DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
441 G STREET, NW
WASHINGTON, D.C. 20314-1000

JAN 8 2014

CECW-NAD-RIT

MEMORANDUM FOR CHIEF, SANDY COASTAL MANAGEMENT DIVISION

SUBJECT: Fire Island to Montauk Point, Completion Strategy

1. The North Atlantic Division's attached completion strategy for the Fire Island to Montauk Point (FIMP) project outlines the proposed approach for expediting completion of the FIMP reformulation study while concurrently moving forward with stabilization projects consisting of the beach fill (dune/berm) elements authorized pre-Sandy. HQUSACE concurs with this approach to expedite construction of the FIMP project.

2. The stabilization projects will be documented in Hurricane Sandy Limited Reevaluation Reports for Fire Island Inlet to Moriches Inlet and Downtown Montauk. The strategy for the stabilization projects is intended to expedite implementation of previously authorized elements of the FIMP project to reduce the heightened risk post-Sandy. The stabilization projects should be developed so that they do not foreclose the consideration of alternatives in the reformulation study. The FIMP reformulation study will be documented in a General Reevaluation Report and will consider non-structural alternatives (to include structure elevation/flood-proofing) and nature-based solutions.

3. Questions or concerns regarding this matter should be directed to Mr. Michael Voich, North Atlantic Division, Regional Integration Team, at (202) 761-4655.

Encl

STEVEN L. STOCKTON, P.E.
Director of Civil Works

Fire Island to Montauk Point Completion Strategy

Executive Summary

1. There is increased urgency to complete the Fire Island Inlet to Montauk Point (FIMP) Reformulation Study and to implement the recommendations, in the wake of Hurricane Sandy within the Project Area. The following outlines the Corps' approach for expediting completion of the FIMP Reformulation Study, and a concurrent approach for stabilizing vulnerable and susceptible areas.

2. FIMP falls into several programs within PL 113-2 including Constructed Projects, eligible for repair and restoration (Westhampton, WOSI) and Authorized but Unconstructed (ABU) Projects. The identified efforts for FIMP are itemized below. This approach focuses on the effort necessary for the last 2 tasks, completion of the Reformulation Study Effort (d), and Stabilization Efforts (e).
    a. PL 84-99 Repair, and Enhanced Repair of the Westhampton Interim Project
    b. PL 84-99 Enhanced Repair of the WOSI Project (84-99 repair already accomplished)
    c. Execution of Breach Contingency Plan (BCP) in the Wilderness Area (two other breaches already closed)
    d. Completion of the Reformulation Study, and construction of Recommendations
    e. Stabilization Efforts to address Sandy impacts including:
        i. Fire Island Inlet to Moriches Inlet Reach (Fire Island)
        ii. Downtown Montauk

3. Stabilization Efforts are intended to reduce the heightened risk post-Sandy while the FIMP reformulation study is being completed. The solutions will not foreclose on alternatives under consideration for FIMP.

Reformulation Study Effort Approach

4. Prior to Hurricane Sandy, there had been significant advances in identifying a recommended plan acceptable to all partners. A Recommended Plan for FIMP must have agreement between USACE, DOI, and NYS (who represents the local governments). In March 2011, USACE and DOI identified a Tentative Federally Supported Plan (TFSP) that was coordinated at the Secretary-level of both USACE and DOI. This plan was provided to NYS for their concurrence. NYS provided comments on TFSP, and asked for additional information to come to a decision on a Tentatively Selected Plan (TSP) in a letter dated December 29, 2011. The Corps provided a response to NYS by letter dated May 16, 2013 which addressed the State's comments, and identified the changes that are being proposed to

address post-Sandy impacts. In response, NYSDEC provided a letter dated June 14, 2013 supporting the TFSP, and the Stabilization Efforts.

1. Post-Sandy Refinements. Following Sandy, it was recognized by USACE, DOI, and NYS that the TFSP must be re-evaluated and incorporate changes due to Sandy. The primary changes that have been incorporated are revisions to the dune alignment and updates to the quantities, costs, and benefits reflecting the current island condition. Additionally, changes in project features have been incorporated at several locations (feeder beach in Smith Point County Park, a dune in the Lighthouse Tract, a plan for downtown Montauk, updates to nature-based features, and updated breach response protocols).

2. The most significant change in the TFSP is an updated beachfill alignment. The team has identified a beachfill alignment located further north than the prior agreed-upon alignment. The revised alignment requires the acquisition and relocation of approximately 48 houses. The comparison of costs indicates that this new plan has a lower life-cycle cost as compared to the prior, more seaward alignment. NYSDEC has indicated support for this alternative and asked that USACE minimize the scope to the extent possible for unwilling sellers.

3. Based upon the letter of support from NYS, the District is proceeding with the following efforts. This information will ultimately feed into the recommended plan section of the HSGRR. The HSGRR will be based upon the Draft Reformulation Report previously reviewed by NAD and HQ, which was the subject of the prior IPR held in August 2010.
   - Updating quantities, costs and economics of the alternatives
   - Updating and comparing plans specific for Fire Island and Downtown Montauk
   - Incorporating Sea Level Rise into the analysis (as per USACE guidance and requested by NYS)

4. The District has undertaken additional coordination as part of completing the Reformulation Study. The District has followed a three-pronged approach to coordinating the plan:
   - Ensuring vertical team buy-in within the Corps;
   - Reaffirming vertical team support with the Federal partners (DOI);
   - Reaffirming Local sponsor support of the plan.

5. The partner coordination to date has been extensive, at the Federal, State, and Local-levels. Based upon the recent meetings, it is recognized that there is both USACE and DOI agreement on the overall approach for FIMP, and for the stabilization efforts. Local sponsor support for the plan has also been confirmed. It is recognized that there are still several details of the plan that need to be finalized.

Stabilization Project: Approach

1. The current schedule to complete the Reformulation Study will leave the identified vulnerable and susceptible portions of the Study Area (as a result of Hurricane Sandy) exposed to future damages until the recommendations from the FIMP Reformulation Study can be implemented. A proposed solution to address this concern is the advanced implementation of Stabilization Projects. The assumption for these Stabilization Projects is that these projects are necessary to address the effects of Hurricane Sandy as quickly as possible before another major storm event occurs, and will be independent of the FIMP Reformulation recommendations.

2. Based upon the existing vulnerability in the Study Area, it is expected that there should be two stabilization efforts: 1) Fire Island Inlet to Moriches Inlet (Fire Island) and 2) Downtown Montauk.

3. It is expected that a "Hurricane Sandy Limited Reevaluation Report (HSLRR)" will be prepared for each area (Fire Island and Downtown Montauk) to obtain approval for construction of the recommended plan, and will serve as the basis of a PPA for construction of each stabilization project.

4. These HSLRR's will contain independent plans that are economically justified. These plans will be evaluated in an appropriate NEPA document, and a PPA will be prepared for the plan described in the HSLRR and NEPA document. There may be differences in the exact plan development for each stabilization effort since site conditions may warrant different life-cycle considerations. The following approach describes the plan for the Fire Island Inlet to Moriches Inlet Stabilization Project with similar approach for Downtown Montauk

5. The Fire Island HSLRR will include a plan that includes a one-time action, beachfill recommendation that would not negate consideration of any of the alternatives under consideration for FIMP. The No Action FIMP alternative would be achieved post-stabilization, because renourishment is not contemplated after the Stabilization Project is complete. The overall FIMP HSGRR/EIS will assess the entire Project Area and all elements of its implementation. Due to the need to implement the stabilization efforts at Fire Island and Downtown Montauk prior to the completion of the overall HSGRR/EIS , the District will prepare respective Environmental Assessments (EA) that will evaluate appropriate project alternatives including the one-time action, as described above and associated environmental impacts. As required by NEPA, the EA must conclude with a finding that a selected alternative either will or will not significantly affect the quality of the human environment. If a significant impact is found, an EIS will be prepared.

DEPARTMENT OF THE ARMY
NORTH ATLANTIC DIVISION, CORPS OF ENGINEERS
FORT HAMILTON MILITARY COMMUNITY
BROOKLYN, NY 11252-6700

REPLY TO
ATTENTION OF

CENAD-PD-CS

14 March 2014

MEMORANDUM FOR: Chief, Programs and Project Management Division, New York District, Attn: Anthony Ciorra, P.E.

SUBJECT: Hurricane Sandy Limited Reevaluation Report (HSLRR/EA) for Fire Island to Moriches Inlet, Fire Island Stabilization Project, Coastal Storm Risk Management, Long Island, New York.

1. References:
   a. CENAD Planning and Policy memorandum dated 14 March 2014
   b. FIMI Fire Island Stabilization HSLRR QA Review comment status report, attached

2. On 14 March 2014, NAD completed a QA review of comments to the Final Draft version of the subject report. The comments will be inputted into Dr. Check's. Please address enclosed comments and incorporate revisions into next version of the report following public review. All revisions will be coordinated with NAD's Planning and Policy.

3. We concur with NAD's Planning and Policy recommendation to release the Final Draft version of the subject report for public review.

4. Per the current schedule, final submittal of the HSLRR is scheduled for 16 May 2014.

5. Please direct any questions to Mr. Matthew Walsh (ABU Program Manager) at 347-370-4773.

JOSEPH FORCINA, PE, PMP
Chief, Sandy Coastal Management Division

DEPARTMENT OF THE ARMY
NORTH ATLANTIC DIVISION, US ARMY CORPS OF ENGINEERS
FORT HAMILTON MILITARY COMMUNITY
302 GENERAL LEE AVENUE
BROOKLYN, NEW YORK 11252-6700

CENAD-PD-PP

14 Mar 2014

MEMORANDUM FOR: Chief, CENAD-PD-CS (Attn: Mr. Matt Walsh)

SUBJECT: Final Draft Hurricane Sandy Limited Re-evaluation Report & Environmental Assessment (HSLRR/EA) for Fire Island to Moriches Inlet, Fire Island Stabilization Project, Coastal Storm Risk Management, Long Island, New York

1. Reference is made to the subject report dated March 2014.

2. As requested, a final "back-check" review of the Final Draft version of the subject report was conducted. Comments from this review are enclosed which entail revisions to the next version of the report following public review.

3. I recommend the release of the Final Draft version of the Subject report for public review.

4. Please direct any questions to Mr. Larry Cocchieri, the review lead for the referenced document at 347-370-4571.

JOSEPH R. VIETRI
Chief, Planning and Policy Division
Programs Directorate

Encl

Comments on Final Draft Hurricane Sandy Limited Re-evaluation Report & Environmental Assessment (HSLRR/EA) for Fire Island to Moriches Inlet, Fire Island Stabilization Project, Coastal Storm Risk Management, Long Island, New York

Economics

1. The overarching issue with the document is that there is no economics appendix and information had to be found in pieces throughout the document. While it is understood that the team was attempting to streamline the document to 100 pages and is applauded for the idea of making one main document for formulation, economics, and environmental analysis - the problem is that there is very little backup information for the analysis and no "place" to find the information. Indeed, just because these are supposed to be streamlined does not mean that the analysis should not be readily available and - if reviews are to occur as quickly as the Sandy process requires them to - the information should be supplied in a form that is easy for a reviewer to understand. The ATR process included significant back and forth between the project economist and the reviewer and sending of back up information which, much of which might have been avoided if there had been an economics appendix to refer to. In short, Planning Modernization does not make an presentation of back up economics information used to make planning decisions - in a reviewable form - unnecessary. In fact, the case is likely the opposite.

2. To this end, an Economics Appendix is proposed to be compiled that presents how the analysis was performed. This document needs to be reviewed and approved at the MSC level before the document is submitted to HQUSACE. This can use the work presented on pages 33-onward of the main report as its base and include the information used to arrive at the benefits estimate. This should include a detailed description of how it was verified whether the inventory of structured to be damaged has or has not changed between the 2005 estimate and the current one. This appendix must respond to ATR comment #5472489, include details on models used - especially the model used for the breach closure (see ATR comment #5472528), explain clearly why the frequent nuisance flooding that might be ameliorated by individual homeowner action remains part of the without-project condition, and either make the case for why shorefront analysis was not undertaken for this report or add the shorefront analysis. If the shorefront analysis is added, it may be that the main report will change. Much of this information can be poached directly from the back and forth with the ATR reviewer. Finally, as pointed out by the ATR reviewer in comment #5472516, and which should have been corrected in DQC review, tables and presentations of benefit need to consistently show the period of analysis, price level, and discount rate used.

Environmental

1. FONSI. The PDT determined to proceed with the EA without a FONSI as the EA will "... evaluate the significance of potential environmental impacts of the proposed action and determine if the proposed project warrants the preparation of an environmental impact statement." The Team was advised that the FONSI must be made available to the public as per Sections 1501.4 and 1506.6 of CEQ Regulations 1501 and USACE regulations.

2. 5473198 Environmental Comment from NAD Planning states "All references dealing with Environmental and Cultural resources are 15 to 20 years old. Environmental references should be updated in the EA and the BA; note the latter could cite the preliminary Piping plover survey results from 2012 and 2013. District is also advised to reference re-initiated coordination with the Resource Agencies, with associated dates to be policy compliant. The final report should summarize results of the new coordination.

PDT concurred however, no dates are provided to document re-initiated coordination with the Resource Agencies. Per discussion with NAN, the draft documentation will populate the revised draft with as many dates as are presently available and include other when the documentation is finalized.

3. 5472851 General Comment from NAD Planning, which asked: "Is it really a true statement to say that this recommended plan will 'stabilize the island'?" is unresolved. The point is addressed briefly in HSLRR p. 2 Paragraph 3, and in Section 8. Suggest this could be resolved by added language indicating the projected duration of the stabilization benefit that the FIMI project will provide.

4. 5473196 Environmental Comment from NAD Planning states that "The Environmental Resources Section should be expanded such that critical information is imparted in the main report. A paragraph description for each of the habitats should be included in the main report...". The PDT concurred, however, the additional language does not appear to be added to the Environmental Resources Section of the main report.

5. 5473197 Environmental comment from NAD Planning states that "Project impact should include sections on impacts to EFH, Threatened and Endangered Species and cumulative impacts. Specifically, concerns raised in the recent FWS coordination, on impacts to the piping plover, seabeach amaranth, red-knot, least tern, common tern, American oystercatcher and cumulative impacts should be discussed, and any steps District intends to implement that would mitigate for potential impacts discussed. Results of recent coordination on EFH should be discussed as well". The PDT concurred but the Main Report does not include sections on T&E Species.

6. 5472849 General Comment from NAD Planning. Suggest change all references in the report from 'damage reduction' to 'risk management'. NAN Concurred however not all references to "damage reduction" have been revised to state "risk management". A thorough review is needed. "Damage Reduction" minimally persists in the following report components: Table 11; Section 2.2.1 Sentence 1; Section 3.3.10 Sentence last; Biological Assessment p 7 Beach Fill Profiles of the FIMI TSP Sentence 1; Title of the 404(B)(1); FCAF Policies 11,13, and 16; Title of the Technical Support Documents for Back-up Calculations, Borrow Area Appendix, Cost Appendix; Real Estate Plan Appendix page 4 Purpose and Need sentence 2, Section 2a sentence 2, Section 2b sentence 1, page 6 Easement title and discussion, page 8 section 6 sentence last, section 8 first sentence; Attachment #3 Slide on Increase in Residual Risk; Appendix H paragraph 1 Sentence 2, Section III paragraph 2 sentence 1; EA sections 2.2.1, 3.3.10.

7. 5473220 Comment from NAD Planning on EA. "Section 4.2.7, 3rd paragraph, Discussion of benthic surveys of the borrow area state that surveys were conducted between 1196 to the present but no recent references are provided. References from recent surveys should be provided or the statement revised." PDT concurred but no recent dates have been added, nor has the text been revised.

8. 5473227 Comment from NAD Planning on EA. "Correspondence: There is no Attachment E. The main report lacks correspondence with NMFS on EFH, with State on Clean Air Act Compliance, and recent coordination with SHPO." There is a "Pertinent Correspondence" section following the BA, it should be labeled Appendix E, unless it is part of the BA as the footer indicates. Also note that Main Report Appendix I "Pertinent Correspondence" is empty (as are Appenda J, K, and L).

9. Pp's 1-8 of the EA have footer errors imbedded in the PDF.

Plan Formulation

1. The report does not use current datum - NAVD88, but NGVD instead. An update to current datum will need to be conducted for the next version of the report.

2. Page 90 Monitoring and Adaptive Management. The presentation of costs for these activities is confusing, especially when comparing the total cost of $9.7 Million over 10 years verses the assorted annual costs quoted. Please update clearly in the next version of the report.

Engineering

Pages 19 and 44 of the Main report and page 3 of Appendix B discuss sea level rise. Pages 19 of the Main Report and 3 of Appendix B indicate a sea level rise 0f 0.0126 ft/yr and EC 1165-2-212; page 44 of the Main Report indicates a sea level rise of 0.0127 ft/yr and EC 1165-2-211. This should be corrected for consistency.

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

REPLY TO
ATTENTION OF

CENAN-PL-F

3 February 2014

Mr. Alan Fuchs
New York State Department of Environmental Conservation
Flood Protection and Dam Safety Bureau
625 Broadway, 4th Floor
Albany, NY 12233-3504

Dear Mr. Fuchs,

The United States Army Corps of Engineers, New York District (USACE) is in receipt of the New York State Department of Environmental Conservation's (NYSDEC) letter dated 8 January 2014 regarding USACE's 19 December 2013 letter referencing the outcome of the 18 December 2013 meeting at New York District (District). The NYSDEC 8 January 2014 letter also provides comments to the District's Fire Island to Moriches Inlet (FIMI) Hurricane Sandy Limited Reevaluation Report (HSLRR) provided to the NYSDEC and Suffolk County on 20 December 2013. Additional responses are provided at the end of this document to address NYSDEC comments received via email on 21 January 2014 regarding the Real Estate appendix of the HSLRR. Land Management Appendix comments received from NYSDEC to the District on 30 January 2014 will be incorporated into the revised FIMI HSLRR. Project Partnership Agreement (PPA) comments are being coordinated by District Counsel directly with the State.

A. SMITH POINT COUNTY PARK

1. Robins Rest Area: Agree with one note. The need to monitor the site for 5 years and take appropriate actions to maintain early succession stages of plover needs to be fully defined in the project report Operations and Maintenance section.

Concur. The Operations and Maintenance section of the HSLRR will include a fully defined discussion on the need to monitor the site for 5 years and take appropriate action to maintain early succession stages of plover needs for the Robins Rest Area.

2. Lighthouse Track: Agree with the same note as under #1 above.

Concur. The Operations and Maintenance section of the HSLRR will include a fully defined discussion on the need to monitor the site for 5 years and take appropriate action to maintain early succession stages of plover needs for the Lighthouse Track Area.

3. Three Locations (New Made Island, former Smith Point Breach, and Pattersquash) within Smith Point County Park: Agree with the same note as under #1 above.

Concur. The Operations and Maintenance section of the HSLRR will include a fully defined discussion on the need to monitor the site for 5 years and take appropriate action to maintain early succession stages of plover needs for the New Made Island, former Smith Point Breach and Pattersquash within Smith Point County Park.

4. Vicinity of Great Gun: Agree with the same note as under #1 above.

Concur. The Operations and Maintenance section of the HSLRR will include a fully defined discussion on the need to monitor the site for 5 years and take appropriate action to maintain early succession stages of plover needs in the vicinity of the Great Gun area.

B. MAIN REPORT:

1. Page 3, under Study Area: Please add: "The landward limit of the Study Area is New York State Route 29."

Concur. Page 3, under Study Area will be revised to add: "The landward limit of the Study Area is New York State Route 29."

2. Page 4, first sentence of the second paragraph: Should be revised to "Fire Island includes the Fire Island National Seashore (FilS), Robert Moses State Park and Smith Point County Park, which is included in the Fire Island National Seashore boundary."

Concur. Page 4, first sentence of the second paragraph: Will be revised to "Fire Island includes the Fire Island National Seashore (FilS), Robert Moses State Park and Smith Point County Park, which is included in the Fire Island National Seashore boundary."

3. What sea lever rise was taken under consideration in designing the FIMI Stabilization Project? The mean sea level rise is used? 0.127ft/year or the higher rate of 0.26 ft/year?

The ATR version of the HSLRR was prepared using the Curve 1 Sea Level Rise values. The analysis has since been revised to reflect the lower historic rate.

4. Page 13. Need correct references for who is monitoring the breach. **It** is not just NPS. Ex.: SOMAS, USGS.

Concur. Page 13 will be revised to indicate all involved entities monitoring the breach. The report will also be revised to state that the Fire Island Breach and Great South Bay Post-Sandy Studies Meeting was held on 24 JAN 2014 with the following groups: NPS, NY Sea Grant, Stony Brook University, USGS, University of Rhode Island, Virginia Tech, SOMAS, and USACE.

5. Page 28, Environmental Resources: Endangered species noted exclude sturgeon. It is a federally listed species (NOAA). That needs to be included. It is also missing in BA appendix attached.

Concur. Page 28 and the Biological Assessment Appendix will be revised to include sturgeon, a federally listed species (NOAA).

6. Page 31, section 4.0, numbered paragraph 5: This section refers to a state policy to close breaches. Please reference such policy.

Concur. Text will be revised to 'the State's policy to close breaches' to ' the State's history of closing breaches'

7. P. 31, Without Project Future Condition (WOPFC), Paragraph No.3: Why isn't WOSI included in this paragraph?

Concur. There are no plans to renourish the WOSI project (6 year life) so it is assumed for the WOPFC that, in the future it will continue to erode. Regardless, Page 31, Without Project Future Conditions (WOPFC), Paragraph No.3 should include a discussion of WOSI as noted above. The report will be revised, accordingly.

8. P. 33, There is a statement under Tidal Flooding Impact: This needs supportive information. Tab. 4 on p. 43 and the last paragraph on p. 45 shows that the main damages to the mainland is due to flooding of the back-bay area that is likely to occur regardless of the barrier island condition, through the existing inlets.

Paragraph on page 33 clarifies the hydrologic conditions that create flooding on the mainland due to overwash and breach of the barrier island. The paragraph does not contradict that nuisance flooding from tidal conditions occur frequently over the period of analysis. The report will be amended to distinguish between high frequency tidal flooding and infrequent but severe flooding caused by barrier island breaches.

Please note that the FIMP GRR seeks to address the high frequency flooding with a non-structural program. The use of non-structural measures to address the frequent flooding through the inlets, and stabilizing the barrier to reduce impacts from less frequent events is essential to the Reformulation Studies comprehensive strategy.

9. P.45- Dollar values in the last paragraph regarding total annual damage and damages due to flooding of the back-bay that is likely to occur regardless of the barrier island condition do not match Table 4 on p. 43.

Concur. The revised HSLRR will reconcile the total annual damages and damages due to flooding of the back-bay that is likely to occur regardless of the barrier island condition on Page 45 and Table 4 on Page 43.

10. Page 49, Section 6.2, first sentence on page: This refers to a Vision Statement that is in place for the FIMP project. The Department was not aware of a final Vision Statement being accepted by the FIMP management team. However, if the purpose of this reference is to formalize approval by involved agencies of the draft Vision Statement in this document, the Department does not object.

Concur. The District included reference to the Vision Statement for the FIMP project for the purpose to formalize approval by involved agencies of the Draft Vision Statement. However, for clarification, the HSLRR will more clearly indicate that the Vision Statement is still draft and it role in the FIMP and the FIMI projects.

11. What is the design life of the Stabilization Project? 5, 20, or 50? It varies during the report.

Concur: The Main Report will be revised to clarify that the period of analysis is 50 years, the total project life is 20 years, and the life of the project that accrues the immediate benefits immediately after project implementation is 5 years. The project life referenced in the EA is based on the period of time that the project will be monitored which is for 5 years. The remaining project life as referenced in the main report includes the residual benefits of the project.

12. Page 50: This plan identifies goals and speaks to necessity for mitigation for lost processes (reducing breaching and overwash). Plan then needs to indicate that these mitigation measures will be addressed in detail in the larger FIMP project.

Concur. The overall FIMP project (GRR) will indicate that mitigation measures will be addressed in detail. The HSLRR will be revised to state the necessity for mitigation for lost processes will be included in the FIMP project. FIMI as a one-time action should not require any Mitigation needs.

13. Page 56, section 7.2.1, 3rd paragraph: This paragraph addresses real estate needs and listed the acquisitions and relocations needed. The paragraph should also list the number of easements needed.

Concur. Section 7.2.1 will be revised to list the number of easements needed.

14. Pages 58 and 59, section 7.2.3: This section address the 4 areas listed above with regard to the alignment of the dune and Piping Plover Habitat. The need to monitor the site for 5 years and take appropriate actions to maintain early succession stages of plover needs to be fully defined in the Operation and Maintenance Section of the project report.

Concur. Section 7.2.3 will be revised to indicate the need to monitor the site for 5 years and take appropriate actions to maintain early succession stages of plover needs and will be fully defined in the Operation and Maintenance Section of the project report

15. Page 61, section 7.4.1: Has the cost to demolish and remove existing homes been included in the cost estimate?

Yes. Costs to demolish and remove existing homes are included in the cost estimate.

16. Page 62, Under Breach Response it reads "Breach closure is expected to occur in the WOPFC and in the with project condition" L: This needs to be consistent in the Page 31 which indicates that BCP is not being considered as a part of WOFPC.

Concur. BCP is not being considered as part of the FIMI project. However, the District will review all references in the HSLRR to the Breach Contingency Plan (BCP) for consistency. BCP was approved in 1996 and implemented under Advanced Measures (PL 84-99). If FIMI is constructed under an approved HSLRR, the BCP would also be implemented under PL 84-99. The revised HSLRR will be modified to provide clarification and the references reviewed.

17. Page 63, Tab.5: The FIMI Project Economic Cost does not include a separate line for cost of Real Estate Acquisitions/Relocations/Easements. There is approx. $ 57,970,480 estimated for Real Estate. Is this cost included in the $183,206,000 cost for beach fill? It so, it would be better stated in provided on a separate line.

Concur. The $57,970,480 estimated for Real Estate is included in the $183,206,000 cost for beach fill. However, the District concurs that the FIMI Project Economic Cost Table 5 should be revised to indicate a separate line to indicate costs associated with Real Estate Acquisitions/Relocations/Easements, accordingly.

18. Page 66: It reads "Tab. 8" and should be Tab. 7; It reads "Fig. 2" and should be Fig.12.

Concur. All tables and figures in the report will be reviewed to ensure consistency with the Main Report text of the HSLRR.

19. Page 71, Section 7.5.2: This paragraph indicates the Corps is working to identify alternatives to acquisition. Please elaborate on what the Corps is considering in respect to alternatives.

Alternatives to acquisition may include relocation of houses set-back on the existing lot, or relocation of the house to vacant land, both of which could increase the number of willing homeowners, accelerate the timeframe for acquisition, and would likely be less expensive than acquisition. As part of this plan refinement, the houses, docks and pools that are on the back-slope of the dune will be assessed to ensure that project can be implemented within the alignment. Further identification of alternatives to acquisition will be refined as the plan continues to develop during Plans and Specifications.

20. Page 72: It reads "Fig.3" and should be Fig. 15.

Concur. All tables and figures in the report will be reviewed to ensure consistency with the Main Report text of the HSLRR.

21. Page 77: No mitigation discussion is included for lost processes due to lack of sediment entering the bay and effects on marsh integrity and barrier integrity.

Human activities or structures have altered the nature or rate of natural shoreline processes within the study area (Maintained inlets, the beaches at Western Fire Island and Fire Island Pines are already engineered beaches as defined by FEMA). Extensive analysis has been done on beach nourishment alternatives within the study area for the FIMP project; nourishment is the only feasible way to protect/stabilize. Nourishment would restore impacted conditions and processes and therefore no mitigation is required.

22. Page 84, Section 10.1, 1st set of bullets, bullet 3: This should be changed to show "contracts 3 thru approx. 6" in order to allow construction to start as soon as possible in areas where real estate has been obtained.

Concur. It is the District's intent to proceed with contracts and implement reaches in areas where real estate has been obtained to allow construction to start as soon as possible. Section 10.1 will be revised, accordingly.

23. Page 84, Section 10.1, 2"d set of bullets, 1st bullet: This shows a schedule for construction at Smith Point County Park starting in May 2014 and being completed by December 2014. The Department supports moving these projects forward as expeditiously as possible, but also believes the public needs to understand the process in projecting the schedule. The Department requests that a more detailed schedule be included in this section which depicts the major milestones necessary to have construction start. This should include the following

dates: 1) When final PPA and Project Report will be provided to State, 2) when will final PPA be initiated by both the Army and State), 3) when will the 401 Water Quality Certification application will be provided to Department, 4) when is the WQC expected to be approved, 5) when will the Corps go out to Bid, 6) when will the Corps award the bid, 7) when will the public see construction starting on site, 8) what environmental windows exist that need to be factored into the schedule, 9) what is anticipated construction rate of sand placement, and what is estimated construction completion. In addition, if work is anticipated between Memorial Day and Labor Day, has the Corps worked out details with Suffolk County with relation to the operation of the open park?

Concur. Once approvals for this project become more evident, a detailed construction schedule will be provided and included in the HSLRR which will include 1) final PPA and Project Report provided to State, 2) the final PPA initiated by both USACE and State), 3) the 401 Water Quality Certification application provided to NYSDEC, 4) the WQC is expected to be approved, 5) when USACE will go out to Bid, 6) when USACE will award the bid, 7) construction start date, 8) environmental windows 9) the anticipated construction rate of sand placement, and estimated construction completion. The schedule will also incorporate any collaboration with Suffolk County if work is anticipated between Memorial Day and Labor Day.

24. Page 84, Section 10.1, 2nd set of bullets, 2nd and 3rd: Same as 23 above.

Concur. See response to Comment 23 above.

25. Page 84 thru 87, section 10.2: The language in this section is similar to the PPA and will be worked out through the PPA. Please see PPA comments.

Concur. Section 10.2 revisions will reflect the language in the PPA that addresses the State comments noted in Section B of this Response letter.

26. Page 87, Section 10.3: This section should define the length of time O&M will be required, which has been stated 5 years after the project is turned over to the state. If this is not stated in this section, confusion could arise since other sections of the report are using a 20 year period.

Concur. Section 10.3 will be revised to clarify that the monitoring and O&M duration will be 5 years after the project is turned over to the state. It should be noted that the 20 year period is the project life for which benefits accrue.

27. Page 87, Section 10.3, bulleted items: This section referred to the state's role in managing the land areas and use of these lands. A large portion of this area is managed by the National Park Service and this section needs to be specific as to their role vs. the traditional roles a

non-federal sponsor would have for a Corps project. As I read these bullets it looks like the Corps is giving control of a National Seashore to the State. This section needs to be expanded to describe specifically what O&M measures are expected and where. In addition, how will work be authorized within the National Park and Seashore?

The authority having jurisdiction over each respective section of the beach is expected to monitor and maintain the beach and constructed elements of the project. This includes reshaping of the berm after scarping events, but no volume will be added as part of these maintenance activities.

28. Page 88, section 10.3, second set of bullets, 1st bullet: This requires the non-federal sponsor to "reshape the design berm and dune to original elevation to repair loss of elevation caused by human activities, or loss of elevation caused by wind or wave action." Page 65 indicates that this project is a one-time action and does not include renourishment. Therefore, this language needs to be modified or eliminated.

The authority having jurisdiction over each respective section of the beach is expected to monitor and maintain the beach and constructed elements of the project. This includes reshaping of the berm after scarping events, but no volume will be added as part of these maintenance activities.

29. Page 88, section 10.3, second set of bullets, 2nd bullet: This requires the non federal sponsor to "take measures to prevent sand from blowing off the dune and berm onto.....including deploying and keeping sand fences....." This is contrary to the letters and direction being provided by the USF&W. This needs to be clarified. In addition, this again looks to requiring the State to perform measures on federal property the National Park Service manages. Please clarify.

The authority having jurisdiction over each respective section of the beach is expected to monitor and maintain the beach and constructed elements of the project. This includes reshaping of the berm after scarping events, but no volume will be added as part of these maintenance activities.

30. The proposed project includes the Berm only template in the reach in front of the Smith Point County Park Pavilion, Flight 800 Memorial, and the camp grounds. One of the two dune templates is preferable to the County in this location, to provide a higher level of protection to infrastructure and to bury exposed sections of the seawall(s). There have been no plover habitat considerations in this location that might preclude a dune template. Therefore, please consider including this alternative template.

The New York District received an email dated January 17, 2013 stating that the State of New York and Suffolk County is in agreement with the revised templates.

31. With regards to the habitat restoration area that was discussed in the vicinity of Great Gun, the County will forward copies of the plan that they originally discussed with the US Fish and Wildlife service a few years back. They are currently being revised slightly and will be forwarded directly by Suffolk County.

Noted. Habitat restoration areas will be evaluated during the FIMP reformulation and incorporated, accordingly in the GRR.

32. Please include the changes discussed in your letter on the plans so that they can be further reviewed and commented on. It has been assumed that they will be incorporated into the final report and plan, which would become part of the PPA.

Concur. A revised FIMI HSLRR, EA and Appendices, including revised plans will be provided to the State and would become part of the PPA.

33. The project proposes to use designated ACOE borrow area 4C, which is 3 to 4 miles east of Moriches Inlet. Project cost could be reduced considerably if they use the borrow area that Suffolk County identified in the FEMA restoration project under development. A location plan is attached. In addition to being much closer to Smith Point, reducing hopper transportation costs, using the Smith Point borrow area might open up the possibility that the Smith Point portion of the project could be accomplished using a cutterhead dredge, which would greatly expand the number of dredges that could build the project and possibly help to expedite the bidding process as well as the construction schedule. Suffolk County estimates that this site would yield +2 million cubic yards of material. However, please note that no permits have been obtained for use of this area.

The report can only provide cost estimates for permitted borrow areas. Because construction is on an expedited timeline, schedule does not allow for permitting of new borrow areas.

C. ENVIRONMENTAL ASSESSMENT:

1. Page 33: This is a very general written assessment of borrow area resources and impacts. There are possible impacts to borrow area resources (inverts, fish), water quality sediment quality and accumulation rates post dredge event. Also need to determine impact of dredge borrow areas on sturgeon, does it congregate sturgeon near dredge area where they can ·be impacted. Necessary pre and post project monitoring should be discussed in any plan for the project. The Department is currently working with USACE environmental branch to establish this monitoring plan as consistent as is possible across various USACE dredge projects. Need this information/monitoring to determine if borrow areas need to be managed differently. How was 20' max depth determined as adequate related to resource

impacts, water quality and sedimentation? Previous borrow area evaluations/report summaries for these sites are not in here but should be submitted.

The District is currently working with NYSDEC-Region 1 to establish a monitoring plan for the various PL 113-2 funded projects. Anticipated first field effort is in spring 2014. At this time, the District is unaware of sturgeon congregating near the potential borrow areas.

2. The Department will need recent sediment analysis to determine sediment appropriateness for placement. Seems evaluations used to determine appropriateness of sand were conducted 1984-98. Document states areas are affected by storm waves and other perturbations so conditions could have changed.

Although sediment analysis was conducted no later than 1998, adjacent sand to borrow area 4C and 2C has been used for construction as recently as 2008 and 2009, respectively. The grab samples taken during the construction process confirm that the borrow areas are still suitable for use on Fire Island.

3. Reiterate need for sturgeon assessment. They are federally listed and occur in numbers along the entire long island coast.

Concur. The revised EA will address the need for sturgeon assessment, accordingly.

4. Page 81: Discuss stopping of coastal processes and mitigation for that impact.

Coastal processes are being restored. In order to establish specific objectives a Restoration Framework was developed. This framework called for the restoration of five coastal processes which are critical to the development and sustainability of the various coastal features (such as beaches, dunes, barrier islands and bluffs) that, together, form the natural system. The five Coastal Processes identified by the Restoration Framework as vital to maintain the natural coastal features are: Longshore Sediment Transport; Cross Island Sediment Transport; Dune Development and Evolution; Estuarine Circulation; and Bayside Shoreline Processes.

5. Page 90: Discuss cumulative physical changes in borrow areas. We haven't seen the moving of sand filling in these areas. Need to look at what they fill in with as sediment determines invert resources. Fine grained infill could alter habitat quality to the negative.

GEOLOGIC FRAMEWORK AVOIDANCE CONCLUSIONS: As a simplistic first start to minimize the adverse impacts to any potential onshore transport processes is to utilize the identified borrow areas that are the farthest offshore and deepest for initial

nourishment, and provide pre and post dredging monitoring data collection, and to allow for adaptive management measures.

D. BORROW AREA PLAN

1. The Corps needs up to date grain size analysis for compatibility. The report also indicates possible sediment transport issues for 2C and the need for a plan to assess if that is so. The Corps should include that plan in this document. Current monitoring plan described above regarding sedimentation does not evaluate this issue.

The USGS analysis identified a large outcrop of Cretaceous rock approximately 6km offshore of Watch Hill. To the west, a field of shoreface-connected sand ridges (thinning to the west) was identified. It was hypothesized that these features may reflect onshore sediment transport west of Watch Hill from erosion of the Cretaceous strata traveling via sand waves (see sub-appendix for details). Quantification and confirmation have yet to be studied. It was further hypothesized that removal of material from these ridges may interrupt the onshore migration of material from the ridges to the shoreface. USACE acknowledges that the potential for this onshore movement is a plausible process. In the region with the largest sediment thicknesses contained in the ridges, some borrow areas have been proposed (i.e., 2B, 2C, and 2D). USACE shall monitor impacts to the borrow area infilling and the shoreline condition and susceptibility to waves. This pre and post borrow area monitoring might include bathymetric surveys of the borrow areas, wave data collection, bottom current measurements, profile surveys and aerial photography of the shorelines. If the material does, in fact, move onshore, during average conditions, or storm events, then borrow areas in that region would show evidence of infilling by the very same process. And if, in fact, the borrow areas do experience infilling, then the potential impact to the shoreline would be minimized. USACE is currently endeavoring to estimate borrow area infilling estimates using previously dredged borrow areas located along the same ridges (used for Saltaire, Fair Harbor, Dunewood, and Fire Island Pines areas). USACE is in full support of using adaptive borrow area management practices, should any other than negligible impacts be quantified or confirmed. These practices can include dredging in shallow lifts, changing the order the ridge borrow areas are accessed during the project life, allowing further time in between operations at these areas to allow maximization of infilling, minimizing surface area impacted in a borrow area, etc. USACE welcomes further collaboration on future research from the community of coastal sedimentation scientists.

Borrow Areas 1A, 2A, 2B, 2D, 2F, 2G, 3A, and 3B use will be deferred until future renourishment operations, at which time, a better understanding of the sediment transport processes will have been gained through pre and post dredging monitoring of Borrow Area 2C.

2. Why does dredge report state use of 5A 5B? Other areas of report only talk about 2C and 4C?

The resulting modified borrow plan is as follows: to use Borrow Area 2C for GSB-D1, GSB-D2, GSB-D3, and GSB-D4 fill placement areas and Borrow Areas 4C, 5A, 5B, and 5B Expanded for MB-D1 fill placement areas for initial nourishment.

A revised Borrow Area Plan, EA and main text will be provided.

E. NYSDEC Comments, January 14, 2014

1. P.4, it reads "This barrier island project area falls within Robert Moses State Park, Fire Island National Seashore and Smith Point County Park." - It should be revised to: "This barrier island project area falls within Robert Moses State Park, Fire Island National Seashore and Smith Point County Park that is part of the Fire Island National Seashore." This way it is clear that SPCP is part of the FINS.

Concur. The Real Estate Plan will be revised to state "This barrier island project area falls within Robert Moses State Park, Fire Island National Seashore and Smith Point County Park that is part of the Fire Island National Seashore" for clarification that SPCP is part of FINS.

2. P.4, it reads "The project will provide hurricane and storm damage reduction for homes and businesses within the floodplain extending along 83-miles of ocean and bay shoreline from Fire Island to Moriches Inlet,…" – It should be revised to "The project will provide hurricane and storm damage reduction for homes and businesses within the floodplain extending along 31 miles of ocean and bay shoreline from Fire Island Inlet to Moriches Inlet,…"

Concur. The Real Estate Plan will be revised to state "The project will provide hurricane and storm damage reduction for homes and businesses within the floodplain extending along 31 miles of ocean and bay shoreline from Fire Island Inlet to Moriches Inlet…"

3. P.4, it reads "The project will provide hurricane and storm damage reduction…by means of widening the beaches along the developed areas to a minimum width of 100 ft to an elev. of 14 ft and raising dunes to an elev. of 20 ft.." – according to the HSLRR this should be revised to "the maximum beach berm width will have 90 ft at elev. 9.5 ft and dune height will be 13 or 15 ft, or no dune at all, depending on location".

Concur. The Real Estate Plan will be revised to state that "the maximum beach berm width will have 90 ft at elev. 9.5 ft and dune height will be 13 or 15 ft, or no dune at all, depending on location".

4. P.5, it reads “A total of 724 of properties requiring easement acquisition are necessary for the Fire Island Inlet to Montauk Point portion of the Project…” – It should be revised to: “A total of 724 of properties requiring easement acquisition are necessary for the Fire Island Inlet to Moriches Inlet portion of the Project…”

Concur. The Real Estate Plan will be revised to state “A total of 724 of properties requiring easement acquisition are necessary for the Fire Island Inlet to Moriches Inlet portion of the Project…”

5. P.5, Fig.2. Real Estate Requirements: Lands, Easements, and Right-of-Entries. It has a column “25’ Buffer Area”. What does this column exactly include? It includes structures for fee acquisition and relocations and something else? The total number is 66 and there are 42 acquisitions and 6 relocations required?

The 25' Buffer Area has been removed from the Spreadsheet. There are 41 Fee Acquisitions and 6 on-site Relocations; The project may have potentially 47 owners eligible for Relocation Benefits.

6. P.8, it reads “Another Interim Plan currently being evaluated is protection of the commercial fishing facilities at the West of Shinnecock.” - What does that mean? What interim plan is being evaluated for WOSI? The Main HSLRR reads that the only Fed. Interim project considered in place is Westhampton Interim, nothing for WOSI are. Please clarify.

Concur. The Real Estate Plan will be revised to indicate that there are no plans to renourish the WOSI project (6 year life) so it is assumed that in the WOPFC it will continue to erode and that no interim plan is being evaluated.

7. P.8, it provides the existing federally-owned lands and lands owned by the non-federal sponsor. It would be good to add what lands are owned by State Parks and Suffolk County.

Concur. The Real Estate Plan will be revised to indicate which lands are owned by State Parks and Suffolk County in addition to existing federally-owned lands and lands owned by the non-federal sponsor.

8. P.9, it reads “No induced flooding is anticipated due to the proposed project features” – what does that mean exactly?

The project provides protection against barrier island breach, back-bay flooding and shoreline damages from storm events. Flooding only occurs with the overtopping of the island. That said the implementation of FIMI will not exacerbate or create flooding in areas historically have not been flooded.

9. P.9, Should not what is listed under “Total Baseline Cost for Real Estate for the project” match what is in Fig.2 on page 5. Real Estate Requirements?

Concur. The "Total Baseline Cost for Real Estate for the Project" should match "Real Estate Requirements" as depicted on Figure 2 of the Real Estate Plan. The revised Real Estate Plan will include this revision, accordingly.

10. P.10, it reads "Non-seasonal owners of the properties required for relocations, may need to be temporarily relocated during the time that the houses are being moved. If so, they may be eligible to receive reimbursement for certain expenses incurred during the period of temporary relocation, for moving and related expenses, such as temporary storage for their household goods." – What is the estimated cost for this? Should not this be included in the real estate cost and total cost of the project?

An estimated cost has been added to the Real Estate Plan/Cost Appendix at approximately 10% of the total relocation costs and is included in the total cost of the project. Actual costs will be negotiated.

11. P.10, it reads "The Non-Federal Sponsor has been supplied a copy of the Sponsor Manual, outlining its responsibility for this project. Exhibit D." – there is not Exhibit D and the Non-Federal Sponsor has not been supplied with the Manual. Is it the OMRR&R Manual?

Concur. No OMRR&R Manual has been provided to the Non-Federal Sponsor to date. The Real Estate Plan will be revised, accordingly including deleting reference to Exhibit D.

12. P. 11, Fig. 4 – Proposed Acquisition Schedule. It reads PPA execution start date Feb.1, 2014 – is this realistic? When will the State receive a final version of the PPA?

Concur. Once approvals for this project become more evident, a detailed construction schedule will be provided and included in the HSLRR. This will also include a date that the State will receive a final version of the PPA (see responses to PPA comments in Section B of this response letter).

13. P.14, Table including acquisition type has 21 houses under "Buffer 25" category in Kismet to Lonelyville. Fig. 2 – Real Estate Requirements on p.5 has 20 houses for this area; 10 homes in Fire Island Pines but 0 homes in Fig.2 for this area; 0 homes in Talisman Barret but 10 homes in Fig.2 for this area. - It should be consistent.

Concur. The Real Estate Plan will be revised to ensure consistency within the RE Plan itself and the main report.

14. P.31, Exhibit B1. It presents breach response, inlet management, inlet bypassing, road raising and non structural. – Why is this map included here? These are not alternatives included in FIMI project.

Concur. Exhibit B1 of the Real Estate Plan will be revised to include a map depicting the FIMI project.

A revised FIMI HSLRR is scheduled to be submitted to the State by (date) that will include the responses and requested information provided in your letter. In the meantime, if you should have any questions or require any additional information, please contact the Project Manager, Frank Verga at (917) 790-8212.

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS, NEW YORK DISTRICT
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK NY 10278-0090

30 September 2013

REPLY TO
ATTENTION OF
Commander

Honorable Joseph J. Martens
Commissioner
New York State Department of Environmental Conservation
Albany, New York 12233-1010

Dear Commissioner Martens:

Thank you for your letter of September 5, 2013, expressing New York State support of the new dune alignment for the Fire Island to Montauk Point (FIMP) Reformulation project, and affirming Suffolk County's role in project implementation. We also appreciate the State's continued attention to the breach at Old Inlet.

In your letter, you also requested that the Corps take the lead to acquire the approximately 39 properties impacted by the new alignment and obtain the other perpetual easements required to construct and maintain the project. Although real estate acquisition remains the responsibility of the non-Federal sponsor under the Project Partnership Agreement, the Corps of Engineers is willing to provide technical assistance to the State and County. The real estate requirements for this project are complex, and timely completion of the real estate acquisition is critical to the success of the project.

The New York District Real Estate leadership has already initiated contact with real estate representatives from both your office and Suffolk County for project requirements, staff capabilities and available resources. These discussions will assist in determining the best way to proceed, which may include Corps technical assistance with preliminary activities such as title, appraisal, and mapping. If necessary, it may also include assistance with property acquisition; however, at this time, the Corps of Engineers will not pursue acquisition of any properties required for the Fire Island to Montauk Point Project through eminent domain proceedings in Federal court. Once a plan is developed it will be memorialized in a Memorandum of Agreement, which must be executed prior to beginning the work.

In reference to the existing Old Inlet Breach, we are positioning ourselves to close this breach as was done last year for the other two Sandy breaches. However, we cannot complete any significant steps until after the property owner, the U.S. Department of the Interior, National Park Service, issues the required written permission to perform the actual work. We understand that they have concluded they will produce a National Environmental Policy Act Environmental Impact Statement and Record of Decision in order to issue that permission.

I look forward to working with your office on the Fire Island to Montauk Point Project, as well as the other projects in the Hurricane Sandy Recovery Program, which will provide critical protection to the citizens in the coastal regions of New York State. If you have any additional questions, please call me or contact Mr. Frank Verga, Project Manager at (917) 790-8212.

Sincerely,

Paul E. Owen
Colonel, U.S. Army
Commander

CF:
Fuchs (NYDEC)
Foley/Soller (DOI)
Anderson (Suffolk County)
Herter/Perales (NYSDOS)

ANDREW M. CUOMO
GOVERNOR

JOE MARTENS
COMMISSIONER

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALBANY, NEW YORK 12233-1010

September 5, 2013

Colonel Paul E. Owen
Commander and District Engineer
United States Army Corps of Engineers
New York District
26 Federal Plaza
New York, NY 10278-0090

Dear Colonel Owen:

Thank you for your letters of July 29, 2013 and August 16, 2013. As you are aware, the State has taken some major steps to move the Fire Island to Montauk Point (FIMP) project forward. In addition, the State continues to work with the Breach Contingency Plan (BCP) Coordination Team to track the movement of the breach. The purpose of this letter is to update the Corps on a few items and clarify other issues.

The State has obtained a local sponsor for the FIMP project. Suffolk County has volunteered to take on this role, based largely on the 100 percent fully federally-funded project, which has brought the possibility of the full implementation of FIMP one step closer. Suffolk County has had a representative on the FIMP Executive Steering Committee throughout the project. This is to formally notify you that Gil Anderson, Commissioner of Suffolk County Department of Public Works, will represent the County on the Committee. In addition, the New York State Department of State (DOS) has also had a representative on the Executive Steering Committee, Fred Anders, who has retired. Therefore, Jeff Herter will take over this role and represent DOS on the Committee.

The Corps' August 16, 2013 letter indicates that the Corps has completed its assessment of the re-alignment of the Fire Island dune, which will require the acquisition or relocation of approximately 39 properties, and resulted in a positive cost benefit analysis. This is to confirm the State's support of the Corps moving forward quickly to implement the Fire Island Emergency Interim project along this new dune alignment. As stated in my June 14, 2013 letter, I want to reiterate the State's request to have the Corps take the lead on the acquisition of these properties, both from willing and unwilling sellers, in order to expedite the implementation of this emergency interim project. In addition, the State requests the Corps to also obtain the perpetual beach easements necessary to construct and maintain this project. Since this is a 100 percent federally-funded project and the acquired property will most likely be retained by the Federal Government (these properties are located within the Fire Island National Seashore and managed by the National Park Service), it is logical that the Federal Government (Corps) would take the lead in these acquisitions. Please let me know how the State can assist you in obtaining these properties and easements in the most expeditious manner.

Thank you also for your letter dated July 13, 2013 regarding Old Inlet Breach. I would appreciate receiving confirmation of the steps necessary to execute the breach closure in the event that the Breach Contingency Plan Coordination team determines that the Inlet is not closing through natural processes. As noted in my June 20, 2013 correspondence, the State fully supports the Corps' implementation of all the necessary steps to prepare for breach closure in the event that this determination is made.

Thank you and your staff for your extraordinary effort in moving the FIMP as well as other critical coastal projects forward. I look forward to talking with you soon.

Sincerely,

Joseph J. Martens

c: C. Perales, NYSDOS
G. Anderson, Suffolk County
J. Herter, NYSDOS
C. Soller, USNPS
J. Vietri, Corps
F. Verga, Corps
A. Fuchs, NYSDEC

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278–0090

REPLY TO
ATTENTION OF

DISTRICT COMMANDER

August 16, 2013

Honorable Joe Martens, Commissioner
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Dear Mr. Martens:

Thank you for letter dated 14 June, 2013, that supports the implementation of the Fire Island to Montauk Point (FIMP) Project. In response, I am providing documentation to support the recommendation that the beachfill component of the plan for Fire Island be implemented along a more landward alignment than the original, more seaward alignment proposed prior to Hurricane Sandy.

The attached document compares the quantities of sediment required for initial construction and subsequent periodic maintenance over the fifty year study period for the more seaward, pre-Sandy minimum real estate alignment proposal and the more recent, post-Sandy, more landward alignment.

The analysis confirms that the sediment requirements for the more landward alignment are lower than those of the more seaward alignment. Further, the attachment demonstrates that even with the cost estimate for the necessary real estate acquisitions to allow construction of the more landward alignment combined with initial construction and maintenance costs, the new proposed alignment is considerably less expensive than the more seaward, original minimum real estate proposal.

This more landward alignment is more economical, resilient and sustainable over the 50 year project life. Accordingly, your concurrence with the Tentative Federal Selected Plan (TFSP) implementation in the revised alignment is expected, as the 14 June letter indicated concurrence once the revised alignment was proven to achieve these goals.

An accelerated schedule has been developed to provide emergency stabilization within the next construction window. Therefore, it is the District's intent to immediately proceed with analysis of the TFSP along this more landward alignment and seek higher authority approvals by each Federal Agency. Without immediate indication to the contrary, your support of the TFSP is assumed from the statements in the 14 June letter and the supporting analysis provided in this response. Please contact Mr. Anthony Ciorra, Chief of Coastal Restoration and Special Projects Branch at (917) 790-8208 or Mr. Frank Verga, Project Manager, at (917) 790-8212, should you have any questions.

Sincerely,

Paul E. Owen
Colonel, U.S. Army
Commander

Enclosure

CC: Al Fuchs/Sue McCormick, NYS Department of Environmental Conservation
Jeffrey Herter, Asst. Bureau Chief, NYS Department of State, Coastal Resources
Chris Soller, Superintendent, Fire Island National Seashore
Mary Foley, Department of the Interior

ANDREW M. CUOMO
GOVERNOR

JOE MARTENS
COMMISSIONER

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALBANY, NEW YORK 12233-1010

June 14, 2013

Colonel Paul E. Owen
District Commander
United States Army Corps of Engineers
New York District
26 Federal Plaza
Room 2109
New York, NY 10278

Dear Colonel Owen:

I am pleased to inform you that New York State supports implementation of the fully federally funded Fire Island to Montauk Point (FIMP) project, including the United States Army Corps of Engineers' (Corps) proposal to expedite the implementation of elements of FIMP, such as the immediate restoration of dunes and beaches damaged by Hurricane Sandy on Fire Island and downtown Montauk. This support is based on the overall concepts of the FIMP project subject to the items further described in this letter.

On March 11, 2011, representatives of the Corps and the United States Department of Interior sent a letter to me outlining the potential plan of improvement for the Fire Island to Montauk Point ("FIMP") Reformulation Study. This "Tentative Federal Supported Plan" ("TFSP") was proposed as the basis to move forward with Reformulation Study efforts for the entire FIMP study area – encompassing approximately 83 miles of Atlantic Ocean coastal and bay areas of Suffolk County, New York. As noted in the federal letter, New York State must find the general plan of improvement acceptable before its attributes can be finalized through a collaborative process. New York's approval at this stage, I understand, would allow the Corps and State to move forward with a final analysis of the TFSP, including such matters as plan formulation, engineering, economics, environmental assessment, model certifications and formal agency policy-level approvals.

After a series of discussions, on December 29, 2011, DEC sent a letter to the Army Corps presenting information requests aimed at better understanding some of the basic elements of the TFSP so that DEC would be in a position to accurately explain project elements, costs, maintenance obligations and impacts of the TFSP to the required local community sponsor(s). While further discussions were taking place, Hurricane Sandy arrived – altering the physical and fiscal landscape in a variety of ways. On May 16, 2013 the Corps responded to the Department's letter which addressed a number of the concerns raised by the Department, but deferred a response on a few issues that are currently under review based on the impacts from Sandy.

I understand that alternative components of the TFSP are now being further refined, including: breach response measures along the barrier island, including "advanced" breach response methods or protocols; inlet management, beach and dune fill components and alignments with on-going beach nourishment; structural groin modifications; resiliency measures, including a significant number of coastal community building elevations; road elevations; land and development management to limit new development in certain flood hazard areas; protective natural infrastructure features (including wetland complexes, living shorelines, shellfish reefs, dunes, ecologically friendly in-bay breakwaters, and marsh islands) and environmental restoration, particularly in south shore bay areas.

All of the above elements would be sharpened in a process that fully involves local stakeholders. As you have emphasized, this massive project would need to be finalized in a manner that takes into account increased storm surge intensity associated with climate change and sea level rise. It is understood that the Corps will be performing an environmental impact review process under the National Environmental Policy Act (NEPA) for the entire FIMP project and that the National Park Service is evaluating the need for a NEPA review with respect to the existing breach in the Wilderness Area of the Fire Island National Seashore. It is through these processes that the elements of the project will be fully analyzed and a final FIMP project will be fully defined.

The State also supports the Corps' review of the post Sandy dune re-alignment along Fire Island that may be necessary based on the Corps' cost to benefit analysis that is still underway. If the cost to benefit analysis indicates that the alignment should be moved north in order to make the project more economical, resilient, and sustainable over the 50-year period of the project, then the State would support this realignment. If the realignment requires the purchase of properties, then the State would request that the Corps minimize the scope of this activity to the extent possible for unwilling sellers and to perform the procurement of these properties for the State at full federal expense. The State awaits the Corps' submittal of the elements of the project that you are currently working on, as delineated in your May 16, 2013 response. Thank you for all of your good and continuing efforts to help New York rebuild smarter and stronger in the face of the challenges presented by Hurricane Sandy.

Sincerely,

Joseph J. Martens

c: Mr. Joseph Vietri

Fire Island Inlet to Montauk Point, New York
Fire Island Alignment
Post-Sandy Considerations

BACKGROUND:

The Corps and the DOI had agreed to a Tentative Federally Selected Plan (TFSP) as part of the Fire Island Inlet to Montauk Point Reformulation Study that includes a beachfill along Fire Island, prior to Hurricane Sandy. Agreement upon the beachfill plan was reached following evaluation of a number of alternatives, and coordination of these alternatives with the local municipalities.

Alternatives varied the scale of beachfill alternatives, the alongshore extent of fill, and the alignment (cross-shore placement of fill). The TFSP was identified based upon what was cost-effective, economically justified, supported by the NPS policies, and locally acceptable.

The TFSP generally consisted of a beachfill plan with a dune at elevation +15 ft, a berm with a width of 90 ft placed in front of the communities, and aligned seaward of the existing buildings to minimize real estate acquisition requirements.

The Corps, NPS, and NYS have agreed to review components of the TFSP to determine if changes to the selected plan are warranted in light of the changes in the beach and dune condition on Fire Island that occurred as a result of Hurricane Sandy. This analysis considered changes in the alongshore extent of beachfill, and also in the alignment of the beachfill (cross-shore placement of fill). The beachfill dimensions are based upon performance of similar projects, and do not require revision.

EVALUATION CRITERIA OF DIFFERENT ALIGNMENTS:

1) Cost calculation to construct a dune and beachfill project generally include:

- The initial costs associated with dredging and placing the initial quantity of sand required for construction, which vary with the alignment and alongshore extent;
- The upfront costs associated with acquiring the necessary Real Estate for construction of the beachfill project, which vary based upon the alignment;
- The long-term, life-cycle costs associated with dredging and placing sand required to maintain the design condition over a period of 50 years which vary based upon the erosion rate.

2) Tradeoffs are often considered when comparing possible alignments between the quantity of sand required both up-front and over time, and the up-front cost of Real Estate acquisition for more landward alignments.

- An alignment constructed south, more seaward, of the existing development would require a large volume of sand and incur a relatively high cost for initial construction, but requires limited Real Estate acquisition and low Real Estate costs for initial construction. This plan would also

require a relatively higher volume of sand over 50 years, since the renourishment would be required over a longer length, and would project further seaward relative to the adjacent areas.

- An alignment further landward requires less sand for initial construction, but requires additional real estate acquisition, and higher real estate costs. This plan would require less sand renourishment, and have a lower renourishment cost, since the plan would be shorter in length, and would transition to the adjacent areas more uniformly.

3) Long term sustainability and environmental impacts of the proposed plans are assessed by considering the need for continued action and resulting impacts to the area.

- A plan which constructs beachfill further seaward requires a greater volume of sand for both construction and long-term renourishment as it is subjected to more erosive forces in the more seaward location. This proposal has a greater environmental impact, and is less sustainable than a plan placed further landward.
- A plan placed further landward is exposed to less erosive forces and requires less sediment to maintain the alignment over time, resulting in lesser impacts, and greater sustainability.

COMPARISON OF TWO PLANS BASED UPON POST-STORM DATA

Plan 1 is the more seaward alignment that was previously identified in the Tentative, Federally Selected Plan, which minimizes the Real Estate Impacts (MREI Plan). It does not require the acquisition of any buildings on Fire Island. The alignment is selected to minimize the real estate required for plan implementation. Based upon post-Sandy conditions, this plan would require 7.9 Million CY of sand for initial construction, and 3.6 Million CY of sand for renourishment every 4 years.

Plan 2 is an updated alignment (MidU Plan) which was proposed, based upon the post-Sandy conditions of the existing beach. It aligns the proposed beachfill more landward, and seeks to balance the sand requirements and Real Estate needs. It is located further landward than Plan 1. The shift landward increases the real estate requirements, as summarized below, but significantly reduces the volume of sand required for initial construction and renourishment. This plan would require 4.7 Million CY of sand for initial construction, and 2.5 Million CY of sand for renourishment every 4 years.

Presently Plan 2 entails the following Real Estate actions:

- 39 buildings required for acquisition,
- 7 buildings required for relocation
- 2 buildings included for acquisition that could potentially be avoided with further development of the plan

Plan 2 (MidU Plan) proposes an alignment that is on average 60 ft landward of Plan 1, and 100 ft landward in several areas. This alignment significantly reduces the volume of sand required for initial construction, estimated as a reduction of 3.2 M CY of sand, which has reduction in sand costs of $44 M. The Real Estate Costs associated with the acquisition and relocation of these buildings described above

is estimated to be $47 M. Based upon this preliminary estimate, the acquisition cost is nearly offset by the savings in the initial cost of sand.

Renourishment of the more landward alignment would require approximately 30% less sand over the project life, which translates to approximately 13 Million CY of less sand over 50 years and is equivalent to savings of an additional $160 Million over the project life.

CONCLUSIONS:

These costs are based upon current survey data, and real estate data, that are still under review for the FIMP report. This analysis clearly indicates that the project that is more closely aligned to the current dune position is clearly less expensive over the project life. This project requires significantly less fill volume, and is clearly more sustainable, and environmentally preferable.

ATTACHMENTS:

Detailed costs and figures which present the derivation of these quantities are costs are attached.

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Memorandum

To: Lynn Bocamazo, CENAN, Steve Couch, CENAN

From: Rob Hampson, M&N

Date: August 7, 2013

Subject: Tasks 1A1, 1A2, 1A3, and 1A4 Cost Estimate

Project: Fire Island Interim

CC: David Yang, CENAN, Nicholas Zager, CENAN; Caroline McCabe CENAN, Karen Ashton, CENAN, Mike Cannon, URS, Santiago Alfageme, M&N

1.0 INTRODUCTION

As part of the Fire Island Inlet to Montauk Point Reformulation Study, the Corps and the DOI had agreed to a Tentative Federally Selected Plan (TFSP) that includes a beachfill along Fire Island, prior to Hurricane Sandy. The TSFP corresponds to the Minimum Real Estate Impact (MREI) beach fill alignment and medium template. The agreed-upon plan was based on the evaluation of a number of alternatives, and coordination of these alternatives with the local municipalities.

In response to the changes in the berm and dune conditions caused by Hurricane Sandy, the Corps is reevaluating the beachfill alignment of the TFSP. One additional alignment, Middle Updated (MIDU), located farther landward is being evaluated. The MIDU alignment requires less sand for initial construction, but additional real estate acquisition, and higher real estate costs. It is expected that the MIDU alignment will also have lower renourishment costs, since the beachfill placement is farther landward reducing beachfill losses caused by "spreading out" or diffusion of beachfill.

The following memorandum provides an overview of the cost estimate for the Minimum Real Estate Alignment (MREI) and the Middle Updated Baseline (MIDU).

2.0 COST ESTIMATE

2.1 CEDEP Cost Estimation

Dredging costs per cubic yard and mobilization/demobilization costs per dredging contract were provided by the Corps, using CEDEP (Corps of Engineers Dredge Estimating Program). CEDEP incorporates influencing factors such as hopper capacity

and safe load, area of borrow site, distance to borrow site, and current fuel, labor, and equipment costs, etc.

2.2 Construction Schedule and Mobilization / Demobilization Costs

The Corps has developed a preliminary construction schedule for the initial construction of the MREI and MIDU plan. The schedule for both plans assumes that the initial construction may be completed with three contracts:

- Contract 1: Smith Point County Park (MB-1A, MB-1B, MB-2A);
- Contract 2: Lonelyville to Robert Moses State Park (GSB-1A, GSB-1B, GSB-2A);
- Contract 3: Davis Park to Town Beach (GSB-2B, GSB-2C, GSB-2D, GSB-3A, GSB-3C, GSB-3E, GSB-3G).

Mobilization and demobilization costs for each contract have been shared between design reaches. The cost of Mob/Demob is $4 million and is distributed proportionately to each design reach based on the volume of fill within each deign reach. The same construction schedule and Mob/Demob costs are to the Renourishment Costs as well.

2.3 First Costs

First costs include dredging, mobilization, and demobilization for the initial fill volumes estimated. First cost estimates also include a 15% contingency on costs. Engineering and design (E&D) costs are assumed to be 7% of the construction cost. Supervision and administration (S&A) costs are also assumed to be a percentage of the construction cost, which was computed according to the Corps formula:

$$\% = \frac{17 - \log\left(\frac{subottal}{1000}\right)}{100}$$

Where *subtotal* is the total construction cost for the entire project. Note that the total construction cost does not include contingency, E&D costs, or S&A costs.

2.4 Renourishment Costs

Renourishment costs include dredging, mobilization, and demobilization; the same dredging unit costs are assumed for both initial fill and renourishment fill. Renourishment costs include a 15% contingency, 7% for E&D, and the S&A percentage computed as given in Section 2.3.

2.5 Berm and Fill Maintenance Costs

Berm maintenance cost is the cost of moving fill to address shoreline undulations and erosion hotspots. The cost is assumed to be $15 per linear foot of fill annually and is applicable to all reaches.

Fill maintenance costs are the miscellaneous costs of maintaining the beach, such as tilling. Annual fill maintenance costs are assumed to be $2 per linear foot of fill for all reaches.

2.6 Real Estate Costs

Real estate costs associated with acquiring the necessary real estate for construction of the beachfill project vary based on the alignment. The MREI alignment minimized real estate requirements and does not include any real estate acquisitions. The MIDU alignment is landward of the MREI alignment and has higher real estate costs.

The market value of 42 homes that would be acquired under the MIDU alignment was obtained from a market gross appraisal completed by CENAN on June 10, 2013. The market gross appraisal reflects the value of the real estate post Hurricane Sandy. The estimated market Gross Appraisal value is, as of June 10, 2013 $47,105,000.

2.7 Annualized Costs

Annual costs incorporate the initial fill cost, renourishment costs, berm and fill maintenance costs, and real estate costs. Annual costs assume a project life of 50 years and an interest rate of 3.75%, consistent with 2013 price levels.

2.7.1 MREI

A complete summary of the costs for the MREI is provided in Table 1-1 to Table 1-4. The annualized cost for the MREI is $24,846,059.

2.7.2 MIDU

A complete summary of the costs for the MIDU-Medium Plan is provided in Table 2-1 to Table 2-4. The annualized cost for the MIDU-Medium Plan is $21,724,553.

TABLE 1-1. FIRST COSTS - OPTIMIZED
MREI MINIMUM REAL ESTATE BASELINE AND MEDIUM DESIGN TEMPLATE
FIRE ISLAND INTERIM

Design Reach	Reach Name	DREDGING			MOB/ DEMOB Cost	Total Construction Cost	Contingency Cost	E&D Cost	S&A Cost	Total Cost
		Total Initial Fill	Unit Price	Placement Cost						
		CY	$ / CY				15%	7.00%	6.44%	
GSB-1A	RMSP	898,860	$ 16.36	$ 14,705,344	$ 1,864,010	$ 16,569,354	$ 2,485,403	$ 1,333,833	$ 1,226,894	$ 21,615,484
GSB-1B	FILT	389,349	$ 17.77	$ 6,918,723	$ 807,412	$ 7,726,135	$ 1,158,920	$ 621,954	$ 572,089	$ 10,079,098
GSB-2A	Kismet to Lonelyville	640,664	$ 12.61	$ 8,078,777	$ 1,328,578	$ 9,407,355	$ 1,411,103	$ 757,292	$ 696,577	$ 12,272,327
GSB-2B	Town Beach to Corneille Estates	645,301	$ 11.67	$ 7,530,663	$ 614,731	$ 8,145,394	$ 1,221,809	$ 655,704	$ 603,133	$ 10,626,041
GSB-2C	Ocean Beach to Seaview	484,775	$ 11.24	$ 5,448,868	$ 461,809	$ 5,910,677	$ 886,602	$ 475,810	$ 437,662	$ 7,710,750
GSB-2D	OBP to POW	668,653	$ 10.86	$ 7,261,572	$ 636,977	$ 7,898,549	$ 1,184,782	$ 635,833	$ 584,856	$ 10,304,020
GSB-2E	Sailors Haven	0		$ -	$ -	$ -	$ -	$ -	$ -	$ -
GSB-3A	Cherry Grove	25,511	$ 11.74	$ 299,497	$ 24,302	$ 323,799	$ 48,570	$ 26,066	$ 23,976	$ 422,411
GSB-3B	Carrington Tract	0		$ -	$ -	$ -	$ -	$ -	$ -	$ -
GSB-3C	Fire Island Pines	1,182,187	$ 10.66	$ 12,602,116	$ 1,126,183	$ 13,728,299	$ 2,059,245	$ 1,105,128	$ 1,016,525	$ 17,909,197
GSB-3D	Talisman to Water Island	0		$ -	$ -	$ -	$ -	$ -	$ -	$ -
GSB-3E	Water Island	25,974	$ 8.95	$ 232,463	$ 24,743	$ 257,206	$ 38,581	$ 20,705	$ 19,045	$ 335,537
GSB-3F	Water Island to Davis Park	0		$ -	$ -	$ -	$ -	$ -	$ -	$ -
GSB-3G	Davis Park	1,166,516	$ 9.31	$ 10,860,260	$ 1,111,254	$ 11,971,514	$ 1,795,727	$ 963,707	$ 886,442	$ 15,617,390
GSB-3H	Watch Hill	0		$ -	$ -	$ -	$ -	$ -	$ -	$ -
GSB-4A	Bellport Beach	0		$ -	$ -	$ -	$ -	$ -	$ -	$ -
GSB-4B	Old Inlet	0		$ -	$ -	$ -	$ -	$ -	$ -	$ -
MB-1A	SPCP-TWA	326,589	$ 11.44	$ 3,736,182	$ 750,744	$ 4,486,926	$ 673,039	$ 361,198	$ 332,239	$ 5,853,401
MB-1B	SPCP	744,675	$ 12.87	$ 9,583,971	$ 1,711,815	$ 11,295,786	$ 1,694,368	$ 909,311	$ 836,407	$ 14,735,872
MB-2A	MB-2A	668,819	$ 11.49	$ 7,684,726	$ 1,537,441	$ 9,222,166	$ 1,383,325	$ 742,384	$ 682,864	$ 12,030,740
MB-2B	MB-2B	0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total		**7,867,872**	**$ -**	**$ 94,943,162**	**$ 12,000,000**	**$ 106,943,162**	**$ 16,041,474**	**$ 8,608,925**	**$ 7,918,708**	**$ 139,512,269**

TABLE 1-2. RENOURISHMENT COSTS - OPTIMIZED - PER RENOURISHMENT
MREI - MINIMUM REAL ESTATE BASELINE AND MEDIUM DESIGN TEMPLATE
FIRE ISLAND INTERIM

Design Reach	Reach Name	DREDGING			MOB/ DEMOB Cost	Total Construction Cost	Contingency Cost	E&D Cost	S&A Cost	Total Cost
		Total Renourishment Fill CY	Unit Price % / CY	Placement Cost			15%	7.00%	7.05%	
GSB-1A	RMSP	410,422	$ 16.36	$ 6,714,508	$ 1,639,344	$ 8,353,852	1,253,078	$ 672,485	$ 677,572	$ 10,956,987
GSB-1B	FILT	221,628	$ 17.77	$ 3,938,330	$ 885,246	$ 4,823,575	723,536	$ 388,298	$ 391,235	$ 6,326,645
GSB-2A	Kismet to Lonelyville	369,380	$ 12.61	$ 4,657,882	$ 1,475,410	$ 6,133,292	919,994	$ 493,730	$ 497,465	$ 8,044,480
GSB-2B	Town Beach to Corneille Estates	180,586	$ 11.67	$ 2,107,436	$ 322,541	$ 2,429,977	364,497	$ 195,613	$ 197,093	$ 3,187,180
GSB-2C	Ocean Beach to Seaview	155,960	$ 11.24	$ 1,752,995	$ 278,558	$ 2,031,554	304,733	$ 163,540	$ 164,777	$ 2,664,604
GSB-2D	OBP to POW	295,504	$ 10.86	$ 3,209,173	$ 527,795	$ 3,736,968	560,545	$ 300,826	$ 303,102	$ 4,901,441
GSB-2E	Sailors Haven	0		$ -	$ -	$ -	-	$ -	$ -	$ -
GSB-3A	Cherry Grove	0	$ 11.74	$ -	$ -	$ -	-	$ -	$ -	$ -
GSB-3B	Carrington Tract	0		$ -	$ -	$ -	-	$ -	$ -	$ -
GSB-3C	Fire Island Pines	875,567	$ 10.66	$ 9,333,549	$ 1,563,836	$ 10,897,385	1,634,608	$ 877,239	$ 883,875	$ 14,293,107
GSB-3D	Talisman to Water Island	0		$ -	$ -	$ -	-	$ -	$ -	$ -
GSB-3E	Water Island	13,681	$ 8.95	$ 122,443	$ 24,435	$ 146,878	22,032	$ 11,824	$ 11,913	$ 192,646
GSB-3F	Water Island to Davis Park	0		$ -	$ -	$ -	-	$ -	$ -	$ -
GSB-3G	Davis Park	718,239	$ 9.31	$ 6,686,804	$ 1,282,834	$ 7,969,639	1,195,446	$ 641,556	$ 646,409	$ 10,453,049
GSB-3H	Watch Hill	0		$ -	$ -	$ -	-	$ -	$ -	$ -
GSB-4A	Bellport Beach	0		$ -	$ -	$ -	-	$ -	$ -	$ -
GSB-4B	Old Inlet	0		$ -	$ -	$ -	-	$ -	$ -	$ -
MB-1A	SPCP-TWA	87,557	$ 11.44	$ 1,001,649	$ 1,066,667	$ 2,068,316	310,247	$ 166,499	$ 167,759	$ 2,712,821
MB-1B	SPCP	177,850	$ 12.87	$ 2,288,925	$ 2,166,667	$ 4,455,591	668,339	$ 358,675	$ 361,388	$ 5,843,994
MB-2A	MB-2A	62,931	$ 11.49	$ 723,082	$ 766,667	$ 1,489,749	223,462	$ 119,925	$ 120,832	$ 1,953,968
MB-2B	MB-2B	0	$ -	$ -	$ -	$ -	-	$ -	$ -	$ -
Total		**3,569,305**		**$ 42,536,775**	**$ 12,000,000**	**$ 54,536,775**	**$ 8,180,516**	**$ 4,390,210**	**$ 4,423,421**	**$ 71,530,922**

TABLE 1-3. O&M COSTS - OPTIMIZED - (Costs Per 2 Year Cycle)
MREI - MINIMUM REAL ESTATE BASELINE AND MEDIUM DESIGN TEMPLATE
FIRE ISLAND INTERIM

Design Reach	Reach Name	Berm Maintenance		Fill Maintenance		O&M Cost	Contingency Cost	E&D Cost	S&A Cost	Total Cost
		Length of Fill	Unit Price	Length of Fill	Unit Price		15%	7.00%	9.77%	
		ft	$ / ft	ft	$ / ft					
GSB-1A	RMSP	12,000	$ 15.00	12,000	$ 2.00	$ 408,000	$ 61,200	$ 32,844	$ 45,848	$ 547,892
GSB-1B	FILT	5,400	$ 15.00	5,400	$ 2.00	$ 183,600	$ 27,540	$ 14,780	$ 20,632	$ 246,552
GSB-2A	Kismet to Lonelyville	9,000	$ 15.00	9,000	$ 2.00	$ 306,000	$ 45,900	$ 24,633	$ 34,386	$ 410,919
GSB-2B	Town Beach to Corneille Estates	4,400	$ 15.00	4,400	$ 2.00	$ 149,600	$ 22,440	$ 12,043	$ 16,811	$ 200,894
GSB-2C	Ocean Beach to Seaview	3,800	$ 15.00	3,800	$ 2.00	$ 129,200	$ 19,380	$ 10,401	$ 14,519	$ 173,499
GSB-2D	OBP to POW	7,200	$ 15.00	7,200	$ 2.00	$ 244,800	$ 36,720	$ 19,706	$ 27,509	$ 328,735
GSB-2E	Sailors Haven	0	$ 15.00	0	$ 2.00	$ -	$ -	$ -	$ -	$ -
GSB-3A	Cherry Grove	3,000	$ 15.00	3,000	$ 2.00	$ 102,000	$ 15,300	$ 8,211	$ 11,462	$ 136,973
GSB-3B	Carrington Tract	0	$ 15.00	0	$ 2.00	$ -	$ -	$ -	$ -	$ -
GSB-3C	Fire Island Pines	6,400	$ 15.00	6,400	$ 2.00	$ 217,600	$ 32,640	$ 17,517	$ 24,452	$ 292,209
GSB-3D	Talisman to Water Island	0	$ 15.00	0	$ 2.00	$ -	$ -	$ -	$ -	$ -
GSB-3E	Water Island	2,000	$ 15.00	2,000	$ 2.00	$ 68,000	$ 10,200	$ 5,474	$ 7,641	$ 91,315
GSB-3F	Water Island to Davis Park	0	$ 15.00	0	$ 2.00	$ -	$ -	$ -	$ -	$ -
GSB-3G	Davis Park	4,200	$ 15.00	4,200	$ 2.00	$ 142,800	$ 21,420	$ 11,495	$ 16,047	$ 191,762
GSB-3H	Watch Hill	0	$ 15.00	0	$ 2.00	$ -	$ -	$ -	$ -	$ -
GSB-4A	Bellport Beach	0	$ 15.00	0	$ 2.00	$ -	$ -	$ -	$ -	$ -
GSB-4B	Old Inlet	0	$ 15.00	0	$ 2.00	$ -	$ -	$ -	$ -	$ -
MB-1A	SPCP-TWA	6,400	$ 15.00	6,400	$ 2.00	$ 217,600	$ 32,640	$ 17,517	$ 24,452	$ 292,209
MB-1B	SPCP	13,000	$ 15.00	13,000	$ 2.00	$ 442,000	$ 66,300	$ 35,581	$ 49,669	$ 593,550
MB-2A	MB-2A	4,600	$ 15.00	4,600	$ 2.00	$ 156,400	$ 23,460	$ 12,590	$ 17,575	$ 210,025
MB-2B	MB-2B	0	$ 15.00	0	$ 2.00	$ -	$ -	$ -	$ -	$ -
Total		**81,400**		**81,400**		**$ 2,767,600**	**$ 415,140**	**$ 222,792**	**$ 311,004**	**$ 3,716,536**

TABLE 1-4. ANNUAL COSTS - OPTIMIZED
MREI - MINIMUM REAL ESTATE BASELINE AND MEDIUM DESIGN TEMPLATE
FIRE ISLAND INTERIM

Design Reach	Reach Name	Initial Fill	Renourishment	O&M	Sub Total	Real Estate	Total
GSB-1A	RMSP	$ 963,494	$ 2,552,559	$ 289,450	$ 3,805,503		
GSB-1B	FILT	$ 449,268	$ 1,473,867	$ 130,253	$ 2,053,387		
GSB-2A	Kismet to Lonelyville	$ 547,029	$ 1,874,057	$ 217,088	$ 2,638,173		
GSB-2B	Town Beach to Corneille Estates	$ 473,648	$ 742,491	$ 106,132	$ 1,322,270		
GSB-2C	Ocean Beach to Seaview	$ 343,701	$ 620,751	$ 91,659	$ 1,056,111		
GSB-2D	OBP to POW	$ 459,293	$ 1,141,848	$ 173,670	$ 1,774,812		
GSB-2E	Sailors Haven	$ -	$ -	$ -	$ -		
GSB-3A	Cherry Grove	$ 18,829	$ -	$ 72,363	$ 91,191		
GSB-3B	Carrington Tract	$ -	$ -	$ -	$ -		
GSB-3C	Fire Island Pines	$ 798,288	$ 3,329,748	$ 154,373	$ 4,282,410		
GSB-3D	Talisman to Water Island	$ -	$ -	$ -	$ -		
GSB-3E	Water Island	$ 14,956	$ 44,879	$ 48,242	$ 108,077	$ -	
GSB-3F	Water Island to Davis Park	$ -	$ -	$ -	$ -		
GSB-3G	Davis Park	$ 696,133	$ 2,435,161	$ 101,308	$ 3,232,602		
GSB-3H	Watch Hill	$ -	$ -	$ -	$ -		
GSB-4A	Bellport Beach	$ -	$ -	$ -	$ -		
GSB-4B	Old Inlet	$ -	$ -	$ -	$ -		
MB-1A	SPCP-TWA	$ 260,911	$ 631,984	$ 154,373	$ 1,047,268		
MB-1B	SPCP	$ 656,840	$ 1,361,427	$ 313,571	$ 2,331,838		
MB-2A	MB-2A	$ 536,261	$ 455,200	$ 110,956	$ 1,102,417		
MB-2B	MB-2B	$ -	$ -	$ -	$ -		
Total		**$ 6,218,650**	**$ 16,663,972**	**$ 1,963,437**	**$ 24,846,059**	**$ -**	**$ 24,846,059**

TABLE 2-1. FIRST COSTS - OPTIMIZED
MIDU - MIDDLE UPDATED BASELINE AND MEDIUM DESIGN TEMPLATE
FIRE ISLAND INTERIM

Design Reach	Reach Name	DREDGING		Placement Cost	MOB/ DEMOB Cost	Total Construction Cost	Contingency Cost	E&D Cost	S&A Cost	Total Cost
		Total Initial Fill	Unit Price							
		CY	$ / CY				15%	7.00%	6.79%	
GSB-1A	RMSP	898,837	$ 16.36	$ 14,704,970	$ 2,343,570	$ 17,048,540	$ 2,557,281	$ 1,372,408	$ 1,330,557	$ 22,308,786
GSB-1B	FILT	366,609	$ 17.77	$ 6,514,640	$ 955,873	$ 7,470,513	$ 1,120,577	$ 601,376	$ 583,038	$ 9,775,504
GSB-2A	Kismet to Lonelyville	268,687	$ 12.61	$ 3,388,141	$ 700,557	$ 4,088,698	$ 613,305	$ 329,140	$ 319,103	$ 5,350,246
GSB-2B	Town Beach to Corneille Estates	378,793	$ 11.67	$ 4,420,511	$ 1,050,925	$ 5,471,435	$ 820,715	$ 440,451	$ 427,019	$ 7,159,621
GSB-2C	Ocean Beach to Seaview	188,920	$ 11.24	$ 2,123,466	$ 524,142	$ 2,647,608	$ 397,141	$ 213,132	$ 206,633	$ 3,464,515
GSB-2D	OBP to POW	176,802	$ 10.86	$ 1,920,068	$ 490,520	$ 2,410,588	$ 361,588	$ 194,052	$ 188,135	$ 3,154,363
GSB-2E	Sailors Haven	0		$ -	$ -	$ -	$ -	$ -	$ -	$ -
GSB-3A	Cherry Grove	9,623	$ 11.74	$ 112,979	$ 26,699	$ 139,678	$ 20,952	$ 11,244	$ 10,901	$ 182,775
GSB-3B	Carrington Tract	0		$ -	$ -	$ -	$ -	$ -	$ -	$ -
GSB-3C	Fire Island Pines	334,628	$ 10.66	$ 3,567,135	$ 928,394	$ 4,495,529	$ 674,329	$ 361,890	$ 350,855	$ 5,882,604
GSB-3D	Talisman to Water Island	0		$ -	$ -	$ -	$ -	$ -	$ -	$ -
GSB-3E	Water Island	12,674	$ 8.95	$ 113,430	$ 35,162	$ 148,592	$ 22,289	$ 11,962	$ 11,597	$ 194,439
GSB-3F	Water Island to Davis Park	0		$ -	$ -	$ -	$ -	$ -	$ -	$ -
GSB-3G	Davis Park	340,310	$ 9.31	$ 3,168,285	$ 944,158	$ 4,112,442	$ 616,866	$ 331,052	$ 320,956	$ 5,381,317
GSB-3H	Watch Hill	0		$ -	$ -	$ -	$ -	$ -	$ -	$ -
GSB-4A	Bellport Beach	0		$ -	$ -	$ -	$ -	$ -	$ -	$ -
GSB-4B	Old Inlet	0		$ -	$ -	$ -	$ -	$ -	$ -	$ -
MB-1A	SPCP-TWA	326,589	$ 11.44	$ 3,736,182	$ 750,744	$ 4,486,926	$ 673,039	$ 361,198	$ 350,183	$ 5,871,346
MB-1B	SPCP	744,675	$ 12.87	$ 9,583,971	$ 1,711,815	$ 11,295,786	$ 1,694,368	$ 909,311	$ 881,582	$ 14,781,047
MB-2A	MB-2A	668,819	$ 11.49	$ 7,684,726	$ 1,537,441	$ 9,222,166	$ 1,383,325	$ 742,384	$ 719,746	$ 12,067,622
MB-2B	MB-2B	0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total		4,715,966	$ -	$ 61,038,503	$ 12,000,000	$ 73,038,503	$ 10,955,775	$ 5,879,599	$ 5,700,306	$ 95,574,184

TABLE 2-2. RENOURISHMENT COSTS - OPTIMIZED - PER RENOURISHMENT
MIDU - MIDDLE UPDATED BASELINE AND MEDIUM DESIGN TEMPLATE
FIRE ISLAND INTERIM

Design Reach	Reach Name	DREDGING			MOB/ DEMOB Cost	Total Construction Cost	Contingency Cost	E&D Cost	S&A Cost	Total Cost
		Total Renourishment Fill CY	Unit Price % / CY	Placement Cost			15%	7.00%	7.25%	
GSB-1A	RMSP	410,422	$ 16.36	$ 6,714,508	$ 1,818,182	$ 8,532,689	1,279,903	$ 686,881	$ 711,735	$ 11,211,209
GSB-1B	FILT	184,690	$ 17.77	$ 3,281,941	$ 818,182	$ 4,100,123	615,018	$ 330,060	$ 342,002	$ 5,387,204
GSB-2A	Kismet to Lonelyville	307,817	$ 12.61	$ 3,881,568	$ 1,363,636	$ 5,245,205	786,781	$ 422,239	$ 437,517	$ 6,891,741
GSB-2B	Town Beach to Corneille Estates	150,488	$ 11.67	$ 1,756,197	$ 455,016	$ 2,211,212	331,682	$ 178,003	$ 184,443	$ 2,905,340
GSB-2C	Ocean Beach to Seaview	129,967	$ 11.24	$ 1,460,829	$ 392,968	$ 1,853,797	278,070	$ 149,231	$ 154,630	$ 2,435,728
GSB-2D	OBP to POW	246,253	$ 10.86	$ 2,674,311	$ 744,571	$ 3,418,882	512,832	$ 275,220	$ 285,178	$ 4,492,113
GSB-2E	Sailors Haven	0		$ -	$ -	$ -	-	$ -	$ -	$ -
GSB-3A	Cherry Grove	0	$ 11.74	$ -	$ -	$ -	-	$ -	$ -	$ -
GSB-3B	Carrington Tract	0		$ -	$ -	$ -	-	$ -	$ -	$ -
GSB-3C	Fire Island Pines	437,784	$ 10.66	$ 4,666,774	$ 1,323,681	$ 5,990,456	898,568	$ 482,232	$ 499,680	$ 7,870,936
GSB-3D	Talisman to Water Island	0		$ -	$ -	$ -	-	$ -	$ -	$ -
GSB-3E	Water Island	13,681	$ 8.95	$ 122,443	$ 41,365	$ 163,808	24,571	$ 13,187	$ 13,664	$ 215,229
GSB-3F	Water Island to Davis Park	0		$ -	$ -	$ -	-	$ -	$ -	$ -
GSB-3G	Davis Park	344,755	$ 9.31	$ 3,209,666	$ 1,042,399	$ 4,252,065	637,810	$ 342,291	$ 354,676	$ 5,586,843
GSB-3H	Watch Hill	0		$ -	$ -	$ -	-	$ -	$ -	$ -
GSB-4A	Bellport Beach	0		$ -	$ -	$ -	-	$ -	$ -	$ -
GSB-4B	Old Inlet	0		$ -	$ -	$ -	-	$ -	$ -	$ -
MB-1A	SPCP-TWA	87,557	$ 11.44	$ 1,001,649	$ 1,066,667	$ 2,068,316	310,247	$ 166,499	$ 172,524	$ 2,717,586
MB-1B	SPCP	177,850	$ 12.87	$ 2,288,925	$ 2,166,667	$ 4,455,591	668,339	$ 358,675	$ 371,653	$ 5,854,258
MB-2A	MB-2A	62,931	$ 11.49	$ 723,082	$ 766,667	$ 1,489,749	223,462	$ 119,925	$ 124,264	$ 1,957,400
MB-2B	MB-2B	0	$ -	$ -	$ -	$ -	-	$ -	$ -	$ -
Total		**2,554,194**		**$ 31,781,893**	**$ 12,000,000**	**$ 43,781,893**	**$ 6,567,284**	**$ 3,524,442**	**$ 3,651,968**	**$ 57,525,587**

TABLE 2-3. O&M COSTS - OPTIMIZED - (Costs Per 2 Year Cycle)
MIDU - MIDDLE UPDATED BASELINE AND MEDIUM DESIGN TEMPLATE
FIRE ISLAND INTERIM

Design Reach	Reach Name	Berm Maintenance		Fill Maintenance		O&M Cost	Contingency Cost	E&D Cost	S&A Cost	Total Cost
		Length of Fill	Unit Price	Length of Fill	Unit Price					
		ft	$ / ft	ft	$ / ft		15%	7.00%	9.77%	
GSB-1A	RMSP	12,000	$ 15.00	12,000	$ 2.00	$ 408,000	$ 61,200	$ 32,844	$ 45,848	$ 547,892
GSB-1B	FILT	5,400	$ 15.00	5,400	$ 2.00	$ 183,600	$ 27,540	$ 14,780	$ 20,632	$ 246,552
GSB-2A	Kismet to Lonelyville	9,000	$ 15.00	9,000	$ 2.00	$ 306,000	$ 45,900	$ 24,633	$ 34,386	$ 410,919
GSB-2B	Town Beach to Corneille Estates	4,400	$ 15.00	4,400	$ 2.00	$ 149,600	$ 22,440	$ 12,043	$ 16,811	$ 200,894
GSB-2C	Ocean Beach to Seaview	3,800	$ 15.00	3,800	$ 2.00	$ 129,200	$ 19,380	$ 10,401	$ 14,519	$ 173,499
GSB-2D	OBP to POW	7,200	$ 15.00	7,200	$ 2.00	$ 244,800	$ 36,720	$ 19,706	$ 27,509	$ 328,735
GSB-2E	Sailors Haven	0	$ 15.00	0	$ 2.00	$ -	$ -	$ -	$ -	$ -
GSB-3A	Cherry Grove	3,000	$ 15.00	3,000	$ 2.00	$ 102,000	$ 15,300	$ 8,211	$ 11,462	$ 136,973
GSB-3B	Carrington Tract	0	$ 15.00	0	$ 2.00	$ -	$ -	$ -	$ -	$ -
GSB-3C	Fire Island Pines	6,400	$ 15.00	6,400	$ 2.00	$ 217,600	$ 32,640	$ 17,517	$ 24,452	$ 292,209
GSB-3D	Talisman to Water Island	0	$ 15.00	0	$ 2.00	$ -	$ -	$ -	$ -	$ -
GSB-3E	Water Island	2,000	$ 15.00	2,000	$ 2.00	$ 68,000	$ 10,200	$ 5,474	$ 7,641	$ 91,315
GSB-3F	Water Island to Davis Park	0	$ 15.00	0	$ 2.00	$ -	$ -	$ -	$ -	$ -
GSB-3G	Davis Park	4,200	$ 15.00	4,200	$ 2.00	$ 142,800	$ 21,420	$ 11,495	$ 16,047	$ 191,762
GSB-3H	Watch Hill	0	$ 15.00	0	$ 2.00	$ -	$ -	$ -	$ -	$ -
GSB-4A	Bellport Beach	0	$ 15.00	0	$ 2.00	$ -	$ -	$ -	$ -	$ -
GSB-4B	Old Inlet	0	$ 15.00	0	$ 2.00	$ -	$ -	$ -	$ -	$ -
MB-1A	SPCP-TWA	6,400	$ 15.00	6,400	$ 2.00	$ 217,600	$ 32,640	$ 17,517	$ 24,452	$ 292,209
MB-1B	SPCP	13,000	$ 15.00	13,000	$ 2.00	$ 442,000	$ 66,300	$ 35,581	$ 49,669	$ 593,550
MB-2A	MB-2A	4,600	$ 15.00	4,600	$ 2.00	$ 156,400	$ 23,460	$ 12,590	$ 17,575	$ 210,025
MB-2B	MB-2B	0	$ 15.00	0	$ 2.00	$ -	$ -	$ -	$ -	$ -
Total		**81,400**		**81,400**		**$ 2,767,600**	**$ 415,140**	**$ 222,792**	**$ 311,004**	**$ 3,716,536**

TABLE 2-4. ANNUAL COSTS - OPTIMIZED
MIDU - MIDDLE UPDATED BASELINE AND MEDIUM DESIGN TEMPLATE
FIRE ISLAND INTERIM

Design Reach	Reach Name	Initial Fill	Renourishment	O&M	Sub Total	Real Estate	Total
GSB-1A	RMSP	$ 994,397	$ 2,611,783	$ 289,450	$ 3,895,631		
GSB-1B	FILT	$ 435,736	$ 1,255,013	$ 130,253	$ 1,821,001		
GSB-2A	Kismet to Lonelyville	$ 238,483	$ 1,605,512	$ 217,088	$ 2,061,083		
GSB-2B	Town Beach to Corneille Estates	$ 319,134	$ 676,833	$ 106,132	$ 1,102,099		
GSB-2C	Ocean Beach to Seaview	$ 154,428	$ 567,432	$ 91,659	$ 813,519		
GSB-2D	OBP to POW	$ 140,603	$ 1,046,491	$ 173,670	$ 1,360,764		
GSB-2E	Sailors Haven	$ -	$ -	$ -	$ -		
GSB-3A	Cherry Grove	$ 8,147	$ -	$ 72,363	$ 80,510		
GSB-3B	Carrington Tract	$ -	$ -	$ -	$ -		
GSB-3C	Fire Island Pines	$ 262,212	$ 1,833,627	$ 154,373	$ 2,250,213		
GSB-3D	Talisman to Water Island	$ -	$ -	$ -	$ -		
GSB-3E	Water Island	$ 8,667	$ 50,140	$ 48,242	$ 107,049	$ 2,099,708	
GSB-3F	Water Island to Davis Park	$ -	$ -	$ -	$ -		
GSB-3G	Davis Park	$ 239,868	$ 1,301,521	$ 101,308	$ 1,642,696		
GSB-3H	Watch Hill	$ -	$ -	$ -	$ -		
GSB-4A	Bellport Beach	$ -	$ -	$ -	$ -		
GSB-4B	Old Inlet	$ -	$ -	$ -	$ -		
MB-1A	SPCP-TWA	$ 261,711	$ 633,094	$ 154,373	$ 1,049,178		
MB-1B	SPCP	$ 658,853	$ 1,363,819	$ 313,571	$ 2,336,243		
MB-2A	MB-2A	$ 537,905	$ 455,999	$ 110,956	$ 1,104,860		
MB-2B	MB-2B	$ -	$ -	$ -	$ -		
Total		**$ 4,260,145**	**$ 13,401,264**	**$ 1,963,437**	**$ 19,624,845**	**$ 2,099,708**	**$ 21,724,553**

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

REPLY TO
ATTENTION OF
Project Management Division

16 MAY 2013

Mr. Alan A. Fuchs, P.E.
Director, Bureau of Flood Protection and Dam Safety
New York State Department of Environmental Conservation
Division of Water
Bureau of Flood Protection and Dam Safety, 4th Floor
625 Broadway
Albany, New York, 12233-3504

Dear Mr. Fuchs:

Thank you for your letter dated December 29, 2011 regarding the Fire Island Inlet to Montauk Point (FIMP) Reformulation Study, which requested additional information on the Tentative Federal Supported Plan (TFSP). This was in response to the March 11, 2011 jointly signed letter from both the U.S. Army Corps of Engineers and the U.S. Department of Interior (DOI) which requested New York State's review and verification of acceptability of the TFSP.

We recognize there have been significant changes since the exchange of this correspondence, most notably Hurricane Sandy, the passage of PL 113-2 (The Disaster Relief Appropriations Act; 2013) which includes provisions that establish a framework for proceeding with Sandy affected authorized and unconstructed projects, and the increased support to bring the FIMP Reformulation Study to a conclusion.

Prior to Hurricane Sandy, the Corps was coordinating proposed responses with both your office and the DOI, as well as in the process of developing the requested information. As we are currently in the process of updating this information to account for necessary changes due to Hurricane Sandy, we have attached preliminary responses to your comments for your immediate review.

Since Hurricane Sandy, our offices have also been engaged in a number of discussions regarding appropriate revisions to the TFSP, and the evaluation of alternatives which properly reflect the post-Sandy condition. The revisions to the TFSP that are currently under consideration include the following:

- Beach fill alignment adjustments along Fire Island to account for post-Sandy changes
- Incorporation of a dune and beach feature in the Fire Island Lighthouse Tract
- Incorporation of a feeder beach in Smith Point County Park
- Updating of Breach Response protocols
- Updating of potential plan features in Downtown Montauk

The details requested by the State are necessary for identifying a FIMP mutually acceptable plan between the Corps, DOI and State of New York. Local sponsor concurrence with the features and scale set forth in the TFSP is an essential first step to formalizing the specific features of a recommendable plan. The Corps will continue to coordinate development of the updated TSFP implementation details with affected agencies to ensure the priorities communicated by NYS are incorporated.

We look forward to your timely review and continued discussion and coordination with your office. Please contact Mr. Frank Verga, Project Manager, at (917) 790-8212 if you have any questions.

Sincerely,

Paul E. Owen
Colonel, U.S. Army
Commander

CF w/Attachments:
NYSDEC, (P. Scully; S. McCormick)
NYSDOS, (F. Anders; B. Pendergrass)
NPS, (C. Soller)
USFWS, (D. Stilwell)

Joint Signed TFSP, dated March 11, 2011

NYS comments, dated December 29, 2011

NYS comments, dated June 28, 2012

US Army Corps of Engineers®

March 11, 2011

Honorable Joe Martens, Commissioner
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Dear Mr. Martens:

We write together to ask for your consideration of a newly developed potential plan of improvement for the Fire Island Inlet to Montauk Point, New York, Reformulation Study.

Any plan developed for this area that involves erosion control and beach nourishment must be mutually acceptable to the United States Secretary of the Army and Secretary of the Interior. Through a series of meetings spanning nearly 18 months, the U.S. Army Corps of Engineers and the U.S. Department of Interior now stand ready to move forward with Reformulation Study efforts by utilizing this potential plan of improvement for the entire project study area. This plan of improvement is the Tentative Federal Supported Plan (TFSP) and outlines a plan that appears to meet the Federal agency objectives and requirements necessary for mutual acceptability.

We have enclosed for your review a summary of the TFSP components. While this is a brief overview, supporting information for this plan is included in the May 2008 Draft Formulation Report, similar to Alternative 3G. The State of New York, the non-Federal sponsor, must find the general plan of improvement acceptable before any finalization can occur, including completion of the Reformulation Study Draft General Reevaluation Report and Draft Environmental Impact Statement.

If the State finds the components of the TFSP acceptable, we would immediately move forward with final analysis of the TFSP plan (plan formulation, engineering, economics, environmental assessment, model certifications, internal/external reviews), including higher authority approvals by each Federal agency.

If the State finds any components of the TFSP not acceptable, we request the State provide a locally preferred alternative (LPA). The LPA should include specific components that could be supported, in order to move forward with the required additional analysis. Both Federal agencies would still need to assess their ability to support the LPA.

We look forward to your timely review and are willing to arrange a meeting with your office in the March/April timeframe in order to further discuss the elements of the TFSP as necessary. Please do not hesitate to contact Mr. Anthony Ciorra, Chief of Civil Works at (917) 790-8208, or Mr. Frank Verga, Project Manager at (917) 790-8212, if you have any questions.

Sincerely,

John R. Boulé II
Colonel, Corps of Engineers
District Commander

K. Christopher Soller
Superintendent, Fire Island National Seashore
National Park Service

David Stilwell
Field Supervisor, New York Field Office
U.S. Fish and Wildlife Service

Enclosure

CF:
Al Fuchs, NYS Department of Environmental Conservation
Fred Anders, NYS Department of State, Coastal Resources

FIRE ISLAND INLET TO MONTAUK POINT, NY
Tentative Federally-Supported Plan
Summary of Components

INLETS: FIRE ISLAND, MORICHES, SHINNECOCK

- Continuation of authorized projects, with increased sediment bypassing at each inlet

MAINLAND

- 10-year floodplain non-structural building retrofits, including road raisings
- Over 4,400 structures, and 4 road raising locations

BARRIER ISLANDS:

FIRE ISLAND @ DEVELOPED LOCATIONS (communities, minor Federal Tracts)

- Beachfill (+15 ft dune, with berm)
- minimum real estate impact alignment
- No tapers into Federal tracts; with overfill in communities

FIRE ISLAND @ UNDEVELOPED LOCATIONS (major Federal Tracts & Smith Point Park)

- Conditional Breach Response (+9.5 ft berm only), guidelines to be developed, anticipated closure to be initiated within 45-60 days
- @ Lighthouse - Reactive Breach Response (+9.5 ft berm only), closure initiated w/in 45 days
- @ Smith Point County Park - short term beachfill in western, developed section to allow relocation of infrastructure, then Conditional Breach Response
- Science Response Team to advise the decision makers for conditional closure
- No maintenance fill for breach closure, action taken only when a breach occurs

WESTHAMPTON BARRIER ISLAND:

- Beachfill (+15ft dune with berm) fronting Moriches Bay
- Breach Response (+13 ft dune, with berm), fronting Shinnecock Bay
- Breach Response to include action to be taken when vulnerable to breaching (specifics still to be defined)

DOWNTOWN MONTAUK AND POTATO ROAD

- Sediment management measures at both sites (feeder beach)
- Potato Road contingent upon a local pond opening management plan for Georgica Pond

GROIN MODIFICATION

- Taper existing Westhampton Groins (13) and existing Ocean Beach Groins (2)

RESTORATION

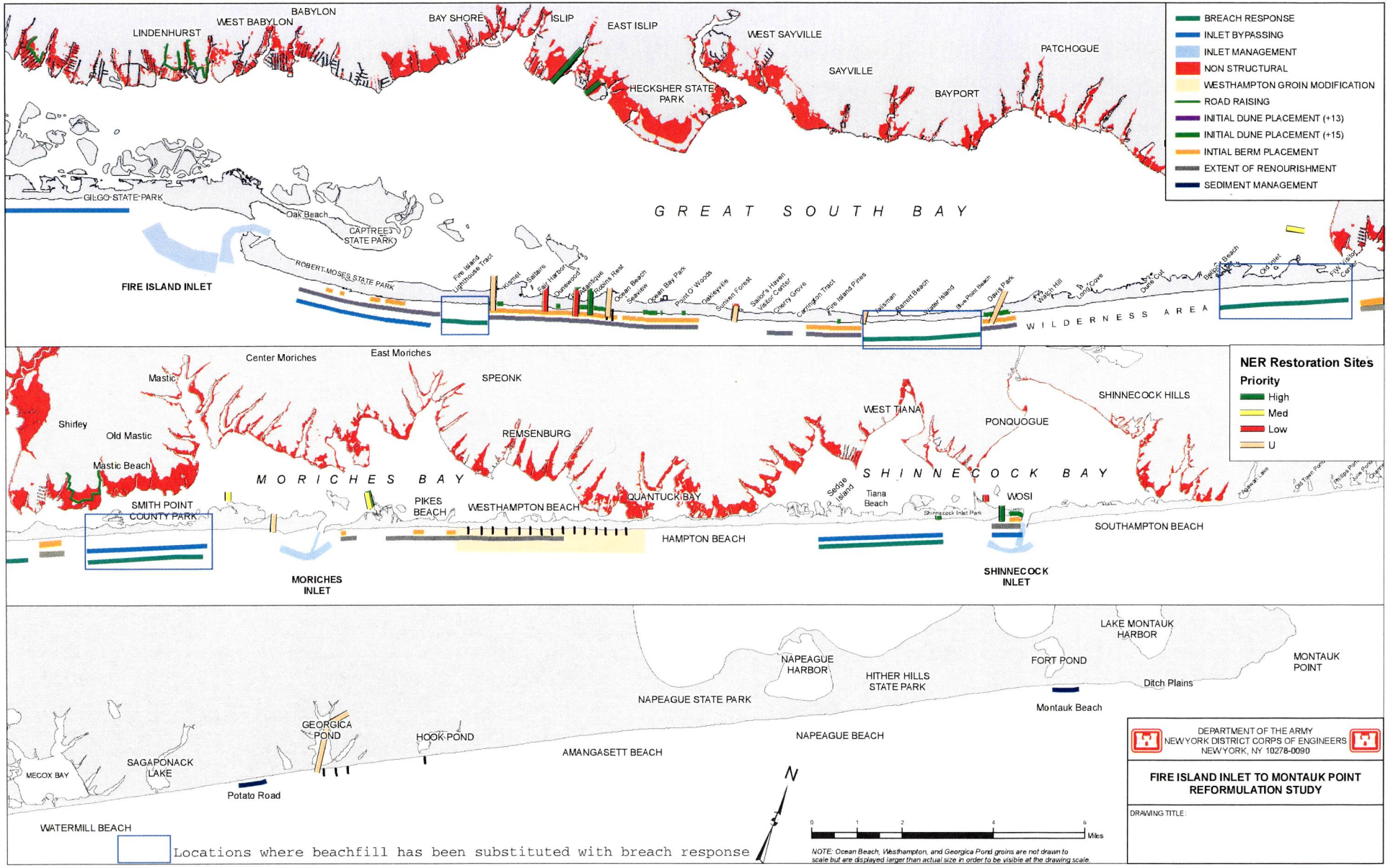
- Various alternatives at locations throughout study area

INTEGRATION OF ADAPTIVE MANAGEMENT

- Period of renourishment subject to adaptive management considerations and local land use regulations, or 50 year period of renourishment
- Provisions to continually adjust components of the project to improve effectiveness
- Applies to all plan features, developed to address climate change concerns (e.g., Sea Level Rise)

INTEGRATION OF LOCAL LAND USE REGULATIONS AND MANAGEMENT

- Local Land Management planning to include enforcement of federal and state zoning requirements, land acquisition or other measures is a necessary component for long-term risk reduction
- Improved land management can allow for adaptation to reduce costs for renourishment
- Important to ensure that the project does not induce development.


BREACH RESPONSE
INLET BYPASSING
INLET MANAGEMENT
NON STRUCTURAL
WESTHAMPTON GROIN MODIFICATION
ROAD RAISING
INITIAL DUNE PLACEMENT (+13)
INITIAL DUNE PLACEMENT (+15)
INTIAL BERM PLACEMENT
EXTENT OF RENOURISHMENT
SEDIMENT MANAGEMENT
LINDENHURST
WEST BABYLON
BABYLON
BAY SHORE
ISLIP
EAST ISLIP
WEST SAYVILLE
SAYVILLE
PATCHOGUE
BAYPORT
HECKSHER STATE PARK
GILGO STATE PARK
Oak Beach
CAPTREE STATE PARK
GREAT SOUTH BAY
FIRE ISLAND INLET
ROBERT MOSES STATE PARK
Fire Island Lighthouse Tract
Kismet
Saltaire
Fair Harbor
Dunewood
Seaview
Ocean Bay Park
Point O' Woods
Oakleyville
Sunken Forest
Smith's Haven Visitor Center
Cherry Grove
Carrington Tract
Fire Island Pines
Telegraph
Talisman
Barrett Beach
Water Island
Blue Point Beach
Davis Park
Watch Hill
Long Cove
Dunn Cut
Old Inlet
WILDERNESS AREA
Center Moriches
East Moriches
Mastic
SPEONK
Shirley
Old Mastic
REMSENBURG
Mastic Beach
MORICHES BAY
SMITH POINT COUNTY PARK
PIKES BEACH
WESTHAMPTON BEACH
QUANTUCK BAY
HAMPTON BEACH
WEST TIANA
PONQUOGUE
SHINNECOCK HILLS
SHINNECOCK BAY
Sedge Island
Tiana Beach
WOSI
Shinnecock Inlet Park
SOUTHAMPTON BEACH
MORICHES INLET
SHINNECOCK INLET
NER Restoration Sites
Priority
High
Med
Low
U
LAKE MONTAUK HARBOR
NAPEAGUE HARBOR
HITHER HILLS STATE PARK
FORT POND
MONTAUK POINT
Ditch Plains
NAPEAGUE STATE PARK
Montauk Beach
GEORGICA POND
HOOK POND
NAPEAGUE BEACH
AMANGASETT BEACH
SAGAPONACK LAKE
MECOX BAY
Potato Road
WATERMILL BEACH
Locations where beachfill has been substituted with breach response
N
0 1 2 4 6 Miles
NOTE: Ocean Beach, Westhampton, and Georgica Pond groins are not drawn to scale but are displayed larger than actual size in order to be visible at the drawing scale.
DEPARTMENT OF THE ARMY
NEW YORK DISTRICT CORPS OF ENGINEERS
NEW YORK, NY 10278-0090
FIRE ISLAND INLET TO MONTAUK POINT
REFORMULATION STUDY
DRAWING TITLE:

New York State Department of Environmental Conservation
Division of Water
Bureau of Flood Protection and Dam Safety, 4th Floor
625 Broadway, Albany, New York 12233-3504
Phone: (518) 402-8185 • **FAX:** (518) 402-9029
Website: www.dec.ny.gov

Joe Martens
Commissioner

December 29, 2011

Colonel John R. Boulé II
United States Army Corps of Engineers
New York District
26 Federal Plaza
Jacob K. Javits Federal Building
New York, New York 10278

Re: Fire Island Inlet to Montauk Point (FIMP) Reformulation Study

Dear Colonel Boulé:

Thank you for the March 11, 2011, letter regarding the Federal Government's (New York District of the Army Corps of Engineers, National Park Service Fire Island National Seashore Office, and U.S. Fish and Wildlife Service New York Field Office) request for New York State to consider a potential plan of improvement for the Fire Island Inlet to Montauk Point area which is identified in the March 11th letter as the "Tentatively Federally Supported Plan" ("TFSP"). As the March 11th letter notes, the TFSP "appears to meet the Federal agency objectives and requirements," yet will need further approvals in the respective federal agencies before it would be fully approved.

The State has reviewed the TFSP and has had discussions with potential local sponsors. Unfortunately, we find that additional information is needed for the State and the potential local sponsors to respond to your request. As you understand, a positive response, or an adequately formulated request for a locally preferred alternative, will require the State to have support from its potential local partners. It is highly difficult for the State to fully understand, and to present the TFSP to potential local sponsors to seek their response or participation, when the TFSP is general in nature and does not contain the supporting information needed to justify its attributes. Therefore, the State respectfully requests the following information:

1. The March 11th letter provides a one page summary of the components of the TFSP. In May 2009 the Corps issued a Draft FIMP Reformulation Study ("Study"). Within this Study the Corps identified a number of options, including "Alternative 3G." The March 11th letter stated that Alternative 3G is "similar" to the TFSP. In the Study, we understand that alternative 3G was identified as being the National Economic Development/National Ecosystem Restoration ("NED/NER") plan, which was identified as the plan that best accomplishes the storm damage reduction objectives, based upon the integration of the alternatives. The NED/NER plan previously was discussed at a FIMP Executive Steering Committee meeting on November 10, 2009, and was presented by the Corps as the plan recommended for further development. Alternative 3G was also recommended for inclusion in the Draft General Re-evaluation Report and the

Environmental Impact Statement for evaluation as a part of the public review process. Unfortunately, it is impossible to identify the significant differences between the newly developed TFSP and alternative 3G and we would appreciate receiving a detailed comparison of the two plans. We request that this comparison include a detailed description of the increased or decreased risks and impacts to the communities within in the study, as well as the level of storm damage reduction that would be provided by the TFSP.

2. For the State and potential local sponsors to determine the feasibility of agreeing to all or some of the TFSP, it is necessary to understand the costs involved with each phase. The State requests that the Corps provide the detailed cost-estimate/cost-breakdown for various elements of the TFSP and compare TFSP costs to those for Alternative 3G and the NED/NER plan. The Department is currently not clear on which plan is the NED/NER plan.

3. The March 11th letter indicates that the "plan *appears* to meet the Federal Agency objectives" (emphasis supplied). The State respectfully requests confirmation that the TFSP does, in fact, meet Federal Agency objectives and is the Corps "Recommended Plan". It is an extensive process for the State, in conjunction with potential local sponsors, to determine if the TFSP is fully acceptable or if a locally preferred alternative needs to be proposed for all or some of the project area. The State would strongly prefer to undertake this more extensive consultation with the knowledge that the TFSP will be acceptable to the Federal Government (subject to NEPA review and modifications, as well as appropriations) if endorsed by the State.

4. The TFSP calls for significant non-structural measures, such as elevation or relocation of structures. The State would appreciate detailed information on the Corps' proposed options for implementation of this portion of the TFSP. As one might expect, this is of great interest to potential local sponsors. The State would also be interested in the results of any consultations the Corps has undertaken with the Federal Emergency Management Agency on these proposed measures and their implementation. This non-structural effort has a direct relationship to FEMA's flood plain management and flood insurance programs, and they may be of great assistance in this implementation. Also, we request that the Corps provide a comparison of the levels of flood protection provided by the TFSP, Alternate 3G and the NED/NER plan versus the residual flood risks associated with maintaining the existing inlets.

5. Please provide more detailed information on the various barrier island breach and breach closure plans (current and proposed via the TFSP) including their locations, impacts, timeframes for closure, benefits, future estimated costs and how they relate to flood risk. It would be very useful to know how the level of storm damage reduction increases or decreases with the proposed breach plans in the TFSP in comparison to Alternative 3G and the NED/NER plan.

6. The State has discussed with the Federal Agencies its interest in evaluating the option of reducing or phasing out the re-nourishment portion of this project over the project's 50-year life span. This option might allow the beach configuration to eventually return to a more naturalized status or to possibly have beach

configuration addressed by property owners, local municipalities or local zoning entities. The State requests information on the manner in which this option would be addressed within the proposed TFSP. If these concepts are not addressed in the TFSP, the State requests that they be addressed.

7. The State has also previously raised concerns regarding the total cost of implementing any adopted plan for FIMP. One option in which there is strong potential interest is breaking the TFSP, or any plan, into a number of smaller geographical areas which could then be implemented in phases based on the availability of resources and the particular interest of non-federal sponsors. Please provide the Federal Agencies' views on whether such a phased approach would be acceptable and if there is any preferred or priority order recommended by the Federal Agencies for the implementation of a phased approach.

8. Please explain how sea level rise and climate change considerations and concerns were integrated in the TFSP, and how they will be integrated as we learn more in the future. Similarly, the summary of components associated with the TFSP also makes brief reference to beach re-nourishment being the subject of adaptive management measures; please provide information on the monitoring and assessment program associated with an adaptive management approach, as well as the entities potentially responsible for undertaking such an adaptive management approach. It is essential to understand the method by which elements of the TFSP could be adapted and modified to accommodate sea level rise and climate change.

The State very much appreciates the extensive efforts of the Federal Agencies and looks forward to working through the process with the local sponsor(s) to achieve a plan that best meets our mutual objectives. We look forward to your response to the above requests. If there are any questions pertaining to these requests, please contact me at the above number.

Sincerely,

Alan A. Fuchs, P.E.
Director
Bureau of Flood Protection and Dam Safety

cc.: K. Christopher Soller, U.S. National Park Service
D. Stilwell, U.S. Fish and Wildlife Service
F. Santamora, Corps of Engineers
A. Ciorra, Corps of Engineers
F. Anders, NYSDOS
B. Culhane, Suffolk County
Commissioner Joe Martens
P. Scully, NYSDEC, Region 1
J. Tierney, NYSDEC
M. Klotz, NYSDEC
S. McCormick, NYSDEC

FIRE ISLAND INLET TO MONTAUK POINT (FIMP) REFORMULATION STUDY

Below are New York State comments to the “MODIFIED 2B” plan which the Corps has proposed as an alternative to be prepared to other alternatives in order to respond to the State letter dated December 29, 2011. The Corps has recommended that a comparison be made of alternatives 3A, TFSP, and MODIFIED 2B, and no action. These alternatives will be prepared in order to address the questions raised in the State’s letter.

June 28, 2012

1. In “MODIFIED 2B” plan the non-structural measures need to stand alone and the benefits cost ratio of the overall plan cannot depend on them.

2. "MODIFIED 2B" proposes 13 ft dune under Proactive Breach Response at Fire Island Developed Locations. Why is the dune 2 ft lower than under Plans 3A and TFSP? How is the berm width affected?

3. What is the cross-section for 25-year plan Proactive Breach Response for “MODIFIED 2B” and what does subject to evaluation mean for all the project locations?

4. What will the real estate impact alignment be under "MODIFIED 2B"?

5. Under Integration of Adaptive Management in “MODIFIED 2B” nourishment is not included. Does that mean that it is not planned?

6. Will there be any maintenance fill for any of the breach closures under “MODIFIED 2B” and other remaining plans?

7. Is there an ability to taper off the State's involvement over time under any of the remaining plans?

8. Will FIMP prevent non-federal entities from constructing non-project activities within the project footprint such as building higher dunes, planting additional vegetation, installing snow fences, or privately funding beach replenishment?

9. Will FIMP allow non-federal entities (state, county, communities) take advantage of dredge mobilization to build a larger locally preferred alternative? Should they choose to provide additional funding to do so? Can they mobilize their own dredge in the event FIMP is providing less protection than they desire?

10. Will FIMP prevent non-federal entities from securing FEMA damage assistance or FEMA mitigation grant monies within the project footprint? (FEMA funded replenishment of non-federal engineered beaches, or FEMA funded home elevations through programs such as "project impact")?

11. If the FIMP plan becomes so big that it is unaffordable, will the lesser plan exist or there will be only no action plan left?

12. Natural processes value: The relative benefit/cost to natural processes of each alternative should be estimated, particularly with respect to flood protection and coastal barrier migration. For example, preventing breaches eliminates the primary method of barrier adjustment and retreat in response to sea level rise. See for example the recently prepared Ecosystem-based Management Plan for Great South Bay prepared by TNC. It would benefit all participants to know the environmental costs of such actions. A conceptual description of the effects of each alternative should be developed as a precursor to providing this information for the alternatives that will advanced for study in the EIS.

13. Environmental Restoration Alternatives and beach fill: The descriptions of alternatives provided by the Army Corps do not identify an opportunity to reduce the volume of fill along the ocean front in the event that bay side fill reduces the likelihood of a breach. This factor should be incorporated into the Breach Contingency and beachfill options.

14. Road raising/levees: We previously understood that this measure was not likely to be used because of state concerns over maintenance and long term effectiveness. If it is still under consideration, include evaluation of the potential costs if the levee is compromised, the maintenance work that can be anticipated over the project life, and cost shares among federal, state and local partners for both construction and long term maintenance.

15. Groins at Ocean Beach: The alternatives in the Army Corps spreadsheet cite “Taper Ocean Beach Groins” as a project measure. What exactly does “taper” mean with respect to two groins? Are they going to be shortened or rebuilt so the seaward end declines in elevation until it matches the bottom surface, or both?

16. Potato Road: The alternatives in the Army Corps spreadsheet all recommend “feeder beaches” contingent upon a management plan for opening Georgica Pond. What is being protected by these actions? Are the feeder beaches cost effective?

17. “MODIFIED 2B”, beach/dune construction for all reaches: The Corps spreadsheet heading for this alternative says “Initial Beach Placement Will First Be Provided for All Reaches” Clarification is needed regarding which reaches are involved.

18. “MODIFIED 2B”, Land Use Management: The clause that appears on the spreadsheet for TFSP “Improve land management can allow for adaptation to reduce nourishment cost” is missing from the description in “MODIFIED 2B”. It should be included for all nourishment alternatives in any selected plan.

Responses to NYS Comments

Detailed NAN Responses to
NYSDEC Comments, as dated December 29, 2011, and dated 28 June 2012

NYS Comment #1
The March 11th letter provides a one page summary of the components of the TFSP. In May 2009 the Corps issued a Draft FIMP Reformulation Study ("Study"). Within this Study the Corps identified a number of options, including "Alternative 3G". The March 11th letter stated that Alternative 3G is "similar" to the TFSP. In the Study, we understand that alternative 3G was identified as being the National Economic Development/National Ecosystem Restoration ("NED/NER") plan, which was identified as the plan that best accomplishes the storm damage reduction objectives, based upon the integration of the alternatives. The NED/NER plan previously was discussed at a FIMP Executive Steering Committee meeting on November 10, 2009, and was presented by the Corps as the plan recommended for further development. Alternative 3G was also recommended for inclusion in the Draft General Re-Evaluation Report and the Environmental Impact Statement for evaluation as a part of the public review process. Unfortunately, it is impossible to identify the significant differences between the newly developed TFSP and alternative 3G and we would appreciate receiving a detailed comparison of the two plans. We request that this comparison include a detailed description of the increased or decreased risks and impacts to the communities within in the study, as well as the level of storm damage reduction that would be provided by the TFSP.

- NAN Response #1

The May 2009 Draft Formulation Report (May 2009 Report) recommended two alternative plans for further consideration. The plans were described in Chapter 11 of the Report. Alternative 3A, which was identified as the plan that appears to maximize storm damage reduction benefits, and Alternative 3G, which was identified as the plan that appears to best balance the objectives of storm damage reduction, and achieving the objectives of the FIMP Vision Statement.

Following coordination with involved agencies, the TFSP evolved from 3G and was proposed in the March 2011 letter. The TFSP differs from 3G in two ways:
1) The TFSP includes beach fill in the portion of Smith Point County Park fronting the pavilion, where Plan 3G recommended only a breach response in this area, and:
2) The specific breach closure procedures in the TFSP acknowledges a delay of up to 60 days in closing a breach and possibility of natural closure. Plan 3G estimated 45 days to close breach.

As indicated in the cover letter, we are incorporating changes in the plan due to Sandy, in an Updated TFSP, which are not reflected in the following information. That information will be provided at a later date. The changes that are being incorporated include the following:

- Adjustments to beach fill alignment along Fire Island to account for post-Sandy changes
- Incorporation of a dune and beach feature in the Fire Island Lighthouse Tract
- Incorporation of a feeder beach in Smith Point County Park
- Updating of Breach Response Protocols
- Updating of potential plan features in Downtown Montauk

The comparisons of the alternative plans are documented in the May 2009 Report (Chapter 10). This information has also been summarized in the following sub-attachments:

- Attachment #1 – Table that provides a comparison of the remaining potential plans
- Attachment #2 – Text description of the TFSP
- Attachment #3 – A series of figures that compares the effectiveness of the TFSP

Please note: in coordinating the proposed responses to comments, the Corps suggested that the analysis consider the effectiveness of an additional alternative, identified as Plan 2B. Plan 2B is included in the table that compares alternatives. This table reflects the comments that were provided by NYS and DOI by email on 28 June 2012. Plan 2B is presently under evaluation.

NYS Comment #2

For the State and potential local sponsors to determine the feasibility of agreeing to all or some of the TFSP, it is necessary to understand the costs involved with each phase. The State requests that the Corps provide the detailed cost estimate/cost-breakdown for various elements of the TFSP and compare TFSP costs to those for Alternative 3G and the NED/NER plan. The Department is currently not clear on which plan is the NED/NER plan.

- NAN Response #2

  Updated project costs are being developed to show costs associated with each remaining plan. Please note, all costs will change as the plan is updated to account for post-Sandy changes.

  In general, costs include the upfront costs associated with construction, and recurring costs associated with renourishment, breach response, and sand bypassing.

- Attachment #4 shows costs associated with the following plans, based upon information contained in the May 2009 Report.
  - 1) Plan 3A, which appears to be the plan that maximizes net benefits
  - 2) TFSP, the plan supported by the Federal Agencies

NYS Comment #3

The March 11th letter indicates that the "plan appears to meet the Federal Agency objectives" (emphasis supplied). The State respectfully requests confirmation that the TFSP does, in fact, meet Federal Agency objectives and is the Corps "Recommended Plan". It is an extensive process for the State, in conjunction with potential local sponsors, to determine if the TFSP is fully acceptable or if a locally preferred alternative needs to be proposed for all or some of the project area. The State would strongly prefer to undertake this more extensive consultation with the knowledge that the TFSP will be acceptable to the Federal Government (subject to NEPA review and modifications, as well as appropriations) if endorsed by the State.

- NAN Response #3

  The Corps anticipates further confirmation that the TFSP is acceptable to the Federal agencies, but can only document its understanding of agency priorities communicated in the most recent coordination. These plans were briefed at the Secretary-level and general

support was expressed for them. It is expected that Secretary-level support will be reaffirmed to account for changes that are incorporated as a result of Hurricane Sandy. Even with this re-affirmation, until the necessary NEPA reviews are completed, it is appropriate to indicate that this support is tentative.

Vertical support is also conditional upon local sponsor concurrence. While confirming support from the State's sponsors can be challenging, it is necessary before the District seeks higher authority confirmation of the acceptability of these plans. Therefore, we request some indication from NYS that all components of the TFSP are found to be acceptable to the State. This would be a pre-requisite to engaging our HQ on the acceptability of any of these 3 remaining potential plans.

NYS Comment #4.
The TFSP calls for significant non-structural measures, such as elevation or relocation of structures. The State would appreciate detailed information on the Corps' proposed options for implementation of this portion of the TFSP. As one might expect, this is of great interest to potential local sponsors. The State would also be interested in the results of any consultations the Corps has undertaken with the Federal Emergency Management Agency on these proposed measures and their implementation. This non-structural effort has a direct relationship to FEMA's flood plain management and flood insurance programs, and they may be of great assistance in this implementation. Also, we request that the Corps provide a comparison of the levels of flood protection provided by the TFSP, Alternate 3G and the NED/NER plan versus the residual flood risks associated with maintaining the existing inlets.

- NAN Response #4:
  The implementation of non-structural measures affords flexibility to accommodate local sponsor interests and leverage FEMA expertise. For evaluation of alternatives, the relative cost and anticipated benefits is sufficient for inclusion of measures in the TSFP.

  The Corps has consulted FEMA and our USACE Center of Expertise for non-structural planning in the "National Flood Proofing Committee (NFPC)."

  - Attachment #5 is a paper that was assembled for the Reformulation Study and communicates the options available for implementing non-structural solutions and some of the challenges that need to be addressed. At this point, our preference is to follow the model of implementation through the "homeowner-led approach". The Corps is willing to work with representatives of the State and local governments to further this discussion, and take advantage of State initiatives that are underway following Hurricane Sandy, as a model for how to proceed.

  The Corps will coordinate a meeting to evaluate implementation options, and clarify preferred implementation approaches.

  The Corps has been in contact with FEMA regarding the intersection of the non-Structural plan contained within FIMP, and how that relates to FEMA initiatives. As it relates to flood insurance, there is recent legislation that requires homeowners to pay

actuarial rates, based upon the elevation of their house. As such, it is expected that the decision whether or not to participate in the non-structural program could have a bearing on the individual's financial responsibility for their individual flood insurance. In our discussions with FEMA, it also appears that the inclusion of the non-structural program will have a bearing on a homeowner's eligibility for participation in various FEMA programs. Similar to the funding of repair of engineered beaches, FEMA and the Corps need to consider the need to avoid augmentation. We are working to obtain a legal opinion on this, but at this point, it would be best to assume that the Corps program could limit the availability of FEMA funds, through certain programs.

NYS Comment #5.
Please provide more detailed information on the various barrier island breach and breach closure plans (current and proposed via the TFSP) including their locations, impacts, timeframes for closure, benefits, future estimated costs and how they relate to flood risk. It would be very useful to know how the level of storm damage reduction increases or decreases with the proposed breach plans in the TFSP in comparison to Alternative 3G and the NED/NER plan.

- NAN Response #5:

  Chapters 8 and 9 of the draft formulation report summarize the breach response plans to the extent they were developed at the time. The report identified the expected number of breaches for each plan alternative. Refinements to the breach closure measures which have been made since the compilation of the formulation report draft, as well as additional changes that have been requested will require that the team assess changes which may result if we allow for "natural closure" at a lower elevation than the breach closure design level. Further evaluation of the impacts will be sensitive to the assumptions in the trigger for action to be taken.

  The information provided in Attachment #2, in response to NYS Comment #1, provides a comparison as it presently exists of the comparison between the two plans.

NYS Comment #6.
The State has discussed with the Federal Agencies its interest in evaluating the option of reducing or phasing out the re-nourishment portion of this project over the project's 50-year life span. This option might allow the beach configuration to eventually return to a more naturalized status or to possibly have beach configuration addressed by property owners, local municipalities or local zoning entities. The State requests information on the manner in which this option would be addressed within the proposed TFSP. If these concepts are not addressed in the TFSP, the State requests that they be addressed.

- NAN Response #6:
  Presently the May 2009 draft Formulation Report includes text on three different alternatives for lifecycle management of these alternatives. These three scenarios are the ones jointly developed by the involved agencies, and are described in Chapter 11, Consideration of Lifecycle Management.

Presently, the report includes a brief summary of the options, without extensive quantitative analysis. The report presently concludes that of the three available options, the preferred approach is to address this through an adaptive management program.

An excerpt of the possible approaches and recommended approach is attached to this response (Attachment #6).

NYS Comment #7.
The State has also previously raised concerns regarding the total cost of implementing any adopted plan for FIMP. One option in which there is strong potential interest is breaking the TFSP, or any plan, into a number of smaller geographical areas which could then be implemented in phases based on the availability of resources and the particular interest of non-federal sponsors. Please provide the Federal Agencies' views on whether such a phased approach would be acceptable and if there is any preferred or priority order recommended by the Federal Agencies for the implementation of a phased approach.

- NAN Response #7:

  Implementation of a Recommended Plan for the Reformulation Study would be a large effort which would be undertaken under multiple contracts. Incremental constructible elements may be achieved in several ways. The Corps considers identification of constructible elements to be a critical step undertaken in the final design phases of the project, following local sponsor concurrence with the elements and features within the recommended plan. At this point, the project is being formulated to prepare a Reformulation Report to address the entire Study Area with a project formulated on Separable Elements, which would allow for separate PPA's for one or more separable elements and multiple construction contracts for each PPA, as necessary.

  The specifics of this are still subject to the final plan refinements and the updated final economic analyses.

NYS Comment #8.

Please explain how sea level rise and climate change considerations and concerns were integrated in the TFSP, and how they will be integrated as we learn more in the future. Similarly, the summary of components associated with the TFSP also makes brief reference to beach re-nourishment being the subject of adaptive management measures; please provide information on the monitoring and assessment program associated with an adaptive management approach, as well as the entities potentially responsible for undertaking such an adaptive management approach. It is essential to understand the method by which elements of the TFSP could be adapted and modified to accommodate sea level rise and climate change.

- NAN Response #8:

The Corps' Sea Level Change (SLC) guidance has been superseded twice since the May 2009 Draft Formulation Report. The current Corps Guidance is EC 1165-2-212 Sea-Level Change Considerations for Civil Works Programs, dated 1 October 2011. A 9 June 2010 workshop with the FIMP stakeholders considered the implementation and inclusion of prior guidance, EC 1165-2-211, dated July 2009, into the analysis of the alternatives and the selected plan and a scope of work for SLC analysis resulted from the meeting. Subsequent coordination with the Corps' leadership on the Corps guidance, which requires analysis of a three scenarios: "low" (historic), "intermediate" and "high" rates of sea level change further refined this scope of work. An AE is under contract to complete this analysis and to reflect the impact of SLC on the costs and benefits of the various alternatives.

In general, adaptive management of beach renourishment for sea level change considerations can be determined by sea level change and physical project features monitoring. Beach renourishment is highly adaptable due to its "soft" nature, and project features can be revised throughout the life of the projects. Monitoring will be specifically recommended as a feature of the plan, and as a cost-shared project requirement.

Similarly, based upon our discussions with HQUSACE, a similar course of action is recommended for non-structural solutions so that proposed plans can be adapted in the future based upon actual or realized SLC.

ATTACHMENT #1

FIMP - COMPARISON OF REMAINING PLANS OF IMPROVEMENT ---- AS OF MAY 2, 2013

*** Final comparison will also include the *NO ACTION PLAN* ***

Plan 3A ***NOTE; THIS PLAN IS NOT ACCEPTABLE TO ALL PARTNERS**	**Updated TFSP** **Tentative Federally Supported Plan (dated March 11, 2011)** ***This contains updates to reflect post-Sandy considerations**	**Plan 2B** *** Full Analysis of this plan still to be undertaken** ***This contains updates to reflect post-Sandy considerations**
INLETS: FIRE ISLAND + MORICHES + SHINNECOCK Continuation of authorized projects, with increased sediment bypassing	**INLETS: FIRE ISLAND + MORICHES + SHINNECOCK** Continuation of authorized projects, with increased sediment bypassing	**INLETS: FIRE ISLAND + MORICHES + SHINNECOCK** Continuation of authorized projects, with increased sediment bypassing
MAINLAND **6-year floodplain** Non-structural building retrofits, including road raisings Over 3,200 structures	**MAINLAND** **10-year floodplain** Non-structural building retrofits, including road raisings **Over 4,400 structures + 4 road raising locations**	**MAINLAND** **10-year floodplain** Non-structural building retrofits, including road raisings Over 4,400 structures + 4 road raising locations
BARRIER ISLANDS: **FIRE ISLAND @ DEVELOPED LOCATIONS** **Communities + minor Federal Tracts** Beachfill (+15 ft dune, with berm) Minimum real estate impact alignment Groin Modifications; Taper existing Ocean Beach Groins (2)	**BARRIER ISLANDS:** **FIRE ISLAND @ DEVELOPED LOCATIONS** **Communities + minor Federal Tracts** Beachfill (+15 ft dune, with berm) **Post-Sandy Adjusted Beachfill Alignment** **Tapers into Federal tracts; alternately overfill in communities** **@ Lighthouse; Beachfill (+15 ft dune, with berm)** Groin Modifications; Taper existing Ocean Beach Groins (2)	**BARRIER ISLANDS:** **FIRE ISLAND @ DEVELOPED LOCATIONS** **Communities + minor Federal Tracts** **Beachfill (+13 ft dune, with berm)** Post-Sandy Adjusted Beachfill Alignment Tapers into Federal tracts; alternately overfill in communities **@ Lighthouse; Beachfill (+13 ft dune, with berm)** **No set renourishments; renourish when cross-section falls below design level (25-year)** Groin Modifications; Taper existing Ocean Beach Groins (2)
FIRE ISLAND @ UNDEVELOPED LOCATIONS **Major Federal Tracts + Smith Point County Park** Beachfill (+13 ft dune, with berm) Minimum real estate impact alignment	**FIRE ISLAND @ UNDEVELOPED LOCATIONS** **Major Federal Tracts + Smith Point County Park** **Conditional Breach Response (details TBD)** **- guidelines TBD; anticipated closure to be initiated within 45-60 days** **@ Smith Point County Park (East + West)** **Feeder Beach - beachfill to offset inlet effects, details TBD** **Long-term relocation of park facilities to minimize renourishment** **Science Response Team to advise decision makers for conditional closure** **No maintenance fill for breach closure; action taken only when breach occurs**	**FIRE ISLAND @ UNDEVELOPED LOCATIONS** **Major Federal Tracts + Smith Point County Park** Conditional Breach Response (details TBD) - guidelines TBD; anticipated closure to be initiated within 45-60 days @ Smith Point County Park (East + West) Feeder Beach - beachfill to offset inlet effects, details TBD Long-term relocation of park facilities to minimize renourishment Science Response Team to advise decision makers for conditional closure **No set renourishments; renourish when cross-section falls below design level (25-year)**
WESTHAMPTON (fronting Moriches Bay) Beachfill (+15 ft dune, with berm) Groin Modifications; Taper existing Westhampton Groins (13)	**WESTHAMPTON (fronting Moriches Bay)** Beachfill (+15 ft dune, with berm) Groin Modifications; Taper existing Westhampton Groins (13)	**WESTHAMPTON (fronting Moriches Bay)** **Beachfill (+13 ft dune, with berm)** **No set renourishments; renourish when cross-section falls below design level (25-year)** Groin Modifications; Taper existing Westhampton Groins (13)
SHINNECOCK (fronting Shinnecock Bay) Proactive Breach Response (+13 ft dune, with berm)	**SHINNECOCK (fronting Shinnecock Bay)** **Beachfill / Proactive Breach Response (+13 ft dune, with berm)** **No set renourishments; renourish when cross-section falls below design level (25-year)**	**SHINNECOCK (fronting Shinnecock Bay)** **Beachfill (+13 ft dune, with berm)** **No set renourishments; renourish when cross-section falls below design level (25-year)**

FIMP - COMPARISON OF REMAINING PLANS OF IMPROVEMENT ---- AS OF MAY 2, 2013

*** Final comparison will also include the *NO ACTION PLAN* ***

Plan 3A ***NOTE; THIS PLAN IS NOT ACCEPTABLE TO ALL PARTNERS**	**Updated TFSP** **Tentative Federally Supported Plan (dated March 11, 2011)** ***This contains updates to reflect post-Sandy considerations**	**Plan 2B** *** Full Analysis of this plan still to be undertaken** ***This contains updates to reflect post-Sandy considerations**
DOWNTOWN MONTAUK + POTATO ROAD Sediment management measures at both sites (feeder beaches) Potato Road contingent upon pond opening mgt plan for Georgica Pond Structural Solution at Downtown Montauk under consideration *	**DOWNTOWN MONTAUK + POTATO ROAD** Sediment management measures at both sites (feeder beaches) Potato Road contingent upon pond opening mgt plan for Georgica Pond Structural Solution at Downtown Montauk under consideration *	**DOWNTOWN MONTAUK + POTATO ROAD** Sediment management measures at both sites (feeder beaches) Potato Road contingent upon pond opening mgt plan for Georgica Pond Structural Solution at Downtown Montauk under consideration *
ENV RESTORATION Various alternatives throughout the study area (TBD)	**ENV RESTORATION** Various alternatives throughout the study area (TBD)	**ENV RESTORATION** Various alternatives throughout the study area (TBD)
INTEGRATION OF ADAPTIVE MANAGEMENT N/A	**INTEGRATION OF ADAPTIVE MANAGEMENT** Period of nourishment subject to adaptive management considerations and local land use regulations or; 50-year period of nourishment Provisions to continually adjust components of project to improve effectiveness Applies to all plan features, developed to address climate change concerns (Sea level rise)	**INTEGRATION OF ADAPTIVE MANAGEMENT** No structured renourishment; renourish upon breach vulnerability planned for 50 years, or, can be adapted Provisions to continually adjust components of project to improve effectiveness Applies to all plan features, developed to address climate change concerns (Sea level rise)
INTEGRATION OF LAND USE REGULATIONS AND MANAGEMENT N/A	**INTEGRATION OF LAND USE REGULATIONS AND MANAGEMENT** Local land management planning to include enforcement of Federal and State zoning requirements, land acquisition or other measures as necessary component for long-term risk reduction Improved land management can allow for adaptation to reduce nourishment costs Important to ensure project does not induce development	**INTEGRATION OF LAND USE REGULATIONS AND MANAGEMENT** Local land management planning to include enforcement of Federal and State zoning requirements, land acquisition or other measures as necessary component for long-term risk reduction Improved land management can allow for adaptation to allow for less frequent nourishment Important to ensure project does not induce development

ATTACHMENT #2

SUMMARY OF TENTATIVE FEDERAL SELECTED PLAN (TFSP)

The Tentative Federal Selected Plan (TFSP) has been identified as the plan that reasonably balances the policies of the US Army Corps of Engineers and the Department of the Interior.

The full analysis of how this plan was identified is included in the Draft GRR. This paper provides a summary of the TFSP. The following alternative has been developed and considered as a comprehensive plan, but each component is described separately below. In simplified terms, the TFSP is:

- Continuation of authorized projects at the inlets, with sand bypassing
- +15 ft dune, 90 ft berm beachfill plan at the post Sandy adjusted alignment along developed locations spanning Great South Bay and Moriches Bay, maintained for 50 years
- +13 ft dune, Proactive Breach Response Plan along Shinnecock Bay
- Conditional Breach Response in Fire Island undeveloped areas
- Restoration measures in conjunction with breach response
- Sediment management measures for Downtown Montauk, and Potato Road (contingent upon an improved management plan for Georgica Pond)
- Modification of the Westhampton and Ocean Beach groinfields
- Non-structural building retrofit plan for structures in the 10-year floodplain, in conjunction with road raising where cost-effective
- Approximately 38 restoration alternatives at various locations throughout the study area

A. Beach and Dune Fill Component.

Based upon the engineering and economic evaluation of the beach fill alternatives, and coordination with the Federal Partners, the TFSP includes beach fill with the following characteristics:

- Continuous beach and dune fill along the developed shorefront areas fronting Great South Bay and Moriches Bay, where necessary, to meet this design threshold; and
- Alignment: Beachfill configured along a post Sandy alignment;
- +15 ft NGVD dune, 90 ft berm at +9.5 ft NGVD in developed areas & minor federal tracts
- +15 ft NGVD dune, berm at Lighthouse Tract
- Renourishment: 50 years, approximate 4-year cycle, along same length of shoreline

B. Non-Structural Plan

Based upon the engineering and economic evaluation of the non-structural plans, the non-structural plan that optimizes the net excess benefits is a combined building retrofit plan and road-raising plan along the mainland floodplain, which is generally described as follows:

- 100-year level of protection for structures inside 10-year flood plain
- Building retrofit measures are proposed, include limited relocation or buyouts, based upon structure type and condition
- 4 locations of road raising, totaling 5.91 miles in length, directly protects 1,020 houses
- Over 4,400 structures are included for non-structural treatment
- Estimated construction period is 20 years

C. Inlet Modification Plan

Based upon the engineering and economic evaluation of the inlet modification and management measures, including the multiple criteria screening matrix, the recommended plan for inlet management is continuation of the authorized project at each inlet with increased sediment bypassing from the ebb shoal to offset the downdrift deficit. A long-term, monitoring and adaptive management plan is included to allow for future changes or improvements in the inlet management, over time. The inlet management measures are generally described as follows:

Shinnecock Inlet: Continuation of authorized project + Ebb shoal dredging; -16' deposition basin
- 2 year cycle; additional 100,000 CY/yr

Moriches Inlet: Continuation of authorized project + Ebb shoal dredging
- 1 year cycle; additional 100,000 CY/yr;

Fire Island Inlet: Continuation of authorized project + Ebb shoal dredging; deposition basin expansion, with additional updrift disposal
- 2 year interval; additional 100,000 CY/yr; and

D. Groin Modification Plan

Based upon engineering and economic analysis of groin modifications, recommendation is shortening (or tapering) of Westhampton groin field (15 existing), which will increase the amount of sediment transported to the west, and will reduce renourishment requirements for the shoreline downdrift of the groins. This plan includes:
- Shortening of groins, varying between 70 – 100 ft;
- Releases 0.5M to 2M CY of sand to west

E. Breach Response Plan (BRP)

Based upon engineering and economic analysis of the alternatives, recommendation is:

- Conditional Breach Response Plan in Fire Island undeveloped areas, with threshold details currently under development
- Proactive Breach Response Plan for areas along Shinnecock Bay, where a beachfill plan is not recommended:
  - Breach Closure Template: +13' NGVD dune, berm height +9.5 ft NGVD, berm width generally 90 ft wide, but vary depending on conditions prior to the breach and within adjacent areas
  - Proactive Response Plans include restoring the template to the design condition when the shoreline is degraded to an effective width of 50 ft.

F. Sediment Management Plans

The engineering and economic analyses identified two areas of high damages where a conventional beach nourishment project was not economically viable (Downtown Montauk, and Potato Road). In these areas, Sediment Management Alternatives were evaluated to offset the long-term erosion trend, to maintain the current protection, and prevent conditions from getting worse; these features would also serve as feeder beaches. In the area of Potato Road, the implementation of this plan

would be contingent upon the development of a local management plan for Georgica Pond to address the effects of the pond opening and measures to minimize the consequences of this. The plans generally include:

- Sediment placement to offset long-term erosion trend; 120,000 CY at each location; includes placement every 4 years with material to be placed as advance fill on front face of existing berm

G. Restoration Measures

Collaborative planning with an interagency team drawn from the Study's Environmental Technical Management Group and supported by the Interagency Reformulation Group established specific objectives through the development of a Restoration Framework.

This framework called for the restoration of five coastal processes that are critical to the development and sustainability of the various coastal features (such as beaches, dunes, barrier islands and bluffs), which together form the natural system. In a natural ecosystem, features such as barrier islands and dunes protect coastal lands and property, and reduce danger to human life, stemming from flooding and erosion, while establishing habitats important to coastal species. The five Coastal Processes identified by the Restoration Framework (reference as *"Processes Targeted"* within the attached Table titled "Summary of Restoration Ranks and Scores") as vital to maintain the natural coastal features are: Longshore Sediment Transport; Cross Island Sediment Transport; Dune Development and Evolution; Estuarine Circulation; and Bayside Shoreline Processes.

The Design of restoration alternatives focused on measures that contribute to the restoration of these coastal processes that are consistent with the Reformulation objectives. Such alternatives have been developed into specific and sustainable National Ecosystem Restoration (NER) alternatives.

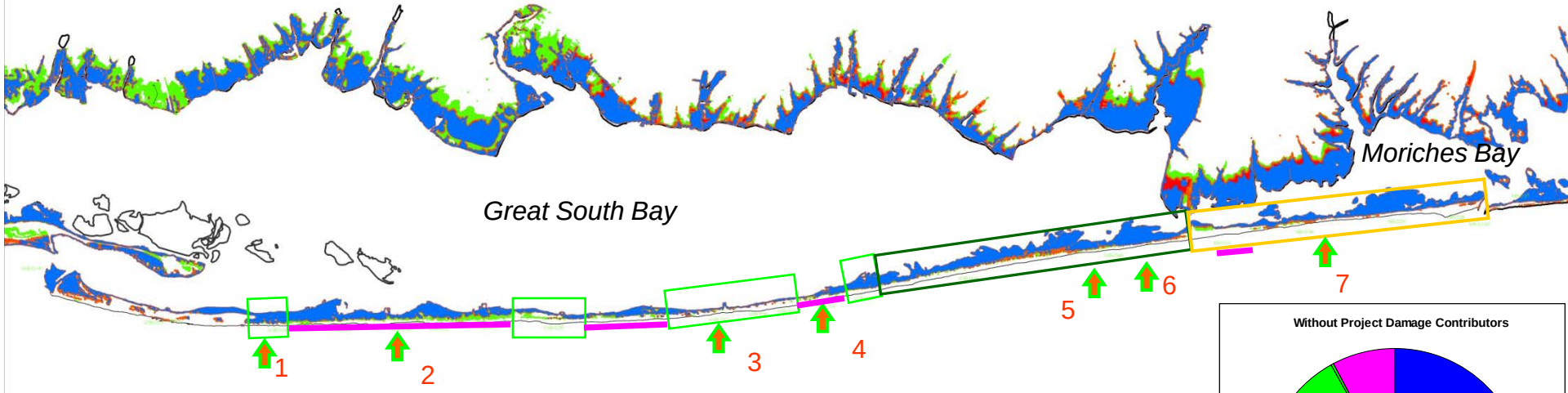
H. Adaptive Management

Adaptive Management has been identified as a component of TFSP. There is significant uncertainty associated with this plan, therefore the implementation requires an incremental adaptive management approach. This approach will be defined in the next phase of planning and will include 1) data collection to improve the understanding of the physical, social and environmental setting, 2) modeling efforts (engineering and formulation) to analyze the data, and 3) an adaptive management framework that would establish the overall objectives, decision rules, and identify the adaptations to the plan that could be accomplished with the project. This adaptation strategy will require a periodic review of the project execution (10-yr basis) and recommendations for the adaptation of the project, based upon the findings.

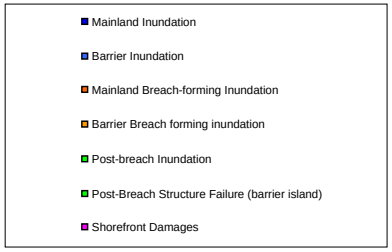
The adaptive management plan will formalize mechanisms for reviewing and revising the lifecycle management of elements of the project, relating to the following elements: Inlet Management, Breach Response, Beach fill, Borrow Area, Non-Structural, Restoration, Land Management Policies and Climate Change. Climate change will be accounted for with the monitoring of climate change parameters, identification of the effect of climate change on the project design, and identification of adaptation measures that are necessary to accommodate climate changes, as it relates to all the project elements.

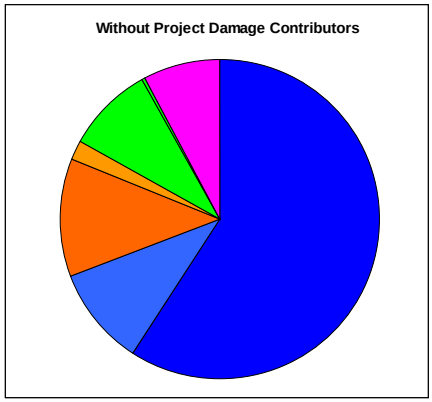
ATTACHMENT #3

FIMP - Problem Summary (Based upon May 2009 Report, being updated)



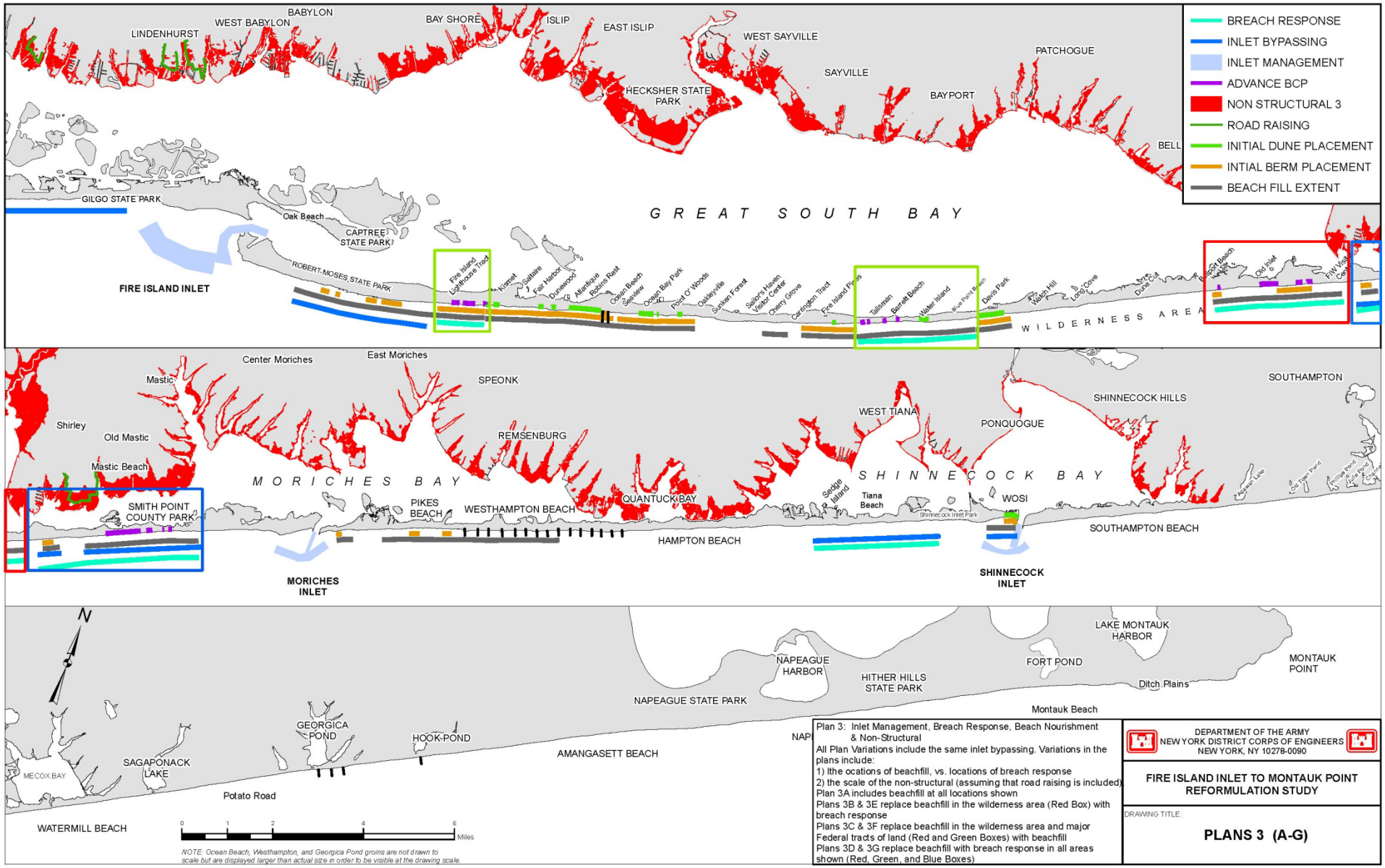
- Breach Vulnerable Areas
- Major Federal Tracts of Land
- Wilderness Area
- County Park Land



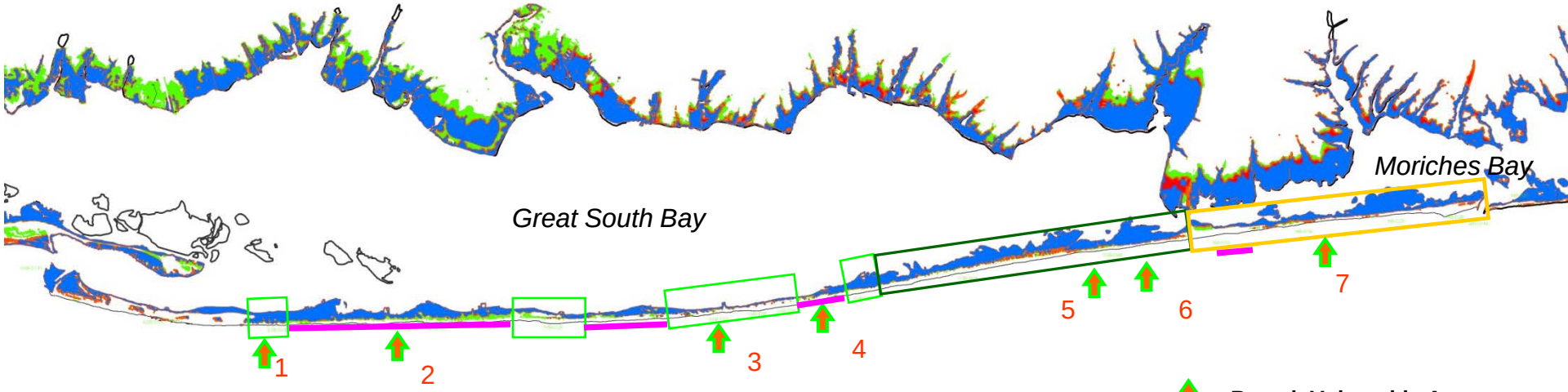


Damage Category	Without Project Annual Damages	Great South Bay	Moriches Bay	Shinnecock Bay	Alternatives
Total Project					
Tidal Inundation occurring due to inlet conditions, and wave setup in back bay					
Mainland	55,834,500	32,403,700	14,379,500	9,051,300	Non-Structural & Road Raising
Barrier	9,423,300	9,414,300	2,400	6,600	
Tidal Inundation occurring due to the event resulting in breaching, and overwash					
Mainland	$11,035,500	6,483,500	3,618,700	933,300	Beachfill
Barrier	$1,946,900	1,939,600	1,600	5,700	
Total Inundation	$78,240,200	50,241,100	18,002,200	9,996,900	
Damages (Inundation and Structure Failure) due to a breach remaining open					
Inundation	$8,292,700	6,660,500	1,469,600	162,600	Beachfill Breach Response
Structure Failure (barrier island)	$358,900	304,600	-	54,300	
Total Breach-Open	$8,651,600				
Shorefront Damages	$7,305,200	3,900,000	355,000	1,150,000	Beachfill
Total Storm Damage	$94,197,000	61,106,200	19,826,800	11,363,800	

FIMP – Alternative 3 Summary



FIMP – Impact of Alternatives



Effect of eliminating fill along the island – Most observable:
(Over the 50-year life of the project)

1. Increase in number of expected breaches
2. Increase in back-bay stage frequency curves
3. Increase in number of houses flooded
4. Increase in Residual Risk

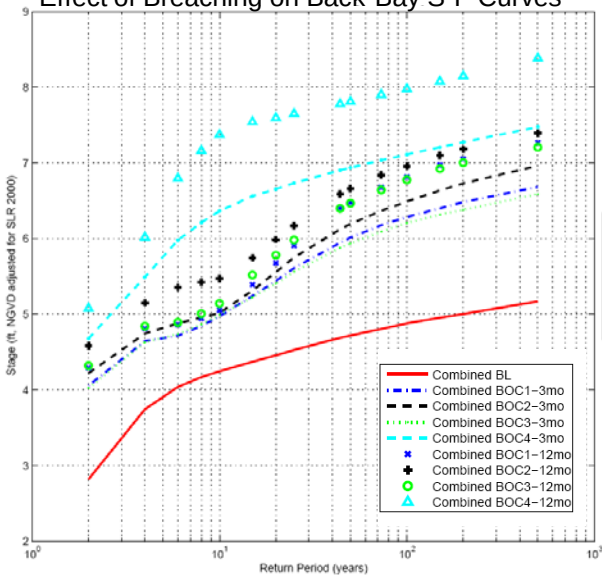
Breach Vulnerable Areas
Major Federal Tracts of Land
Wilderness Area
County Park Land

Average likelihood of beaching

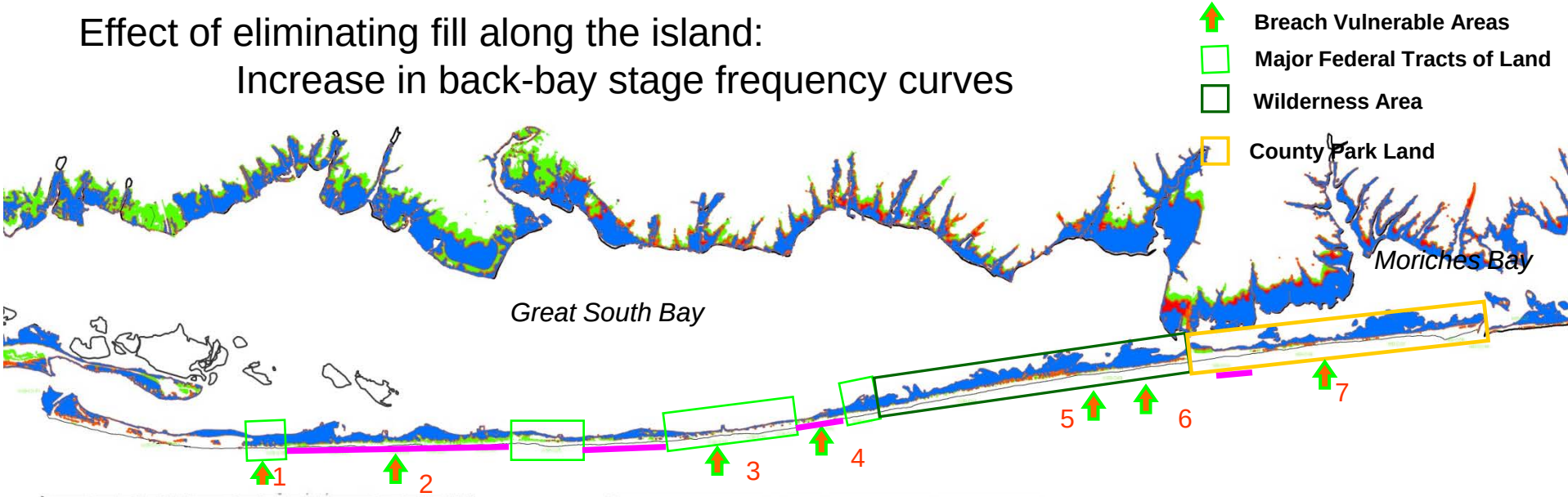
Location		Without	3A	3B/E	3C/F	3D/G	Location
1	WGSB	1	0	0	1	1	MFTL
2	WGSB	2.1	0	0	0	0	
3	CGSB	1.8	0	0	1.7	1.7	MFTL
4	CGSB	0.1	0	0	0	0	
5	EGSB	1.7	0	1.7	1.7	1.7	Wilderness
6	EGSB	1.5	0	1.5	1.5	1.5	Wilderness
7	MOR	1.8	0	0	0	1.8	County Park
8	WSHN	0.2	0.1	0.1	0.1	0.1	
9	WSHN	0.5	0.4	0.4	0.4	0.4	
10	SHN	0.3	0.2	0.2	0.2	0.2	
Total		11	0.7	3.9	6.6	8.4	

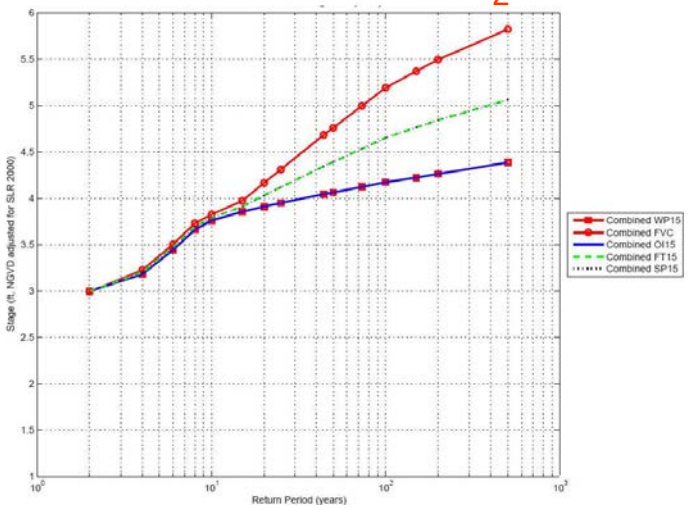
Mean Values based upon 50 years of analysis

Effect of Breaching on Back-Bay S-F Curves

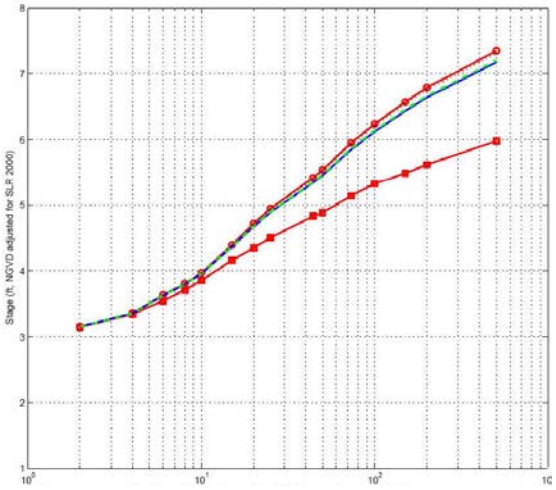


Effect of eliminating fill along the island:
Increase in back-bay stage frequency curves

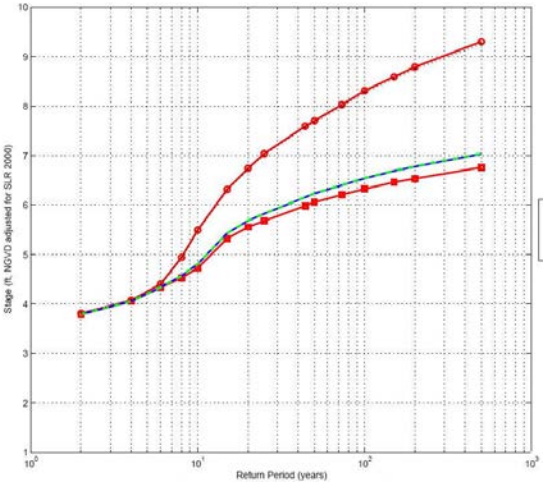




Station 3 Western Great South Bay



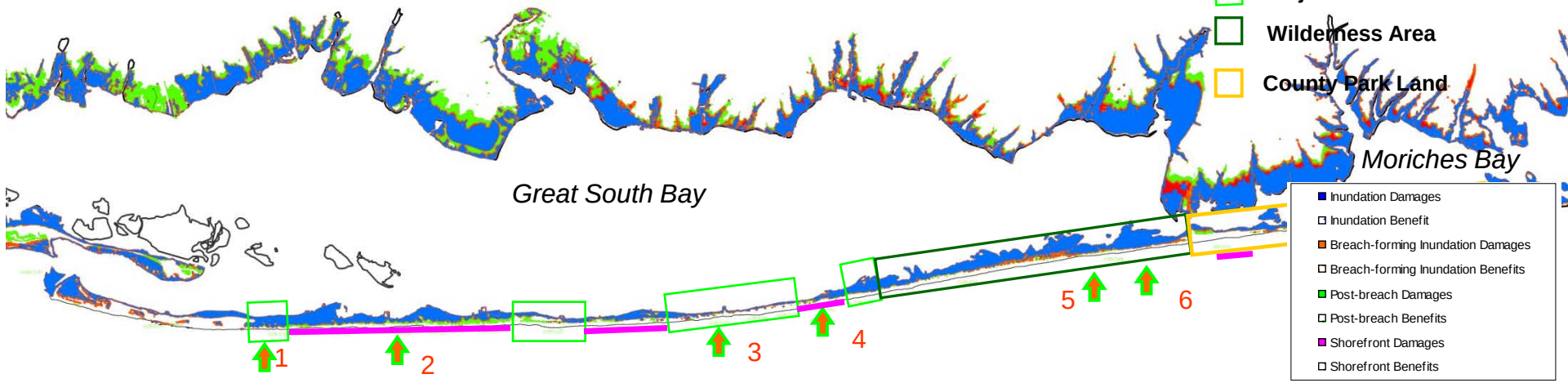
Station 8 Eastern Great South Bay

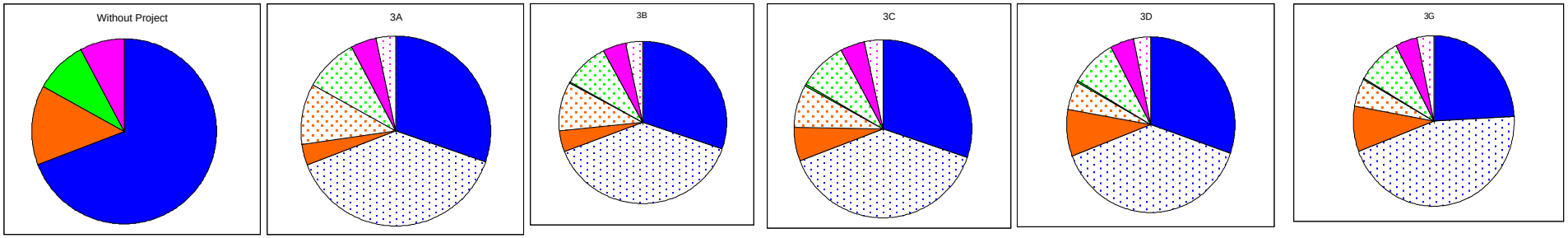


Station 10 Moriches Bay

The figures above show the engineering modeling used as input into the lifecycle damages model. The upper and Lower (red) curves represent the variability in the back-bay stages that are likely in the future without project condition based upon projected changes in the barrier Island condition, considering storm activity, and local actions that may be implemented. Plan 3A is represented by the lower red curve, which is comparable to the baseline condition. The intermediate curves show the effect of eliminating beachfill in various locations. Western GSB is most influenced by eliminating fill in the MFTL. Eastern GSB is most influenced by eliminating fill In the wilderness area. Moriches Bay is relatively insensitive to the effects of fill removal.

Effect of eliminating fill along the island: Increase in Residual Risk





Damage Category	Without
Total Project	
Tidal Inundation occurring due to inlet conditions, and wave setup in back bay	
Mainland	55,834,500
Barrier	9,423,300
Tidal Inundation occurring due to the event resulting in breaching, and overwash	
Mainland	$11,035,500
Barrier	$1,946,900
Total Inundation	$78,240,200
Damages (Inundation and Structure Failure) due to a breach remaining open	
Inundation	$8,292,700
Structure Failure (barrier island)	$358,900
Total Breach-Open	$8,651,600
Shorefront Damages	$7,305,200
Total Storm Damage	$94,197,000

Alternative Damages		3A	3B	3C	3D	3G*
Non-Structural & Road Raising		19,081,400	19,081,400	19,081,400	19,081,400	13,270,200
		9,423,300	9,423,300	9,423,300	9,423,300	9,423,300
Beachfill		3,298,500	3,890,000	5,618,800	7,929,300	7,929,300
		10,000	20,000	60,000	70,000	70,000
		31,790,800	32,430,500	34,611,900	36,980,000	30,692,800
Beachfill	Breach Response	0	200,000	300,000	380,000	380,000
		0	0	0	0	0
Beachfill		4,045,200	4,045,200	4,045,200	4,045,200	4,045,200
		35,836,000	36,675,700	38,957,100	41,405,200	35,118,000
Storm Damage Reduction Benefits		58,361,000	57,521,300	55,239,900	52,791,800	59,079,000
Total Benefits**		61,970,000	60,751,000	58,396,000	55,189,000	60,877,000
Alternative First Cost		328,850,000	322,686,000	320,911,000	320,911,000	386,285,000
Alternative Annual Cost		39,656,000	39,562,000	38,909,000	38,962,000	45,598,000
Net Benefits		22,314,000	21,189,000	19,487,000	16,227,000	15,279,000

* Plan 3g includes the same barrier island features as Plan 3D, but includes a larger non-structural plan along the mainland.

** Total benefits are larger than the sum of the storm damage reduction benefits. These benefits include the costs avoided benefits associated with breach closure and local beachfill operations.

Differences Between Plans 3A and 3G/TFSP:

Plan 3A Reduces Breaching in all locations in Great South and Moriches Bay

Plan 3G/TFSP Allows Breaching in Multiple Locations, but includes a larger N-S Plan

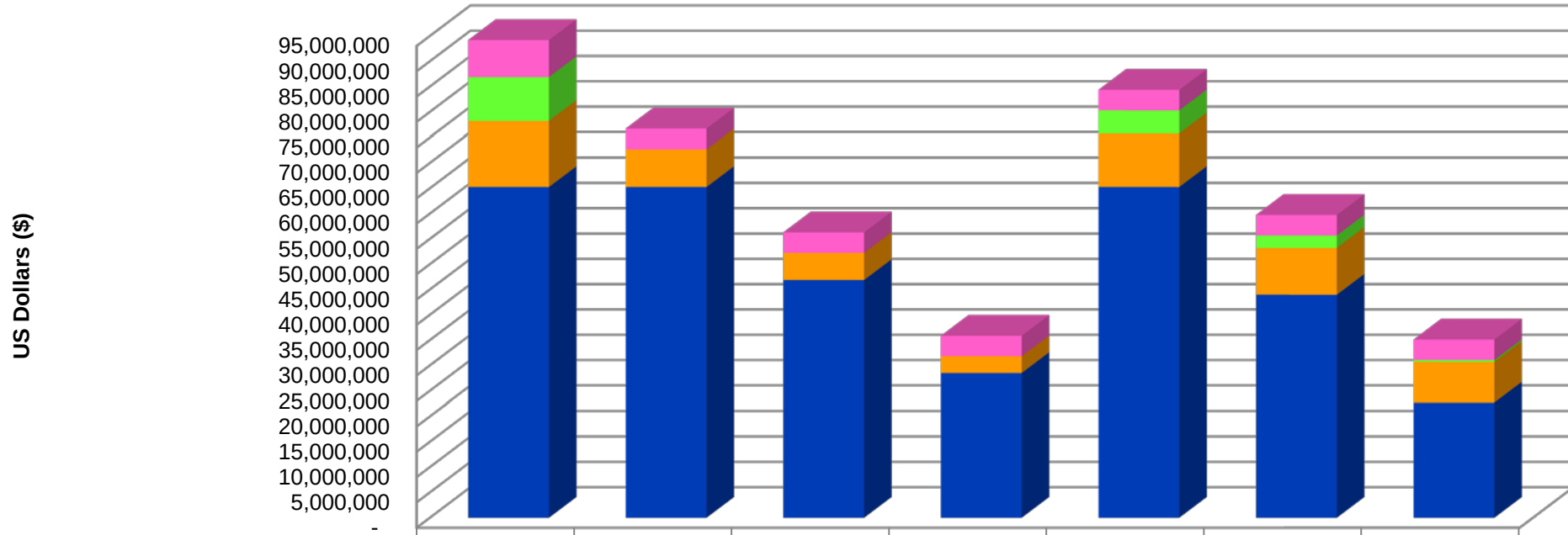
Success of Both Plans (but greater for 3G/TFSP) depends upon participation in N-S Plan

Reduction in "breach reduction benefits" between 3A and 3G/TFSP is: $140M

Increase in "non-structural benefits" between 3A and 3G/TFSP is: $110M

3G/TFSP relies more upon N-S, and is also significantly more expensive than 3A, $105M more

FIMP Damage Contributions by Alternatives



	Without Project	3A - 0% NS	3A - 50% NS	3A - 100% NS	3G - 0% NS	3G - 50% NS	3G - 100% NS
Shorefront Damages	7,305,200	4,045,200	4,045,200	4,045,200	4,045,200	4,045,200	4,045,200
Post-breach Damages	8,651,600	0	0	0	4,547,100	2,463,600	380,000
Breach-forming Inundation Damages	12,982,400	7,419,000	5,372,400	3,308,500	10,509,700	9,254,500	7,999,300
Inundation Damages	65,257,800	65,257,800	46,881,250	28,504,700	65,257,800	43,975,600	22,693,500

ATTACHMENT #4

FIMP Cost Overview by Plan Feature

Please note costs are presently being updated to account for changed conditions, and current price levels

Costs below reflect those contained in the May 2009 Draft Report

- **Plan 3A**

Beach fill = $160,000,000
Building Retrofits = $407,000,000
Road Raising = $14,900,000
Groin Modification = $10,000,000
Inlet Management (additional cost of bypassing)
    Shinnecock Inlet = $756,000 per cycle
    Moriches Inlet = $600,000 per cycle
    Fire Island Inlet = $4,100,000 per cycle
Breach Response ($6-$12M per closure)
Restoration Alternatives = up to $60,000,000

- **Plan TFSP**

Beach fill = $140,000,000
Building Retrofits = $550,000,000
Road Raising = $14,900,000
Groin Modification = $10,000,000
Inlet Management (additional cost of bypassing)
    Shinnecock Inlet = $756,000 per cycle
    Moriches Inlet = $600,000 per cycle
    Fire Island Inlet = $4,100,000 per cycle
Breach Response ($6-$12M per closure)
Restoration Alternatives = up to $60,000,000

Table 10.10 – Annual Cost

Plan 3 – Management, Non-Structural and Beach Nourishment Plans

	Plan 3.a	**Plan 3.g / (TFSP)**
Cost Category	Inlet Mgmt, BCP 13 @SB, NS2R, 15ft Dune @ GSB & MB	Inlet Mgmt, BCP 13 @ SB, BCP 9.5 @ OPWA, MFT, & SPCP, NS3R, 15 ft Dune @ GSB & MB
Beach Fill	$160,200,000	$139,200,000
Nonstructural	$407,200,000	$550,800,000
Road Raising	$14,900,000	$14,900,000
Total First Cost	*$582,400,000*	*$705,000,000*
Total IDC	$26,600,000	$29,400,000
Total Investment Cost	*$609,000,000*	*$734,400,000*
Interest and Amortization	$34,000,000	$41,000,000
Operation & Maintenance	*$9,300,000*	*$8,900,000*
Renourishment	*$12,900,000*	*$11,000,000*
Subtotal	*$56,200,000*	*$60,900,000*
Annual Breach Closure Cost	*$0*	*$1,000,,000*
Major Rehabilitation	*$0*	*$0*
Total Annual Cost	*$56,200,000*	*$61,900,000*

Interest Rate 5.125%, Project Life 50 years

ATTACHMENT #5

US Army Corps of Engineers
New York District

Implementation of Non-Structural Measures

Fire Island Inlet to Montauk Point

As a member of your local municipal government, you may know that you must play a key role in the implementation of non-structural measures that are recommended for your community as a result of the FIMP study. However, what does this really mean? To what degree would you be involved? At what phase of the process would your involvement begin? How would your role in a project with US Army Corps participation differ from what you may be used to through your community's participation in other Federal programs? This fact sheet provides answers to questions you may have regarding the implementation of building retrofit measures, such as elevating and/or floodproofing.

THREE BASIC OPTIONS

There are three basic options available for the implementation of non-structural measures. The options differ in their level of municipal, homeowner, and federal involvement. Let's call these options 1) municipally-managed 2) Federal government-managed 3) homeowner and Federal-government managed.

Under option 1, a participating municipality would enter into an agreement that outlines the local responsibilities for issuing requests-for-proposal (RFPs), selecting a contractor to perform the work, providing oversight during the construction phase of the project, distributing Federal funds to the contractor upon successful completion, and post-project monitoring to ensure that the effectiveness of the project is not compromised; e.g., to prevent residents from converting areas below the base flood elevation to living space.

This approach would likely require the dedication of municipal resources, such as a full-time staff person(s) for the project duration. The Village of Freeport in Nassau County provides an example of a Long Island community using a similar approach. (see sidebar)

Under option 2, the Corps would handle the design specifications, RFP, contracting, construction monitoring and inspection tasks. This options reduces the work required by both the municipality and the homeowner; however, since the Corps would conduct contract arrangements, detailed plans and specifications would need to be developed for each building to be retrofit. This requirement increases the project cost per building.

FREEPORT'S STORY

Since 1997, Freeport's Superintendent of Buildings, Joseph Madigan, has worked to achieve the elevation of 24 flood-prone residential structures through participation in FEMA's Hazard Mitigation Grant Program and Flood Mitigation Assistance Program.

After their project applications were approved by FEMA, the Village issued RFPs and hired contractors on a case-by-case basis. FEMA paid 75% of the project costs, and the individual homeowners paid the remaining 25%. The average cost to raise each flood-prone structure in Freeport was roughly $75,000.

In general, there was significant public support of the elevation projects. The most prominent concerns identified by homeowners were the 25% matching share, and the need to vacate their homes for the roughly 3-week construction phase.

Option 3, in which participating homeowners take a lead role, is a technique that the Corps has used successfully on a number of large non-structural projects. The homeowner enters into a real estate agreement with the Corps under which the homeowner, using Corps-prepared guide specifications, contracts directly with area contractors. Project funds are provided at an agreed-upon level of funding to the homeowner. Experience within the agency has shown that this method can achieve significant cost savings, and also gives the homeowner a greater degree of control over the work and the flexibility to incorporate additional home improvements (at their cost) as part of the retrofit project. The use of real estate agreements establishes a legal requirement that the homeowner maintain the structure in a manner to minimize future flood damages.

For these reasons, this third option would appear to be the optimal approach for implementing non-structural protection for typical structures in Long Island. (The Corps may choose to develop plans and specifications for more complex retrofit designs.) This proposed approach is broken down into the following four phases:

REFORMULATION/PLANNING PHASE:

This first phase is now being undertaken by the FIMP Study Team, and will identify building retrofit plans for alternative levels of protection, using input from the municipalities. Next, the benefits, costs, and impacts of the different plans will be evaluated to determine which measures are best suited for the different portions of the study area. Based upon these results, the Reformulation Study will recommend plans for Congressional authorization and funding.

DESIGN PHASE

If Congress authorizes a plan that includes non-structural measures, the Corps then coordinates with participating homeowners to discuss and select retrofit options. After considering homeowner preferences, the Corps prepares design alternatives and evaluates the cost-effectiveness of each option. The Corps would then meet with homeowners to refine the details of the plan. After the final alternative is selected, final cost estimates are developed. Please note that all retrofit work will be done in compliance with FEMA/National Flood Insurance Program (NFIP) regulations, and may provide some reduction in flood insurance premiums.

IMPLEMENTATION PHASE

At the start of this phase, individual municipalities enter into Project Cooperation Agreements with New York State and the Corps, and sponsor funding is obtained. Real Estate Agreements are then executed with participating homeowners. (Participation in the program is strictly voluntary, and at the discretion of the individual homeowner.) Next, each homeowner issues a Corps-provided RFP and guide specifications to contractors, and evaluates submitted bids (designs, cost estimates, and qualifications). Based upon this evaluation, the homeowner decides which firm they would like to hire to retrofit their home.

Nationally, non-structural projects typically have a 65/35 federal/non-federal cost-sharing arrangement. The State of New York as non-federal sponsor would pay between 50% and 70% of the non-federal share, while the remainder would be borne by local municipalities, who can in turn pass the cost onto participating homeowners. A homeowner would be responsible for up to 50% of the 25% non-federal share, or 12.5% of the total project cost. Temporary relocation during construction would be included in the cost-sharing arrangement as a project component.

Each participating homeowner is then required to submit a proposal to the Corps, stating their selection. Upon approval, the Corps meets with the homeowner and their selected contractor to sign a Contractor/Homeowner Agreement (CHA).

Construction activities then begin. The Corps will periodically provide construction inspectors as necessary to review the work. The homeowner is responsible for ensuring that their selected contractor complies with the CHA, and adheres to the approved scope of work and required safety measures.

In the event of unforeseen conditions requiring changes to selected project plans, an appeals process would be established whereby homeowners can submit requests for change orders. The Corps deems the construction phase complete upon a Final Inspection of the building.

MONITORING PHASE

Upon completion of the construction phase, the homeowner is responsible for adhering to the requirements set forth in the Real Estate Agreement regarding acceptable uses. Periodic inspections to ensure continued compliance are conducted by State, County, or local officials.

Above: Residential structure elevation project underway in the Village of Freeport

Some **key points** to keep in mind during project implementation:

- Local height restrictions may be exceeded by elevated buildings, requiring the issuance of variances.
- Legislation in your municipality may require that homes be reassessed after elevation *(in Freeport, this requirement was waived for participating homeowners)*.
- Traffic slowdowns during construction due to driver curiosity are common.
- Your local utility company likely has height restrictions for electrical panels, meters, etc. This equipment may need to placed at acceptable heights after the building is elevated.
- During the winter months, ensure that contractors insulate pipes to prevent freezing.
- For small lots with limited workspace, helical piles are a space-saving alternative for building elevation, if substantial wave action is not anticipated.

ATTACHMENT #6

D. <u>Consideration of the life cycle management of these plans.</u>

Alternative Plans 3A and 3G, were developed with a 50-year project life, and 50 years of renourishment. These plans do not meet the Vision objectives that "the plan addresses long-term demands for public resources". These plans do not include provisions that would change the need for continued renourishment within the project life, or alter the conditions so that a different solution could be expected following the 50-year project life.

In order to achieve a reduction in the long-term commitment for renourishment, alternatives would need to be implemented that would reduce the infrastructure that is at risk, or remove infrastructure to allow for a more efficient use of resources. The integration of land and development management regulations identifies improvements in the application of land use regulations, acquisition planning, and post-storm response planning that could help to reduce the infrastructure at risk along the shorefront.

With this as a component of the overall plan, there are several approaches which could be undertaken in the life-cycle management of the project to achieve this. The options that have been identified include:

1 – A scheduled reduction in the scale of protection for the beachfill in a timeframe that coincides with the acquisition planning. Under this scenario a beachfill plan would be maintained for a shorter period of time, over which purchase of property would be offered to shorefront structures at risk. After this period of time, the scale of protection would be reduced, thus reducing the commitment of resources for continued renourishment. The benefit of this approach is that the reduction in protection is not dependent upon the acquisition occurring.

2 – A scheduled relocation of the proposed line of protection that coincides with the acquisition planning. Under this scenario, the beachfill plan would be linked with the proposed acquisition plan. After a period of time, the footprint of the project would be maintained in a more landward location on a scheduled timeframe. The difficulty with this initiative is that the movement of the dune on a prescribed timeframe would require guaranteed acquisition, and could not be guaranteed with a willing-seller program.

3 – Adaptive Management. Under this scenario, the beachfill plan and the acquisition plan could proceed independently. On a periodic basis, coinciding with the scheduled renourishment, the constructed project would be revisited to identify if opportunities exist for adjustment of the maintained profile based upon the relative success in implementing the acquisition plan.

Under any of these scenarios, it is important to 1) identify the time scale that would be necessary for the implementation of alternatives, and 2) identifying the effect that these changes would have on project economics.

It is recognized that the acquisition of shorefront property through a willing-seller program is not an instantaneous action, particularly with consideration for acquisition strategies that could allow for a homeowner to sell their property but be allowed to continuously use the property.

The timeframes necessary for implementation of these measures suggests a timeframe measured in decades, not in years. Along the shorefront, consideration must be given for: the funding availability for acquisition, the timing of interest in selling, and the staffing to process these acquisitions.

When consideration was given for the time necessary to implement the non-structural alternatives along the mainland, accounting for staffing this effort, and funding these programs, it is expected that implementation of the mainland non-structural program would require 25 to 30 years. Discussions have also been held with agencies responsible for the relocation of public infrastructure along the shorefront. Input from these agencies indicates that major public works improvements, whether relocation or otherwise typically require 10 to 20 years, from conception to execution.

These timeframes suggest that if there is interest in reducing the long-term commitment for public investment in renourishment, a beachfill with a duration of 20 to 30 years could be considered in conjunction with an acquisition plan. As the project duration is shortened, it impacts the project economics. A sensitivity analysis was conducted which established that Alternative 3, built and maintained for 30 years, and subsequently replaced with a breach response plan, would have little effect on the project economics, and the economic viability. Achieving this objective, however, would require a larger investment in Real Estate to provide an alternative form of risk reduction for houses along the shorefront.

The challenge with developing a plan that integrates the land management, acquisition, and scheduled renourishment of the project is the uncertainty that exists. These elements introduce uncertainty to a situation that is already uncertain due to the complexities of projecting renourishment, projecting the functioning of the inlets, and the unknowns regarding future climate change. With all these uncertainties it is suggested that the implementation of the project adopt an incremental adaptive management approach. This approach would establish 1) data collection that would be implemented, 2) modeling efforts to analyze the data, and 3) an adaptive management framework that would establish the overall objectives, and the adaptations to the plan that could be accomplished with the project. This adaptation strategy is based upon the concept that with the passage of time the trends become established and more appropriate strategies can be executed. It is expected that this adaptation strategy would require a periodic review of the project execution (10-yr basis) and recommendations for the adaptation of the project, based upon the findings.

ANDREW M. CUOMO
GOVERNOR

JOE MARTENS
COMMISSIONER

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ALBANY, NEW YORK 12233-1010

June 14, 2013

Colonel Paul E. Owen
District Commander
United States Army Corps of Engineers
New York District
26 Federal Plaza
Room 2109
New York, NY 10278

Dear Colonel Owen:

I am pleased to inform you that New York State supports implementation of the fully federally funded Fire Island to Montauk Point (FIMP) project, including the United States Army Corps of Engineers' (Corps) proposal to expedite the implementation of elements of FIMP, such as the immediate restoration of dunes and beaches damaged by Hurricane Sandy on Fire Island and downtown Montauk. This support is based on the overall concepts of the FIMP project subject to the items further described in this letter.

On March 11, 2011, representatives of the Corps and the United States Department of Interior sent a letter to me outlining the potential plan of improvement for the Fire Island to Montauk Point ("FIMP") Reformulation Study. This "Tentative Federal Supported Plan" ("TFSP") was proposed as the basis to move forward with Reformulation Study efforts for the entire FIMP study area – encompassing approximately 83 miles of Atlantic Ocean coastal and bay areas of Suffolk County, New York. As noted in the federal letter, New York State must find the general plan of improvement acceptable before its attributes can be finalized through a collaborative process. New York's approval at this stage, I understand, would allow the Corps and State to move forward with a final analysis of the TFSP, including such matters as plan formulation, engineering, economics, environmental assessment, model certifications and formal agency policy-level approvals.

After a series of discussions, on December 29, 2011, DEC sent a letter to the Army Corps presenting information requests aimed at better understanding some of the basic elements of the TFSP so that DEC would be in a position to accurately explain project elements, costs, maintenance obligations and impacts of the TFSP to the required local community sponsor(s). While further discussions were taking place, Hurricane Sandy arrived – altering the physical and fiscal landscape in a variety of ways. On May 16, 2013 the Corps responded to the Department's letter which addressed a number of the concerns raised by the Department, but deferred a response on a few issues that are currently under review based on the impacts from Sandy.

I understand that alternative components of the TFSP are now being further refined, including: breach response measures along the barrier island, including "advanced" breach response methods or protocols; inlet management, beach and dune fill components and alignments with on-going beach nourishment; structural groin modifications; resiliency measures, including a significant number of coastal community building elevations; road elevations; land and development management to limit new development in certain flood hazard areas; protective natural infrastructure features (including wetland complexes, living shorelines, shellfish reefs, dunes, ecologically friendly in-bay breakwaters, and marsh islands) and environmental restoration, particularly in south shore bay areas.

All of the above elements would be sharpened in a process that fully involves local stakeholders. As you have emphasized, this massive project would need to be finalized in a manner that takes into account increased storm surge intensity associated with climate change and sea level rise. It is understood that the Corps will be performing an environmental impact review process under the National Environmental Policy Act (NEPA) for the entire FIMP project and that the National Park Service is evaluating the need for a NEPA review with respect to the existing breach in the Wilderness Area of the Fire Island National Seashore. It is through these processes that the elements of the project will be fully analyzed and a final FIMP project will be fully defined.

The State also supports the Corps' review of the post Sandy dune re-alignment along Fire Island that may be necessary based on the Corps' cost to benefit analysis that is still underway. If the cost to benefit analysis indicates that the alignment should be moved north in order to make the project more economical, resilient, and sustainable over the 50-year period of the project, then the State would support this realignment. If the realignment requires the purchase of properties, then the State would request that the Corps minimize the scope of this activity to the extent possible for unwilling sellers and to perform the procurement of these properties for the State at full federal expense. The State awaits the Corps' submittal of the elements of the project that you are currently working on, as delineated in your May 16, 2013 response. Thank you for all of your good and continuing efforts to help New York rebuild smarter and stronger in the face of the challenges presented by Hurricane Sandy.

Sincerely,

Joseph J. Martens

c: Mr. Joseph Vietri

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

In Reply Refer To
FWS/EC

MAR 07 1978

Honorable Charles H. Warren, Chairman
Council on Environmental Quality
Executive Office of the President
722 Jackson Place, N.W.
Washington, D.C. 20006

Dear Mr. Warren:

This Department has reviewed the final Environmental Impact Statement for the U.S. Army Corps of Engineers Fire Island Inlet to Montauk Point, New York Beach Erosion Control and Hurricane Protection Project. Severe long term adverse environmental effects will result if this project is implemented as proposed in the EIS and authorized by the River and Harbor Act of 1960. We are, therefore, referring it to you in accordance with the interim guidance of your August 11, 1977 memorandum. This project is the largest barrier beach modification proposal to date. It will result in serious and irreversable adverse impacts on the natural resource values of this barrier island and beach with National precedent setting potential to other barrier beach ecosystems. Further, this proposal is in conflict with the Congressional authorization establishing Fire Island National Seashore.

We met with representatives of the Office of the Chief of Engineers and New York Division Engineer on March 1, 1978, and are continuing our efforts to seek a resolution to major issues. There have been numerous meetings during the years on this project since a public meeting in 1964. Since filing of the final EIS signifies an intent to proceed with the action as proposed, we believe action by the Council is appropriate. We have advised the Corps of our intent to refer this matter to you.

The attached statement supports our conclusions. We are prepared to discuss the issues with you at your earliest convenience.

Sincerely,

Acting SECRETARY

CONSERVE AMERICA'S ENERGY

A1

ATTACHMENT A1

Save Energy and You Serve America!

Statement of the U.S. Department of Interior
concerning the

Fire Island Inlet to Montauk Point, New York Beach Erosion Control and Hurricane Protection Project. - U.S. Army Corps of Engineers

The Department of Interior as well as other Federal agencies in reviews of the draft EIS for this project pointed out many deficiencies. Our letters of June 4 and 14, 1977, were reproduced in the final EIS. However, no attempt was made by the Corps to answer the concerns in our June 4 letter and most of the major points in the June 14 letter went unanswered. On most other points, the answers were not satisfactory or stated that the concern would be addressed in future studies, as needed, when preparing detailed plans for a particular reach. One of the most serious difficiencies is the failure to assess the impacts on off-shore marine resources of the initial dredging of 64 million cubic yards of sand with the periodic (every 2 to 3 years) dredging of additonal sand for maintenance.

The final EIS itself does not present adequate information to assess the full potential effects of this project. However, from the information available we provide the following statement.

A. Completion of the project as proposed by the U.S. Army Corps of Engineers, according to an authorization in the River and Harbor Act of 1960, will permanently and adversely alter the barrier islands and beach along 83 miles (70 percent of the total ocean frontage) of Long Island from 50 miles east of New York City to the eastern tip of the Island. The project will result in;:

1. Raising the sand dunes to an elevation of 20 feet above mean sea level to form a nearly continuous dune line, except for existing inlets, along the whole reach,

2. Establishing a minimum 100 ft. wide berm at an elevation of 14 feet above mean sea level seaward of the dune with the beach sloping from the berm at a 30.1 slope,

3. The utilization of approximately 64,500,000 cubic yards of sand for inital construction to be dredged largely from undesignated areas off shore,

4. The construction of not more than 50 groins perpendicular to the beach to control natural sand movement,

5. Provide for the maintenance of the works of improvement through;
   a. periodic nourishment (replacement of sand eroded away) every 2 to 3 years as a Federal cost for 10 years
   b. requiring the nourishment needs be continued at a local cost "...unless Federal participation in providing periodic nourishment is renewed." and
   c. Federal reconstruction as needed after major storms, should a disaster be declared in the region, under the "emergency repair and rescue" category of Public Law 84-99 or under Section 206 of the Flood Control Act of 1962 that provides for emergency protection of threatened works at 100 percent Federal cost.

The Corps in their final environmental impact statement of September 1977, filed with EPA February 3, 1978, recognized most of the adverse impacts but, in our opinion, underestimates their severity and long term nature. They concluded that the environmental losses are offset by the economic gains to be derived by local residents as a result of the project. We do not believe this to be the case.

B. The project as proposed appears to be inconsistent with the following law and policy directive.

1. The spirit and intent of Presidents Carter's Executive Order 11988 - Floodplain Management. The project can not help but lead to increased development in flood prone areas in addition to the loss of the natural and beneficial values of coastal flood plains. The President emphasized his specific concern for barrier islands in his May 23, 1977, Environmental Message.

2. As we stated in our June 4, 1976 letter, "Public Law 88-587 authorized and established the Fire Island National Seashore, "...for the purpose of conserving and preserving for the use of future generations certain relatively unspoiled and undeveloped beaches, dunes, and other natural features

within Suffolk County, New York, which possess high values to the Nation as examples of unspoiled areas of great natural beauty in close proximity to large concentrations of urban population..." It is this Department's policy, as reflected in the Seashore's Master Plan, that these goals are achievable through a thorough understanding of the natural processes at work in a barrier island setting and by informed accommodation with them." Our policy is based on the belief that to interdict natural processes for the purposes of stablizing barrier island resources to achieve short term goals is ultimately a futile effort.

Further, P.L. 88-587 (78 Stat. 928), Sec. 8(a) requires that shore erosion control and beach protection projects on the Fire Island National Seashore be a part of a plan mutually acceptable to the Secretary of Interior and the Secretary of Army. The Corps plan, as presented in the EIS, is not acceptable to the Department of Interior.

3. The project conflicts with the main purposes, to protect and preserve the flora and fauna of the dune ecosystem, for which the Amagansett National Wildlife Refuge is a part of.

C. The Department of Interior believes the project, as proposed, is environmentally unsatisfactory as:

1. It would permanently alter the naturally functioning dune ecosystem along 83 miles (70 percent) of Long Island's ocean frontage. The fragile plant and animal communities associated with these ecosystems would no longer exist in their present form in most of the area.

2. The elimination of oceanic overwash will result in the gradual loss of the wetlands associated with bays behind the barrier islands. The highly valued fish and wildlife resources of the inshore bays will gradually decrease in quality and quantity without the periodic overwash.

FACSIMILE HEADER SHEET
(ER 105-1-3)

Name	Office Symbol	Telephone No.	Releaser's Signature		
MAKINEN	DAEN-CWR-P	693-6795	R. Makinen		
STONE	NADPL-R (NAD)	212-264-7031	# Pages 7	Precedence	DTG

3. Construction activities and especially the continual maintenance requiring the disturbance of oceanic benthic communitites will jeopordize their existence and that of the fish that depend on them. Maintenance operations will be especially damaging following, as they must, major storms when the benthic communities are under severe natural stress.

4. Project activities as proposed conflict directly with the objectives of the Fire Island National Sea Shore and the Amagansett National Wildlife Refuge. (See previous discussion in Section B. of this statement)

5. Secondary impacts resulting from more intensive use of land now used for residential and commercial development will result in the loss of additional fish and wildlife habitat resources. Unless proposed zoning in the areas to be protected by the proposed works are more effective than they have been in any other similar area, development is likely to occur that will nearly eliminate the existing terrestrial wildlife habitat on all but public lands. Secondary effects of such development would also degrade the fishery resources associated with the inshore bays.

6. Potential offshore borrow sites described to complete this project have been identified as supporting populations of surf clams that serve as the source of recruitment of this fishery stock off Long Island. Sandy substrate, which is also the most desireable material for beach nourishment, is the preferred habitat of this species. Further, extensive study of borrow sites in Connecticut and New Jersey waters have shown that there is a strong potential that this area will be removed, or have entensively lowered value, as habitiat for renewable marine resources.

D. The impacts of this project as proposed will result in degradation of a Nationally significant environmental resource. The project also represents the most ambitious attempt ever undertaken to modify barrier islands in order to eliminate the effects of severe storms and hurricanes.

E. The Department of Interior has attempted to work with the Corps on this project since it was first proposed. Because of our efforts the Corps no longer proposes to take the fill material from the inshore bays. Other minor changes have been incorporated as a result of our efforts, however, the portions of the proposal that will cause the major long term adverse impacts have not been modified.

The following are the major steps taken since 1968 by the Department to resolve the issues:

1. Department of the Interior reports dated December 17, 1968, and April 16, 1969, were submitted to the Corps of Engineers to assist in their planning.

2. Department of the Interior responded on November 15, 1974, to Public Notice No. 7871 dated October 21, 1974, and recommended:

   a. Permit denial

   b. A public hearing be held

   c. An EIS be prepared prior to initiation of work, and

   d. In view of the adverse environmental impacts resulting from the existing groins, that the groins be removed and the shoreline be allowed to restore itself through natural processes.

3. Department of the Interior offered to meet with the Corps, both at the District and Division level, to resol differences and attempt to resolve deficiencies via letter dated December 31, 1974. Also the letter noted that DOI had not received any response from letters to the Corps dated November 15, 1974 and November 19, 1974.

4. Department of the Interior reviewed and made extensive comments on the DEIS on June 4 and 14, 1976, stating that it exhibited deficiencies regarding on-site data collection, comparison of alternative actions, assessment of long- and short-term impacts resulting from the project, and the need for more specific determinations as to the unavoidable adverse impacts and to the extent of existing marine resources in the borrow sites and the impact of the project on them. Our review of the final environmental statement found it to still be deficient in that no new significant information was provided.

5. In addition there have been numerous field level contacts and meetings between Corps of Engineers, Fish and Wildlife Service, and Park Service personnel. Attached is a listing of contacts between the Corps and Park Service personnel since 1973.

6. On March 1, 1978, Assistant Directors of the Fish and Wildlife Service and the Park Service met with the Corps Deputy Director of Civil Works, members of his staff and represenatives from the New York District of the Corps of Engineers. They stated that, "The final project could potentially differ substantially from that described in the Chief of Engineers Report and the final EIS." If this is the case the EIS, as now written, should be withdrawn and one prepared on what will actually be done. It was concluded that Interior and Corps personnel will work together to see if a mutually acceptable plan can be developed. It was also agreed that the Department of Interior would proceed with its referral to the Council of Environmental Quality.

F. The Department of Interior recommends that CEQ become involved in discussions with us and the Corps with the objective of mediating the differences so the proposed project will be environmentally sound and conform to existing laws and the spirit and intent of current Executive policies.

The goals should be to;

1. have the Corps withdraw their EIS on this project and have the Corps and the Department of Interior, with other agencies as appropriate, work together in developing a protection plan that promotes to the greatest degree possible the long term perpetuation of barrier island, estuarine and marine resources,

2. have the project revised to work with the natural barrier island evolution process in providing protection to existing property. Such a solution could be developed by combining components of alternatives #2, #4 and #5, as shown in the final EIS, already studied by the Corps with limited structural work on the barrier island and beaches and "flood-proofing", of mainland facilities, and

3. have the President recommend ammending the project authorization as needed to accomplish the above goals.

Attachments (2)

COUNTY OF SUFFOLK

COUNTY LEGISLATURE

JOHN T. DONOHUE
LEGISLATOR, 2ND DISTRICT

CHAIRMAN:
COMMERCE & TRANSPORTATION COMMITTEE
ENERGY COMMITTEE

163 MONTAUK HIGHWAY
HAMPTON BAYS, NEW YORK 11946
(516) 728-1434

April 5, 1978

Colonel Clark H. Benn, District Engineer
U. S. Army Corps of Engineers
26 Federal Plaza
New York, N. Y. 10007

Dear Colonel Benn:

As requested, I am forwarding a copy of Suffolk County Resolution 204-1978 (Intro. 1249-78) concerning local support of the proposed work on Reach #2 of the Fire Island Inlet to Montauk Point Hurricane Protection and Erosion Control project.

It was my pleasure to see that the resolution passed unanimously among the members present, and was signed shortly afterward.

I hope I will be able to help further this work along, and look forward to hearing from you in that regard shortly.

Cordially,

John T. Donohue
County Legislator, 2nd L. D.

encl: Certified Copies of 202-78, 204-78

Intro. Res. No. 1249-78 Laid on Table 3/14/78
Requested by Legislators Donohue, Wehrenberg, Feldman, Noto and Foley

RESOLUTION NO. 204 - 1978, SUFFOLK COUNTY IS IN SUPPORT OF THE CONTINUANCE OF THE REACH #2 BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT IN THE TOWNS OF BROOKHAVEN AND SOUTHAMPTON.

WHEREAS, the erosion of the beaches on the South Shore of Suffolk County was felt most severely in the Reach #2 area; Moriches Inlet to Shinnecock Inlet; and

WHEREAS, all preliminary work on this Reach #2 Project has been completed; and

WHEREAS, New York State and the Federal Government are willing and able to support this project by the amount of 21% and 70% respectively of an approximate $20 million total cost; and

WHEREAS, it is necessary to show local interest in the amount of 9% in order that this Reach #2 Project continue; now, therefore, be it

RESOLVED, that Suffolk County is willing and able to fulfill its requirement of local participation of 9% of approximately $20 million, or $1.8 million for Beach Erosion Control and Hurricane Protection Project, Reach #2 in the Towns of Brookhaven and Southampton; and be it further

RESOLVED, that Suffolk County request that the U. S. Army Corps of Engineers prepare plans and surveys for the Reach #2 Project, and place this project into the President of the U. S. Capital Budget for Fiscal Year 1979.

DATED: March 28, 1978

APPROVED BY:

County Executive of Suffolk County

Date of Approval: 3-30-78

SUFFOLK COUNTY
County Legislature
RIVERHEAD, N. Y.

This is to Certify That I, William H. Rogers, Clerk of the County Legislature of the County of Suffolk, have compared the foregoing copy of resolution with the original resolution now on file in this office, and which was duly adopted by the County Legislature of said County on March 28, 1978
and that the same is a true and correct transcript of said resolution and of the whole thereof.

In Witness Whereof, I have hereunto set my hand and the official seal of the County Legislature of the County of Suffolk.

April 3, 1978 William H. Rogers

Clerk of the County Legislature

3-108

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

Peter A. A. Berle,
Commissioner

April 10, 1978

Dear Colonel Benn:

Please refer to your letter of December 23, 1977, requesting an endorsement of the plans of improvement for Reach 2, Sections 1A, 1B and 2A of the Fire Island Inlet to Montauk Point Hurricane Protection Project.

The plans have been reviewed by this Department and by Suffolk County. Suffolk County, by resolution of the Board of Legislators, has expressed approval of the proposed increment of work and further expressed willingness and ability to fulfill its participation in the project.

The project is hereby endorsed and this Department is willing and able to provide the necessary local cooperation required for construction subject to review of final plans and specifications necessary for construction.

Sincerely,

Langdon Marsh
First Deputy Commissioner

Colonel Clark H. Benn
District Engineer
Department of the Army
New York District, Corps of Engineers
26 Federal Plaza
New York, New York 10007

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
722 JACKSON PLACE, N. W.
WASHINGTON, D. C. 20006

JUN 6 1978

Lt. Gen. John W. Morris
Chief of Engineers
U.S. Army Corps of Engineers
Washington, D.C. 20314

Dear General Morris:

The Council has reviewed the U.S. Army Corps of Engineers' proposal for a beach erosion control and hurricane protection project from Fire Island to Montauk Point, N.Y., in response to the referral from the Secretary of the Department of the Interior. The Commerce Department and the Environmental Protection Agency also expressed major concerns about your proposed course of action.

The Council agrees with the objectives of the proposal, which are to preserve the natural shoreline and barrier beaches of Long Island and to reduce the risk of human and other losses as a result of flooding. As you know, the Council has maintained a long-standing interest and involvement in these two aspects of the human environment.

We have carefully reviewed the final environmental impact statement; we also appreciate the briefings your staff has provided on the proposal. As we understand the proposal, the Corps of Engineers would rebuild the southern edge of Long Island by creating a 25 x 16 foot dune along 83 miles of barrier beach in order to slow the pace of erosion and shield developed and undeveloped areas from storm flooding. Initial construction of the overall project would involve more than $100 million of federal funds, between 48 and 80 million cubic yards of sand taken mainly from the ocean, and the potential for dredging operations at existing inlets and for substantial construction of groins and other works. These estimates do not include the resources required for frequent maintenance of the system for an unspecified period of time after initial construction. We realize the Corps does not intend to construct the entire proposal immediately, but would study each part in detail before proceeding.

Incl 1

This is a proposal for a radical, artificial facelift for Long Island's southern shoreline. The major policy questions are whether the proposal presented and analyzed in the environmental impact statement will resolve the problems it seeks to address and whether it is the best available alternative.

By way of background, we fully agree with your statement on the first page of the final environmental impact statement that the whole project area "must be considered as a system." We also agree, therefore, that the evaluation of alternative courses of action and their environmental impacts and acceptability is required for the entire system and must be presented in a single statement, prior to proceeding with any part of the proposal.

The dynamics of barrier beaches and islands underscores this point, as does your own analysis. The impact statement repeatedly reveals the system-wide effects that actions on one part of the Long Island shore have had on other parts. Indeed, Long Island has had a history of subsequently confronting and constantly compensating for human manipulations of the barrier island system for several decades since the inlets at Moriches and Shinnecock Bays were first artificially kept open. The impact statement illustrates the westward erosion that can result from the construction of groins. The actions taken on one part of Long Island's barrier beach and ocean shore have repeatedly been shown to affect other parts that are often many miles away.

The Fire Island National Seashore, for example, which comprises nearly a third of the project area and is located on the western end of the system, is likely to be affected by any major shoreline changes to its east. This relationship gives us special cause for concern in light of the intention of the Congress and the National Park Service to allow the National Seashore to revert to as natural a state as possible. In addition, the Congress wisely instructed the Corps to exercise its authority within the Fire Island National Seashore in accordance with a plan which is acceptable to the Secretary of the Interior (16 U.S.C. 459e-7).

Although the Corps recognizes the impact on the National Seashore of actions taken to its east, the Corps would proceed first with the reach immediately to the east of the Seashore without any plan to which the Secretaries of the Army and the Interior have agreed. This lack of coordination at the planning stage can only cause subsequent delays and referrals to the Council which should be avoided.

We believe that the proposed course of action has not been planned with adequate attention to the significant, potentially adverse impacts of the project. We have appended an indication of several specific concerns and have noted areas requiring your attention.

In conclusion, we believe that the proposed course of action, as described in the environmental impact statement, is environmentally unacceptable and that the Corps has not demonstrated that there are no practicable alternatives available. Rather, a number of reasonable alternatives and combinations of alternatives, which we believe warrant serious consideration by the Corps, have been given short shrift or been omitted from the programmatic statement. Because the entire project area is a system, it would be disingenuous to treat these issues solely in connection with a particular segment of the shore.

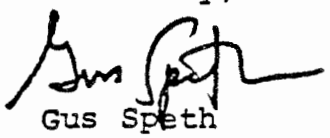
We would have strong objections to the Corps proceeding with the project as planned and would seek full Executive branch resolution prior to any Administration request for appropriations of funds for the project. However, we recognize that the project, initially conceived about two decades ago, and its impact statement, begun more than a year ago, may not accurately reflect the Corps' currently stated intention to include other alternative approaches in its plans before proceeding with any actual construction. We also recognize the vast improvement in the knowledge of barrier beach dynamics that has occurred since the project was authorized in 1960.

Because each facet of the proposal is likely to affect other parts, as well as the whole highly dynamic barrier beach system, we recommend that the Corps revise its overall project plan to create an adequate framework within which subsequent detailed planning for specific parts--or reaches--might occur. We would expect, of course, that your existing final EIS would be revised accordingly (by draft and final supplement if you believe that to be most appropriate). We would also expect your revised analysis to explain the rationale and criteria for dividing the overall project into its constituent parts for detailed review and future actions.

We appreciate the Corps' current plan to prepare "fully coordinated EIS supplements in draft and final format for each reach" which would discuss the full range of alternatives, as General Wilson noted in his April 28, 1978 letter to the Council. We believe that this approach would, however, cause unnecessary duplication and delay. We agree with your view that further site-specific analysis for actions on a particular reach (and their impacts on neighboring reaches) is appropriate at the design stage, prior to funding and construction. But the Corps' intention to prepare detailed analyses of all reasonable alternatives and their environmental impacts for each individual reach--including broad alternatives and impacts which apply to the entire system--would result in repetitive analysis of questionable scope conducted at different times in the absence of an overall framework. This approach is likely to delay planning and decisionmaking processes unnecessarily, and would undercut the Corps' laudable effort to produce an adequate overview or "umbrella" statement for the proposal that fully recognizes the dynamic and fragile character of the entire shoreline.

In addition to treating the deficiencies mentioned above, we recommend that you work more closely with the Interior and Commerce Departments and the Environmental Protection Agency in revising your programmatic proposals and analysis of their impacts.

Sincerely,



Gus Speth
Member

Attachment

Appendix

We believe that the proposed course of action has not been planned with adequate attention to the significant, potentially adverse impacts of the project and recommend that you pay particular attention to the following in any subsequent work:

1. The physical capability of the proposed construction techniques may not achieve the project's stated purposes over the long run, particularly in light of the anticipated storms. (The impact statement indicates a minimum 10-year federal commitment; the costs and benefits were computed on a 50-year basis.) Recent scientific evidence has shown that the radical modification of barrier beach floodplains, such as is proposed here, can accelerate--not reduce--erosion. This, in turn, increases the need for and commitment of persistent federal efforts to rebuild these environments, accompanied by new and usually more disruptive environmental effects. This approach would be contrary to sections 101 and 102 of the National Environmental Policy Act, which require careful attention to long term environmental consequences in order to fulfill the Federal Government's responsibility to each generation as trustee of the environment for succeeding generations.

2. By their very nature, barrier beaches are constantly changing and reforming, but the proposal neither incorporates actions to eliminate the existing structures which impede natural processes, nor employs wider use of natural processes to achieve the purposes of the proposal, such as greater reliance on sand bypasses or a combination of alternative approaches. More serious consideration of the system-wide impact of groins on beach erosion and of the advisability of removing existing groins is warranted, as well as the definition of circumstances or limitations for using long term, heavy structural devices.

3. The impact statement recognizes that the project will spur development of the barrier beach and mainland coast, much of which is adjacent to the National Seashore, but it does not identify or analyze non-structural alternatives to the project. Corps officials should know whether, or to what extent, or under what circumstances the Corps could or would condition its assistance on local efforts to control floodplain development, including the use of appropriate enforcement tools. We would call your attention to Executive Order 11988 on floodplain management, which requires the Corps to avoid conducting or supporting floodplain development unless there is no practicable alternative, and, equally important, to provide leadership and take action to restore and preserve the natural and beneficial values served by floodplains.

4. We have several other concerns about the proposal, which do not require detailed discussion in this letter. Among these are the impacts of the planned pond drainage structures on wetlands and the contradictory assumptions regarding the impacts of the proposal and its alternatives on the bay wetlands, bay ecology, and shellfish population.

NADDE (29 Jun 78) 1st Ind
SUBJECT: South Shore of Long Island, Fire Island Inlet to Montauk Point, New York

DA, North Atlantic Division, Corps of Engineers, 90 Church Street, New York, New York 10007

JUL 14 1978

TO: District Engineer, New York

1. Subject project was authorized by the Rivers and Harbors Act of 1960. Since that time, we have had many additional requirements imposed upon our water resources planning program by legislation and by executive action. Among these are the National Environmental Policy Act, the Water Resources Council's Principles and Standards and specifically in this case, the Fire Island National Seashore Act. There are many others as well. Therefore, it is clear that time has overtaken the Fire Island Inlet to Montauk Point project.

2. At this point, we are unable to demonstrate for the record that we have complied with and are in conformance with the new criteria and procedures. Therefore, the District will have to re-evaluate the subject project based on current procedures and, if necessary, reformulate it. This reformulation process should not be a reinvented wheel but should take into account all of the work that has occurred up to this time.

3. Special attention should be given to coordination with the Department of Interior. In view of the sensitive nature of the coastal zone, this coordination is particularly important. It is also mandatory because of the DOI's special interest in the reach from Fire Island Inlet to Moriches Inlet due to the Fire Island National Seashore Act and their position as a major land owner in this reach.

4. Your schedule should be submitted as promptly as possible.

1 Incl
n/c

JAMES A. JOHNSON
Major General, USA
Division Engineer

DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314

REPLY TO
ATTENTION OF:

DAEN-CWP-E

29 JUN 1978

SUBJECT: South Shore of Long Island, Fire Island Inlet to Montauk Point, New York

Division Engineer, North Atlantic

1. A copy of CEQ's letter to the Chief of Engineers on DOI's referral of the subject project is inclosed. CEQ is concerned whether the project analyzed in the EIS will resolve the problems it seeks to address and whether it is the best available alternative. They believe that the proposed course of action has not been planned with adequate attention to the significant, potentially adverse impacts of the project, and conclude that the proposed course of action as described in the environmental statement is environmentally unacceptable. They also believe that the Corps has not demonstrated that there are no practicable alternatives available. CEQ indicates that the evaluation of alternative courses of action and their environmental impacts and acceptability is required for the entire system and must be presented in a single statement prior to proceeding with any part of the proposal. They recommend that we work more closely with the Interior and Commerce Departments and the Environmental Protection Agency in revising programmatic proposals and analyses of their impacts.

2. You are requested to reformulate the project for Fire Island Inlet to Montauk Point in accordance with WRC's Principles and Standards and Corps guidance thereon. You should revise the EIS, as necessary, by draft and final supplement. You should comply with the most recent guidance on pertinent Executive Orders, particularly those on barrier beaches and flood plains. We would expect reformulation to address a broad range of alternatives, including non-structural measures, and to present conclusive support for dividing the project into constituent parts. The EIS supplement will present an evaluation of alternative courses of action and their environmental impacts for the entire project area. In recognition of DOI's specific interest in this project, we suggest special coordination efforts during reformulation and preparation of the EIS supplement.

29 JUN 1978

DAEN-CWP-E

SUBJECT: South Shore of Long Island, Fire Island Inlet to Montauk Point, New York

3. After you have had an opportunity to review the inclosed, please submit a schedule.

FOR THE CHIEF OF ENGINEERS:

1 Incl
as

CHARLES I. McGINNIS
Major General, USA
Director of Civil Works

CF: District Engineer, New York

DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20314

REPLY TO ATTENTION OF:
DAEN-CWP-E

22 NOV 1978

Honorable Robert L. Herbst
Assistant Secretary, Fish and Wildlife Parks
Department of the Interior
Washington, D. C. 20240

Dear Mr. Herbst:

On 7 March 1978, the Department of Interior made a referral to the Council on Environmental Quality (CEQ) on the authorized Federal beach erosion control and hurricane protection project for the area from Fire Island Inlet to Montauk Point, Long Island, New York. By letter, dated 6 June 1978, to Lieutenant General J. W. Morris, Chief of Engineers, the CEQ recommended that the U. S. Army Corps of Engineers reformulate the authorized Federal project. The Corps of Engineers has initiated reformulation of the project plan in coordination with the Departments of Interior and Commerce and the Environmental Protection Agency (EPA).

Following the action taken by CEQ, several meetings have been held by representatives of the Departments of Interior and Commerce, the EPA, and the Corps of Engineers to develop an acceptable solution to mitigate immediate threats to property and human welfare at Westhampton Beach where serious erosion is occurring. During these discussions, your agency has underscored its concern that the objective of any action taken at Westhampton Beach will be to provide hurricane protection and beach erosion control benefits during the reformulation period for the overall project. The Corps affirms this objective and assures that any pending decision on the Westhampton Beach portion of the authorized project will not preempt future decisions on the design and nourishment of the reformulated overall project for hurricane protection and erosion control from Fire Island Inlet to Montauk Point. The Corps further considers that the nourishment requirements of any plan constructed for the Westhampton Beach portion of the project will be superseded by the nourishment commitments of the overall reformulated project, assuming the Congress funds the construction of the Westhampton Beach element and authorizes and funds the reformulated project.

DAEN-CWP-E
Honorable Robert L. Herbst

In order to assure that the concerns of the various agencies and CEQ are fully considered, the Corps proposes to plan the Westhampton Beach portion of the project in the manner described in the inclosure hereto. A decision to construct this element will await completion of the environmental review responsibilities which are set forth in the inclosure.

The Corps intends to prepare an analysis of the Westhampton Beach portion of the overall authorized project which will be used to reach a decision on construction. The Corps will work closely with you to develop a plan of study for reformulating the overall project over its full 83-mile reach. Both the analysis and the plan of study could be completed within Fiscal Year 1979, if sufficient funds are made available.

The Corps recognizes the interrelationship of the contemplated construction at Westhampton Beach with the reformulation activities for the overall project, and therefore, any construction and nourishment activities at Westhampton Beach will be performed in a manner that will be consistent with study results that may be available from the reformulation activities. Since Congressional appropriation of funds will be required before construction of the Westhampton Beach portion can be initiated or before the reformulation studies can be continued, the Corps will, consistent with guidelines and policies established by the Office of Management and Budget, recommend and support simultaneous funding for the reformulation studies and any construction or nourishment proposals at Westhampton Beach.

If the proposals set forth above, and detailed in the inclosure, are acceptable to you, it is anticipated that CEQ will agree to the Corps proceeding with the analysis of the Westhampton Beach portion of the project in order to reach a decision on construction in that seriously eroding area. As previously stated, the Corps will continue to reformulate the overall project plan concurrently with the analyis of Westhampton Beach

Sincerely,

SIGNED

1 Incl
As stated

CHARLES I. McGINNIS,
Major General, USA
Director of Civil Works

Identical letter sent to: Hon. Peter L. Cook, EPA; Hon Terry Lertzel, USDA.

PROPOSAL FOR ANALYSIS
OF
WESTHAMPTON BEACH

1. Analysis and Demonstration of No Adverse Effect on Fire Island National Seashore

The Corps will prepare an analysis of the Westhampton Beach portion of the authorized project to assess the direct and indirect environmental impacts of alternative implementation strategies, including the alternative of allowing existing conditions and trends to continue (i.e., no action). In preparing the analysis, the Corps will rely primarily on existing data and other readily available information. The Corps will gather any additional information that is needed, provided that such data gathering will not cause delay in preparation of the analysis.

The Corps will work in close cooperation with the National Park Service, the U. S. Fish and Wildlife Service, the National Marine Fisheries Service and the Environmental Protection Agency in identifying alternatives to be assessed and in preparing the analysis of environmental impacts. The cooperating agencies are expected to provide timely review of materials submitted to them by the Corps, and to furnish available technical information that may be required to facilitate objective analysis.

Each cooperating agency should identify personnel responsible for carrying out these cooperative activities.

The analysis will be used in reaching a decision on whether to proceed to construction and, if construction proceeds, on the specific design and nourishment program for the project. If construction proceeds, the analysis will be used to ensure that, to the maximum extent practicable:

(1) the project is designed and nourished in a manner that minimizes short-term disturbance of coastal ecosystems and, in particular, the hard clam beds and fisheries of the offshore region, and

(2) there will not be significant long-term impacts on these resources.

The analysis will contain evidence that any Corps action in the Westhampton Beach area will not adversely affect, either directly or indirectly, the environment of Fire Island National Seashore.

2. Nourishment

Federal participation in nourishment of the Westhampton Beach portion of the authorized project will be limited to the period of nourishment authorized by Congress, and will be superseded by the requirements of the

overall reformulated project plan, if authorized and funded by Congress. The Corps will consult with and consider the views of the National Park Service, the U. S. Fish and Wildlife Service, the National Marine Fisheries Service, and the Environmental Protection Agency prior to taking any action to nourish the project. The Corps will consult and cooperate with said agencies to the greatest extent practicable if it becomes necessary to act pursuant to the Corps' emergency authorities. Any required nourishment will be accomplished in a manner that minimizes and mitigates, to the greatest extent practicable, short-term adverse impacts on coastal ecosystems as well as on any research/monitoring activities that may be planned or in progress in support of the overall project reformulation. A separate analysis will be prepared for any nourishment program assessed in the original analysis of the Westhampton Beach portion of the overall project (i.e., an average of 500,000 cu. yds every 2 years). The analysis will contain evidence that any revised nourishment action will not adversely affect, either directly or indirectly, the environment of Fire Island National Seashore.

3. Selection and Operation of Borrow Sites

Should a decision to construct the Westhampton Beach segment be made, the Corps will withdraw all nourishment material from locations seaward of the offshore bar in areas of minimum benthic habitat value.

The Corps of Engineers will consult with the U. S. Fish and Wildlife Service, the National Marine Fisheries Service, and the Environmental Protection Agency and will fully consider the views of these agencies in the selection and operation of borrow sites for suitable sand to be used as nourishment material. The objective of this consultation will be to control the location, timing and volume of sand withdrawal so as to reduce adverse impacts on coastal ecosystems, and, in particular, the hard clam and fisheries resources of the area, to the greatest extent practicable.

4. The Westhampton Groin Field

Modification or removal of the Westhampton groin field will be considered within the context of overall project reformulation, and will not be undertaken as part of the Westhampton Beach project. The Corps will initiate a monitor and analysis program to assess the effects of the existing groins on the distribution of sand in the littoral drift system. This monitoring program will be continued to assess the effects and effectiveness of the interim measure during the construction and post-construction phases of project implementation.

5. Interagency Agreement on Overall Project Reformulation

The Corps will prepare a plan of study for the reformulation of the overall project. The plan of study will be made available for review by the Departments of Interior and Commerce, and the Environmental Protection Agency, and their concurrence will be obtained prior to approving the plan of study. The plan of study will identify: (1) research and monitoring to be undertaken by the Corps in support of reformulation; (2) responsibilities of Interior and NOAA in providing technical assistance; (3) content and purpose of interim and final documents to be prepared by the Corps within the guidelines of the Water Resource Council's Principals and Standards; (4) estimated schedule for completion of identified work elements; and (5) funding to be made available for identified work elements. The Corps will seek from the Congress, through the budgetary process, funds for reformulating the overall project. Should a decision be made to seek funds for the construction of the Westhampton Beach portion of the project, a simultaneous appropriation of funds will be sought for pursuing both the reformulation study and the construction of the Westhampton Beach portion.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Washington, D.C. 20235

DEC 21 1978

Major General Charles I. McGinnis
Director of Civil Works
Office of the Chief of Engineers
Department of the Army
Washington, D.C. 20314

Dear General McGinnis:

We have reviewed your letter of November 22, 1978, concerning the Federal beach erosion control and hurricane protection project for the area from Fire Island Inlet to Montauk Point, Long Island, New York, and the Proposal for Analysis of Westhampton Beach.

We are pleased to note that paragraph two of the letter affirms our concern that any action at the Westhampton Beach portion of the authorized project will not preempt future decisions on the reformulated overall project. The National Marine Fisheries Service is interested in a short-term project with minimal volumes of sand taken from a jointly agreed upon location. This sand should be placed only along the most critically impacted sections of the beach.

We remain concerned that not all of Reach II (Moriches Inlet to Shinnecock Inlet) is in need of an interim measure. We believe the critical impacted areas are: (1) down current from the 13th groin and (2) just east of Moriches Inlet. While the Corps has estimated that this area encompasses about 9600 feet of shore line, we believe the critical areas are actually much less.

We are particularly interested in the proposed analysis of the Westhampton Beach portion of the authorized project. The data in the Final Environmental Impact Statement were insufficient to adequately assess the overall project. We are apprehensive about the use of either existing data or any which may be generated without delaying the assessment document. However, in the interest of cooperation with you, the Department of the Interior, and the Environmental Protection Agency, we will await the results of the proposed analysis.

We appreciate the opportunity to review the proposal for analysis of the Westhampton beach area.

Sincerely,

Terry L. Leitzell
Assistant Administrator
for Fisheries

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

DEC 22 1978

Maj. General Charles I. McGinnis, USA
Director of Civil Works
Office of the Chief of Engineers
Washington, D.C. 20314

Dear General McGinnis:

The Department of the Interior has reviewed your proposed process for analysis of hurricane protection and erosion control measures at Westhampton Beach. Your process provides the necessary assurances that the resources of Fire Island National Seashore will not be adversely affected by any future action in this area, that impacts on coastal ecosystems of the project area will be reduced to the greatest extent practicable, and that any decision to proceed with the Westhampton Beach portion of Reach II would be planned and implemented in a manner compatible with the reformulation of the overall Fire Island Inlet to Montauk Point project. I appreciate your commitment to fully coordinate planning and operational activities with this Department and other interested agencies, and assure you that our personnel will be working closely with you in these efforts.

In analyzing alternatives at Westhampton Beach, and in carrying out the planned research and monitoring program for the overall project reformulation, we would anticipate continuing involvement of the technical staff of your Coastal Engineering Research Center, with whom we would expect to have close professional collaboration.

Your commitment to recommend and support simultaneous funding for the reformulation studies and any construction or nourishment that may be needed at Westhampton Beach is the cornerstone of your proposal and an essential prerequisite for this Department's decision to withdraw its objection to the Corps' decision to proceed with the environmental assessment of the Westhampton segment. In order to ensure that we are kept informed of the status of funding or reauthorization, I would appreciate your providing me a reasonable advance notice of any Corps of Engineers' request to the Office of Management and Budget for congressional appropriations or legislation, as well as any congressionally initiated action on these projects.

By copy of this correspondence, I am informing the Council on Environmental Quality of this Department's decision and our above-outlined additional suggestions for carrying out future cooperative activities. I am looking

forward to their favorable review and official endorsement of these commitments and understandings. I assume the Council will provide you with their recommendations for proceeding under these constraints and understandings.

Let me reemphasize my sincere appreciation of your responsiveness to our concerns for protection of coastal ecosystems and Fire Island National Seashore. I can assure you of our prompt participation in your environmental assessment review and in your future planning efforts.

Sincerely,

Assistant SECRETARY

cc: K. Weiner

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
722 JACKSON PLACE, N. W.
WASHINGTON, D. C. 20006

January 18, 1979

Maj. Gen. Charles I. McGinnis
Director of Civil Works
U.S. Army Corps of Engineers
Washington, D.C. 20314

Dear General McGinnis:

The Council has reviewed your letter of 22 November 1978 to Assistant Secretary of the Interior Robert L. Herbst and his response to you of 22 December 1978, concerning the Federal project for beach erosion and hurricane protection from Fire Island to Montauk Point, N.Y.

We are pleased that your agencies, together with the Commerce Department and the Environmental Protection Agency, have reached agreement for taking interim remedial action on portions of Reach II of the project area in a way which will not prejudice the overall project revision begun by the Corps last year on our recommendation.

Your letters reflect the results of negotiations encouraged by the Council after the resolution of the formal referral on this project from the Interior Department. The letters clarify the relationship between the overall project plan, which is being reformulated by the Corps, and the need for specific measures to mitigate immediate problems caused by severe erosion at Westhampton Beach. Equally important, they indicate a new spirit of cooperation between your agencies.

Your exchange of letters adequately addresses the Council's concern that interim remedial action should be taken as quickly as possible in cooperation with interested agencies

that is (1) limited to these areas for which it is essential; (2) designed and implemented in an environmentally responsible fashion; and (3) does not involve actions that are inconsistent with the reformulated project planning.

On behalf of the Council I would like to express our appreciation for the constructive efforts of the Corps, the Interior Department and other concerned Federal agencies in resolving the controversy. We trust that this momentum will be maintained in the coming months as you proceed with planning and implementation.

Sincerely,

Edward L. Strohbehn, Jr.
Executive Director

cc: Robert L. Herbst
Michael Blumenfeld

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Federal Building, 14 Elm Street
Gloucester, Massachusetts 01930

July 17, 1979

Col. Clark H. Benn
District Engineer
Department of the Army
Corps of Engineers
26 Federal Plaza
New York, New York 10007

Dear Colonel Benn:

The National Marine Fisheries Service has quantified the fishery landings and the related extent of marine resources along the southern shore of Long Island with special emphasis on the area from Moriches Inlet to Shinnecock Inlet. This information is being field checked with local fishermen but, as it represents a compilation of their landings, we doubt it will be altered significantly.

From the information collected it appears that several of the areas identified in the Offshore Borrow Investigation and Evaluation and Side Scan Survey along Reach 2, Fire Island Inlet to Montauk Point, New York, could be usable without significant impact to existing benthic resources of commercial interest. In particular it would appear, pending additional refinement and review of the specific distances offshore, that core sampling Areas 7, 9, and 16 are good sites for borrow. Site 8 also may be in that category, although there does seem to be a clay-silt problem in several horizons. Back-up sites might include core sample sites 12, 13, 14, 24, 35, 37, 42, and 43 provided that their distance offshore is less than 1.5 nautical miles. Any sites mined will be adversely impacted, but surf clam populations seem to be lower in these areas. The major issue now remaining appears to be the dimensions of the borrow area, which must be coordinated with all concerned parties.

We look forward to coordination of these matters. Should your staff require further explanation of the data provided please contact Mr. Michael Ludwig at Milford, Connecticut facility. His telephone number is 203/878-2459.

Sincerely,

Ruth Pelfus

for Allen E. Peterson, Jr.
Regional Director

Commercial Finfish Activity Offshore of Eastern Reach I and Reach II.

Commercial fishing occurs in this area from the surf zone outward. However, fishing effort varies from moderate in the zero to three-mile zone, to very low three to six miles offshore; becoming moderate again in the six to twelve-mile zone, and increasing noticably beyond the twelve-mile mark.

Fishing activity within three miles of shore appears to drop off during July and August. Most vessels working this area use Shinnecock Inlet for access to the fishing grounds. Fishing pressure, therefore, builds close to that point, but the effort extends from the Shinnecock Jetty westerly toward the Moriches Inlet Jetty with a possible net hauling effort occurring at Moriches. There is also an easterly effort, again beginning at Shinnecock.

During spring and early fall, after the inshore depression of finfish stocks in July and August, there are inshore and/or offshore movements of squid (Loligo sp), scup (Stenotomus chrysops), fluke (Paralichthys dentatus), bluefish (Pomatomus saltatrix), weakfish (Cynoscion regalis), striped bass (Morone saxatilis) and butterfish (Peprilus triacanthus). The period of April through June appears to be the period in which commercial fishermen direct their effort primarily toward catching fluke. This effort is generally within three miles of shore but more offshore than the concurrent striped bass and bluefish efforts which take the boats as inshore as they can get. April also represents the beginning of the inshore movement of lobsters (Homarus americanus), toward which a fair amount of effort is directed. Since the lobster catch remains relatively stable during July and August, some of the Shinnecock-based fishermen shift their primary effort from finfish to the high valued lobster during this period. Other fishermen shift their efforts into Long Island Sound,

further offshore or into Block Island Sound as the species composition alters with increasing water temperature. During September finfish populations again begin to increase offshore off of the Hamptons and efforts are redirected back toward these more local stocks.

In the late fall, silver hake (whiting) (Merluccius bilinearis)is taken, typically in waters from 12 to 35 meters. The 1978 catch of silver hake was rather good and continued until falling water temperatures drove the fish out of the inshore area.

During winter the effort is directed primarily toward yellowtail flounder (Limanda ferruginea), but Atlantic cod (Gadus morhua) and winter flounder (Pseudopleuronectes americanus)are also valuable portions of the catch. The effort, at least for yellowtail flounder, is generally in 22 to 30 meters of water.

Since it has been stated that the sand mining effort will be performed outside the ten meter depth, the borrow effort should have little impact on the haul seine and surf fisheries. However, the placement activity may impact these fisheries. A dichotomy of impacts may result from the discharge of material on the beach and the resulting outwash of fine grained material and its associated benthic infauna. While the suspended sediment will induce avoidance by some species, the presence of increased and readily available food sources may lure species that are less sensitive to turbid conditions into the outwash plume.

Fishery catches for 1978 are tabulated below by month and are identified by gear type. Unless otherwise noted all fish catches are by fish trawl. They represent only those catches which were made within three miles of the shore in the east Fire Island and Hamptons area. Typical habitat of the captured species is also indicated. A note of caution: the following data show catches, not effort. Catches appear to vary primarily with season, number of participants, and extent of effort, rather than with fish availability.

1. Anglerfish (Lophius americanus): benthic inhabitant usually found over sand, pebbles or gravel.

January 1,500	July 1,440 pounds
February 360 pounds	August 1,000 pounds
March 400	September 1,200 pounds
April 3,410 pounds	October 1,100 pounds
May 12,030 pounds	November 4,650 pounds
June 8,300 pounds	December 1,110 pounds

2. Bluefish (Pomatomus saltatrix): a midwater fish found from the bottom to the surface, inshore to the open sea.

January No recorded catches	July 11,970 pounds 1,150 pounds by hand held lines 2,830 pounds by gill nets 14,120 pounds by haul seine
February No recorded catches	

March
No recorded catches

April
No recorded catches

May
458 pounds
6,000 pounds by gill net
2,320 pounds by haul seine

June
4,000 pounds
1,000 pounds by hand held lines
6,540 pounds by gill net
19,590 pounds by haul seine

August
10,470 pounds
1,300 pounds by hand held lines
3,790 pounds by gill net
5,350 pounds by haul seine

September
8,600 pounds
2,000 pounds by hand held lines
29,080 pounds by gill nets
18,660 pounds by haul seine

October
34,150 pounds
2,150 pounds by hand held lines
31,780 pounds by gill net
59,710 pounds by haul seine

November
64,960 pounds
2,500 pounds by hand held lines
12,000 pounds by gill net
33,000 pounds by haul seine

December
3,780 pounds
920 pounds by hand held lines

3. Butterfish (Peprilus triacanthus): generally occur inshore near the surface but may overwinter in deep water.

January
5,000 pounds

February
No recorded catches

March
No recorded catches

April
1.180 pounds

July
7,720 pounds

August
2,250 pounds

September
4,800 pounds

October
2,350 pounds

May
1,600 pounds

June
11,734 pounds

November
1,980 pounds

December
4,680 pounds

4. Cod (Gadus morhua): Found from the surface to the bottom. Larger individuals lay close to the bottom and best catches are made on rocky, pebbly or sandy bottoms.

January
20,000 pounds
5,930 pounds by set lines

February
12,350 pounds
6,110 pounds by set lines

March
8,350 pounds
4,450 pounds by set lines

April
11,930 pounds

May
9,320 pounds

June
1,100 pounds

July
480 pounds

August
No recorded catches

September
180 pounds

October
1,160 pounds

November
7,680 pounds

December
48,770 pounds

5. Blackback or winter flounder (Pseudopleuronectes americanus): Generally found inshore as benthic inhabitants on silty-sand to sandy bottoms.

January
2,000 pounds

February
18,990

July
1,850 pounds

August
970 pounds
1,200 pounds by hand held lines

March
15,100 pounds

April
26,500 pounds

May
71,970 pounds

June
39,820 pounds
610 pounds by hand held lines

September
4,380 pounds

October
3,090 pounds

November
8,910 pounds

December
29,870 pounds

6. Fluke or summer flounder (Paralichthys dentatus): Benthic inhabitants which prefer sandy or muddy bottoms then tend to move shoreward as water temperatures increase.

January
No recorded catches

February
No recorded catches

March
No recorded catches

April
1,480 pounds

May
102,490 pounds

June
112,560 pounds

July
40,440 pounds

August
35,220 pounds

September
94,290 pounds
1,200 by hand held lines

October
36,400 pounds

November
31,240 pounds

December
No recorded catches

7. Yellowtail flounder (Limanada ferruginea): This benthic inhabitant prefers sandy to silty-sandy bottoms typically staying somewhat more offshore in deeper water.

January
690 pounds

February
2,540 pounds

March
10,750 pounds

April
10,160 pounds

May
4,220 pounds

June
No recorded landings

July
No recorded landings

August
No recorded landings

September
No recorded landings

October
No recorded landings

November
9,970 pounds

December
23,990 pounds

8. Red hake (squirrel hake or ling) (Urophycis chuss): Commonly confused with white hake (Urophycis tenuis). This benthic species tends to inhabit progressively deeper water as it matures, although it does move inshore as an adult, preferring soft bottoms to rocky ones.

January
2,000 pounds

February
2,370 pounds

March
No recorded catches

April
6,350 pounds

May
76,950 pounds

June
470 pounds

July
280 pounds

August
No recorded catches

September
380 pounds

October
1,880 pounds

November
4,200 pounds

December
6,530 pounds

9. Atlantic mackerel (Scomber scombrus): A midwater species which feeds at all depths. It moves inshore as water temperatures rise.

January
No recorded catches

February
No recorded catches

March
No recorded catches

April
5,280 pounds
4,750 pounds by gill net
14,430 pounds by haul seine

May
19,360 pounds
3,700 pounds by gill net
5,020 pounds by haul seine

June
520 pounds
3,200 pounds by gill net

July
1,150 pounds

August
No recorded catches

September
No recorded catches

October
200 pounds

November
No recorded catches

December
2,880 pounds
3,110 pounds by hand held lines

10. Scup or porgy (Stenotomus chrysops): Inshore migrants as waters warm, they prefer smooth bottoms, although they are a midwater species.

January
830 pounds

February
No recorded catches

March
No recorded catches

April
1,260 pounds

May
53,750 pounds
2,180 pounds by inshore traps

June
39,770 pounds
1,000 pounds by inshore traps

July
17,690 pounds
1,820 pounds by inshore traps

August
5,180 pounds
180 pounds by inshore pots
2,000 pounds by hand held lines

September
10,160 pounds
2,250 pounds by hand held lines

October
6,740 pounds
2,100 pounds by hand held lines

November
1,340 pounds
2,000 pounds by hand held lines

December
630 pounds

11. Weakfish (grey sea trout) (Cynoscion regalis): A migrant midwater species that prefers inshore waters during the warmer months.

January
No recorded landings

February
No recorded landings

March
No recorded landings

April
680 pounds
260 pounds by gill net

May
11,700 pounds
16,220 pounds by gill net
10,040 pounds by haul seine

June
10,700 pounds
1,000 pounds by hand held lines
12,300 pounds by gill net
11,460 pounds by haul seine

July
10,220 pounds
1,500 pounds by hand held lines
2,020 pounds by gill net
6,440 pounds by haul seine

August
120 pounds
1,600 pounds by hand held lines
3,550 pounds by gill net
2,130 pounds by haul seine

September
5,480 pounds
1,500 pounds by hand held lines
9,590 pounds by gill net
8,330 pounds by haul seine

October
19,640 pounds
2,000 pounds by hand held lines
6,430 pounds by gill net
41,850 pounds by haul seine

November
940 pounds
1,880 pounds by hand held lines
4,800 pounds by gill net
74,548 pounds by haul seine

December
3,410 pounds

12. Striped bass (Morone saxatilis). A seasonal midwater migrant to the area, it feeds from the surface to the bottom.

January
No recorded catches

February
No recorded catches

March
No recorded catches

April
170 pounds
260 pounds by gill net

May
200 pounds
870 pounds by gill net
2,030 pounds by haul seine

June
1,570 pounds
1,420 pounds by gill net
4,460 pounds by haul seine

July
3,560 pounds
4,410 pounds by haul seine

August
400 pounds by gill net
1,100 pounds by haul seine

September
1,230 pounds
7,040 pounds by gill net
1,650 pounds by haul seine

October
15,430 pounds
2,050 pounds by gill net
63,330 pounds by haul seine

November
37,400 pounds
4,900 pounds by gill net
43,960 pounds by haul seine

December
4,110 pounds
5,000 pounds by hand held lines

13. Silver hake (whiting) (Merluccius bilinearis): This midwater fish is found both inshore and offshore as a resident to the area.

January
6,900 pounds

February
5,290 pounds

March
4,000 pounds

April
36,790 pounds

May
219,870 pounds

June
1,510 pounds

July
1,150 pounds

August
750 pounds

September
1,200 pounds

October
3,850 pounds

November
58,130 pounds

December
230,790 pounds

14. American lobster (Homarus americanus): Of the various life patterns of lobsters, it appears that fishermen in this area harvest the onshore-offshore migrants.

January No recorded catches	July 4,000 pounds by traps
February No recorded catches	August 12,000 pounds by traps
March No recorded catches	September 7,200 pounds by traps
April No recorded catches	October 6,400 pounds in traps 580 pounds by divers
May 500 pounds by traps	November 800 pounds in traps
4,000 pounds by traps	December No recorded catches

15. Long finned and short finned squid (Loligo peale and Ilex illacebrosus): Although two separate species are caught, the long finned species comprises more than 90 percent of the catch. The two species are combined in the catch data presented below.

January 5,000 pounds	April 2,000 pounds
February 70 pounds	May 16,490 pounds
March 1,510 pounds	June 34,790 pounds

July
36,560 pounds

August
55,880 pounds

September
14,440 pounds

October
7,170 pounds

November
11,610 pounds

December
500 pounds

Offshore Shellfish Resources Along Southern Long Island

The following assessment discusses only the commercially sought surf clam (Spisula solidisima) and ocean quahog (Arctica islandica). To facilitate an understanding of the resource, a brief historical overview of the commercial fishery for these resources and the impact of fishing on local populations is discussed below.

The surf clam has been harvested off New York since the early 1900's. The effort, however, was relatively insignificant until the mid 1940's. During the war years the modern fishery developed and known stocks were heavily fished. This rapidly depleted the available resource, forcing the fishery to range further afield in the search for fishable concentrations. Most surf clam populations are found in depths of 12 to 43 meters but have been recovered at depths up to 128 meters. The ocean quahog has slowly joined the surf clam in commercial importance. The quahog fishery has, to a large extent, resulted from depletion of the surf clam resource. Quahogs inhabit the same general area as surf clams, but occur also in deeper water.

The surf clam resource has been slow in recovering from the overfishing that occurred in the 1950's and 1960's. Judging from observations made in 1974-1975, it appears that reproductive success has been limited in recent years and that there is a general failure of juveniles to survive their first two years, resulting in significant gaps in year classes entering the adult population and marketable size range.

Regarding the presence of both clam species in the proposed borrow area, the most extensive sampling efforts to date were carried out during 1974 and 1975. However, the character of the species involved and their life expectancy allow reasonable belief that the resource has not significantly altered its

population structure or established major colonies in areas previous uninhabitated by them. The sampling was carried out by David R. Franz.[1] Using 47 transect lines placed every two nautical miles, sampling occurred at 0.5, 1.5 and 2.5 nautical miles offshore.

Adult Spisula and Arctica were collected with a 48 inch (1.2 meter) commercial hydraulic clam dredge operated for five minutes at each station. Associated with each dredging effort replicate sediment samples were collected using a 1/4 meter Shipek grab sampler. The sample was sieved through a 1mm mesh screen and that portion not passing the grid was preserved for later analysis.

In the eastern portion of the sampling area (transects 1 thru 30; Figure 1), adult Spisula per bushel ranged in number from 40 to 57 with a mean of 49. West of transect 30, clams per bushel ranged from 78 to 125 with a mean of 86. This indicates that the population east of transect 30 is significantly older (larger clams taking fewer to fill the bushel measure), or has had better growth rates than their counterparts to the west. Additionally, this apparent age discrepancy was accompanied by a gradual decline in abundance west of Shinnecock Inlet. This decline was reversed near the Rockaways.

It was found that approximately 56% of the estimated standing stock of about 3.5 million bushels of clams is located east of Fire Island Inlet. This fac is hypothesized as being related to the fact that the resource east of Fire Island Inlet has not experienced the same level of fishing as has the resource further west. This is felt to be related to the lack of suitable harbors

[1] Franz, David R. 4/26/76. A Management Study of Surf Clam Resources Along the Long Island Coast - Final Report, Contract #03-4-043-355, State/Federal Surf Clam Fishery Management Program. June 1974-Sept. 1975.

for basing commercial fishing activities. The specific location of the resource within the sampling grid revealed the presence of a distribution pattern which only breaks down in the 0.5 nautical mile stations west of Moriches Inlet. Thus, the inshore-offshore distribution might be used to indicate preferred mining locations along the shoreline east of Moriches Inlet. That pattern indicates that the populations are depressed in the 1.5 to shore zone along most of the Westhampton Beach Reach. It was also noted that populations west of Jones Inlet exhibit major differences in shell ring development over those east of the inlet.

Distribution of juvenile clams show lowest densities near Montauk, increasing as one moves westward, attaining a maximum of 2.5 animals per Shipek grab sample just short of Moriches Inlet. In addition to the east-west pattern, there appears to be an onshore-offshore pattern. Inshore (stations at 0.5 miles), peak abundance was found along the eastern half of Fire Island. Abundance decreases rapidly with increasing distance offshore. Within the 1.5 mile grid the longshore pattern is visible; however, in the 2.5 grid only populations outside the Westhampton Beach study area reflect the inshore pattern.

Visual evidence on both surface sediment character and concentrations of Spisula suggests that juvenile populations concentrate in finer grained sediments. It may be hypothesized that these concentrations are caused by disruption of long-shore transport processes that result in the deposition of both finer bay sediments and recently metamorphosed Spisula. This would explain why populations of juvenile Spisula are elevated near inlets. However, there are too few data to adequately test the above hypothesis. By contrast it should be noted that in approximately 80 percent of samples taken in the 1974-1975 study, adult Spisula were found to occupy habitats having a mixture of medium to fine sand instead of finer grained sediments.

Extensive populations of adult Arctica were noted off eastern Long Island from Fire Island Inlet almost to Montauk and typically in fine to medium sized sand. Although it has been shown that Arctica normally are found in somewhat siltier sands and deeper waters, the sampling revealed them in waters of 10 to 12 meters depth and in the less stable inshore sites.

Figure #I and Location of Sampling Stations Along South Shore of Long Island, New York

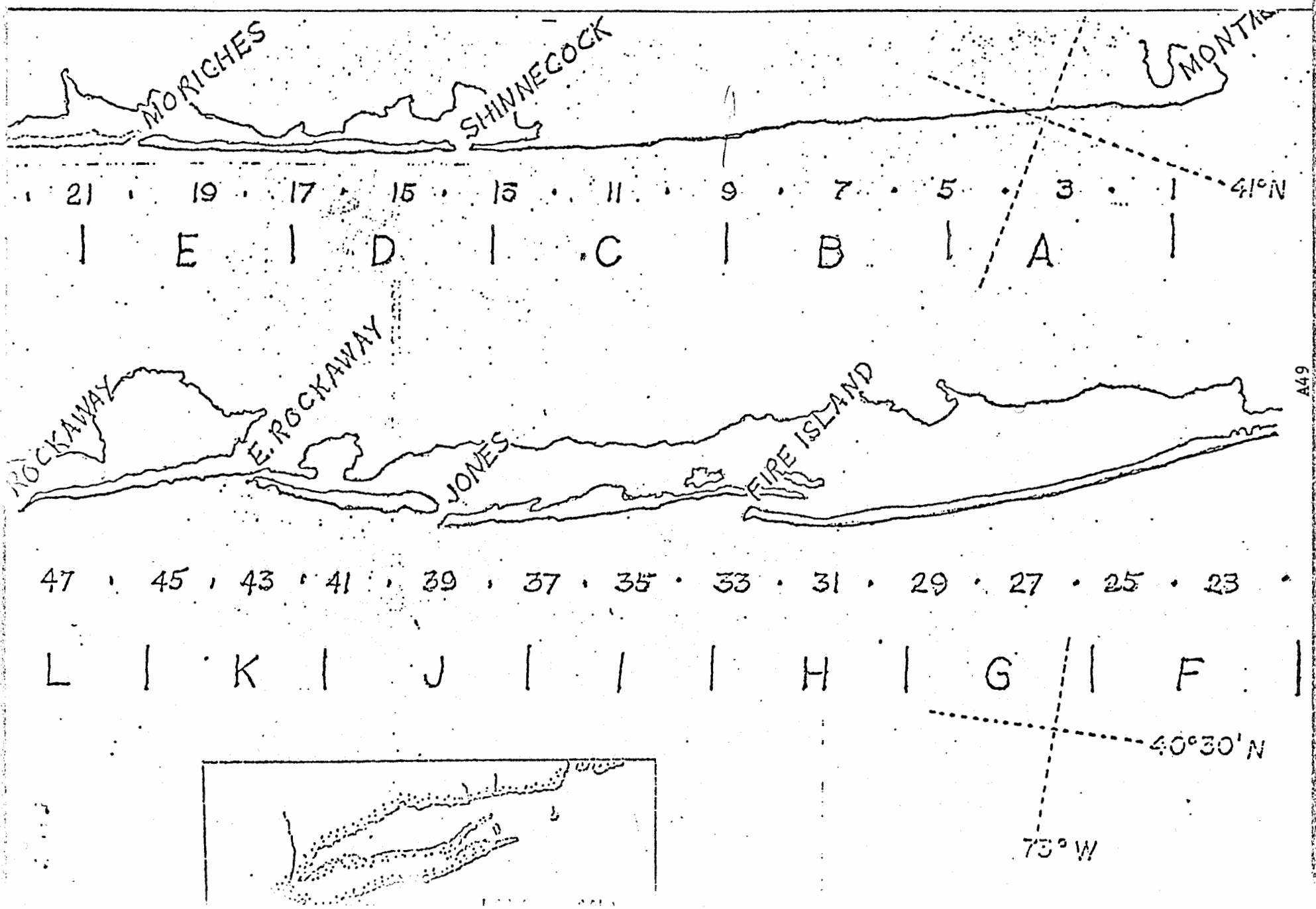


Figure 2.

Abundance of Spisula solidissima and Arctica islandica[1]

Station No.	Spisula in Bushels Per Haul	Arctica Presence at each Station[2]
130	2.5	-
131	1.5	-
132	-	-
140	1.0	+
141	3.0	-
142	2.0	-
150	0.3	+
151	1.0	-
152	1.0	-
160	0.5	-
161	0.5	-
162	2.0	-
170	0.4	+
171	1.0	-
172	0.5	-
180	0.1	+
181	1.5	-
182	0.9	-
190	0.1	+
191	0.2	-
192	0.2	-
200	1.0	+
201	0.5	+
202	0.3	-

1. The stations are numbered so that the final digit represents station location. Station numbers ending with (0) are 2.5 nautical miles offshore, (1) is 1.5 nautical miles offshore and (2) is 0.5 nautical miles offshore.

2. Plus (+) indicates presence of adults while minus (-) indicates lack of species in sample.

AGREEMENT BETWEEN
THE UNITED STATES OF AMERICA
AND
THE STATE OF NEW YORK

FOR LOCAL COOPERATION AT
FIRE ISLAND INLET TO MONTAUK POINT, N.Y.
BEACH EROSION CONTROL AND HURRICANE PROTECTION PROJECT

INCREMENT OF WORK
SECTIONS 1B, 1A and 2A
MORICHES TO SHINNECOCK REACH

This AGREEMENT entered into this _____ day of _____ 1980, by and between the UNITED STATES OF AMERICA (hereinafter called the "Government"), represented by the Contracting Officer executing this agreement, and the STATE OF NEW YORK (hereinafter called the "State"), WITNESSETH THAT:

WHEREAS, construction of the Fire Island Inlet to Montauk Point, New York, Beach Erosion Control and Hurricane Project (hereinafter called the "Entire Project") was authorized by the River and Harbor Act of Congress, approved 14 July 1960 (Public Law 86-645), substantially in accordance with House Document No. 425, 86th Congress, 2nd Section, and heretofore modified by Section 31 of the Water Resources Development Act of 1974, approved 7 March 1974; and

WHEREAS, the State has requested the continuation of the Entire Project by the placement of beach and dune fill in the Sections 1B, 1A and 2A of the Moriches Inlet to Shinnecock Inlet Reach (hereinafter called the "Project"), the said area consisting of the previously constructed 15 groin field and a 9500ft section to the west of the groin field.

WHEREAS, the State hereby represents that it has the authority and capability to furnish the Non-Federal cooperation required by the Federal legislation authorizing the Entire Project and by other applicable laws;

NOW, THEREFORE, the parties agree as follows:

1. The State agrees that if, within two years of the date of this contract, the Government shall commence construction of the Project in accordance with existing Federal legislation authorizing such construction, the State shall, in consideration of the Government commencing construction of such Project, fulfill the requirements of Non-Federal cooperation specified in such legislation, to wit:

a. The State for its share, will bear 30 percent of the first cost, including the value of lands easements, and rights-or-way, of the Entire Project, with the local cash contribution to be paid either in a lump sum prior to commencement of the Entire Project, or in installments prior to commencement of pertinent items including those of the Project, in accordance with the construction schedules as required by the Chief of Engineers. Final apportionment of costs will be made after actual costs and values have been determined;

b. The State will maintain and operate all the improvements and undertake periodic beach nourishment for the Entire Project after completion in accordance with regulations prescribed by the Secretary of the Army, which are attached hereto as Schedule "A", except that for a period of ten years after completion of a useful nourishment unit, the Government will contribute an amount now estimated at annually towards the said periodic beach nourishment in accordance with the authorizing House Document for the Entire Project dependent on conditions of public use and ownership and other changes at the time of construction;

c. The State willhold and save the United States free from damages due to the construction works of the Entire Project and periodic beach nourishment, except for for damages due to the fault or negligence of the United States or its contractors;

d. The State will maintain, during the economic life of the Entire Project, continued public ownership of the Non-Federal publicly-owned shores;

e. The State will adopt appropriate ordinances for the Entire Project to provide for the preservation of the dunes and their protective vegetation;

f. The State will control water pollution for the Entire Project to the extent necessary to safeguard the health of bathers;

g. With respect to the Project, the State, as cooperating agency, agrees to:

(1) The placement of beach and dune fill utilizing an offshore borrow site within the existing 15 groinfield area and an area 9500ft. to the west (Sections 1B, 1A and 2A). The dune will be constructed to an elevation of 16ft. above m.s.l. with a crest width of 40ft. Within the groinfield area, the top of the beach berm will be 14ft. above m.s.l. with a 100ft. width at that elevation. In the 9500ft. section west of the groinfield, the top of the beach berm will be 12ft. above m.s.l. with a 100-foot width at that elevation.

(2) The installation of sand fences and the planting of beach grass on the dune areas. Such work to constitute an increment of the Entire Project which extends from Fire Island Inlet to Montauk Point;

h. The State will bear 30 percent of the first cost, including lands, easements, and rights-of-way for its share of the beach and dune fill work of the Project to be initiated in FY 1981, with the local cash contribution to be paid either in a lump sum prior to commencement of the Project, or in installments prior to commencement of pertinent items, in accordance with the construction schedules as required by the Chief of Engineers. The State, upon request by the Government, will program its share of funds in succeeding fiscal years to continue this project (as an increment of the Entire Project) to completion. In addition, the State will program funds in the amount to be mutually determined for other work until the Entire Project is completed;

i. The Commissioner of the Department of Environmental Conservation agrees for the State of New York to contribute the full amount of any increase in Federal costs, if any, resulting from the separate construction of the beach and dune fill, sand fences, and the planting of beach grass;