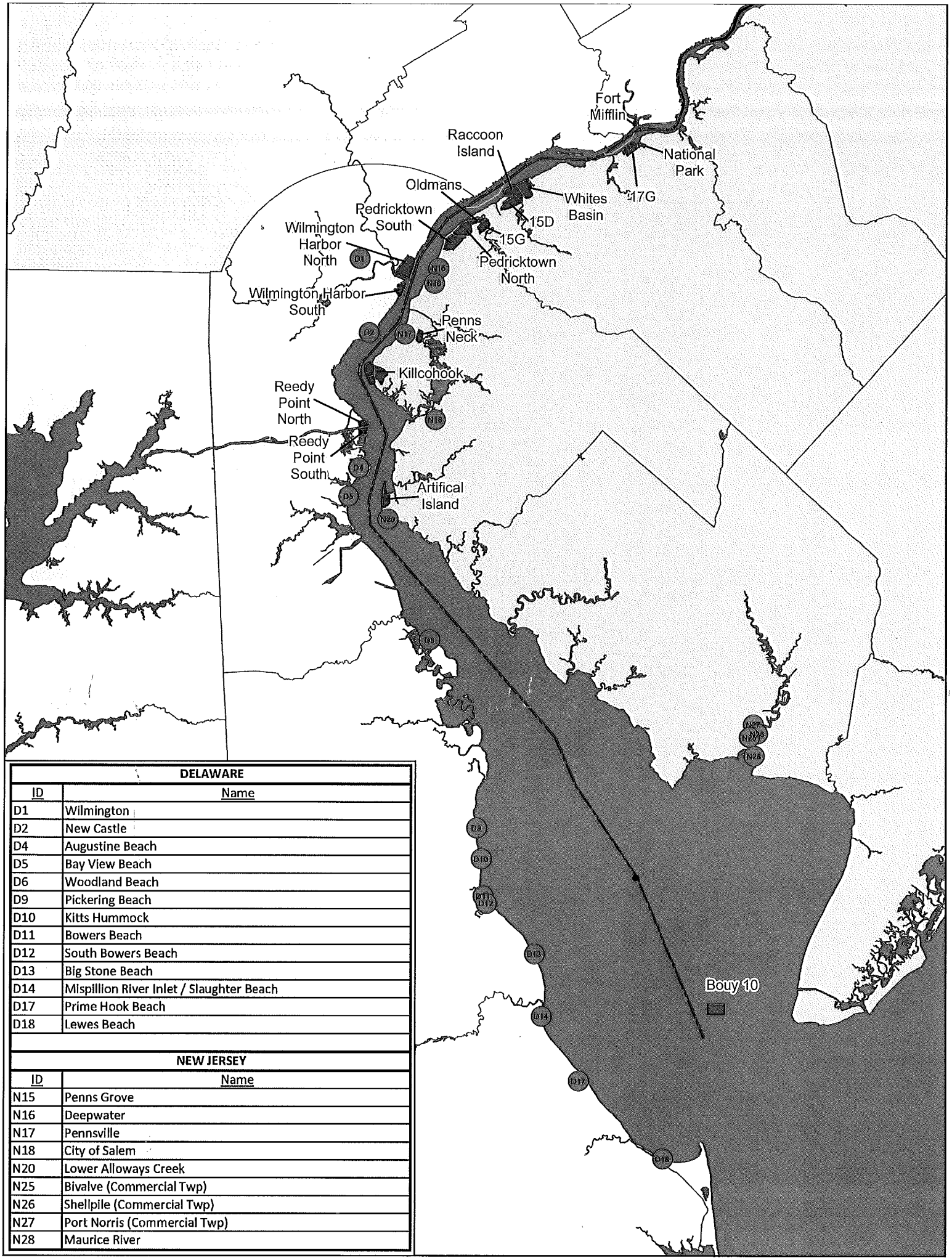
to these respective projects. The study is scheduled to be completed by August 2017 and is 100% federally funded.

The USACE welcomes your continued input in regards to the protection of fish and wildlife resources. If you have any further comments or concerns regarding the attached list of screened potential project sites or would like to suggest preferred storm protection design strategies, we invite your input. If you have any questions, please contact Ms. Barbara Conlin of the Environmental Resources Branch at (215) 656-6557 or Mr. Scott Sanderson of Coastal Section at (215) 656-6571.

Sincerely,

Peter R. Blum, P. E.
Chief, Planning Division

Enclosure



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DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT
100 PENN SQUARE EAST
PHILADELPHIA, PA 19107-3390

APR 21 2015

CENAP-PL-E

Ms. Genevieve LaRouche
Field Supervisor
U.S. Fish and Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

Dear Ms. LaRouche:

In accordance with the National Environmental Policy Act of 1969, as amended, the U.S. Army Corps of Engineers (USACE) Philadelphia District is evaluating the feasibility of providing flood risk management improvements within risk prone areas of the Delaware Estuary within the states of Delaware and New Jersey through the beneficial use of dredged material. Consistent with USACE policies, the investigation of Federal interest must be based on an appraisal of the costs, benefits, and environmental impacts of any recommended project plan.

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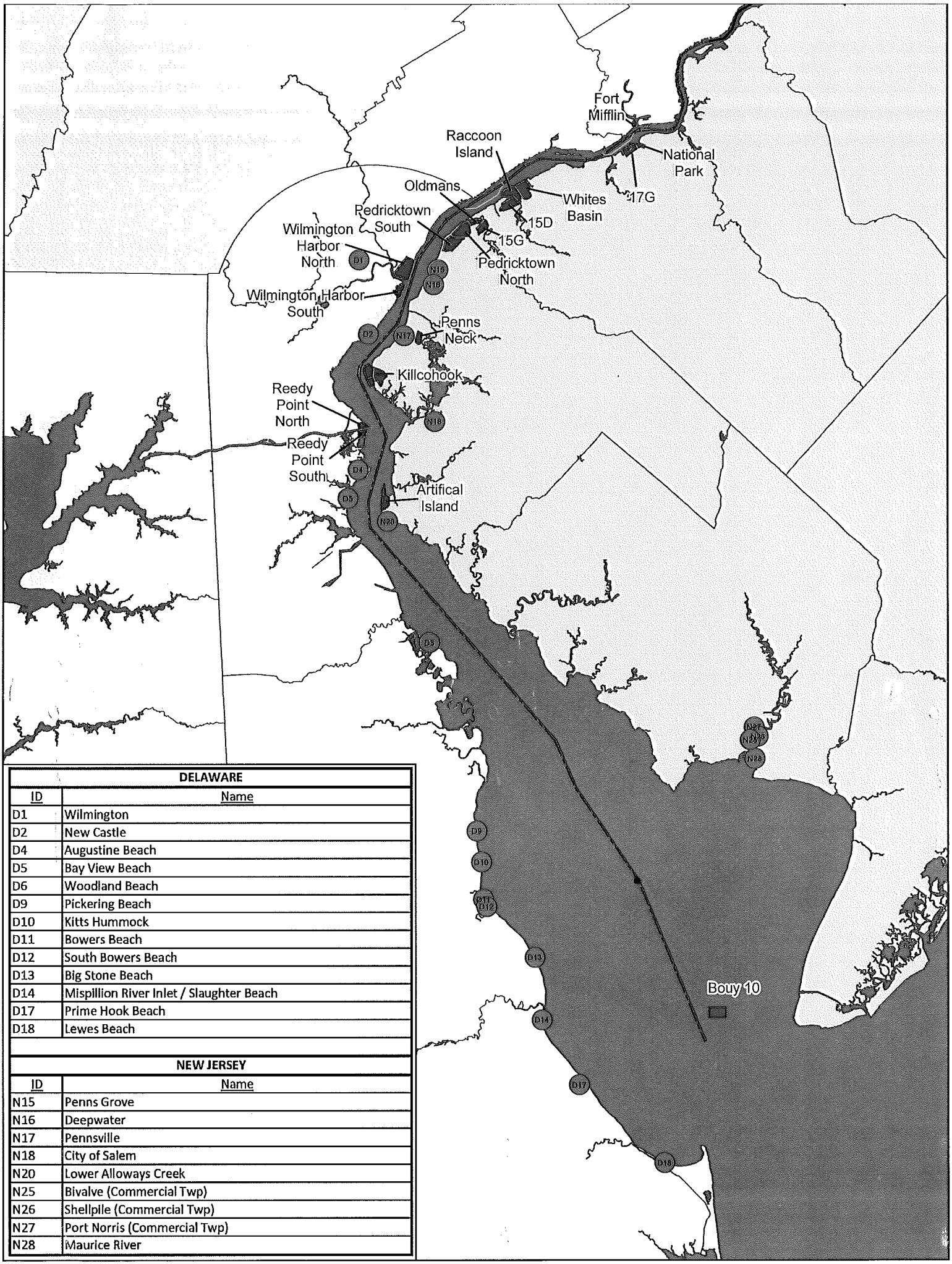
Sincerely,

Peter R. Blum, P. E.
Chief, Planning Division

Enclosure



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United States Department of the Interior

FISH AND WILDLIFE SERVICE

New Jersey Field Office
Ecological Services
927 North Main Street, Building D
Pleasantville, New Jersey 08232
Tel: 609/646 9310
Fax: 609/646 0352
http://www.fws.gov/northeast/njfieldoffice

In Reply Refer To:
15-CPA-0064

Peter Blum, Chief
Planning Division, Philadelphia District
U.S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, Pennsylvania 19107-3390
ATTN.: Barbara Conlin

FEB 0 2 2015

Dear Mr. Blum:

The U.S. Fish and Wildlife Service (Service) New Jersey Field Office (NJFO) has reviewed your letter dated November 24, 2014 regarding the study proposal by the U.S. Army Corps of Engineers Planning Division (Corps) to provide beneficial uses of dredged material within the Delaware Estuary from Trenton to Cape May Point, New Jersey. The Service appreciates the opportunity to participate in the scoping of this study.

The Service has and continues to recommend considering sand nourishment as an alternative to hard structures that are known to cause adverse impacts both directly and cumulatively to foraging migratory shorebirds and spawning horseshoe crabs (*Limulus polyphemus*) in Delaware Bay. The Service is in full support of the Corps study to find beneficial uses of suitable dredge material for beach restoration and other ecological applications.

AUTHORITY

The following comments are provided under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401; 16 U.S.C. 661 *et seq.*), the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) (ESA), and the Migratory Bird Treaty Act (40 Stat. 755 as amended; 16 U.S.C. 703-712) (MBTA). Other comments are provided as technical assistance.

FEDERALLY LISTED SPECIES

The red knot (*Calidris canutus rufa*) was listed as threatened under the ESA on December 11, 2014, with an effective date of January 12, 2015. Red knots are also federally protected under the MBTA, and are State-listed as endangered.

Large numbers of red knots and other migratory shorebirds rely on Delaware Bay beaches to forage on fat-rich horseshoe crab eggs between May 1 and June 15 prior to migrating to arctic breeding grounds. The record low number of horseshoe crabs coupled with the eroded condition of Delaware Bay beaches prior and after Hurricane Sandy sharply reduced red knot numbers to where its listing under the ESA became warranted.

Informal consultation between the Corps and the Service will be required for any activity related to the beneficial use of dredge material within the red knot foraging range highlighted in this letter.

SPECIES PROPOSED FOR LISTING

The Service proposed to create a species-specific rule under authority of section 4(d) of the ESA that provides measures that are necessary and advisable for the conservation of the northern long-eared bat (*Myotis septentrionalis*), should it be determined that this species warrants listing as a threatened species under the ESA. In addition, the Service reopened the public comment period on the October 2, 2013, proposed rule to list the northern long-eared bat as an endangered species under the ESA. The proposed species-specific 4(d) rule prohibits purposeful take of northern long-eared bats throughout its range except in instances of removal of northern long-eared bats from human dwellings and authorized capture and handling of northern long-eared bat by individuals permitted to conduct these same activities for other listed bats. In areas affected by white nose syndrome, such as the Corps' Philadelphia District, all incidental take prohibitions would apply except for take attributable to forest management practices; maintenance and limited expansion of transportation and utility rights-of-way; removal of trees and brush to maintain prairie habitat; and limited tree removal projects, provided these activities protect known maternity roosts and hibernacula. Further, removal of hazardous trees for the protection of human life or property is proposed to be excluded from the take prohibition.

The northern long-eared bat is a medium-sized bat found across much of the eastern and north-central United States. The northern long-eared bat predominantly overwinters in hibernacula that include caves and abandoned mines. During the summer, this species typically roosts singly or in colonies underneath bark or in cavities or crevices of both live trees and snags. Northern long-eared bats are also known to roost in human-made structures such as buildings, barns, sheds, and under eaves of windows. Threats to the northern long-eared bat include disease due to the emergence of white-nose syndrome, improper closure at hibernacula, degradation and destruction of summer habitat, and use of pesticides.

The Service will publish a listing determination for the northern long-eared bat on or before April 2, 2015. If the species becomes listed, informal consultation between the Corps and the Service will be required for any activity related to the beneficial use of dredge material within the northern long-eared bat range (Trenton to Cape May Point).

OTHER FEDERALLY LISTED SPECIES OR SPECIES PROPOSED FOR LISTING

The Corps has included tributaries of the Delaware River and Bay as part of the study area. It is unclear whether the study area includes only the tidal potion of these tributaries or upstream

freshwater reaches as well, where federally listed species or species proposed for listing other than the red knot and northern long-eared bat may occur.

NJFO COMMENTS

The Service reviewed the *Comprehensive Management Plan for Shorebirds on Delaware Bay* (Niles *et al.* 1994) to compare past and current horseshoe crab spawning habitat, which is critical to the survival of the red knot and other migratory shorebirds. Many beach areas were eroded or functionally non-existent even prior to Hurricane Sandy. According to Niles *et al.* 1994, during the period of May 27 to May 30, 1993:

- Approximately 4,000 shorebirds, including 400 red knots, were counted between Duke Point and Sea Breeze. The 2007 aerial photography shows some beach area remaining in the Duke Point area, but no beach left in Cohansey Cove.

- Over 10,000 shorebirds, including approximately 3,000 red knots, were counted between Sea Breeze and Nantuxent Creek. According to the 2007 aerial photos, there seems to be no suitable beach habitat left within this section of coastline.

- Over 25,000 shorebirds, including approximately 6,000 red knots, were counted from Money Island to Raybins Beach and Fishing Creek. There is available Federal grant money with the American Littoral Society (ALS) for beach restoration at Gandy's Beach and Fortesque Beach, but there may be other beneficial uses of dredged material along this section of shoreline. Please contact the ALS and Ms. Katie Conrad of this office for further information.

- Approximately 24,000 shorebirds, including over 6,000 red knots, were counted between Fishing Creek and Egg Island. There is much exposed peat in this section making it largely unsuitable for horseshoe crab spawning and shorebird foraging.

- Over 15,000 shorebirds, including approximately 4,000 red knots were counted between Egg Island and the Maurice River. Currently, there is little or no habitat left for spawning horseshoe crabs and foraging shorebirds.

- There were over 25,000 shorebirds, including approximately 5,000 red knots, foraging from the Maurice River to West Creek. Please contact the ALS for coordinating restoration efforts within this section of shoreline.

- There were over 25,000 shorebirds, including approximately 5,000 red knots, foraging between West Creek and Goshen Creek. Currently, there is little or no habitat left for spawning horseshoe crabs and foraging shorebirds.

- Approximately 20,000 shorebirds, including over 5,000 red knots, were counted between Goshen Creek and Dias Creek (including Reeds and Kimbles Beach). Please contact the

ALS and Ms. Beth Freiday of this office for coordinating restoration efforts within this section of shoreline.

- Over 20,000 shorebirds, including approximately 1,800 red knots, were counted between Dias Creek and the Cape May Canal. The best opportunities for beneficial use of dredged material are found north of Cape May Villas.

CAPE MAY-SUPAWNA MEADOWS NATIONAL WILDLIFE REFUGE COMMENTS

A project is being proposed for using dredged material on the Cape May National Wildlife Refuge (Cape May NWR) - Reeds Beach area in Middle Township, Cape May County, New Jersey. This marsh area has very low elevation due to historic uses and sea level rise and is prone to flooding, storm events, and future sea level rise. The Cape May NWR is looking to enhance up to 100 acres in this area using thin layer deposition of dredged material and potential work to restore natural flow/drainage.

At Supawna Meadows NWR, a rock revetment was placed in the 1910s in front of the shoreline. This revetment may be altering the hydrology, sedimentation, and wildlife/invertebrate movement in the brackish marsh of the refuge. A study will be conducted to understand the impacts of the revetment. The project may include removal of the revetment in some locations and the addition of living shorelines. The project may also include the creation of marsh habitat using dredged material behind the revetment. The marsh creation would replace marsh habitat that was lost due to previous uses such as salt hay farming.

The Del Haven area of Cape May County, which includes Cape May NWR marsh habitat, has been degraded due to previous uses such as salt hay farming, ditching, and other marsh manipulations including ditch creation, changes to the original flow, and Open Marsh Water Management. This marsh floods during storm events and the adjoining neighbors have noticed increased water on their properties during storm events (Hanlon pers. comm. 2015). This marsh would benefit from restoration to create a more natural environment.

OTHER COMMENTS AND RECOMMENDATIONS

Brown *et al.* (2001) provided the following summarized recommendations for shorebird management.

- Manage shorebird habitats as dynamic systems. Managed wetland systems should be designed to perpetuate natural functions and local habitat dynamics. Identify and protect critical food resources.

- Understand historical conditions at local sites for successful management of shorebirds. Managers need to understand how current and projected habitat conditions match or differ from historical conditions, and then evaluate management actions that can provide the missing resources.

- Coordinate shorebird management among multiple agencies and programs. Successful management for shorebird habitats requires cooperative and coordinated efforts.

The Service recommends that the Corps implement a seasonal restriction on beach nourishment using suitable dredged sand from April 15 to August 31 to avoid adverse impacts on spawning horseshoe crabs and on juveniles utilizing near shore habitats for food, protection from predators, and growth.

Finally, the Service recommends that any project involving placement of suitable dredge sand include a rubble removal component. Rubble placed on the shoreline is one of the causes of horseshoe crab mortality.

Please contact Carlo Popolizio at the NJFO at (609) 383-3938, extension 32, or Heidi Hanlon at the Cape May NWR at (609) 463-0994 if you have any questions or require further assistance.

Sincerely,

Eric Schrading
Field Supervisor

REFERENCES

Personal Communication

Hanlon, H. 2015. Biologist. Cape May and Supawna Meadows National Wildlife Refuge. Cape May and Salem County, New Jersey.

Literature Cited

Brown, S., C. Hickey, B. Harrington, and R. Gill (Editors). 2001. United States shorebird conservation plan. Manomet Center for Conservation Sciences, Manomet, Massachusetts. Available at: http://www.Manomet.org/USSCP/files.htm.

Niles L., K. Clark, and S. Paul. 1994. Comprehensive Management Plan for Shorebirds on Delaware Bay. New Jersey Department of Environmental Protection and Energy; Division of Fish, Game, and Wildlife; Endangered and Nongame Species Program; and The Nature Conservancy. Trenton, New Jersey. 63 pp.

cc: NJDFW: Amanda Dey (Amanda.Dey@dep.nj.gov)
CORPS - PLANNING: (barbara.e.conlin@usace.army.mil)
Dianne Daly (power45@comcast.net)

ES:NJFO:CPopolizio:RP:ES:cap: 1/28/15

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

New Jersey Field Office
Ecological Services
927 North Main Street, Building D
Pleasantville, New Jersey 08232
Tel: 609/646 9310
Fax: 609/646 0352
http://www.fws.gov/northeast/njfieldoffice/

In Reply Refer To:
2015-CPA-0168

Peter Blum, Chief
Planning Division, Philadelphia District
U.S. Army Corps of Engineers
Wannamaker Building
100 Penn Square East
Philadelphia, Pennsylvania 19107-3390
ATTN: Barbara Conlin

SEP 11 2015

Dear Mr. Blum:

Enclosed is a Fiscal Year-2016 (FY-2016) scope-of-work (SOW) between the U.S. Fish and Wildlife Service (Service) and the Philadelphia District, U.S. Army Corps of Engineers (Corps) for the Delaware River and Bay Dredged Material Utilization (DMU) within the Corps Philadelphia District areas in New Jersey and Delaware. This SOW covers the project areas from Trenton to Cape May Point in New Jersey, including selected municipalities within Burlington, Camden, Cumberland, Gloucester, and Salem counties; and from Wilmington to Lewes Beach, including selected municipalities in New Castle, Kent, and Sussex counties in Delaware.

SOW TASKS

The Service and Corps have a long history of interagency cooperation to protect listed species and Federal trust resources within the Corps Philadelphia District areas. Key Service roles in this SOW for FY-2016 are to prepare Planning Aid Report (PAR), and draft and final 2(b) reports pursuant to the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401; 16 U.S.C. 661 *et seq.*).

ADDITIONAL COORDINATION

In the development of the PAR, and draft and final FWCA 2(b) reports, the Service will coordinate with the New Jersey's Department of Environmental Protection and the Delaware's Department of Natural Resources and Environmental Control to ensure that the plans address all federally and State-listed species (both plant and animal) and Federal trust resources occurring or likely to occur along the Delaware River and Bay shoreline within project areas.

SUMMARY

This SOW, along with an estimate of cost for services, is being forwarded for your approval. The total cost for the Service to perform the above work in FY-2016 is $31,030.00 If you are in agreement with the SOW and the estimated cost for services, please prepare the appropriate transfer funding agreement and send via e-mail in pdf format to Laura_Perlick@fws.gov. Please note the procedural change to forward the transfer funding agreement directly to the Field Office, rather than to our Regional Office for final processing.

The Service commends the Corps' past and ongoing efforts and looks forward to continued multi-agency cooperation and partnership through the Program to protect federally and State-listed species, and Federal trust resources. If you have any questions regarding the above cost estimate or any other aspect of this SOW, please contact Ron Popowski at Ron_Popowski@fws.gov.

Sincerely,

Eric Schrading
Field Supervisor

Enclosure

cc: NJFO (2): Perlick
CBFO: Chris Guy
ARD, ES: Tim Fannin
USACE, Philadelphia District: Barbara Conlin

Fiscal Year-2016 Scope-of-Work
U.S. Fish and Wildlife Service/U.S. Army Corps of Engineers
Delaware River and Bay Dredged Material Utilization Study in Delaware and New Jersey

A. SUBJECT:

This draft Scope-of-Work (SOW) is between the New Jersey Field Office, U.S. Fish and Wildlife Service (Service) and the Philadelphia District, U.S. Army Corps of Engineers (Corps) to prepare a Planning Aid Report (PAR), and a draft and final 2(b) Report for the Delaware River and Bay Dredged Material Utilization (DMU) Feasibility Study pursuant to the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401; 16 U.S.C. 661 *et seq.*). Transfer funding from the Corps to the Service is authorized pursuant to the Economy Act (31 U.S.C. 1535).

Corps Treasury Account Symbol: See Military Interdepartmental Purchase Request (MIPR)
Corps Business Event Type Code: BETC

B. STUDY/PROJECT NAME:

New Jersey and Delaware Dredged Material Utilization Study along the Delaware River and Bay coastline.

C. CORPS DISTRICT AND CONTACTS:

U.S. Army Corps of Engineers
Philadelphia District
Wanamaker Building – 100 Penn Square East
Philadelphia, Pennsylvania 19107-3390

Project Biologist:	Barbara Conlin	Barbara.E.Conlin@usace.army.mil
Project Manager:	Scott Sanderson	Scott.A.Sanderson@usace.army.mil
Financial Point of Contact:	Mandy Fry	Mandy.J.Fry@usace.army.mil

D. SERVICE OFFICE AND CONTACTS:

U.S. Fish and Wildlife Service
New Jersey Field Office
927 North Main Street, Building D
Pleasantville, New Jersey 08232

Project Biologist:	Carlo Popolizio	Carlo_Popolizio@fws.gov
Field Supervisor:	Eric Schrading	Eric_Schrading@fws.gov
Financial Point of Contact:	Laura Perlick	Laura_Perlick@fws.gov

E. DESCRIPTION OF STUDY:

The Corps has been authorized to conduct a feasibility study that provides flood risk management improvements within flood prone areas along the Delaware Estuary of Delaware and New Jersey. The goal of the study, following passage of the Disaster Relief Appropriations Act (P.L. 113-2) in 2012 and Second Interim Report to Congress (May 30, 2013), is to combine risk reduction of flood-prone bayshore communities with enhancement of shoreline resiliency using dredged material beneficially.

The study area extends along the Delaware River/Bay coastline in New Jersey from Trenton to Cape May Point. The Delaware River region includes communities in Burlington, Camden, Cumberland, Gloucester, and Salem counties, New Jersey. The Delaware Bay region includes communities in Cumberland County (*i.e.*, Sea Breeze, Gandys Beach, Fortescue, Egg Island Point, Bivalve, Shellpile, Port Norris, Maurice River Township, and Delmont) and Salem County (*i.e.*, Penns Grove, Deepwater, Pennsville, Salem, Lower Alloways Creek). Tributaries within the study area in New Jersey include: Dennis Creek, Maurice River, Cohansey River, Stowe Creek, Alloway Creek, Salem River, Oldmans Creek, Raccoon Creek, Mantua Creek, Big Timber Creek, Cooper River, Pennsauken Creek, Rancocas Creek, and Black Creek.

In Delaware, the region includes communities in New Castle, Kent, and Sussex counties. Such townships in New Castle County includes Wilmington, New Castle, Augustine Beach, and Bay View Beach; in Kent County includes Woodland Beach, Pickering Beach, Kitts Hummock, Bowers Beach, South Bowers Beach, Big Stone Beach, Mispillion River Inlet/Slaughter Beach; and in Sussex County includes Prime Hook Beach and Lewes Beach. Tributaries within study area in Delaware includes Brandywine Creek, Christina River, Chesapeake and Delaware Canal, Smyrna River, Leipsic River, St. Jones River, Murderkill River, Cedar Creek, Simons River, Mahon River, Little River, Mispillion River, Broadkill River, Canary Creek, and the Lewes and Rehoboth Canal.

The Corps is requesting that the Service provide an ecological characterization and analysis of natural resources within the study area, with a focus on wetlands and riparian areas that may be adversely or positively impacted through beach berm and dune establishment or renourishment; marsh enhancement; or living shorelines with or without hardened support structures (*e.g.*, groins or breakwaters). Although the study's primary purpose is flood risk abatement, an additional benefit to natural resources may be achieved by using dredged material to enhance or protect natural habitats from excessive inundation resulting from storm events.

The feasibility study will consist of the formulation and evaluation of alternative plans to address the identified water resources issues, as well as the selection of a recommended plan. Preparation of a draft Environmental Assessment (EA) will be completed and circulated to the public as part of this feasibility study in accordance with regulations pursuant to the National Environmental Policy Act of 1969 (83 Stat. 852, as amended; 42 U.S.C 4321 *et seq.*).

New Jersey's Department of Environmental Protection (NJDEP) and Delaware's Department of Natural Resources and Environmental Control (DNREC) are the non-federal sponsors. The information gathered from this feasibility study will be used to identify sites that are suitable for

potential Corps activities. Findings will be used to develop a priority list of project sites likely to provide the greatest flood damage reduction benefits, as well as any associated feasible ecosystem restoration benefits, while minimizing impacts to fish and wildlife resources and seeking opportunities for habitat enhancement.

F. COORDINATION AND SCOPING:

The Corps and the Service will coordinate routinely as necessary. Additionally, the Service will coordinate with DNREC's Division of Fish and Wildlife and NJDEP's Division of Fish and Wildlife to include their input in PAR and draft and final FWCA reports.

G. DATA AND INFORMATION NEEDED FROM THE CORPS:

1. Signed SOW
2. Completed and signed transfer funding agreement via MIPR.
3. Supporting documents, including maps, diagrams, reports, and data produced by or available to the Corps.
4. EA or Feasibility Study report for the PAR and FWCA 2(b) report.

H. SPECIFIC WORK TO BE ACCOMPLISHED BY THE SERVICE:

1. Identify and review information regarding federally listed species, State-listed species, species of concern, and other wildlife resources relevant to the DMU Feasibility Study project area.
2. Review study reports, maps, and other information.
3. Coordinate with DNREC, NJDEP, local environmental organizations, and Corps staff regarding development of the potential alternative plans.
4. Participate in site visits and meetings as needed. Site visits will be coordinated with the Corps in advance.
5. Provide a PAR to aid the Corps in identifying potential ecosystem restoration opportunities within the project area that offer flood risk reduction potential.
6. Provide a draft FWCA 2(b) report with comments on the potential for impacts to biological, ecological, and natural resource-related subjects, including federally and State-listed species. The report will include opportunities to achieve habitat enhancement or restoration with potential flood risk reduction.
7. Provide a final FWCA 2(b) report addressing and incorporating comments received from the Corps, DNREC, and NJDEP on the draft FWCA 2(b) report.

I. CORPS INPUT TO THE SERVICE:

The Corps will provide project documents and technical information developed during the course of the study, secure any other existing Corps documents that the Service may request, and coordinate routinely as plans are refined.

The Corps will provide comments or concurrence with the Service's written products within 30 days of submission. Once any comments are addressed and the Corps provides concurrence, Service products will become public documents available to outside parties upon request.

J. CORPS AND SERVICE SUBMISSION SCHEDULE:

The Service and the Corps will provide written notice of any anticipated changes in schedule. Notification will be submitted as soon as possible, but no less than 14 days prior to the scheduled due date.

	Target Date
Corps provides current plans, documents, and information, and transmits funding.	Within 7 days after receipt of MIPR
Service submits PAR	Within 60 days after receipt of MIPR
Service submits draft FWCA 2(b) report to the Corps, DNREC, and NJDEP.	Within 60 days after receipt of draft Feasibility Report and draft EA
Corps, DNREC, and NJDEP provide comments on draft FWCA 2(b) report	Within 30 days after receipt of draft FWCA 2(b) report
Service addresses Corps, DNREC, and NJDEP comments and submits final FWCA 2(b) report.	Within 15 days after receipt of Corps, DNREC, and NJDEP comments.

K. ESTIMATED COST OF INVESTIGATION:

Staff Days

Service Efforts	Task Days
Investigate fish and wildlife resources within the vicinity of project area including review of GIS; available literature and coordination with DNREC, NJDEP, local agencies, and non-governmental organizations.	5
Prepare PAR to include New Jersey Field Office and Chesapeake Bay Field Office jurisdiction, respectively.	7
Review Corps Feasibility Report and draft EA	4
Conduct site visits.	2
Provide Section 7 consultation pursuant to the Endangered Species Act (87 Stat. 884; 16 U.S.C. 1551 *et seq.*) (not charged to project transfer funds).	–
Prepare draft FWCA 2 (b) report	7
Review Corps, DNREC, and NJDEP comments on draft FWCA 2(b) report and prepare final FWCA 2(b) report	4
Service Task Days	**29**

Total Service Task Days 29

Biologist Day rate ($775) X Overhead Rate (38% or $295) $1070

29 Service Task Days x $1070 $31,030

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
100 EAST PENN SQUARE, FLOOR 7, WANAMAKER BUILDING
PHILADELPHIA, PENNSYLVANIA 19107-3390

Environmental Resources Branch

AUG 15 2016

Kimberly B. Damon-Randall
Assistant Regional Administrator for Protected Resources
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, Massachusetts 01930

Dear Ms. Damon-Randall:

This letter is in regard to on-going Federal activities within the Philadelphia District of the US Army Corps of Engineers and the National Marine Fisheries Service's June 3, 2016 Federal Register notice that proposes the designation of critical habitat for the Gulf of Maine, New York Bight, and Chesapeake Bay distinct population segments (DPSs) of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*). Portions of the proposed critical habitat for the New York Bight DPS include the Delaware River and Bay which, as you know, fall within the boundaries of our District. The National Marine Fisheries Service proposes to designate critical habitat for approximately 340 miles of aquatic habitat in rivers in New York, New Jersey, Pennsylvania and Delaware for the New York Bight DPS.

Pursuant to Section 7(a)(4) of the Endangered Species Act of 1973, Federal agencies are required to confer with the Service when an agency action may affect a proposed species or proposed critical habitat. If it is determined that an agency action is likely to jeopardize the continued existence of a proposed species or destroy or adversely modify proposed critical habitat then a conference is required. Federal agencies may also request a conference on any action that may affect proposed species or proposed critical habitat. The purpose of this letter is to initiate conference with the National Marine Fisheries Service for dredging, blasting and placement activities associated with channel deepening and channel maintenance within the Delaware River with regard to potential impacts to the proposed critical habitat for the Atlantic sturgeon.

Federal activities within the Delaware River have the potential to impact Atlantic sturgeon or their habitat (including proposed critical habitat). This letter relates specifically to actions associated with the Delaware River Main Channel Deepening project, the Philadelphia to the Sea maintenance dredging, the Philadelphia to Trenton maintenance dredging and the Delaware River Dredged Material Utilization study. Biological Opinions have been prepared by your office for the Main Channel Deepening and Philadelphia to the Sea projects. ESA consultation has recently been re-initiated for both of these projects. A Biological Assessment was prepared for the Philadelphia to

Trenton project in August 2014. Further information regarding these projects, their locations, and potential impacts to Atlantic sturgeon and other NMFS managed species can be found in these documents. Since some of the project information in these documents is slightly dated, we have included an updated schedule of upcoming work (see Table 1).

The Delaware River Dredged Material Utilization (DMU) study is a new project that is investigating flood risk management improvements (*i.e.* beach nourishment) within several Delaware and New Jersey bayfront communities using material that will be dredged from the Delaware River Main Channel as part of maintenance dredging. The current project plan calls for the placement of material removed from Lower Reach E of the 45-foot channel into the open water site at Buoy 10. The DMU study proposes to beneficially use this material to reduce flooding and storm damage risks in several areas within Delaware Bay that were affected by Hurricane Sandy. The placement sites being considered for this project include: Pickering Beach, Kitts Hummock, Bowers Beach, South Bowers Beach, Big Stone Beach, Slaughter Beach, Prime Hook Beach and Lewes Beach in Delaware. In New Jersey, the proposed placement sites include: Downe Township (Gandy's Beach and Fortescue), Reeds Beach, Pierces Point, Del Haven, and Villas (see Figure 1). In order to beneficially use the material associated with the previously coordinated maintenance dredging in Lower Reach E of the Delaware River Main Channel, a hydraulic pipeline dredge or hopper dredge will be used to dredge the material and discharge it directly to the beach placement site. The proposed design template for dredge material placement on the Delaware Bay beaches (excluding Lewes) features a berm of 25' width at a height of 7' (NAVD 88) with a foreslope of approximately 400' length on a slope of 1V:10H extending bayward to depth of closure of -5.0' (NAVD 88). The berm is topped with a dune whose crest width is 25' at a height of 12' (NAVD 88). The dune transitions both bayward to the berm and landward to existing grade on a slope of 1V:5H. It is estimated that all 8 communities (including Lewes) will require an approximate total of 675,000 cy of dredge material to fill their respective design templates. It is expected that periodic nourishment would occur on a 4-year schedule to maintain the design level of protection. The Lewes Beach berm is expected to be between 15 to 25 feet wide.

Critical habitat for the Atlantic sturgeon is currently being proposed within the Main Stem of the Delaware River from the crossing of the Trenton-Morrisville Route 1 Toll Bridge to where the Main Stem discharges at its mouth into the Delaware Bay (at Liston Point, Delaware and Hope Creek, New Jersey). At least some portion of all the projects being discussed in this letter fall within the area being proposed for critical habitat. The deepening of the Main Channel through both dredging and blasting, as well as maintenance dredging from Trenton to the Sea have the potential to alter the physical features of the area being considered for critical habitat. The sand placement associated with the beneficial use of maintenance material under the DMU does not fall within the area proposed as critical habitat.

Dredging activities within the Delaware River will have an impact on proposed critical habitat with soft substrate in waters with salinity between 0.5 and 30 ppt. The salinity in the Delaware River reaches 0.5 ppt around the Marcus Hook range and increases to 30 ppt by the time it reaches the bay. While the dredging will have a temporary impact on the soft sediments during construction, no changes to the substrate type are anticipated from the deepening or subsequent maintenance dredging. Sediment sampling conducted by the USACE has confirmed that the sediment type in the river was unchanged after the deepening activities (USACE 2012). The maintenance material removed from the navigation channel historically consists of a mixture of sand and mud and this will continue to be the case for future work. The project will also have temporary impacts on hard bottom substrate in waters with salinity less than 0.5 ppt. While blasting within the Marcus Hook area will remove bedrock, it is only removing enough rock to deepen to area to the required depth. Because only the top layers of the rock will be removed, and the bedrock extends deep into the river bottom, the substrate will remain rock following the blasting.

Deepening the remainder of the navigation channel from 40' to 45' will not impede sturgeon movements. The five foot increase in depth applies only to a small portion of the area being proposed as critical habitat and still falls within the depth range for sturgeon spawning. Maintenance dredging activities will also change the water depths but these changes simply take the channel back to conditions that existed prior to new sediments being deposited in the channel. Additionally, returning the depths to previous conditions will not impede sturgeon movements within the river. None of the proposed activities will result in a physical barrier to sturgeon passage.

The Federal activities within the Delaware River will not affect water quality in a way that effects the ability of that habitat to support (a) spawning, (b) survival of any life stage, or (c) larval, juvenile or subadult growth, development or recruitment. The proposed activities will not be taking place during sturgeon spawning, which occurs in April and May. In addition, NMFS has already concluded in the November 20, 2015 BO for the deepening project that any effects of the deepening and subsequent maintenance of the 45' channel on Atlantic sturgeon spawning will be insignificant and discountable.

In summary, based on the above information, the proposed projects are not likely to destroy or adversely modify proposed critical habitat within the Delaware River, and further coordination with regard to critical habitat is not required.

As previously discussed with Mr. Zachary Jylkka of your staff, at this time, we would like to combine the ongoing formal consultations for all of the above referenced projects into one Biological Opinion that would address the remaining work on the Main Channel deepening and subsequent maintenance dredging within the river from Trenton to the Sea, as well as the proposed beneficial use of dredged maintenance material for the DMU study.

Please contact Ms. Beth Brandreth of our Environmental Resources Branch at (215) 656-6558 if you have any questions or need additional information. We appreciate your continued partnership on these activities.

Sincerely,

C. MacIntosh

for

Peter R. Blum, P.E.
Chief, Planning Division

Enclosures

Cc: Karen Greene, NMFS, Sandy Hook

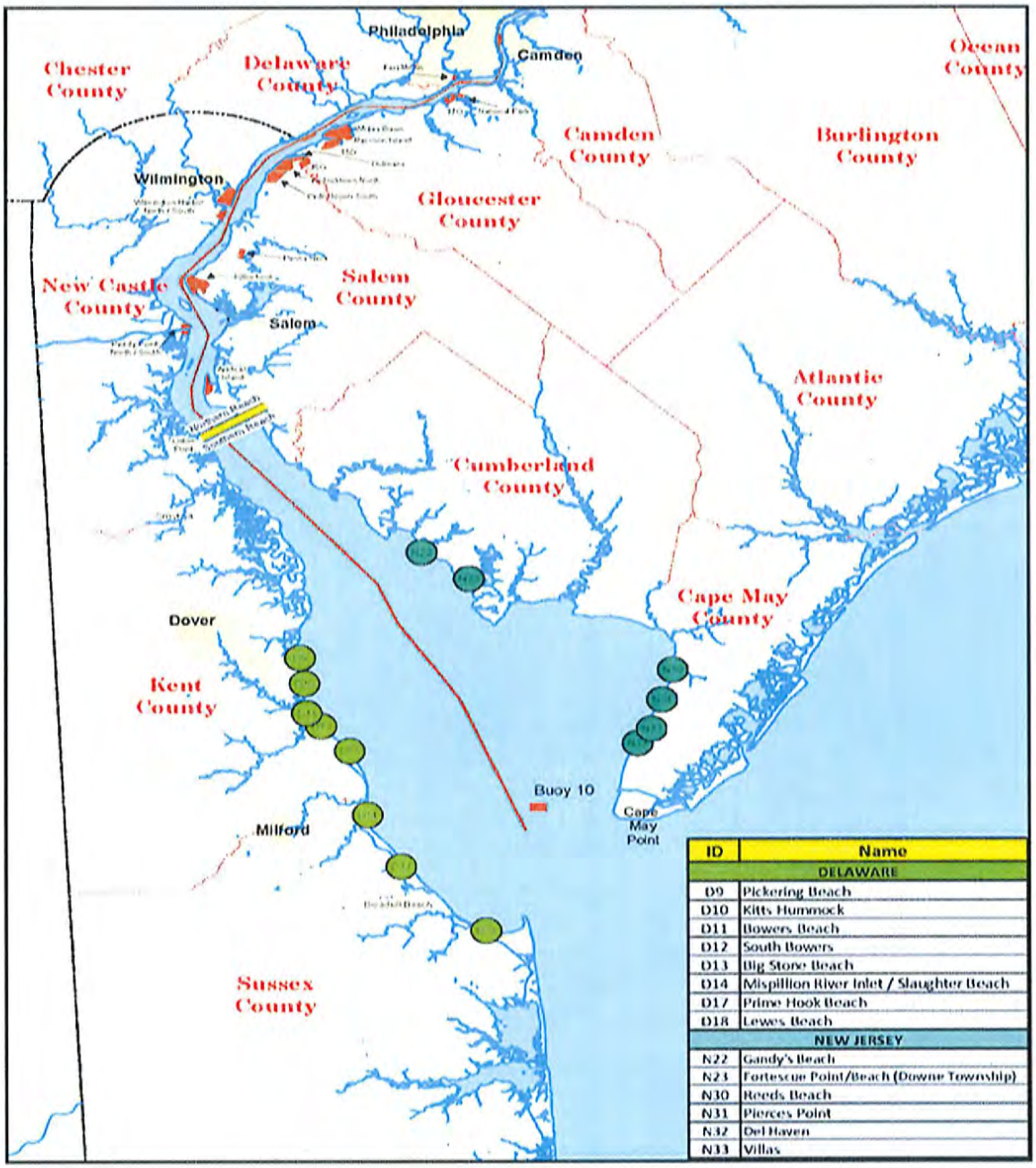


Figure 1 – DMU proposed placement sites

Project	*Channel Reach/Location*	*Duration (Months)*	*Volume (CY)*	*Type of Dredge*	*Scheduled Dates*
Philadelphia to Trenton	Fairless Turning Basin	1	125,000		October 2016 – November 2016
Main Channel Deepening	Contract 9 – Upper Reach E	9	1,000,000	Hopper	October 2017- September 2016
	Contract 10 – Upper Reach B	8	3,485,469	Cutterhead	August 2017 – March 2018
Philadelphia to the Sea (40' maintenance)**	Marcus Hook	2	900,000	Cutterhead	November 2016
	Deepwater Point Range	2	900,000	Cutterhead	December 2016
	New Castle Range	2	750,000	Cutterhead	January 2017
	Marcus Hook Anchorage	2-3	200,000	Hopper	November 2016 or March 2017
DMU	Delaware Beaches	9-12	675,000 (initial construction)	Cutterhead or Hopper	2020 (estimated)
	New Jersey Beaches	9-12	675,000 (initial construction)	Cutterhead or Hopper	2022 (estimated)

Table 1 – Estimates of upcoming construction schedules

** - It is expected that all maintenance dredging will be to the 45' depth after March 2018 if schedules remain as predicted

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
100 PENN SQUARE EAST, 7th FLOOR WANAMAKER BUILDING
PHILADELPHIA, PENNSYLVANIA 19107-3390

Environmental Resources Branch

AUG 17 2017

Ms. Karen Greene
National Marine Fisheries Service
Habitat Conservation Division
James J. Howard Marine Sciences Laboratory
74 Magruder Road
Highlands, New Jersey 07732

Dear Ms Greene:

Pursuant to the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the U.S. Army Corps of Engineers (USACE), Philadelphia District has prepared a comprehensive Essential Fish Habitat (EFH) assessment, which fully assesses the potential impacts of the proposed coastal storm risk management project: New Jersey Beneficial Use of Dredged Material for the Delaware River Feasibility Study.

The tentatively selected plan (TSP) for the New Jersey Beneficial Use of Dredged Material for the Delaware River Feasibility Study (NJ DMU) consists of beach restoration with a terminal groin at Gandys Beach and Fortescue, and beach restoration only at Cape May Villas. Aerial profile design figures are enclosed for your review.

For Gandys Beach, the proposed design template features a berm of 75 feet (ft) width at a height of +6 ft NAVD88 with a foreslope of approximately 130 ft length on a slope of 1V:10H extending bayward to a tie-in depth of -7 ft NAVD88. A new terminal groin structure is proposed for the northern end of the Gandys Beach footprint to offset the erosive nature of this portion of the bay. Over the last 25 years there has been demonstrated shoreline retreat at Gandys Beach. Currently, there is significant armoring of the Gandys shoreline using steel sheet piling, concrete sea wall and rubble armoring. The natural shoreline erosion has created conditions where the Delaware Bay has flanked the town and the proposed beach restoration will suffer unacceptable erosion rates without the use of a terminal groin.

For Fortescue, the proposed design template features a berm of 75 ft width at a height of +6 ft NAVD88 with a foreslope of approximately 100 ft length on a slope of 1V:10H extending bayward to a tie-in depth of -4 ft NAVD88. At Fortescue, the existing terminal groin at the northern edge of the community will be rehabilitated and replaced as part of the recommended plan to reduce end losses and the associated renourishment frequency.

The terminal groins at Gandys and Fortescue will be comprised of a timber stem section that will prevent sediment migration. The timber stem will be comprised of sheeting, walers and piles. The timber stem will be anchored bayward by a rubble mound groin, comprised of armor stone and bedding stone.

At Villas, the proposed plan is a berm of 75 feet (ft) width at a height of +5 ft NAVD 88 with a foreslope of approximately 100 ft length on a slope of 1V:10H extending bayward to a tie-in depth -2 ft NAVD88 (Villas). The berm is topped with a dune whose crest width is 25 ft at a height of +12 ft NAVD 88. The dune transitions both bayward to the berm and landward to existing grade on a slope of 1V:5H.

The sand source for all three areas will come from the Delaware River Philadelphia to the Sea Federal navigation project Operations and Maintenance (O&M) dredging from Lower Reach E (Miah Maull and Brandywine Ranges). The dredged material possesses >90% sand grain size. Since the scheduling of maintenance dredging of the navigation channel (Lower Reach E) is influenced by weather and shoaling rates, we cannot determine at this time when maintenance material would be available for placement on NJ DMU project beaches. Approximately 930,000 cubic yards of sand is anticipated to be dredged from this reach every 2 years. Current project optimization efforts for the NJ DMU study indicate that an 8-year nourishment cycle will be implemented to maintain the constructed beach profile based on long-term erosion and coastal storm erosion rates. Pursuant to the National Environmental Policy Act, we are currently preparing an Environmental Assessment (EA) that will be subsequently forwarded to your office as a draft for review and comment.

The MSA requires all Federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect EFH. The NMFS EFH Worksheet is included with this letter. An EFH assessment of the effects of the proposed project on EFH listed species and their life stages is also enclosed. The assessment analyzes the potential direct, indirect and cumulative effects of the proposed modified placement operation and will be incorporated into our EA. Based on our assessment of the proposed action we have determined that the proposed is not likely to adversely affect EFH. We request your written concurrence with our determination on this matter. Your support of this activity, in accordance with the MSA is greatly appreciated.

If you have any questions regarding this project, please contact Ms. Barbara Conlin of the Environmental Resources Branch at (215) 656-6557 or thru email address Barbara.E.Conlin@usace.army.mil.

Sincerely,

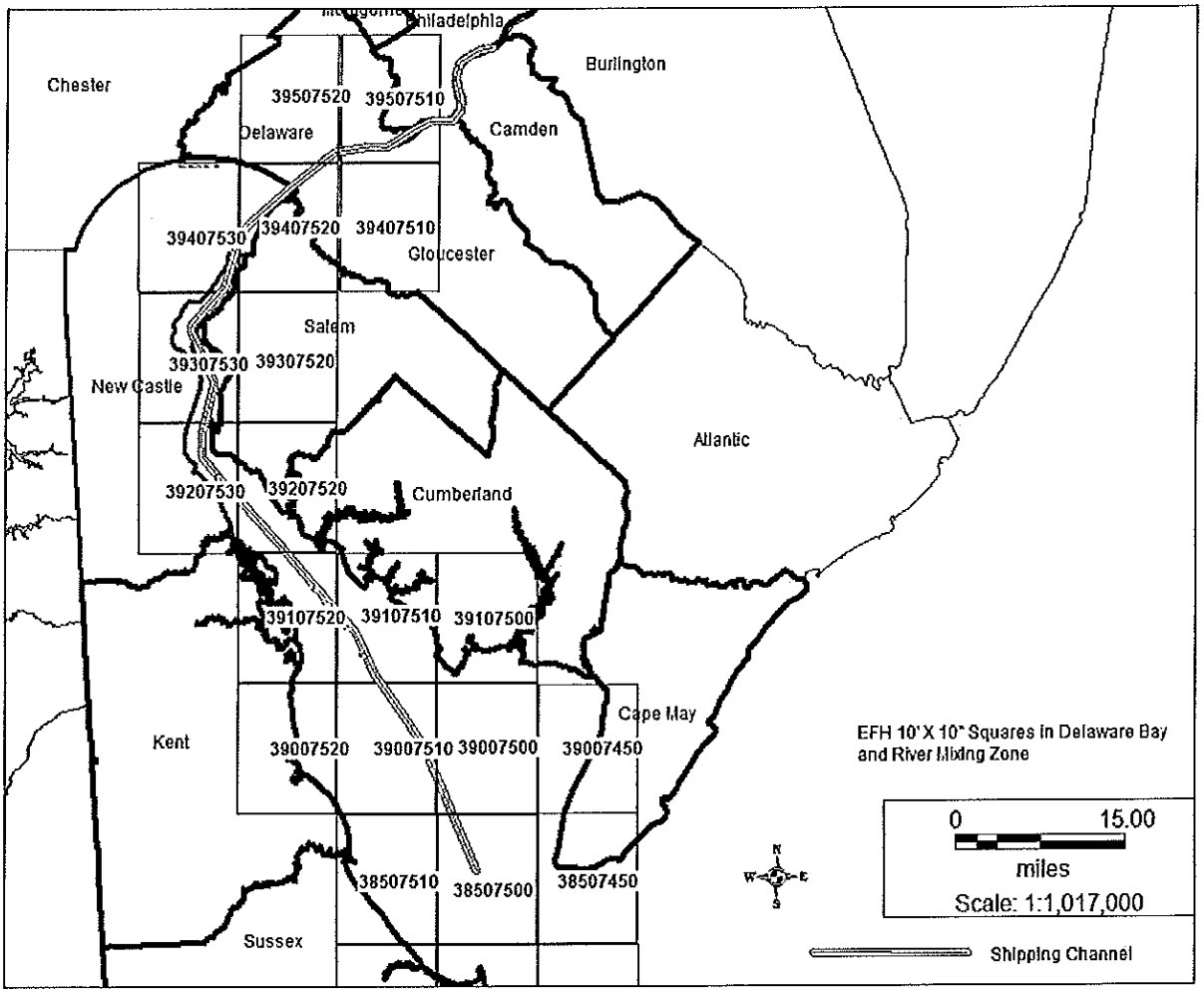
Peter R. Blum, P.E.
Chief, Planning Division

Enclosures

New Jersey Beneficial Use of Dredged Material
for the
Delaware River Feasibility Study
ESSENTIAL FISH HABITAT ASSESSMENT

Under provisions of the reauthorized Magnuson-Stevens Fishery Conservation and Management Act of 1996, the Delaware Estuary, spanning from the northern part of the state of Delaware south to the bay mouth, is designated as Essential Fish Habitat (EFH) for species with Fishery Management Plans (FMP's) and their important prey species. The area includes fifteen 10 minute x 10 minute squares. The map depicted in Figure 1 shows the locations within the Delaware Estuary that the National Marine Fisheries Service (NMFS) identifies as the mixing zone.

Figure 1: Delaware Estuary Mixing Zone Essential Fish Habitat



Gandys Beach and Fortescue Beach are located in EFH 10' x 10' square #39107510 and Villas is located in EFH 10' x 10' square #39007450.

The study area contains EFH for various life stages for 25 species of managed fish and shellfish. Table 1 presents the managed species and their life stage that EFH is identified for these fifteen 10 x 10 minute squares covering the potential affected area.

Table 1 – Summary of Essential Fish Habitat Designated Species & Their Life Stages

Managed Species	Eggs	Larvae	Juveniles	Adults	Spawning Adults
Redfish (*Sebastus fasciatus*)	n/a				
Red Hake (*Urophycis chuss*)				X	
Windowpane flounder (*Scopthalmus aquosus*)	X	X	X	X	
Atlantic sea herring *(Clupea harengus)*			X	X	
American plaice (*Hippoglossoides platessoides*)			X		
Bluefish (*Pomatomus saltatrix*)			X	X	
Long finned squid *(Loligo pealei)*	n/a	n/a			
Short finned squid *(Illex illecebrosus)*	n/a	n/a			
Atlantic butterfish *(Peprilus tricanthus)*		X	X	X	
Summer flounder (*Paralicthys dentatus*)			X	X	
Scup (*Stenotomus chrysops*)			X	X	
Black sea bass (*Centropristus striata*)			X	X	

Managed Species	Eggs	Larvae	Juveniles	Adults	Spawning Adults
Surfclam (*Spisula solidissima*)	n/a	n/a			
Ocean quahog (*Artica islandica*)	n/a	n/a			
Spiny dogfish (*Squalus acanthias*)	n/a	n/a			
King mackerel (*Scomberomorus cavalla)*	X	X	X	X	
Spanish mackerel (*Scomberomorus maculatus)*	X	X	X	X	
Cobia (*Rachycentron canadum*)	X	X	X	X	
Clearnose skate (*Raja eglantteria*)			X	X	
Little skate (*Leucoraja erinacea*)			X	X	
Winter skate (*Leucoraja ocellata*)			X	X	
Sand tiger shark (*Carcharias taurus*)		X neonates*		X	
Dusky shark (*Carcharhinus obscurus*)		X neonates*			
Sandbar shark (*Carcharhinus plumbeus)*		X neonates* (HAPC)	X (HAPC)	X (HAPC)	

Notes:

1.) N/A indicates species either have no data available on designated life stages, or those life stages are not present in the species reproductive cycle.
2.) Neonates* indicates sharks do not have a larval stage.

Potential Impacts to Essential Fish Habitat

EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" and covers all habitat types utilized by a species throughout its life cycle. The Magnuson-Stevens Fishery Conservation and Management Act (Public Law 104-267) requires all Federal agencies to consult with NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect EFH.

There are a number of Federally-managed fish species where EFH was identified for one or more life stages within the alternative project impact areas. Fish occupation of waters within the project impact areas is highly variable spatially and temporally. Some of the species are strictly offshore, while others may occupy both nearshore and offshore waters. In addition, some species may be suited for the open-ocean or pelagic waters, while others may be more oriented to bottom or demersal waters. This can also vary between life stages of Federally-managed species. Also, seasonal abundances are highly variable, as many species are highly migratory.

In general, adverse impacts to Federally-managed fish species may stem from the placement of sand on the existing sand bottom habitat within a very limited area of the littoral zone at the placement site. EFH can be adversely impacted temporarily through water quality impacts such as a temporary and localized increase in turbidity and decreased dissolved oxygen content in the water column, although the littoral zone is typically naturally turbid. These impacts would subside upon cessation of placement activities. The placement of sand compatible with natural materials is not expected to result in physical, chemical or compositional changes to bottom habitat, sediment substrate or prey item benthic species recolonization.

Potential impacts to benthic invertebrate organisms (*i.e.* potential fish prey species) may occur as a result of burial within the nearshore and intertidal zones. The nearshore and intertidal zone is highly dynamic, harsh, and is characterized by great variations in various abiotic factors. Fauna of the intertidal zone are highly mobile and respond to stress by displaying large diurnal, tidal, and seasonal fluctuations in population density (Reilly *et al.* 1983). Although intertidal benthic fauna are resilient in high energy environments, smothering and mortality of lesser mobile species (*e.g.* amphipods and polychaetes) may result from the release of the sand load in the littoral zone. The quantity of each load (300 cy/load) is small and not likely to impact a large area as large grain sizes will settle quickly during the several hours of dredging and transit time that will occur in between each deposit. Some benthic organisms are capable of migrating up through the sand. Parr *et al.* 1978 notes that the nearshore community is highly resilient to this type of disturbance. Recovery of the macrofaunal community may occur within one or two seasons when the placed sand is compatible with the natural beach sediments, but the recolonized community may differ somewhat from the original community (Reilly *et al.*, 1983). Macrofauna recover quickly due to their short life cycles, high reproductive potential, and planktonic recruitment from unaffected areas (Hurme and Pullen, 1988).

Also, seasonal abundances of fish species are highly variable, as many species are highly migratory. For most of the fish species in this region of Delaware Bay, no adverse effect is anticipated on adults and juveniles because both stages can move away from the project impact area. Minimal adverse effect on eggs and larvae is expected as they are demersal at these life stages. The placement of compatible sand within a sandy bottom habitat would not permanently degrade or destroy the EFH for any of the managed species.

The following provides a description of potential effects associated with this project on identified managed fish species:

American plaice: No adverse effect is anticipated on adults as they are concentrated in oceanic deep water and not likely to be in the project area. Limited adverse effect is anticipated on juveniles as they would be expected to move away from the disturbance area. Impacts within the placement area will be minimized due to pumping of material onto the beach above the mean high water line and reducing turbidity. Impacts to prey species in the intertidal zone will be temporarily impacted through burial but will recover through recolonization.

Atlantic butterfish: No adverse impacts are anticipated. All life history stages are pelagic and oceanic. Construction activities will take place on the bottom. Elevated turbidity effects are temporary.

Atlantic sea herring: No adverse effect is anticipated as adults and juveniles occur in pelagic waters and are not likely to be in the project area during the temporary construction period. Eggs occur on bottom habitats of gravel, sand, cobble or shell fragments in depths ranging from 20 to 80 meters and a salinity range of 32-33 (oceanic waters) and are therefore not expected to be in the project area.

Black sea bass: No adverse effect is anticipated on juveniles and adults as this species occurs primarily in offshore areas with structure and they can avoid temporary impacts to the water column. Larvae are generally found on structural inshore habitat such as sponge beds. Black sea bass eggs are found from May through October on the Continental Shelf from southern New England to North Carolina and not within the intertidal zone.

Bluefish: No adverse effect on eggs and larvae as these occur in pelagic waters in deeper water than the project area and generally are not collected in estuarine waters. Juveniles and adults occur in mid-Atlantic estuaries from April through October. Temporary impacts to prey items may occur in the project area. Juveniles and adults are expected to move away from the project area during the temporary construction period. Elevated turbidity will be short-term.

Clearnose skate: Habitat for juveniles and adults is generally shallow soft bottoms or rocky, gravelly bottoms. Adults tend to move from shallow shores to deeper water in winter. Impacts may occur to the neonate stage though they are not likely to be in the intertidal zone. Juveniles and adults are highly mobile. Temporary disruption of benthic food prey organisms may occur within the nearshore placement area.

Cobia: No adverse effect is anticipated for all life stages as they are all pelagic and construction activities will take place on the nearshore bottom. Cobia are not expected to occur in the project impact area.

Dusky shark: Neonates and early juveniles inhabit shallow coastal waters during summer months. No adverse impact is anticipated for neonates, juveniles or adults as these stages are expected to move out of the immediate impact area during the temporary construction period, particularly if placement activities occur predominantly off-season. Dredge material pumping at the placement site will occur above the high water line on the beach and proceeds in sections to minimize turbidity impacts to the nearshore environment.

King mackerel: No adverse effect on all life stages is anticipated as all life stages of this species are pelagic and the species is not expected to be in the area.

Little skate: Habitat consists of shallow coastal water over sand or gravel and up to 80 fathoms. Juveniles and adults are highly mobile. A temporary disruption to benthic food prey organism may occur. Juveniles and adults of this species are likely to avoid the immediate impact area where temporary elevated turbidity may occur.

Red hake: No adverse effect is anticipated on adults as any that may occur in the Delaware Bay during the temporary construction period are anticipated to move away from the project area. In spring and summer, red hake move into waters less than 100 meters. They are most abundant between Georges Bank and northern New Jersey. Eggs are pelagic. During winter they tend to move to deeper waters offshore. Red hake are not frequently found in Delaware Bay's inshore waters.

Sandbar shark: Neonates and early juveniles are found in shallow coastal waters and use the Delaware Bay as a nursery area. Adults are highly migratory and mostly congregate offshore. No adverse impact is anticipated for juveniles or adults as these stages are expected to move out of the construction area during the temporary construction period. If placement activities occur during the spring and summer pupping season, the dredge pipe can be floated on pontoons to avoid disrupting movements of young sandbar sharks. Sand is pumped onto the beach above the mean high water line to minimize turbidity at the construction site.

Sand tiger shark: Neonates and early juveniles are found in shallow coastal waters and use the Delaware Bay. Adults are highly migratory and mostly congregate offshore. No adverse impact is anticipated for juveniles or adults as these stages are expected to move out of the construction area during the temporary construction period. No placement activities are anticipated to occur during the warmer months when sand tigers occur in the Delaware Bay, but if so, the dredge pipe can be floated on pontoons to avoid disrupting movements of young sand tiger sharks. Sand will be pumped onto the beach above the mean high water line to minimize turbidity at the construction site.

Scup: Eggs and larvae are abundant in estuaries from May through September in waters between 55 and 73 degrees F and salinities greater than 15 ppt. Juvenile and adults typically occur in estuaries and bays and migrate to coastal waters in summer. Older life history stages of the species would be expected to avoid the immediate placement area during temporary construction. Any increase in turbidity at the placement site will be minimal with pumping above the mean high water line. Prey species composition may be temporarily impacted due to placement activities.

Spanish mackerel: The species makes seasonal migrations along the Atlantic coast. No adverse effect is anticipated for all life stages as they are all pelagic and not associated with bottom habitats and construction activities will take place on the bottom. The species is not anticipated to occur in the shallow waters of Delaware Bay.

Summer flounder: No adverse effect is anticipated on eggs and larvae because they are pelagic and generally collected at depths of 30 to 360 feet. No adverse effect is anticipated on juveniles and adults because they would be expected to move out of the construction. Impacts within the placement area are minimized due to pumping of material onto the beach above the mean high water line and reducing turbidity. Impacts to prey species in the intertidal zone will be temporary. The predominant benthic community composition consists of dominant small taxa, such as polychates and small bivalves, species with fast recruitment rates.

Windowpane flounder: No adverse effect is anticipated on eggs and larvae as they are pelagic and work will be conducted on the bottom during the temporary construction period. Prey species composition may be temporarily impacted during placement operations. No adverse effect on juveniles and adults is anticipated in bottom habitats of the berm placement site as these life stages are anticipated to move away from the placement disturbance area during the temporary construction period. Pumping of material onto the beach will occur above the mean high water line and thereby minimize turbidity and disruption of prey species composition.

Winter skate: habitat consists of shallow coastal water over sand or gravel and up to 80 fathoms. Juveniles and adults are highly mobile. Larvae may be impacted through suffocation. A temporary disruption to benthic food prey organism may occur.

In conclusion, there are a number of Federally-managed fish species where EFH was identified for one or more life stages within the project impact areas. Fish occupation of waters within the project impact areas is highly variable spatially and temporally. Some of the species are strictly offshore, while others may occupy both nearshore and offshore waters. In addition, some species may be suited for the open-ocean or pelagic waters, while others may be more oriented to bottom or demersal waters. This can also vary between life stages of Federally-managed species. Also, seasonal abundances are highly variable, as many species are highly migratory. For most of the fish species in Delaware Bay, no adverse effect is anticipated on adults and juveniles because both stages can move away from the project impact area. Minimal adverse effect on eggs and larvae is expected as they are demersal at these life stages. The neonate stages of several shark species are predominately located in shallow coastal waters during summer months, and should be sufficiently mobile to leave the construction area. Although the sand source will come from maintenance dredging of the Main Navigation channel in Lower Reach E in Delaware Bay, the time of year that maintenance dredging will be scheduled cannot be determined at this time. Potential impacts are further minimized if dredging can be scheduled to be conducted during the cooler, nonbreeding months of the year (*i.e.* fall and winter). To protect juvenile shark species, the dredge pipe can be floated to avoid disruption of movements, following procedures described by the NMFS. Based on the findings of the Field Evaluation of Hopper Dredge Overflow for the Delaware River (USACE, 2013) and sediment quality information provided in (USEPA, 2002) and (Hartwell and Hameedi, 2006), there is no evidence that temporarily elevated turbidity created from sediments greater than 90 percent coarse grained material adversely affects water quality or aquatic life. Therefore, the proposed beach restoration plan is not expected to have significant adverse effects on the EFH and HAPC shark species for the affected life stages.

At the beach placement site (nearshore zone), the slurry of dredged material and water pumped onto the beach typically results in an increase in localized turbidity. The Atlantic States Marine Fisheries Commission (Greene, 2002) review of the biological and physical impacts of beach nourishment cites several studies on turbidity plumes and elevated suspended solids that drop off rapidly seaward of the sand placement operation. Other studies support this finding that turbidity plumes and elevated TSS levels are typically limited to a narrow area of the swash zone down current of the discharge pipe (Burlas *et al.*, 2001). Fish eggs and larvae are the most vulnerable to increased sediment in the water column and are subject to burial and suffocation. Juvenile fish and adults are capable of avoiding sediment plumes. Increased turbidity due to placement operations will temporarily affect fish foraging behavior and concentrations of food sources are expected to return to the nearshore zone once placement operations cease due to the dynamic nature of nearshore benthic communities (Burlas *et al.*, 2001). Turbidity impacts are anticipated to be minimized by the placement of the dredge pipe above the mean high water line during pump-out and development of the raised beach berm moving along the shoreline. Most shallow water coastal species will leave the area of disturbance at the immediate placement site.

The adverse impact on benthic organisms (including fish food prey items) in the placement areas is considered to be localized, temporary and reversible as benthic studies have demonstrated recolonization following placement operations within 13 months to 2 years. The construction of a hardened structure (*i.e.* a groin as part of the TSP) permanently impacts bay bottom habitat within the footprint of the structure but also provides heterogeneity to the habitat in a shallow mud to sand soft bottom habitat. Authorized maintenance dredging within Reach E in the bay Main Channel will remove approximately 930,000 cubic yards of sandy material every 2 years and placements will alternate between Delaware and New Jersey on an 8-year nourishment cycle. The Delaware Estuary is considered sediment starved due to a long history of extensive shoreline development in the upper riverine reaches and decades of dredging and placement into upland Confined Disposal Facilities (CDFs). It is beneficial to the estuarine fish and wildlife coastal habitats to keep the dredged material in the system by placing it on lower bay beaches rather than in upland CDFs.

This assessment will be incorporated into our environmental assessment for the proposed project, and will be coordinated with NMFS. It is our view that, based on the above analysis, the work would not have more than minimal adverse effects on the EFH of the species listed above.

References Cited

Burlas, M., G. L Ray, & D. Clarke. 2001. The New York District's Biological Monitoring Program for the Atlantic Coast ofNew Jersey, Asbury Park to Manasquan Section Beach Erosion Control Project. Final Report. U.S. Army Engineer District, New York and U.S.

Greene, K. 2002. Beach Nourishment: A Review of the Biological and Physical Impacts. Atlantic States Marine Fisheries Commission (ASMFC) Habitat Management Series #7. 179 pp.

Hurme, A.K. and E.J. Pullen. 1988. Biological Effects of Marine Sand Mining and Fill Placement for Beach Nourishment: Lessons for Other Uses. Marine Mining, Vol. 7. Pp 123-136.

Parr, T., E. Diener, and S. Lacy. 1978. Effects of Beach Nourishment on the Nearshore Sand Fauna at Imperial Beach, California. MR 78-4. U.S. Army Corps of Engineers Coastal Engineering Research Center.

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NOAA FISHERIES
NORTHEAST REGIONAL OFFICE
EFH ASSESSMENT WORKSHEET FOR
FEDERAL AGENCIES

EFH ASSESSMENT WORKSHEET FOR FEDERAL AGENCIES (modified 08/04)

PROJECT NAME: New Jersey Beneficial Use of Dredged Material for the Delaware River Feasibility Study

DATE: 7 August 2017

PROJECT NO.

LOCATION: Tentatively Selected Placement Sites: Gandys Beach, Fortescue, The Villas

PREPARER: Barbara Conlin, USACE, Philadelphia District

Step 1. Use the Habitat Conservation Division EFH webpage, Guide to Essential Fish Habitat Designations in the Northeastern United States to generate the list of designated EFH for federally-managed species for the geographic area of interest (http://www.nero.noaa.gov/hcd/index2a.htm). Use the species list as part of the initial screening process to determine if EFH for those species occurs in the vicinity of the proposed action. Attach that list to the worksheet because it will be used in later steps. Make a preliminary determination on the need to conduct an EFH Consultation.

1. INITIAL CONSIDERATIONS		
EFH Designations	**Yes**	**No**
Is the action located in or adjacent to EFH designated for eggs?	X	
Is the action located in or adjacent to EFH designated for larvae?	X	
Is the action located in or adjacent to EFH designated for juveniles?	X	
Is the action located in or adjacent to EFH designated for adults?	X	
Is the action located in or adjacent to EFH designated for spawning adults?		X
If you answered no to all questions above, then EFH consultation is not required -go to Section 5. If you answered yes to any of the above questions proceed to Section 2 and complete remainder of the worksheet.		

Step 2. In order to assess impacts, it is critical to know the habitat characteristics of the site before

the activity is undertaken. Use existing information, to the extent possible, in answering these questions. Please note that, there may be circumstances in which new information must be collected to appropriately characterize the site and assess impacts.

2. SITE CHARACTERISTICS	
Site Characteristics	**Description**
Is the site intertidal, sub-tidal, or water column?	Yes.
What are the sediment characteristics?	Sand.
Is Habitat Area of Particular Concern (HAPC) designated at or near the site? If so what type, size, characteristics?	Yes. Sandbar shark pupping area.
Is there submerged aquatic vegetation (SAV) at or adjacent to project site? If so describe the spatial extent.	No.
What is typical salinity and temperature regime/range?	Saline. Water temperatures are seasonal.
What is the normal frequency of site disturbance, both natural and man-made?	The proposed placement areas would be periodically nourished every 4 years.
What is the area of proposed impact (work footprint & far afield)?	Tidal, subtidal and nearshore zone of Gandys Beach, Fortescue, and The Villas.

Step 3. This section is used to describe the anticipated impacts from the proposed action on the physical/chemical/biological environment at the project site and areas adjacent to the site that may be affected.

3. DESCRIPTION OF IMPACTS			
Impacts	**Y**	**N**	**Description**
Nature and duration of activity(s)			Dredged material hydraulically pumped above MHW. Repair and construction of two terminal groins.

Will benthic community be disturbed?	X		Within the project footprint.
Will SAV be impacted?		X	
Will sediments be altered and/or sedimentation rates change?		X	No sediments will not be altered. Sedimentation into inlets will be reduced by terminal groins.
Will turbidity increase?		X	Turbidity will be minimized by pumping sand above MHW behind a temporary sand dike. Any elevated turbidity in the intertidal and nearshore zone will decrease within hours after pumping ceases.
Will water depth change?	X		Yes. The beach berm will extend 25-50 feet seaward.
Will contaminants be released into sediments or water column?		X	No. The material is sand and not expected to be contaminated. >90% sand.
Will tidal flow, currents or wave patterns be altered?	X		Yes. Nearshore alongshore currents will be interrupted at the two terminal groins (one groin currently exists and will be rehabilitated, the other groin is new).
Will ambient salinity or temperature regime change?		X	No.
Will water quality be altered?		X	No.

Step 4. This section is used to evaluate the consequences of the proposed action on the functions and values of EFH as well as the vulnerability of the EFH species and their life stages. Identify which species from the EFH species list (generated in Step 1) will be adversely impacted from the action. Assessment of EFH impacts should be based upon the site characteristics identified in Step 2 and the nature of the impacts described within Step 3. The Guide to EFH Descriptions webpage (http://www.nero.noaa.gov/hcd/list.htm) should be used during this assessment to determine the ecological parameters/preferences associated with each species listed and the potential impact to those parameters.

4. EFH ASSESSMENT			
Functions and Values	**Y**	**N**	**Describe habitat type, species and life stages to be adversely impacted**
Will functions and values of			

EFH be impacted for:			
Spawning		X	The Federally managed species spawn in deeper waters than the proposed beach placement areas.
Nursery	X		The proposed beach placement and terminal groin construction areas are located in shallow water. See attachment for potential impacts to species and life stages.
Forage	X		The proposed beach placement and terminal groin construction areas are located in shallow water. See attachment for potential impacts to species and life stages.
Shelter		X	The TSP will create shelter for predator and prey species at two terminal groins. Terminal groins create refugia from currents and provide hard substrate for sessile benthic invertebrates and interstitial spaces for prey species.
Will impacts be temporary or permanent?			Water turbidity and benthic invertebrate impacts are temporary in sand placement zones. Construction of new terminal groin at Gandys is a permanent loss of soft bottom habitat but also creates hard substrate for increased macroinvertebrate diversity.
Will compensatory mitigation be used?		X	The effort is a beneficial use of maintenance dredging high quality sand material that will provide flood risk reduction benefits to communities as well as horseshoe crab and migratory shorebird habitat improvements and additional erosion protection to interior wetlands and scrub shrub and maritime forested habitats.

Step 5. This section provides the Federal agency=s determination on the degree of impact to EFH from the proposed action. The EFH determination also dictates the type of EFH consultation that will be required with NOAA Fisheries.

5. DETERMINATION OF IMPACT

		Federal Agency's EFH Determination
Overall degree of adverse effects on EFH (not including		**There is no adverse effect on EFH** **EFH Consultation is not required**
	X	**The adverse effect on EFH is not substantial.**

compensatory mitigation) will be: (check the appropriate statement)		This is a request for an abbreviated EFH consultation. This worksheet is being submitted to NMFS to satisfy the EFH Assessment requirement.
		The adverse effect on EFH is substantial. This is a request for an expanded EFH consultation. A detailed written EFH assessment will be submitted to NMFS expanding upon the impacts revealed in this worksheet.

Step 6. Consultation with NOAA Fisheries may also be required if the proposed action results in adverse impacts to other NOAA-trust resources, such as anadromous fish, shellfish, crustaceans, or their habitats. Some examples of other NOAA-trust resources are listed below. Inquiries regarding potential impacts to marine mammals or threatened/endangered species should be directed to NOAA Fisheries' Protected Resources Division.

6. OTHER NOAA-TRUST RESOURCES IMPACT ASSESSMENT	
Species known to occur at site (list others that may apply)	Describe habitat impact type (i.e., physical, chemical, or biological disruption of spawning and/or egg development habitat, juvenile nursery and/or adult feeding or migration habitat).
See attachment.	

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
100 PENN SQUARE EAST, 7th FLOOR WANAMAKER BUILDING
PHILADELPHIA, PENNSYLVANIA 19107-3390

Environmental Resources Branch

AUG 17 2017

Mr. Eric Schrading, Supervisor
U.S. Fish and Wildlife Service
927 N. Main Street, Building D
Pleasantville, NJ 08232

Dear Mr. Schrading:

The U.S. Army Corps of Engineers, Philadelphia District (Corps) has reviewed your February 2, 2015 letter providing comments in response to our November 24, 2014 coordination letter for the *Beneficial Use of Dredged Material for the Delaware River Feasibility Study, New Jersey.* Information provided in your Planning Aid Report, provided July 8, 2016, will be incorporated into our draft report. At the time of our initial coordination with your office, the study area encompassed the Delaware River and Bay coastline from Trenton to Cape May. Pursuant to the Fish and Wildlife Coordination Act (48 Stat. 401: 16 U.S.C. 1531*et seq.*)(FWCA); the Endangered Species Act (87 Stat. as amended; 16 U.S.C. 1531 *et seq.*)(ESA); and the Migratory Bird Treaty Act (40 Stat. 755 as amended; 16 U.S.C. 703-712) (MBTA), this letter serves to update you on the study's development as the tentatively selected plan (TSP) continues to undergo optimization. The TSP proposes beach restoration with a terminal groin at Gandys Beach and Fortescue, and beach restoration at the Villas. Aerial profile design figures are enclosed for your review.

For Gandys Beach, the proposed design template features a berm of 75 feet (ft) width at a height of +6 ft NAVD88 with a foreslope of approximately 130 ft length on a slope of 1V:10H extending bayward to a tie-in depth of -7 ft NAVD88. A new terminal groin structure is proposed for the northern end of the Gandys Beach footprint to offset the erosive nature of this portion of the bay. Over the last 25 years there has been demonstrated shoreline retreat at Gandys Beach. Currently, there is significant armoring of the Gandys shoreline using steel sheet piling, concrete sea wall and rubble armoring. The natural shoreline erosion has created conditions where the Delaware Bay has flanked the town and the proposed beach restoration will suffer unacceptable erosion rates without the use of a terminal groin.

For Fortescue, the proposed design template features a berm of 75 ft width at a height of +6 ft NAVD88 with a foreslope of approximately 100 ft length on a slope of 1V:10H extending bayward to a tie-in depth of -4 ft NAVD88. At Fortescue, the existing terminal groin at the northern edge of the community will be rehabilitated and replaced

as part of the recommended plan to reduce end losses and the associated periodic nourishment frequency.

The terminal groins at Gandys and Fortescue will be comprised of a timber stem section with sheeting, walers, and piles. The timber stem will be anchored bayward by a rubble mound groin, comprised of armor stone and bedding stone.

At Villas, the proposed plan is a berm of 75 feet (ft) width at a height of +5 ft NAVD 88 with a foreslope of approximately 100 ft length on a slope of 1V:10H extending bayward to a tie-in depth -2 ft NAVD88 (Villas). The berm is topped with a dune whose crest width is 25 ft at a height of +12 ft NAVD 88. The dune transitions both bayward to the berm and landward to existing grade on a slope of 1V:5H.

The sand source for all three areas will come from the Delaware River Philadelphia to the Sea Federal navigation project Operations and Maintenance (O&M) dredging from Lower Reach E (Miah Maull and Brandywine Ranges). The dredged material possesses >90% sand grain size. None of the proposed placement sites will encroach upon system units under the purview of the Coastal Barrier Resources Act (16 U.S.C. § 3501 *et seq*).

The Corps will continue to coordinate with your office as project development progresses. Since the scheduling of maintenance dredging of the navigation channel (Lower Reach E) is influenced by weather and shoaling rates, we cannot determine at this time when maintenance material would be available for placement on NJ DMU project beaches. Approximately 930,000 cubic yards of sand is anticipated to be dredged from this reach every 2 years. Current project optimization efforts for the NJ DMU study indicate that an 8-year nourishment cycle will be implemented to maintain the constructed beach profile based on long-term erosion and coastal storm erosion rates. The Corps will accommodate seasonal time-of-year restrictions for beach placement operations to the maximum extent practicable concurrent with up-to-date consultation and guidance from your staff. Pursuant to the National Environmental Policy Act (NEPA), we are currently preparing an Environmental Assessment (EA) that will be subsequently forwarded to your office as a draft for review and comment.

In addition to providing coastal storm risk management benefits, the TSP will improve eroding beaches that would restore valuable habitat for horseshoe crabs, migratory birds, fish and other species. Beach nourishment also helps to stabilize the tidal marsh/barrier beach complex by reducing erosion, turbidity, breaching, and managing impacts from sea level change.

We look forward to working with you in our efforts to beneficially used high quality

dredged sand from the lower Main Channel. We request your evaluation of the TSP, in accordance with the aforementioned natural resources protection Acts, such that they may be included in the development of the NEPA report. Please provide any comments by October 10, 2017.

The POC is Ms. Barbara Conlin of the Environmental Resources Branch at (215) 656-6557, email address Barbara.E.Conlin@usace.army.mil or Mr. Scott Sanderson at (215) 656-6571, email address Scott.A.Sanderson@usace.army.mil.

Sincerely,

Peter R. Blum, P.E.
Chief, Planning Division

Enclosures

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT CORPS OF ENGINEERS
100 Penn Square East
Philadelphia, Pennsylvania 19107-3390

REPLY TO
ATTENTION OF

Planning Division
Environmental Branch

FEASIBILITY REPORT AND INTEGRATED ENVIRONMENTAL ASSESSMENT NEW JERSEY BENEFICIAL USE OF DREDGED MATERIAL FOR THE DELAWARE RIVER

FINDING OF NO SIGNIFICANT IMPACT

In 1992, the U.S. Army Corps of Engineers (USACE), Philadelphia District evaluated the environmental impacts associated with construction of the Delaware River Main Channel Deepening Project, and prepared a final Environmental Impact Statement. The project was authorized by Congress in October 1992 as part of the Water Resources Development Act of 1992. A final Supplemental Environmental Impact Statement was prepared in 1997 and subsequent Environmental Assessments (USACE, 2009, 2011, 2013) were prepared to address changes to the authorized project, existing conditions and Federally-listed threatened and endangered species. In compliance with the National Environmental Policy Act (NEPA) of 1969, these documents evaluated the potential impacts of dredging and placement operations of the Delaware River Main Channel Deepening Project.

The purpose of the current Feasibility Report and Integrated Environmental Assessment (EA) is to present the findings of a study to determine a coastal storm risk management plan for bayshore and flood-prone residential areas along the Delaware River and Bay/Estuary shoreline of New Jersey through the beneficial use of the maintenance dredging material from the aforementioned Delaware River Main Channel project. The evaluation of dredging impacts are incorporated by reference in the EA. In compliance with NEPA, and the White House's Council on Environmental Quality (CEQ) regulations, the Philadelphia District has prepared this Feasibility Report and Integrated EA. The report evaluates the environmental effects of beneficially using maintenance dredged material obtained from the Federally-authorized Delaware River Main Navigation Channel as a sand source for coastal storm risk management efforts within the state of New Jersey.

The preferred action consists of beach restoration at Villas (South) and beach restoration with groin(s) at Gandys Beach and Fortescue. For Gandys Beach, the proposed design template features a berm of 75 feet (ft) width at a height of +6 ft NAVD88 with a foreslope of approximately 130 ft length on a slope of 1V:10H extending bayward to a tie-in depth of -7 ft NAVD88. A new terminal groin structure is proposed for the northern end of the Gandys Beach footprint to offset the erosive nature of this portion of the bay. For Fortescue, the proposed design template features a berm of 75

ft width at a height of +6 ft NAVD88 with a foreslope of approximately 100 ft length on a slope of 1V:10H extending bayward to a tie-in depth of -4 ft NAVD88. At Fortescue, the existing terminal groin at the northern edge of the community will be rehabbed and replaced as part of the recommended plan to reduce end losses and the associated renourishment frequency. The terminal groins at Gandys and Fortescue will be comprised of a timber stem section that will prevent sediment migration. The timber stem will be comprised of sheeting, walers and piles. The timber stem will be anchored bayward by a rubble mound groin, comprised of armor stone and bedding stone.

The design will provide storm damage reduction benefits and will include an 8-year periodic nourishment cycle. Varying volumes of dredged material are required at each of the placement locations, depending on the length of shoreline to be nourished and the existing beach profile. The material will be dredged from the channel within Lower Reach E via a hopper dredge and transported to a mooring barge (unloader) and the material transferred via a pipeline to the placement areas. Due to a larger mean grain size and smaller fines content, the dredged sand is expected to be relatively stable and produce minimal turbidity in the nearshore environment. Based on the volume projections for initial construction at each of the 3 placement locations, a total of approximately 700,000 cubic yards of dredged material would be required for initial construction. The dune will be vegetated with native American beach grass.

I have reviewed the EA of the proposed action. This Finding incorporates by reference all discussions and conclusions continued in the EA enclosed hereto. Based on the information analyzed in the EA as well as all NEPA documentation prepared for the authorized Delaware River Main Navigation Channel, and pertinent information obtained from other agencies and special interest groups having jurisdiction by law and/or special expertise, I conclude that the proposed action will have no significant impact on the quality of the human environment. Reasons for this conclusion are, in summary:

1. The project has been coordinated with the NMFS regarding Essential Fish Habitat pursuant to Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act.

2. The proposed plan has been coordinated with the (USFWS) and the NMFS regarding issues related to Section 7 of the Endangered Species Act of 1977 (16 U.S.C. 1531 *et seq*.) Work will be conducted in accordance with Biological Opinions issued by the USFWS for protection to piping plover, red knot, seabeach amaranth, and northern long-eared bat; and issued by the NMFS for sea turtles, Atlantic sturgeon, shortnose sturgeon, and marine mammals. The proposed action does not jeopardize the continued existence of any threatened or endangered species or adversely impact any designated critical habitat. Reasonable and prudent measures will be taken to substantially minimize the impact of incidental take to listed species.

3. Due to the moderate potential for significant archaeological sites at both Gandys Beach and Fortescue, steps will be taken in order to minimize potential impacts. Field inspection involving a systematic pedestrian survey that includes field

collection and feature recordation of the tidal zone and shoreline within the APEs will be completed prior to construction. If sites are found, steps should be taken in order to minimize project impacts during construction. Monitored construction of the project will ensure a No Adverse Effect to significant archaeological sites and ultimately serve to protect these sites from further erosion.

The towns of Gandys beach and Fortescue may have historic structures, and may be determined as historic districts. A full historic architectural assessment will be completed in order to determine if the projects will impact historic properties, either directly or visually.

The Villas will require a more in depth analysis of both archaeological and historic structures to determine if the project will have an adverse effect. A comprehensive Phase IA/B will be conducted for archaeology, and an historic architectural assessment will be conducted to determine if the project will have any impact to historic structures at the Villas.

4. A Federal Consistency Determination, pursuant to the New Jersey Coastal Zone Management Program, will be issued by the NJDEP prior to construction.

5. A Section 401 Water Quality Certificate, pursuant to the Clean Water Act, will be received from the NJDEP prior to construction. Any conditions contained within the permit will be included in the EA and will be addressed in the plans and specifications. Therefore, the state water standards will be met. The USACE will abide by all permit conservation recommendations.

6. Measures to eliminate, reduce, or avoid potential impacts to fish and wildlife resources will be implemented during project construction.

7. Benefits to the public will be the beneficial use of dredged material for the purpose of coastal storm risk management to bayshore residential communities and adjacent undeveloped beach and wetland habitats, including improved nesting habitat for beach nesting birds and resting and feeding habitat for migratory shorebirds and nesting diamondback terrapins.

Public review of the draft Feasibility Report and Integrated EA was from 18 October 2017 to 03 December 2017. The draft report has been forwarded to the U.S. Environmental Protection Agency Region 2, the U.S. Fish and Wildlife Service (New Jersey Field Office) the National Marine Fisheries Service (Northeast Region) and the New Jersey Department of Environmental Protection, as well as other interested parties for review and comment. All comments submitted during the public comment period have been addressed and incorporated into the final report.

In consideration of the information summarized, I find that the proposed action will not significantly affect the human environment and does not require an Environmental Impact Statement.

_____ _____

Date

LTC Kristen Dahle
Lieutenant Colonel, Corps of Engineers
Commanding

Cultural Coordination

DEPARTMENT OF THE ARMY

PHILADELPHIA DISTRICT CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

REPLY TO
ATTENTION OF

Environmental Branch March 16, 2016

Ms. Robin Dushane
Cultural Preservation Director
The Eastern Shawnee Tribe of Oklahoma
12705 S. 705 Road
Wyandotte, Oklahoma 74370

Dear Ms. Dushane:

In accordance with the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers (USACE) Philadelphia District is evaluating the feasibility of providing flood risk management improvements within risk prone areas of the Delaware Estuary within the states of Delaware and New Jersey through the beneficial use of dredged material. Consistent with USACE policies, the investigation of Federal interest must be based on an appraisal of the costs, benefits, and environmental impacts of any recommended project plan.

The USACE has initiated a screening process to focus the study scope on potential project sites with a high potential for flood-related damages. This letter serves to inform you of progress, to date, identify the focus areas of study, and to solicit any comments or concerns you may have specific to these potential project locations.

The goal of the study, following passage of the Disaster Relief Appropriations Act, 2013 (PL 113-2) in October 2012 and Second Interim Report to Congress (dated 30 May 2013), is to combine risk reduction of flood-prone bayshore community areas with enhancement of shoreline resiliency using dredged material beneficially. The Philadelphia District has narrowed the list of potential project sites to 13 in Delaware and 9 in New Jersey (see attached) based on the extent of damages resulting from flooding and available land and shoreline characteristics of the problem areas for dredged material placement. Potential project sites are actively being screened based on distance from available dredged material sources and other parameters.

The study will evaluate opportunities of using dredged material for beach nourishment to establish berms and dunes, marsh enhancement, riverine levees, and living shorelines with or without hardened support structures such as groins or breakwaters. Delaware's Department of Natural Resources and Environmental Control and New Jersey's Department of Environmental Protection will serve as the nonfederal sponsors to these respective projects. The study is scheduled to be completed by August 2017 and is 100% Federally funded.

As the study progresses, many of the project areas will be found not feasible and a tentatively selected plan (TSP) will arise. In order to better focus our Section 106 process on the TSP, I am proposing the negotiation and execution of a programmatic agreement (PA) in accordance with 36 CFR § 800.6 and § 800.14 (b)(1)(ii). A draft copy of the PA is enclosed for your review.

If you have any further comments or concerns regarding the attached list of screened potential project sites or if you have comments on the draft PA, we invite your input. If you have any questions, please contact me at (215) 656-6556 or via email at nicole.c.minnichbach@usace.army.mil

Respectfully,

Nicole Cooper Minnichbach
Cultural Resource Specialist and Tribal Liaison

Enclosures

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2. NJDMU Description
3. Draft Programmatic Agreement

DEPARTMENT OF THE ARMY

PHILADELPHIA DISTRICT CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

REPLY TO
ATTENTION OF

Environmental Branch

March 16, 2016

Ms. Susan Bachor and Ms. Blair Fink
Delaware Tribe Historic Preservation Representatives
PO Box 64
Pocono Lake, PA 18347

Dear Ms. Bachor and Ms. Fink:

In accordance with the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers (USACE) Philadelphia District is evaluating the feasibility of providing flood risk management improvements within risk prone areas of the Delaware Estuary within the states of Delaware and New Jersey through the beneficial use of dredged material. Consistent with USACE policies, the investigation of Federal interest must be based on an appraisal of the costs, benefits, and environmental impacts of any recommended project plan.

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Respectfully,

Nicole Cooper Minnichbach
Cultural Resource Specialist and Tribal Liaison

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DEPARTMENT OF THE ARMY

PHILADELPHIA DISTRICT CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

REPLY TO
ATTENTION OF

Environmental Branch March 16, 2016

Ms. Nekole Alligood, Cultural Preservation Director
Delaware Nation
31064 State Highway 281
PO Box 825
Anadarko, OK 73005

Dear Ms. Alligood:

In accordance with the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers (USACE) Philadelphia District is evaluating the feasibility of providing flood risk management improvements within risk prone areas of the Delaware Estuary within the states of Delaware and New Jersey through the beneficial use of dredged material. Consistent with USACE policies, the investigation of Federal interest must be based on an appraisal of the costs, benefits, and environmental impacts of any recommended project plan.

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Respectfully,

Nicole Cooper Minnichbach
Cultural Resource Specialist and Tribal Liaison

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PHILADELPHIA DISTRICT CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

REPLY TO
ATTENTION OF

Environmental Branch March 16, 2016

Mr. Jesse Bergevin, Tribal Historic Preservation Officer
Oneida Indian Nation
2037 Dream Catcher Plaza
Oneida, NY 13421

Dear Mr. Bergevin:

In accordance with the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers (USACE) Philadelphia District is evaluating the feasibility of providing flood risk management improvements within risk prone areas of the Delaware Estuary within the states of Delaware and New Jersey through the beneficial use of dredged material. Consistent with USACE policies, the investigation of Federal interest must be based on an appraisal of the costs, benefits, and environmental impacts of any recommended project plan.

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Cultural Resource Specialist and Tribal Liaison

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PHILADELPHIA DISTRICT CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

REPLY TO
ATTENTION OF

Environmental Branch March 16, 2016

Bonney Hartley
Tribal Historic Preservation Officer
Stockbridge-Munsee Mohican Tribal Historic Preservation
New York Office
65 1st Street
Troy, NY 12180

Dear Ms. Hartley:

In accordance with the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers (USACE) Philadelphia District is evaluating the feasibility of providing flood risk management improvements within risk prone areas of the Delaware Estuary within the states of Delaware and New Jersey through the beneficial use of dredged material. Consistent with USACE policies, the investigation of Federal interest must be based on an appraisal of the costs, benefits, and environmental impacts of any recommended project plan.

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Nicole Cooper Minnichbach
Cultural Resource Specialist and Tribal Liaison

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PHILADELPHIA DISTRICT CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

REPLY TO
ATTENTION OF

Environmental Branch March 16, 2016

Mr. Arnold Printup, Historic Preservation Officer
St. Regis Mohawk Tribe
412 State Route 37
Hogansburg, NY 13655

Dear Mr. Printup:

In accordance with the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers (USACE) Philadelphia District is evaluating the feasibility of providing flood risk management improvements within risk prone areas of the Delaware Estuary within the states of Delaware and New Jersey through the beneficial use of dredged material. Consistent with USACE policies, the investigation of Federal interest must be based on an appraisal of the costs, benefits, and environmental impacts of any recommended project plan.

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PHILADELPHIA DISTRICT CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

REPLY TO
ATTENTION OF

Environmental Branch March 16, 2016

Daniel Saunders
Deputy State Historic Preservation Officer
Mail Code 501-04B
State of New Jersey
Department of Environmental Protection
Historic Preservation Office
PO Box 420
Trenton, NJ 08625-0420

Dear Mr. Saunders:

In accordance with the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers (USACE) Philadelphia District is evaluating the feasibility of providing flood risk management improvements within risk prone areas of the Delaware Estuary within the states of Delaware and New Jersey through the beneficial use of dredged material. Consistent with USACE policies, the investigation of Federal interest must be based on an appraisal of the costs, benefits, and environmental impacts of any recommended project plan.

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WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

REPLY TO
ATTENTION OF

Environmental Branch March 16, 2016

Mr. Timothy A. Slavin, Director
Delaware State Historic Preservation Officer
21 The Green
Dover, Delaware 19901

Dear Mr. Slavin:

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State of New Jersey
MAIL CODE 501-04B
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NATURAL & HISTORIC RESOURCES
HISTORIC PRESERVATION OFFICE
P.O. Box 420
Trenton, NJ 08625-0420
TEL. (609) 984-0176 FAX (609) 984-0578

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

April 26, 2016

Nikki Minnichbach
Cultural Resource Specialist and Tribal Liaison
United States Army Corps of Engineers
Philadelphia District
The Wanamaker Building
100 Penn Square East
Philadelphia, Pennsylvania 19107-3390

Dear Ms. Minnichbach:

As Deputy State Historic Preservation Officer for New Jersey, in accordance with 36 CFR Part 800: Protection of Historic Properties, as published in the *Federal Register* on December 12, 2000 (65 FR 77725-77739) and amended on July 6, 2004 (69 FR 40544-40555), I am providing continuing Consultation Comments for the following proposed undertaking:

Cape May, Cumberland, and Salem Counties
Programmatic Agreement
Beneficial Use of Dredged Material on the Delaware River
United States Department of the Army, Corps of Engineers

Thank you for providing the Historic Preservation Office (HPO) with the opportunity to review and comment on the draft Programmatic Agreement, received at our office on March 21, 2016, for the above-referenced undertaking. Based on our review, the HPO has the following comments:

- General Comments
  - The Programmatic Agreement should contain definitions for the types of undertakings for which this agreement document will cover;
  - The Programmatic Agreement should contain descriptions and/or definitions for how notification and documentation will be handled through the consultation process;
- Page 1, 5th WHERAS clause
  - SHPO should be NJSHPO and DESHPO or SHPOs;

- Stipulation I(F)1
  - This stipulation (*No Historic Properties Affected*) should be moved out of *Assessment of Adverse Effects. No Historic Properties* should become Stipulation F with *Assessment of Adverse Effects* being a new Stipulation G, shifting the remaining stipulations as necessary;
  - This stipulation notes, "The USACE through consultation may conclude…"— Consultation with whom? This is not clear. When will the USACE consult with SHPOs and Tribes? Is the public going to have the opportunity to comment?
- Stipulation I(F)3
  - The way the Programmatic Agreement is currently written makes it sound like consulting parties beyond the SHPOs and the Tribes will only be consulted if there is an adverse effect. Is this correct?
- Stipulation II
  - What if the USACE determines that it will not conduct the undertaking as originally coordinated after construction has already commenced? How will consultation be handled?

Please note, I will be retiring as of June 1, 2016. If the Programmatic Agreement is to be executed after June 1, 2016, the document will need to be updated with Katherine J. Marcopul as the signatory for the HPO. Dr. Marcopul will be serving as Acting Deputy State Historic Preservation Officer and Administrator for the New Jersey Historic Preservation Office, upon my retirement.

The HPO looks forward to further consultation with the United States Department of the Army, Corps of Engineers regarding the development and implementation of this agreement document.

Additional Comments

Thank you for providing the opportunity to review and comment on the potential for the above-referenced project to affect historic properties. Please do not hesitate to contact Jesse West-Rosenthal of my staff at (609) 984-6019 with any questions regarding archaeology. Please reference the HPO project number 16-1379, in any future calls, emails, or written correspondence to help expedite your review and response.

Sincerely,

Daniel D. Saunders
Deputy State Historic
Preservation Officer

DDS/KJM/JWR