Contract No. 13-002D
Environmental Consulting Services

Dewberry Engineers, Inc.

Task Order Assignment No. 12
Superstorm Sandy Recovery & Resilience Program
Rebuild by Design, Feasibility Study and
Environmental Impact Statement

NJ TRANSIT
The Way To Go.

NEW JERSEY TRANSIT CORPORATION
HEADQUARTERS

Task Order No: 12 **Effective Date:** 10-2-15

Contract No: 13-002D **Purchase Order No:** B51355-012, Rev. 1

Contractor: Dewberry Engineers, Inc.
600 Parsippany Road, Suite 301, Parsippany, NJ 07054-3715

NEW JERSEY TRANSIT CORPORATION (NJ TRANSIT) hereby authorizes the Contractor to execute the following change(s) to the above listed Contract:

Task Order Assignment No. 12

Superstorm Sandy Recovery & Resilience Program
Rebuild by Design, Feasibility Study and Environmental Impact Statement

Section 1: Scope of Work

Task Order Assignment No. 12 is issued to Dewberry Engineers, Inc. to perform Superstorm Sandy Recovery & Resilience Program, Rebuild by Design, Feasibility Study and Environmental Impact Statement services and include all work elements as described in Attachment A, Scope of Work dated May 8, 2015, to this Task Order Assignment No. 12.

Section 2: Cost Information

Dewberry Engineers' total costs and fees for Task Order Assignment No. 12 shall be in accordance with the schedule of rates set forth in Cost Information, Exhibit B and the Attachment B, Cost Proposal dated May 11, 2015 to this Task Order Assignment No. 12. The Total Cost for Task Order Assignment No. 12 is $8,587,526.68. The amount represents $3,972,079.43 in direct labor, $3,332,015.67 in indirect labor, $588,716.73 in fixed fees and the direct expenses amount is $694,714.85.

Pursuant to Article 3.C "Limitation of Funds" of Contract No. 13-002D, Dewberry shall notify Principal Contract Specialist, Hope DuBois and Project Manager, Jared Pilosio of NJ TRANSIT as well as Dennis Reinknecht and Frank Schwarz of NJDEP, in writing, whenever Dewberry has reason to believe that the costs it will incur will exceed 75% of the task amount allotted.

All invoices billed shall include actual expenses, hours and salary rates for personnel working on this Task Order Assignment.

Section 3: Schedule

The services to be provided by Dewberry Engineers, Inc. under Task Order Assignment No. 12, Superstorm Sandy Recovery & Resilience Program, Rebuild by Design, Feasibility Study and Environmental Impact Statement services shall be completed by June 30, 2017.

Pursuant to Article 6 "Status Reports" of Task Order Contract No. 13-002D, Dewberry shall submit to NJ TRANSIT and NJDEP a monthly written status report outlining the status of the project to date. Each Status report shall be a concise narrative description of activities to date and planned activities for the coming month.

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NEW JERSEY TRANSIT CORPORATION
HEADQUARTERS

Task Order No: 12 Effective Date: 10-2-15

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Contractor: Dewberry Engineers, Inc.
600 Parsippany Road, Suite 301, Parsippany, NJ 07054-3715

Section 4: Cost Summary

TOTAL VALUE OF TASK ORDER ASSIGNMENT NO. 12 IS $8,587,526.68

Section 5: Task Order Contract Summary

SUPERSTORM SANDY RECOVERY AND RESILIENCE PROGRAM AUTHORIZATIONS:

Initial Task Order Assignment No. 12 Value:	$0.00
Increased Authorization:	$0.00
Value of this Task Revision:	$8,587,526.68
Present Value of All SSRRP Task Order Assignments:	$8,587,526.68

TOTAL ENVIRONMENTAL CONSULTING SERVICES ASSIGNMENTS (NON-SANDY) ISSUED TO DATE:

Original Contract Value:	$0.00
Total of all Task Orders Issued to Date:	$824,873.06
Value of this Increase:	$0.00
Present Value of All Non-Sandy Task Order Assignments:	$824,873.06

TOTAL ENVIRONMENTAL CONSULTING SERVICES ASSIGNMENTS ISSUED TO DATE:

Original Contract Value:	$0.00
Total of all Task Orders Issued to Date:	$824,873.06
Value of this Increase:	$8,587,526.68
Present Value of Contract:	$9,412,399.74

CONTRACTOR

President or Duly Authorized Designee

NJ TRANSIT

Contracting Officer or Duly Authorized Designee

Contract No. 13-002D
Environmental Consulting Services

Dewberry Engineers, Inc.

Task Order Assignment No. 12
Superstorm Sandy Recovery & Resilience Program
Rebuild by Design, Feasibility Study and
Environmental Impact Statement

Purchase Order
B51355-012, Rev. 1

NJ TRANSIT

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ONE PENN PLAZA EAST
NEWARK, NJ 07105-2246

HOW TO CONTACT ACCOUNTS PAYABLE
VOICE: 973-491-8399 **FAX:** 973-491-4621
E-MAIL: APHELP@NJTRANSIT.COM

PURCHASE ORDER INSTRUCTIONS

- ALL PACKAGES MUST BE ACCOMPANIED BY A PACKING SLIP.
- REFERENCE PURCHASE ORDER NUMBER AND NJT CATALOG NUMBER ON ALL INVOICES, PACKING SLIPS AND BILLS OF LADING.
- VENDOR MUST SUPPLY ORIGINAL INVOICE AND ANY FREIGHT BILLS IN EXCESS OF $100 TO:
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  P.O. BOX 5519
  NEWARK, NJ 07105-5519
- VENDOR MUST ALSO SUPPLY COPY OF INVOICE TO CONSIGNEE.
- VENDOR: IF PRICE ON PO DOES NOT MATCH, DO NOT SHIP MATERIAL, CONTACT BUYER.

PURCHASE ORDER & RELEASE NO	REV NO
B-51355-012	1
VENDOR NO	ISSUE DATE
70102916	07/16/15
DATE CHANGED	PAGE NO
09/23/15	1

PURCHASING FAX: 973-491-7547

VENDOR:
DEWBERRY ENGINEERS, INC.
600 PARSIPPANY ROAD
SUITE 301 - ENVIRONMENTAL
PARSIPPANY, NJ 070543715

SHIP TO:
NJ TRANSIT HEADQUARTERS
*DELIVER 9-11 AM OR 2-4 PM ONL
ONE PENN PLAZA EAST
NEWARK, NJ 07105

BUYER: Hope DuBois
CPRCHZD@NJTRANSIT.COM
CHANGE ORDER - DO NOT DUPLICATE

NJ TRANSIT IS EXEMPT FROM NJ SALES & USE TAXES PURSUANT TO SECT 9(A)(1), OF NJSA 54:32B-1 ET SEQ.
FEDERAL T.I.N.: 22-228-1352
TAX EXEMPT #'S 21-60000928 (NJ)
22-75-0050K (FEDERAL)

TERMS	FREIGHT TERMS	FOB	SHIP VIA	BUYER NO
NET 30 D	PREPAID	DESTINATION	BEST WAY	070

NJ TRANSIT ETHICS CODE: NJ TRANSIT IS AN INSTRUMENTALITY OF THE STATE OF NEW JERSEY AND ITS EMPLOYEES AND OFFICERS AND MEMBERS OF THE NJ TRANSIT BOARD OF DIRECTORS ARE PUBLIC SERVANTS AND ARE GOVERNED BY CIVIL AND CRIMINAL LAWS THAT CONTROL HOW NJ TRANSIT AND ITS PERSONNEL CONDUCT BUSINESS WITH VENDORS, CONTRACTORS AND CONSULTANTS. THESE PROVISIONS INCLUDE THE CONFLICTS OF INTEREST LAW, NJSA 52:13D-12; THE GIFTS TO PUBLIC SERVANTS LAW, NJSA 2C:27-6; AND THE COMPENSATION FOR PAST OFFICIAL BEHAVIOR LAW, NJSA 2C:27-4. THESE PROVISIONS CONTAIN UNEQUIVOCAL AND STRINGENT RESTRICTIONS RELATING TO GIFTS AND GRATUITIES BY ANY NJ TRANSIT EMPLOYEE OR ANY PERSON, COMPANY OR ENTITY DOING BUSINESS WITH OR WANTING TO DO BUSINESS WITH NJ TRANSIT. THE TERM "GIFT" INCLUDES ALL THINGS AND OBJECTS, TANGIBLE OR INTANGIBLE INCLUDING SERVICES, GRATUITIES, MEALS, ENTERTAINMENT, EVENT TICKETS, MEMBERSHIP CLUB ACCESS, TRAVEL COSTS AND LODGING. ALSO, NJ TRANSIT'S CODE OF ETHICS AND CODE OF CONTRACTORS AND CONSULTANTS FROM OFFERING ANY GIFTS TO ANY NJ TRANSIT EMPLOYEE. DO NOT, UNDER ANY CIRCUMSTANCES, TEMPT OR PUT AN NJ TRANSIT EMPLOYEE IN THE AWKWARD POSITION OF HAVING TO REFUSE A GIFT OR RETURN A GIFT NO MATTER HOW WELL INTENTIONED OR INNOCUOUS THE GIFT MAY BE.

LINE ITEM	QUANTITY	UNIT OF MEASURE	NJT CATALOG NUMBER	DESCRIPTION	UNIT PRICE	AMOUNT
				CONTRACT/BID NO: 13-002D		
				REFER TO CONTRACT NO. 13-002D FOR COMPLETE TERMS AND CONDITIONS OF THIS AGREEMENT		
				**********		
				PROJECT MANAGER: JARED PILOSIO 973-491-7263		
				**********		
				E-REQ. 091488		
k 1	8,587,526.68	EA	80	MR# NONE PROM DATE: 07/16/15 GL#8871 99950306 REJ2000	1.0000	8,587,526.6800
				TASK ORDER ASSIGNMENT NO. 12; REBUILD BY DESIGN SERVICES ARE TO BE PROVIDED PER NJ TRANSIT'S SCOPE OF WORK AND DEWBERRY'S COST PROPOSAL DATED MAY 11, 2015		
				**********		

CONTINUE

☐ WHEN BOX IS CHECKED, THE TERMS AND CONDITIONS OF THE ATTACHED CONTRACT REPLACE THOSE SHOWN ON THE REVERSE SIDE OF THIS PURCHASE ORDER.

AUTHORIZED NJ TRANSIT SIGNATURE/DATE

SEE PAGE 2

VENDOR COPY

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ONE PENN PLAZA EAST
NEWARK, NJ 07105-2246

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VOICE: 973-491-8399 **FAX:** 973-491-4621
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PURCHASE ORDER & RELEASE NO	REV NO
B-51355-012	1
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70102916	07/16/15
DATE CHANGED	PAGE NO
09/23/15	2

PURCHASING FAX: 973-491-7547

VENDOR:
DEWBERRY ENGINEERS, INC.
600 PARSIPPANY ROAD
SUITE 301 - ENVIRONMENTAL
PARSIPPANY, NJ 070543715

SHIP TO:
NJ TRANSIT HEADQUARTERS
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LINE ITEM	QUANTITY	UNIT OF MEASURE	NJT CATALOG NUMBER	DESCRIPTION	UNIT PRICE	AMOUNT
				TOTAL VALUE OF TASK ORDER ASSIGNMENT 12 IS $8,587,526.68		
				**********		
				ER093577		

ORIG AMT 1,700,000.00 PREV CHANGE 0.00 THIS CHANGE 6,887,526.68 ** TOTAL: $8,587,526.68

☐ WHEN BOX IS CHECKED, THE TERMS AND CONDITIONS OF THE ATTACHED CONTRACT REPLACE THOSE SHOWN ON THE REVERSE SIDE OF THIS PURCHASE ORDER.

AUTHORIZED NJ TRANSIT SIGNATURE/DATE

VENDOR COPY

Contract No. 13-002D
Environmental Consulting Services

Dewberry Engineers, Inc.

Task Order Assignment No. 12
Superstorm Sandy Recovery & Resilience Program
Rebuild by Design, Feasibility Study and
Environmental Impact Statement

Attachment A
Scope of Work

SCOPE OF WORK FOR FEASIBILITY STUDY AND ENVIROMENTAL IMPACT STATEMENT FOR REBUILD BY DESIGN: RESIST, DELAY, STORE, DISCHARGE PROJECT

SERVICES TO BE PERFORMED BY THE CONSULTANT

This project originated with Rebuild by Design ("RBD"): a design competition sponsored by the U.S. Department of Housing and Urban Development ("HUD") that utilized a collaborative process to find effective ways to protect our people, homes, businesses and infrastructure, and to increase resilience in the Sandy-affected region as part of recovery from the storm. At the conclusion of the RBD competition, HUD selected two winning projects for New Jersey, with designs that will help densely populated communities with repetitive flooding challenges. The State of New Jersey will receive $230 million in CDBG-DR funds to implement the first phase of the flood mitigation project in the Hudson River Region known as "Resist, Delay, Store, Discharge."

This flood risk reduction project is a comprehensive urban water strategy that contemplates using hard infrastructure and soft landscape for coastal defense, while also addressing systemic rainfall related drainage issues. It could also include a park landscape at Weehawken Cove; green infrastructure measures, such as permeable paving and rain gardens; a range of rainwater storage initiatives; and a variety of flood risk reduction infrastructure that will be built along the Hudson River, stopping flood waters from intruding into Hoboken and parts of Weehawken and Jersey City. This new infrastructure will be coordinated with resilience measures already under development and/or being considered in the area by New Jersey Transit, as well as the Hoboken Long Slip Flood Protection project, which will fill the Long Slip (a 2,000-ft. east-west penetration of the Hudson River into Hoboken Rail Yard which acted as a conduit for surge waters and contributed to the inundation of both Hoboken Terminal and its adjacent rail yard during Superstorm Sandy).

As noted in the Federal Register notice at 79 Fed. Reg. 62182 (Oct. 16, 2014), RBD addresses structural and environmental vulnerabilities that Superstorm Sandy exposed in communities throughout the region and developed fundable solutions to better protect residents from future disasters. Information about RBD can be found at: http://www.rebuildbydesign.org. More information regarding the history of the competition can be found in the Federal Register at 78 Fed. Reg. 45551 (July 29, 2013) and 78 Fed. Reg. 52560 (Aug. 23, 2013).

The purpose of this project is evaluate and build upon the "Resist, Delay, Store, Discharge" proposal to determine the best, most cost effective way to implement that proposal based on the $230 million award. In this Scope of Work, the State seeks a written cost proposal and proposed schedule for the completion of the work described herein – including a feasibility study and necessary National Environmental Policy Act ("NEPA") analysis, drafting and finalizing an Environmental Impact Statement ("EIS") – for the "Resist, Delay, Store, Discharge" project. As per the Federal Register notice, the Consultant may (but is not required to) subcontract with or seek input from the design team (or members of the design team) that participated in the development of the RBD proposal for the HUD-sponsored competition. The Consultant shall provide programmatic technical analyses and conceptual design services (as more fully described below) for the Project Area, namely the anticipated locations of all flood mitigation infrastructure described in the final "Resist, Delay, Store, Discharge" Rebuild by Design Proposal, http://www.rebuildbydesign.org/project/oma-final-proposal/. The activities contemplated also include other technical and programmatic services, including assistance with reporting and grant compliance obligations and other "as directed" assistance.

As noted in the Federal Register notice, the Disaster Relief Appropriations Act (Pub. L. 113-2, approved January 29, 2013) requires that funds for this project be obligated not later than September 30, 2017. This obligation is tied to the completion of project design and a Draft EIS. Because of these time constraints associated with project funding, the State is requesting that the Consultant's cost proposal and proposed schedule assume the work will be completed within twelve (12) months; however, the Consultant shall propose an alternate schedule if it would result in significant cost savings or have other material benefits. To the extent feasible, the Consultant should propose a schedule in which tasks are completed concurrently, in order to complete all tasks within the timeframe.

The Scope of Work is comprised of the seven (7) Tasks listed below. Work completed under any Task Orders must comply with all applicable State and federal laws and policies, including but not limited to those specified in the applicable Federal Register notice, published at 79 Fed. Reg. 62182 (Oct. 16, 2014), NEPA (42 U.S.C. §4321 *et seq.*), and HUD regulations implementing NEPA (24 C.F.R. Part 50). Compliance with NEPA will require (but is not limited to) preparing a Notice of Intent, gathering data necessary for NEPA compliance, completing a site-specific environmental review checklist, developing screening criteria and screening reasonable alternatives, completing the Statutory Checklist for compliance with 24 C.F.R. §58, drafting the EIS, finalizing the EIS and preparing a Record of Decision. Throughout the process, the Consultant will be responsible for scoping: an open process involving the public and other Federal, state and local, agencies, and coordinating with agencies/consultants implementing other large projects in the area. Public involvement and agency coordination must continue throughout the entire process.

TASK 1: Data Collection and Mapping

The Consultant shall be responsible for gathering and reviewing all relevant pre-existing data for the Project Area, including:

- Existing Documents: Collect and review all available reports, studies, existing community plans and other background documents provided or identified by the New Jersey Department of Environmental Protection ("NJDEP") and other stakeholders, including but not limited to the "Resist, Delay, Store, Discharge" proposal (http://www.rebuildbydesign.org/project/oma-final-proposal/) and the City of Hoboken's Hoboken Yard Redevelopment Plan (http://www.hobokennj.org/docs/communitydev/Hoboken-Yard-Redevelopment-Plan-October-2014.pdf and http://www.hobokennj.org/docs/communitydev/Hoboken-Yard-Redevelopment-Plan-Presentation.pdf).

- Consultation with Stakeholders: Consultation with and incorporation of data from relevant Federal, State and local agencies including, but not limited to HUD, the New Jersey Department of Environmental Protection ("NJDEP"), NJ Transit, Port Authority of New York & New Jersey, City of Hoboken, City of Jersey City, Township of Weehawken, North Hudson Sewerage Authority, Jersey City Municipal Utility Authority, and private utility companies, will be required, as well as consideration of existing projects and plans.

- Site Conditions: Investigate and analyze current Site Conditions in the Project Area, including, but not limited to:

- Natural features (e.g., open water, littoral zone, wetlands, flood hazard areas, mean high water, spring high water, intertidal/subtidal shallows, tidelands conveyances and areas of filled tidelands with no conveyances)
- Topographical information
- Current land use (including as-built plans if available), as well as applicable zoning and master plans
- Open space/parkland (local, county, state and federal)
- A schematic of local circulation patterns (vehicular, bicycle, transit, and pedestrian), including park/waterfront access routes and important destinations, as well as existing maintenance and operations routes and requirements.
- Significant urban design relationships such as view corridors, building character, local landmarks, and overall neighborhood character
- Known environmental contamination issues, both in-water and upland sites, as provided by NJDEP
- Historic and archeological landmarks, structures and resources (identified through the State Historic Preservation Office ("SHPO") and otherwise)
- All known locations of critical wildlife habitats, endangered and threatened wildlife species and/or wildlife species of special concern
- All utilities
- Infrastructure extent and capacity, including location and functioning of all stormwater outfalls and Combined Sewer Overflow (CSO) points, as well as wastewater and stormwater capacity
- Floodplains, including most recent Preliminary Flood Insurance Rate Maps
- Critical infrastructure, including power facilities and substations
- Demographics and economic information needed to comply with Executive Order 12898 (which requires federal agencies to consider whether actions they might fund or approve may have any disproportionately high and adverse environmental or human health effects on low-income or minority populations)

- Title: Investigate the ownership and titles of the properties within the Project Area and adjacent land under water, including tideland conveyances, easements and deed restricted properties/areas. Obtain access and/or rights of entry to the extent necessary to complete the work hereunder and identify any issues or challenges related to ownership/title.

- Mapping: The Consultant shall provide GIS shapefiles mapping Site Conditions within the Project Area, as well as easements and deed restrictions that might impact on the ability to implement the RBD project.

- After gathering and reviewing all relevant pre-existing data for the Project Area, the Consultant shall be responsible for identifying all data gaps and recommend appropriate steps to fill them.

Deliverable(s):

- Draft written report (for review and comment) summarizing results of Task 1, and identifying data gaps and recommending appropriate steps to collect additional data needed
- Draft maps/GIS shapefiles (for review and comment)
- Final reports and maps/GIS shapefiles
- Draft and final scoping document, including list of federal, state, and local permits that are anticipated to be required

TASK 2: Waterfront Structures Inspection Including Bulkheads

For all existing waterfront infrastructure in the Project Area (such as seawalls, bulkheads, piers, fender systems and other marine and shore protection structures), the Consultant shall be responsible for gathering and reviewing information available from NJDEP, NJ Transit and municipal agencies, including drawings, inspections reports, permits, load ratings, records of repairs and other data. The Consultant shall evaluate existing information and perform a general visual inspection to confirm and fill in any gaps in said information. The Consultant shall identify all waterfront structures within the Project Area, as well as their general condition, including:

- all elements supporting any and all piers or comprising the bulkheads including all underwater elements, so as to define the structural elements and to determine the overall structural condition and detect signs of damage or deterioration (such as extensive corrosion, spalling or marine borer infestation);
- all of the above water elements (pile caps, bottom deck surface, and top deck surface) so as to identify, size, and locate significant deterioration such as concrete cracks (greater than 1/16 inch), timber rot, or steel corrosion; and
- overview of loading capacity of all existing waterfront structures.

The Consultant shall evaluate recent repairs to waterfront structures and determine whether any additional work is necessary.

The Consultant shall perform necessary underwater waterfront inspection (limited to 2,000 linear feet) within the Project Area for the purpose of developing design criteria for any new structures and substructures for the bulkheads and any other necessary rehabilitation of the existing structures. The consultant shall utilize existing bathymetric surveys.

Deliverable(s):

- Draft Report (for review and comment) documenting findings from the available inspection reports, data gaps in available waterfront inspection information, plan for conducting waterfront inspection and load calculations, findings from the waterfront inspections, and summary of load calculations along the existing waterfront. The report will include either existing or additional bathymetric information collected as part of this task and provide back-up documentation.
- Final Report

TASK 3: Subsurface Investigation

Consultant shall review all available information about geotechnical subsurface conditions in the Project Area, including previous studies and available geotechnical information. Consultant shall assess the adequacy of available information and, based upon identified data gaps and observed site

conditions, the Consultant shall conduct further investigations into geotechnical subsurface conditions. This may include soil classification testing, soil testing, geotechnical analyses and other subsurface evaluations pertaining to geotechnical conditions.

Deliverable(s):

- Draft Subsurface Investigation Report (for review and comment) and back-up documents
- Final Subsurface Investigation Report

TASK 4: Hydrology/Flood Risk Assessment

The construction of shoreline protective measures are primarily aimed at providing protection from storm surge events. However, such protection needs to account for both sea storm surge events and underlying sea level rise. The Consultant should utilize the NOAA Sea Level Rise Tool (http://54.243.129.238/SLR.html#) at the year 2050 interval using all four predictive scenarios (i.e., low, intermediate-low, intermediate-high, and high) to develop and evaluate approaches that protect communities and assets in the 2050s 500-year floodplain against flood risk, with the simultaneous goal of providing resiliency benefits and enhanced public open space. The Consultant shall assess the impacts of shoreline protective measures and other flood risk reduction measures on anticipated inundation levels and drainage and subsidence of water levels post-storm, with a particular emphasis on existing assets, landscaping, and buildings in the Project Area. These measures may be either a barrier to storm surge/sea level rise or a hardened edge that allows periodic inundation. Either way, the Consultant should consider project design resiliency enhancements, where such enhancements are cost-effective and reasonably practical given the inherent uncertainty in sea level rise modeling.

The Consultant shall consider, evaluate and analyze various alternative flood risk reduction measures based on performance, cost, social and environmental considerations, and consistency with State and local goals. The alternatives analysis should:

- Consider how those measures will interface and interact with other flood risk reduction projects currently in place, under construction and/or planned;
- Assess the feasibility of strategies for reorganizing and controlling water flow and providing flood protection within the existing project area;
- Evaluate potential strategies in terms of their ability to achieve the primary goal of providing flood protection to adjacent neighborhoods and critical infrastructure;
- Develop flood protection/water management design concepts, which reflect creative thinking about and solutions posed by the collection and detention of large volumes of stormwater upland of the protection system during major storm events;
- Evaluate how the proposed system would affect existing drainage systems, including existing and planned stormwater outfalls and CSO, and their maintenance;
- Evaluate the impact on drainage of stormwater runoff from the area behind the barrier and develop alternative drainage approaches to mitigate this impact with the goal of maintaining the same or improved level of service in the collection system;
- Determine whether the draining envisioned would be consistent with prior levels and whether mechanical means such as pumps would be needed to maintain the hydrological profile;
- Assess how groundwater level rise or storm surge water might flow along subsurface conduit or infrastructure not anticipated when water levels were lower in elevation (e.g., an electrical conduit placed above a storm drain pipeline);
- Follow the eight-step process applicable to projects that have potential impacts to or within the

floodplain, pursuant to Executive Order 11988 and HUD's implementing regulations, 24 C.F.R. §55.20;

- Whether any levees or levee systems meet/will continue to meet, minimum design, operation, and maintenance standards that are consistent with the level of protection sought through the comprehensive flood plain management criteria established by FEMA standards for levee construction (per 44 C.F.R. §§ 60.3 & 65.10); and
- Consider additional opportunities for mitigating drainage impacts such as:
  - Retrofitting grey infrastructure into the existing system
  - Constructing new conveyance facilities
  - Altering the hydrology tributary to the collection system
  - Modifying existing facility operations to change conveyance patterns in the collection system
  - Integrating green infrastructure
  - Any combination of these.

In addition to mitigation alternatives, the Consultant shall consider and recommend modifications to design criteria currently specified by local agencies, as appropriate. For example, assumptions about storms used in sizing conveyance pipes may need to be revisited in light of the considerable evidence of increasing storm intensities associated with a changing climate.

A cost estimate shall be developed for each alternative that has been deemed feasible and in conformance with the drainage plan requirements. The estimate shall include both capital costs and operation and maintenance in perpetuity.

Cost and performance considerations shall be supplemented by the Consultant with a qualitative evaluation of the social and environmental aspects of each alternative. For example, green infrastructure has well-known co-benefits, including carbon sequestration, air quality, urban heat island reduction, and pollinator habitat improvement, and can provide employment opportunities with minimal training such that it may be preferable to another approach with a slightly lower cost. Co-benefits shall include consideration of State and local goals related to reduction of carbon emissions and overall sustainability.

Deliverable(s):

- Draft Hydrology/Flood Risk Assessment Report (for review and comment) that will document the model development methodology, and results from integrated coastal and stormwater models for existing and three Build Alternatives including the final Preferred Alternative, and provide back-up documentation (report to be completed after the final Preferred Alternative has been selected)
- Final Hydrology/Flood Risk Assessment Report

TASK 5: Feasibility Analysis

The Consultant shall develop/conduct a detailed feasibility study of each component of the "Resist, Delay, Store, Discharge" proposal, including (but not limited to) the following items:

- Resist:
  - terraced edges and levees with possible environmental and recreational features integrated into the design
  - permanent floodwalls/barriers
  - raised bulkheads

    - piers
    - stone armor revetments
    - project tie-backs to the inland
- Delay:
    - green roofs
    - rain gardens
    - reclamation of previously paved areas
    - modification/landscaping of open space
    - bioswales and permeable paving
- Store:
    - Cisterns
    - Bioretention Basins
    - Stormwater Chambers
    - Constructed Wetlands
    - Discharge:
    - Wet weather pump stations
    - Stormwater Bypass Force Mains

The Consultant's assessment shall consider technical feasibility, infrastructure requirements, costs, environmental issues, legal/regulatory parameters, implementation strategies, and other factors that will impact on the feasibility of implementing that component of the proposal. The study shall also investigate the feasibility of public accessibility, waterfront open space improvements, and other infrastructure, as well as an analysis of the capital and maintenance costs of the proposed improvements.

In preparing the feasibility study, the Consultant shall consider the existing conditions and analyses compiled from appropriate tasks. The study shall also account for basic engineering, landscape architectural and architectural design criteria and project requirements, in addition to taking into account overall impact, cost, maintenance, and other relevant considerations.

The feasibility study shall identify and evaluate possible reasonable alternatives addressing the following items, among others:

- Implementation and phasing plan that will evaluate the interdependency and separability of the components that could guide sequencing of subsequent design and construction contracts;
- Any issues anticipated as a result of first implementing Phase I of the "Resist, Delay, Store, Discharge" proposal (as per 79 Fed. Reg. 62182, 62186);
- Specific flood protection measures that will protect the Project Area and reduce risk to vulnerable housing stock and critical public facilities and infrastructure, while maintaining and potentially enhancing open space and connections to the waterfront;
- The impact of each measure on vulnerable populations, including low- and moderate-income households (as defined by HUD);
- The adverse environmental or human health effects on low-income or minority populations (i.e., the environmental justice requirements of Executive Order 12898);
- The potential displacement of residents, businesses, and other entities due to potentially increasing costs of rent and property ownership in the years following the completion of the Project (i.e., gentrification);
- Cost estimates for any and all coastal protection measures identified;

- Positive and negative effects on the environment, and co-benefits for communities, including storm water management and public access;
- Input from stakeholders and feedback resulting from community engagement/meetings;
- A list of all permits required to be obtained from all Local, State and/or Federal agencies with associated application costs to implement the coastal flood protection measures;
- The estimated time required to implement each of the identified coastal protection measures, including any engineering, jurisdictional, or other challenges that may increase the likelihood of delays;
- Recommendations regarding measures that require minimal regulatory approvals and permits and could be advanced to construction rapidly in consultation with the State;
- Benefit-Cost Analysis for each alternative using the FEMA Benefit-Cost Analysis Toolkit Version 5.0 (https://www.fema.gov/media-library/assets/documents/92923) or another similar tool pre-approved by the State; and
- A prioritized list of alternative measures that would best meet the goals of program given financial constraints.

The feasibility study shall comport with NEPA requirements, including but not limited to considering reasonable alternatives, developing screening criteria, and applying those screening criteria to the reasonable alternatives.

Deliverable(s):
- Draft Feasibility Report (for review and comment) with back-up documents (including Subsurface Investigation Report and maps/GIS shapefiles depicting alternatives)
- Final Feasibility Report (including final maps/GIS shapefiles depicting alternatives)

TASK 6: Conceptual Design Development & Preparation of EIS

The Consultant shall be responsible for the Notice of Intent (NOI) to prepare an EIS, pursuant to the requirements of NEPA and HUD regulations implementing NEPA (24 C.F.R. Part 50).

The Consultant shall develop Preliminary Conceptual Designs sufficient to advise the NEPA process (including specifically the alternatives analysis and review process). The Preliminary Conceptual Designs should include basic engineering, landscape architectural and architectural design criteria and project requirements, taking into account overall impact, cost, maintenance, and other relevant considerations. The Preliminary Conceptual Designs should be comprised of distinct units, each of which can support resiliency and community protection and be implemented as a stand-alone measure. The Preliminary Conceptual Designs should accommodate retrofitting capability to increase protection in the future.

In preparing the Preliminary Conceptual Designs, the Consultant shall consider the existing conditions and analyses compiled in previous Tasks, as well as the following design considerations:

- **Resiliency needs** - Resilient coastal flood protection structures capable of standing alone and accommodating further enhancement to serve future resiliency needs as defined by 2050s 500-year floodplain.

- **FEMA Flood Risk Reduction Standards**

- **Coastal Zone Management Act obligations**

- **Basic architectural, landscape architectural and engineering design criteria**

- **Natural and nature-based solutions** — Whether and how to incorporate green or nature-based infrastructure, that provide co-benefits, like recreational opportunities

- **Enhanced recreational amenities** - Recreational programming that serves the needs of the community and enhances public waterfront access. The design should account for existing recreational facilities, ongoing/planned projects within the Project Area boundaries, as well as the need for additional active and passive waterfront recreational amenities.

- **Maintenance needs** - Incorporate low maintenance design, describe nature and extent of maintenance required, and estimate annual maintenance costs for each alternative.

- **Permits and approvals** - Identify approval and permitting aspects of elements of the conceptual design alternatives developed for the schematic design to determine the needs for permits from any Agency. The Consultant shall also develop a schedule to allow for the timely preparation and application to necessary permits and approvals.

- **Coordination of Activities** - Design should be coordinated with any construction along the waterfront and repairs of bulkhead or other structures. The design should also consider coordination with adjacent studies and spaces.

- **Cost estimates for implementation of design**

- **Project schedule**

The Consultant shall also prepare a draft EIS, as well as the final EIS, as necessary to comply with NEPA. The EIS shall include:

- A description of the process that was used to develop, evaluate, and eliminate potential alternatives, as well as how the alternatives meet the need for the project and avoid or minimized environmental harm;
- Information on the existing resources and condition of the environment;
- A description of the environmental consequences, including the impacts of project alternatives on the environment, the cumulative impacts across the various environmental consequences, and the potential measures that could be taken to mitigate these impacts;
- A summary of the scoping process, the results of any meetings that have been held, and any comments received during preliminary coordination. The final EIS must include comments received and the responses thereto (including changes to the EIS in response to comments); and
- A list of preparers identified by name, qualifications, expertise, experience, and professional discipline.

In connection with the preparation of the EIS, the Consultant shall be responsible for public interface and compliance with the public scoping process pursuant to 43 C.F.R. §46.235 (including collection of and response to public comments regarding the draft EIS and publication in the Federal Register). The

Consultant shall also be responsible for analyzing the cumulative impacts of all large projects in the area, as well as analyzing a no build scenario.

The Consultant shall prepare the Record of Decision, which identifies the selected alternative, presents the basis for the decision, identifies all the alternatives considered, specifies the environmentally preferable alternative, and provides information on ways to avoid, minimize and compensate for environmental impacts.

Throughout the process, the Consultant shall be responsible for planning and providing logistical support to the State for public involvement and agency coordination.

Deliverable(s):

- Notice of Intent to Prepare an EIS
- Preliminary Designs
- Phase IA Archaeological Survey to be submitted to NJHPO
- Historic Architectural Resources Technical Environmental Study submitted to NJHPO
- Draft Environmental Impact Statement (for review and comment)
- Final Environmental Impact Statement
- Draft Record of Decision
- Final Record of Decision

TASK 7: Document Management and Programmatic Reporting

Throughout the term of this agreement, the contractor shall prepare and submit to the State all reports and documents as may be necessary to document any services provided, in accordance with applicable HUD and State requirements. This shall include the following monthly reports:

- Cost control reporting; and
- Task Order progress report.

The aforementioned reports are necessary to support the provisions of the State's HUD Action Plan in accordance with all relevant requirements, including but not limited to, those imposed by HUD and the State.

The Contractor shall retain all records, documents, and communications of any kind (including electronic records, documents, and communications either in disk or print form) that relate in any manner to the award and performance of this Contract. The Contractor shall maintain all such records, documents, and communications for a period of five (5) years from the date that the State closes its disaster recovery grant. Such records shall be made available to the State (including the Office of the State Comptroller pursuant to N.J.A.C. 17:44-2.2) and/or to HUD for audit and review, upon request.

Deliverable(s):

- Monthly reports
- Quarterly and annual compliance reports to HUD in accordance with federal procurement regulations

Contract No. 13-002D
Environmental Consulting Services

Dewberry Engineers, Inc.

Task Order Assignment No. 12
Superstorm Sandy Recovery & Resilience Program
Rebuild by Design, Feasibility Study and
Environmental Impact Statement

Attachment B
Cost Proposal

Dewberry

Client-Focused Means Future-Focused

Final Cost Proposal for:

Rebuild By Design: Resist, Delay, Store, Discharge Project

Feasibility Study and Environmental Impact Statement

New Jersey Transit Corporation

Contract No. 13-002D

SUBMITTED BY:

Dewberry Engineers Inc.
600 Parsippany Road
Parsippany, NJ 07054
973.739.9400

SUBMITTED TO:

NJ TRANSIT
One Penn Plaza
Newark, NJ 07105

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Section 1: Cost Proposal Assumptions

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Cost Proposal Assumptions

Task 1: Data Collection and Mapping, and Public Involvement

1. No acquisition of land is anticipated for this project.
2. Includes conventional ground topographic survey for an area covering about 1.5 miles in length with a width of 100 feet, with a total area of approximately 19 acres.
3. Includes surveying 75 wetland flags along the shoreline, in non-bulkhead locations and up to 50 wetland flags in the interior portions of the City.
4. Includes stakeout survey for 10 soil borings and 80 possible infiltration borings.
5. Access permits will be required. The U.S. Coast Guard will be notified prior to conducting bathymetric survey. Property owners will be contacted prior to field survey work being conducted. Should movable obstructions such as barges or vessels be in the way or impede the work, then we will attempt to arrange for obstructions to be removed or relocated.
6. Title reports are not included.
7. No boundary survey will be performed as part of this scope of work.
8. Survey work will be performed on weekdays only, no weekends or holiday work.
9. Costs do not include preparation and submittal of a NJDEP Letter of Interpretation (LOI) application.
10. Costs do not include conducting detailed T&E field studies.
11. We will verify, to the extent practicable, whether T&E species identified by the NJDEP/ USFWS/NMFS are present while performing a field assessment of the project area. If more detailed studies are required, we will inform the NJDEP of the need for those studies, which could be provided as an out-of-scope extra work item.
12. Historic fill material within the project area is assumed to contain Polycyclic Aromatic Hydrocarbons and metals typical of historic fill.
13. Scheduling of NJDEP file reviews can be expedited to meet project milestones.
14. Utility companies will be contacted by the NJDEP, which will obtain the data and plans necessary to identify and map existing utility locations in the project area prior to Dewberry's NTP for this contract (on or about June 1, 2015). NJDEP will be responsible for all costs required to obtain information from each utility company.
15. There will be no utility test holes or subsurface utility engineering.
16. There will be a maximum of ten utility related meetings.
17. There will be a maximum of ten utility companies.
18. NJDEP will prepare and submit a substantial Action Plan Amendment.
19. There will be one meeting with the ESC at the start of the project.
20. There will be stakeholder meetings during each of the six stakeholder phases of the project. During each round the project team will meet with the ESC, Coastal Hudson County TCT, and CAG. All meetings will be coordinated through the NJDEP Constituent Services manager and the ESC.
21. There will be three public meetings including one each at the conclusion of the Scoping phase, Concept Screening phase, and Alternatives Analysis phase.
22. There will be one Public Hearing which will occur after the publication of the DEIS.
23. Attendance costs are based on up to seven SMEs as well as the management team from Dewberry attending each meeting/hearing. Staff time includes four hours per meeting/hearing per person.
24. There will be one meeting with NJDEP prior to each stakeholder phase of the project (for a total of six meetings). Dewberry will also hold internal meetings prior to each meeting with NJDEP.
25. Includes 14 Working Group Meetings with four SMEs in attendance.
26. NJDEP will coordinate the location and reservation of meeting spaces for meetings.
27. NJDEP will cover any venue fees that may be necessary for three public meetings and one public hearing; all other meeting venues will be held in locations that are free of charge.
28. We will provide administrative support for all meetings (e.g., sign-in sheets, name tags, table tents, room set-up, comment sheets, meeting minutes).
29. We will be represented by up to two public participation specialists at milestone meetings and by up to three

public participation specialists at public meetings and the public hearing.

30. We will provide scoping packages/outlines for use at the scoping meetings.
31. We will compile comments received from comment sheets at the public scoping meeting and public hearing, as well as those received via email, web site, or other means during the official comment periods. Comments will be compiled into a matrix.
32. We will provide all meeting materials including agendas, presentation boards, "PowerPoint" presentations, and handouts. A maximum of eight boards will be required at each round of meetings. Written materials will be reviewed and receive prior approval from NJDEP prior to production. The NJDEP graphics shop will be utilized to the extent practical when information materials are being created.
33. One stenographer will be required for one public hearing.
34. We will develop and distribute invitations for each stakeholder meeting (excluding the PICs and Public Hearing); we will perform RSVP tracking and follow-up. Hard-copy invites will be mailed to stakeholders prior to the scoping meetings inviting them to be part of the process. After scoping, all meeting invitations will be sent electronically via email. Written materials will be reviewed and receive prior approval from NJDEP prior to production. The NJDEP graphics shop will be utilized to the extent practical when information materials are being created.
35. We will develop meeting flyers, which will be distributed before each public meeting and the public hearing. Meeting flyers will be provided English and Spanish. Written materials will be reviewed and receive prior approval from NJDEP prior to production. The NJDEP graphics shop will be utilized to the extent practical when information materials are being created.
36. Interpretation services will be required at up to three public meetings and one public hearing.
37. We will arrange for the translation of newsletters/fact sheets, meeting flyers, advertisements into Spanish. We will not translate presentation boards, "PowerPoint" presentations, meeting minutes, and project reports/documents.
38. NJDEP will write, prepare and issue all press releases.
39. The NJDEP has a project website. This is the official website for the project. Materials will be posted there. The public will be directed there for information.
40. Project Execution Collaboration Portal will include use of hosted SharePoint 2013 Foundation, 50 GB storage, 50 Users, 20 months site usage, and two years domain registration.
41. NJDEP will provide GIS geodatabase of the existing storm-sewer system prior to Dewberry's NTP for this contract (on or about June 1, 2015).

Task 2: Waterfront Structures Inspection

1. Underwater waterfront inspection will be limited to 2,000 linear feet.
2. Should movable obstructions, such as barges or vessels, be in the way or impede the work, then NJDEP will arrange for obstructions to be removed or relocated.
3. Daily field inspections will not exceed eight-hour portal to portal days.
4. No excavations will be carried out to assess seawall or bulkhead construction and thickness dimensions.
5. No core samples of timber, concrete, or steel structural members will be obtained in carrying out the field inspections; as such, no samples will be sent out for laboratory testing to evaluate strength characteristics.
6. Our proposal does not include costs to conduct bathymetric surveys since we intend to use available bathymetric surveys. In the case that bathymetric surveys are unavailable, it will cost $34,100 and will take additional 15 days to complete 2,000 linear feet of waterfront property that will be inspected as part of this task. These bathymetric surveys would extend 50 feet from shoreline and would not include any areas inaccessible by boat, with areas covered by piers ignored; mudline elevations beneath piers, dry docks, and other obstructions will not be taken. Bathymetric survey will performed on weekdays only.

Task 3: Subsurface Investigation

Task 3.A Geotechnical Investigation

1. Due to an anticipated limited drill rig availability, we intend to utilize two drilling contractors to attempt to maintain the proposed work schedule. Actual costs for

each of the specified drillers may shift based on driller availability.

2. The schedule for geotechnical drilling will be governed by the availability of drilling rigs, receipt of required permits, and accessibility of the various locations to be drilled.
3. NJDEP and the City of Hoboken will issue required permits, bonds, and police protection in a timely manner in order to successfully advance the work within schedule guidelines.
4. We will have a maximum of 10 borings up to a depth of 50 feet.
5. We will develop a plan to install 10 groundwater observation wells.
6. A maximum of 80 infiltration tests will be performed.
7. A maximum of 80 samples will be analyzed for particle size distribution.

Task 4: Hydrology / Flood Risk Assessment

1. NJDEP will coordinate with NHSA to obtain hydrologic and hydraulic storm-sewer model of Adams Streets WWTP, and will provide the model to Dewberry upon NTP.
2. We believe that several components of Task 4 and Task 5 in the State's SOW overlap with each other; hence for this proposal we have assumed Task 4 will be focused on development of coastal storm surge and rainfall runoff models and Task 5 will be focused on development of alternatives.
3. Water quality, sediment transport, and ecological models will not be developed or considered.
4. We will conduct up to 32 model runs.

Task 5: Feasibility Analysis

1. Five concepts will be developed.
2. We will reach a consensus on the choice of design flood elevation for a coastal flood risk reduction system and rainfall event prior to issuing NOI.
3. We will limit the total number of potential *delay, storage,* and *discharge* locations to 76 sites which will includes sites identified in the RBD proposal. Out of these 76 sites, we have assumed 50 sites are potential "delay" sites on publicly owned right of way, five sites are potential green roof sites, 15 sites are potential "storage" sites on publicly owned parcels, and six sites are potential "discharge" sites.
4. NJDEP, City of Hoboken, and other stakeholders will assist Dewberry in developing GI siting criteria within 15 working days from NTP.
5. We will limit our site walkthroughs within the City of Hoboken to 10 days to identify potential sites that are beyond those identified in the RBD proposal.
6. We will begin infiltration tests for RBD sites for the *Delay* and *Store* element prior to concept screening workshop.
7. Costs estimates will be developed using NJDOT and/or NJ Turnpike Authority cost estimating software; TransPort (NJDOT) and BidEx (NJTA), and these cost estimating softwares will be accepted by federal agencies
8. We will use FEMA BCA Toolkit for BCA analysis of the final Preferred Alternative.
9. We will create up to 10 renderings per alternative.

Task 6: Preliminary Design and EIS Preparation

1. Three Build Alternatives will be developed.
2. For each Build Alternative, we will create a maximum of 30 drawing sheets in AutoCAD or other similar program to cover engineering, architectural, and landscape architectural disciplines.
3. The Request for Relief of Funds will be prepared by HUD.
4. No additional technical studies will be required as a result of comments received.
5. Per NJDEP, it is assumed that Phase IB testing will not be necessary and, as a result, no costs associated with Phase IB testing are included in this proposal.
6. No maritime archaeological surveys are included as part of this effort.
7. No geomorphological studies will be included as part of this effort.
8. Background research is limited to the research institutions provided above.
9. We anticipate conducting an intensive-level architectural survey of no more than 10 properties that are over 50 years of age.
10. No mitigation work will be conducted.
11. One hundred comments will be received during the pre-draft comment period for the DEIS.

12. Fifty copies of the DEIS will be provided.
13. Fifty comments will be received during the public hearing for the DEIS.
14. Fifty copies of the FEIS will be provided.
15. Twenty comments will be received during the draft comment period for the FEIS.

Task 7: Document Management and Programmatic Reporting

1. The overall duration of the project management task will be 19 months.
2. Scope includes the Project Principal, Project Manager, Deputy Project Manager, and one Task Leader to attend one meeting per month for 19 months at NJDEP's office in Trenton. Each of these meetings will be preceded by an internal coordination meeting.
3. Scope includes 1,000 Project Manager and Deputy Project Manager hours for conference calls and other correspondence.
4. HUD compliance reports will be prepared quarterly and annually.
5. Grant management support is not included in this proposal and can be provided as an additional service.
6. Dewberry's scope of work for this proposal concludes when the ROD is signed.
7. The number of meetings with the final designers will not exceed four.

Section 2: Summary, A-1

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NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-1
COST AND FEE RECAP

FIRM Dewberry Engineers Inc.
(Prime Consultant Name)

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Dewberry Engineers Inc.	Prime Consultant	41,950	$2,170,382.82	$2,768,757.36	$4,939,140.18	$493,914.03	$116,375.85	$5,549,430.06
Dewberry Consultants LLC	Subconsultant (non-DBE)	2,365	$124,586.07	$158,548.24	$283,134.31	$28,313.43	$19,533.98	$330,981.72
Boswell Engineering	Subconsultant (non-DBE)	860	$55,385.34	$76,343.15	$131,728.49	$13,172.85	$5,098.66	$150,000.00
Econsult Solutions Inc.*	Subconsultant (non-DBE)	922	$125,020.00	$0.00	$125,020.00	$0.00	$1,600.00	$126,620.00
Fitzgerald & Halliday, Inc.	Subconsultant (DBE)	2,539	$89,911.72	$132,341.06	$222,252.78	$22,225.28	$50,500.00	$294,978.06
Office for Metropolitan Architecture*	Subconsultant (non-DBE)	6,440	$1,291,908.00	$0.00	$1,291,908.00	$0.00	$7,480.00	$1,299,388.00
Paul Carpenter Associates, Inc.	Subconsultant (DBE)	737	$32,602.28	$56,382.38	$88,984.66	$8,898.47	$7,000.00	$104,883.13
Scape Landscape Architecture PLLC	Subconsultant (DBE)	1,875	$69,803.20	$119,363.48	$189,166.68	$18,916.67	$2,145.00	$210,228.35
TechniQuest Corporation	Subconsultant (DBE)	623	$12,480.00	$20,280.00	$32,760.00	$3,276.00	$1,931.36	$37,967.36
Jersey Boring & Drilling Co., Inc.	Subcontractor (DBE)						$204,275.00	$204,275.00
Craig Geotechnical Drilling Co., Inc.	Subcontractor (non-DBE)						$273,775.00	$273,775.00
Craig Testing Laboratories, Inc.	Subcontractor (non-DBE)						$5,000.00	$5,000.00
TOTALS		58,311	$3,972,079.43	$3,332,015.67	$7,304,095.10	$588,716.73	$694,714.85	$8,587,526.68

** Salary costs for these subconsultants include overhead and profit.*

DBE PARTICIPATION

	TOTAL COST (%)
Fitzgerald & Halliday, Inc.	3.4%
Paul Carpenter Associates, Inc.	1.2%
Scape Landscape Architecture PLLC	2.4%
Jersey Boring & Drilling Co., Inc.	2.4%
TechniQuest Corporation	0.4%
TOTAL:	**9.9%**

Section 3: Dewberry Engineers Inc.

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NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-2
COST AND FEE RECAP

FIRM Dewberry Engineers Inc.

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Sub-Task 1	Data Collection and Mapping, and Public Involvement	13,715	$733,174.19	$935,310.31	$1,668,484.50	$166,848.45	$53,175.80	$1,888,508.75
Sub-Task 2	Waterfront Structures Inspection	304	$14,352.16	$18,309.05	$32,661.21	$3,266.12	$375.00	$36,302.33
Sub-Task 3	Subsurface Investigation	956	$40,494.14	$51,658.37	$92,152.51	$9,215.25	$6,328.00	$107,695.76
Sub-Task 4	Hydrology / Flood Risk Assessment	3,326	$165,880.02	$211,613.14	$377,493.16	$37,749.32	$24,386.75	$439,629.23
Sub-Task 5	Feasibility Analysis	8,037	$400,305.03	$510,669.13	$910,974.16	$91,097.42	$3,734.50	$1,005,806.08
Sub-Task 6	Preliminary Design & EIS Preparation	11,612	$553,963.68	$706,691.47	$1,260,655.15	$126,065.52	$21,769.50	$1,408,490.17
Sub-Task 7	Document Mgmt & Programmatic Reporting	4,000	$262,213.60	$334,505.89	$596,719.49	$59,671.95	$6,606.30	$662,997.74
TOTALS		41,950	$2,170,382.82	$2,768,757.36	$4,939,140.18	$493,914.03	$116,375.85	$5,549,430.06

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Dewberry Engineers Inc. Personnel Hours by Task

Task Description	Project Principal-in-Charge	Senior Consultant PM/DPM	Senior Consultant SME/QAQC	Design/ Planning Team Leader/Project Surveyor	Project Specialist	Supervising Engineer / Architect / Planner	Senior Engineer / Architect / Planner	Engineer / Architect / Planner / Surveyor	Field Survey Staff	CADD Technician	Clerical Staff	Total Hours	DTL
	$99.75	$77.75	$77.75	$57.37	$55.76	$64.22	$46.62	$39.35	$33.44	$51.44	$27.72		
Task 1: Data Collection and Mapping, and Public Involvement	587	984	1262	402	344	1794	2380	1330	2910	1442	280	13,715	$733,174.19
A. Data Collection and Mapping													
1. Purpose and Need	24	40					180		80	32		356	$18,216.88
2. Scoping Document	8	40		48		72	120		200	40		528	$25,625.60
3. Natural Resources	14	24	76	72		48	192	168	76	120		790	$40,660.78
4. Site Visit/Inspect Shoreline for SAV and EFH Resources	2		12			32	48			24		118	$6,659.86
5. Socioeconomic, Land Use and Environmental Justice			0	140		8	160	0	640	80		1,028	$41,521.56
6. Circulation			30				50	100		100		280	$13,742.50
7. Air Quality (SPC Coordination)							40					40	$1,864.80
8. Noise and Vibration (SPC Coordination)							40					40	$1,864.80
9. Hazardous Waste						272	300			160		732	$39,684.24
10. Cultural Resources			24						344	16		384	$14,192.40
11. Infrastructure	1		32	10	80	198	288	226	16			853	$43,271.21
12. Utilities				60		26	100	120		300		606	$29,927.92
13. Survey		16				218		630	350	110	280	1,604	$65,158.46
14. Data Gathering Summary Report Draft	8	16	24	40		56	80	24	220	100		568	$26,973.92
15. Data Gathering Summary Report Final	2	8	8			24	30	12	50	24		158	$7,762.14
16. GIS Mapping							24		140	80		244	$9,915.68
B. Data Gap Findings		24		32		56	48		80	16		256	$13,034.16
C. Consultation with Stakeholders/Public Participation													
1. Dewberry Meeting Attendance (40 Meetings) (Up to 7 SMEs) and Management Team (4 hours per meeting)	320	320	640		160	320	160		160			2,080	$148,841.60
2. Working Group Meeting (14 meetings) (4SME) (8 hours per meeting)			224		56	56	112		56			504	$31,228.96
3. Internal Meetings Preparation prior to NJDEP Meetings (6 meetings) Everyone (8 hours per meeting)	96	96	192		48	96	96	48	48			720	$48,779.04
4. NJDEP Meetings prior to Stakeholder Milestones (6 meetings) (8 hours per meeting) Management	96	96				56	56					304	$23,247.04
5.Kick Off Meeting with Executive Steering Committee (Management Team) (1 meeting) (8 hours each including meeting preparation)	16	16				8	8					48	$3,726.72
6. Website (Technical Content)		24							240			264	$9,891.60
7. Newsletter		16							90			106	$4,253.60
8. Meeting Preparation		248				248	248		120	240		1,104	$63,128.72
Task 2: Waterfront Structures Inspection	0	8	8	0	0	48	80	160	0	0	0	304	$14,352.16
A. Data Collection		4	4			24	40	80				152	$7,176.08
B. Waterfront Inspection Report		4	4			24	40	80				152	$7,176.08
Task 3: Subsurface Investigation	0	26	0	0	0	48	94	788	0	0	0	956	$40,494.14
A. Geotechnical Investigation													
1. Waterfront Boring Report Review		4				24	24	40				92	$4,545.16
2. Field Inspection		16						688				704	$28,316.80
3. Office Engineering		6				24	70	60				160	$7,632.18

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Dewberry Engineers Inc. Personnel Hours by Task

Task Description	Project Principal-In-Charge $98.75	Senior Consultant PM/DPM $77.75	Senior Consultant SME/QAQC $77.75	Design/ Planning Team Leader/Project Surveyor $57.37	Project Specialist $55.76	Supervising Engineer / Architect / Planner $64.22	Senior Engineer / Architect / Planner $46.62	Engineer / Architect / Planner / Surveyor $39.35	Field Survey Staff $33.44	CADD Technician $51.44	Clerical Staff $27.72	Total Hours	DTL
Task 4: Hydrology / Flood Risk Assessment	34	48	92	80	804	436	288	1544	0	0	0	3,326	$165,880.02
A. Existing Conditions Integrated Model Development	1		20		176	80	40	392				709	$33,896.11
B. Proposed (3) Build Alternatives Integrated Model Development	1		40	16	364	132	88	808				1,449	$68,798.71
C. Cost Estimates				64	40	40	160	120				424	$20,652.08
D. Technical Meetings	24	48	24		144	144		144				528	$30,935.52
E. Report	8		8		80	40		80				216	$11,597.60
Task 5: Feasibility Analysis	45	80	500	326	292	996	2624	2798	0	376	0	8,037	$400,305.03
Design Team #1,2,3													
A. Coastal Flood Risk Reduction Assessment ("Resist")	12		40		88	176	176	352		88		932	$47,099.64
B. Stormwater Management Assessment ("Delay,Store,Discharge")	7		72	70	88	336	414	666		88		1,741	$86,831.45
C. Environmental Evaluations and Assessment	2		192	132		144	120					590	$37,542.42
D. Site/Civil/Transportation Asssessment			120				504	666		200		1,490	$69,321.58
E. Utility Assessment				48		8	76	140				272	$12,319.64
F. Structural Assessment						16	704	136				856	$39,199.60
G. Geotechnical Assessment						64	152	264				480	$21,584.72
H. Cost Estimates	4		12	76		40	176	176				484	$23,391.64
I. Technical Meetings	12	80	40		36	132	222	162				684	$37,735.74
J. Draft and Final Feasibility Report	8		24		80	80	80	236				508	$25,278.60
Task 6: Preliminary Design & EIS Preparation	138	298	569	688	216	780	2520	2379	2606	1418	0	11,612	$553,963.68
A. Conceptual Design													
1. Prepare Conceptual Designs for Three Build Alternatives	12		80	160	128	176	688	1650		340		3,234	$149,527.86
2. Prepare Preferred Alternative Preliminary Design	8		40		40	60	272	436		40		896	$41,886.44
3. Technical Meetings	12	40	40		48	48	48	48				284	$17,302.60
B. Draft EIS Preparation													
1. DEIS Compilation	44	40	40	60		100	500		500	300		1,584	$75,935.20
2. Natural Resources	8	40	28	80		52	36	96	48	36		424	$22,926.92
3. Prepare EFH Assessment Report	2	2	24			80	80			32		220	$12,734.28
4. Cultural Resources			116						600	88		804	$33,609.72
5. Circulation			45				60	125		90		320	$15,844.30
6. Utilities				40								40	$2,294.80
7. Visual				160		32			80	120		392	$20,082.24
8. Sustainability			100				40		160			300	$14,990.20
9. Temporary Construction				60			80		140	60		340	$14,939.80
10. Air/Noise			24	24			40					88	$5,107.68
11. Hazardous Waste						16	80		100			196	$8,101.12
12. Environmental Justice				12			24		100			136	$5,151.32
13. Cumulative Impacts				60			80		150			290	$12,187.80
14. Address Pre-Draft Comments / Prepare DEIS	16	40				24	80		100			260	$13,320.88
15. Circulate DEIS		40				40	120		160	120		480	$22,796.40
C. Final EIS Preparation													
1. Addressing Comments	16	32	24	32		64	80	24	120	40		432	$22,640.32
2. FEIS Compilation	16	24	8			8	32		48	32		168	$9,340.80
3. FEIS Distribution		40				40	120		160	120		480	$22,796.40
4. Prepare ROD	4					40	60		140			244	$10,446.60

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
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Dewberry Engineers Inc. Personnel Hours by Task

Task Description	Project Principal-in-Charge $99.75	Senior Consultant PM/DPM $77.75	Senior Consultant SME/QAQC $77.75	Design/ Planning Team Leader/Project Surveyor $57.37	Project Specialist $55.76	Supervising Engineer / Architect / Planner $64.22	Senior Engineer / Architect / Planner $46.62	Engineer / Architect / Planner / Surveyor $39.35	Field Survey Staff $33.44	CADD Technician $51.44	Clerical Staff $27.72	Total Hours	DTL
Task 7: Document Mgmt & Programmatic Reporting	380	1820	0	0	0	594	594	0	0	0	612	4,000	$262,213.60
A. Project Schedule													
1. Develop Initial Schedule		54									18	72	$4,697.46
2. Update Schedule Monthly		270				44	44				72	430	$27,865.30
B. Monthly Progress Reports	86	90				44	44				144	408	$24,444.64
C. Project Work Plan	36	54				36	36				18	180	$12,278.70
D. Project Coordination	86	900				94	94				144	1,318	$92,964.14
E. External Project Management Meetings (20)	86	226				172	172				72	728	$47,210.32
F. Internal Project Management Meetings (20)	44	140				172	172				72	600	$36,334.32
G. Compliance Reporting	10	54									54	118	$6,692.88
H. Meetings With Final Designers (4)	32	32				32	32				18	146	$9,725.84
Total Hours	1,184	3,264	2,431	1,496	1,656	4,696	8,580	8,999	5,516	3,236	892	41,950	
Direct Labor Costs	$118,104.00	$253,776.00	$189,010.25	$85,825.52	$92,338.56	$301,577.12	$399,999.60	$354,110.65	$184,455.04	$166,459.84	$24,726.24		$2,170,382.82
Overhead %	127.57%	127.57%	127.57%	127.57%	127.57%	127.57%	127.57%	127.57%	127.57%	127.57%	127.57%		
Overhead Cost	$150,665.27	$323,742.04	$241,120.38	$109,487.62	$117,796.30	$384,721.93	$510,279.49	$451,738.96	$235,309.29	$212,352.82	$31,543.26		$2,768,757.36
TOTAL LABOR COST	$268,769.27	$577,518.04	$430,130.63	$195,313.14	$210,134.86	$686,299.05	$910,279.09	$805,849.61	$419,764.33	$378,812.66	$56,269.50		$4,939,140.18

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Dewberry Engineers Inc. Direct Expenses Including Subcontractors

Task 1: Data Collection and Mapping, and Public Involvement

	Quantity	Unit	Unit Cost	Total Cost
Subcontractor 1		LS		$0.00
Subcontractor 2		LS		$0.00
			Total Task 1 Subcontractor Costs	$0.00
Dewberry Direct Expenses				
Environmental Data Resources Radius Search, Sanborns, Aerial Photos	1	EA	$5,000.000	$5,000.00
Vehicle Mileage (EFH)	700	Miles	$0.565	$395.50
Vehicle Mileage (Socioeconomics)	300	Miles	$0.565	$169.50
Vehicle Mileage (Hazardous Waste)	1120	Miles	$0.565	$632.80
Vehicle Mileage (Cultural Resources)	800	Miles	$0.565	$452.00
Title Searches 76 properties(Survey)	1	LS	$5,000.000	$5,000.00
Vehicle Mileage (Dewberry Meeting Attendance)	19800	Miles	$0.565	$11,187.00
Vehicle Mileage (NYC)	600	Miles	$0.565	$339.00
Printing/Copying/Mailing/Presentation Material - 8 boards per round	1	LS	30000	$30,000.00
			Total Task 1 Dewberry Direct Expenses	$53,175.80
			Total Task 1 Direct Expenses	**$53,175.80**

Task 2: Waterfront Structures Inspection

	Quantity	Unit	Unit Cost	Total Cost
Subcontractor 1		LS		$0.00
Subcontractor 2		LS		$0.00
			Total Task 2 Subcontractor Costs	$0.00
Dewberry Direct Expenses				
Other				$0.00
Other				$0.00
Vehicle Mileage		Miles	$0.565	$0.00
Printing/Copying/Mailing	1	LS	375	$375.00
			Total Task 2 Dewberry Direct Expenses	$375.00
			Total Task 2 Direct Expenses	**$375.00**

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
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Dewberry Engineers Inc. Direct Expenses Including Subcontractors

Task 3 - Subsurface Investigation
Task 3.A - Geotechnical

	Quantity	Unit	Unit Cost	Total Cost
Geotech Drilling Subcontractor - Jersey Boring				
Mob/Demob Truck Rig(1)	1	LS	$5,000.00	$5,000.00
Mob/Demob ATV(1)	1	LS	$8,000.00	$8,000.00
Infiltration Testing	30	DAYS	$2,100.00	$63,000.00
Borings	5	DAYS	$2,100.00	$10,500.00
Wells	100	FT	$15.00	$1,500.00
Well caps	5	EA	$175.00	$875.00
MPT	1	LS	$5,000.00	$5,000.00
Police	55	DAYS	$500.00	$27,500.00
Hoboken Permits	55	EA	$150.00	$8,250.00
Well Permits	5	EA	$175.00	$875.00
Parking Spot Signs (3 per site)	55	EA	$120.00	$6,600.00
Sidewalk Flag Replacements	30	EA	$2,120.00	$63,600.00
Bond for holes drilled	55	EA	$65.00	$3,575.00
Geotech Drilling Subcontractor - Craig Drilling				
Mob/Demob Truck Rig(1)	1	LS	$5,000.00	$5,000.00
Mob/Demob ATV(1)	1	LS	$8,000.00	$8,000.00
Infiltration Testing	50	DAYS	$2,600.00	$130,000.00
Borings	5	DAYS	$2,600.00	$13,000.00
Wells	100	FT	$15.00	$1,500.00
Well caps	5	EA	$175.00	$875.00
MPT	1	LS	$5,000.00	$5,000.00
Police	55	DAYS	$500.00	$27,500.00
Hoboken Permits	55	EA	$150.00	$8,250.00
Well Permits	5	EA	$175.00	$875.00
Parking Spot Signs (3 per site)	55	EA	$120.00	$6,600.00
Sidewalk Flag Replacements	30	EA	$2,120.00	$63,600.00
Bond for holes drilled	55	EA	$65.00	$3,575.00
Geotech Laboratory Subcontractor	100	Seive Analysis	$50.00	$5,000.00
		Total Task 3 Subcontractor Costs		$483,050.00
Dewberry Direct Expenses				
Other				$0.00
Other				$0.00
Vehicle Mileage (Geotech)	11200	Miles	$0.565	$6,328.00
Printing/Copying/Mailing		LS		$0.00
		Total Task 3 Dewberry Direct Expenses		$6,328.00
			Total Task 3.A Direct Expenses	**$489,378.00**

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
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Rebuild By Design: Resist, Delay, Store, Discharge Project

Dewberry Engineers Inc. Direct Expenses Including Subcontractors

Task 4: Hydrology / Flood Risk Assessment

	Quantity	Unit	Unit Cost	Total Cost
Subcontractor 1		LS		$0.00
Subcontractor 2		LS		$0.00
			Total Task 4 Subcontractor Costs	$0.00
Dewberry Direct Expenses				
Software Purchase	1	LS	$23,580.25	$23,580.25
Vehicle Mileage	100	Miles	$0.565	$56.50
Printing/Copying/Mailing	1	LS	750	$750.00
			Total Task 4 Dewberry Direct Expenses	$24,386.75
			Total Task 4 Direct Expenses	**$24,386.75**

Task 5: Feasibility Analysis

	Quantity	Unit	Unit Cost	Total Cost
Subcontractor 1		LS		$0.00
Subcontractor 2		LS		$0.00
			Total Task 5 Subcontractor Costs	$0.00
Dewberry Direct Expenses				
Other				$0.00
Other				$0.00
Vehicle Mileage	1300	Miles	$0.565	$734.50
Printing/Copying/Mailing	1	LS	3000	$3,000.00
			Total Task 5 Dewberry Direct Expenses	$3,734.50
			Total Task 5 Direct Expenses	**$3,734.50**

Task 6: Preliminary Design & EIS Preparation

	Quantity	Unit	Unit Cost	Total Cost
Subcontractor 1		LS		$0.00
Subcontractor 2		LS		$0.00
			Total Task 6 Subcontractor Costs	$0.00
Dewberry Direct Expenses				
Draft EIS Production/Distribution	1	LS	$10,000.00	$10,000.00
Final EIS Production/Distribution	1	LS	$10,000.00	$10,000.00
Vehicle Mileage (Cultural Resources)	200	Miles	$0.565	$113.00
Vehicle Mileage (NYC)	100	Miles	$0.565	$56.50
Printing/Copying/Mailing	1	LS	1600	$1,600.00
			Total Task 6 Dewberry Direct Expenses	$21,769.50
			Total Task 6 Direct Expenses	**$21,769.50**

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
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Rebuild By Design: Resist, Delay, Store, Discharge Project

Dewberry Engineers Inc. Direct Expenses Including Subcontractors

Task 7: Document Mgmt & Programmatic Reporting

	Quantity	Unit	Unit Cost	Total Cost
Subcontractor 1		LS		$0.00
Subcontractor 2		LS		$0.00
			Total Task 7 Subcontractor Costs	$0.00
Dewberry Direct Expenses				
Tolls	19	Per Trip	$10.00	$190.00
Parking	19	Per Trip	$10.00	$190.00
Vehicle Mileage	11020	Miles	$0.565	$6,226.30
Printing/Copying/Mailing		LS		$0.00
			Total Task 7 Dewberry Direct Expenses	$6,606.30
			Total Task 7 Direct Expenses	**$6,606.30**

Craig Geotechnical
Drilling Co., Inc.
PO Box 427
Mays Landing, NJ 08330-0427
Phone: (609) 625-4862
Fax: (609) 625-4306
E-Mail: ctb@craigtest.com

Craig Geotechnical Drilling Co., Inc

To:	Mr. Mike Rehberg	Email:	mrehberg@dewberry.com
From:	Mr. Ben Thies	Date:	March 19, 2015
Re:	Q-229-BT-15	Pages:	5
CC:		Fax:	

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

Hoboken RBD

Mobilization/demobilization Truck Rig---------- $5,000.00
Mobilization/demobilization ATV Rig----------$5,000.00
Soil borings with sampling:
A. Truck----------$2,400.00 per Day
B. ATV ----------$2,800.00 per Day
Infiltration Testing
C. Truck $2,400.00 per Day
D. ATV $2,800.00 per Day

Install 2" PVC well in completed borehole----------$15.00 per Foot
FM Covers: ----------$175.00 per Cover
NJDEP Permits: ----------$175.00 per Cover

MPT, Allowance----------$5,000.00 (*)
(*) Includes signs and cones for duration of project

Notes:
Hoboken permits and police for traffic control not included.
Does not include parking permits, police or traffic control.
Prices do not include replacement of sidewalk flags.

NOTES:

1. If the actual subsurface or access conditions are substantially different from those assumed for preparation of this proposal, we shall immediately inform you of the change in scope of work and related charges and in no way will we proceed without your authorization.

2. Upon completion, each boring will be backfilled with the cuttings from the site. Craig Geotechnical Drilling Co., Inc. will return and refill the hole within thirty (30) days of the completion of the project if advised by client that there is such settling. Client shall give written notice to Craig Geotechnical Drilling Co., Inc. of any such settling and such notice must be received by Craig Geotechnical Drilling. Co., Inc. within five (5) business days of the expiration of the 30 day period. Except as set forth hereinafter Craig Geotechnical Drilling Co., Inc. assumes no responsibility for the refilling/settling of the borings and the client agrees to hold Craig Geotechnical Drilling Co., Inc. harmless from all claims, costs, expenses, or liabilities arising out of or related to the refilling/settling of the borings.

3. Unless otherwise directed by Client in writing, soil and/or rock samples will be retained by our office for a period of three (3) months, at which time they will be discarded.

4. While all due care will be taken to avoid damaging any sidewalks or existing ground surface, Craig Geotechnical Drilling Co., Inc. accepts no responsibility for ruts, cracks, depressions, etc. left by our drilling equipment.

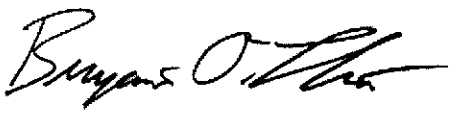
Q-229-BT-15

NOTES: (Continued)

5. Our insurance coverage is as shown on the attached sample certificate. Any additional coverage requested or required will be provided, if available, at our cost plus fifteen percent.

6. Any utilities deemed by the Underground Location Service to be "customer owned" or private utilities must be located by the owner or owner's representative. This would also include any other public utilities not covered by the NJ One Call System.

Very truly yours,
CRAIG GEOTECHNICAL DRILLING CO., INC.



Benjamin O. Thies
Division Manager

Q-229-BT-15

Please indicate your acceptance of the above by signing and returning one (1) copy to us:

ACCEPTED BY:_____ DATE:_____

TITLE:_____ PHONE:_____

JERSEY BORING & DRILLING CO.,INC.

36 PIER LANE WEST, FAIRFIELD, NJ 07004

PHONE (973) 287-6857 FAX (973) 521-7891

To: Name: Mike Rehberg
Company: Dewberry

From: Dennis Spearnock
Date: 3/19/2015

Phone No: 973-780-9329
E-Mail: mrehberg@dewberry.com

Page 1 of 2

Quote No. Q15-114

Project: Hoboken RBD
Hoboken, NJ

Jersey Boring and Drilling Co., Inc. is pleased to present this proposal to conduct borings and infiltration testing with truck or ATV mounted drill rig.

Mobilization/demobilization truck rig	$	5,000.00	LS
Mobilization/demobilization ATV rig	$	8,000.00	LS
Soil drilling with continuous sampling to ten feet and at five foot intervals thereafter and well installation	$	2,100.00	Per day
Infiltration testing	$	2,100.00	Per day
Install 2" PVC well in completed borehole	$	15.00	Per foot
MPT, allowance	$	5,000.00	
If required:			
Drums, if required	$	100.00	Each
NJDEP boring/well permits	$	250.00	Each
Stand by time	$	265.00	Crew Hour

NOTE: NJ DEP requires coordinates for all wells and permitted borings to be given in the NJ State Plane system either by a licensed surveyor or with differential GPS. Jersey Boring can provide GPS coordinates for a fee of $150.00 per well.

All drums/drill cuttings to remain on site for testing and disposal by others. Jersey Boring and Drilling Co., Inc. will provide driller's field logs. Typed logs can be provided for a fee of $80.00 per hour with a one hour minimum charge. Engineering reports and inspections will be the responsibility of the client and is not included in our services.

All borings shall be located on private property and not on city sidewalks.

We will call for a utility mark out, however the location of any on site under-ground utilities,

tanks, or buried structures must be identified by the client or owner before we can start drilling. The initial one-call fee is included in the price for mobilization/Demobilization. A fee of $50.00 will be billed for additional one-calls required due to project scheduling conflicts or cancellations.

Our employees are members of Local 1556 in NYC with the classification of core drillers. Any additional union employees required to satisfy other unions will be the responsibility of others.

Samples will be stored in our facilities for up to one year from the date of drilling. After one year all samples not taken by the client will be disposed of at our discretion.

It is our assumption that the site is not contaminated with hazardous materials, if any should be encountered during the drilling activities, the client will be contacted and a mutual agreement will be made about how to proceed. Any additional cost due to the hazardous materials will be agreed to before drilling resumes.

If the above terms and conditions are acceptable to you, please sign the bottom of this fee schedule and return it to us by fax, or supply us with a signed copy of your purchase order or contract, issued by the party responsible for payment.

These prices will remain in effect for 90 days from date quoted.

Thank you for the opportunity to be of service on this project. If you have any questions or require additional information please call me at 973-242-3800.

Dennis Spearnock

_____

Mike Rehberg Date

CRAIG
TESTING LABORATORIES, INC.
5439 Harding Highway • P.O. Box 427 • Mays Landing, NJ 08330 • P:609.625.1700 • F:609.625.1798

March 19, 2015

Dewberry
200 Broadacres Drive Suite 410
Bloomfield, New Jersey 07003-3154

Attn.: Mr. Michael Rehberg , P.E.

RE: Hoboken RBD

Dear Mr. Rehberg,

CRAIG TESTING LABORATORIES, INC. is pleased to submit the following material testing services quotation for your use and review.

GEOTECHNICAL LABORATORY TESTING

Soil Particle Size Analysis

Sieve Analysis – Jar Sample (ASTM D 422) ..... $ 50.00/test

***** SEE FINANCIAL NOTES ATTACHED *****

Respectfully submitted,
CRAIG TESTING LABORATORIES, INC.

Eduardo Freire, PE
President

Dewberry

973-338-9100 / phone
(908) 307-0933 / cell
973-338-5860 / fax
e-mail address: mrehberg@dewberry.com

FINANCIAL NOTES

1) **This proposal will become part of any contract entered into by Craig Testing Laboratories, Inc. (CTL).**

2) Reports will be provided as part of our contract via ***E-MAIL ONLY***. Requested hard-copies of reports will be prepared and billed at one dollar ($1.00) per page including postage.

3) Unless specifically noted in the quotation, our fees are based on providing inspection services at non-hazardous sites (no 40-hour Hazwoper certified or such staff requirement) and material testing on non-contaminated material. Client must inform us immediately if services will be provided on a hazardous site or on contaminated material so that we can review project requirements and determine if we can service the project. If CTL decides to service the project we reserve the right to submit a revised quotation.

4) Craig Testing Laboratories, Inc. has a safety manual that all employees must abide too. A copy of our safety manual can be provided upon request. Should the project require an additional safety plan(s) and/or completion of forms for project specific safety purposes, additional fees may be charged and will be submitted for approval by client prior to completing requested documentation.

5) Our services are professional services and not trade services. As such our services are not governed by Prevailing Wage Act and therefore no certified payrolls will be provided.

6) Billing for services rendered is provided on a monthly basis, accompanied by appropriate back-up data. Terms are net thirty (30) days. A service charge of 2% per month (24% per annum) will be charged on all past due accounts.

7) Craig Testing Laboratories, Inc.'s insurance coverages are as shown on the attached sample insurance certificate to this quotation. Any additional coverages requested or required, if available, will be charged to our client at Craig Testing Laboratories, Inc.'s cost plus fifteen percent (cost + 15.0%).

8) Rates are effective for a period of thirty (30) days from date on quotation. If this quotation is not accepted within thirty (30) days, Craig Testing Laboratories, Inc. reserves the right to submit a current quotation.

9) On the anniversary of this quotation all rates shall be subject to an increase of ten percent (10.0%) per annum for the specific project listed.

10) In any suit brought to collect fees due under this agreement, the customer agrees to pay all of Craig Testing Laboratories, Inc.'s collection costs, including a reasonable attorney's fee.

11) Should client or their representative directly hire any Craig Testing Laboratories, Inc. (CTL) staff member that worked on this project up to one (1) year after the completion of the project, client agrees to pay CTL a sum of four-thousand ($4,000) dollars.

12) Project Manager/Staff Engineer services, other than our Professional Engineer, will be billed at **$85.00/hour** for attendance at meetings **(Four (4) hour minimum *plus* travel time if over four (4) hours)** and providing additional services, when requested by the client.

13) Professional Engineer services are not included in our fees. Should Professional Engineering services be required it will be billed at **$125.00/hour *plus* travel time and expenses ($0.45/mile) and tolls**. This hourly rate will be charged for any requested Professional Engineer reviews, generated documents, site visits and signing and sealing of documents **(One (1) Hour Minimum).**

Should the above quotation meet with your approval, please sign one copy and return it via fax to (609) 625-1798, via mail to Craig Testing Laboratories, Inc., 5439 Harding Highway, P. O. Box 427, Mays Landing, New Jersey 08330 or via email to efreire@craigtest.com.

SIGNATURE: _____ DATE: _____

PRINT NAME: _____ TITLE: _____

QUOTE NUMBER: QE-124-CTL-15

Dewberry
973-338-9100 / phone
(908) 307-0933 / cell
973-338-5860 / fax
e-mail address: mrehberg@dewberry.com

Section 4: Dewberry Consultants LLC

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NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-1
COST AND FEE RECAP

FIRM Dewberry Consultants LLC
(Subconsultant Name)

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Dewberry Consultants LLC	Subconsultant	2,365	$124,586.07	$158,548.24	$283,134.31	$28,313.43	$19,533.98	$330,981.72
TOTALS		2,365	$124,586.07	$158,548.24	$283,134.31	$28,313.43	$19,533.98	$330,981.72

DBE PARTICIPATION

	TOTAL COST (%)
dbe Firm 1 - enter name	
dbe Firm 1 - enter name	
dbe Firm 1 - enter name	
TOTALS	0.00%

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-2
COST AND FEE RECAP

FIRM Dewberry Consultants LLC

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Sub-Task 1	Data Collection and Mapping, and Public Involvement	246	$17,324.82	$22,047.57	$39,372.39	$3,937.24	$10,675.45	$53,985.08
Sub-Task 2	Waterfront Structures Inspection	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 3	Subsurface Investigation	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 4	Hydrology / Flood Risk Assessment	932	$40,943.56	$52,104.77	$93,048.33	$9,304.83	$2,084.36	$104,437.52
Sub-Task 5	Feasibility Analysis	941	$53,252.99	$67,769.76	$121,022.75	$12,102.28	$5,731.99	$138,857.02
Sub-Task 6	Preliminary Design & EIS Preparation	246	$13,064.70	$16,626.14	$29,690.84	$2,969.08	$1,042.18	$33,702.10
Sub-Task 7	Document Mgmt & Programmatic Reporting	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TOTALS		2,365	$124,586.07	$158,548.24	$283,134.31	$28,313.43	$19,533.98	$330,981.72

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Dewberry Consultants LLC Personnel Hours by Task

Task Description	Project Principal-in-Charge $99.75	Senior Consultant $77.75	Project Manager $64.22	Design/ Planning Team Leader/Project Surveyor $57.37	Project Specialist $55.76	Supervising Engineer / Architect / Planner $64.22	Senior Engineer / Architect / Planner $46.62	Engineer / Architect / Planner / Surveyor $39.35	Field Survey Staff $33.44	CADD Technician $51.44	Clerical Staff $27.72	Total Hours	DTL
Task 1: Data Collection and Mapping, and Public Involvement	18	140	0	0	72	0	0	16	0	0	0	246	$17,324.82
A. Site Visit/Workshop/Meeting Attendance	18				72							90	$5,810.22
B. Consultation												0	$0.00
1 Public Information Website - Scoping								0				0	$0.00
2 Project Information Website - Design								0				0	$0.00
3 Project Information Website - Support								0				0	$0.00
4 Project Execution Collaboration Site - Scoping		24										24	$1,866.00
5 Project Execution Collaboration Site - Design		100										100	$7,775.00
6 Project Execution Collaboration Site - Support		16						16				32	$1,873.60
Task 2: Waterfront Structures Inspection	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
A.												0	$0.00
B.												0	$0.00
1												0	$0.00
2												0	$0.00
3												0	$0.00
4												0	$0.00
Task 3: Subsurface Investigation	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
A. Geotechnical Investigation												0	$0.00
1												0	$0.00
2												0	$0.00
B. Hazardous Waste Investigation												0	$0.00
1												0	
2												0	$0.00
Task 4: Hydrology / Flood Risk Assessment	12	0	0	0	216	0	0	704	0	0	0	932	$40,943.56
A. Coastal Modeling for Existing and Proposed 3 Alternatives	12				216			704				932	$40,943.56
B.												0	$0.00
1												0	$0.00
2												0	$0.00
3												0	$0.00
4												0	$0.00
Task 5: Feasibility Analysis	76	0	0	0	224	320	0	321	0	0	0	941	$53,252.99
A. Preliminary BCAs for Alternatives	32					84						116	$8,586.48
B. Final BCA for Selected Project	32					236						268	$18,347.92
C. Coastal Flood Protection and Floodplain Mapping	12				224			321				557	$26,318.59
2												0	$0.00
3												0	$0.00
4												0	$0.00

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Dewberry Consultants LLC Personnel Hours by Task

Task Description	Project Principal-in-Charge	Senior Consultant	Project Manager	Design/ Planning Team Leader/Project Surveyor	Project Specialist	Supervising Engineer / Architect / Planner	Senior Engineer / Architect / Planner	Engineer / Architect / Planner / Surveyor	Field Survey Staff	CADD Technician	Clerical Staff	Total Hours	DTL
	$99.75	$77.75	$64.22	$57.37	$55.76	$64.22	$46.62	$39.35	$33.44	$51.44	$27.72		
Task 6: Preliminary Design & EIS Preparation	18	0	0	0	140	0	0	88	0	0	0	246	$13,064.70
A. Coastal Flood Protection	18				140			88				246	$13,064.70
B.												0	$0.00
1												0	$0.00
2												0	$0.00
3												0	$0.00
4												0	$0.00
Task 7: Document Mgmt & Programmatic Reporting	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
A.												0	$0.00
B.												0	$0.00
1												0	$0.00
2												0	$0.00
3												0	$0.00
4													
												0	$0.00
Total Hours	124	140	0	0	652	320	0	1,129	0	0	0	2,365	
Direct Labor Costs	$12,369.00	$10,885.00	$0.00	$0.00	$36,355.52	$20,550.40	$0.00	$44,426.15	$0.00	$0.00	$0.00		$124,586.07
Overhead %	127.26%	127.26%	127.26%	127.26%	127.26%	127.26%	127.26%	127.26%	127.26%	127.26%	127.26%		
Overhead Cost	$15,740.79	$13,852.25	$0.00	$0.00	$46,266.03	$26,152.44	$0.00	$56,536.72	$0.00	$0.00	$0.00		$158,548.23
TOTAL LABOR COST	$28,109.79	$24,737.25	$0.00	$0.00	$82,621.55	$46,702.84	$0.00	$100,962.87	$0.00	$0.00	$0.00		$283,134.30

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Dewberry Consultants LLC Direct Expenses Including Subcontractors

Task 1: Data Collection and Mapping, and Public Involvement

	Quantity	Unit	Unit Cost	Total Cost
Subconsultant 1	1	LS		$0.00
Subconsultant 2	1	LS		$0.00
			Total Task 1 Subconsultant Costs	$0.00
Dewberry Consultants Direct Expenses				
Project Execution Collaboration Website Hosting - 50 GB/50 Users/SharePoint Foundation 2013	20	Months	$400.000	$8,000.00
Public Information Website - WordPress		Months	$50.00	$0.00
Domain Registration - Project Execution Collaboration Site	2	Years	$35.00	$70.00
Domain Registrations - Public Information Website		Years	$35.00	$0.00
Hotel Stay	5	LS	$140.000	$700.00
Per Diem	7.5	LS	$71.00	$532.50
Vehicle Mileage	2430	Miles	$0.565	$1,372.95
Printing/Copying/Mailing		LS		$0.00
			Total Task 1 Dewberry Direct Expenses	$10,675.45
			Total Task 1 Direct Expenses	**$10,675.45**

Task 2: Waterfront Structures Inspection

	Quantity	Unit	Unit Cost	Total Cost
Subconsultant 1	1	LS		$0.00
Subconsultant 2	1	LS		$0.00
			Total Task 2 Subconsultant Costs	$0.00
Dewberry Consultants Direct Expenses				
Other				$0.00
Other				$0.00
Vehicle Mileage		Miles	$0.565	$0.00
Printing/Copying/Mailing		LS		$0.00
			Total Task 2 Dewberry Direct Expenses	$0.00
			Total Task 2 Direct Expenses	**$0.00**

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Dewberry Consultants LLC Direct Expenses Including Subcontractors

Task 3: Subsurface Investigation

	Quantity	Unit	Unit Cost	Total Cost
Subconsultant 1	1	LS		$0.00
Subconsultant 2	1	LS		$0.00
			Total Task 3 Subconsultant Costs	$0.00
Dewberry Consultants Direct Expenses				
Other				$0.00
Other				$0.00
Vehicle Mileage		Miles	$0.565	$0.00
Printing/Copying/Mailing		LS		$0.00
			Total Task 3 Dewberry Direct Expenses	$0.00
			Total Task 3 Direct Expenses	**$0.00**

Task 4: Hydrology / Flood Risk Assessment

	Quantity	Unit	Unit Cost	Total Cost
Subconsultant 1	1	LS		$0.00
Subconsultant 2	1	LS		$0.00
			Total Task 4 Subconsultant Costs	$0.00
Dewberry Direct Expenses				
Hotel Stay	4	LS	$140.000	$560.00
Per Diem	6	LS	$71.00	$426.00
Vehicle Mileage	1944	Miles	$0.565	$1,098.36
Printing/Copying/Mailing		LS		$0.00
			Total Task 4 Dewberry Direct Expenses	$2,084.36
			Total Task 4 Direct Expenses	**$2,084.36**

Task 5: Feasibility Analysis

	Quantity	Unit	Unit Cost	Total Cost
Subconsultant 1	1	LS		$0.00
Subconsultant 2	1	LS		$0.00
			Total Task 5 Subconsultant Costs	$0.00
Dewberry Direct Expenses				
Hotel Stay	11	LS	$140.000	$1,540.00
Per Diem	16.5	LS	$71.00	$1,171.50
Vehicle Mileage	5346	Miles	$0.565	$3,020.49
Printing/Copying/Mailing		LS		$0.00
			Total Task 5 Dewberry Direct Expenses	$5,731.99
			Total Task 5 Direct Expenses	**$5,731.99**

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Dewberry Consultants LLC Direct Expenses Including Subcontractors

Task 6: Preliminary Design & EIS Preparation

	Quantity	Unit	Unit Cost	Total Cost
Subconsultant 1	1	LS		$0.00
Subconsultant 2	1	LS		$0.00
			Total Task 6 Subconsultant Costs	$0.00
Dewberry Direct Expenses				
Hotel Stay	2	LS	$140.000	$280.00
Per Diem	3	LS	$71.00	$213.00
Vehicle Mileage	972	Miles	$0.565	$549.18
Printing/Copying/Mailing		LS		$0.00
			Total Task 6 Dewberry Direct Expenses	$1,042.18
			Total Task 6 Direct Expenses	**$1,042.18**

Task 7: Document Mgmt & Programmatic Reporting

	Quantity	Unit	Unit Cost	Total Cost
Subconsultant 1	1	LS		$0.00
Subconsultant 2	1	LS		$0.00
			Total Task 7 Subconsultant Costs	$0.00
Dewberry Direct Expenses				
Other				$0.00
Other				$0.00
Vehicle Mileage		Miles	$0.565	$0.00
Printing/Copying/Mailing		LS		$0.00
			Total Task 7 Dewberry Direct Expenses	$0.00
			Total Task 7 Direct Expenses	**$0.00**

Section 5: Boswell Engineering

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NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-1
COST AND FEE RECAP

FIRM Boswell Engineering
(Subconsultant Name)

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Boswell Engineering	Subconsultant	860	$55,385.34	$76,343.15	$131,728.49	$13,172.85	$5,098.66	$150,000.00
TOTALS		860	$55,385.34	$76,343.15	$131,728.49	$13,172.85	$5,098.66	$150,000.00

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-2
COST AND FEE RECAP

FIRM Boswell Engineering
(Subconsultant Name)

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Sub-Task 1	Data Collection and Mapping, and Public Involvement	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 2	Waterfront Structures Inspection	860	$55,385.34	$76,343.15	$131,728.49	$13,172.85	$5,098.66	$150,000.00
Sub-Task 3	Subsurface Investigation	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 4	Hydrology / Flood Risk Assessment	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 5	Feasibility Analysis	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 6	Preliminary Design & EIS Preparation	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 7	Document Mgmt & Programmatic Reporting	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TOTALS		860	$55,385.34	$76,343.15	$131,728.49	$13,172.85	$5,098.66	$150,000.00

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Boswell Engineering Personnel Hours by Task

	technical staff titles and rates									support staff titles and rates			
insert title on this line:	BUE Manager	On-Site PE Diver / Team Leader	Chief Inspector Diver	Inspector Divers	Chief Municipal Engineer	Municipal Engineer	Chief Structural Engineer	Structural Engineer	Technical Engineer / CAD Operator			Total Hours	DTL
Insert corresponding rate:	$108.00	$78.00	$65.29	$60.93	$101.44	$64.18	$72.12	$41.35	$29.77	$0.00	$0.00		
Task 1: Data Collection and Mapping, and Public Involvement	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
Task 2: Waterfront Structures Inspection	38	80	38	144	80	80	160	160	80	0	0	860	$55,385.34
1. Site visit and review of available reports	10	8			32	40	80	80	20			270	$17,190.28
2. Underwater Inspection and Load Calculations	24	68	38	144	40	24	60	60	20			478	$32,152.46
3. Reports	4	4	0	0	8	16	20	20	40			112	$6,042.60
Task 3: Subsurface Investigation	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
Task 4: Hydrology / Flood Risk Assessment	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
Task 5: Feasibility Analysis	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
Task 6: Preliminary Design & EIS Preparation	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Boswell Engineering Personnel Hours by Task

	technical staff titles and rates									support staff titles and rates			
insert title on this line:	BUE Manager	On-Site PE Diver / Team Leader	Chief Inspector Diver	Inspector Divers	Chief Municipal Engineer	Municipal Engineer	Chief Structural Engineer	Structural Engineer	Technical Engineer / CAD Operator			Total Hours	DTL
Insert corresponding rate:	$108.00	$78.00	$65.29	$60.93	$101.44	$64.18	$72.12	$41.35	$29.77	$0.00	$0.00		
Task 7: Document Mgmt & Programmatic Reporting	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
Total Hours	38	80	38	144	80	80	160	160	80	0	0	860	
Direct Labor Costs	$4,104.00	$6,240.00	$2,481.02	$8,773.92	$8,115.20	$5,134.40	$11,539.20	$6,616.00	$2,381.60	$0.00	$0.00		$55,385.34

Section 6: Econsult Solutions Inc.

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NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-1
COST AND FEE RECAP

FIRM Econsult Solutions, Inc.
(Subconsultant Name)

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Econsult Solutions, Inc.	Task 5 - Feasibility Study	922	$125,020.00	$0.00	$125,020.00	$0.00	$1,600.00	$126,620.00
TOTALS		922	$125,020.00	$0.00	$125,020.00	$0.00	$1,600.00	$126,620.00

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-2
COST AND FEE RECAP

FIRM Econsult Solutions, Inc.
(Subconsultant Name)

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Sub-Task 1	Data Collection and Mapping, and Public Involvement	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 2	Waterfront Structures Inspection	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 3	Subsurface Investigation	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 4	Hydrology / Flood Risk Assessment	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 5	Feasibility Analysis	922	$125,020.00	$0.00	$125,020.00	$0.00	$1,600.00	$126,620.00
Sub-Task 6	Preliminary Design & EIS Preparation	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 7	Document Mgmt & Programmatic Reporting	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TOTALS		922	$125,020.00	$0.00	$125,020.00	$0.00	$1,600.00	$126,620.00

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Econsult Solutions Inc. Personnel Hours by Task

	technical staff titles and rates									support staff titles and rates			
insert title on this line:	Principal	Director	Analyst	Research Assistant								Total Hours	DTL
Insert corresponding rate:	$275.00	$160.00	$110.00	$75.00		$0.00	$0.00	$0.00	$0.00	$0.00	$0.00		
Task 1: Data Collection and Mapping, and Public Involvement	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
Task 2: Waterfront Structures Inspection	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
Task 3: Subsurface Investigation	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	
												0	$0.00
Task 4: Hydrology / Flood Risk Assessment	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Econsult Solutions Inc. Personnel Hours by Task

	technical staff titles and rates									support staff titles and rates			
insert title on this line:	Principal	Director	Analyst	Research Assistant		$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	Total Hours	DTL
Insert corresponding rate:	$275.00	$160.00	$110.00	$75.00									
Task 5: Feasibility Analysis	112	220	422	168		0	0	0	0	0	0	922	$125,020.00
1: Real Estate Impacts	35	106	188	78								407	$53,115.00
2: Benefit Cost Analysis for 3 Build Alternatives	42	84	224	90								440	$56,380.00
3: Technical Meetings	35	30	10									75	$15,525.00
												0	$0.00
												0	$0.00
												0	$0.00
Task 6: Preliminary Design & EIS Preparation	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
Task 7: Document Mgmt & Programmatic Reporting	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
Total Hours	112	220	422	168	0	0	0	0	0	0	0	922	
Direct Labor Costs	$30,800.00	$35,200.00	$46,420.00	$12,600.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00		$125,020.00

Section 7: Fitzgerald & Halliday Inc.

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NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-1
COST AND FEE RECAP

FIRM Fitzgerald & Halliday, Inc.
(Subconsultant Name)

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Fitzgerald & Halliday, Inc.	Subconsultant	2,539	$89,911.72	$132,341.06	$222,252.78	$22,225.28	$50,500.00	$294,978.06
TOTALS		2,539	$89,911.72	$132,341.06	$222,252.78	$22,225.28	$50,500.00	$294,978.06

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-2
COST AND FEE RECAP

FIRM Fitzgerald & Halliday, Inc.
(Subconsultant Name)

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Sub-Task 1	Data Collection and Mapping, and Public Involvement	2,539	$89,911.72	$132,341.06	$222,252.78	$22,225.28	$50,500.00	$294,978.06
Sub-Task 2	Waterfront Structures Inspection	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 3	Subsurface Investigation	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 4	Hydrology / Flood Risk Assessment	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 5	Feasibility Analysis	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 6	Preliminary Design & EIS Preparation	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 7	Document Mgmt & Programmatic Reporting	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TOTALS		2,539	$89,911.72	$132,341.06	$222,252.78	$22,225.28	$50,500.00	$294,978.06

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Fitzgerald Halliday, Inc. Personnel Hours by Task

	technical staff titles and rates						support staff titles and rates			
insert title on this line:	Senior Project Manager	Project Manager	Senior Planner	Planner II	Graphic Designer	Admin			Total Hours	DTL
Insert corresponding rate:	$47.81	$42.32	$37.54	$31.90	$27.93	$30.68	$0.00	$0.00		
Task 1: Data Collection and Mapping, and Public Involvement	38	670	464	611	132	624	0	0	2,539	$89,911.72
Consultation with stakeholders									0	$0.00
Develop PIAP	4				4				8	$302.96
Develop/Maintain Stakeholder List		32	32			64			128	$4,519.04
Executive Steering Committee (1)										
Meeting Logistics				8		16			24	$746.08
Team Coordination Meetings/Calls (2)		4		4					8	$296.88
Meeting Attendance		8		8					16	$593.76
Meeting Minutes									0	$0.00
Scoping Meetings/Data Gathering (3)										
Meeting Logistics		32	40	40	8	32			152	$5,337.04
Team Coordination Meetings/Calls (4)		8		8					16	$593.76
Meeting Attendance		18		18					36	$1,335.96
Meeting Minutes/Official Record									0	$0.00
Comment Compilation*		8				160			168	$5,247.36
Follow-Up Scoping/Data Gathering Discussion (3)										
Meeting Logistics		4	8			16			28	$960.48
Team Coordination Meetings/Calls (2)		4		4					8	$296.88
Meeting Attendance		18		18					36	$1,335.96
Meeting Minutes									0	$0.00
Purpose & Need/Concepts Discussion (3)										
Meeting Logistics		4	8			16			28	$960.48
Team Coordination Meetings/Calls		4		4					8	$296.88
Meeting Attendance		18		18					36	$1,335.96
Meeting Minutes									0	$0.00
Follow-up Purpose and Need Meetings (3)										
Meeting Logistics		4	8			16			28	$960.48
Team Coordination Meetings/Calls		4		4					8	$296.88
Meeting Attendance		18		18					36	$1,335.96
Meeting Minutes									0	$0.00
Shortlisting Screening Criteria Metrics Meetings (3)										
Meeting Logistics		4	8			16			28	$960.48
Team Coordination Meetings/Calls		4		4					8	$296.88
Meeting Attendance		18		18					36	$1,335.96
Meeting Minutes									0	$0.00

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Fitzgerald Halliday, Inc. Personnel Hours by Task

	technical staff titles and rates						support staff titles and rates			
insert title on this line:	Senior Project Manager	Project Manager	Senior Planner	Planner II	Graphic Designer	Admin			Total Hours	DTL
Insert corresponding rate:	$47.81	$42.32	$37.54	$31.90	$27.93	$30.68	$0.00	$0.00		
Follow-up Shortlisting Screening Criteria Metrics Meetings (3)										
Meeting Logistics		4	8			16			28	$960.48
Team Coordination Meetings/Calls		4		4					8	$296.88
Meeting Attendance		18		18					36	$1,335.96
Meeting Minutes									0	$0.00
Concept Screening Workshops (3)										
Meeting Logistics		4	8			16			28	$960.48
Team Coordination Meetings/Calls		4		4					8	$296.88
Meeting Attendance		18		18					36	$1,335.96
Meeting Minutes									0	$0.00
Follow-Up Concept Screening Workshops (3)										
Meeting Logistics		4	8			16			28	$960.48
Team Coordination Meetings/Calls		4		4					8	$296.88
Meeting Attendance		18		18					36	$1,335.96
Meeting Minutes									0	$0.00
Alternatives Analysis Workshops (3)										
Meeting Logistics		4	8			16			28	$960.48
Team Coordination Meetings/Calls		4		4					8	$296.88
Meeting Attendance		18		18					36	$1,335.96
Meeting Minutes									0	$0.00
Follow-up Alternatives Analysis Meetings (3)										
Meeting Logistics		4	8			16			28	$960.48
Team Coordination Meetings/Calls		4		4					8	$296.88
Meeting Attendance		18		18					36	$1,335.96
Meeting Minutes									0	$0.00
Preferred Alternative Meetings (3)										
Meeting Logistics		4	8			16			28	$960.48
Team Coordination Meetings/Calls		4		4					8	$296.88
Meeting Attendance		18		18					36	$1,335.96
Meeting Minutes									0	$0.00
Follow-up Preferred Alternative Meetings (3)										
Meeting Logistics		4	8			16			28	$960.48
Team Coordination Meetings/Calls		4		4					8	$296.88
Meeting Attendance		18		18					36	$1,335.96
Meeting Minutes									0	$0.00

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Fitzgerald Halliday, Inc. Personnel Hours by Task

	technical staff titles and rates						support staff titles and rates			
insert title on this line:	Senior Project Manager	Project Manager	Senior Planner	Planner II	Graphic Designer	Admin			Total Hours	DTL
Insert corresponding rate:	$47.81	$42.32	$37.54	$31.90	$27.93	$30.68	$0.00	$0.00		
Public Information Meetings (3)										
Meeting Logistics	4	40	64	40		16			164	$6,053.48
Team Coordination Meetings/Calls (4)		8		8					16	$593.76
Meeting Attendance	8	24	24	24					80	$3,064.72
Project Flyers/Flyering (3 rounds)		16	32	32	40				120	$4,016.40
Meeting Minutes/Summary	2	16	32	20					70	$2,612.02
Public Hearing (1)										
Meeting Logistics	2	16	8	16	4				46	$1,695.18
Team Coordination Meetings/Calls (4)		8		8					16	$593.76
Meeting Attendance		8	8	8					24	$894.08
Meeting Minutes/Official Record	2	16		20					38	$1,410.74
Project Flyers/Flyering (1 round)		8	16	16	12				52	$1,784.76
Comment Compilation*	8	60	40	40		160			308	$10,608.08
Newsletters/Fact Sheets (3)	6	32	16	24	64				142	$4,794.86
Media Relations										
Review Press Releases (3)		6		3					9	$349.62
Advertising	2	16	64	24					106	$3,940.90
Total Hours	38	670	464	611	132	624	0	0	2,539	
Direct Labor Costs	$1,816.78	$28,354.40	$17,418.56	$19,490.90	$3,686.76	$19,144.32	$0.00	$0.00		$89,911.72

*

Section 8: OMA

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NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-1
COST AND FEE RECAP

FIRM Office for Metropolitan Architecture
(Subconsultant Name)

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Office for Metropolitan Architecture	Subconsultant	6,440	$1,291,908.00	$0.00	$1,291,908.00	$0.00	$7,480.00	$1,299,388.00
TOTALS		6,440	$1,291,908.00	$0.00	$1,291,908.00	$0.00	$7,480.00	$1,299,388.00

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-2
COST AND FEE RECAP

FIRM Office for Metropolitan Architecture
(Subconsultant Name)

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Sub-Task 1	Data Collection and Mapping, and Public Involvement	882	$214,789.00	$0.00	$214,789.00	$0.00	$530.00	$215,319.00
Sub-Task 2	Waterfront Structures Inspection	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 3	Subsurface Investigation	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 4	Hydrology / Flood Risk Assessment	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 5	Feasibility Analysis	3,931	$740,142.00	$0.00	$740,142.00	$0.00	$555.00	$740,697.00
Sub-Task 6	Preliminary Design & EIS Preparation	1,416	$275,606.00	$0.00	$275,606.00	$0.00	$5,930.00	$281,536.00
Sub-Task 7	Document Mgmt & Programmatic Reporting	211	$61,371.00	$0.00	$61,371.00	$0.00	$465.00	$61,836.00
TOTALS		6,440	$1,291,908.00	$0.00	$1,291,908.00	$0.00	$7,480.00	$1,299,388.00

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Office for Metropolitan Architecture Personnel Hours by Task

	technical staff titles and rates									support staff titles and rates			
insert title on this line:	Partner	Associate	Project Manager	Senior Architect	Architect	Architect	Junior Architect	Junior Architect				Total Hours	DTL
Insert corresponding rate:	$591.00	$338.00	$270.00	$231.00	$197.00	$197.00	$132.00	$132.00	$0.00	$0.00	$0.00		
Task 1: Data Collection and Mapping, and Public Involvement (2 months)	2	156	304	146	137	0	137	0	0	0	0	882	$214,789.00
A. Data Collection and Mapping												0	$0.00
1. Participation in development and preparation of a matrix of drivers illustrating the project purpose and need		**4**	**4**	**6**	**16**		**16**					46	$9,082.00
2. Scoping Document												0	$0.00
Design and Analysis Including the following deliverables:												0	$0.00
1.Site Plan mapping existing conditions and initiatives	1	2	2	2	30		30					67	$12,139.00
2.Site Plan mapping future conditions and in progress development	1	2	1	2	30		30					66	$11,869.00
3.Stakeholder Brief summarizing feedback	0	4	1	4	13		13					35	$6,823.00
4. Data Gathering Summary Report Draft		6			8		8					22	$4,660.00
5. Data Gathering Summary Report Final		6			16		16					38	$7,292.00
B. Consultation with Stakeholders/Public Participation												0	$0.00
1. Community Meeting Attendance (40 Meetings 4 hrs/meeting) PM attends 40 meetings, Associate and Sr. Architect attends 20 meetings each		80	160	80								320	$88,720.00
2. Working Group Meeting (14 meetings) (4SME) (4 hours per meeting)		28	56	28								112	$31,052.00
3. Internal Meetings Preparation prior to NJDEP Meetings (6 meetings) Everyone (4 hours per meeting)		12	24	12								48	$13,308.00
4. NJDEP Meetings prior to Stakeholder Milestones (6 meetings) (4 hours per meeting) Management Team		12	24	12								48	$13,308.00
5.Kick Off Meeting with Executive Steering Committee (Management Team) (1 meeting) (8 hours each including meeting preparation)			8									8	$2,160.00
6. Meeting Preparation			24		24		24					72	$14,376.00
Task 2: Waterfront Structures Inspection	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
n/a												0	$0.00
Task 3: Subsurface Investigation	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
n/a												0	$0.00
Task 4: Hydrology / Flood Risk Assessment	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
n/a												0	$0.00

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Office for Metropolitan Architecture Personnel Hours by Task

	technical staff titles and rates									support staff titles and rates			
insert title on this line:	Partner	Associate	Project Manager	Senior Architect	Architect	Architect	Junior Architect	Junior Architect				Total Hours	DTL
Insert corresponding rate:	$591.00	$338.00	$270.00	$231.00	$197.00	$197.00	$132.00	$132.00	$0.00	$0.00	$0.00		
Task 5: Feasibility Analysis	8	64	399	928	0	884	884	764	0	0	0	3,931	$740,142.00
A. Input for Coastal Flood Risk Reduction Assessment ("Resist")			20	80		80	80	80				340	$60,760.00
B. Input for Stormwater Management Assessment ("Delay,Store,Discharge")			40	120		120	120	120				520	$93,840.00
C. High level massing studies, program analysis, urban planning and urban design analysis for 5 concept designs	2	24	45	300		300	300	300				1,271	$229,044.00
D. Analysis and Selection of Three Build Alternatives	2	24	60	264		264	264	264				1,142	$208,182.00
E. Wirtten and graphic (renderings and others) for concept design and three build alternatives	2	8	24	40		80	80					234	$45,926.00
F. Technical Meetings (Internal 50 Team meeetings)			200	100								300	$77,100.00
G. Draft and Final Feasibility Report	2	8	10	24		40	40					124	$25,290.00
												0	$0.00
Task 6: Preliminary Design & EIS Preparation	16	50	100	250	500	0	500	0	0	0	0	1,416	$275,606.00
A. Preliminary Design for 3 Build Alternatives and Preferred Alternative												0	$0.00
1. Prepare Preliminary Design for 3 Build Alternatives (Urban Design drawings, diagrams, and in-house models as shown below)												0	$0.00
Site plans including a site wide ground level plan	4	20	30	30	80		80					244	$50,474.00
Urban Design Drawings	4	10	10	120	260		260					664	$121,704.00
Architectural Drawings	4	10	10	30	80		80					214	$41,694.00
2. Prepare Preferred Alternative Preliminary Design incl. presentation materials	4	10	10	30	80		80					214	$41,694.00
3. Technical Meetings (Internal 10 Team Meetings)			40	40								80	$20,040.00
Task 7: Document Mgmt & Programmatic Reporting	11	30	140	30	0	0	0	0	0	0	0	211	$61,371.00
												0	$0.00
A. Project Schedule and Reporting												0	$0.00
1. Develop Initial Schedule	0	0	3	0								3	$810.00
2. Update Schedule Monthly	0	3	24	3								30	$8,187.00
3. Monthly Progress Reports	0	3	45	3								51	$13,857.00
4. Project Work Plan	0	3	10	3								16	$4,407.00
5. Project Coordination	2	3	40	3								48	$13,689.00
B. Internal Project Management Meetings (9 meetings of 2 hours each)	9	18	18	18								63	$20,421.00
Total Hours	37	300	943	1,354	637	884	1,521	764	0	0	0	6,440	
Direct Labor Costs	$21,867.00	$101,400.00	$254,610.00	$312,774.00	$125,489.00	$174,148.00	$200,772.00	$100,848.00	$0.00	$0.00	$0.00		**$1,291,908.00**

Section 9: Paul Carpenter Associates, Inc.

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NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-1
COST AND FEE RECAP

FIRM Paul Carpenter Associates, Inc.
(Subconsultant Name)

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Paul Carpenter Associates, Inc.	Subconsultant	737	$32,602.28	$56,382.38	$88,984.66	$8,898.47	$7,000.00	$104,883.13
TOTALS		737	$32,602.28	$56,382.38	$88,984.66	$8,898.47	$7,000.00	$104,883.13

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-2
COST AND FEE RECAP

FIRM Paul Carpenter Associates, Inc.
(Subconsultant Name)

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Sub-Task 1	Data Collection and Mapping, and Public Involvement	201	$7,862.70	$13,597.75	$21,460.45	$2,146.05	$6,650.00	$30,256.50
Sub-Task 2	Waterfront Structures Inspection	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 3	Subsurface Investigation	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 4	Hydrology / Flood Risk Assessment	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 5	Feasibility Analysis	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 6	Preliminary Design & EIS Preparation	536	$24,739.58	$42,784.63	$67,524.21	$6,752.42	$350.00	$74,626.63
Sub-Task 7	Document Mgmt & Programmatic Reporting	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TOTALS		737	$32,602.28	$56,382.38	$88,984.66	$8,898.47	$7,000.00	$104,883.13

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Paul Carpenter Associates, Inc. Personnel Hours by Task

	technical staff titles and rates									support staff titles and rates			
	Project Manager $67.11	Project Specialist $41.65	Field Survey Staff $31.65	CADD Technician $44.13	$0.00	$0.00	$0.00	$0.00	$0.00	Clerical support $22.04	$0.00	Total Hours	DTL
Task 1: Data Collection and Mapping, and Public Involvement	26	56	98	10	0	0	0	0	0	11	0	201	$7,862.70
Air Quality (Land)	8	10	10	1						1		30	$1,336.05
Noise and Vibration (Land)	18	46	88	9						10		171	$6,526.65
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
Task 2: Waterfront Structures Inspection	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
Task 3: Subsurface Investigation	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	
												0	$0.00
Task 4: Hydrology / Flood Risk Assessment	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
Task 5: Feasibility Analysis	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Paul Carpenter Associates, Inc. Personnel Hours by Task

	technical staff titles and rates									support staff titles and rates			
	Project Manager $67.11	Project Specialist $41.65	Field Survey Staff $31.65	CADD Technician $44.13	$0.00	$0.00	$0.00	$0.00	$0.00	Clerical support $22.04	$0.00	Total Hours	DTL
Task 6: Preliminary Design & EIS Preparation	144	248	97	29	0	0	0	0	0	18	0	536	$24,739.58
Meetings	38	72	0	0						0		110	$5,548.98
Air Quality - Incorporate AQ into EIS	20	12	4	1						1		38	$2,034.77
Noise Land - Analysis & Noise Text into EIS	36	78	40	18						10		182	$7,945.40
Noise Land Mitigation - Analysis & Noise Text into EIS	14	34	18	2						2		70	$3,057.68
Noise Underwater - Analysis & Noise Text into EIS	6	8	4	0						1		19	$884.50
Noise Underwater Mitigation - Analysis & Noise Text into EIS												0	$0.00
Vibration Land - Analysis & Vibration Text into EIS	16	14	16	6						2		54	$2,472.12
Vibration Land Mitigation - Analysis & Vibration Text into EIS	6	10	4	2						0		22	$1,034.02
Vibration Underwater - Analysis & Vibration Text into EIS	6	14	9	0						1		30	$1,292.65
Vibration Underwater Mitgation - Analysis & Vibration Text into EIS	2	6	2	0						1		11	$469.46
Task 7: Document Mgmt & Programmatic Reporting	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
Total Hours	170	304	195	39	0	0	0	0	0	29	0	737	
Direct Labor Costs	$11,408.70	$12,661.60	$6,171.75	$1,721.07	$0.00	$0.00	$0.00	$0.00	$0.00	$639.16	$0.00		$32,602.28

Section 10: Scape Landscape Architecture PLLC

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NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-1
COST AND FEE RECAP

FIRM Scape Landscape Architecture PLLC
(Subconsultant Name)

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Scape Landscape Architecture PLLC	Subconsultant	1,875	$69,803.20	$119,363.48	$189,166.68	$18,916.67	$2,145.00	$210,228.35
TOTALS		1,875	$69,803.20	$119,363.48	$189,166.68	$18,916.67	$2,145.00	$210,228.35

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-2
COST AND FEE RECAP

FIRM Scape Landscape Architecture PLLC
(Subconsultant Name)

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Sub-Task 1	Data Collection and Mapping, and Public Involvement	365	$15,037.60	$25,714.30	$40,751.90	$4,075.19	$795.00	$45,622.09
Sub-Task 2	Waterfront Structures Inspection	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 3	Subsurface Investigation	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 4	Hydrology / Flood Risk Assessment	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 5	Feasibility Analysis	670	$24,517.60	$41,925.10	$66,442.70	$6,644.27	$675.00	$73,761.97
Sub-Task 6	Preliminary Design & EIS Preparation	840	$30,248.00	$51,724.08	$81,972.08	$8,197.21	$675.00	$90,844.29
Sub-Task 7	Document Mgmt & Programmatic Reporting	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TOTALS		1,875	$69,803.20	$119,363.48	$189,166.68	$18,916.67	$2,145.00	$210,228.35

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Scape Landscape Architecture PLLC Personnel Hours by Task

	technical staff titles and rates									support staff titles and			
insert title on this line:	PROJECT PRINCIPAL-IN-CHARGE	SENIOR CONSULTANT	PROJECT MANAGER	SENIOR ENGINEER/ARCHITECT/PLANNER	ENGINEER/ARCHITECT/PLANNER							Total Hours	DTL
Insert corresponding rate:	$100.00	$83.00	$39.42	$38.94	$26.44		$0.00	$0.00	$0.00	$0.00	$0.00		
Task 1: Data Collection and Mapping, and Public Involvement	45	0	160	0	160	0	0	0	0	0	0	365	$15,037.60
A. Site Visit; Existing Data Collection and Review of Reports	8		80		80							168	$6,068.80
B. Consultation with Stakeholders/Public Participation													
1. Working Group Meeting with Agencies/Stakeholders (total 15 meetings)	32		40		40							112	$5,834.40
2. Meeting Preparation	5		40		40							85	$3,134.40
Task 2: Waterfront Structures Inspection	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
Task 3: Subsurface Investigation	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
Task 4: Hydrology / Flood Risk Assessment	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
Task 5: Feasibility Analysis	30	0	200	160	280	0	0	0	0	0	0	670	$24,517.60
Design Team #1,2,3												0	$0.00
A. Landscape Treatment Assessment for Coastal Flood Risk Reduction Alternatives ("Resist")	10		40	20	40							110	$4,413.20
B. Landscape Treatment Asssement for Stormwater Management Alternatives ("Delay, Store and Discharge")	10		40	20	40							110	$4,413.20
C. Sketches and Renderings for Landscape Treatments for "Resist, Delay, Store, and Discharge" Concepts	10		120	120	200							450	$15,691.20
Task 6: Preliminary Design & EIS Preparation	40	0	200	200	400	0	0	0	0	0	0	840	$30,248.00
A. Landscape Treatments Conceptual Design Drawing Sheets and Renderings for Three Build Alternatives and Preferred Alternative	40		200	200	400							840	$30,248.00

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

Scape Landscape Architecture PLLC Personnel Hours by Task

Task 7: Document Mgmt & Programmatic Reporting	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
Total Hours	115	0	560	360	840	0	0	0	0	0	0	1,875	
Direct Labor Costs	$11,500.00	$0.00	$22,075.20	$14,018.40	$22,209.60	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00		$69,803.20

Section 11: TechniQuest Corporation

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NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-1
COST AND FEE RECAP

FIRM TechniQuest Corporation
(Subconsultant Name)

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
TechniQuest Corporation	Subconsultant	623	$12,480.00	$20,280.00	$32,760.00	$3,276.00	$1,931.36	$37,967.36
TOTALS		623	$12,480.00	$20,280.00	$32,760.00	$3,276.00	$1,931.36	$37,967.36

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

ATTACHMENT A-2
COST AND FEE RECAP

FIRM TechniQuest Corporation
(Subconsultant Name)

	DESCRIPTION	PERSON HOURS	SALARY	OVERHEAD	SUBTOTAL	FIXED FEE	DIRECT EXPENSES	TOTAL COST
Sub-Task 1	Data Collection and Mapping, and Public Involvement	623	$12,480.00	$20,280.00	$32,760.00	$3,276.00	$1,931.36	$37,967.36
Sub-Task 2	Waterfront Structures Inspection	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 3	Subsurface Investigation	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 4	Hydrology / Flood Risk Assessment	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 5	Feasibility Analysis	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 6	Preliminary Design & EIS Preparation	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Sub-Task 7	Document Mgmt & Programmatic Reporting	0	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TOTALS		623	$12,480.00	$20,280.00	$32,760.00	$3,276.00	$1,931.36	$37,967.36

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

TechniQuest Corporation Personnel Hours by Task

	technical staff titles and rates									support staff titles and rates			
insert title on this line:	PROJECT MANAGER	SENIOR ENGINEER	SENIOR TECHNICIAN	TECHNICIAN / ENGINEER	FIELD SUPERVISOR / SURVEYOR II	SURVEYOR I	JUNIOR SURVEYOR			OFFICE STAFF		Total Hours	DTL
Insert corresponding rate:	$69.96	$55.00	$46.58	$27.50	$25.00	$20.00	$15.00	$0.00	$0.00	$20.30	$0.00		
Task 1: Data Collection and Mapping, and Public Involvement	0	0	0	124	45	227	227	0	0	0	0	623	$12,480.00
Mobilization				12								12	$330.00
WEEKDAY WORK:												0	$0.00
Manual Counts - Field Task					45	227	227					499	$9,070.00
Data Compilation				24								24	$660.00
Network Balancing, Graphics												0	$0.00
Calculation, Formatting, Reporting				72								72	$1,980.00
Reporting, QAQC				16								16	$440.00
Task 2: Waterfront Structures Inspection	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
No participation												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
Task 3: Subsurface Investigation	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
No participation												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
Task 4: Hydrology / Flood Risk Assessment	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
No participation												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00

DEWBERRY ENGINEERS INC.
NJ TRANSIT Task Order Contract No. 13-002D
Cost Proposal
Feasibility Study and EIS for
Rebuild By Design: Resist, Delay, Store, Discharge Project

TechniQuest Corporation Personnel Hours by Task

	technical staff titles and rates									support staff titles and rates			
insert title on this line:	PROJECT MANAGER	SENIOR ENGINEER	SENIOR TECHNICIAN	TECHNICIAN / ENGINEER	FIELD SUPERVISOR / SURVEYOR II	SURVEYOR I	JUNIOR SURVEYOR			OFFICE STAFF		Total Hours	DTL
Insert corresponding rate:	$69.96	$55.00	$46.58	$27.50	$25.00	$20.00	$15.00	$0.00	$0.00	$20.30	$0.00		
Task 5: Feasibility Analysis	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
No participation												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
Task 6: Preliminary Design & EIS Preparation	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
No participation												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
Task 7: Document Mgmt & Programmatic Reporting	0	0	0	0	0	0	0	0	0	0	0	0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
												0	$0.00
													$0.00
												0	$0.00
Total Hours	0	0	0	124	45	227	227	0	0	0	0	623	
Direct Labor Costs	$0.00	$0.00	$0.00	$3,410.00	$1,125.00	$4,540.00	$3,405.00	$0.00	$0.00	$0.00	$0.00		$12,480.00

Contract No. 13-002D
Environmental Consulting Services

Dewberry Engineers, Inc.

Task Order Assignment No. 12

Sub-Task 1
Data Collection and Mapping
Public Involvement

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 1 | Data Collection and Mapping, and Public Involvement | FIRM: | Dewberry Engineers Inc.

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Project Principal-in-Charge	Executive Vice President, Principal-in-Charge	587	$99.75	$58,553.25
Senior Consultant PM/DPM	Project Manager/Deputy Project Manager	984	$77.75	$76,506.00
Senior Consultant SME/QAQC	Subject Matter Expert, QA/QC	1262	$77.75	$98,120.50
Design/ Planning Team Leader/Project Surveyor	Planning Team Leader	402	$57.37	$23,062.74
Project Specialist	Lead Water Resources Engineer, Project Specialist	344	$55.76	$19,181.44
Supervising Engineer / Architect / Planner	Lead Water Resources Engineer, Lead Geotechnical Engineer, Structural Engineer, Associate Highway Engineer, Supervising Engineer	1794	$64.22	$115,210.68
Senior Engineer / Architect / Planner	Senior Geotechnical Engineer, Structural Engineer, Senior Traffic Engineer, Senior Highway Engineer, Senior Civil Engineer, Senior Engineer/Senior Planner	2380	$46.62	$110,955.60
Engineer / Architect / Planner / Surveyor	Geotechnical Engineer, Structural Engineer, Traffic Engineer, Highway Engineer, Water Resources Engineer, Engineer/Planner	1330	$39.35	$52,335.50
Field Survey Staff	Field Survey Staff	2910	$33.44	$97,310.40
CADD Technician	CADD Technician	1442	$51.44	$74,176.48
TOTAL ESTIMATED HOURS		13435		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Clerical Staff		280	$27.72	$7,761.60
				$0.00
TOTAL ESTIMATED HOURS		280		

TOTAL SALARY (BARE COST)			$733,174.19
OVERHEAD @	127.57%		$935,310.31
SUBTOTAL -- SALARY + OVERHEAD			$1,668,484.50
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD	$166,848.45
DIRECT EXPENSES		$	
Itemize: (SEE ATTACHED DETAILED EXPENSE SHEETS)			
Environmental Data Resources Radius Search, Sanborns, Aerial Photos		$5,000.00	
Title Searches 76 properties(Survey)		$5,000.00	
Vehicle Mileage		$13,175.80	
Printing/Copying/Mailing/Presentation Material - 8 boards per round		$30,000.00	
TOTAL DIRECT EXPENSES			$53,175.80
TOTAL THIS TASK			$1,888,508.75

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 1 | Data Collection and Mapping, and Public Involvement | FIRM: | Dewberry Consultants LLC

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Project Principal-in-Charge	Project Advisor	18	$99.75	$1,795.50
Senior Consultant	Technology Manager	140	$77.75	$10,885.00
Project Manager		0	$64.22	$0.00
Design/ Planning Team Leader/Project Surveyor		0	$57.37	$0.00
Project Specialist	Coastal Subject Matter Expert	72	$55.76	$4,014.72
Supervising Engineer / Architect / Planner	FEMA BCA Subject Matter Expert	0	$64.22	$0.00
Senior Engineer / Architect / Planner		0	$46.62	$0.00
Engineer / Architect / Planner / Surveyor	Web Designer, Coastal Engineer	16	$39.35	$629.60
Field Survey Staff		0	$33.44	$0.00
CADD Technician		0	$51.44	$0.00
TOTAL ESTIMATED HOURS		246		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Clerical Staff		0	$27.72	$0.00
				$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)			$17,324.82
OVERHEAD @	127.26%		$22,047.57
SUBTOTAL -- SALARY + OVERHEAD			$39,372.39
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD	$3,937.24
DIRECT EXPENSES		$	
Itemize: (SEE ATTACHED DETAILED EXPENSE SHEETS)			
Project Execution Collaboration Website Hosting - 50 GB/50 Users/SharePoint Foundation 2013		$8,000.00	
Public Information Website - WordPress		$0.00	
Domain Registration - Project Execution Collaboration Site		$70.00	
Domain Registrations - Public Information Website		$0.00	
Hotel Stay		$700.00	
Per Diem		$532.50	
Vehicle Mileage		$1,372.95	
TOTAL DIRECT EXPENSES			$10,675.45
TOTAL THIS TASK			$53,985.08

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 1 | Data Collection and Mapping, and Public Involvement | FIRM: | Fitzgerald & Halliday, Inc.

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Senior Consultant	Senior Project Manager	38	$47.81	$1,816.78
Project Manager	Project Manager	670	$42.32	$28,354.40
Senior Engineer / Architect / Planner	Senior Planner	464	$37.54	$17,418.56
Engineer / Architect / Planner / Surveyor	Planner II	611	$31.90	$19,490.90
CADD Technician	Graphic Designer	132	$27.93	$3,686.76
TOTAL ESTIMATED HOURS		1915		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Clerical Staff	Admin	624	$30.68	$19,144.32
TOTAL ESTIMATED HOURS		624		

TOTAL SALARY (BARE COST)				$89,911.72
OVERHEAD @	147.19%			$132,341.06
SUBTOTAL -- SALARY + OVERHEAD				$222,252.78
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD		$22,225.28
DIRECT EXPENSES			$	
Itemize:				
Interpretation at 4 meetings			$8,000.00	
Translation of documents			$9,000.00	
Stenographer (1)			$1,000.00	
Travel (mileage/tolls, PATH, NJT rail)			$3,500.00	
Printing flyers, newsletters			$5,000.00	
Meeting Advertisements (4 meetings)			$16,000.00	
Meeting Refreshments			$8,000.00	
TOTAL DIRECT EXPENSES				$50,500.00
TOTAL THIS TASK				$294,978.06

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 1 | Data Collection and Mapping, and Public Involvement | FIRM: | Office for Metropolitan Architecture

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Partner		2	$591.00	$1,182.00
Associate		156	$338.00	$52,728.00
Project Manager		304	$270.00	$82,080.00
Senior Architect		146	$231.00	$33,726.00
Architect		137	$197.00	$26,989.00
Architect		0	$197.00	$0.00
Junior Architect		137	$132.00	$18,084.00
Junior Architect		0	$132.00	$0.00
		0	$0.00	$0.00
TOTAL ESTIMATED HOURS		882		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
		0	$0.00	$0.00
		0	$0.00	$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$214,789.00
OVERHEAD @	0.00%			$0.00
SUBTOTAL -- SALARY + OVERHEAD				$214,789.00
FIXED FEE @	0.00%	OF BARE COST + OVERHEAD		$0.00
DIRECT EXPENSES			$	
Itemize:				
(7) Roundtrip Ground Transport			$315.00	
(4) Boards - Printing Expense			$175.00	
Charrette Materials (Post Its, Pens, etc.)			$20.00	
Working Model Materials			$20.00	
TOTAL DIRECT EXPENSES				$530.00
TOTAL THIS TASK				$215,319.00

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 1 | Data Collection and Mapping, and Public Involvement | FIRM: | Paul Carpenter Associates, Inc.

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Project Manager	Air Emissions, Noise & Vibration - Project Manager	26	$67.11	$1,744.86
Project Specialist	Air Emissions, Noise & Vibration - Project Specialist	56	$41.65	$2,332.40
Field Survey Staff	Air Emissions, Noise & Vibration - Field Survey Staff	98	$31.65	$3,101.70
CADD Technician	Air Emissions, Noise & Vibration - CADD Technician	10	$44.13	$441.30
	TOTAL ESTIMATED HOURS	190		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Clerical support	Air Emissions, Noise & Vibration	11	$22.04	$242.44
	TOTAL ESTIMATED HOURS	11		

TOTAL SALARY (BARE COST)				$7,862.70
OVERHEAD @	172.94%			$13,597.75
SUBTOTAL -- SALARY + OVERHEAD				$21,460.45
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD		$2,146.05
DIRECT EXPENSES			$	
Itemize:		Travel	$400.00	
		Rental Equipment	$6,000.00	
		Shipping of Eq	$250.00	
TOTAL DIRECT EXPENSES				$6,650.00
TOTAL THIS TASK				$30,256.50

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 1 | Data Collection and Mapping, and Public Involvement | FIRM: Scape Landscape Architecture PLLC

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
PROJECT PRINCIPAL-IN-CHARGE	PARTNER	45	$100.00	$4,500.00
SENIOR CONSULTANT	PARTNER	0	$83.00	$0.00
PROJECT MANAGER	ASSOCIATE/PROJECT MANAGER	160	$39.42	$6,307.20
SENIOR ENGINEER/ARCHITECT/PLANNER	LANDSCAPE ARCHITECT	0	$38.94	$0.00
ENGINEER/ARCHITECT/PLANNER	LANDSCAPE DESIGNER	160	$26.44	$4,230.40
TOTAL ESTIMATED HOURS		365		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
		0	$0.00	$0.00
		0	$0.00	$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$15,037.60
OVERHEAD @	171.00%			$25,714.30
SUBTOTAL -- SALARY + OVERHEAD				$40,751.90
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD		$4,075.19
DIRECT EXPENSES			$	
Itemize:				
15 trips to Hoboken (esta. 14 miles round trip)			$150.00	
Report printing color 24"x36" @ $0.80/sheet (600 sheets)			$480.00	
Blue printing b/w 24"X36' @ $0.55/sheet			$165.00	
TOTAL DIRECT EXPENSES				$795.00
TOTAL THIS TASK				$45,622.09

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 1 | Data Collection and Mapping, and Public Involvement | FIRM: TechniQuest Corporation

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Supervising Engineer / Architect / Planner	TECHNICIAN / ENGINEER	124	$27.50	$3,410.00
Senior Engineer / Architect / Planner	FIELD SUPERVISOR / SURVEYOR II	45	$25.00	$1,125.00
Engineer / Architect / Planner / Surveyor	SURVEYOR I	227.00	$20.00	$4,540.00
Field Survey Staff	JUNIOR SURVEYOR	227.00	$15.00	$3,405.00
TOTAL ESTIMATED HOURS		623.0		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
				$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$12,480.00
OVERHEAD @	162.50%			$20,280.00
SUBTOTAL -- SALARY + OVERHEAD				$32,760.00
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD		$3,276.00
DIRECT EXPENSES			$	
Itemize:				
Vehicle Mileage			$1,931.36	
TOTAL DIRECT EXPENSES				$1,931.36
TOTAL THIS TASK				$37,967.36

Contract No. 13-002D
Environmental Consulting Services

Dewberry Engineers, Inc.

Task Order Assignment No. 12

Sub-Task 2
Waterfront Structures Inspection

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 2 | Waterfront Structures Inspection | FIRM: | Dewberry Engineers Inc.

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Project Principal-in-Charge		0	$99.75	$0.00
Senior Consultant PM/DPM	Project Manager/Deputy Project Manager	8	$77.75	$622.00
Senior Consultant SME/QAQC	Subject Matter Expert, QA/QC	8	$77.75	$622.00
Design/ Planning Team Leader/Project Surveyor		0	$57.37	$0.00
Project Specialist		0	$55.76	$0.00
Supervising Engineer / Architect / Planner	Feasibility Engineering Lead, Lead Geotechnical Engineer, Structural Engineer	48	$64.22	$3,082.56
Senior Engineer / Architect / Planner	Senior Geotechnical Engineer, Structural Engineer	80	$46.62	$3,729.60
Engineer / Architect / Planner / Surveyor	Geotechnical Engineer, Structural Engineer	160	$39.35	$6,296.00
Field Survey Staff		0	$33.44	$0.00
CADD Technician		0	$51.44	$0.00
TOTAL ESTIMATED HOURS		304		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Clerical Staff		0	$27.72	$0.00
				$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$14,352.16
OVERHEAD @	127.57%			$18,309.05
SUBTOTAL -- SALARY + OVERHEAD				$32,661.21
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD		$3,266.12
DIRECT EXPENSES			$	
Itemize: (SEE ATTACHED DETAILED EXPENSE SHEETS)				
Printing/Copying/Mailing			$375.00	
TOTAL DIRECT EXPENSES				$375.00
TOTAL THIS TASK				$36,302.33

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 2 | Waterfront Stuctures Inspection | FIRM: Boswell Engineering

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Project Principal-in-Charge	BUE Manager	38	$108.00	$4,104.00
Senior Consultant	On-Site PE Diver / Team Leader	80	$78.00	$6,240.00
Design / Planning Team Leader / Project Surveyor	Chief Inspector Diver	38	$65.29	$2,481.02
Project Specialist	Inspector Divers	144	$60.93	$8,773.92
Project Manager	Chief Municipal Engineer	80	$101.44	$8,115.20
Supervising Engineer / Architect / Planner	Municipal Engineer	80	$64.18	$5,134.40
Senior Engineer / Architect / Planner	Chief Structural Engineer	160	$72.12	$11,539.20
Engineer / Architect / Planner / Surveyor	Structural Engineer	160	$41.35	$6,616.00
CADD Technician	Technical Engineer / CAD Operator	80	$29.77	$2,381.60
TOTAL ESTIMATED HOURS		860		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
		0	$0.00	$0.00
		0	$0.00	$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$55,385.34
OVERHEAD @	137.84%			$76,343.15
SUBTOTAL -- SALARY + OVERHEAD				$131,728.49
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD		$13,172.85
DIRECT EXPENSES			$	
Itemize:				
Diver Support Equipment Rental @ $35/Day for 9 Days			$315.00	
Diver Support Equipment Copany Support @ $25/Day for 9 Days			$225.00	
Dive Truck @ $0.565/Mile for 360 Miles			$203.40	
Boat Fuel @ $50/Day for 9 Days			$450.00	
25-ft Dive Boat @ $300/Day for 9 Days			$2,700.00	
Boat Dockage at $100/Day for 9 Days			$900.00	
Misc. Equipment and Supplies			$305.26	
TOTAL DIRECT EXPENSES				$5,098.66
TOTAL THIS TASK				$150,000.00

Contract No. 13-002D
Environmental Consulting Services

Dewberry Engineers, Inc.

Task Order Assignment No. 12

Sub-Task 3
Subsurface Investigation

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 3 | Subsurface Investigation | FIRM: | Dewberry Engineers Inc.

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Project Principal-in-Charge		0	$99.75	$0.00
Senior Consultant PM/DPM	Project Manager/Deputy Project Manager	26	$77.75	$2,021.50
Senior Consultant SME/QAQC	Subject Matter Expert, QA/QC	0	$77.75	$0.00
Design/ Planning Team Leader/Project Surveyor		0	$57.37	$0.00
Project Specialist		0	$55.76	$0.00
Supervising Engineer / Architect / Planner	Lead Geotechnical Engineer, Structural Engineer	48	$64.22	$3,082.56
Senior Engineer / Architect / Planner	Senior Geotechnical Engineer, Structural Engineer	94	$46.62	$4,382.28
Engineer / Architect / Planner / Surveyor	Geotechnical Engineer, Structural Engineer	788	$39.35	$31,007.80
Field Survey Staff		0	$33.44	$0.00
CADD Technician		0	$51.44	$0.00
TOTAL ESTIMATED HOURS		956		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Clerical Staff		0	$27.72	$0.00
				$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$40,494.14
OVERHEAD @	127.57%			$51,658.37
SUBTOTAL -- SALARY + OVERHEAD				$92,152.51
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD		$9,215.25
DIRECT EXPENSES			$	
Itemize: (SEE ATTACHED DETAILED EXPENSE SHEETS) Vehicle Mileage			$6,328.00	
TOTAL DIRECT EXPENSES				$6,328.00
TOTAL THIS TASK				$107,695.76

Contract No. 13-002D
Environmental Consulting Services

Dewberry Engineers, Inc.

Task Order Assignment No. 12

Sub-Task 4
Hydrology / Flood Risk Assessment

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 4 | Hydrology / Flood Risk Assessment | FIRM: | Dewberry Engineers Inc.

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Project Principal-in-Charge	Principal-in-Charge	34	$99.75	$3,391.50
Senior Consultant PM/DPM	Project Manager/Deputy Project Manager	48	$77.75	$3,732.00
Senior Consultant SME/QAQC	Subject Matter Expert, QA/QC	92	$77.75	$7,153.00
Design/ Planning Team Leader/Project Surveyor	Associate Highway Engineer	80	$57.37	$4,589.60
Project Specialist	Lead Water Resources Engineer	804	$55.76	$44,831.04
Supervising Engineer / Architect / Planner	Feasibility Engineering Lead, Lead Geotechnical Engineer, Structural Engineer	436	$64.22	$27,999.92
Senior Engineer / Architect / Planner	Senior Geotechnical Engineer, Structural Engineer, Senior Water Resources Engineer, Senior Highway Engineer	288	$46.62	$13,426.56
Engineer / Architect / Planner / Surveyor	Geotechnical Engineer, Structural Engineer, Water Resources Engineer, Highway Engineer	1544	$39.35	$60,756.40
Field Survey Staff		0	$33.44	$0.00
CADD Technician		0	$51.44	$0.00
TOTAL ESTIMATED HOURS		3326		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Clerical Staff		0	$27.72	$0.00
				$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$165,880.02
OVERHEAD @	127.57%			$211,613.14
SUBTOTAL -- SALARY + OVERHEAD				$377,493.16
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD		$37,749.32
DIRECT EXPENSES			$	
Itemize: (SEE ATTACHED DETAILED EXPENSE SHEETS)				
Software Purchase			$23,580.25	
Vehicle Mileage			$56.50	
Printing/Copying/Mailing			$750.00	
TOTAL DIRECT EXPENSES				$24,386.75
TOTAL THIS TASK				$439,629.23

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 4 | Hydrology / Flood Risk Assessment | FIRM: | Dewberry Consultants LLC

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Project Principal-in-Charge	Project Advisor	12	$99.75	$1,197.00
Senior Consultant		0	$77.75	$0.00
Project Manager		0	$64.22	$0.00
Design/ Planning Team Leader/Project Surveyor		0	$57.37	$0.00
Project Specialist	Coastal Subject Matter Expert	216	$55.76	$12,044.16
Supervising Engineer / Architect / Planner	FEMA BCA Subject Matter Expert	0	$64.22	$0.00
Senior Engineer / Architect / Planner		0	$46.62	$0.00
Engineer / Architect / Planner / Surveyor	Coastal Engineer	704	$39.35	$27,702.40
Field Survey Staff		0	$33.44	$0.00
CADD Technician		0	$51.44	$0.00
TOTAL ESTIMATED HOURS		932		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Clerical Staff		0	$27.72	$0.00
				$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$40,943.56
OVERHEAD @	127.26%			$52,104.77
SUBTOTAL -- SALARY + OVERHEAD				$93,048.33
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD		$9,304.83
DIRECT EXPENSES			$	
Itemize: (SEE ATTACHED DETAILED EXPENSE SHEETS)				
Hotel Stay			$560.00	
Per Diem			$426.00	
Vehicle Mileage			$1,098.36	
TOTAL DIRECT EXPENSES				$2,084.36
TOTAL THIS TASK				$104,437.52

Contract No. 13-002D
Environmental Consulting Services

Dewberry Engineers, Inc.

Task Order Assignment No. 12

Sub-Task 5
Feasibility Analysis

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 5 | Feasibility Analysis | FIRM: | Dewberry Engineers Inc.

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Project Principal-in-Charge	Executive Vice President, Principal-in-charge	45	$99.75	$4,488.75
Senior Consultant PM/DPM	Project Manager/Deputy Project Manager	80	$77.75	$6,220.00
Senior Consultant SME/QAQC	Subject Matter Expert, QA/QC	500	$77.75	$38,875.00
Design/ Planning Team Leader/Project Surveyor	Associate Highway Engineer	326	$57.37	$18,702.62
Project Specialist	Lead Water Resources Engineer	292	$55.76	$16,281.92
Supervising Engineer / Architect / Planner	Feasibility Engineering Lead, Lead Geotechnical Engineer, Structural Engineer, Associate Highway Engineer, Supervising Engineer	996	$64.22	$63,963.12
Senior Engineer / Architect / Planner	Senior Geotechnical Engineer, Structural Engineer, Senior Traffic Engineer, Senior Water Resources Engineer, Senior Highway Engineer;Senior Civil Engineer, Senior Engineer/Senior Planner	2624	$46.62	$122,330.88
Engineer / Architect / Planner / Surveyor	Geotechnical Engineer, Structural Engineer, Traffic Engineer, Water Resources Engineer, Highway Engineer, Civil Engineer	2798	$39.35	$110,101.30
Field Survey Staff	Field Survey Staff	0	$33.44	$0.00
CADD Technician		376	$51.44	$19,341.44
TOTAL ESTIMATED HOURS		8037		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Clerical Staff		0	$27.72	$0.00
				$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$400,305.03
OVERHEAD @	127.57%			$510,669.13
SUBTOTAL -- SALARY + OVERHEAD				$910,974.16
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD		$91,097.42
DIRECT EXPENSES			$	
Itemize: (SEE ATTACHED DETAILED EXPENSE SHEETS)				
Vehicle Mileage			$734.50	
Printing/Copying/Mailing			$3,000.00	
TOTAL DIRECT EXPENSES				$3,734.50
TOTAL THIS TASK				$1,005,806.08

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 5 | Feasibility Analysis | FIRM: | Dewberry Consultants LLC

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Project Principal-in-Charge	Project Advisor	76	$99.75	$7,581.00
Senior Consultant		0	$77.75	$0.00
Project Manager		0	$64.22	$0.00
Design/ Planning Team Leader/Project Surveyor		0	$57.37	$0.00
Project Specialist	Coastal Subject Matter Expert	224	$55.76	$12,490.24
Supervising Engineer / Architect / Planner	FEMA BCA Subject Matter Expert	320	$64.22	$20,550.40
Senior Engineer / Architect / Planner		0	$46.62	$0.00
Engineer / Architect / Planner / Surveyor	Coastal Engineer	321	$39.35	$12,631.35
Field Survey Staff		0	$33.44	$0.00
CADD Technician		0	$51.44	$0.00
TOTAL ESTIMATED HOURS		941		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Clerical Staff		0	$27.72	$0.00
				$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$53,252.99
OVERHEAD @	127.26%			$67,769.76
SUBTOTAL -- SALARY + OVERHEAD				$121,022.75
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD		$12,102.28
DIRECT EXPENSES			$	
Itemize: (SEE ATTACHED DETAILED EXPENSE SHEETS)				
Hotel Stay			$1,540.00	
Per Diem			$1,171.50	
Vehicle Mileage			$3,020.49	
TOTAL DIRECT EXPENSES				$5,731.99
TOTAL THIS TASK				$138,857.02

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 5 | Feasibility Analysis | FIRM: Econsult Solutions, Inc.

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Project Project Principal-in-Charge	Principal	112	$275.00	$30,800.00
Senior Consultant	Director	220	$160.00	$35,200.00
Design / Planning Team Leader / Project Surveyor	Analyst	422	$110.00	$46,420.00
Project Specialist	Research Assistant	168	$75.00	$12,600.00
		0	$0.00	$0.00
		0	$0.00	$0.00
		0	$0.00	$0.00
		0	$0.00	$0.00
		0	$0.00	$0.00
TOTAL ESTIMATED HOURS		922		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
		0	$0.00	$0.00
		0	$0.00	$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$125,020.00
OVERHEAD @	0.00%			$0.00
SUBTOTAL -- SALARY + OVERHEAD				$125,020.00
FIXED FEE @	0.00%	OF BARE COST + OVERHEAD		$0.00
DIRECT EXPENSES			$	
Itemize:				
Travel (train)			$1,200.00	
Data			$400.00	
TOTAL DIRECT EXPENSES				$1,600.00
TOTAL THIS TASK				$126,620.00

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 5 | Feasibility Analysis | FIRM: | Office for Metropolitan Architecture

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Partner		8	$591.00	$4,728.00
Associate		64	$338.00	$21,632.00
Project Manager		399	$270.00	$107,730.00
Senior Architect		928	$231.00	$214,368.00
Architect		0	$197.00	$0.00
Architect		884	$197.00	$174,148.00
Junior Architect		884	$132.00	$116,688.00
Junior Architect		764	$132.00	$100,848.00
		0	$0.00	$0.00
TOTAL ESTIMATED HOURS		3931		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
		0	$0.00	$0.00
		0	$0.00	$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$740,142.00
OVERHEAD @	0.00%			$0.00
SUBTOTAL -- SALARY + OVERHEAD				$740,142.00
FIXED FEE @	0.00%	OF BARE COST + OVERHEAD		$0.00
DIRECT EXPENSES			$	
Itemize:				
(8) Roundtrip Ground Transport			$360.00	
(4) Boards - Printing Expense			$175.00	
Charrette Materials (Post Its, Pens, etc.)			$20.00	
TOTAL DIRECT EXPENSES				$555.00
TOTAL THIS TASK				$740,697.00

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 5 | Feasibility Analysis | FIRM: Scape Landscape Architecture PLLC

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
PROJECT PRINCIPAL-IN-CHARGE	PARTNER	30	$100.00	$3,000.00
SENIOR CONSULTANT	PARTNER	0	$83.00	$0.00
PROJECT MANAGER	ASSOCIATE/PROJECT MANAGER	200	$39.42	$7,884.00
SENIOR ENGINEER/ARCHITECT/PLANNER	LANDSCAPE ARCHITECT	160	$38.94	$6,230.40
ENGINEER/ARCHITECT/PLANNER	LANDSCAPE DESIGNER	280	$26.44	$7,403.20
TOTAL ESTIMATED HOURS		670		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
		0	$0.00	$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$24,517.60
OVERHEAD @	171.00%			$41,925.10
SUBTOTAL -- SALARY + OVERHEAD				$66,442.70
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD		$6,644.27
DIRECT EXPENSES			$	
Itemize:				
3 trips to Hoboken (esta. 14 miles round trip)			$30.00	
Report printing color 24"x36" @ $0.80/sheet (600 sheets)			$480.00	
Blue printing b/w 24"X36' @ $0.55/sheet			$165.00	
TOTAL DIRECT EXPENSES				$675.00
TOTAL THIS TASK				$73,761.97

Contract No. 13-002D
Environmental Consulting Services

Dewberry Engineers, Inc.

Task Order Assignment No. 12

Sub-Task 6
Preliminary Design & EIS Preparation

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 6 | Preliminary Design & EIS Preparation | FIRM: | Dewberry Engineers Inc.

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Project Principal-in-Charge	Principal-in-Charge	138	$99.75	$13,765.50
Senior Consultant PM/DPM	Project Manager/Deputy Project Manager	298	$77.75	$23,169.50
Senior Consultant SME/QAQC	Subject Matter Expert, QA/QC	569	$77.75	$44,239.75
Design/ Planning Team Leader/Project Surveyor	Assocate Highway Engineer, Planning Team Leader	688	$57.37	$39,470.56
Project Specialist	Lead Water Resources Engineer, Project Specialist	216	$55.76	$12,044.16
Supervising Engineer / Architect / Planner	Feasibility Engineering Lead, Lead Geotechnical Engineer, Structural Engineer, Supervising Engineer	780	$64.22	$50,091.60
Senior Engineer / Architect / Planner	Senior Geotechnical Engineer, Structural Engineer, Senior Traffice Engineer, Senior Highway Engineer, Senior Civil Engineer, Senior Engineer/Senior Planner	2520	$46.62	$117,482.40
Engineer / Architect / Planner / Surveyor	Geotechnical Engineer, Structural Engineer, Traffic Engineer, Civil Engineer, Water Resources Engineer, Engineer/Planner	2379	$39.35	$93,613.65
Field Survey Staff	Field Survey Staff	2606	$33.44	$87,144.64
CADD Technician	CADD Technician	1418	$51.44	$72,941.92
TOTAL ESTIMATED HOURS		11612		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Clerical Staff		0	$27.72	$0.00
				$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$553,963.68
OVERHEAD @	127.57%			$706,691.47
SUBTOTAL -- SALARY + OVERHEAD				$1,260,655.15
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD		$126,065.52
DIRECT EXPENSES			$	
Itemize: (SEE ATTACHED DETAILED EXPENSE SHEETS)				
Draft EIS Production/Distribution			$10,000.00	
Final EIS Production/Distribution			$10,000.00	
Vehicle Mileage			$169.50	
Printing/Copying/Mailing			$1,600.00	
TOTAL DIRECT EXPENSES				$21,769.50
TOTAL THIS TASK				$1,408,490.17

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 6 | Preliminary Design & EIS Preparation | FIRM: | Dewberry Consultants LLC

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Project Principal-in-Charge	Project Advisor	18	$99.75	$1,795.50
Senior Consultant		0	$77.75	$0.00
Project Manager		0	$64.22	$0.00
Design/ Planning Team Leader/Project Surveyor		0	$57.37	$0.00
Project Specialist	Coastal Subject Matter Expert	140	$55.76	$7,806.40
Supervising Engineer / Architect / Planner		0	$64.22	$0.00
Senior Engineer / Architect / Planner		0	$46.62	$0.00
Engineer / Architect / Planner / Surveyor	Coastal Engineer	88	$39.35	$3,462.80
Field Survey Staff		0	$33.44	$0.00
CADD Technician		0	$51.44	$0.00
TOTAL ESTIMATED HOURS		246		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Clerical Staff		0	$27.72	$0.00
				$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$13,064.70
OVERHEAD @	127.26%			$16,626.14
SUBTOTAL -- SALARY + OVERHEAD				$29,690.84
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD		$2,969.08
DIRECT EXPENSES			$	
Itemize: (SEE ATTACHED DETAILED EXPENSE SHEETS)				
Hotel Stay			$280.00	
Per Diem			$213.00	
Vehicle Mileage			$549.18	
TOTAL DIRECT EXPENSES				$1,042.18
TOTAL THIS TASK				$33,702.10

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 6 | Preliminary Design & EIS Preparation | FIRM: | Office for Metropolitan Architecture

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Partner		16	$591.00	$9,456.00
Associate		50	$338.00	$16,900.00
Project Manager		100	$270.00	$27,000.00
Senior Architect		250	$231.00	$57,750.00
Architect		500	$197.00	$98,500.00
Architect		0	$197.00	$0.00
Junior Architect		500	$132.00	$66,000.00
Junior Architect		0	$132.00	$0.00
		0	$0.00	$0.00
TOTAL ESTIMATED HOURS		1416		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
		0	$0.00	$0.00
		0	$0.00	$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)			$275,606.00
OVERHEAD @	0.00%		$0.00
SUBTOTAL -- SALARY + OVERHEAD			$275,606.00
FIXED FEE @	0.00%	OF BARE COST + OVERHEAD	$0.00
DIRECT EXPENSES		$	
Itemize:			
(3) Roundtrip Ground Transport		$135.00	
(4) Boards - Printing Expense		$175.00	
Charrette Materials (Post Its, Pens, etc.)		$20.00	
Presentation Model		$5,600.00	
TOTAL DIRECT EXPENSES			$5,930.00
TOTAL THIS TASK			$281,536.00

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 6 | Preliminary Design & EIS Preparation | FIRM: | Paul Carpenter Associates, Inc.

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Project Manager	Air Emissions, Noise & Vibration - Project Manager	144	$67.11	$9,663.84
Project Specialist	Air Emissions, Noise & Vibration - Project Specialist	248	$41.65	$10,329.20
Field Survey Staff	Air Emissions, Noise & Vibration - Field Survey Staff	97	$31.65	$3,070.05
CADD Technician	Air Emissions, Noise & Vibration - CADD Technician	29	$44.13	$1,279.77
	TOTAL ESTIMATED HOURS	518		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Clerical support	Air Emissions, Noise & Vibration	18	$22.04	$396.72
	TOTAL ESTIMATED HOURS	18		

TOTAL SALARY (BARE COST)				$24,739.58
OVERHEAD @	172.94%			$42,784.63
SUBTOTAL -- SALARY + OVERHEAD				$67,524.21
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD		$6,752.42
DIRECT EXPENSES			$	
Itemize:		Travel	$350.00	
TOTAL DIRECT EXPENSES				$350.00
TOTAL THIS TASK				$74,626.63

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 6 | Preliminary Design & EIS Preparation | FIRM: Scape Landscape Architecture PLLC

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
PROJECT PRINCIPAL-IN-CHARGE	PARTNER	40	$100.00	$4,000.00
SENIOR CONSULTANT	PARTNER	0	$83.00	$0.00
PROJECT MANAGER	ASSOCIATE/PROJECT MANAGER	200	$39.42	$7,884.00
SENIOR ENGINEER/ARCHITECT/PLANNER	LANDSCAPE ARCHITECT	200	$38.94	$7,788.00
ENGINEER/ARCHITECT/PLANNER	LANDSCAPE DESIGNER	400	$26.44	$10,576.00
TOTAL ESTIMATED HOURS		840		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
		0	$0.00	$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$30,248.00
OVERHEAD @	171.00%			$51,724.08
SUBTOTAL -- SALARY + OVERHEAD				$81,972.08
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD		$8,197.21
DIRECT EXPENSES			$	
Itemize:				
3 trips to Hoboken (esta. 14 miles round trip)			$30.00	
Report printing color 24"x36" @ $0.80/sheet (600 sheets)			$480.00	
Blue printing b/w 24"X36' @ $0.55/sheet			$165.00	
TOTAL DIRECT EXPENSES				$675.00
TOTAL THIS TASK				$90,844.29

Contract No. 13-002D
Environmental Consulting Services

Dewberry Engineers, Inc.

Task Order Assignment No. 12

Sub-Task 7
Document Management & Programmatic Reporting

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 7 | Document Mgmt & Programmatic Reporting | FIRM: | Dewberry Engineers Inc.

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Project Principal-in-Charge	Executive Vice President, Principal-in-Charge	380	$99.75	$37,905.00
Senior Consultant PM/DPM	Project Manager/Deputy Project Manager	1820	$77.75	$141,505.00
Senior Consultant SME/QAQC	Subject Matter Expert, QA/QC	0	$77.75	$0.00
Design/ Planning Team Leader/Project Surveyor		0	$57.37	$0.00
Project Specialist		0	$55.76	$0.00
Supervising Engineer / Architect / Planner	Feasibility Engineering Lead, Lead Geotechnical Engineer, Structural Engineer	594	$64.22	$38,146.68
Senior Engineer / Architect / Planner	Senior Geotechnical Engineer, Structural Engineer, Senior Highway Engineer, Senior Engineer/Senior Planner	594	$46.62	$27,692.28
Engineer / Architect / Planner / Surveyor	Geotechnical Engineer, Structural Engineer, Highway Engineer	0	$39.35	$0.00
Field Survey Staff	Field Survey Staff	0	$33.44	$0.00
CADD Technician		0	$51.44	$0.00
TOTAL ESTIMATED HOURS		3388		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Clerical Staff		612	$27.72	$16,964.64
				$0.00
TOTAL ESTIMATED HOURS		612		

TOTAL SALARY (BARE COST)			$262,213.60
OVERHEAD @	127.57%		$334,505.89
SUBTOTAL -- SALARY + OVERHEAD			$596,719.49
FIXED FEE @	10.00%	OF BARE COST + OVERHEAD	$59,671.95
DIRECT EXPENSES		$	
Itemize: (SEE ATTACHED DETAILED EXPENSE SHEETS)			
Tolls		$190.00	
Parking		$190.00	
Vehicle Mileage		$6,226.30	
TOTAL DIRECT EXPENSES			$6,606.30
TOTAL THIS TASK			$662,997.74

NJ TRANSIT Contract No. 13-002D
Task Order Contract: Environmental Consulting Services
Task Order Assignment No. 12 - Rebuild by Design

SUB-TASK 7 | Document Mgmt. & Programmtic Reporting | FIRM: | Office for Metropolitan Architecture

TECHNICAL STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
Partner		11	$591.00	$6,501.00
Associate		30	$338.00	$10,140.00
Project Manager		140	$270.00	$37,800.00
Senior Architect		30	$231.00	$6,930.00
Architect		0	$197.00	$0.00
Architect		0	$197.00	$0.00
Junior Architect		0	$132.00	$0.00
Junior Architect		0	$132.00	$0.00
		0	$0.00	$0.00
TOTAL ESTIMATED HOURS		211		

SUPPORT STAFF				
STAFF PERSON / CLASSIFICATION	PROJECT TITLE OR DISCIPLINE	ESTIMATED HOURS	HOURLY RATE	TOTAL SALARY
		0	$0.00	$0.00
		0	$0.00	$0.00
TOTAL ESTIMATED HOURS		0		

TOTAL SALARY (BARE COST)				$61,371.00
OVERHEAD @	0.00%			$0.00
SUBTOTAL -- SALARY + OVERHEAD				$61,371.00
FIXED FEE @	0.00%	OF BARE COST + OVERHEAD		$0.00
DIRECT EXPENSES			$	
Itemize:				
(2) Roundtrip Ground Transport			$90.00	
(4) Boards - Printing Expense			$175.00	
Model Materials			$200.00	
TOTAL DIRECT EXPENSES				$465.00
TOTAL THIS TASK				$61,836.00

Dewberry

Client-Focused Means Future-Focused

Final Technical Proposal for:

Rebuild By Design: Resist, Delay, Store, Discharge Project

Feasibility Study and Environmental Impact Statement

New Jersey Transit Corporation

Contract No. 13-002D

May 11, 2015

SUBMITTED BY:

Dewberry Engineers Inc.
600 Parsippany Road
Parsippany, NJ 07054
973.739.9400

SUBMITTED TO:

NJ TRANSIT
One Penn Plaza
Newark, NJ 07105

TABLE OF CONTENTS

ABBREVIATIONS

ACEC ..... American Council of Engineering Companies
AOC ..... Area of Concern
APE ..... Area of Potential Effects
BCA ..... Benefit Cost Analysis
BMP ..... Best Management Practice
CAC ..... Community Action Committee
CAG ..... Citizen Advisory Group
CDBG-DR ..... Community Development Block Grant-Disaster Recovery
CSO ..... Combined Sewer Overflow
CEQ ..... Council on Environmental Quality
DEIS ..... Draft Environmental Impact Statement
EIS ..... Environmental Impact Statement
EJ ..... Environmental Justice
EO ..... Executive Order
EDR ..... Environmental Data Resources
EFH ..... Essential Fish Habitat
EPA ..... United States Environmental Protection Agency
ESC ..... Executive Steering Committee
FEIS ..... Final Environmental Impact Statement
FEMA ..... Federal Emergency Management Agency
FR ..... Federal Register
FRPC ..... Federal Review and Permitting Committee
GI ..... Green Infrastructure
GIS ..... Geographic Information System
HMGP ..... Hazard Mitigation Grant Program
HUD ..... United States Department of Housing and Urban Development
LSRP ..... Licensed Site Remediation Professional
NHSA ..... North Hudson Sewerage Authority
NMFS ..... National Marine Fisheries Service
NEPA ..... National Environmental Policy Act
NHPA ..... National Historic Preservation Act
NHSA ..... North Hudson Sewerage Authority
NJAC ..... New Jersey Administrative Code
NJDEP ..... New Jersey Department of Environmental Protection
NJDOT ..... New Jersey Department of Transportation
NJHPO ..... New Jersey Historic Preservation Office
NOA ..... Notice of Availability
NOI ..... Notice of Intent

NOAA ..... National Oceanic and Atmospheric Administration
PIAP ..... Public Involvement Action Plan
RBD ..... Rebuild by Design
ROW ..... Right of Way
SHPO ..... New Jersey State Historic Preservation Office
SLR ..... Sea Level Rise
SOI ..... Secretary of the Interior
SOW ..... Scope of Work
SRIRC ..... Sandy Regional Infrastructure Resilience Coordination
SWMM ..... Storm Water Management Model
T&E ..... Threatened & Endangered Species
TCT ..... Technical Coordination Team
USACE ..... United States Army Corps of Engineers
USFWS ..... United States Fish & Wildlife Service
WWTP ..... Wastewater Treatment Plant

Section 1: Understanding of the Project

Understanding of the Project

The municipalities of Hoboken, Weehawken, and Jersey City were no stranger to the devastation wrought by Superstorm Sandy in October 2012. With half of Hoboken flooded for several days, emergency services were unavailable, residents were evacuated, and the National Guard was deployed to rescue those who could not escape the storm's wrath in time. The magnitude of Sandy's devastation in Hoboken, primarily attributed to a record-breaking storm surge during high tide, has somewhat dimmed the fact that little precipitation fell during that storm. Had matters been different, Hoboken's past history of flooding during heavy rainfall events indicates the entire city could have been inundated for days.

To address the vulnerabilities so effectively demonstrated during Superstorm Sandy, the United States Department of Housing and Urban Development (HUD) launched a Rebuild by Design (RBD) competition inviting world-class talent to partner with communities in crafting pioneering resiliency solutions. The winning proposal for Hoboken was developed by the Office for Metropolitan Architecture (OMA), who created a strategy entitled, "Resist, Delay, Store, Discharge: A Comprehensive Strategy for Hoboken," which can effectively prevent frequent flooding due to storm surge, high tide, and heavy rainfall. HUD awarded $230 million to the State of New Jersey for the "Resist, Delay, Store, Discharge: A Comprehensive Strategy for Hoboken," project (Project) in the municipalities of Hoboken, Weehawken, and Jersey City.

The purpose of the Feasibility Assessment, which is the subject of this proposal, is to investigate the constructability, viability, and environmental impacts of the improvements included in the OMA proposal. Those improvements include terraced edges, bulkheads, and deployable flood walls to *resist* storm surges; parkland/terraced edges, green roofs, and bioswales to *delay* runoff; cisterns, bioretention basins, and constructed wetlands to *store* runoff; and pump stations and sewer networks to *discharge* runoff.

The Dewberry team, which includes OMA, will further investigate the types of mitigation measures that can be considered for Hoboken, and will evaluate specific locations for each concept. Design factors such as utility impacts, subsurface soil conditions, right-of-way impacts, traffic/pedestrian flow, and construction cost will be evaluated for each concept in order to narrow the focus on practical alternatives that can be discussed and evaluated in the context of an Environmental Impact Statement (EIS), which will enable all stakeholders to agree on a recommended alternative for construction.

HUD's award comes in the form of Community Development Block Grant-Disaster Recovery (CDBG-DR) funds which require compliance with the National Environmental Policy Act (NEPA) and its associated regulations as outlined in 24 CFR 58. When not otherwise accounted for by HUD's regulations, the project is also subject to the Council of Environmental Quality (CEQ) NEPA regulations at 40 CFR parts 1500-1508. HUD has further outlined the Project's environmental review compliance requirements in Federal Register (FR) notice 79 FR 62182, published October 16, 2014. The NJDEP is the responsible entity for the implementation of the Project and its environmental review compliance.

Based on the scope of the proposed improvements, we understand that the Project will require an EIS pursuant to HUD requirements. The EIS will demonstrate the Project's compliance with the environmental laws and authorities as stated in HUD regulations (24 CFR 58.5 and 58.6), including compliance with the National Historic Preservation Act (NHPA) of 1966, Floodplain Management and Wetland Protection Executive Orders (EOs) 11988 and 11990, Environmental Justice EO 12898, the Coastal Zone Management Act of 1972, and the Endangered Species Act of 1974.

The cultural resources analyses conducted as part of the EIS also must be prepared in compliance with Section 106 of the NHPA. Section 106 requires federal agencies to identify and assess the effects of their actions on historic properties. As part of this process, consultation with appropriate state and local officials, Indian tribes, and members of the public is required in order to consider their views and concerns about historic preservation issues when making final project decisions. To satisfy the requirements of Section 106, we will conduct a cultural resources study, including limited archaeological testing and architectural survey, in order to

identify historic properties and assess potential impacts that may result from the proposed Project.

HUD requires that all grant funding be obligated by September 30, 2017 and expended by the grantee within two years of obligation as stated in HUD's third funding allocation at 79 FR 62182. To accommodate this schedule we will use a streamlining process to have the environmental review process complete in the most expeditious manner to allow for subsequent phases of the Project to be completed by the funding deadline.

The Project is a "Covered Project" as outlined in 78 FR 69104 Section VI.2.g, published November 18, 2013. Covered Projects are major infrastructure projects that involve a total project cost of $50 million or more, including $10 million of CDBG funding, or projects located within two or more counties. Covered Projects also include two or more related infrastructure projects that have a combined total cost of $50 million or more, including $10 million in CDBG funding. The subject Project, which is anticipated to receive $230 million in CDBG funding, is a Covered Project. This classification places additional requirements on the Project's Action Plan Amendment process, as identified in 78 FR 69104.

It is anticipated that the Project will require the preparation and publication of at least one substantial Action Plan Amendment, pursuant to 79 FR 62182 Section VI.4.f. This substantial amendment must be submitted subsequent to the completion of the Draft Environmental Impact Statement (DEIS) and must include a 30-day comment period and a public hearing. To streamline the NEPA and Action Plan Amendment process as recommended in the FR notice, the public meeting for this substantial Action Plan Amendment and the public hearing for the DEIS will be combined.

HUD requires additional substantial Action Plan Amendments be submitted any time the scope of a Covered Project changes whereby the changes to the project call for a re-allocation of more than $1 million. It is not anticipated that this will occur prior to the submission of the DEIS; however, should this occur, Dewberry will coordinate with NJDEP to allow for the substantial Action Plan Amendment's public meeting to be held at one of the proposed NEPA public meetings. We understand that NJDEP will prepare and disseminate any substantial Action Plan Amendment necessary.

A critical component to meeting this schedule will be the early identification and management of key project stakeholders and risk factors. Frequent communication with a long roster of stakeholders will help minimize project risks and pave a smoother path towards a more resilient and sustainable Hoboken. The purpose of the Feasibility Assessment is to identify risk factors such as project costs, environmental impacts, constructability, etc., and evaluate each design alternative's impact on those factors. This scope of work outlines the tasks that will be required to meet the Project goals. It will be challenging to integrate a flood risk reduction system proposed by OMA as part of the RBD proposal within the dense urban built condition in the municipalities of Hoboken, Weehawken, and Jersey City. The underlying geology consisting mostly of fill with high levels of groundwater within these municipalities adds another level of complexity for reducing flood risks. Hoboken and its neighbors have taken steps to identify and plan resilience measures within their communities. It is our understanding that any new major development project will have to meet or exceed FEMA's floodplain construction standards. It will be important to coordinate with major projects in the study area, including NJ TRANSIT's Hoboken Long Slip Flood Protection Project, which was awarded $146.5 million by the Federal Transit Administration; and will be advanced concurrent with the RBD.

Another key component of this flood risk reduction project will be to verify that the project blends in with the surrounding urban fabric. Urban design aspects such as open space, waterfront access, and choice of flood risk reduction options for multipurpose uses will play a key role to get community acceptance.

Streamlining the Environmental Process

Streamlining is a process that recognizes the benefits of effective and successful coordination as a basis of improving cooperation among the Project's many stakeholders. Stakeholders in this case will consist of state and local officials (Executive Steering Committee), state and federal subject matter experts in resilience, planning, environmental review, and permitting (Coastal Hudson County Technical Coordination Team), and community organizations and

interested members of the general public (Community Action Committee). This will be a foundation of the Project's NEPA review. The streamlining process seeks to identify project priorities, agree upon standards, and encourage open dialogue among stakeholders. To achieve successful streamlining, shared and agreed-upon general principles are paramount to meeting desired goals.

A key component of this process is for all stakeholder groups to define their respective roles as early in the process as possible. Each of the stakeholder groups should come to the table with an open mind, prepared to work to find an acceptable – though not necessarily perfect – solution that is compatible to each group's mission and the Project's purpose and need. Issues and conflicts should be addressed and resolved in an expeditious manner as they are identified. Furthermore, and critical to the overall process, at major Project milestones, stakeholder groups must participate in a formal consensus process, thereby verifying mutual understanding and compromise on the Project's progress. After each formal consensus point, it is recommended that stakeholder groups strive to reach agreement to minimize the need to revisit milestones unless substantive new information is identified that warrants reconsideration. This will preserve the value of the process and support the Project proceeding within its projected timeline. The streamlining will facilitate the NEPA process as shown in the flow chart below. Below is a discussion of the anticipated milestones.

Notice of Intent, Purpose and Need, Scoping, Data Gathering, and Concept Development

The NEPA process milestones at the beginning of the project include the Notice of Intent (NOI), Purpose and Need, Scoping, Data Gathering, and Concept Design. Three major components will inform the NEPA process—engineering concepts, analysis of environmental impacts, and community input. We will advance the three components simultaneously with the goal of developing and selecting a preferred alternative.

The NEPA process will commence at the publication of the NOI. Based on recent HUD guidance, the NOI is anticipated to be published up to 60 days from the Notice to Proceed. Once published, the framework for Public Scoping will be developed. This meeting will be held 15 days after the publication of the NOI. We assume that two rounds of Purpose and Need meetings will need to be held in order to establish reach consensus on the Purpose and Need. The Purpose and Need Statement will form the basis for considering the alternatives. It will have three parts: The Purpose, the Need, and Goals and Objectives. The Purpose will address resiliency concerns for flood protection. It will briefly state the overall positive outcome that the Project is expected to create and be a focused succinct statement that will accommodate a multitude of solutions. The Need will provide the factual data and performance measures, such as infrastructure damage, sewer over capacity data, private property damage, etc., along with the latest planning information to support the Purpose. The Goals and Objectives will describe other issues that need to be resolved as part of a successful solution to the problem and will

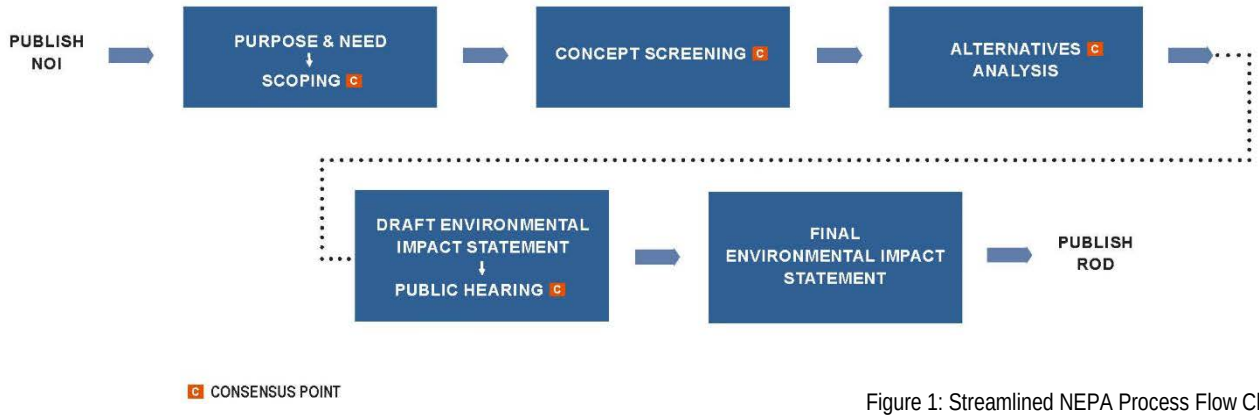


Figure 1: Streamlined NEPA Process Flow Chart

balance the community and environment with the resiliency needs. The Purpose and Need will address concerns including, but not limited to, surge reduction, FEMA accreditation, and insurance relief.

The Purpose and Need will be carried forward into the Scoping Meetings, where concurrence on the draft Purpose and Need will be made. Concurrence is critical, as the Project's Purpose and Need will shape the Concept Design, Alternatives Analysis, and ultimately the Preferred Alternative. Full participation amongst the stakeholder groups, as well as the environmental and engineering team, will allow for these project milestones to be met.
We will develop a Draft Scoping Document including scoping meeting agendas, presentations, and documents. An executive summary of this document will also be prepared. These materials will be publically available prior to meetings to inform meeting participants. After the Scoping Meeting is conducted, we will finalize the Scoping Document which will summarize the Project background and data gathered to date, and the agreed-upon Purpose and Need Statement.

Data gathering will proceed concurrently with the development of the Purpose and Need. Our environmental and engineering design teams will work closely during the data gathering phase; each team's research will provide key insight to help guide the concept design process, as framed by the Purpose and Need. We anticipate the data gathering phase to take approximately three and a half months.

Concept Screening

As we develop the project concepts, we will be working closely with the public, including local officials, citizenry, agencies, and other stakeholders to evaluate the impacts of those concepts on the environment, as well as to evaluate the overall cost and feasibility of each concept.

The culmination of the concept development phase will be an evaluation of the concepts through a screening matrix as part of a workshop setting. The concept screening matrix will be developed with input from stakeholders as well as the public. The matrix will include criteria such as Purpose and Need, flood risk reduction, environmental constraints (including but not limited to ROW acquisition, cultural resources, hazardous waste, and environmental justice), community interests, constructability, design criteria, and construction cost. In the concepts screening workshop meetings, subject matter experts and stakeholders will evaluate concepts and rank the impacts of the concepts. The goal of the concept screening workshops will be to winnow the design concepts to those that meet the project Purpose and Need, minimize impacts, and are cost effective. At the conclusion of the concept screening workshops, we will select three Build Alternatives to advance into the EIS process. These three Build Alternatives (as well as the No-Build Alternative) will be analyzed as part of the EIS.

Alternatives Analysis and Data Gap Surveys

Once the three Build Alternatives are determined, additional surveys and further analysis will be conducted to further refine the environmental constraints and impacts of each Build Alternative. The environmental evaluation will address impacts to such factors as floodplain and wetlands, threatened and endangered species, cultural resources, air quality, noise, environmental justice, land use, hazardous waste, infrastructure, and visual concerns. As required by Section 106, the New Jersey Historic Preservation Office (NJHPO) will be consulted on potential impacts to historic properties. These analyses will be included in and contribute to the overall compilation of the Draft Environmental Impact Statement (DEIS), which represents the culmination of all these efforts dating back to the beginning of the project (Scoping, development of Purpose and Need, existing conditions, shortlisting and evaluation of affected environment).

These analyses, coupled with concurrence from agencies and the public, will assist in the creation of an alternatives analysis matrix. This matrix will be developed using the refined data that is gathered during the Data Gap surveys. As with the concepts screening process, the three Build Alternatives will be compared using this comprehensive matrix, the outcome of which will be the selection of the Preferred Alternative.

DEIS and Public Comment

The DEIS will include a description of the entire environmental review process and will present the findings of the existing conditions and data gathering studies, the results of the environmental impact and feasibility analyses, and the extensive public participation effort described below. The DEIS will present the reasons why the Preferred

Alternative was selected over the other Build Alternatives generated during the project. The preparation of the DEIS will overlap the previous tasks; overall it will take approximately seventeen months to compile. It is anticipated that Dewberry will submit the DEIS to NJDEP for two weeks of review, after which it will be presented in one round of regulatory agency meetings for pre-draft comment. The comments will be incorporated into the DEIS, after which the DEIS will be submitted for 90 days of general public comment in accordance with 40 CFR 1506.10(b)(1). We will hold a public hearing on the DEIS 15 days after its publication. The notice of EIS availability will be published by HUD prior to making the document available for public comment.

As mentioned earlier, we understand that the substantial Action Plan Amendment as required by 79 FR 62182 Section VI.4.f will be prepared by NJDEP; however, the content of the amendment will rely on the analysis and information presented in the DEIS. In addition, to facilitate the streamlining process, the public hearing required for the substantial Action Plan Amendment will be held at the DEIS public hearing.

Final Environmental Impact Statement and Record of Decision

Comments received during the DEIS publication period will be addressed and incorporated into the Final Environmental Impact Statement (FEIS). The FEIS will be published for a 30-day comment period, per 40 CFR 1506.10(b)(2). This will lead to the issuance of the Record of Decision (ROD), which identifies the Preferred Alternative, describes why that option was selected over the other project alternatives, and provides options on ways to mitigate and alleviate environmental impacts resulting from the Project. The overall public comment periods for this phase of the Project are anticipated to occur over a two-month period.

Section 2: Technical Response

Technical Response

Task 1: Data Collection and Mapping, and Public Involvement

A. Existing Data

We will begin by collecting and reviewing pre-existing data for this project. The pre-existing data will include the visioning work developed in the "Resist, Delay, Store, Discharge" proposal, the City of Hoboken's continuing resiliency efforts including the Hoboken Yard Redevelopment Plan, and technical studies conducted for areas of the City of Hoboken, including the information gathered for the Hudson-Bergen Light Rail.

In conjunction with gathering and evaluating the pre-existing data, we will investigate the site conditions. The development of site conditions will include multi-discipline efforts occurring concurrently. We will compile this information (pre-existing data and present site conditions of the study area) into a draft report which will also be the first section of the EIS. The study area is anticipated to include the City of Hoboken, the northern portion of Jersey City, and the southern portion of Weehawken that abuts the City of Hoboken. The study area will be revised as the project progresses.

It should be noted that the RBD proposal identified over 50 potential locations for *Delay*, *Store*, and *Discharge* within the study area. It is our understanding that the State of New Jersey's Scope of Work (SOW) requires identification of additional potential locations for *Delay*, *Store*, and *Discharge* other than those identified by the RBD proposal. Since the number of potential locations can be extensive, we made an assumption to limit our total number of potential locations to 76 sites for *Delay*, *Store*, and *Discharge*. We also made an assumption that the total area of disturbance from these 76 sites will be restricted to 76 acres and that this project will not include the acquisition of land.

Below is a discussion of the data gathering effort by discipline; our evaluation will include the data gathered during the RBD competition.

Figure 2: Study Area

Natural Resources

We will gather and review relevant pre-existing data regarding the presence of natural resources in the project area, including the NJDEP GIS database of freshwater and coastal wetlands, floodplain maps, and soils maps to identify potential areas of concern and their associated constraints. In addition, we will identify the existing natural features within the project area, including areas of open water, the littoral zone, flood hazard areas, the Mean High and Spring High Water elevations at the shoreline and the intertidal/sub-tidal shallows zones. Since it is anticipated that a coastal *Resist* element will be included in the Build Alternatives, and will involve impacts to wetlands and/or open waters, we will delineate coastal shoreline wetlands that are not bulk headed, in accordance with NJDEP and USACE standards, for subsequent survey and mapping. We will review existing tidelands conveyances from the NJDEP Bureau of Tidelands, as well as those areas that have been filled, but do not have an existing tideland grant, lease, or license. We also will review historical aerial photographs and topographic maps to identify the historic wetland areas and

stream channels that previously existed in the western portions of the City of Hoboken. These areas may be suitable for various green infrastructure features.

Additionally, we will send requests for database searches to the NJDEP and the US Fish & Wildlife Service (USFWS) for records of rare/threatened & endangered (T&E)/special concern species or their habitats, as well as to the National Marine Fisheries Service (NMFS) for information regarding fisheries resources within the project area. Based on a preliminary review, the Hudson River in this area is mapped as habitat for the federally endangered Shortnose Sturgeon *(Acipenser brevirostrum)*, so timing restrictions for certain construction activities in the open waters would be expected. If other species or habitat records are identified within the project area, we will verify, to the extent practicable, whether those resources are present while performing a field assessment of the project area. If more detailed studies are required, we will inform the NJDEP of the need for those studies, which could be provided as an out-of-scope extra work item. If data gaps are identified in the existing, available data, we will provide recommendations as to whether the data is critical for future analysis and how the missing information can best be obtained under a separate authorization. The information gathered during the data review process will be included in the EIS and used in future phases including the securing of permits.

Aquatic Ecology

The *Resist* studies to be conducted may result in a finding that a shoreline protection feature is necessary to provide flood protection for the City. A revetment or other structure along the shoreline may result in impacts to the shallow waters of the existing Hoboken waterfront. Therefore, as requested by the NMFS, the existing aquatic ecology of this shoreline area will be evaluated. We will conduct a review of available desktop GIS data and web-based resources associated with the aquatic resources of the area; we will request letters from the following agencies:

- NJDEP Natural Heritage Program for T&E species and critical habitat; and
- NMFS for marine species/habitats in the project area.

In addition, the project area will be reviewed for Essential Fish Habitat (EFH), as required by NMFS.

We will conduct a desktop review of available GIS data and web-based resources to identify the aquatic resources of the area. This will include a review of the USFWS Information, Planning and Conservation System (IPaC) for species and critical habitats, as well as the NMFS on-line EFH Viewer. We also will prepare database request letters to the NJDEP and NMFS for information on T&E species and critical habitats in the project area.

An EFH review will be conducted to evaluate the shoreline area for use by aquatic species to determine if portions of the shoreline area may be identified as EFH. We will conduct a site visit and inspect the project area in regard to any EFH identified. The inspection will be conducted at low tide during fair weather conditions (minimal winds) to allow for the best viewing conditions. We also will evaluate the project area in terms of its water depth, clarity, and site disturbance conditions. A Secchi Disk will be used to measure water clarity, and the depth within the project area will be sounded in at least four locations from the bulkhead along the shoreline.

Socioeconomic, Land Use and Environmental Justice

Data collection for the Socioeconomic, Land Use, and Environmental Justice (EJ) analysis will include: population and income data, land use data from existing sources, and tax information. Additionally, a review of the Hoboken, Weehawken, and Jersey City Master Plans and zoning will be reviewed and summarized. Using GIS tools for analysis and mapping, census block groups and blocks that fall within the project area will be identified. Socioeconomic data will be compiled and presented in tabular formats, and mapped thematically to identify populations and affected communities. Our analysis will also identify open space (local, county, state, and federal parkland), as well as identify local land use patterns. The open space and land use patterns will be compiled through GIS data layers, Recreation Open Space Inventory (ROSI), and field verification. As part of this analysis, we will evaluate view corridors, building character, local landmarks and overall community character. Field reconnaissance surveys and interviews will be conducted to supplement and/or corroborate the findings of public documents, maps, and GIS data.

The EJ analysis will focus on low-income, minority, and Hispanic communities pursuant to Executive Order (EO) 12898. Our analysis will evaluate the presence of EJ populations based on the 2010 US Census and if potential displacements or other direct or indirect impacts would disproportionately affect these populations.

Additionally, socioeconomic data collection will include:

- Mod IV data for property assessments and characteristics. These data are available from New Jersey Department of the Treasury.
- A GIS shapefile that shows the parcels in Hoboken, and includes property characteristics such as zoning, land use, etc.
- Records of property transactions since 2000 in Hoboken.
- Planning studies, economic development studies, housing studies, and other studies that identify the location of low and moderate income populations.
- Information on the revenue, profitability, or employment levels at area businesses, if available.
- The location of public housing projects and other low- and moderate-income populations within the City.
- The location of residents using Section 8 housing vouchers, if available from HUD.

Circulation

We will prepare a schematic plan of the local road and transportation network that can be expected to be affected or involved with the Project. Subject to concurrence by NJDEP, we have identified a network of 48 intersections, which represent the primary roadways into and out of Hoboken as well as additional primary routes that provide circulation within the City. The schematic plan will be a clear and simple presentation of the affected street segments and access routes and how they are used and by what travel modes. It will also display important City destinations that generate significant traffic demand such as parks, transportation hubs, and major private and public offices.

We will collect intersection traffic volume data for the typical AM, PM, and Saturday peak periods (three hours each) at each of the project intersections. We will also solicit related traffic, signal, and travel data from City staff, NJ TRANSIT, and other transit/shuttle service providers. Transit data will include public transportation services and facilities in the study area, including bus service, ferry service, NJ TRANSIT passenger rail, PATH, and Hudson-Bergen Light Rail. After data are compiled, we will include in the plan detailed traffic data (modal volumes by direction, ridership for transit) for each of the travel modes. We will also solicit input from school bus service providers, emergency service providers, maintenance operators, and utility companies regarding how they use the affected street segments. Input received from these stakeholders will also be presented in the schematic plan. If necessary to convey clear information, we may need to develop more than one schematic plan to best convey the information and data.

Air Quality

Mobile-sources of air emissions will not be created or relocated as part of the Project. In addition, in order to secure funds for this project, HUD previously addressed construction-related sources required for General Conformity. Therefore, mobile-source or construction-source analyses are not necessary to determine compliance with the Clean Air Act.

Noise

Mobile-Source. Roadways will not be created or relocated as part of the proposed project therefore mobile noise sources do not need to be addressed within the EIS.

Stationary-Source. In order to discharge water, improvements include additional pumps within Hoboken. Pump stations are subject to maximum permissible sound levels established within Chapter 29 of the New Jersey Administrative Code (NJAC) 7:29 during weekly testing of emergency generators.

Construction-Source. Proposed improvements include major reconstruction of the Hoboken waterfront. Bulkheads, flood walls, and other forms of protection will require heavy, long-term construction activities. In addition, storm drain lines may be dug and installed throughout Hoboken. The New Jersey statewide noise control code (NJAC 7:29) does not regulate noise from construction activities; however, the statewide noise code includes a provision allowing municipalities to adopt a noise control ordinance, provided that the ordinance is more stringent or otherwise consistent with NJAC 7:29. Hoboken is located within Hudson County and thereby subject to the Hudson Regional Health Commission Noise Ordinance. According to this code,

construction noise is exempt during daytime hours. However, construction activities are not permitted on private or public right-of-ways on weekdays between 6 pm and 7 am (overnight) or at any time on weekends and legal holidays unless resultant levels are at or below 50 dBA and 65 dBA during overnight and daytime hours, respectively.

Hoboken is a vibrant city and ambient noise levels within the study area are most likely at or above these noise restriction levels already. Therefore, it is considered unfair and unproductive to hold contractors to such stringent levels. Since non-emergent overnight and weekend construction activities related to this project may be necessary, it is appropriate to address construction noise by developing a project-specific construction noise level limit.

A project-specific construction noise level limit will be based on actual background noise levels and then will be used to determine an acceptable noise level limitation above baseline. By doing so, contractors will be allowed to perform necessary work while also being a good neighbor. The background noise level study will be performed in six locations and reasonable project-specific construction noise level limits will be developed and detailed within the EIS. In addition, noise levels related to two construction phases at each monitoring study will be predicted based on the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) to determine whether certain construction tasks can meet the criteria.

Vibration

The proposed project does not include improvements which would cause operational vibration concerns. However, due to the heavy, long-term construction activities related to reconstruction of the Hoboken waterfront, historic, and structurally sensitive properties, and the densely populated study area, a construction-related vibration analysis will be performed. Vibration levels will be predicted based on Federal Transit Noise and Vibration Impact Assessment procedures at four locations. Predicted vibration levels will be compared to structural damage criteria as well as perceivable and annoyance vibration level thresholds established by the Federal Transit Administration. The vibration analyses will be detailed in EIS.

Hazardous Waste

We will review various sources of data in order to identify Areas of Concern (AOCs) with regard to hazardous waste. In order to identify known environmental issues within the project area, we will perform an Environmental Data Resources (EDR) database search for the entire area. Concurrently with review of the EDR data, we will evaluate NJDEP GIS data layers for known contaminated sites within the project area. We will also conduct a project area reconnaissance to identify potential hazardous waste concerns. Additionally, historical aerials as well as Sanborn Fire Insurance Maps will be reviewed to provide a history of potential hazardous waste concerns in the project area. It is well known that most of Hoboken is underlain by historic fill material, and it can be assumed that this material contains contaminants typical of historic fill including elevated concentrations of polycyclic aromatic hydrocarbons and metals. Where the anticipated proposed improvements coincide with historic fill, it can be assumed that these typical contaminants will be encountered. Should online information indicate that contaminated sites coincide with the proposed improvements and have environmental issues beyond that of historic fill, we will complete a regulatory agency file review of the contaminated site to identify specific impacts. In cases where remediation of a site is overseen by a Licensed Site Remediation Professional (LSRP), we will contact the LSRP of Record for site specific information, if warranted.

During file reviews we will obtain NJDEP case files for projects located within the project area that may provide substantial information to limit the need for further subsurface investigation. In particular, we will review case files for the Hudson-Bergen Light Rail and Hoboken Rail Yard projects. Our team has worked on numerous sites for NJ TRANSIT within the project area and we will build upon this experience as part of our data gathering and identification of potential AOCs.

Based on this data gathering process, we will provide a summary of AOCs that represent potential environmental constraints to the proposed project. This information will be used to evaluate the need for future (out of scope) sampling of soil and/or groundwater.

Cultural Resources

As part of the data gathering task for cultural resources, we will visit several repositories to collect information from prior cultural resource studies that were prepared in the project area. We will review published secondary sources, prior architectural surveys, and cultural resource reports, as well as available maps (including National Oceanic and Atmospheric Administration [NOAA] maps) to characterize the architectural, archaeological, and maritime history of the project area. We anticipate conducting the following data gathering research: documentary and site file research at the New Jersey State Museum and the NJHPO, located in Trenton; review of historic maps and local histories available from the New Jersey State Library, located in Trenton; a review of files and information collected and maintained by other local libraries and repositories; and review of various online resources in order to collect additional information relating to the land-use history of the project area. As part of this task, we will also collect data on previously identified historic properties in the project area. Based on our initial review of NJDEP GIS data, multiple historic districts exist within the project area, including the Old Main Delaware, Lackawanna, and Western Railroad Historic District; the Southern Hoboken Historic District; the Stevens Historic District; the Central Hoboken Historic District; the South Hoboken Historic District Extension; and, the 1200-1206 Washington Street Historic District. As part of our data gathering, we will identify additional individual historic properties as well as previously identified areas of archaeological sensitivity.

Infrastructure

We will coordinate with the NJDEP, City of Hoboken, Township of Weehawken, Jersey City, and the Department of Homeland Security to identify critical infrastructure within the study area limits. During the feasibility assessment task, we will review concept options to reduce flood risks from coastal storm surge and rainfall events at these facilities. The study area is serviced by a combined storm-sewer system that collects sewer flow from buildings, combines it with stormwater runoff during rainfall events, and discharges combined flow to the North Hudson Sewerage Authority's (NHSA's) Adams Street Wastewater Treatment Plant (WWTP). The Adams Street WWTP serves Hoboken, Weehawken, and Union City with a service area of 2.6 square miles. The WWTP collection system includes local collection sewers, trunk sewers, and Combined Sewer Overflow (CSO) regulators, pump stations, intercepting sewers, force mains, and siphons. The figure below shows the major drainage areas that drain storm-sewer flow from City of Hoboken limits to Adams Street WWTP.

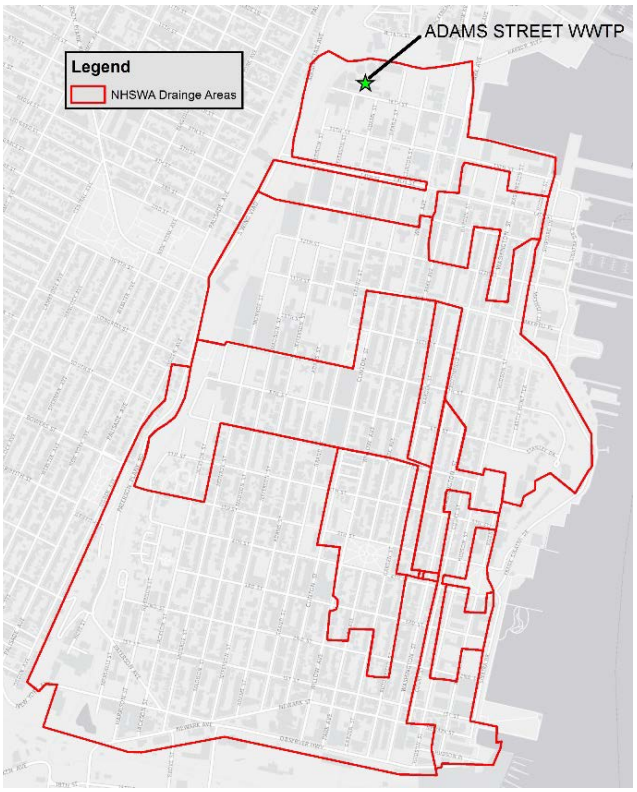


Figure 3: Major drainage areas within the City of Hoboken

We assume that NJDEP will provide us with NHSA's detailed GIS geodatabase showing locations, inverts, and overts of the entire storm-sewer system. We assume that the NJDEP will also provide NHSA's existing reports on their operations of the Adams Street WWTP and provide guidance on future plans to upgrade their storm-sewer system. We also assume that NJDEP will coordinate with NHSA to schedule a site visit with our team to identify various critical storm-sewer facilities within the study area. In addition to our site visit with NHSA, we will conduct a two-day site visit to verify

NHSA's storm-sewer geodatabase. If significant data gaps are observed between the geodatabase and ground conditions, we will inform NJDEP and NHSA about these data gaps. If needed, we will perform topographic survey to obtain information on the missing storm-sewer assets. We will limit the extent of additional topographic survey for a length of 1.5 miles and a width of 100 feet. This is part of the survey that will be carried out in the survey task described below.

Utilities

Overhead and underground utility record research will be completed by the NJDEP to identify a preliminary list of utility owners. Our preliminary investigation has identified five utility companies and it is assumed there are an additional five utility companies to be identified within the study area.

Utility companies will be contacted by the NJDEP, which will request any available as-built records. We will prepare 100-scale utility base plans to show existing surface utility facilities within the limits of the proposed sites and coastline. In addition, we will review base plans to identify any additional/modifications to their identified existing facilities. Utility company markups will be incorporated onto the utility base plans.

Survey (including Title and Mapping)

We have collected the available LiDAR topographic data and NOAA's bathymetric data for our study area (see below). We will utilize this LiDAR and bathymetric data for hydrologic and flood risk assessment task. We will collect readily available base map survey data from the City of Hoboken and other sources to develop preliminary design drawings (as part of Task 6). If data gaps are identified in available surveys, we will perform topographic survey to fill in these data gaps. We will limit the extent of additional topographic survey for a length of 1.5 miles and a width of 100 feet. This additional topographic survey will be restricted to cover the *Resist* portion of the study. We will utilize available base map surveys for the *Delay*, *Store*, and *Discharge* element of the project.

For the additional topographic survey that will be conducted by Dewberry, we will produce topographic maps at 1"= 50' scale. We will survey visible above-surface utility structures

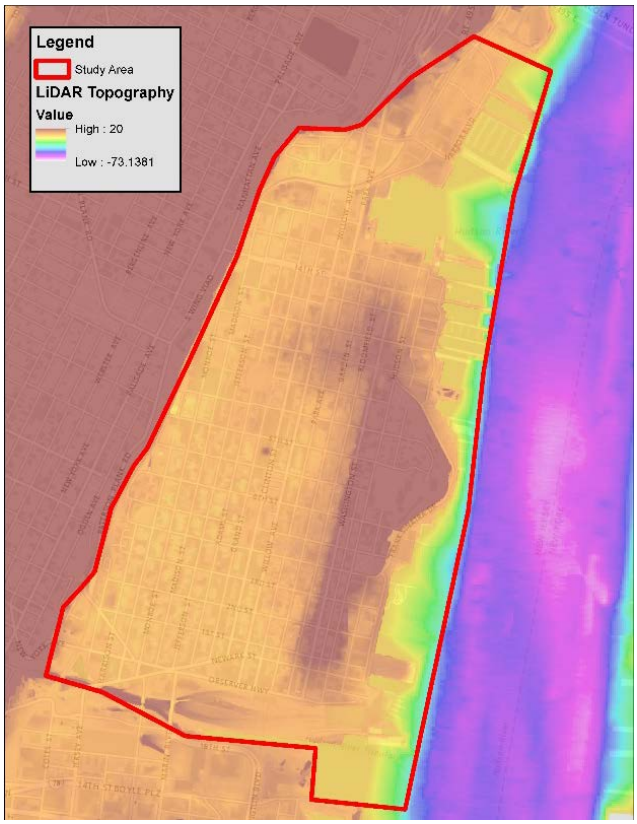


Figure 4: LiDAR topography for the Study Area

not clearly defined on the available LiDAR mapping. Structures may include, but are not limited to, manholes, traffic signals, hydrants, water valves, outfall structures etc. Surface utility locations either visible or marked out prior to the field survey will be surveyed and added to the mapping. Subsurface utility mapping supplied by others will be added to the base mapping as provided. We will not survey subsurface utilities, invert, pipe sizes, and or flow directions.

We will review ownership information compiled and supplied by the City of Hoboken tax assessors for a total of 76 properties within the project area which will include adjacent land underwater, tidelands conveyances, riparian rights (claimed or unclaimed), easements, deed restrictions, and access rights. Information provided will be mapped accordingly. These 76 properties will coincide with the number of properties identified for the *Delay*, *Store*, and *Discharge* element as described in Task 5.

Boundary and deeded information supplied by the City of Hoboken will also be reviewed and evaluated for possible impact as part of this proposal. No title searches will be included as part of this survey effort and complete boundary surveys will not be performed for these 76 parcels.

Survey support for the initial wetlands delineation activities will include the location of the wetland flags placed along the shoreline of the Hudson River. Subsequent survey tasks include the location of the wetland flagging placed in the interior portions of the City.

Floodplain Mapping

As seen from the floodplain map, the 1% annual chance recurrence interval (100-year) floodplain along Hoboken's waterfront is in the coastal VE Zone with a base flood elevation (BFE) of 16-17 feet NAVD. Inland portions of the City are within an AE zone with BFEs ranging from 10-12 feet NAVD. It should be noted that these FEMA base elevations are driven by coastal flooding alone (storm surge) and do not account for rainfall and interior drainage capacity. Hoboken's waterfront is subject to wave impacts, including wave runup and overtopping. For the 2013 preliminary FEMA study, overland wave modeling was conducted along ten cross-shore transects to map the inland wave hazards. Dewberry has the in-house datasets from the 2013 preliminary FEMA study and we will use this data for feasibility assessment.

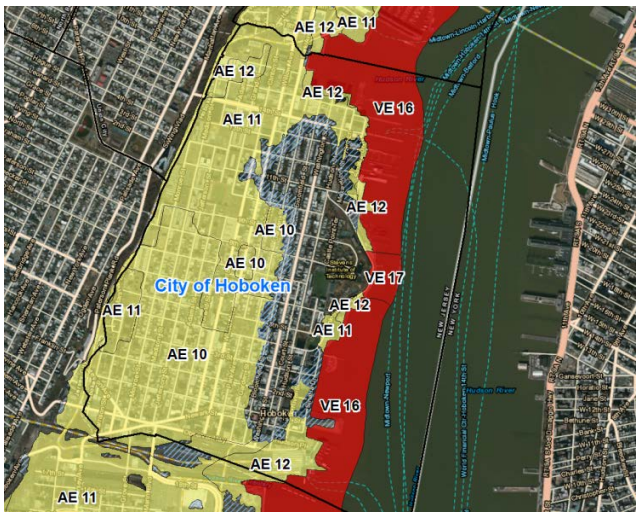


Figure 5: 2013 preliminary floodplain maps developed by FEMA for the study area

Visual/Aesthetic Resources

Given Hoboken's location along the Hudson River waterfront, consideration of how the proposed project may affect the community's aesthetics will be an important factor. As part of the preparation of the visual impact assessment, we will first establish a study area for potential visual effects which will be defined as the area of project visibility as determined by the physical constraints of the environment and the physiological limits of human sight. We will then conduct an inventory of visual resources in the study area, including views of the waterfront, public parks, historic buildings and districts, and natural resources.

B. Data Gap Findings

After gathering and reviewing relevant pre-existing data as well as collecting data for the preparation of the report summarizing this effort, we will identify all data gaps and recommend appropriate further action. Further studies would be conducted after the three Build Alternatives are identified and as part of the EIS preparation task, under a separate authorization.

C. Consultation with Stakeholders

As discussed in the Streamlining the Environmental Process section, we will use a streamlining process to advance the NEPA process. Formal Consensus points (further described below) will be built into the schedule.

The proposed project will involve significant local, state, and federal government coordination, in collaboration with public participation, in order to build consensus among stakeholders in the project area. NJDEP is preparing a Citizen Outreach Plan, in consultation with the Executive Steering Committee. Consistent therewith (and as detailed in this proposal), Dewberry will develop a Public Involvement Action Plan (PIAP), as a roadmap for public and inter-agency involvement.

The PIAP will be developed with the goal of conducting early and continuing outreach that will be timely in providing public notices, be broadly disseminated, and be responsive to stakeholder needs. Implementation of this plan will be a crucial ingredient in gaining support from all key stakeholders. The plan will be structured and executed through a phased approach consistent with the project phases and will be designed to meet pertinent needs and

circumstances as they are developed. The early and often coordination and the concurrence at key project milestones gained from stakeholder groups will be key to verifying that the project is able to proceed in a timely manner. It is anticipated that the PIAP will be updated twice during the course of the project.

The PIAP will assist our team in obtaining public input in the development of the concept screening process and Alternatives Screening Process. This will ultimately influence the selection of three Build Alternatives and the recommendation of a Preferred Alternative.

Public participation is an ongoing process that is closely linked and performed in conjunction with the environmental (NEPA) and engineering (feasibility) sides of the project.

A key goal of our stakeholder and public outreach process will be to gain an understanding of the community and its needs and desires in regards to the flood risk reduction system.

Stakeholders

An extensive mailing list of stakeholder groups was developed as part of the initial RBD competition. This list will be used and updated to maintain ongoing contact with the community, transfer information, and to publicize public meeting opportunities via meeting flyers and email notices. This mailing list will be provided to NJDEP and no information will be issued without prior NJDEP approval.

A database of contact information will be developed that will contain the names and addresses of project area representatives, media organizations, and representatives from the business community, as well as other stakeholders. It is anticipated that 5,000 contacts will be included in this mailing list. The list will be continuously updated as the project develops. Presently, project stakeholders include the following:

- Bike Hoboken
- Community Emergency Response Team
- County of Hudson Division of Planning
- FEMA
- Hoboken Boys and Girls Club
- Hoboken Catholic Academy
- Hoboken Chamber of Commerce
- Hoboken City Council
- Hoboken Commuter Community
- Hoboken Cove Community Boathouse
- Hoboken Day Care
- Hoboken Developers
- Hoboken Dual Language Charter School (HOLA)
- Hoboken Green Infrastructure Strategic Plan
- Hoboken Historical Museum
- Hoboken Housing Authority
- Hoboken Jubilee Center
- Hoboken Quality of Life Coalition
- Hoboken RBD Citizen Advisory Committee
- Hoboken Resident Community Hopes
- Hoboken Shade Tree Commission
- Hudson River Waterfront Conservancy
- Jersey City Division of City Planning
- Mile Mesh
- Mayor of Hoboken Dawn Zimmer
- Mayor of Jersey City Steven Fulop
- Mayor of Weehawken Richard Turner
- NJDEP
- New Jersey Economic Development Authority (NJEDA)
- New Jersey Governor's Office of Recovery and Rebuilding
- NMFS
- NJHPO
- NJ TRANSIT
- New York Waterway
- NHSA
- Port Authority of New York & New Jersey and PATH
- Public Service Electric and Gas Company (PSEG)
- Re.Invest Initiative (Rockefeller Foundation)
- New Jersey Senator Bob Menendez
- New Jersey Senator Cory Booker
- New York Waterway
- Stevens Institute of Technology
- Together North Jersey
- USACE
- HUD
- USFWS
- Weehawken Township Council

Stakeholders will be organized into three committees that will be part of the decision-making process. We will build

upon the existing stakeholder groups developed during the RBD competition. The three committees will include:

- Executive Steering Committee (ESC)
- Coastal Hudson County Technical Coordination Team (TCT)
- Citizen Advisory Group (CAG)

The ESC will be comprised of state and local officials while the Coastal Hudson County TCT is comprised of federal, state and local officials with subject matter expertise in resilience, planning, environmental review and permitting. It was formed by the federally convened Sandy Regional Infrastructure Resilience Coordination (SRIRC) Group. Although Hoboken, Weehawken and Jersey City currently have separate CAGs, in order to foster constructive dialogue, these groups will meet together at the project CAG meetings. It is expected that the CAG will be comprised of approximately 40 people.

These committees will meet at important milestones to foster working relationships, to conduct the necessary public outreach to keep the affected communities apprised, and to verify public concurrence with each phase of the Project as it moves forward.

Below are the proposed milestones which represent important consensus points. Meetings will be held for the ESC, Coastal Hudson County TCT, and the CAG. Due to the level of interest in the Project, it is anticipated that two rounds of meetings will be held at each of the Project milestones.

In addition to the three stakeholder committee groups, the Project Manager and Subject Matter Experts (SMEs) from Dewberry will attend each meeting to help inform stakeholders and the public about technical aspects that are being addressed.

Dewberry will coordinate with NJDEP and ESC to determine when meetings will be scheduled. We will organize the meetings and prepare advance notification of meetings. We will also prepare the materials needed for each meeting, including presentation materials, sign-in sheets, and comment sheets. Materials for the meetings and hearing will be developed in consultation with NJDEP and approved by NJDEP prior to being finalized and distributed. A stenographer will be retained for the public hearing.

Purpose and Need Meetings

The purpose of these meetings will be to obtain concurrence on the Project's Purpose and Need so that the planning of the Project can continue within the NEPA framework. Stakeholder participation and consensus on this phase of the project is of great importance, as it will facilitate the effective development of the remainder of the project. During these meetings, the design team will listen and collect concept ideas provided by the various stakeholders and subsequently review these ideas/concepts as part of the feasibility analysis.

Scoping/Data Gathering Meetings

The purpose of these meetings will be to achieve full buy-in on the draft Purpose and Need and initiate the scoping process, which will frame the Project as it moves forward. The project team will promote stakeholder coordination over the life of the Project, and identify important issues among participants. The goal of the scoping meetings is to gain consensus on the broad project goals. A summary of existing deficiencies in the Project Area will be presented by the Project Team for input by the participants. Baseline environmental data will be introduced to allow community input on areas of further study and/or concern. The meetings will also inform the stakeholders on the various disciplines that will be researched and the methods that will be used.

Screening Criteria/Metrics Meetings

These meetings will provide an opportunity for all stakeholders to help establish as well as understand what criteria will be used during the concept screening process. The goal of these meetings is to gain consensus on what constraint criteria (i.e. construction cost, ROW impacts, cultural resources, etc.) will be included in the concepts screening matrix as well as what metrics will be utilized for each constraint criteria. Dewberry's SMEs will be on hand to explain what each metric means and provide advice as to how it should be incorporated within the screening matrix. Various display materials will be used as part of the meeting, including display boards and "PowerPoint" presentations. At the conclusion of these meetings, the format for the concept screening matrix will be agreed upon.

Concepts Screening Workshops

Building upon the previous meetings, we will hold workshops to present a detailed review and screening of the concepts developed to date. A screening matrix will be presented at each meeting, with our SMEs in attendance, to explain to stakeholders how we ranked each concept based on its impacts to the areas of study. Based on input from the stakeholder groups, the rankings will be confirmed or changed. Ultimately, the workshops will conclude by ranking concepts in terms of their environmental impacts and engineering constraints. The three concepts that are ranked with the lowest impacts will be advanced for further study as the Build Alternatives.

Alternatives Analysis Workshops

The purpose of these meetings will be to present a review of the three Build Alternatives advanced for further study. An Alternatives Analysis Matrix will be developed; this matrix will be more nuanced than the concepts screening matrix in comparing the key areas of environmental and engineering constraints. The information gathered in the data gap surveys will inform the meeting participants on the impacts of each alternative. As with the concepts screening meetings, we will attend each meeting with a matrix preliminarily filled out, and our SMEs will be present to explain how we ranked each of the alternatives. The stakeholders will provide input as to whether they feel the ranking should be adjusted. The ultimate outcome of this process will be the selection of the Preferred Alternative.

Public Meetings and Public Hearing

In addition to the above stakeholder milestone meetings, there will be three Public Meetings for the general public: first meeting after the scoping meetings; second meeting after the concept screening milestone meetings; and third meeting after the alternatives analysis. A formal public hearing will be held during the DEIS comment period with a stenographer present to record public comments at the hearing. Since people may be uncomfortable presenting in front of a large assembled audience, we will make arrangements to allow people to make comments in other ways. This will help speed the meeting process while allowing for more people to submit formal comments. These meetings will be held in a location that is easy for attendees to reach (transit and ADA accessible) and at a time of day and during the week convenient for the most people. Spanish language translators will be available. Agendas and handouts will be prepared in English and Spanish.

In accordance with the RBD program requirements as stated in 79 FR 62182, a substantial Action Plan Amendment will be required for this project. Subsequent to the completion of the DEIS, NJDEP will prepare and submit a substantial Action Plan Amendment. As part of the requirements for the Action Plan Amendment, a public meeting will be necessary to describe the Action Plan Amendment. In an effort to streamline the NEPA and Action Plan Amendment process and following what is recommended in the federal register notice, the public meeting for this substantial Action Plan Amendment and the public hearing for the DEIS will be combined.

It is not anticipated that a substantial Action Plan Amendment will be necessary prior to the submission of the DEIS; however, should this occur because the project has significantly changed, we will coordinate with NJDEP to allow for the public meeting to be held at one of the proposed NEPA public meetings.

For the public hearing the proceedings will be recorded by a stenographer, and a full transcript will be prepared. We recommend that the hearing area, wherein a technical presentation will be made and a hearing officer will then invite the public and agency representatives to make formal comments, be accompanied by an Open House area with display boards where project staff are available to answer questions. While the Open House conversations do not become part of the formal transcript, they offer meeting attendees background information and opportunities to ask questions in an informal setting to assist them in crafting their formal comments.

Comments will be gathered through a variety of means—at the meetings themselves in the form of oral testimony and written comment sheets, and during the comment period by mail, email, and fax submittals. These comments will be summarized in a matrix along with the accompanying action that the comment requires.

The activities, format, and supporting materials for the Public Meetings and Alternatives Analysis Workshops will be based on an agenda developed jointly by the Dewberry Team,

the Executive Steering Committee, and other key stakeholders. However, the first of these meetings would serve as an opportunity to educate and raise awareness of the participants about the issues and opportunities in the study area and to also highlight the spectrum of decisions that face the stakeholders and the range of alternatives and opportunities available for the area.

We will prepare and present materials for use in these meetings and presentations. The presentation of ideas and issues will be geared to both technical and non-technical audiences. Materials will include visuals in a graphically rich format and written information as presentation aids. Information will be communicated using "PowerPoint" presentations along with presentation boards, as well as printed "leave behinds" using both graphics and text as appropriate. Stations will be set up with SMEs on hand to help inform the public on the project's milestones to date.

We will implement a diverse array of hands-on activities that will effectively engage the participants, including post-it note voting, mini-charrettes, and brainstorming exercises. An interactive session will be included in which participants rotate from table to table in small group topical discussions, noting their concerns and interests on table-top maps. The most important purpose of these meetings is to listen to the community. By including an assortment of opportunities to participate, we will increase the likelihood that everyone will find a venue where they feel comfortable participating and providing valuable input to the study. A question and answer period will be included where participants can vocalize concerns and wishes in a more public arena. These activities will be supplemented with a suggestion box for the collection of anonymous thoughts and comments that might not otherwise be captured.

It will be important to verify that the public information meetings and public hearing are accessible to those who would like to participate as well as those who have other commitments. For this reason, we will choose transit-accessible meeting locations and provide translators to assist the Spanish-speaking population in sharing information and provide feedback on the materials being presented.

There will be one public hearing during the DEIS comment period. We will provide administrative support such as, but not limited to, verifying that materials relevant for the scoping meetings are available for review; developing, producing, and distributing notice(s) of meeting/hearing(s); determining appropriate mailing lists for meeting notifications and distribution of scoping materials; making provisions for hearing officers, stenographers, and note takers; providing a sign-in sheet and comment sheet for attendees; and returning the facility to its original condition at the end of the scoping meeting.

The three public meetings and one public hearing described above will be open to the public. Per HUD regulations, a public notice will be posted in the local media at least 15 days prior to the date of these meetings.

Working Group Meetings

In addition, we assume that fourteen working group meetings, may be scheduled throughout the project duration. These meetings will be held in the event stakeholder groups wish to spend further time with the SMEs to examine issues at certain project milestones. Furthermore, one of these meetings will be in advance of formal scoping as part of the NEPA process, the proposed project will be presented to the SRIRC Federal Review and Permitting (FRP) Team. The FRP Team members are federal officials with responsibility for federal review and permitting of complex Sandy infrastructure projects, who have been convened to facilitate permitting and review for Sandy projects.

On-Going Communication Tools

An assortment of communication tools will also be available throughout the Project. Communication tools that will be used to supplement the public outreach effort include:

Fact Sheets and Newsletters

Up to three informational newsletters and/or fact sheets will be developed at key project milestones to communicate highlights of the study process. Newsletters printed in simple and graphically rich formats are an effective way to present information on the project including brief information about the project, contact information, informational project web site address, and upcoming meeting dates. Newsletters will be no more than four pages in length and fact sheets will be a single-page, with text and graphics on both sides. Per HUD requirements, all newsletters and/or fact sheets will be provided in English and Spanish.

Public Meeting Announcements and Project Flyers

Flyers/public meeting announcements will be developed and distributed before each of the three public meetings and before the public hearing. The flyers/announcements will be informative, with a graphically rich, easy-to-understand format that will catch the attention of the public audience, and when distributed electronically, they provide a low-cost way to communicate news on the public meeting dates. All project flyers/announcements will be developed in a PDF format so that they can be easily emailed to project stakeholders, local neighborhood organizations, business leaders, and other interested parties. They will also be posted in key locations within each community. Per HUD requirements, all flyers/announcements will be provided in English and Spanish.

Media Notices and Press Releases

Public notice of the one public scoping meeting, two additional public meetings, and the one public hearing will be widely announced with approved display advertisements in local, daily, and weekly media publications, including Spanish-language publications. NJDEP with assistance from the project team will draft media display advertising and press releases, which will be subject to review and approval by the Executive Steering Committee before distribution. NJDEP will distribute the outreach material. In addition, press releases can be written and distributed to media outlets at project kick-off (scoping), before the public meetings, and at the project's conclusion to provide more information about the Project. All press release information will be subject to review and approval by Hoboken.

Social Media

We will use social media to inform the public and stakeholders of project efforts. This will primarily be done through Hoboken's current social media outlets. Assuming that Hoboken will maintain control of these outlets, we will work with the City to craft Tweets and other social media to place on their accounts at key milestones and in advance of public meetings.

Web sites

There will be two web sites, one for public information and one for data management.

The NJDEP will be responsible for a Public Information Web site designed to facilitate the dissemination of project information to the public.

In addition, we will develop a Project Execution Collaboration web site through the use of a data management portal. This will assist Dewberry and the entire team by being a single source for all submittals, responses, and approvals. The portal will also be established as a reference library for relevant studies, documents, mappings, and other reports for use by the project professionals. All submittals will be locked on submission and tagged with date, time, status, comments, and submitter, creating a reliable project record. The portal will use role-based security to provide read only access as well as full submittal access as appropriate – keeping all project team members connected to the right data on demand.

Scoping Document

We will develop a Draft Scoping Document including scoping meeting agendas, presentations, and documents. An executive summary of this document will also be prepared. These materials will be publically available prior to the meetings to inform meeting participants. After the Scoping Meeting is conducted, we will finalize the Scoping Document which will summarize the Project background and data gathered to date, and present in detail the agreed-upon Purpose and Need Statement.

Task 1 Deliverables

- Draft written report (for review and comment) summarizing results of Task 1, and identifying data gaps and recommending appropriate steps to collect additional data needed.
- Draft maps/GIS shapefiles (for review and comment).
- Final reports and maps/GIS shapefiles.
- Draft and Final Scoping Document

Task 1 Assumptions

1. No acquisition of land is anticipated for this project.
2. Includes conventional ground topographic survey for an area covering about 1.5 miles in length with a width of 100 feet, with a total area of approximately 19 acres.
3. Includes surveying 75 wetland flags along the shoreline in non-bulkhead locations and up to 50 wetland flags in the interior portions of the City.

4. Includes stakeout survey for 10 soil borings and 80 possible infiltration borings.
6. 5. Access permits will be required. The U.S. Coast Guard will be notified prior to conducting bathymetric survey. Property owners will be contacted prior to field survey work being conducted. Should movable obstructions such as barges or vessels be in the way or impede the work, then we will attempt to arrange for obstructions to be removed or relocated.Title reports are not included.
7. No boundary survey will be performed as part of this scope of work.
8. Survey work will be performed on weekdays only, no weekends or holiday work.
9. Costs do not include preparation and submittal of a NJDEP Letter of Interpretation (LOI) application.
10. Costs do not include conducting detailed T&E field studies.
11. We will verify, to the extent practicable, whether T&E species identified by the NJDEP/ USFWS/NMFS are present while performing a field assessment of the project area. If more detailed studies are required, we will inform the NJDEP of the need for those studies, which could be provided as an out-of-scope extra work item.
12. Historic fill material within the project area is assumed to contain Polycyclic Aromatic Hydrocarbons and metals typical of historic fill.
13. Scheduling of NJDEP file reviews can be expedited to meet project milestones.
14. Utility companies will be contacted by the NJDEP, which will obtain the data and plans necessary to identify and map existing utility locations in the project area prior to Dewberry's NTP for this contract (on or about June 1, 2015). NJDEP will be responsible for all costs required to obtain information from each utility company.
15. There will be no utility test holes or subsurface utility engineering.
16. There will be a maximum of ten utility related meetings.
17. There will be a maximum of ten utility companies.
18. NJDEP will prepare and submit a substantial Action Plan Amendment.
19. There will be one meeting with the ESC at the start of the project.
20. There will be stakeholder meetings during each of the six stakeholder phases of the project. During each round the project team will meet with the ESC, Coastal Hudson County TCT, and CAG. All meetings will be coordinated through the NJDEP Constituent Services manager and the ESC.
21. There will be three public meetings including one each at the conclusion of the Scoping phase, Concept Screening phase, and Alternatives Analysis phase.
22. There will be one Public Hearing which will occur after the publication of the DEIS.
23. Attendance costs are based on up to seven SMEs as well as the management team from Dewberry attending each meeting/hearing. Staff time includes four hours per meeting/hearing per person.
24. There will be one meeting with NJDEP prior to each stakeholder phase of the project (for a total of six meetings). Dewberry will also hold internal meetings prior to each meeting with NJDEP.
25. Includes 14 Working Group Meetings with four SMEs in attendance.
26. NJDEP will coordinate the location and reservation of meeting spaces for meetings.
27. NJDEP will cover any venue fees that may be necessary for three public meetings and one public hearing; all other meeting venues will be held in locations that are free of charge.
28. We will provide administrative support for all meetings (e.g., sign-in sheets, name tags, table tents, room set-up, comment sheets, meeting minutes).
29. We will be represented by up to two public participation specialists at milestone meetings and by up to three public participation specialists at public meetings and the public hearing.
30. We will provide scoping packages/outlines for use at the scoping meetings.
31. We will compile comments received from comment sheets at the public scoping meeting and public hearing, as well as those received via email, web site, or other means during the official comment periods. Comments will be compiled into a matrix.
32. We will provide all meeting materials including agendas, presentation boards, "PowerPoint" presentations, and handouts. A maximum of eight boards will be required at each round of meetings. Written materials will be reviewed and receive prior approval from NJDEP prior to production. The NJDEP graphics shop will be utilized

to the extent practical when information materials are being created.

33. One stenographer will be required for one public hearing.
34. We will develop and distribute invitations for each stakeholder meeting (excluding the PICs and Public Hearing); we will perform RSVP tracking and follow-up. Hard-copy invites will be mailed to stakeholders prior to the scoping meetings inviting them to be part of the process. After scoping, all meeting invitations will be sent electronically via email. Written materials will be reviewed and receive prior approval from NJDEP prior to production. The NJDEP graphics shop will be utilized to the extent practical when information materials are being created.
35. We will develop meeting flyers, which will be distributed before each public meeting and the public hearing. Meeting flyers will be provided English and Spanish. Written materials will be reviewed and receive prior approval from NJDEP prior to production. The NJDEP graphics shop will be utilized to the extent practical when information materials are being created.
36. Interpretation services will be required at up to three public meetings and one public hearing.
37. We will arrange for the translation of newsletters/fact sheets, meeting flyers, advertisements into Spanish. We will not translate presentation boards, "PowerPoint" presentations, meeting minutes, and project reports/documents.
38. NJDEP will write, prepare and issue all press releases.
39. The NJDEP has a project website. This is the official website for the project. Materials will be posted there. The public will be directed there for information.
40. Project Execution Collaboration Portal will include use of hosted SharePoint 2013 Foundation, 50 GB storage, 50 Users, 20 months site usage, and two years domain registration.
41. NJDEP will provide GIS geodatabase of the existing storm-sewer system prior to Dewberry's NTP for this contract (on or about June 1, 2015).

Task 2: Waterfront Structures Inspection

We have collected and performed a preliminary review of the following existing waterfront inspections:

1. Hoboken Privately-Owned Waterfront Structures Inspection Report (June 2011)
2. Hoboken City-Owned/City-Leased Waterfront Structures Inspection (March 2011)

Our preliminary review of these waterfront inspection reports indicates that waterfront inspection followed the recommendations of the ASCE manual titled, "Underwater Inspections – Standard Practice Manual." The report also provides load rating analysis for some existing waterfront structures. It is unclear if any waterfront inspection was conducted following Superstorm Sandy's landfall in the New York/New Jersey area in October 2012.

We will implement the following methodology to conduct the waterfront inspection to obtain the existing load rating capacity of various waterfront structures and bathymetry within the study area:

Step 1: Investigate if there are pre- and post- Superstorm Sandy waterfront inspection reports and bathymetric surveys. We anticipate to inquire with State and City officials about these datasets during the kickoff meeting. We assume that NJDEP and other stakeholders such as NJ TRANSIT will provide us with the waterfront inspection reports for our review. We will review these available existing waterfront inspection reports.

Step 2: If available waterfront inspection reports can provide the existing load rating capacity of waterfront structures; we will use this information from these reports in the conceptual design of coastal flood risk reduction measures.

Step 3: We will conduct a visual inspection of the waterfront. The visual inspection will begin with a sighting along the structures where the wall is visible above the waterline, focused on any indications that the waterfront structure may be compromised. We will identify areas from the available waterfront inspection reports that do not have load rating capacity. Based on our site visit and our evaluation of existing reports, we will then develop a plan to identify areas of waterfront that would need inspections and load rating calculations. Using the information, dive inspections can be directed toward areas of probable deterioration and focusing inspection efforts accordingly.

Before mobilizing the dive inspections, we will coordinate with NJDEP and other stakeholders to obtain consensus on our plan for waterfront inspections.

Step 4: After obtaining approval from NJDEP, we will perform a detailed underwater waterfront inspection. Development of a waterfront structures inspection program will generally follow ASCE's, "Underwater Inspections – Standard Practice Manual." Once the due diligence investigations and assessments are complete, the capacities and anticipated longevity of existing structures can be established. We assume the scope of work will include waterfront inspection for 2,000 linear feet within the study area. We will prepare a report documenting our findings from the waterfront inspection and load calculations along the waterfront area.

Step 5: If bathymetric surveys are unavailable for the areas that were inspected as part of Step 3, we will conduct bathymetric surveys. However, we did not include the costs to perform the bathymetric surveys as part of our cost proposal.

Task 2 Deliverables

During execution of Task 2, we will compile a draft and final report to document our findings from the available inspection reports, data gaps in available waterfront inspection information, plan for conducting waterfront inspection and load calculations, findings from the waterfront inspections, and summary of load calculations along the existing waterfront. The report will include either existing or additional bathymetric information collected as part of this task.

Task 2 Assumptions

1. Underwater waterfront inspection will be limited to 2,000 linear feet.
2. Should movable obstructions, such as barges or vessels, be in the way or impede the work, then NJDEP will arrange for obstructions to be removed or relocated.
3. Daily field inspections will not exceed eight-hour portal to portal days.
4. No excavations will be carried out to assess seawall or bulkhead construction and thickness dimensions.
5. No core samples of timber, concrete, or steel structural members will be obtained in carrying out the field inspections; as such, no samples will be sent out for laboratory testing to evaluate strength characteristics.
6. Our proposal does not include costs to conduct bathymetric surveys since we intend to use available bathymetric surveys. In the case that bathymetric surveys are unavailable, it will cost $34,100 and will take additional 15 days to complete 2,000 linear feet of waterfront property that will be inspected as part of this task. These bathymetric surveys would extend 50 feet from shoreline and would not include any areas inaccessible by boat, with areas covered by piers ignored; mudline elevations beneath piers, dry docks, and other obstructions will not be taken. Bathymetric survey will performed on weekdays only.

Task 3: Subsurface Investigation

Task 3.A Geotechnical Investigation

It is important to understand the subsurface conditions characteristics before evaluating the feasibility of constructing coastal flood risk reduction measures within study area. We will coordinate with NJDEP and City of Hoboken to identify an approximate area for the proposed coastal flood risk reduction measures.

We will research various sources for readily available geological data and then develop a geotechnical boring plan to supplement the information that has been obtained. We have assumed that we will drill a maximum of 10 borings along the eastern (waterfront) side of Hoboken to identify soil properties that currently are supported by waterfront structures such as bulkheads and relieving platforms. These borings will be drilled to a maximum depth of 50 feet. Ten groundwater observation wells will be installed at appropriate inland locations to evaluate groundwater levels and fluctuation in conjunction with green infrastructure design and infiltration. The driller will be mobilized once approval of the program is received from NJDEP and the City of Hoboken.

The RBD proposal identified several areas within the City of Hoboken where there is potential to construct green infrastructure measures along with subsurface storage practices to temporarily store storm-sewer flow volume. We have assumed that a maximum of 80 infiltration tests will be performed at various locations that were identified by RBD

proposal and/or additional sites that will be added later from our site walk through. Depending on the type of green infrastructure practice, we will develop a soil testing program on recovered samples from sites on as needed basis, and have assumed a maximum of 80 samples for particle size distribution testing. Infiltration testing will be performed in accordance with the provisions of the New Jersey Stormwater Best Management Practices Manual, Appendix E of the NJDEP.

Task 3.A Deliverables

- Draft Subsurface Investigation Report (for review and comment) and back-up documents
- Final Subsurface Investigation Report

Task 3.A Assumptions

1. Due to an anticipated limited drill rig availability, we intend to utilize two drilling contractors to attempt to maintain the proposed work schedule. Actual costs for each of the specified drillers may shift based on driller availability.
2. The schedule for geotechnical drilling will be governed by the availability of drilling rigs, receipt of required permits, and accessibility of the various locations to be drilled.
3. NJDEP and the City of Hoboken will issue required permits, bonds, and police protection in a timely manner in order to successfully advance the work within schedule guidelines.
4. We will have a maximum of 10 borings up to a depth of 50 feet.
5. We will develop a plan to install 10 groundwater observation wells.
6. A maximum of 80 infiltration tests will be performed.
7. A maximum of 80 samples will be analyzed for particle size distribution.

Task 3.B Hazardous Waste Subsurface Investigation

This task was removed from the scope of work as other departments within NJDEP are addressing hazardous waste subsurface concerns.

Task 4: Hydrology / Flood Risk Assessment

The City of Hoboken is subject to flooding from two sources—coastal storm surge and high intensity/longer duration rainfall events. Superstorm Sandy's coastal storm surge induced flooding exposed the vulnerable areas within the City. Additionally, there are increasing flood risks from rising sea levels that could potentially affect City's infrastructure in the future.

Flooding occurs frequently during high intensity rainfall events at certain low-lying areas within the City. Several portions of the study area are prone to (flash) flooding when rain events occur during high tide. Rainfall runoff flow is collected by NHSA's existing storm-sewer system. Various green infrastructure practices implemented within City of Hoboken help to improve *delay* and *store* a portion of the rainfall runoff flow. Under normal conditions, rainfall runoff is conveyed to NHSA's Adams Street WWTP; however during high intensity rainfall events, conveyance capacity of the existing storm-sewer system exceeds the combined storm-sewer inflow; thus resulting in street flooding. The City is undertaking steps by implementing discharge techniques such as pump stations to convey the excessive storm-sewer from the surcharged storm-sewer system directly to Hudson River. However, sea level rise and high tides can influence the efficiency of these pump systems. It is important to evaluate the combined effects of storm-sewer system and coastal conditions along the Hudson River together as part of our Hydrology/Flood Risk Assessment task.

Figure 6: Our methodology to establish baseline conditions and evaluate effects of various alternatives in coastal and stormwater environments.

We will develop alternatives designed to reduce flood risks from coastal storm surge and rainfall runoff. A detailed description of alternatives development is in Task 5.

Use of numerical mathematical models provides a convenient and reliable method for comparison of different project alternatives with the existing conditions (baseline) under different combinations of storm surge and rainfall-runoff events. We will rely on mathematical models to evaluate the combined effect of coastal storm surge and rainfall events. We assume that NHSA has developed storm-sewer models using Environmental Protection Agency's (EPA) Storm Water Management Model (SWMM) for the Adams Street WWTP. We assume that these models, along with the associated storm-sewer data in GIS format, will be provided to Dewberry to develop baseline conditions and proposed alternatives. We will rely on the 2-Dimensional Advanced Circulation (ADCIRC) coastal hydrodynamic model developed as part of the FEMA's recently completed New York/New Jersey storm surge study. Since Dewberry was part of a Joint Venture team that created the ADCIRC model for FEMA, we possess the datasets. The table below shows the stillwater elevations at the Hoboken shoreline from the 2012 FEMA Region II NY/NJ storm surge study.

Table 1 Preliminary annual-chance stillwater elevations in feet relative to NAVD (FEMA)

10%	2%	1%	0.2%
6.6	9.5	10.9	14.4

We understand that the RBD proposal team created a simplistic water balance model using SWMM to simulate the hydrology and hydraulics of the existing storm-sewer system. We believe the simplistic water balance model may not accurately represent the existing storm-sewer conditions within the study area.

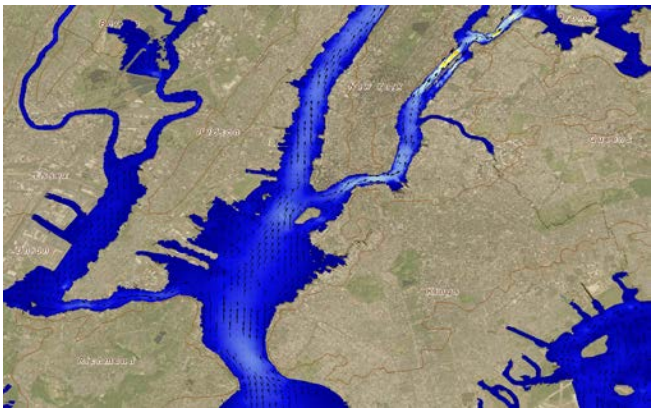


Figure 7: showing the Existing FEMA's 2-D ADCIRC Coastal Model developed by Dewberry for New Jersey/New York

It should be noted that FEMA's 2013 preliminary floodplain maps for Hudson County did not take into account effects from 0.2% annual chance (500-year) coastal storm surge event; instead the 500-year stillwater elevations were used to map the 500-year floodplain. In order to study the effects of 500-year coastal surge and waves; a 500-year wave condition will have to be determined. The FEMA study produced wave characteristics for the 100-year event and the same method will be applied to compute for the 500-year event. We will review the 189 extratropical and synthetic tropical storms that were modeled for the FEMA study and select seven storms that produced surge levels closest to the 500-year level. The maximum wave conditions modeled during each of those storms will then be compiled and evaluated to select an appropriate wave condition for the alternatives being evaluated. These 500-year wave conditions will be used to determine the appropriate design flood elevation for the 2050 500-year event.

Based on our understanding of the available datasets, we propose to implement either one of the three approaches shown below to develop an integrated coastal storm surge and stormwater management model.

Approach 1: Develop integrated coastal and stormwater management model using Danish Hydraulic Institute (DHI)'s MIKE model

We propose to use an integrated model using DHI's MIKE model system to evaluate the impact of each alternative on coastal hydrodynamics and interior drainage. DHI's Integrated MIKE model system uses various modules within the MIKE model system interface to simulate stormwater,

coastal hydrodynamics, water quality and ecological processes. The integrated modeling system allows engineers and scientists to utilize various modules within DHI's MIKE model system to simultaneously create models to simulate stormwater, coastal hydrodynamic, water quality, and ecological processes for each alternative.

The use of MIKE DHI model system will depend on the quality and completeness of NHSA's storm-sewer model. We intend to import NHSA's storm-sewer model into DHI's MIKE URBAN model. If there are significant data gaps within the NHSA model, we may not consider using the MIKE model system. Our costs assume that we will be able to import NHSA's storm-sewer model into MIKE URBAN system successfully within one week to then allow us to integrate with the coastal hydrodynamic model (MIKE 21). We will convert FEMA's ADCIRC model data into MIKE 21 coastal hydrodynamic model. We will link the MIKE URBAN and MIKE 21 model together using MIKE FLOOD to allow for a complete integration of coastal and rainfall runoff processes.

Approach 2: Use existing NHSA stormwater model + FEMA's ADCIRC coastal model

If Approach 1 is unsuitable due to limitations in NHSA's storm-sewer model for the entire study area, we will utilize NHSA's storm-sewer model created in SWMM/XP-SWMM as our stormwater management model. We will coordinate with NHSA to update this model with recent surveys and other recent project data to create the baseline existing conditions model. For the coastal hydrodynamic model, we will update FEMA's ADCIRC model mesh within the study area with new readily-available bathymetric data to create the baseline conditions model. The coastal model will provide tail water boundary conditions for various coastal storm surge events along the Hudson River coastal model for the stormwater management model.

Approach 3: Create simplified stormwater model with DHI's MIKE URBAN + MIKE 21 coastal hydrodynamic model

If the NHSA storm-sewer model is unavailable for the entire study area; we will create a simplified storm-sewer model with MIKE URBAN to reflect major drainage areas and include only the major storm-sewer interceptors, pump stations, outfalls, and Adams WWTP design capacity as part of the model. We will make appropriate assumptions on choice of the hydrologic and hydraulic parameters along with sewer flows for this model and will make every effort to simulate hot spot flooding areas for a known rainfall event during model simulations. We will convert FEMA's ADCIRC model data into MIKE 21 coastal hydrodynamic model. We will link the MIKE URBAN and MIKE 21 model together using MIKE FLOOD to allow for a complete integration of coastal and rainfall runoff processes

Our costs reflect using either one of these three approaches. It should be noted that DHI's MIKE model system is an approved model by FEMA.

Coastal storm surge, sea-level rise, and rainfall conditions for integrated coastal and rainfall model development

FEMA's recent coastal storm surge study for the New York and New Jersey area will provide us with boundary conditions for various storm surge events for the 2-D coastal hydrodynamic model (see example below). We will utilize these boundary conditions as needed for each of the three approaches.

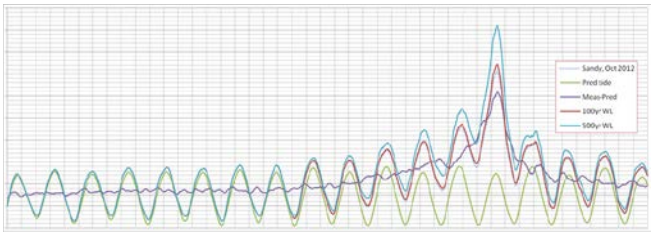


Figure 8 showing an example of Coastal Storm Surge Boundary Conditions developed by Dewberry for FEMA

We have used NOAA's sea-level rise tool to obtain four projections of sea level rise (SLR) for the year 2050 as shown in the table below. We will discuss the use of an appropriate SLR projection scenario to be used in model runs with stakeholders. The appropriate SLR condition will be incorporated into coastal storm surge boundary conditions.

Table 2 Scenarios of Sea Level Rise in feet (inches) using NOAA's SLR Tool			
Lowest	Intermediate-Low	Intermediate-High	Highest
0.3 (3.6 in.)	0.7 (8.4 in.)	1.3 (15.6 in.)	2.0 (24 in.)

We assume that NHSA's storm-sewer model simulates dry weather flow (DWF) and wet weather flow (WWF) for multiple time durations such as three months, one year, two years, and five years. For this task, we will not address dry weather flows that include sewer flows. We will simulate wet weather flows that may include sewer flows along with rainfall flows. We will confer with the NJDEP and NHSA on the appropriate design rainfall events and appropriate sewer volumes to various rainfall events in each drainage area. We will also confer on the appropriate hydrologic methods to simulate hydrology within the study area. We anticipate using a subset of rainfall depths for various rainfall frequency events as shown in the table below.

Table 3 Rainfall Frequency Events	
Storm Frequency (years)	Rainfall, inches
1	2.7
2	3.3
5	4.2
10	5.0
25	6.2
50	7.2
100	8.3

Integrated coastal and stormwater model simulations

The table below presents a non-exhaustive list of proposed combinations of coastal boundary conditions and corresponding hydrologic events to be simulated with the numerical models. The actual conditions to be simulated with the models will be decided after discussion with the applicable federal, state, and city agencies. For this proposal, we anticipate a total of 32 model runs including baseline conditions and the three Build Alternatives.

Table 4 Example of Event Combinations to be simulated with the Numerical Models		
Model Run	Coastal Boundary Conditions	Corresponding Hydrologic Event
1	Observed Tide	Observed Flow (if available)
2	MHHW + Sea Level Rise	5-year Rainfall Runoff Flow
3	MHHW + Sea Level Rise	10-year Rainfall Runoff Flow
4	MHHW + Sea Level Rise	100-year Rainfall Runoff Flow
5	10-year Water Level	10-year Rainfall Runoff Flow
6	50-year Water Level	10-year Rainfall Runoff Flow
7	100-year Water Level	10-year Rainfall Runoff Flow
8	500-year Water Level	10-year Rainfall Runoff Flow

We will develop the existing conditions (baseline) model simultaneously with the development of concepts (Task 5). We will develop three Build Alternatives, as described in Task 5. For each Build Alternative, we will update the existing conditions baseline model with the proposed coastal flood risk reduction system footprint along with proposed stormwater management strategies (derived from Task 5) and check if the model shows reduction in flooding in existing interior hot spot flooding areas.

A detailed description of design criteria, evaluation and analysis of various flood risk reduction measures from hydrology/flood risk assessment (stormwater/coastal) is provided in Task 5. It is our understanding that the three Build Alternatives will be developed and evaluated from a multi-disciplinary approach as part of Task 5. We will incorporate the flood risk reduction alternatives developed from Task 5 in the integrated coastal and storm water models that are developed as part of Task 4. We believe that Tasks 4, 5, and 6 have some subtasks that are inter-related.

Task 4 Deliverables

During this task, we will prepare and submit a draft and final hydrology/flood risk assessment report that will document the model development methodology, and results from integrated coastal and stormwater models for existing and three Build Alternatives including the final Preferred

Alternative. It should be noted that this report will be completed after the final Preferred Alternative has been selected.

Task 4 Assumptions

1. NJDEP will coordinate with NHSA to obtain hydrologic and hydraulic storm-sewer model of Adams Streets WWTP and will provide the model to Dewberry upon NTP.
2. We believe that several components of Task 4 and Task 5 in the State's SOW overlap with each other; hence for this proposal we have assumed Task 4 will be focused on development of coastal storm surge and rainfall runoff models and Task 5 will be focused on development of alternatives.
3. Water quality, sediment transport, and ecological models will not be developed or considered.
4. We will conduct up to 32 model runs.

Task 5: Feasibility Analysis

Step 1 – Concept Development

The concept development process will include the following steps:

- Coordinate with the City of Hoboken, NJDEP, and others to identify available real-estate/areas for coastal flood risk reduction and stormwater management options.
- Identify suitable coastal and stormwater management concepts that have a potential to be constructed within the identified site constraints of the available areas.
- Consider community benefits such as access to waterfront, recreational benefits, and others.

The success of constructing a reliable and permanent comprehensive flood risk reduction system within the study area depends on identifying the choice of a flood risk reduction system along the most suitable alignment for the system to follow within the existing infrastructure constraints. The key to the successful implementation of this project is to design the flood risk reduction system in accordance with the regulatory standards, while verifying that it aesthetically blends in with and enhances the existing environment.

The location of existing infrastructure such as parks, roads, transit, stormwater systems, subsurface utilities, and foundation structures for various types of infrastructure will dictate the available footprint for constructing the flood risk reduction system. The availability of the footprint area would then dictate the use potential flood risk reduction systems such as earthen berms, floodwalls, deployable flood systems, and others. In certain areas, it may be feasible to relocate certain infrastructure facilities; however the project's goal would be to minimize the relocation of facilities. During the development of the potential options for the study area, we will verify that these options can be tied into other flood risk reduction plans that the City of Hoboken may implement in the future.

A brief description of various multi-disciplinary concepts is provided below.

Coastal Flood Risk Reduction Concepts

We have used the NYC Department of City Planning's Urban Waterfront Adaptive Strategies report as a reference toolset to identify various site- and reach-based mitigation strategies that would allow us to use the "multiple lines of defense approach" and enable one or more of these strategies to tie-in with each other to create an integrated flood risk reduction system for the study area. A subset of these strategies was used by the RBD proposal team to identify interventions at suitable locations along Hoboken's waterfront. (see Figure 9 on the following page)

We will conduct a site visit within the study area to identify suitable sets of coastal flood risk reductions options that can be applied. We will divide the study area into distinct zones with each zone receiving one or more option for coastal flood risk reduction.

Stormwater Management Concepts

The RBD proposal used the concepts of *Delay*, *Store*, and *Discharge* of stormwater to alleviate flooding from high intensity/longer duration rainfall events within Hoboken.

- The *delay* element requires identification and evaluation of options to increase infiltration of stormwater into the soil by implementing various types of Green Infrastructure (GI).
- The storage concept requires identification and evaluation of options to construct surface

detention/retention facilities or green roofs to temporarily store rainfall runoff.

- The *discharge* concept requires identification and evaluation of options to *discharge* rainfall-runoff from Hoboken into the Hudson River through grey infrastructure such as separate high-level stormwater pipes, outfall structures, and pump stations.

The RBD proposal identified the City of Hoboken's ongoing resiliency measures for *Delay*, *Store*, and *Discharge*. The RBD proposal identified approximately 56 sites that may have the potential to *delay* and *store* stormwater within the study area. For the *discharge* element, the RBD proposal identified three potential locations for stormwater pipes and pumps without providing any specifics. The State's SOW requires the identification of additional opportunities to *delay* and *store* stormwater runoff within the study area. In addition to the 56 sites from the RBD proposal, we will identify up to 20 additional sites (thus, our consideration of 76 sites).

We will coordinate with NJDEP, the City of Hoboken, and other stakeholders to identify the City's ongoing stormwater resiliency measures such as rain gardens, green streets, pump stations, and others that can be included as part of our existing (baseline) conditions. We believe some of the 56 sites that were identified in the RBD proposal will be part of the existing conditions.

Given that the RBD proposal identified concepts to *Delay* and *Store* stormwater management at 56 sites, as well as the constraints of the project schedule, we will proceed with conducting feasibility analysis for these 56 sites prior to the concept screening meeting. As part of the concept development step, we will proceed with identifying and evaluating the type and size of *Delay* and *Store* options at these 56 sites.

We will develop options on three different scales—stormwater basins, roadway swales, and building retrofits to either *delay* and/or *store* rainfall runoff. We will evaluate the following categories of stormwater management techniques for the *Delay* and *Store* elements:

- Basins: these facilities typically include kidney-bean shaped ponds designed to detain, filter, and/or infiltrate large quantities of runoff. They may include extended detention basins, infiltration basins, bioretention basins, wet ponds, constructed wetlands, etc. Each type of basin is capable of improving water quality as well as reducing peak flow.
- Swales: these long and relatively narrow measures may consist of bioswales, infiltration trenches, subsurface gravel wetlands, rain gardens, etc. They are typically not capable of handling large quantities of water, but are adept at detaining and cleaning runoff emanating from a single urban parcel and/or its corresponding roadway frontage.
- Building Retrofits: Urban structures can sometimes be modified to include green roofs, blue roofs, and/or rain barrels to both delay and clean stormwater runoff generated on specific building roofs. These types of measures are building-specific and are not typically able to collect runoff emanating from areas surrounding the building. Thus, they are particularly suited for urban zones with no setback requirements.

We will evaluate the following grey infrastructure stormwater management techniques for the *Discharge* elements:

- Additional wet weather pump stations
- Separation of storm-sewer system to high level storm pipes to capture rainfall runoff only
- Additional outfall locations

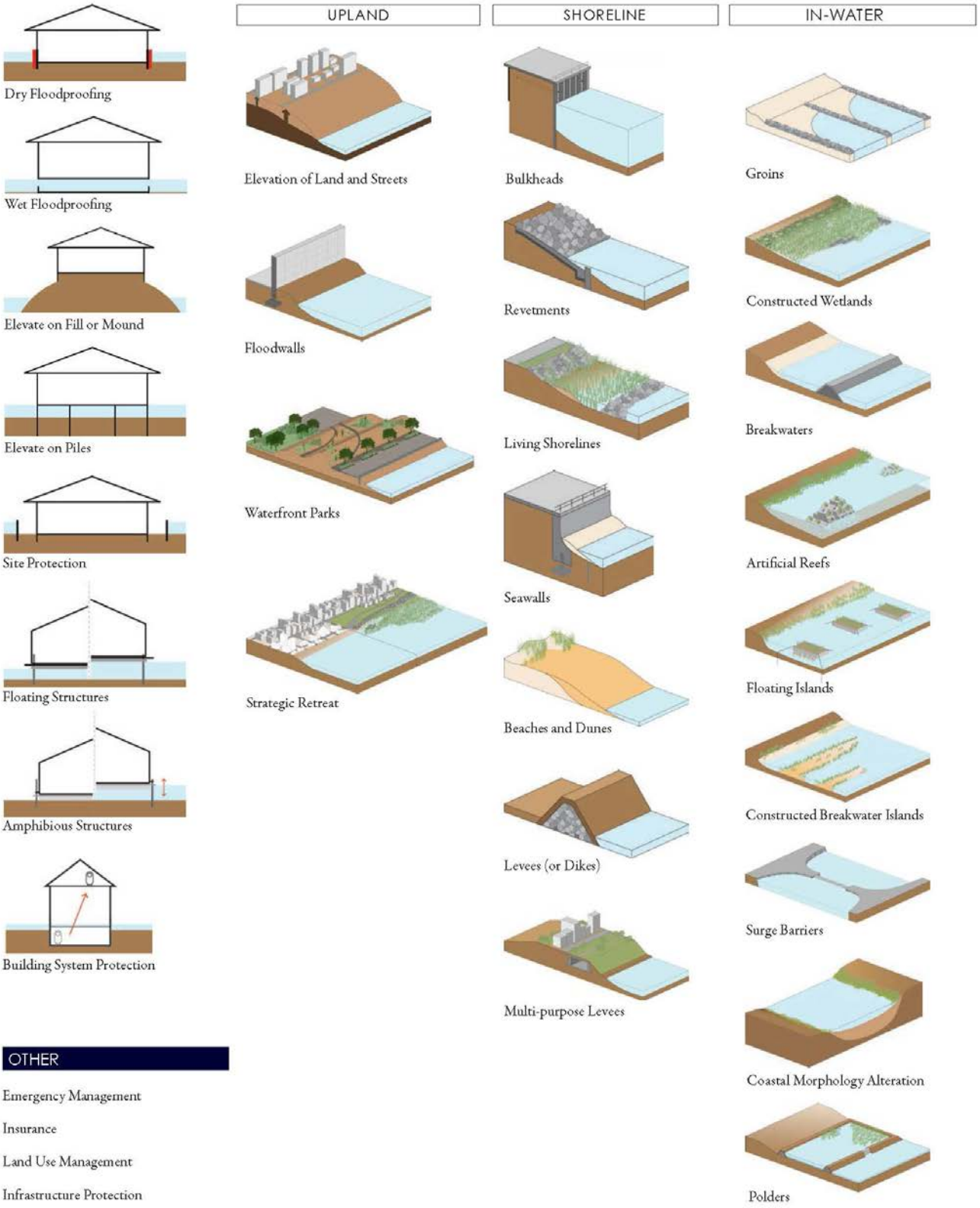


Figure 9: Coastal Flood Risk Reduction Concept Options, courtesy NYC Urban Waterfront Planning Report

The feasibility of implementing each stormwater management option will depend on several factors including, but not limited to, cost, effectiveness, ROW availability, utility impacts, subsurface conditions, maintenance needs, and life-cycle costs. We will undertake the following steps to evaluate stormwater management options prior to the concept screening workshop:

1. Coordinate with NJDEP, City of Hoboken, NHSA, and other stakeholders to develop criteria to identify potential stormwater elements for the *Delay* and *Store* elements within the city limits.
2. Conduct site visits at the 56 sites identified by the RBD proposal and use the criteria developed in Step 1 to identify potential stormwater elements at each site.
3. Upon review of site constraints, we will develop sketches (plan view and typical cross-section) to identify the approximate size and type of the proposed stormwater element (*Delay* or *Store*) at each location.
4. With NJDEP and the City of Hoboken, discuss our findings and provide recommendations for each site.
5. Upon approval from the NJDEP and other stakeholders, proceed with conducting infiltration testing at each site.
6. Depending on the results of the infiltration testing, revise/update the recommendations for each site.
7. Discuss obtaining final approval with the NJDEP and the City of Hoboken of our recommendations for the "Delay" and "Store" stormwater management elements.

We will perform the above steps for the 56 sites that were identified by the RBD proposal. To identify p0tential, additional *Delay* and *Store* sites that meet the criteria developed as part of Step 1, we will conduct site visits for an area covering up to 200 acres within the City of Hoboken. We also will discuss with NHSA and other stakeholders additional locations for the *Discharge* element of the project. We will conduct site visits at potential *Discharge* locations to identify suitable options. Our integrated coastal and stormwater management model will help us to identify opportunities for additional *Discharge* concepts, as the model will be developed in parallel with the concept development activities.

We will include the findings and recommendations for the additional *Delay*, *Store*, and *Discharge* sites as part of our concepts for stormwater management. We will not perform infiltration testing at these additional sites until they are vetted during the concept screening workshop and are advanced as the three Build Alternatives.

Environmental Mitigation Concepts

Creation of tidal and freshwater wetlands, with associated riparian vegetation, as well as living shorelines located along the Hudson River waterfront may be options to mitigate environmental impacts from the construction of coastal flood risk reduction system.

Urban Design and Community Benefit Concepts

Coastal/living shorelines located along the Hudson River waterfront will be evaluated, based on the *resist* element(s) along the river's edge. Living shorelines can tie into and serve as part of the *resist* element, improving resiliency while providing added public benefits, such as:

- Park, open space, and passive recreation areas
- Wildlife viewing platforms and access trail/boardwalk
- Trails with interpretive signage and kiosks (heritage, nature, geological)
- Kayak launch/access points
- Demonstration/pilot oyster reef and/or aquatic vegetation plantings
- Osprey nesting platforms/bird nesting boxes

Other urban design and community benefit concepts will look at creating community places for entertainment, shopping, and other activities. The urban planning concepts will need to blend in with the urban fabric characteristics along the City of Hoboken's waterfront and interior areas.

Concept Development

We will develop five concepts with each concept consisting of coastal flood risk reduction measures (*Resist*), stormwater management measures (*Delay*, *Store*, *Discharge*), and options for community benefits and recreation.

The first step in developing a concept will be to identify the alignment of the proposed coastal flood risk reduction system. The second step will be to identify the choice of flood risk reduction options for the alignment. Data collected as part of Task 1, along with input from the community and agency stakeholders, will be used to define this alignment and identify appropriate options for each concept. These two steps are intertwined as both account for site constraints. In

each concept, we will consider the following options, among others:

- Coastal flood risk reduction measures
- Stormwater management measures
- Potential recreational benefits
- Waterfront access and transportation connectivity

Each concept for coastal flood risk reduction will have an alignment and distinct zones along its alignment. Each distinct zone will have one type of coastal flood risk reduction option. We anticipate no more than five distinct zones for each concept. We will perform a multi-disciplinary qualitative assessment to verify that the coastal flood risk reduction measures for each concept can be integrated.

Note that the majority of the stormwater management measures that will be included in the concepts will be evaluated prior to the concepts screening workshops. The sites for the *Delay* and *Store* element from the RBD proposal will be evaluated and will have a distinct stormwater management measure associated with each site. The additional sites for the *Delay, Store,* and *Discharge* element will have one or more stormwater management measures identified. Each concept will have distinct stormwater management measures for the RBD sites, in common, and a set of additional sites that may comprise of a mix of potential *Delay, Store,* and *Discharge* elements of stormwater management measures.

Once a concept is developed for a set of coastal flood risk reduction and stormwater management measures, we will perform a qualitative assessment to identify potential environmental constraints as well as options for urban design, recreational benefits, and waterfront access that are applicable and are suitable for that concept.

We will develop presentation boards, maps, and concept level sketches for each of the five concepts for the concepts screening workshops. Prior to conducting the concepts screening workshops, we will discuss the methodology to develop these five concepts with the project stakeholders, including the ESC, Coastal Hudson County TCT, and CAG.

Step 2 – Community Outreach and Agency Coordination

As discussed above in the Consultation with Stakeholder section, we will first conduct a round of stakeholder meetings to define the criteria metrics. These meetings will confirm the numerous criteria that will be used during the concept screening process. The constraint criteria will be displayed in a matrix and explained by Dewberry SMEs. The goal of these meetings will be to gain consensus on the criteria that will be used to evaluate the five concepts developed.

Following the consensus of the criteria metrics, the next round of stakeholder meetings will occur to screen the five concepts.
Subsequent to establishing the metric criteria, three meetings will be held that will form the screening workshop. This screening workshop, will include a review of the completed screening matrix and a ranking of each concept as it relates to engineering and environmental considerations. At the completion of this round of stakeholder meetings we will shortlist the five concepts to three that will include a set of concepts for coastal flood risk reduction, stormwater management, environmental mitigation, and community benefits and analyzed further as the three Build Alternatives.

Step 3 – Develop Three Build Alternatives and Perform Feasibility Analysis

We will conduct a feasibility analysis on the three Build Alternatives. The assessment will be conducted by a multi-disciplinary team of subject matter experts that will review the various criteria. Table 5 has examples of evaluation criteria that may be considered in the feasibility analysis.

A brief description of the various assessment criteria is provided below. We believe the hydrology/flood risk assessment follows logically with the other multi-disciplinary assessments; therefore we have included it here rather than in Task 4 (as in the State's SOW).

Coastal Engineering Assessment

The coastal engineering analysis will evaluate the following criteria for each alternative:

- Design Flood Elevation (DFE) of the proposed coastal flood risk reduction system
- Reduction in 100-year floodplain area

The choice of appropriate design criteria that is acceptable to federal, state, and city regulatory agencies will be critical during the development of coastal flood risk reduction alternatives. Additionally, it is imperative to include NOAA's projected SLR as part of the design criteria.
The State's SOW reference's the year 2050 500-year elevation as the DFE for the proposed coastal flood risk reduction system. It is our understanding that some of the ongoing resiliency projects within Hoboken are using FEMA's 100-year Base Flood Elevation (BFE) + 2 feet as their design criteria. The use of two different DFE criteria would result in different flood risk reduction benefits within sections of the City of Hoboken. We will reach a consensus among various agency stakeholders on the appropriate choice of DFE criteria.

It should be noted that Federal Register's 44 CFR 65.10 requires FEMA to evaluate the design flood elevation for the proposed coastal levees/flood risk reduction system for the following four cases:

Case 1	Height of 1% wave + 100-year stillwater elevation + 1 feet freeboard
Case 2	Height of maximum wave runup + 100-year stillwater elevation + 1 feet freeboard
Case 3	100-year stillwater elevation + 2 feet freeboard
Case 4	100-year stillwater elevation + crest freeboard to minimize wave overtopping

The maximum elevation obtained from the four cases above should be used as the minimum standards for design flood elevation of the proposed coastal flood risk reduction system. It should be noted that these four cases do not take into account effects of SLR. Based on our past project experience, we believe Case 4 typically yields the maximum design flood elevation.

Since a critical goal is to protect the study area from coastal storm surge, the flood risk reduction system should be able to withstand the forces induced by coastal storm surge, wave action, and hurricane force winds. When the waves induced by hurricane force winds break at a flood risk reduction structure, the wave energy is dissipated at the structure in the form of water sliding up along the flood structure (also referred to as wave run up) as shown in the photo below.

If the flood risk reduction system is not designed to take into account wave run up, the flood water will overtop the structure (referred to as wave overtopping) and may induce flooding on the landward side of the structure. An appropriate drainage system would be required on the landward side to allow for the water that is overtopping the structure to be collected and conveyed through the drainage system.

Table 5 Alternatives Assessment Criteria		
Discipline	Evaluation/Assessment Criteria	Description
Engineering	Design flood elevation of proposed coastal flood risk reduction system	Perform coastal analysis to determine design flood elevations using FEMA's Guidelines and Specifications. Verify that Coastal Zone Management Act is considered.
	Develop permanent flood risk reduction system solutions with multiple lines of defense approach	Verify that the choice of proposed flood risk reduction options meets CDBG-DR and FEMA guidelines and specifications for levee construction. Evaluate flood risk reduction options that can fit into the site constraints within distinct zones of the study area.
	FEMA floodplain mapping revisions	Demonstrate that the proposed coastal flood risk reduction measures will not result in increased water levels beyond study area boundary. Alignment of coastal flood risk reduction system should try to maximize removing maximum area from the 2013 preliminary 100-year FEMA floodplain.
	Stormwater management	Primary flooding source is coastal storm surge; however stormwater inundation from two- to 10-year storms is a known flood source. Alternatives should include mitigation of rainfall induced flooding.
	Structural and Geotechnical Evaluation of Proposed Flood Risk Reduction System	Conduct preliminary loading calculations to determine suitable foundation system for the proposed coastal flood risk reduction options. Similarly, conduct preliminary structural loading calculations to determine the approximate size of the flood risk reduction system above ground.
Environmental	Environmental Impacts	Evaluate project impacts to water quality, ecology, and other environmental impacts either qualitatively or in a quantifiable manner.
	Environmental Mitigation	Provide solutions to mitigate identified environmental impacts.
	Environmental Permit Requirements	Identify required permits from local/state/federal agencies along with application costs.
Architecture	Flood proofing of Buildings	Consider dry/wet proofing options for protecting individual buildings/properties.
	Integration of surrounding architecture	The choice of exterior façade of the coastal flood risk reduction alternatives should integrate with the surrounding architecture.
Urban Planning and Landscape Architecture	Open space and waterfront access	Evaluate feasibility of creating open public spaces and access to waterfront.
	Transportation connectivity	Evaluate opportunities to minimize effects on current transportation patterns.
	Recreational benefits	Evaluate opportunities to provide recreational benefits such as walking trails, fishing and others.
Economics	Construction Costs	Use industry engineering cost estimation software to develop comprehensive project budget for alternatives that can be broken down into sections for future implementation.
	Economic Resiliency	Evaluate the economic and real-estate impacts from the project and develop an equitable plan to bring economic resiliency within community
	Benefit -Cost Analysis	For the three shortlisted alternatives; monetize economic benefits and use estimated construction costs to develop Benefit-Cost (BC) ratio. Use FEMA's BCA Tool to develop BCA ratio and full documentation for the Preferred Alternative. BCA ratio > 1.0 is required for CDBG-DR fund eligibility.
	Implementation Plan	Identify challenges in construction and phasing layout of each alternative. Provide a qualitative assessment for the implementation plan. Alternatives should consider opportunities for future enhancements.
	Priority List of Flood Risk Reduction Measures	For each alternative, develop a list of flood risk reduction measures along with a breakdown of construction costs so that these measures can be built sequentially to provide cumulative flood risk reduction benefits.

Our coastal engineering analysis will include effects from wave overtopping and SLR to develop an appropriate DFE for the coastal flood risk reduction system.

Figure 10: Wave overtopping action at waterfront structure (courtesy of FEMA)

Our coastal engineering analysis will include effects from wave overtopping and SLR to develop an appropriate DFE for the coastal flood risk reduction system.
Once we identify the alignment of the coastal flood risk reduction system, we will develop the appropriate DFE for that alignment. An analysis of wave runup and overtopping will be conducted using the latest empirical formulations from the Eurotop Overtopping Manual and USACE. The wave run up and overtopping assessment will provide for additional design guidance on the type of flood risk reduction system that would be required for the site and whether additional armoring or risk reduction is needed as part of the design. Alternatives will be evaluated for two scenarios of 2050 SLR scenarios quantifying the level of risk reduction required with incremental costs. Together with the NJDEP and stakeholders, we will identify these two SLR scenarios. Further, we will update the existing conditions coastal hydrodynamic model to reflect the proposed system in the model. The coastal hydrodynamic modeling for the alternatives will be part of Task 4.

Based on output from the 2-D coastal modeling and wave run up and overtopping analyses, initial design criteria will be established to further assess the feasibility of each alternative. Current velocities, wave forces, and overtopping flow rates will be utilized for evaluating design components, the need for scour protection, structure crest features, and additional landward protection. Material selection and sizing requirements will be determined for structural coastal protection elements to assist in the development of cost estimates. We will utilize the USACE Coastal Engineering Manual table to evaluate effects of overtopping flow rates.

FEMA uses WHAFIS models to map the floodplain extent of the combined coastal storm and overland wave action for 100-year storm. To evaluate reduction in 100-year floodplain benefits, we will update the existing conditions WHAFIS models to incorporate the proposed coastal flood risk reduction system. This will involve updating the topography, land use, and vegetation characteristics that are input parameters to the WHAFIS model. We will evaluate the impacts to overland waves and coastal hazards with each proposed alternative. A work map will be produced for each alternative to show the revisions to flood hazard zones, as necessary, with the proposed project for comparison purposes. These work maps will meet FEMA's floodplain mapping requirements.

Stormwater Management Assessment

The stormwater management assessment will evaluate the following criterion for each alternative:

- Reduction in rainfall-runoff induced flooding area

The choice of appropriate stormwater design criteria that is acceptable to federal, state, and city regulatory agencies will be critical during the development of stormwater management concepts. Together with the NJDEP and other stakeholders, we will determine an appropriate design rainfall and duration event to consider to evaluate effects on rainfall induced flood levels for existing and proposed conditions.

In each Build Alternative, we will evaluate the feasibility of additional sites that were identified for the *Delay, Stor*e, and *Discharge* elements, other than the RBD sites that already have a unique stormwater management option identified as part of the Build Alternative. For the additional *Delay* and *Store* sites, we will conduct infiltration tests (as part of Task 3) that would allow identify a suitable *delay* or *storage* option.

Considering the Build Alternatives, for each *delay* and *store* site (including the RBD sites) that has a suitable stormwater management option identified, we will make appropriate assumptions on the stormwater volume managed so that we can include these sites in the integrated coastal and stormwater management model. Depending on the model constraints, we may choose to either include each site individually or combined for each drainage basin. The key is to identify the level of flood reduction benefits for various rainfall storm events such as one-year, two-year, and others.

Similar, to the *delay*, and *store* elements, we will update the integrated coastal and stormwater management model for each Build Alternative's *discharge* option. The model simulations will provide the combined effect of *delay*, *store* and *discharge* on the reduction in flood levels from rainfall runoff for various rainfall storm events. The integrated coastal and stormwater model will help us to quantify the reduction in flood levels for each Build Alternative. The reduction in flood levels for each Build Alternative will be used to compare these Alternatives.

Quantifying the reduction in flood levels from these stormwater management options is highly dependent on the availability of storm-sewer models from NHSA. As needed, we will make appropriate assumptions to include the stormwater management strategies into the stormwater model for each Build Alternative.

Environmental Impact Assessment

For each alternative, numerous environmental disciplines will be evaluated including hazardous waste, cultural resources, visual resources, air quality, noise, socioeconomic, land use, Environmental Justice, open space, cumulative impacts, temporary impacts, and ecological concerns will be evaluated. We will work closely with the design team as the project advances in order to develop project alternatives that seek to first avoid and/or minimize environmental impacts. If impacts cannot be avoided or minimized, we will recommend mitigation measures.

Regarding ecological concerns, we will identify the required environmental permit applications to the applicable federal, state, and local agencies. Our design and permitting specialists work together to identify the best solutions that result in a cost-effective, constructible design that avoids impacts to natural resources to the greatest extent practicable. If the project results in excavation and/or placement of fill within tidal waters of the Hudson River, the design will minimize the impacts and mitigate for unavoidable impacts, typically at a 1:1 ratio. Tidal water impacts will be regulated by the USACE and the NJDEP, as are intertidal/subtidal shallows impacts. Riparian zone impacts to vegetation will be regulated by the NJDEP, typically requiring mitigation at a 2:1 ratio for permanent disturbances. Impacts to state-owned Tidelands will require authorization via a tidelands lease or grant. Freshwater wetlands found in the project area will be mapped; if there are impacts to these wetlands, mitigation would be required, usually at a 2:1 ratio. All required mitigation for project impacts will be evaluated, to determine the most efficient and effective type of mitigation, given existing site conditions and constraints.

Site/Civil/Utilities and Transportation Engineering Assessment

As part of our Site/Civil/Utilities and Transportation engineering assessment, we will evaluate the following criteria:

- Ability to accommodate the footprint of various options into existing infrastructure constraints
- Ability to connect adjacent roadways to the proposed coastal flood risk reduction system
- Identify water intrusion points on the waterside of the proposed coastal flood risk reduction alignment

As part of our site/civil engineering analysis, we will review the existing site condition constraints such as availability of real estate, location of utilities, topography, existing structures, and other constraints to identify a suitable alignment for the proposed coastal flood risk reduction measures. In terms of maintaining transportation routes and networks, the alternatives will need to take into account existing infrastructure alignments and how they will transition into new alignments established or impacted by construction of new flood risk reduction measures.

We will utilize 3D CAD modeling or a BIM modeling package such as AUTOCAD CIVIL 3D or MicroStation InRoads to create three-dimensional models of the proposed coastal flood risk reduction system over existing topography. Our analysis will provide quantities required to construct various

flood risk reduction options, which in turn will be used to estimate construction costs.

Design of a comprehensive flood risk reduction system typically includes evaluating the water intrusion entry points into assets located on the waterside of a flood risk reduction system. These assets can potentially be a source for storm surge intrusion into the infrastructure system. Depending on the elevation and hydraulic gradient line, there is a possibility that the water intrusion through these assets may extend beyond the landward side of the proposed coastal flood risk reduction system and may induce flooding on the landward side. If this situation occurs, it would undermine the purpose of having a flood risk reduction system to protect the area from coastal storm surge. After the three Build Alternatives are identified, we will conduct a site visit to identify these potential water intrusion points. If water intrusion points are identified, we will provide recommendations to add multiple layers of defense to prevent intrusion of coastal storm surge on the landward side of the coastal flood risk reduction system. Similarly, we will identify potential locations for groundwater intrusion on the landward side of the coastal flood risk reduction system. We will provide conceptual level mitigation solutions to address potential groundwater intrusion.

We will assess for potential high risk utility impacts and coordinate with the affected utility companies. Potential utility conflicts between existing utility facilities and proposed flood risk reduction measures will be identified and evaluated. Cost estimates will be prepared for each alternative as it relates to utility impacts.

Geotechnical Engineering Assessment

As part of our geotechnical engineering assessment, we will evaluate the following criteria:

- Ability to accommodate the weight/load of proposed flood risk reduction system on existing soil or subsurface structures

As part of Task 3, we will conduct subsurface investigation along the existing waterfront area. Once the subsurface investigation is completed, representative geologic profiles and design parameters will be developed utilizing both the newly acquired data and available existing information. We will develop an engineering analysis program to assess the performance of the conceptual coastal resiliency alternatives under service and extreme conditions (flood, earthquake). We anticipate performing conceptual level stability and settlement analyses to assess the viability of the flood risk reduction structure or if ground improvement is required due to the presence of soft, compressible organic soil underlying surficial fill deposits. A conceptual level liquefaction susceptibility assessment may also be performed. The erosion/scour potential and, where applicable, seepage under flood conditions will be assessed along with evaluation of available erosion protection solutions that could potentially be implemented in the conceptual design of the coastal flood protection system (e.g., geosynthetic mats or other products, sacrificial soil/rock cover).

This geotechnical engineering assessment will be restricted to the *Resist* element of the Build Alternatives. *Store* and *Delay* are addressed under the Stormwater Management Assessment.

Structural Engineering Assessment

The key to providing a safe and reliable flood risk reduction system is to verify that the system is structurally stable and can safely withstand extreme forces induced from wind, waves, seepage, and others. It would be challenging to integrate a structurally stable flood risk reduction system within the existing relieving platforms and other foundations that support various types of infrastructure within the study area. The key element during the design of a flood risk reduction system, from a structural engineering standpoint, would be to determine the hydrodynamic wave forces induced on this structure and to perform preliminary structural engineering calculations to determine the appropriate size of the proposed structure. Another critical structural engineering item would be to analyze the inter-locking mechanisms of various types of flood risk reduction systems. We will follow general structural engineering design guidelines provided in ASCE-24 Flood Resistant Design and Construction, USACE's Coastal Engineering Manual, and FEMA's Coastal Construction Manual as part our structural assessment of proposed coastal flood risk reduction systems.

Building Architectural Assessment

The "multiple lines of defense" approach may involve architectural modifications to existing building structures that are currently in the FEMA floodplain. We will provide evaluation and concept demonstrations through the use of guiding principles and leading case studies.

Urban Planning and Landscape Treatment Assessment

We will not only produce a viable set of strategies aimed at flood reduction, but also to tie these short- and long-term opportunities in with a larger, productive open space and urban design initiative that serves as a community resource every day. A flood risk reduction system can protect critical infrastructure and neighborhoods, and can also be used as a catalyst for urban design and neighborhood improvement.

Our team experience with stakeholder engagement, ecologically sensitive design, coastal risk reduction, and neighborhood planning will result in an urban design vision that is informed by the flood risk reduction design strategy and creates an everyday asset for the community. This strategy will not only address the shoreline conditions, but how these strategies can affect the economic development and connectivity of upland areas. Through identifying key locations for increased public access, enhanced maritime recreation, new circulation, and educational opportunities, we will develop a large-scale urban design strategy that will be robust and protective in storm conditions yet serve as a new everyday amenity for the City of Hoboken. Emphasizing a collaborative process, all of our work will be coordinated with the community as well as relevant city, state, and federal agencies.

Urban planning for the City of Hoboken will both evaluate the effects, positive and negative, of the flood risk reduction system on the neighborhood and look for ways through creative design to maximize positive benefit. To begin this process, we will coordinate with the community outreach task so that we will have a background understanding of the community and its needs and desires as we begin the evaluation. We will also need to coordinate with other government agencies. The following paragraphs provide details on several key aspects of urban planning and community development that our team will consider as part of this task.

Ancillary benefits

Industrial uses have traditionally cut communities off from the waterfront. As public desire for more connection to the waterfront takes hold, this flood risk reduction project may have an opportunity to provide public amenities and improve connections between neighborhoods, while maintaining and even improving the working waterfront at the core of this project. Our planning process will integrate these disparate concerns.

Waterfront access and public open space

We will also focus on creating access to the water for boats or other recreation that emphasize the area's connection to the water, and preserving existing parks, infrastructure, and access along the water's edge. This will be done through shoreline analysis–quantifying and mapping areas that allow for public access and maritime industry – and identifying opportunities for preservation and catalytic change.

Recreational and ecological programs

As a part of our planning process we will do a "soft sites" mapping. These are underutilized areas to investigate which may improve the community from an economic or public amenity perspective. Through working with the community, we will understand and identify key opportunities for changing underutilized sites to recreational or ecological function. We will assess the various sites appropriateness for each of these uses. Particularities of place, elevation, connectivity etc. will facilitate change to recreational, natural or economic development. Our proposed alternatives will lead to a sustainable balance of uses for a balanced and thriving community.

Sustainability Assessment

For each alternative, we will perform a qualitative assessment to identify non-stormwater benefits achieved by implementing comprehensive GI practices within the study area. We will use available literature to provide our assessment of green stormwater co-benefits such as:

- Carbon sequestration
- Urban heat island mitigation
- Reduced energy demand in buildings
- Improved habitat and ecosystem services
- Improved air quality
- Community revitalization
- Flood mitigation

- Improved urban agriculture opportunities
- Green jobs

We will also provide qualitative assessment of the life-cycle environmental costs and economic costs of the GI projects being considered for each alternative.

Economic Assessment

For each alternative, we will estimate the direct benefits of the coastal flood risk reduction and stormwater management system. We will also provide an estimate of several key ancillary economic impacts related to the implementation of the preferred flood risk reduction system to provide a broader context or framework of potential project impacts. Direct and ancillary impacts estimated will include the following:

- High-level real estate impacts, including estimate of reduction in building damage
- High-level estimate of reduction in loss of personal property
- Exploration of potential additional density/building capacity that would be protected (though not yet constructed). We will review vacant land and potential built square feet of property that would be protected by the integrated flood risk reduction system. Though new building standards will result in a reduction in damage, some impacts will still be felt. This is likely to be considered an ancillary benefit; however, it is an important metric in understanding how future development may or may not be affected with the flood risk reduction system.
- Ancillary economic impacts related to capital improvement (spending and labor) of the project itself.
- Ancillary economic impacts related to reduction in lost business spending. We will provide a high-level business scan of the protected Hoboken area to determine major economic activity. Based on reduced inundation levels, a methodology would be developed to estimate reduction in business interruption or the reduction in lost business spending.

The economic analysis will rely on reduction in flood inundation within the study area. We will use a variety of techniques to estimate the impact of improvements, detriments, or other changes in the environment on real estate values. For the impacts of the Hoboken resiliency measures, we anticipate three approaches to assessing the real estate impacts, which support and reinforce each other:

1. a narrative accounting of the likely impacts;
2. the application of results from the existing literature; and,
3. the calculation of hedonic estimates.

We will use available data related to area real estate square footage, values, year built, existence of basements/subfloors, and use of property. This analysis will reference data collected in Task 1.

Construction Costs

Estimates will be based on measurements taken from the drawings and specifications, using prices from our database, vendor quotations, and knowledge of the local market. Where detailed information is not available for pricing, in the earlier design stages, our estimators will calculate an appropriate figure based on previous similar projects and realistic design assumptions. We will use the NJDOT and/or NJ Turnpike Authority (NJTA) cost estimating software called TransPort (NJDOT) and BidEx (NJTA) to develop cost estimates. These two cost estimating software are based on actual bid prices received by contractors for past projects. The data inputs include item numbers, quantities, and project location. The software then scours the actual bid history to come up with appropriate unit costs for the user's project.

The Order of Magnitude estimate will be AACE Class 3 Estimate, which includes high level of unit cost line items such as Volume of Concrete, Volume of Excavation and backfill, area of influence, Areas of landscaping, length of utilities, length of piling, area of sheeting and area of roadways. We will develop the Order-of-Magnitude cost estimates for full implementation of each alternative with each estimate listing all assumptions such as escalations, hard and soft costs, and contingencies.

At each estimate stage we would identify and analyze cost differences from both, the original budget allocation and previous estimates. Our team will strive to receive quotes for each equipment's and construction method for accuracy and test current market.

Constructability Assessment

To successfully implement this project, it is important to consider the methods of construction that will be required during the evaluation of alternatives. A seasoned engineer experienced with constructing projects in New Jersey will review designs to identify concerns and fatal flaws.

Benefit-Cost Analysis (BCA)

For the three Build Alternatives, the BCA will follow federal guidelines, such as those offered by the Principles and Guidelines for Water and Land Related Resources Implementation Studies (P&G) and will evaluate the funding plan from the perspective of benefits and costs to the US. We will seek NJDEP's approval before using these guidelines for BCA analysis.

We will follow a multi-step process to conduct the BCA:

- **Identify the costs and benefits.** The obvious costs are the construction and operation costs, but they could include other costs, such as environmental, visual, and loss of economic vitality. We will also identify the benefits, such as decreased risk of flooding, recreational and connectivity benefits, benefits identified in other parts of the analysis, and other benefits identified specifically for the BCA. We will take care to be complete, so that we capture all the costs and benefits, and we will also avoid the double counting of benefits or costs.
- **Measure the costs and benefits in their natural units.** Some benefits are naturally measured in dollars and others are not. If increased safety is a benefit, for example, we will measure the number of lives saved, or the number of injuries avoided.
- **Determine the value of each unit of a benefit.** For costs and benefits that are not measured in dollars, we need to determine the dollar value of the individual benefit. Most often this value is taken from the literature. For example, the DOT guidance is that a life saved is valued at $9.2 million ($2013). Further, some costs presented in dollars do not reflect the true opportunity costs, and thus need adjusting. For example, often labor rates paid for construction workers are greater than market wages. It is appropriate to use market wages, not mandated labor rates, for BCA purposes (though the financial analysis should use the actual labor rates).
- **Determine the monetary value of each benefit.** This step multiplies units by value, and adjusts for inflation. For example, to determine the value of the safety benefits, we multiply the number of lives saved per year by $9.2 million, and adjust for price levels.
- **Combine all costs and benefits in a pro-forma.** This step combines all costs and benefits into one spreadsheet, and allows the calculation of annual net costs and net benefits.
- **Choose a discount rate and calculate the appropriate metrics.** This step identifies the appropriate rate at which to discount future benefits. The DOT, for example, requires the use of a 7% real discount rate, and permits the use of an alternative 3% real discount rate. The discount rates are applied to the benefits and costs, and calculate the Net Present Value (NPV), Internal Rate of Return (IRR), and the Benefit Cost Ratio.
- **Conduct sensitivity analysis.** We will vary important assumptions to determine how sensitive the NPV, IRR, and B/C Ratio are to changes in underlying assumptions. This step provides information on risks associated with the analysis.

After, we perform preliminary BCAs for the three Build Alternatives and upon determination of the final project alternative, a comprehensive benefit-cost analysis will be performed using FEMA's Benefit-Cost Analysis (BCA) toolkit.

Depending on the best available information, the final complete BCA will be conducted by using either the Flood or Damage Frequency Assessment Module from the FEMA BCA Toolkit. It is anticipated that the final complete BCA will include the following categories of project benefits:

- **Physical Damages.** Physical damages include damages to buildings, contents, waterfront structures, and infrastructures key systems that may be reduced or eliminated by the proposed project.
- **Loss of Function Costs.** Costs of displacement and/or temporary relocation, and loss of business, public service or key infrastructure costs (i.e., utilities, transportation) that may be reduced or eliminated by the proposed project.
- **Socioeconomic Benefits.** Socioeconomic benefits include costs associated with reduced impacts on low- to

moderate-income households (as defined by HUD), real estate values, adjustments to flood insurance premiums, mental stress and anxiety for residents, and lost productivity for wage-earners that may be reduced or eliminated by the proposed project.

- **Environmental Benefits.** Environmental benefits capture the value of green space associated with projects that eliminate future damage through acquisition of open space or waterfront property, and may also include benefits associated with improved water quality.

The project benefits will then be compared to the final project costs to determine the final project BCA for the selected alternative in the CDBG-DR application. Once the final BCA is complete, the FEMA BCA module run(s) and a complete PDF copy of the BCA results will be included in the Final Feasibility Report. Additionally, the best available hazard information, building information, and project cost data will be compiled into a documentation matrix that will be included as an appendix of the Final Feasibility Report.

Alternatives Analysis

Similar to the concept screening workshops, three meetings will be held that will form the alternatives workshop. These workshop meetings will be conducted at the completion of the feasibility phase. These meetings will represent the further analysis of the three Build Alternatives as well as the No-Build Alternative.

This alternative workshop will include a review of the alternative matrix and a ranking of each Build Alternative as it relates to engineering and environmental considerations. The matrix will highlight the following criteria: flood risk reduction benefits, environmental benefits, environmental mitigation requirements, urban design benefits, community development benefits, economic benefits including benefit-cost ratio, and plan for implementation along with projected construction timeline.

We will strive to come up with designs for the three Build Alternatives that allow for future enhancements.

At the completion of this round of stakeholder meetings the Preferred Alternative will be selected.

Task 5 Deliverables

- Feasibility Report. We will submit a feasibility report with the back-up documents (Final Subsurface Investigation Report, Final maps/GIS shapefiles depicting alternatives). In general, the report will have the following major sections:
  - Executive summary with recommendations for Preferred Alternative
  - Basis of Design Criteria
  - Development and feasibility assessment of flood risk reduction alternatives
  - Cost Estimates
  - Three Build Alternatives including the Preferred Alternative details
  - Implementation and phasing plans
  - List of federal, state, and local permits required and additional information required to support permit applications.

The report will consist of tables, figures, and calculations from the multi-disciplinary team's assessment either in the main report or as an appendix. Our team will create easy-to-understand renderings and graphics of the project alternatives that can be used for meetings with the community and elected officials.

Task 5 Assumptions

1. Five concepts will be developed.
2. We will reach a consensus on the choice of design flood elevation for a coastal flood risk reduction system and rainfall event prior to issuing NOI.
3. We will limit the total number of potential *delay*, *storage*, and *discharge* locations to 76 sites which will includes sites identified in the RBD proposal. Out of these 76 sites, we have assumed 50 sites are potential "delay" sites on publicly owned right of way, five sites are potential green roof sites, 15 sites are potential "storage" sites on publicly owned parcels, and six sites are potential "discharge" sites.
4. NJDEP, City of Hoboken, and other stakeholders will assist Dewberry in developing GI siting criteria within 15 working days from NTP.
5. We will limit our site walkthroughs within the City of Hoboken to 10 days to identify potential sites that are beyond those identified in the RBD proposal.

6. We will begin infiltration tests for RBD sites for the *Delay* and *Store* element prior to concept screening workshop.
7. Costs estimates will be developed using NJDOT and/or NJ Turnpike Authority cost estimating software; TransPort (NJDOT) and BidEx (NJTA), and these cost estimating softwares will be accepted by federal agencies
8. We will use FEMA BCA Toolkit for BCA analysis of the final Preferred Alternative.
9. We will create up to 10 renderings per alternative.

Task 6: Preliminary Design and EIS Preparation

A. Preliminary Design

We changed the name of Task 6 from Conceptual Design Development (in the State's SOW) to Preliminary Design to avoid confusion between the five concepts and the three Build Alternatives. We will develop preliminary conceptual design drawings along with artistic renderings for the three Build Alternatives. We assume that the footprint of the coastal flood risk reduction system for the three Build Alternatives will have some overlaps along the alignment. Assuming these overlaps; we will be conducting a topographic survey to develop a base map that would include the maximum extent of the proposed coastal flood risk reduction footprint area. We have assumed that we would survey about an area covering approximately 1.5 miles in length with a width of 100 feet as part of Task 1. We will rely on available the base map survey for the stormwater management options. We will combine these two survey datasets to develop a complete set of final base maps. The preliminary design drawings for the three Build Alternatives including the preferred Alternative will be drawn over these final base maps. These preliminary design drawings for each Build Alternative will include the following sheets:

- Overall site plan showing the footprint of coastal flood risk reduction system and sites for stormwater management
- Plan and typical subsurface and superstructure cross-section views of distinct zones of coastal flood risk reduction system
- Plan and typical cross-section of distinct stormwater management options
- Plan view showing boring and infiltration test locations along with associated soil boring logs and table of infiltration tests
- Plan and section views of typical architectural modifications to buildings (if required)
- Plan and section view of typical applicable landscape treatments

B. Preparation of EIS

The culmination of this entire project will be the completion of the EIS. Building off of the earlier tasks and the ongoing public participation process, including the consensus building that is anticipated from the onset of the project, Dewberry will complete the EIS which will consist of the following sections.

Purpose and Need

The DEIS will include the final Purpose and Need, which will be a succinct and focused statement.

Affected Environment

The DEIS will describe the affected environment, which includes the existing natural and built environment. This section will be developed primarily from the data gathering effort conducted in Task 1. This section will include a discussion of various disciplines including but not limited to cultural resources, hazardous waste, natural resources (including wetlands, open waters, and T&E species), socioeconomics, environmental justice, utilities, infrastructure, and open space. This section will characterize the environmental constraints present in the project area, including the City of Hoboken and the adjoining communities of Jersey City and Weehawken. This framework will be the baseline from which we will conduct the impact analysis for the design concepts.

Alternatives Analysis

This section will highlight the evolution of the five concepts developed and the subsequent selection of the three Build Alternatives.

We will begin by describing the concept screening matrix development and concept screening workshop along with the community involvement that helped winnow down the five concepts to the three Build Alternatives.

This section will conclude with a discussion of the alternative screening process which includes a second evaluation of a matrix. Ultimately, through further analysis of the three Build Alternatives, the Preferred Alternative will be selected.

Environmental Consequences

We will examine the specific impacts of each of the three Build Alternatives on the environmental conditions discussed in the Affected Environment section of the EIS, supplemented by the additional further studies discussed below. These studies will inform our analysis to determine which of the three Build Alternatives best meets the RBD objectives while remaining feasible and having a minimal adverse impact to identified environmental resources. Additionally, we will explain how the environment would be impacted under the No Build alternative scenario.

Natural Resources

For the three Build Alternatives, we will inspect the proposed impact areas located within the "interior" portions of the City and delineate wetlands/open waters that may be affected by the footprint(s) of the alternatives. Based on the delineation of the wetlands/open waters we will calculate the impacted areas of each of the three Build Alternatives.

Aquatic Ecology

We will review any existing mapping of EFH for the project area prepared by NMFS. The mapping will be reviewed in regard to potential use of the project area by the various species of fish mapped by the NMFS. The EFH review will include a "desktop" model of the project area conditions, using existing available information, including geology, bathymetry, latitude, and biogenic habitat in the project area. The model predicts the suitability of an area for potential EFH, based on existing environmental conditions and database information regarding fish distributions and habitat use. Our EFH review includes an initial meeting/consultation with the NMFS to discuss the EFH review protocols and preparation of the "desktop" model, as well as a formal EFH Assessment, including preparation of the NMFS EFH Worksheet.

We will conduct the EFH review/assessment and prepare a summary report of our findings. We will meet with the NJDEP and/or NMFS, if required, to review and discuss our findings. We will address one round of comments from the agencies, if any, and prepare a summary of the report for inclusion in the DEIS.

Cultural Resources

Our study will summarize the findings of the data gathering that was conducted as part of Task 1. Upon review of the three Build Alternatives, we will first establish an Area of Potential Effects (APE) for both archaeological and historic architectural resources. The APE will include the geographic area within which the proposed project may directly or indirectly cause changes in the character or use of identified National Register of Historic Places listed or eligible resources. The APE for archaeological resources will be limited to the footprint of project-related ground disturbance. The APE for historic architectural resources would include properties identified to have green roofs as well as properties immediately adjacent to the areas of proposed improvement where visual impacts could occur. We will identify data gaps including areas of archaeological sensitivity and areas that warrant architectural survey for locations within the APE that were not evaluated as part of prior studies. As multiple historic districts are located in the project area, assessment of effects to these historic districts will be a key consideration of our study. The specific studies to be conducted for archaeological and historic architectural resources are summarized below.

Archaeological Resources

As part of our evaluation of archaeological resources, we will conduct a Phase IA Archaeological Survey. We will start by defining the APE into areas of archaeological sensitivity based upon previously identified cultural resources, the cultural history of the surrounding area, and a site-specific land-use history of the site. These sensitivity areas will then be used to provide recommendations for future testing and/or monitoring. The results of the Phase IA survey will be summarized in a final report that will be submitted to the NJHPO. The findings of this report will be summarized in the EIS.

This study will be performed in accordance with the SOI Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716) and the NJHPO Guidelines for Phase I Archaeological Investigations: Identification of Archaeological Resources and Guidelines for Preparing Cultural Resources Management Archaeological Reports Submitted to the Historic Preservation Office (1996, 2000).

All archaeological work will be conducted by and/or under the supervision of individuals who meet the SOI Professional Qualifications Standards for archaeology (48 FR 44738-9).

As part of this effort, we will:

- Summarize the background research conducted as part of the data gathering conducted under Task 1.
- Conduct background research on the environmental context of properties to inform the archaeological sensitivity assessment.
- Conduct a pedestrian reconnaissance to photo-document and visually inspect the APE for evidence of prehistoric or historic archaeological resources and to document current site conditions.
- We will summarize areas of archaeological sensitivity and provide recommendations for future archaeological testing and/or monitoring.

Historic Architectural Resources

We will prepare a study of historic architectural resources that will assess potential effects to identified resources that may result from the proposed project. As part of this task, we will conduct an intensive-level architectural survey of previously unidentified properties. For purposes of this task, we assume that the architectural survey will be limited to 10 properties over 50 years of age that would be subjected to an intensive-level architectural survey in order to assess their potential eligibility for listing in the National Register of Historic Places. Following the NJHPO's Guidelines for Architectural Survey, each property will be recorded on a Base Survey Form, as well as a Building/Element Attachment Form. In addition, an Eligibility Worksheet Form will be prepared for each surveyed property. The results of the intensive-level architectural survey will be summarized in a final report that will be submitted to the NJHPO. The findings of this report will be summarized in the EIS.

As part of this task, we will summarize the background research conducted as part of the data gathering task. Additional property-specific research may be necessary and would be conducted at various libraries and repositories in Hoboken and Hudson County. Specifically, historic maps, aerial photographs, published secondary sources, directories, and other pertinent research data will be reviewed. In addition, interested parties knowledgeable about the history of the project area will be contacted. As part of the background research conducted under this task, special emphasis will be placed on the identification of character defining features of the various historic districts located in the project area.

Upon completion of the intensive-level architectural survey, Dewberry will apply the Criteria of Adverse Effect to all identified properties. Consideration of impacts to the multiple historic districts in the project area will be an important part of this analysis as avoidance and minimization of impacts to these resources will be a key consideration. Working with the design team, our goal would be to develop designs that are in keeping with the SOI's Standards for the Treatment of Historic Properties in order to minimize the potential for adverse effects.

If adverse effects are identified, a list of potential mitigation measures will be recommended, but completion of mitigation work will be beyond the scope of this task. We will also coordinate the public outreach as required under Section 106 as part of this task, including the distribution of reports to the NJHPO as well as interested and consulting parties.

Circulation

We will prepare a Synchro/SimTraffic traffic analysis model of the project network for use in evaluating the traffic impacts that can be expected during construction of each of the three Build Alternatives. We will complete a similar detailed traffic analysis to assess the traffic performance of up to six construction staging schemes, including mitigation measures, for the Preliminary Preferred Alternative. The Synchro model will be constructed based on the data collected in Task 1. It will be used to generate the appropriate traffic performance metrics that can inform the decision process under the Feasibility Assessment and the Preliminary Design. In addition to the traffic analyses, we will identify and evaluate impacts on public transportation services and facilities in the study area, including bus service, ferry service, NJ TRANSIT passenger rail, PATH, and Hudson-Bergen Light Rail. A Traffic tech memo will be prepared to present (a) the approach used for evaluating traffic and transit performance under the Feasibility task and under Task 6, and (b) the respective traffic performance conditions that can be expected for the scenarios analyzed.

Noise

Stationary-source noise related to proposed pump stations will be qualitatively addressed within the DEIS.

In the event specific construction activities cannot meet established noise criteria, we will design mitigation measures, which may include a combination of path and source controls. However, there may be some major construction activities that cannot meet the project-specific construction noise level limit and, therefore, will be restricted during overnights and weekends. Construction noise analyses and mitigation will be detailed within the DEIS.

Aquatic Noise

In addition to construction activities throughout Hoboken, construction activities in connection with constructing sea walls will be performed along the shoreline. NMFS is currently revising the underwater noise exposure guidelines, which are expected by late 2015. Therefore, analyses will be based on current Fisheries Hydroacoustic Working Group (FHWG) criteria to assess the potential physiological effects upon sturgeon exposure to impulsive noise of 206 dB_{peak} and 150 dB RMS for behavioral modification. Based on general construction scenarios planned along the shoreline, we will determine the most reasonable reference level for the construction method chosen to estimate underwater acoustic levels to compare with both aforementioned thresholds in one applicable location. Only one location is required because it will be representative of each potential pile drive location. In the event underwater noise levels are predicted to exceed acoustic thresholds established, mitigation measures such as bubble curtains will be evaluated. Underwater acoustics analyses and mitigation measures will be detailed within the DEIS.

Virbration

Since construction activities will be performed along the shoreline, radiated vibration into the Hudson River from pile driving will be assessed in one location. In the event vibration levels, either on land or water, exceed established thresholds, mitigation will be evaluated. The vibration analyses and mitigation measures will be detailed within the DEIS.

Visual Impact Assessment

We will evaluate and analyze potential impacts the proposed project may have on visual resources and viewers. As part of this analysis, we will determine the level of impact to be beneficial, adverse or neutral. Our study will also discuss the project design's mitigation and enhancement in terms of construction and design-related mitigation measures. As part of our analysis, key consideration will include aspects of the project that partially or totally block a view corridor or a natural or built visual resource. This will be a critical factor for visual resources that are rare in the area or considered a defining feature of the neighborhood.

Temporary Construction Impacts

The DEIS will include an analysis of the temporary impacts that will occur from each of the Build Alternatives during construction phases of the project. Our analysis will identify the extent and duration of impacts on each area of study. In addition to the circulation analysis we will identify and evaluate impacts on public transportation services and facilities in the study area, including bus service, ferry service, NJ TRANSIT passenger rail, PATH, and Hudson-Bergen Light Rail.

Sustainability

Sustainable design aims to reduce pollutant emissions through the evaluation of multiple areas including noise and vibration, light pollution, air quality, greenhouse gases, and solid and hazardous waste. We will build off of data collected in other phases of the Project to determine areas of impact and ways that the alternatives impact sustainability principles. We will qualitatively review emission sources to identify design elements that can reduce pollutants. Our evaluation of design alternatives will consider the effects on such pollutants. We will explore strategies to employ green technologies in the buildings and structures, including but not limited to the use of LEED principles, green roofs and other green stormwater infrastructure, and solar power.

Cumulative Impacts

As is required by NEPA, our analysis will also include an examination of the three Build Alternative impacts in conjunction with the impacts from other nearby proposed and/or in-development flood mitigation projects, notably the Hoboken Cove Plan, Long Slip Canal Project, and the City of Hoboken's streetscape GI projects. Our Alternatives Analysis

and selection of the Preferred Alternative will consider these other projects. Through our stakeholders we will look at the ways our Project interacts with other nearby related projects and evaluate their combined community and environmental impacts and/or benefits. Ultimately, our alternatives selection process will aim to select a Preferred Alternative whose combined efforts with these other identified projects can best meet the objectives set forth in the Purpose and Need and specifically address the protection of these waterfront communities from future storm and flooding events while minimizing cumulative adverse environmental impacts.

We will also explain how the environment would be impacted under the No Build alternative scenario.

DEIS Submittal

The DEIS will be submitted to NJDEP/HUD for review and approval. We anticipate two weeks of review will occur followed by two weeks for addressing NJDEP/HUD comments. Upon approval, the DEIS will be circulated to the federal agencies for pre-draft comment. It is anticipated that this process will take another two weeks. It is anticipated that 100 comments will be received during this pre-draft comment period. Once the stakeholders have concurred on the content of the DEIS, it will be circulated to the general public as well as appropriate state and federal agencies for review and comment. In coordination with the NJDEP/HUD requirements, we will prepare a mailing list for circulation of the DEIS. Per 24 CFR 58.60, the DEIS must be distributed as accordingly: five copies to the EPA headquarters, five copies to the EPA regional office, copies made available to the responsible entity and the recipient (City of Hoboken, Weehawken Township, and Jersey City), and copies or summaries made available to any person requesting them. The DEIS must remain in comment period for no less than 90 days. Based on the number of stakeholders and agencies involved, we assume that 50 copies of the DEIS document will be required for this purpose. Upon receipt of public and agency comments, we will address comments and prepare the FEIS. It is assumed for the purposes of this proposal that we will need to address 50 public and agency comments during the DEIS public hearing and 50 additional comments through the public distribution of the DEIS. It is assumed that no new technical studies will be required as a result of comments.

HUD Policy has previously required a Responsible Entity to publish a Notice of Availability (NOA) of all DEISs and FEISs on the FR. Recent HUD policy updates, as stated on FR 76 FR 2681, published January 14, 2011, changed this approach. HUD currently requires the Responsible Entity to publish an NOA for a DEIS and FEIS only for projects involving actions with effects of national concern. In these cases, the NOA must be published in the FR, and the Responsible Entity must publish and distribute the DEIS/FEIS nationally consistent with 40 CFR 1506.6(b)(2). For projects only involving effects of local concern, the NOA will be published by the EPA, through their weekly FR notice of all DEIS/FEIS reports received during the previous week. A determination regarding the project's effects on national concerns will be established during the early stages of the project.

Final EIS

The FEIS will be prepared to reflect comments of substance received during the DEIS public comment period. The FEIS must also be circulated in the same fashion as the DEIS, with the addition of one copy being sent to the State, one to the HUD Field Office, and one to the HUD Headquarters library. This may include notices in local and regional publications as well as mailings to interested or affected parties. We will consult with the NJDEP regarding the appropriate level of public notice. In accordance with HUD and CEQ regulations, the FEIS will need to be in public comment period for no less than 30 days. We anticipate that 20 comments will be received during this period; however, we do not anticipate that any of the comments will be substantial.

Record of Decision

Upon completion of the FEIS, the Record of Decision (ROD) will be prepared in accordance with CEQ regulations at 40 CFR 1505. The ROD will state the decision made through the environmental analysis, identify all alternatives that were considered, identify the impacts from each, and explain why the Preferred Alternative was ultimately selected. The ROD will explain mitigation measures or conditional approvals that may be required by regulatory agencies in order to approve the project. We anticipate the ROD may require distribution to agencies and stakeholders as appropriate.

Task 6 Deliverables

- Notice of Intent to Prepare an EIS
- Preliminary Design
- Phase IA Archaeological Survey submitted to NJHPO
- Historic Architectural Resources Technical Environmental Study submitted to NJHPO
- Draft Environmental Impact Statement (for review and comment)
- Final Environmental Impact Statement
- Draft Record of Decision
- Final Record of Decision

Task 6 Assumptions

1. Three Build Alternatives will be developed.
2. For each Build Alternative, we will create a maximum of 30 drawing sheets in AutoCAD or other similar program to cover engineering, architectural, and landscape architectural disciplines.
3. The Request for Relief of Funds will be prepared by HUD.
4. No additional technical studies will be required as a result of comments received.
5. Per NJDEP, it is assumed that Phase IB testing will not be necessary and, as a result, no costs associated with Phase IB testing are included in this proposal.
6. No maritime archaeological surveys are included as part of this effort.
7. No geomorphological studies will be included as part of this effort.
8. Background research is limited to the research institutions provided above.
9. We anticipate conducting an intensive-level architectural survey of no more than 10 properties that are over 50 years of age.
10. No mitigation work will be conducted.
11. One hundred comments will be received during the pre-draft comment period for the DEIS.
12. Fifty copies of the DEIS will be provided.
13. Fifty comments will be received during the public hearing for the DEIS.
14. Fifty copies of the FEIS will be provided.
15. Twenty comments will be received during the draft comment period for the FEIS.

Task 7: Document Management and Programmatic Reporting

Budget, Schedule and Invoicing

- When the Agreement is executed the project schedule will be refined defining project milestones with tasks shown in number of days to complete.
- For the duration of the project, we will submit a progress report each month with the invoice. This progress report will include the following:
  - A detailed progress report of the work completed to date with the current invoice period highlighted.
  - A summary of the costs incurred to date (salary, multiplier, and direct) amount remaining, percentage complete of each task.
  - A summary for each major task showing costs incurred per reporting period, total costs incurred to date, a percent complete of the activity based on actual progress and percent of budget expended, and a schedule showing anticipated finish dates.
  - A summary of the overall project percentage complete based on actual progress and percent of budget expended.
  - A summary of anticipated costs/tasks not initially included in the project budget.
  - A confirmation of upcoming submittals and any possible scheduling conflicts.
- Dewberry will provide quarterly and annual Compliance Reports to HUD in accordance with federal procurement regulations.

Project Management Approach

- As an initial activity, a detailed Project Work Plan (PWP) will be developed. The PWP will provide a team organization chart and communication protocol and a detailed description of the various work tasks, their durations, and the party responsible for the work task. We will used the PWP to maintain the schedule. The PWP will be reviewed weekly by the Dewberry Project Manager who will indicate to the NJDEP the need for coordination "prompting" that may be necessary to maintain the schedule.
- Throughout the project, draft memoranda, letters, and forms will be prepared and submitted to the NJDEP in an electronic format for final printing. This may include

invitations to meetings, responses to inquiries, and correspondence with local stakeholders.

- The Dewberry Project Manager will update the NJDEP on a weekly basis regarding the progress made that week and the tasks to be performed during the next week. Issues requiring coordination and/or decision by NJDOT will be identified and suggestions regarding possible solutions will be made.
- Upon completion of the DEIS, we will attend four meetings with final design teams, as necessary, to kick-off the final design phase and answer questions.

Project Management Meetings

The Project Manager and Deputy Project Manager will prepare for, attend, and prepare minutes for 19 coordination meetings with the NJDEP to discuss the project.

Task 7 Deliverables

- Monthly reports
- Compliance reports

Task 7 Assumptions

1. The overall duration of the project management task will be 19 months.
2. Scope includes the Project Principal, Project Manager, Deputy Project Manager, and one Task Leader to attend one meeting per month for 19 months at NJDEP's office in Trenton. Each of these meetings will be preceded by an internal coordination meeting.
3. Scope includes 1,000 Project Manager and Deputy Project Manager hours for conference calls and other correspondence.
4. HUD compliance reports will be prepared quarterly and annually.
5. Grant management support is not included in this proposal and can be provided as an additional service.
6. Dewberry's scope of work for this proposal concludes when the ROD is signed.
7. The number of meetings with the final designers will not exceed four.

Quality Assurance

We will implement our Quality Assurance Program which has been developed to improve productivity, minimize cost, and provide that our clients are satisfied with the final product.

Quality Management System

Dewberry is firmly committed to technical excellence through continuous improvement, which focuses on preventing nonconformance and improving the work process so that our deliverables consistently meet all contractual and regulatory requirements. Our approach to quality control is efficient, documentable, verifiable, and flexible enough to accommodate change while preserving quality. The objective of our QMS is to foster excellence in all of the services we perform and to verify that we use the best professional talent and solutions. Our QMS process is modeled on the Plan-Do-Check-Act cycle that has been successfully used as the basis for the ISO 9000 quality standards.

Quality Assurance Plan

The Project Manager will prepare a Quality Assurance Plan (QAP), in accordance with our QMS procedures. The QAP will identify:

- key personnel and their responsibilities
- subconsultants and their responsibilities
- technical and safety standards to be followed
- the contractual budgets
- schedule

The plan will be reviewed by our two Quality Assurance (QA) Managers, Andrea Burk, and Ozlen Ozkurt. Upon approval of the QAP, it will be issued to everyone assigned to the project/task including subconsultants. Our subconsultants must also abide by this Plan.

Quality control is the responsibility of each member of the project team; Personnel assigned to the project team recognize that they are individually responsible for their work. Quality Assurance is the responsibility of the Project Manager and is audited by the QA Managers.

Health & Safety Program and Plan

Dewberry has a Health and Safety (H&S) Program which provides a practical guide for managing the health and safety aspects of projects and operations conducted by Dewberry. A copy of Dewberry's H&S Program is available upon request.

The Dewberry H&S Program documents a framework for managing health and safety throughout the company. It identifies the roles and responsibilities of each level of employees, specifies how to conduct hazard assessments and controls, identifies appropriate safety training for employees, and outlines a Medical Surveillance Program for appropriate employees.

Our H&S Manager will prepare a Health & Safety Plan (HASP) for this project and the Project Manager will be responsible for communicating the Plan to the team. The HASP will be completed before the start-up of field activities to identify potential hazards and implement appropriate controls. The HASP will outline the controls to be used, the Standard Operating Procedures to be followed, and the training that personnel should have prior to being assigned to particular tasks. The HASP will also provide emergency information and a method for communication of hazards to employees.

Project Cost and Schedule

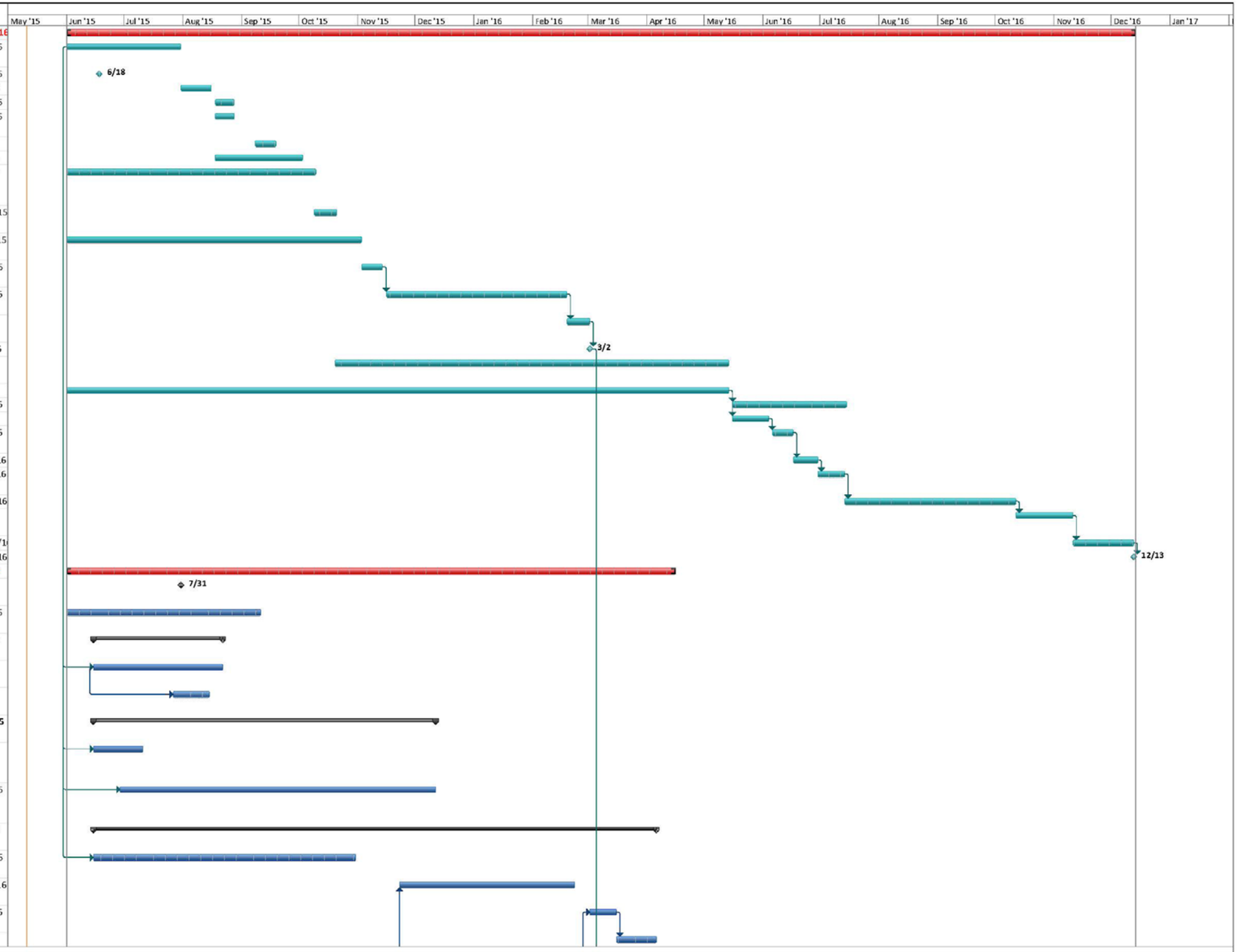
Our cost estimate has been submitted under separate cover.

The project schedule was developed to account for the key milestones in the NEPA process including regulatory timeframes to publish the NOI, circulate the draft and final EIS, and finalize the ROD. This is an aggressive schedule, developed with the understanding that federal funds need to be obligated by October 2017. We used a streamlining approach to advance the NEPA process which assumes that the agencies and stakeholders are committed to advancing the project. Meeting the deadline is contingent upon their commitment.

Project Schedule

Sheet 1 of 3

ID	Task Mode	Task Name	Work Days	Calendar Duration	Start	Finish
1		**NEPA Schedule**	**402 days**	**562 days**	**Mon 6/1/15**	**Tue 12/13/16**
2		Notice of Intent (NOI) to Prepare EIS Client Review	44 days	60 days	Mon 6/1/15	Thu 7/30/15
3		Executive Steering Committee	0 days	0 days	Thu 6/18/15	Thu 6/18/15
4		NOI Publication	12 days	16 days	Fri 7/31/15	Sat 8/15/15
5		Purpose and Need Meetings	8 days	10 days	Tue 8/18/15	Thu 8/27/15
6		Purpose and Need Development	8 days	10 days	Tue 8/18/15	Thu 8/27/15
7		Scoping Meetings	9 days	11 days	Tue 9/8/15	Fri 9/18/15
8		Scoping Document	34 days	46 days	Tue 8/18/15	Fri 10/2/15
9		Data Gathering (Ex Conditions, Env Constraints, Permit ID, Agency Research/File Reviews)	95 days	131 days	Mon 6/1/15	Fri 10/9/15
10		Screening Criteria and Metrics Meetings	8 days	12 days	Fri 10/9/15	Tue 10/20/15
11		Data Gathering Draft Report (Task 1 Deliverable)	111 days	155 days	Mon 6/1/15	Mon 11/2/15
12		Concept Screening Workshop Meetings	9 days	11 days	Tue 11/3/15	Fri 11/13/15
13		Alternatives/Feasibility Analysis	69 days	95 days	Mon 11/16/15	Thu 2/18/16
14		Alternatives Analysis Workshop	8 days	12 days	Fri 2/19/16	Tue 3/1/16
15		Identify Preferred Alternative	0 days	0 days	Wed 3/2/16	Wed 3/2/16
16		Data Gap Surveys (T&E, Cultural, Subsurface)	149 days	207 days	Tue 10/20/15	Fri 5/13/16
17		Preparing DEIS	250 days	348 days	Mon 6/1/15	Fri 5/13/16
18		Draft Notice of Availability	44 days	60 days	Mon 5/16/16	Thu 7/14/16
19		DEIS Client Review	15 days	19 days	Mon 5/16/16	Fri 6/3/16
20		Addressing Client DEIS Comments	9 days	11 days	Mon 6/6/16	Thu 6/16/16
21		DEIS Pre-Draft Meetings	9 days	13 days	Fri 6/17/16	Wed 6/29/16
22		Addressing Pre-Draft Public Comments	10 days	14 days	Thu 6/30/16	Wed 7/13/16
23		Submit DEIS for Comment	64 days	90 days	Thu 7/14/16	Tue 10/11/16
24		Address Comments, Compile FEIS	22 days	30 days	Wed 10/12/16	Thu 11/10/16
25		Submit FEIS/Draft ROD	22 days	32 days	Fri 11/11/16	Mon 12/12/16
26		Submit Signed ROD	0 days	0 days	Tue 12/13/16	Tue 12/13/16
27		**Engineering**	**230 days**	**320 days**	**Mon 6/1/15**	**Fri 4/15/16**
28		Notice of Intent (NOI) to Prepare EIS Publication	0 days	0 days	Fri 7/31/15	Fri 7/31/15
29		Task 1 - Data Collection and Mapping	74 days	102 days	Mon 6/1/15	Thu 9/10/15
30		**Task 2 - Waterfront Inspection Structures Including Bulkheads**	**50 days**	**0 days**	**Mon 6/15/15**	**Fri 8/21/15**
31		2.1 - Waterfront Inspection and Report	50 days	68 days	Mon 6/15/15	Fri 8/21/15
32		2.2 Bathymetric Surveys (as needed)	15 days	19 days	Mon 7/27/15	Fri 8/14/15
33		**Task 3 - Subsurface Investigation (Geotechnical)**	**130 days**	**0 days**	**Mon 6/15/15**	**Fri 12/11/15**
34		3.1 - Geotechnical Investigation along Waterfront	20 days	26 days	Mon 6/15/15	Fri 7/10/15
35		3.2 Geotechnical Investigation for "Delay and Store" options	120 days	166 days	Mon 6/29/15	Fri 12/11/15
36		**Task 4 - Hydrology/Flood Risk Assessment**	**212 days**	**0 days**	**Mon 6/15/15**	**Tue 4/5/16**
37		4.1 - Develop Baseline Conditions	100 days	138 days	Mon 6/15/15	Fri 10/30/15
38		4.2 - Evaluate Three Build Alternatives	66 days	92 days	Mon 11/23/15	Mon 2/22/16
39		4.3 Confirm Final Preferred Alternative	10 days	14 days	Wed 3/2/16	Tue 3/15/16
40		4.4 Submit Report	15 days	21 days	Wed 3/16/16	Tue 4/5/16



Project: Hoboken Resist, Delay, Store Discharge
Date: March 20, 2015

Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Deadline | Progress

Project Schedule

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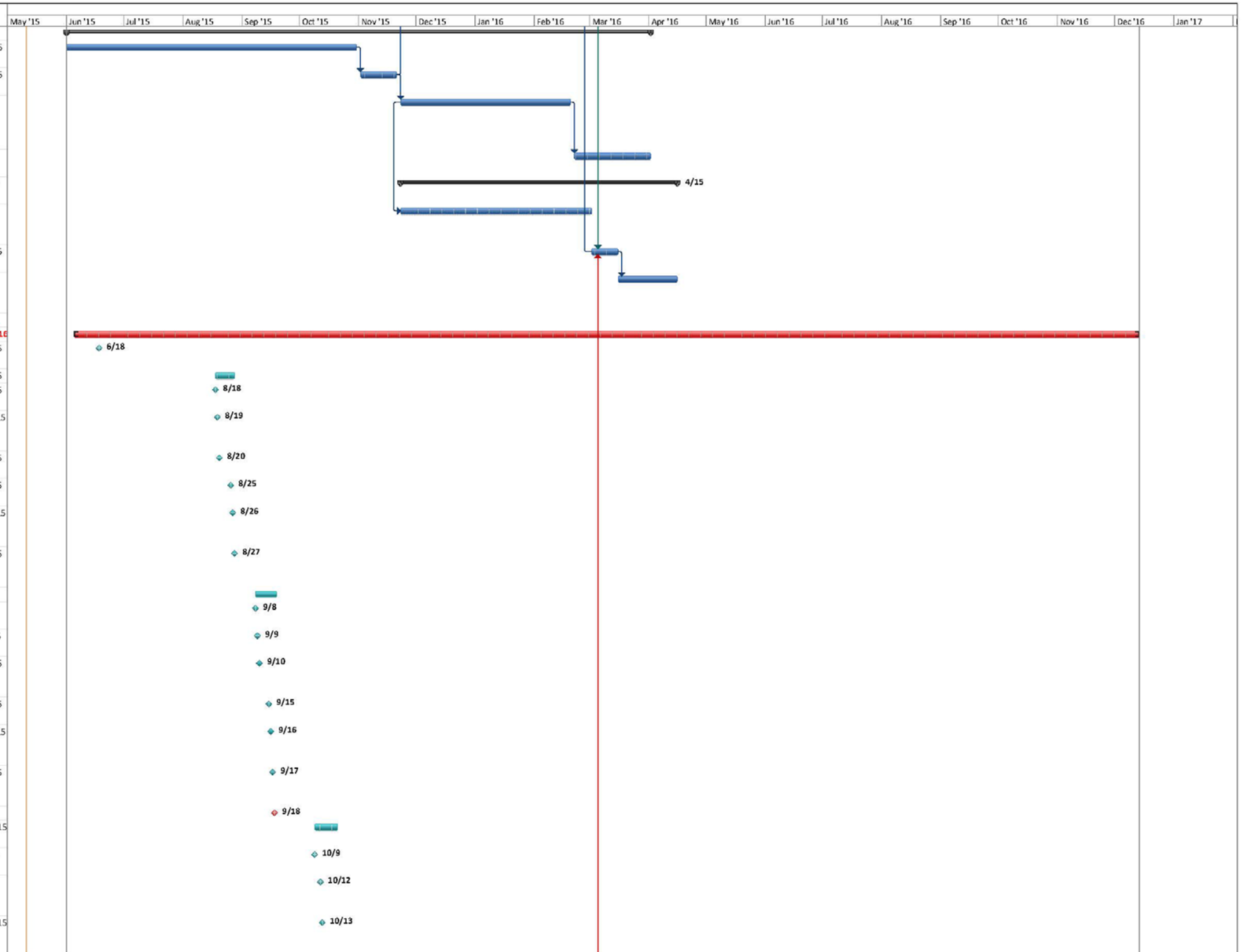
ID	Task Mode	Task Name	Work Days	Calendar Duration	Start	Finish
41		**Task 5 - Feasibility Analysis**	**220 days**	**0 days**	**Mon 6/1/15**	**Fri 4/1/16**
42		5.1 Develop Five Concept Schematics	110 days	152 days	Mon 6/1/15	Fri 10/30/15
43		5.2 Shorlist Three Build Alternatives	15 days	19 days	Mon 11/2/15	Fri 11/20/15
44		5.3 Perform Multi-Discplinary Feasibility Assessment of Three Build Alternatives	65 days	89 days	Mon 11/23/15	Fri 2/19/16
45		5.4 Submit Final Feasibility Report	30 days	40 days	Mon 2/22/16	Fri 4/1/16
46		**Task 6 - Conceptual Design Development**	**105 days**	**0 days**	**Mon 11/23/15**	**Fri 4/15/16**
47		6.1 Prepare Conceptual Design Drawings for Three Build Alternatives	72 days	100 days	Mon 11/23/15	Tue 3/1/16
48		6.2 Finalize the Preferred Alternative	10 days	14 days	Wed 3/2/16	Tue 3/15/16
49		6.3 Prepare Preferred Alternative Preliminary Design Drawings	23 days	31 days	Wed 3/16/16	Fri 4/15/16
50						
51		**Public Participation**	**398 days**	**558 days**	**Fri 6/5/15**	**Tue 12/13/16**
52		Executive Steering Committee Project Meeting	0 days	0 days	Thu 6/18/15	Thu 6/18/15
53		Purpose and Need Meetings	8 days	10 days	Tue 8/18/15	Thu 8/27/15
54		Purpose and Need Executive Steering Meeting	0 days	0 days	Tue 8/18/15	Tue 8/18/15
55		Purpose and Need Federal Review and Permitting Meeting	0 days	0 days	Wed 8/19/15	Wed 8/19/15
56		Purpose and Need Community Action Committee Meeting	0 days	0 days	Thu 8/20/15	Thu 8/20/15
57		Follow-up Purpose and Need Executive Steering Meeting	0 days	0 days	Tue 8/25/15	Tue 8/25/15
58		Follow-up Purpose and Need Federal Review and Permitting Meeting	0 days	0 days	Wed 8/26/15	Wed 8/26/15
59		Follow-up Purpose and Need Community Action Committee Meeting	0 days	0 days	Thu 8/27/15	Thu 8/27/15
60		Scoping Meetings	9 days	11 days	Tue 9/8/15	Fri 9/18/15
61		Scoping Executive Steering Meeting	0 days	0 days	Tue 9/8/15	Tue 9/8/15
62		Scoping Federal Review and Permitting Meeting	0 days	0 days	Wed 9/9/15	Wed 9/9/15
63		Scoping Community Community Action Committee Meeting	0 days	0 days	Thu 9/10/15	Thu 9/10/15
64		Follow-up Scoping Executive Steering Meeting	0 days	0 days	Tue 9/15/15	Tue 9/15/15
65		Follow-up Scoping Federal Review and Permitting Meeting	0 days	0 days	Wed 9/16/15	Wed 9/16/15
66		Follow-up Scoping Community Community Action Committee Meeting	0 days	0 days	Thu 9/17/15	Thu 9/17/15
67		Scoping Public Meeting	0 days	0 days	Fri 9/18/15	Fri 9/18/15
68		Screening Criteria and Metrics Meetings	8 days	12 days	Fri 10/9/15	Tue 10/20/15
69		Screening Criteria and Metrics Executive Steering Meeting	0 days	0 days	Fri 10/9/15	Fri 10/9/15
70		Screening Criteria and Metrics Federal Review and Permitting Meeting	0 days	0 days	Mon 10/12/15	Mon 10/12/15
71		Screening Criteria and Metrics Community Action Committee Meeting	0 days	0 days	Tue 10/13/15	Tue 10/13/15



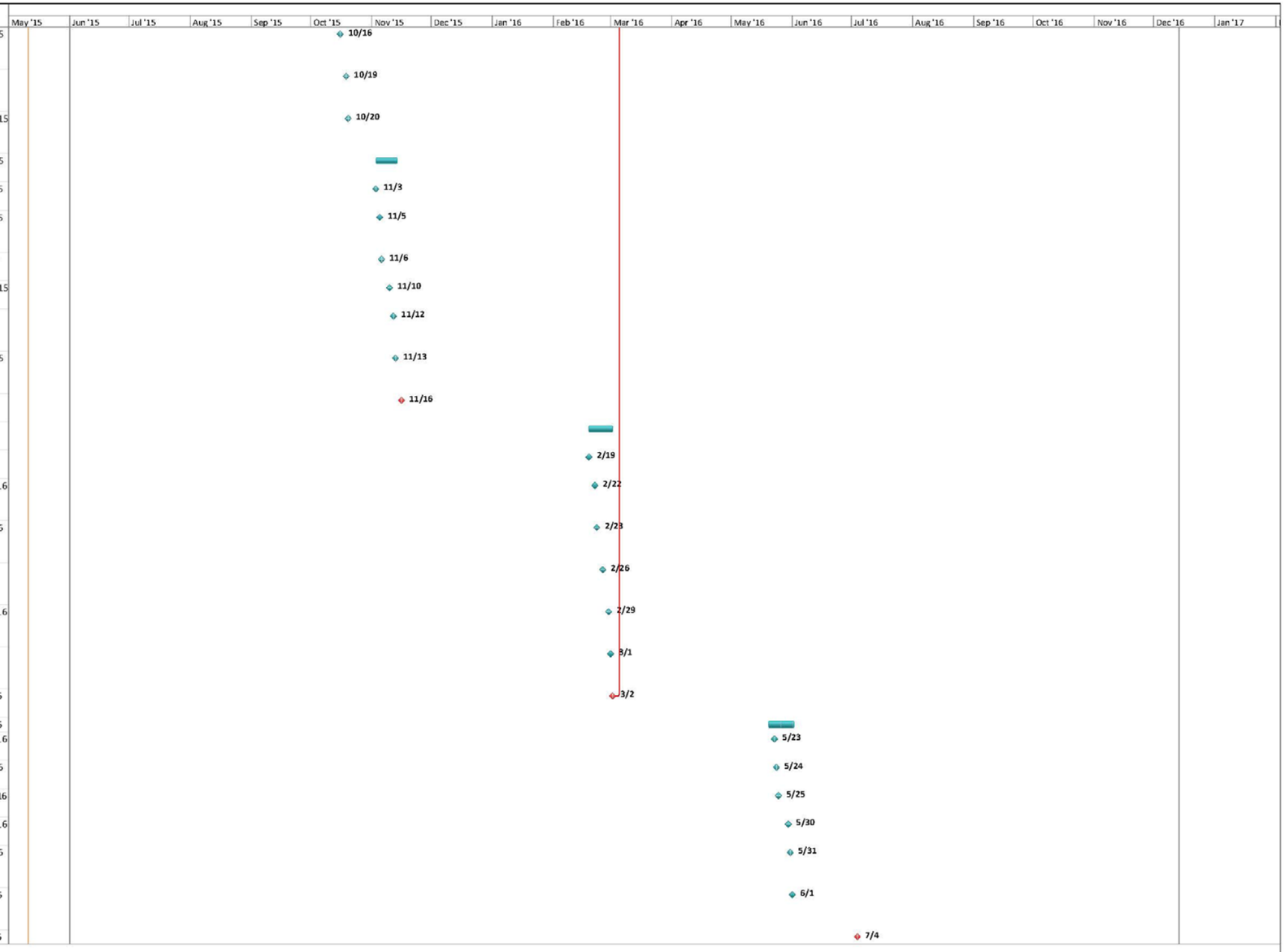
Project: Hoboken Resist, Delay, Store Discharge
Date: March 20, 2015

Task	Summary	External Milestone	Inactive Summary	Manual Summary Rollup	Finish-only
Split	Project Summary	Inactive Task	Manual Task	Manual Summary	Deadline
Milestone	External Tasks	Inactive Milestone	Duration-only	Start-only	Progress

Project Schedule

Sheet 3 of 3

ID	Task Mode	Task Name	Work Days	Calendar Duration	Start	Finish
72		Follow-up Screening Criteria and Metrics Executive Steering Meeting	0 days	0 days	Fri 10/16/15	Fri 10/16/15
73		Follow-up Screening Criteria and Metrics Federal Review and Permitting Meeting	0 days	0 days	Mon 10/19/15	Mon 10/19/15
74		Follow-up Screening Criteria and Metrics Community Action Committee Meeting	0 days	0 days	Tue 10/20/15	Tue 10/20/15
75		Concept Screening Workshop Meetings	9 days	11 days	Tue 11/3/15	Fri 11/13/15
76		Concept Screening Executive Steering Meeting	0 days	0 days	Tue 11/3/15	Tue 11/3/15
77		Concept Screening Federal Review and Permitting Meeting	0 days	0 days	Thu 11/5/15	Thu 11/5/15
78		Concept Screening Community Action Committee Meeting	0 days	0 days	Fri 11/6/15	Fri 11/6/15
79		Follow-up Concept Screening Executive Steering Meeting	0 days	0 days	Tue 11/10/15	Tue 11/10/15
80		Follow-up Concept Screening Federal Review and Permitting Meeting	0 days	0 days	Thu 11/12/15	Thu 11/12/15
81		Follow-up Concept Screening Community Action Committee Meeting	0 days	0 days	Fri 11/13/15	Fri 11/13/15
82		Concept Screening Public Meeting	0 days	0 days	Mon 11/16/15	Mon 11/16/15
83		Alternatives Analysis Workshop	8 days	12 days	Fri 2/19/16	Tue 3/1/16
84		Alternatives Analysis Executive Steering Meeting	0 days	0 days	Fri 2/19/16	Fri 2/19/16
85		Alternatives Analysis Federal Review and Permitting Meeting	0 days	0 days	Mon 2/22/16	Mon 2/22/16
86		Alternatives Analysis Community Action Committee Meeting	0 days	0 days	Tue 2/23/16	Tue 2/23/16
87		Follow-up Alternatives Analysis Executive Steering Meeting	0 days	0 days	Fri 2/26/16	Fri 2/26/16
88		Follow-up Alternatives Analysis Federal Review and Permitting Meeting	0 days	0 days	Mon 2/29/16	Mon 2/29/16
89		Follow-up Alternatives Analysis Community Action Committee Meeting	0 days	0 days	Tue 3/1/16	Tue 3/1/16
90		Alternatives Analysis Public Meeting	0 days	0 days	Wed 3/2/16	Wed 3/2/16
91		DEIS Pre-Draft Meetings	9 days	13 days	Fri 5/20/16	Wed 6/1/16
92		DEIS Pre-Draft Executive Steering Meeting	0 days	0 days	Mon 5/23/16	Mon 5/23/16
93		DEIS Pre-Draft Federal Review and Permitting Meeting	0 days	0 days	Tue 5/24/16	Tue 5/24/16
94		DEIS Pre-Draft Community Action Committee Meeting	0 days	0 days	Wed 5/25/16	Wed 5/25/16
95		Follow-up DEIS Pre-Draft Executive Steering Meeting	0 days	0 days	Mon 5/30/16	Mon 5/30/16
96		Follow-up DEIS Pre-Draft Federal Review and Permitting Meeting	0 days	0 days	Tue 5/31/16	Tue 5/31/16
97		Follow-up DEIS Pre-Draft Community Action Committee Meeting	0 days	0 days	Wed 6/1/16	Wed 6/1/16
98		DEIS Public Hearing	0 days	0 days	Mon 7/4/16	Mon 7/4/16



Project: Hoboken Resist, Delay, Store Discharge
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Section 3: Project Team

Project Team

TEAM MEMBERS AND ROLES			
Team Member	DBE	Contract 13-002D	Role
Prime consultant			
Dewberry 600 Parsippany Road, Parsippany, NJ 07054 9773.739.9400		●	Project management; quality assurance; subconsultant management; health and safety oversight; lead for engineering, environmental, and stakeholder outreach
Subconsultants			
Boswell Engineering 330 Phillips Avenue, S. Hackensack, NJ 07606 201.641.0770			Waterfront structures inspection and bathymetric survey
Econsult Solutions Inc. 1435 Walnut St., Ste.. 300, Philadelphia, PA 19102 215.717.2777			Economic analysis
Fitzgerald & Halliday Inc. 416 Asylum Street, Hartford, CT 06103 860.247.7200	●		Stakeholder outreach
Office for Metropolitan Architecture (OMA) 180 Varick Street, Suite 1328, New York, NY 10014 212 337 0770			Urban design Stakeholder involvement
Paul Carpenter Associates, Inc. 23 Vreeland Road, Florham Park, NJ 07932 973.822.8221	●	●	Air quality and noise studies
Scape Landscape Architecture PLLC 277 Broadway, Suite 1606, New York, NY 10007 212.462.2628	●		Landscape architecture
TechniQuest Corporation 4105 US Route 1, Monmouth Junction, NJ 08852 732.274.9500	●		Traffic data collection
Subcontractors			
Craig Geotechnical Drilling Co., Inc. PO Box 427, Mays Landing, NJ 08330 609.625.4862			Geotechnical drilling contractor
Craig Testing Laboratories, Inc. 5439 Harding Highway, Mays Landing, NJ 08330 609.625.1700			Geotechnical testing laboratory
Jersey Boring & Drilling Co., Inc. 36 Pier Lane West, Fairfield, NJ 07004 973.287.6857	●		Geotechnical drilling contractor

Dewberry

Firm Profile

We are a leading professional services firm with a proven history of providing program management, planning, engineering, environmental services, and surveying and mapping services, along with a myriad of technical support. Recognized for combining unsurpassed commitment to client service with deep subject matter expertise, we are dedicated to solving clients' most complex challenges and transforming their communities. Established in 1956, Dewberry is headquartered in Fairfax, Virginia, with more than 40 office locations and 2,000 professional nationwide. We have operated in New Jersey for more than 55 years where we maintain three offices in Bloomfield, Parsippany, and Mount Laurel. Our New Jersey and Manhattan offices have more than 325 personnel.

The true measure of Dewberry lies in the commitment and caliber of our people. Our engineers, scientists, planners, and consultants—many of whom are internationally recognized authorities—offer a proven track record of providing award-winning services and solutions to a variety of public-sector and private-sector clients. We've built long-term, trusted relationships through unsurpassed client service and a dedication to solving today's, and tomorrow's, most complex challenges. In the process, we help our clients transform their communities and improve the quality of life.

Program Management

Our seasoned program managers, many of whom are certified Project Management Professionals, are dedicated to understanding and applying the latest tools, trends, and technologies in support of our clients' program goals and objectives. We deliver integrated decision-making processes; creditable and auditable cost estimates, budget justifications, and total life-cycle management that considers operational needs while balancing initial costs with operations, energy, and environmental considerations.

We support clients in developing capital improvement programs through project conceptualization (defining objectives, data gathering, stakeholder outreach, conceptual planning, cost estimating and fund sourcing), design (procurement, establishing program criteria, design review and coordination, schedule and budget control, agency coordination), and construction (staging, contract breakout, bid phase services, Requests for Information, public outreach, utility coordination, schedule and budget control, accounts, press and executive briefing).

Federal Funding Compliance

We support clients with federal funding management. In this Post-Sandy world, we collaborated with HUD to shape documentation that will meet CDBG-DR funding. Dewberry was FEMA's first Public Assistance contractor; no company has worked on the program longer than us. We have been a prime contract holder, joint venture partner, or major subcontractor on each of FEMA's major national contracts. We also work with the Federal Transit Administration (FTA) with funding allocations. To support grants under the Public Transportation Emergency Relief Program and the Disaster Relief Appropriations Act of 2013 (Pub. L 113-2), the FTA turned to Dewberry to develop a user-friendly hazard mitigation cost-effectiveness (HMCE) tool and a sea level rise recurrence interval calculator.

Our team includes the very leaders who helped create today's disaster and mitigation programs. Those individuals are available to save our clients critical time and support full funding reimbursement as well as clean performance audits by federal funding agencies.

Climate Change Risk Evaluation and Adaptation / Resiliency

Following the "R4" framework of resiliency (Bruneau et al, 2003), the four measures of resilient systems are:

- Robustness—the ability of systems, system elements and other units of analysis to withstand disaster forces without significant degradation or loss of performance;
- Redundancy—the extent to which systems, system elements, or other units are substitutable if significant degradation or loss of functionality occurs;
- Resourcefulness—the ability to diagnose and prioritize problems and to initiate solutions by identifying and mobilizing material, monetary, informational, technological, and human resources; and
- Rapidity—the capacity to restore functionality in a timely manner, containing losses and avoiding disruptions.

Dewberry has a dedicated climate resiliency group that leverages the firm's long-standing experience in mitigation planning, disaster response, flood risk management, coastal modeling, consulting meteorology, geospatial analysis, and web- and desktop-based tool development. Our climate resiliency staff includes expert scientists and engineers who provide, in an integrated manner:

- hazard assessment;
- consequence analysis;
- cost benefit analysis; and
- mitigation and adaptation planning and design.

Working with FEMA, state agencies, and metropolitan planning organizations, we implement programs that overcome the uncertainties associated with climate change and sea level rise by studying multi-scenario frameworks, developing likelihood / consequence models, and weighing scoring to provide effective identification of exposed assets and t0 facilitate prioritization of adaptation strategies.

Engineering Services

Our clients face aging infrastructure, overworked transportation networks, and extreme funding constraints. We respond not only with technical excellence and regulatory know-how but with solutions borne of our proactive roles in organizations including the the Institute for Sustainable Infrastructure. Services include:

- site selection;
- feasibility analysis;
- cost estimating;
- land and site planning;
- civil engineering;
- coastal engineering;
- geotechnical engineering;
- bridge engineering;
- roadway engineering;
- traffic engineering, maintenance and protection;
- utility infrastructure;
- stormwater management;
- structural engineering;
- sustainable design;
- waterfront/marine engineering;
- constructability and value engineering; and
- contract administration / construction engineering and inspection.

Water Resources Engineering

Our knowledge of stormwater and floodplain management, combined with relationships with regulators, enable us to create efficient and sustainable solutions for site development and infrastructure. Flood mitigation designs include green infrastructure and protective measures like floodwalls, berms, sea walls, shoreline protection, and bulkheads. Retrofit solutions include elevation, wet and dry floodproofing, shutters, shields, backflow valves, sealants, gates, detention system improvements, French drains, infiltration systems, and seepage basins including those for below sea level storage. Broadly stated, services include:

- stormwater management;
- flood mitigation;
- permitting;
- stream restoration;
- National Pollutant Discharge Elimination Systems (NPDES) / Total Maximum Daily Load (TMDL) compliance; and
- water quality.

Facilities Engineering

Our hands-on experience in field observations, system assessments, and troubleshooting informs designs that minimize operation and maintenance requirements while achieving performance objectives. Services include:

- structural engineering (including condition inspection, hardening, and elevation design);
- mechanical, electrical, and plumbing engineering system design; master planning, studies, and system analyses;
- energy audits and commissioning;
- fire protection and alarm systems;
- computerized drawing management;
- voice and data system design;
- commissioning;
- central plants; and
- building and systems performance modeling.

Environmental Services

We offer in-house multi-disciplinary environmental services including environmental planning, natural and cultural resources, hazardous waste services, and support services. Our interdisciplinary approach positions environmental professionals elbow-to-elbow with design engineers early in the planning process to consider all viewpoints in a fully collaborative effort to avoid negative environmental impacts when feasible, minimize unavoidable environmental impacts through design solutions, and mitigate environmental impacts upon project completion.

Environmental Impact Analyses

Dewberry is recognized as one of the region's leading firms in preparing NEPA environmental documentation for infrastructure projects. In addition to large programs, we are positioned to respond quickly to smaller tasks and the fast turnaround assignments we have come to expect following the American Recovery and Reinvestment Act, Transportation Investment General Economic Recovery (TIGER), and Post-Sandy federal grants. Services include:

- NEPA and New Jersey Executive Order 215 Compliance (Categorical Exclusions, Environmental Assessments, Environmental Impact Statements);
- cultural resources including Section 106 and Section 4(f) compliance, State Historic Preservation Office liaison, historic resources studies / mitigation, archaeology;
- land use / socioeconomics / zoning;
- natural resources;
- traffic and transportation;
- hazardous waste services;
- air quality and noise services;
- agency coordination; and
- public outreach.

Cultural Resources Services

Our architectural historians and archaeologists bring to each assignment close working relationships with the state historic preservation office and local preservation organizations. We are working every day to support our clients through governing regulations such as NEPA and Section 106 of the NHPA. Since Superstorm Sandy, our architectural historians, terrestrial archaeologists, and maritime archaeologists have supported the NJDEP with the Waterway Debris Removal Program, Route 35 Reconstruction, and CDBG-DR programs, the NJDOT's State Channel Dredging Program, and the City of New York's Build It Back program. Under Build It Back alone, we have reviewed more than 10,000 CDBG-DR funding applications for cultural resources compliance.

Hazardous Waste Related Services

Our engineers, geologists, hydrogeologists, GIS specialists, and environmental scientists support clients in assessing, managing, and remediating soil, groundwater, and in-building contamination. Having played a role in the development of New Jersey's Site Remediation Reform Act and other guidance, we bring insight to guide projects through the regulatory compliance path efficiently. We provide:

- agency coordination;
- due diligence / screening (property acquisition);
- due diligence (pre-construction combined environmental and geotechnical investigation);
- Phase I Environmental Site Assessment;
- Licensed Site Remediation Professional services;
- soil, vapor, and groundwater investigation;
- fate and transport analysis
- risk assessment;
- remedial feasibility studies / technologies evaluation;
- remedial design;
- remedial action;
- compliance monitoring / reporting;
- sustainable remediation;
- UST services; and
- cost recovery / litigation support.

Environmental Permitting and Green Stormwater Infrastructure

We bring strong professional relationships with the regulatory and resource agencies responsible for the review of permit applications. We also bring an in-depth understanding of regulatory requirements based on the large volume of New Jersey projects we have underway at any given time. We provide:

- agency coordination;
- wetland services (delineation, mitigation searches and evaluations, restoration and mitigation design and permitting, restoration and mitigation oversight and monitoring);
- habitat services;
- permitting;
- green stormwater infrastructure alternatives analysis, design, and monitoring; and
- litigation support.

Beginning with pioneering work under Philadelphia's $2-billion *Green City Clean Waters* program, our green stormwater infrastructure practice has grown to include a series of contracts under the $2.4-billion *NYC Green Infrastructure Plan*, as well as projects in New Jersey from Camden County to historic downtown Morristown. In addition to our project work, Dewberry professionals support grassroots organizations, provide training, write technical papers, and are frequent lecturers on green stormwater strategies.

Survey, Mapping, GIS

Since Dewberry's founding, we have grown to be an industry leader in surveying and mapping services. Our ability to provide technology, capabilities, capacity, and geographic presence has made us invaluable to a diverse client base. Today our five New Jersey-based survey teams engage a series of technologies and approaches to maximize return on field activities, verify safety procedures, and improve turnaround.

Dewberry employs many of the geospatial industry's recognized and respected experts and thought leaders. We create, analyze, and build tools to share geospatial data, as well as help clients integrate these tools into their daily operations. We fuse multiple data sets together and provide easy-to-use tools that simplify the use of information to allow for more effective and efficient decision making. Services include:

- GIS/IT
- Remote sensing
- Facility/asset management
- Environmental management

We are a national leader in high-resolution topographic products and one of the nation's largest commercial remote sensing data production operations. The firm holds major national mapping contracts with agencies including US Fish & Wildlife Service, FEMA, US Geological Survey, and NOAA. For NOAA and the Coastal Mapping Program, we are responsible for processing the LiDAR and digital orthoimagery for shoreline delineation following Superstorm Sandy from Myrtle Beach, South Carolina to Long Island, New York.

Disaster Preparedness, Prevention, Mitigation, and Response Recovery

Effective emergency management depends upon the ability to understand how preparedness, prevention, mitigation, and response and recovery are interdependent.

Flood Risk Management

Dewberry has provided flood hazard engineering, mapping, and additional support services for FEMA's National Flood Insurance Program since 1974. Our in-house professionals include 200 flood mapping engineers, geographers, and support personnel (including more than 100 Certified Floodplain Managers) who are dedicated to applying the latest tools to deliver innovative and accurate, high-quality flood hazard information to better inform decision making. We provide:

- coastal analyses;
- riverine analyses;
- flood risk assessment and communication;
- expert knowledge of FEMA guidelines and specifications;
- digital elevation technologies;
- floodplain mapping / GIS;
- flood warning systems; and
- geospatial web application development.

Emergency Management Planning

Our breadth of experience as former local emergency managers, first responders, and state and federal experts helps us tailor our efforts to meet client needs. By understanding the intricate differences of operations at each level of government, we can bridge the gap between developing and publishing national-level policies and implementing them at the local / state level. Recognizing that there are no pre-scripted answers to emergency management challenges, we provide planning, training, exercises, and implementation of:

- storm impact forecasting and modeling;
- geospatial support for disaster planning;
- continuity of operations;
- emergency operations;
- debris management;
- evacuation;
- mass fatality;
- public health; and
- recovery plans.

Hazard Mitigation

We have responded to over 400 disasters since 1992. As one of FEMA's primary disaster response and hazard mitigation contractors over the past 25 years, we have been a prime contract holder, joint-venture partner, or major subcontractor on each of FEMA's national technical assistance and inspection contracts. Our hazard mitigation analysis includes weighing alternatives in terms of engineered solutions, policy and procedures, and operations. Services include:

- building, facility and infrastructure hazard assessment;
- provision of optimal mitigation solutions;
- design and specification development;
- RS Means-based pricing;
- Benefit-Cost Analysis (BCA);
- FEMA Hazard Mitigation Grant Program grant application development support; and
- project management.

Subconsultants

Boswell Engineering, based in South Hackensack, will be responsible for waterfront structures inspection and bathymetric survey. Boswell, an *ENR* Top 500 Engineering Firm, has studied and designed many improvements to Hoboken and the Hudson River waterfront.

Econsult Solutions, Inc. (ESA), based in Philadelphia, will conduct economic analyses and will support the BCA including qualitative assessments of socioeconomics and other issues for the three Build Alternatives. ESA brings experience working Hoboken, as well as other urban communities in North Jersey.

Fitzgerald & Halliday Inc. (FHI), a DBE working from offices in Manhattan, will coordinate and facilitate stakeholder outreach. FHI has worked on planning efforts including outreach for the North Jersey Transportation Planning Authority and Together North Jersey's Regional Plan for Sustainable Development and Local Demonstration Project program, which resulted in the development of the Hoboken Green Infrastructure Strategic Plan. FHI is providing stakeholder outreach services for the NYC East Side Coastal Resiliency RBD Project and provided engagement services for the NY Rising Community Reconstruction Program on Staten Island.

Office for Metropolitan Architecture (OMA), from offices in Manhattan, will be responsible for urban design and architecture, and support to stakeholder outreach. OMA is a leading partnership practicing architecture, urbanism, and cultural analysis. OMA led the RBD team for the Resist, Delay, Store, Discharge Project which was recognized for the integration of resiliency into the layered urban environment.

Paul Carpenter Associates, Inc. (PCA), a DBE based in Florham Park, will be responsible for air quality and noise studies. PCA has supported Dewberry on three consecutive NJ TRANSIT environmental task order contracts, our Direct Connection Interchange NEPA EIS, our Route 3 Bridge over the Passaic River NEPA EA. PCA is currently working on the NEPA EIS for NJ TRANSIT's Hoboken Long Slip project.

Scape / Landscape Architecture PLLC, based in Manhattan, will lead the landscape architecture discipline. Scape's practice is focused on retooling landscape architecture relative to the global challenges of climate change and social and environmental justice. Scape's Living Breakwaters project in Staten Island is an RBD winner.

TechniQuest Corporation, a DBE based in Monmouth Junction, will provide traffic data collection. TechniQuest has provided traffic data collection services to collect current traffic flow information for more than one thousand locations, including on many Dewberry projects.

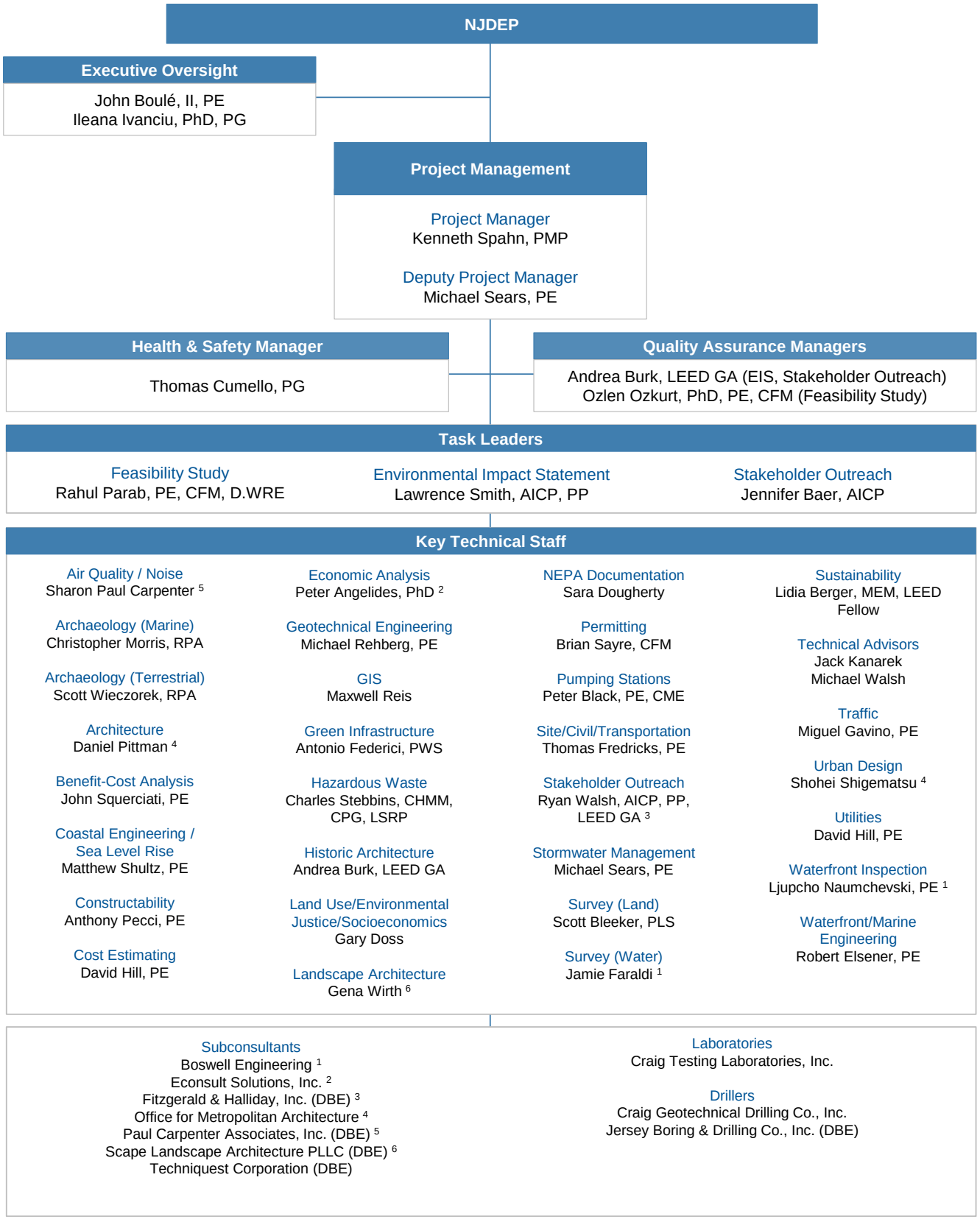
Subcontractors

Craig Testing Laboratories, Inc., based in Mays Landing, will provide geotechnical laboratory services. Craig Testing has supported Dewberry with these services on hundreds of tasks in the past.

Jersey Boring & Company, Inc., a DBE based in Fairfield, will provide geotechnical drilling services. Jersey Boring has supported Dewberry on many past projects.

Section 4: Key Personnel

Organzational Chart



John Boulé II PE

Executive Oversight

John Boulé's distinguished career includes the creation of a regional recovery and resiliency program in response to Superstorm Sandy that spanned over twenty local, state, and federal clients including NYC Transit, Long Island Rail Road, NYC Economic Development Corp., HUD, NJDOT, USACE, NYS Department of Environmental Conservation, and the Connecticut Department of Transportation. The program executed more than 50 projects. John served from 2009 to 2012 as commander of the New York District of the USACE responsible for the USACE's water resource development, navigation and regulatory activities on Long Island and in northeastern New Jersey, eastern and south-central New York State, and parts of Vermont, Massachusetts, and Connecticut. As commander, he was responsible for the award and management of 1,000 contracts with an average annual value of over $1 billion. In 2012 John received the New York Federal Executive Board Award for Continuous Excellence.

EDUCATION

MS, Resourcing National Strategy, National Defense University at Fort McNair, 2009

MA, National Security and Strategic Studies, Naval War College, 2001

MS, Environmental Fluid Mechanics and Hydrology, Stanford University, 1996

MS, Structural Engineering, Stanford University, 1995

BS, Civil Engineering, United States Military Academy, 1986

REGISTRATIONS

Professional Engineer: VA

YEARS OF EXPERIENCE

28

AFFILIATIONS

Society of American Military Engineers (SAME): Director and Past President, New York Post

Metropolitan Waterfront Alliance: Vice Chairman, Board of Trustees

The Nature Conservancy, Eastern New York Chapter, Board of Directors

Governor's Island Alliance, Special Advisor to the Board of Trustees

American Council of Engineering Companies of New York, Member

Association of United States Army, Member

SELECTED EXPERIENCE

Special Initiative for Rebuilding and Resiliency (SIRR), New York City Office of Long-Term Planning and Sustainability, New York, NY. Project Director for preparation of a coastal protection plan which entailed planning and coordinating a citywide strategy and community-level interventions to significantly reduce damage from severe Sandy-like future storms and climate change, which was published in the City's SIRR report, *A Stronger, More Resilient New York*. The team designed, sited, modeled and analyzed the performance of hard and soft coastal protection measures under multiple storm and sea level rise scenarios.

Superstorm Sandy Recovery Task Orders, MTA New York City Transit, Various Locations, NY. Senior Project Manager for over a dozen restoration and mitigation feasibility studies and design projects at stations, rail yards, and subway tunnels to increase the transit system's resiliency. Representative projects include Montague, Clark and Canarsie Tubes, Brooklyn; St. George and Clifton Rail Yards, Staten Island; and South Ferry Station, Manhattan.

Sandy Recovery FEMA Category B – Emergency Protective Measures, NJDOT, NJ. Senior Project Manager for the resiliency portion of this project which supported the Office of Maritime Resources in investigating, mapping, and prioritizing the condition of all State navigation channels.

Ocean Parkway/Robert Moses Causeway Emergency Repairs, New York State Department of Transportation, Long Island, NY. Project Manager for multi-disciplinary engineering services for repair to a section of Ocean Parkway and the Robert Moses Causeway that were severely damaged during Superstorm Sandy, as well as restoration of sand dunes and shoreline areas that were washed away by the storm surge.

Ileana S. Ivanciu PhD, PG

Executive Oversight

Ileana Ivanciu is a recognized leader and frequent author and lecturer on the planning, design, and implementation of infrastructure improvements in environmentally sensitive areas. She received the 2011 National Environmental Excellence Award for Planning Integration for streamlining the NEPA EIS and permitting on New Jersey's $900-million Direct Connection Interchange. In addition to managing three consecutive NJ TRANSIT Environmental Services Task Order Contracts, she guided a series of Superstorm Sandy restoration and resiliency contracts in New York and New Jersey.

EDUCATION

PhD, Geology, University of Bucharest, 2012

MS, Geology and Geophysics, University of Bucharest, 1981

BS, Geology and Geophysics, University of Bucharest, 1980

REGISTRATIONS

Professional Geologist: TN

YEARS OF EXPERIENCE

33

AFFILIATIONS

ACEC NJDEP Liaison Committee, Chair

Transportation Research Board – Committee on Environmental Analysis in Transportation

American Society of Civil Engineers

SELECTED EXPERIENCE

Project Management Contract for Superstorm Sandy Waterway Debris Removal, NJDEP, New Jersey. Principal-in-Charge of Dewberry's contract to support the NJDEP in planning and managing a regionally organized contract to remove and monitor debris, while maximizing FEMA reimbursement.

Environmental Assessment (EA) Contract for Superstorm Sandy CDBG-DR Programs, NJDEP, New Jersey. Principal-in-Charge for NEPA EAs and compliance with Section 106 of the NHPA, in support of HUD CDBG-DR funded projects under a series of programs. Contract addressed nearly 400 sites to date.

Management Support Services for Environmental Assessment, Governor's Office of Storm Recovery, Statewide, NY. Principal-in-Charge for environmental and program management services across a range of CDBG-DR funded programs. Programs provide long-term recovery of communities impacted by Superstorm Sandy, Hurricane Irene, and Tropical Storm Lee.

Route 29 Boulevard Feasibility Study and Environmental Analysis, NJDOT, Trenton, NJ. Deputy Project Manager for a study on converting a 1.8-mile-long freeway corridor into an urban boulevard to improve resiliency, access, and open space along the Delaware River waterfront; improve safety; and promote economic development.

Feasibility Assessment and NEPA EIS, Direct Connection Interchange, NJDOT, Camden County, NJ. Deputy Project Manager for the feasibility assessment, EIS, outreach program, permitting, final design, and construction administration for a $900-million interchange project that is under construction.

Final Scope Development and NEPA EA, Routes 3/21 over the Passaic River, NJDOT, Passaic and Bergen Counties, NJ. Deputy Project Manager for final scope development, NEPA EA, community outreach, final design, and construction administration for the $159-million Route 3 bridge replacement and associated improvements. Completed in 2014, this project, which is constructed in three municipalities, won the 2015 Globe Award for Environmental Protection and Mitigation.

Kenneth Spahn PMP

Project Manager

Ken Spahn is a Senior Project Manager and certified Project Management Professional. He held senior leadership positions in capital planning and cost analysis, program and asset management, waterfront and intermodal redevelopment, facility management, leasing, and financial management for the Port Authority of New York & New Jersey. He is skilled at establishing organizational effectiveness within culturally diverse, and fiscally and politically challenging environments.

EDUCATION

MS, Management Engineering, New Jersey Institute of Technology, 1991

BS, Marine Transportation - Management, State University of New York Maritime College, 1983

REGISTRATIONS AND TRAINING

Project Management Professional: US

YEARS OF EXPERIENCE

30

AFFILIATIONS

2010-2013 Board Member, Maritime Association Port of New York/New Jersey

Past Board Director Gateway Regional Chamber of Commerce

SELECTED EXPERIENCE

Port Capital Programs and Redevelopment, **Assistant Director.** Responsible for overseeing Port Planning, Asset Management, Capital Planning and Redevelopment functions. Responsibility for development and implementation of $1.7-billion capital plan with annual $17-million Operating Major Works Program. Division includes supervisory, engineering, project, and program management staff.

- $250-million expansion Intermodal Rail Terminals
- $500-million expansion/redevelopment Container Terminals
- Funding and implementation of priority programs, State-of-Good Repair (SGR) projects and dredging programs
- Led port infrastructure Hurricane Sandy recovery effort

Port Finance & Properties, General Manager. Supervised a staff of professionals responsible for all Port Commercial agreements with over 120 tenants, land use and revenue of over $230 million. Included developing and implementing Port-wide land use plan.

Port Projects and Intermodal Development, General Manager involved in developing and implementing strategies and solutions with external stakeholders and internal authorizations (eight major Board actions) for over $600 million in Port Authority investment associated with the development of the ExpressRail Intermodal Rail Program.

Aviation Department, Acting Assistant Director for Strategic Planning, External Affairs and Assistant Director Operations, Maintenance & Technical Services. Primary focus included creation of an Air Cargo Business Plan. Functions included oversight of staff, budget, and department-wide business plan development and strategy.

General Manager, New Jersey Marine Terminals. Managed a staff of 25 management and 65 unionized personnel. Responsible for facility operations, lease administration, security, facility maintenance and engineering services, capital development, safety programs, and industry/community liaison for a 2,500-acre marine terminal complex.

Michael Sears PE

Deputy Project Manager

Mike Sears is a seasoned project manager and senior water resources engineer. His experience includes hydrologic and hydraulic work associated with floodplain management, flood control studies, channel relocations, roadway and site drainage, and stormwater management design. He specializes in the planning, design, and implementation of construction involving streams, wetlands, and coastal regions. He is well-versed in the procedures of environmental resource agencies including NJDEP, USACE, and the US Coast Guard.

EDUCATION

BS, Mechanical Engineering, University of Connecticut, 1992

BS, Metallurgy, University of Connecticut, 1992

REGISTRATIONS AND TRAINING

Professional Engineer: NJ/CT/NY/PA

National Council of Examiners for Engineering and Surveying: US

YEARS OF EXPERIENCE

26

AFFILIATIONS

American Society of Civil Engineers

New Jersey Association of Floodplain Managers

SELECTED EXPERIENCE

Route 29 Boulevard Feasibility Study and Environmental Analysis, NJDOT, Trenton, NJ. Senior Water Resources Engineer for a study on converting a 1.8-mile-long freeway corridor into an urban boulevard to improve resiliency, access, and open space along the Delaware River waterfront; improve safety; and promote economic development.

I-287 Emergency Repair NB PM 44.7, NJDOT, Morris County, NJ. Project Manager. Responsible for engineering design of permanent stabilization measures following Hurricane Irene's (August 2011) record high flow through the main channel of the Rockaway River causing the Northbound right shoulder of Interstate 287 between Stations 237+50 and 241+00 to collapse into the river.

Route 56 Rainbow Lake Dam Emergency Bridge Repairs, Salem County, NJ. Project Manager responsible for emergency bridge repairs and associated approach roadway work after the dam was breached during a 2007 Nor'easter. The key to the design and construction from NJDOT's perspective was to complete the project as quickly as possible and open Route 56 to traffic. The project included removal of the existing spillway, bridge, and damaged roadway/dam. A new two-span, 110-foot-long bridge and a 200-foot-long semi-circular spillway were constructed. This project involved extensive community outreach. The bridge was open to traffic more than six weeks ahead of schedule.

Route 29 Concept Development, NJDOT, Trenton, NJ. Project Manager. Under a statewide drainage/dam studies term agreement project, responsible for the conceptual development of solutions to flooding problems. Drainage deficiencies were investigated; existing aerial survey was combined with field survey in order to construct hydraulic models of existing conditions. The causes of the flooding conditions were ascertained and conceptual solutions were designed and evaluated. Investigations into the locations of existing utilities and available rights-of-way were performed in order to verify whether the concepts examined adversely impacted the surrounding environs. Conceptual cost estimates were developed and a Conceptual Design Report was provided in order to determine whether the project should be advanced to the final design phase.

Andrea Burk LEED AP

Quality Assurance Manager: EIS and Stakeholder Outreach

Andrea Burk is an experienced project manager, architectural historian and planner who has been involved with the environmental and feasibility analysis for some of the largest projects in the region.

EDUCATION

MS, Historic Preservation, Columbia University, 1999

BA, History and Communication, Rutgers College, 1992

REGISTRATIONS

LEED Green Associate

YEARS OF EXPERIENCE

20

AFFILIATIONS

National Trust for Historic Preservation

Society for Industrial Archeology

Society of Architectural Historians

SELECTED EXPERIENCE

Environmental Assessment (EA) Contract for Superstorm Sandy CDBG-DR Programs, NJDEP, New Jersey. Project Manager for NEPA EAs and compliance with Section 106 of the NHPA, in support of HUD CDBG-DR funded projects under a series of programs. Contract addressed nearly 400 sites to date.

Feasibility Assessment and NEPA EIS, Direct Connection Interchange, NJDOT, Camden County, NJ. Environmental Task Leader for the technical environmental studies, preparation of an EIS, agency coordination, and public outreach for this $900-million interchange project that is under construction.

World Trade Center Memorial and Redevelopment Plan Final Generic Environmental Impact Statement (FGEIS), Lower Manhattan Development Corporation, New York, NY. Task Manager for the Historic Resources and Urban Design and Visual Resources sections of the FGEIS. Involved extensive coordination with federal, state, and local agencies, including the New York State Historic Preservation Office (SHPO), the Lower Manhattan Development Corporation, the Federal Highway Administration, the Federal Transit Administration, the Port Authority of NY & NJ and the New York City Landmarks Preservation Commission.

NEPA EIS for the World Trade Center Permanent PATH Terminal, Port Authority of NY/NJ, New York, NY. Task Manager. As a subconsultant, prepared an historic resource analysis and urban design/visual resources assessment for the EIS for the reconstruction of the PATH Terminal. Participated in a coordinated Section 106 review, concurrent with the Draft Generic EIS for the redevelopment of the World Trade Center site. Involved extensive coordination with federal and state agencies as well as consulting parties.

NEPA EIS for the Second Avenue Subway, MTA Capital Construction, New York, NY. Architectural Historian/Planner. In support of the cultural resources analysis prepared for this project's EIS, hundreds of historic properties were surveyed. Work included field surveys, historic research, and the completion of Resource Inventory Forms. Phase I of this project is estimated at $4.45 billion.

NEPA EIS for the East Side Access Project, MTA-Long Island Rail Road, New York, NY. Architectural Historian. Conducted historic research and prepared numerous New York State Historic Resource Inventory Forms along the project corridor in support of the project's EIS. This project is estimated at $10.8 billion.

Ozlen Ozkurt PhD, PE, CFM

Quality Assurance Manager: Feasibility Study

Ozlen Ozkurt has experience in design and modeling of coastal storm surge barriers, design of grey infrastructure to control Combined Sewer Overflow (CSO), development of drainage plans, stormwater management, hydrologic and hydraulic modeling for FEMA flood studies, specifications, and physical modeling of flow and sediment dynamics. She is well versed with federal, state, and local design guidelines and has used future climate change projections to improve resiliency on a variety of projects.

EDUCATION

PhD, Civil Engineering, City University of New York, 2006

MS, Civil Engineering, Istanbul Technical University (Turkey), 1999

BS, Civil Engineering, Istanbul Technical University (Turkey), 1997

REGISTRATIONS

Professional Engineer: NY, CT

Certified Floodplain Manager: US

YEARS OF EXPERIENCE

17

AFFILIATIONS

Association of State Floodplain Managers, Inc.

New Jersey Association of Floodplain Managers

American Society of Civil Engineers

SELECTED EXPERIENCE

Oakwood Beach Flood Resiliency Study, NYS Office of General Services, Staten Island, NY. Project Manager for design of integrated flood protection system consisting of rock revetment, floodwalls, tide gates and others measures to mitigate the coastal and rainfall flooding within Oakwood Beach Area. Included hydrologic and hydraulic models, analysis of flood protection system for climate change, and cost estimates.

Stormwater Green Infrastructure Design Services, Newtown Creek Combined Sewershed Study Areas, NYC Department of Design + Construction, NYC Economic Development Corp., Queens and Brooklyn, NY. Project Manager responsible for managing internal team and subconsultants; internal QA/QC of work products such as drainage basins and locations and design of ROW bioswales and stormwater green streets; utility coordination; geotechnical investigation and report writing.

Tottenville Terminal Station Yard, Flood Mitigation Feasibility Study, MTA New York City Transit, Staten Island, NY. Project Manager for comprehensive hydrologic and coastal flooding analysis for Tottenville Terminal Station Yard. Analysis also included the increased effects of storm surge, wave overtopping, and wave forces in the future due to multiple sea-level rise scenarios. Results were used to properly design the height and size of the bulkhead flood wall to mitigate coastal flooding and make the station yard more resilient.

Flood Mitigation/Resiliency at Six Critical Lower Manhattan Locations, MTA New York City Transit, New York, NY. Deputy Project Manager responsible for design of near-term and long-term solutions to mitigate flooding of six stations in flood-prone areas for Category 2 Hurricane storm surges. These locations required hardening to prevent future disruptions to subway operations.

Queens Drainage Phases I and II, New York City Department of Environmental Protection, Queens, NY. Project Engineer responsible for storm, sanitary, and combined sewer network design for the Springfield Drainage Basin and Southern Jamaica Drainage Basin, which comprised 9,300 acres in Phase I and 4,500 acres in Phase II.

Rahul Parab PE, CFM, D.WRE

Feasibility Study Lead

Rahul Parab is a senior project manager and technical specialist for design of flood control systems, hydrologic and hydraulic modeling, coastal modeling, GIS, stormwater systems, site/civil design, FEMA floodplain studies, environmental and construction engineering. He leads multi-disciplinary projects for a range of clients including FEMA, USACE, and state and local agencies and has presented papers on resiliency projects at national and international conferences. He served as the chair of ASCE-Environmental & Water Resources Institute task force committee on "Stormwater Management during Disasters."

EDUCATION

MS, Civil Engineering, University of Toledo, 2003

BS, Civil Engineering, University of Mumbai (India), 2001

REGISTRATIONS AND TRAINING

Professional Engineer: NY, TX

Certified Floodplain Manager: US

Diplomate, Water Resources Engineering

YEARS OF EXPERIENCE

13

AFFILIATIONS

American Council of Engineering Companies (ACEC) NJDEP Liaison Committee, Chair

Transportation Research Board – Committee on Environmental Analysis in Transportation

American Society of Civil Engineers

SELECTED EXPERIENCE

Oakwood Beach Flood Resiliency Study, NYS Office of General Services, Staten Island, NY. Deputy Project Manager and Technical Leader responsible for design of integrated flood protection system consisting of rock revetment, floodwalls, tide gates and others measures to mitigate the coastal and rainfall flooding. Included hydrologic and hydraulic models, analysis of flood protection system for climate change, cost estimates.

Stormwater Green Infrastructure Design Services, Newtown Creek Combined Sewershed Study Areas, NYC Department of Design + Construction, NYC Economic Development Corp., Queens and Brooklyn, NY. Project Engineer for drainage basins, ROW bioswales, Stormwater Green Streets, utility coordination, geotechnical investigation, and report writing.

City of Long Beach Seawall Design, FEMA HMGP, Long Beach, NY. Coastal Engineer responsible for evaluating the appropriate design flood elevation of the proposed integrated flood protection system to protect the City's Wastewater Treatment Plant from coastal storm surge. Performed coastal wave overtopping calculations; accounted for sea-level rise and developed a summary report.

Willets Point Station Drainage Analysis, Long Island Rail Road, Queens, NY. Technical Advisor responsible for providing guidance to the design team to identify drainage issues; investigating causes for drainage problems; and providing design solution alternatives for mitigating drainage problems.

Nationwide RISKMAP and Flood Mapping Study, FEMA, Various Locations. Project Manager and Technical Leader for flood risk and vulnerability assessment from rainfall and coastal storm surge induced floods. Included hydrologic, hydraulic, coastal analyses using models such as HECHMS, HEC-RAS, SWMM, WHAFIS; use of GIS to delineate floodplains; extensive community outreach; and agency coordination.

Construction Inspection of Avenida Mendez Seawall Project, St. Augustine, Florida. Field Engineer responsible for inspection of the construction of the 1,100-foot-long new seawall in front of a 150-year-old historic seawall.

Lawrence I. Smith AICP, PP

Environmental Impact Study Lead

Larry Smith leads environmental teams in support of impact analyses for large capital projects pursuant to NEPA and related federal, state, and local environmental acts and executive orders. He is an accomplished GIS practitioner experienced in integrating environmental studies with mapping to expedite the analysis and documentation processes, and to facilitate public outreach. He brings broad experience in leveraging technology to improve large-scale, time-sensitive programs and streamline the environmental review process.

EDUCATION

MEP, Environmental Planning, Arizona State University, 2003

BA, Environmental Studies, Binghamton University, 1995

REGISTRATIONS

Professional Planner: NJ

Certified Planner: US

YEARS OF EXPERIENCE

17

AFFILIATIONS

American Institute of Certified Planners

American Planning Association

SELECTED EXPERIENCE

Feasibility Assessment and NEPA EIS for Direct Connection Interchange, NJDOT, Camden County, NJ. Senior Environmental Planner for the feasibility assessment, preparation of an EIS, permitting, final design, and construction administration for a $900-million interchange currently under construction.

NEPA Environmental Assessment (EA) Contract for Superstorm Sandy CDBG-DR Programs, NJDEP, New Jersey. Deputy Project Manager for NEPA EAs and compliance with Section 106 of the NHPA, in support of HUD CDBG-DR funded projects under a series of programs. Contract addressed nearly 400 sites to date.

NEPA EA for Barge Fleeting Area, Tulsa Port of Catoosa, Catoosa, OK. Senior Environmental Planner for NEPA EA prepared for Port expansion involving a land swap with the USACE Tulsa District.

NEPA Programmatic Environmental Assessments (PEAs) for US Immigration and Customs Enforcement, USACE Fort Worth District, El Centro, CA and Florence, AZ. Project Manager responsible for preparing PEAs to support improvement and facility replacement for a five-year period.

NEPA EA for Route 27 and Wood Avenue Improvement Project, NJDOT, Middlesex County, NJ. Environmental Planner responsible for preparing the EA, creating associated GIS, and participating in public meetings.

EIS for Interchange 14A Improvements, NJ Turnpike Authority, Bayonne and Jersey City, NJ. Senior Planner for NJ Executive Order 215 EIS, technical studies, alternatives analysis, and public outreach for $160-million project.

EIS for Garden State Parkway Milepost 83.6 to 99.5 Widening, NJ Turnpike Authority, Ocean and Monmouth Counties, NJ. Senior Planner, as a subconsultant, for NJ Executive Order 215 EIS, technical studies, alternatives analysis, and public outreach for $330-million project. The project involves widening 17 miles of highway including 31 bridges (two new, 20 replacements, nine superstructure elements) in the municipalities of Toms River, Lakewood, Brick, and Wall in Ocean and Monmouth counties.

Jennifer Baer AICP

Stakeholder Outreach Lead

Jennifer Baer has facilitated and coordinated agency liaison and public outreach for projects in New Jersey for more than twenty years. Her work includes community meetings, issue group meetings with project stakeholders and/or area residents, and developing targeted products including web sites, fact sheets, newsletters and brochures.

EDUCATION

MA, Public Administration,
New York University, 1985

BA, Political Science,
Drew University, 1983

REGISTRATIONS

Certified Planner: US

YEARS OF EXPERIENCE

26

AFFILIATIONS

American Institute of Certified Planners

American Planning Association

SELECTED EXPERIENCE

Pre-Construction Services Related to Hurricane Sandy Relief Programs for NYC Economic Development Corporation and Mayor's Office of Housing, New York, NY. Environmental Specialist. Supported New York City's housing recovery program post-Superstorm Sandy with NEPA environmental review to qualify properties for CDBG-DR funding.

Direct Connection Interchange, NJDOT, Camden County, NJ. Senior Planner for public involvement for strategies including Community Advisory Committee Meetings, Agency Coordination Meetings, Public Information Centers, meetings with elected officials, and Public Hearings. This $900-million project received the 2011 National Environmental Excellence Award for Planning Integration for streamlining the NEPA EIS.

Routes 3/21 over the Passaic River, NJDOT, Passaic and Bergen Counties, NJ. Outreach Specialist responsible for identifying and addressing potential community relations problems and facilitating a public involvement program including maintaining community/stakeholder mailing list, facilitating meetings of community action and community liaison committees, and organizing public hearings. Completed in 2014, this $159-million project in three municipalities won the 2015 Globe Award for Environmental Protection and Mitigation.

Route 29 Boulevard Feasibility Study and Environmental Analysis, NJDOT, Trenton, NJ. Outreach Specialist responsible for the Public Involvement Action Plan in this multi-lingual, urban environment for a study on converting a 1.8-mile-long freeway corridor into an urban boulevard to improve resiliency, access, and open space along the Delaware River waterfront, improve safety, and promote economic development.

Garden State Parkway Milepost 83.6 to 99.5 Widening, NJ Turnpike Authority, Ocean and Monmouth Counties, NJ. Senior Planner, as a subconsultant, responsible for public involvement activities including coordinating the public information centers and local officials briefings for $330-million project in the municipalities of Toms River, Lakewood, Brick, and Wall.

NEPA EA for Hoboken Yards, NJ TRANSIT, Hoboken, NJ. Project Manager. Responsible for preparing an EA and associated transportation planning for the redevelopment of Hoboken Yards.

OMA
Shohei Shigematsu
Partner, OMA New York

Shohei Shigematsu is a Partner at OMA and Director of the New York office. Since joining the office in 1998, he has been a driving force behind many of OMA's projects in the Americas and Asia. Shohei provides design leadership and direction across the company for projects from their conceptual onset to completed construction.

Shohei is in charge of a number of cultural projects including the Quebec National Beaux Arts Museum and the Faena Arts Center in Miami Beach – both scheduled for completion in 2015 – as well as direct collaborations with artists, including a studio expansion for Cai Guo Qiang in New York, the Marina Abramovic Institute for the Preservation of Performance Art in upstate New York, and a pavilion in Cannes housing a seven screen system designed for Kanye West. Sho led the design of the world-traveling Prada exhibition, "Waist Down," as well as the Dominican Republic pavilion for the 2014 Venice Architecture Biennale. Under his direction, the New York office has also been commissioned to design a number of residential towers in San Francisco, New York and Coconut Grove, as well as a mixed-use complex in Santa Monica, Los Angeles. Shohei is also leading a number of large scale masterplans including a new civic center in Bogota, Colombia. Most recently, he led a multidisciplinary team for Rebuild by Design, a post- Hurricane Sandy initiative by the US Department of Housing and Urban Development, which has produced a comprehensive urban water strategy for Hoboken, NJ.

Prior to leading OMA's effort in the Americas, Shohei also directed OMA's winning competition entry for the Shenzhen Stock Exchange (SSE) Headquarters in Shenzhen, China (2006). Having led the team that won the design competition in 2002, he served as project architect for CCTV (China Central Television) Headquarters in Beijing until the end of design development.

Professional Experience
1999 OMA
2006 Director of OMA New York
2009 Partner

Selected Masterplanning & Public Space
West Louisville Food Port, Kentucky, USA
Faena Arts District, Miami Beach, Florida, USA
South Beach ACE, Miami, Florida, USA
Park Grove, Miami, Florida, USA
CCTV Headquarters/ TVCC, Beijing, China
Almere Masterplan Almere, Netherlands
Dallas Connected City, Texas, USA
HUD Rebuild by Design, New York, New York, USA
Bogota Centro Administrativo Nacional, Columbia
The Plaza at Santa Monica, Santa Monica, Florida
Christopher Arts District, New York, USA
MACCOC Centinje Masterplan, Montenegro
Baltic Pearl Masterplan, St. Petersburg, Russia
White City London Masterplan, London, UK
KJ Plein, The Netherlands
UN City, New York, USA
Breda Chasse Campus, Breda, The Netherlands

Selected Projects
Milstein Hall, Cornell University, Ithaca, New York, USA
425 Park, New York, USA
Marina Abramovic Institute, Hudson, New York, USA
Musee National des Beaux Arts du Quebec, Canada
23 East 22nd Street, New York, USA
Shenzhen Stock Exchange, Shenzhen, China
Prada Transformer, Seoul, Korea
7 Screen Pavilion with Kanye West, Cannes, France
Coach Ometesando, Tokyo, Japan
1996-97 NKS Architects Fukuoka, Japan
1997 Matsuoka + Won Architects, Fukuoka, Japan
1996 Toyo Ito Architects & Associates, Tokyo, Japan

Education
1997-8 The Berlage Institute, Rotterdam, Netherlands
Postgraduate Laboratory of Architecture
1996-7 Kyushu University, Tokyo, Japan
Master of Architecture at the Division of Engineering, Graduate School

SCAPE / LANDSCAPE ARCHITECTURE PLLC
277 BROADWAY SUITE 1606 NEW YORK NY 10007
T 212 462 2628 F 212 462 4164
SCAPESTUDIO.COM

GENA WIRTH Associate

Gena is a designer, urban planner, and horticulturalist. As Project Manager at SCAPE, she pulls from her interdisciplinary training to create ecologically rich and culturally relevant landscapes from the infrastructural scale to the site level. She was on the original Oyster-tecture team and was the Project Manager for SCAPE's involvement in SIRR, studying large-scale harbor-wide strategies for coastal protection measures that will be utilized in preparation for the next Superstorm. She was also the Project Manager for SCAPE's winning RBD proposal, *Living Breakwaters*, a climate change resiliency strategy for t Staten Island. Developed in tandem with an interdisciplinary team of architects, engineers, marine biologists, and educators, the project was selected for 60M of implementation funding by HUD in the spring of 2014, and is currently in the EIS and pre-construction phase.

Gena holds a Master of Landscape Architecture and Master of Urban Planning with Distinction from the Harvard University Graduate School of Design and a Bachelor of Science in Horticulture from the University of Delaware.

PRACTICE

SCAPE / LANDSCAPE ARCHITECTURE PLLC, New York, NY / 2009-present
- Lexington Wet Weather Storage Facility, Lexington, KY
- SIRR Coastal Protection Planning, New York, NY
- Living Breakwaters, Rebuild by Design, HUD, NJ/ NY Metropolitan Region (Winner)
- Town Branch Commons, Lexington, KY
- PAVE Academy, New York, NY
- Columbia University Medical Center, Medical Education Building, New York, NY
- Oyster-tecture, Gowanus Bay Pilot Project, New York, NY
- 103rd Street Community Garden, New York, NY (Winner, ASLA Award)
- Mt. Sinai Medical Campus Residential Tower, New York, NY
- Blue Wall Environmental Center, Cleveland, SC
- *Petrochemical America* Publication, New York, NY

PREX, Project for Reclamation Excellence, Cambridge, MA / 2006-2009

Hargreaves Associates, New York, NY / 2008

A. C. Durham Landscape Architecture, Wilmington, DE / 2004-2005

Longwood Gardens, Kennett Square, PA / 2003

EDUCATION

Harvard University Graduate School of Design, Cambridge, MA
- Master of Landscape Architecture, 2009
- Master of Urban Planning, 2009

University of Delaware, Newark, DE
- Bachelor of Science, Landscape Horticulture, 2005

AWARDS

Charles Eliot Traveling Fellowship in Landscape Architecture, Harvard GSD, 2009
Penny White Traveling Grant, Harvard GSD, 2006, 2008

ACADEMIC

Visiting Critic, "Shale, Salt, and Sylva: Constructing a landscape identity at Syracuse University"
- Syracuse University School of Architecture / Spring 2015

Lecturer in Landscape Architecture
- Rutgers University School of Environmental and Biological Sciences / 2012

Adjunct Assistant Professor with Kate Orff, in Architecture and Advanced Architecture Design
- Columbia University GSAPP / 2010-2013

Studio Instructor in Landscape Architecture, Career Discovery Program
- Harvard Graduate School of Design / Summer 2009

LJUPCHO NAUMCHEVSKI, P.E.
Project Manager / Chief Engineer Diver

EDUCATION
BSCE, Kiril and Metodij University, Skopje, Macedonia

REGISTRATION
PE – NJ, CT, DE, NY PA

KEY QUALIFICATIONS

DIVING CERTIFICATIONS
- PADI Certified Open Water Diver
- BUE On-The-Job Training in Commercial Hard Hat Diving Techniques
- BUE On-The-Job Training in Underwater Inspection of Bridge
- Confined Space Entry – OSHA 29 CFR 1910.146 (g) (4)
- ADCI (Association of Diving Contractors International) Surface-Supplied Air Diver Supervisor I.D. 489, Certification No. 44197
- 40-Hour Health and Safety for Hazardous Waste Site Investigation Personnel

Mr. Naumchevski is a key staff member of Boswell Underwater Engineering (BUE), a division of Boswell Engineering specializing in the investigation and structural evaluation and design of marine infrastructures. As a BUE staff member, he serves in the capacity of project manager, chief engineer diver, and hydrographic/fathometric surveyor and has physically performed underwater diving inspections on the submerged components of more than 720 bridges spanning waterways and conducted over 420 hydrographic/fathometric surveys. He has gained substantial experience over a 23 year span on diving projects requiring underwater inspections of port and harbor facilities, bridge substructures, piers, relieving platforms, waterfront bulkheads, submerged pipeline installations, and offshore platforms, logging over 4100 hours underwater on inspection assignments. Concurrent with this, he has developed a handsome track record of hydrographic/fathometric surveying experience, a substantial amount of which involved scour investigations of bridges spanning waterways and pre-and-post dredging surveys. In addition, his background includes structural design and analysis of bridges, box culverts, and marine facilities, as well as bridge, pier, and relieving platform rehabilitation design and rating. He is skilled in commercial hard hat diving techniques, underwater photographic and videotape documentation, ultrasounding of metal structural elements for determining section loss, and hydrographic surveying techniques using electronic range-azimuth and differential GPS systems. He has extensive experience in the preparation of condition survey reports and is skilled in the use of interactive Auto-CAD software for preparing plan, elevation, and fathometer contour drawings. He is an expert at identifying and evaluating the extent of biodeterioration caused by marine borer intrusion in submerged timber structures through core sampling techniques. He is also actively engaged in BUE's in-house marine borer research test board program, which seeks new ways of controlling marine borer intrusion in timber structures.

RELEVANT EXPERIENCE

PANY&NJ QAD Division On-Call Waterfront Condition Survey Contracts. On-Site P.E. Diver/Team Leader performing condition surveys, structural evaluations, and repair designs on over 51 major assignments.

PANY&NJ Materials Engineering Division (MED) On-Call Waterfront Technical Service Contracts. On-Site P.E. Diver/Team Leader on 200+ inspection assignments on ports / harbors, shipping berths, and waterfront structures.

NYSDOT Regions 1 through 11 Bridge Diving Inspections & Fathometer Surveys. Project Manager & On-Site P.E. Diver/Team Leader on 13 consecutive NYSDOT Bridge Diving Contracts during the last 16 years.

Fathometer Surveys of TBTA Bridges. Team Leader on assignments involving Fathometer Surveys to assess the progression of scour were performed on seven bridges owned by the Triborough Bridge & Tunnel Authority.

TBTA Bridge Diving Inspections. Team Leader on assignments involving bridge diving inspections for the Triborough Bridge & Tunnel Authority on four bridges.

Pre-Dredge Fathometer Survey of Port Liberté, Jersey City, NJ. Team Leader for survey verified dredge volumes required for the proposed deepening of the Port Liberté channel for the private boats of homeowners.

BOSWELL UNDERWATER ENGINEERING

PETER A. ANGELIDES, PhD, AICP
Econsult Solutions, Inc.

CURRENT POSITIONS

Vice President & Principal, Econsult Solutions, Inc. | Philadelphia, PA (2013 – present)
Director, Econsult Corporation | Philadelphia, PA (2008 – 2012)

Conducts financial and strategic analyses for public sector economic and fiscal impact studies. Project areas include commercial corridors, affordable housing, neighborhood change, real estate development, economic development, economic and fiscal impacts, and financial modeling, among others.

Lecturer, University of Pennsylvania | Philadelphia, PA (2004 – present)

Teach in the Urban Studies, City Planning, and the Fels Institute of Government.
Courses: GAFL 724: Infrastructure Investment and Economic Growth
CPLN 503: Urban and Regional Economics

PAST POSITIONS

PricewaterhouseCoopers, Director | Philadelphia, PA (2001 – 2008)
Charles River Associates, Senior Associate | Washington, DC (1999 – 2001)
PHB Hagler Bailly / Putnam, Hayes & Bartlett, Consultant | Washington, DC (1997 – 1999)
University of Minnesota, Instructor | Minneapolis, MN (1993 – 1997)
Wallace Roberts & Todd, Urban and Environmental Planner | Philadelphia, PA (1990 – 1992)

SELECTED PROJECTS

Medicaid Expansion in Pennsylvania – The Pennsylvania Economy League, Inc.

The study used State and Federal spending estimates to analyze the impacts of the proposed Medicaid expansion in Pennsylvania.

Dilworth Plaza & Concourse Improvements – Center City District.

Analyzed the possible job creation and economic development impacts from improvements to Dilworth Plaza as part of the District's application for a TIGER II grant.

Tiger Grant, West Trenton – South Eastern Pennsylvania Transportation Authority (SEPTA).

Assessed the costs and benefits of their track separation project and show to what extent their project will have positive economic, transportation, social, and environmental impacts in order to achieve the desired outcomes of the TIGER grant application.

Delaware Valley Regional Planning Commission.

Using Toll Revenue to Finance Highway and Transit Capital Improvements. Analyzed the ability of tolls on US 422 to finance roadway upgrades and the re-establishment of commuter rail service to Philadelphia.

22nd Street Subway Station – Central Philadelphia Development Corporation (CPDC).

Fiscal Impacts of the Proposed 22nd Street Subway Station. Evaluated potential economic and fiscal impacts.

Coalition for Main Street Fairness.

The Impact of Not Collecting Sales and Use Taxes from Internet Sales into Pennsylvania. Analyzed the economic consequences to Pennsylvania if it were able to collect sales tax from all internet retailers (Pennsylvania).

Philadelphia Water Department.

Economic Analysis of Stormwater Fee Changes on Philadelphia Businesses (Philadelphia, PA)

EDUCATION

Ph.D. of Philosophy in Economics at the University of Minnesota | Minneapolis, MN (1998)
M.S. in Economics at the University of Minnesota | Minneapolis, MN (1996)

Thesis topic: "Auto Ownership and Mode Choice: A Structural Approach"
Fields: Industrial Organization, Financial Economics

Master of City Planning, University of Pennsylvania | Philadelphia, PA (May 1988)
B.A. Urban Studies (Honors); Minor in Mathematics, University of Pennsylvania | Philadelphia, PA (May 1987)

RYAN WALSH, AICP, PP, LEED GA

FITZGERALD & HALLIDAY, INC. PROJECT MANAGER

As a planner and public involvement specialist, Ryan has worked on transportation planning and public involvement projects across the country. He has experience conducting research for transportation programs as well as interviews and surveys for community planning initiatives. Ryan is certified to conduct planning charrettes by the National Charrette Institute, and has great facility in the use of on-line social media for public involvement.

PROJECT EXPERIENCE

HUDSON COUNTY JERSEY CITY/HOBOKEN SUBREGIONAL TRANSPORTATION STUDY | 2010-2011 Ryan led the public outreach on this multi-jurisdictional transportation study which resulted in recommendations for increasing safety for pedestrians, bicyclists, drivers, transit users, and improving connections in a developing area between the cities of Jersey City and Hoboken. Efforts included GIS analysis to identify relevant stakeholders and property owners within the study area; multi-lingual outreach and communication with the diverse stakeholder population; developing and maintaining a project website. Additionally, planned a series of large public meetings to engage stakeholders and involve the public in all stages of the study's development, from visioning to final recommendations. Ryan facilitated small group, subject-focused discussions on transit, bicycle and pedestrian issues, and auto traffic. (Prior to FHI)

NY RISING COMMUNITY RECONSTRUCTION PROGRAM | 2013-ONGOING Following Hurricane Sandy, Ryan coordinated the public involvement efforts of the NY Rising Community Reconstruction Program for the East and South Shores of Staten Island. Ryan coordinated with a local Community Planning Committee of roughly 30 local experts and with the community as a whole, utilizing meetings, electronic communication, and survey techniques to help develop over $30 million resiliency projects for this hard hit area. For this outreach effort, Ryan planned and facilitated multiple rounds of committee meetings, public information sessions, and open house events.

PORT AUTHORITY OF NY & NJ (PANYNJ) GOETHALS BRIDGE MODERNIZATION ENVIRONMENTAL IMPACT STATEMENT (EIS) | 2009 Ryan provided public outreach assistance to the PANYNJ and the U.S. Coast Guard as they prepared an EIS for potential replacement to the Goethals Bridge. He assisted with the planning and facilitation of formal public hearings on both the New Jersey and Staten Island sides of the bridge. Responsible for collecting, tracking, and documenting public comments. (Prior to FHI)

NEW YORK CITY DEPARTMENT OF TRANSPORTATION (NYCDOT) GREEN INFRASTRUCTURE | 2013-ONGOING Ryan is the project manager, assisting the NYCDOT with an interagency effort that includes the Department of Environmental Protection and the Department of Parks and Recreation to site and review locations for right-of-way bioswales, Stormwater Greenstreets, and other green infrastructure in the street right-of-way. Ryan provides general oversight to other DOT green infrastructure consultants and manages of field reports.

NJ TRANSIT LOCAL DEMONSTRATION PROJECT | 2012-2013 Serving as a subconsultant to EE&K and Together North Jersey, Ryan facilitated outreach to municipalities and counties. Involved planning and facilitating workshops to inform the municipalities and counties of the Local Demonstration Program, a component of the Regional Plan for Sustainable Development. Public involvement activities included coordinating workshops. (Prior to FHI)

EDUCATION

- Columbia University Graduate School of Architecture, Master of Science, Urban Planning, 2007
- University of Oregon, Bachelor of Science, Geology and Environmental Studies, 2001

PROFESSIONAL AFFILIATES

- LEED Green Associate, 2013
- New Jersey Professional Planner (PP), 2012
- American Institute of Certified Planners (AICP), 2009
- Member, American Planning Association, 2005-ongoing

YEARS EXPERIENCE

- 1.5 Years with firm
- 8 Years in industry

PCPaul Carpenter Associates, Inc.

SHARON PAUL CARPENTER, ASCE GRADE PVII
Air Emissions, Noise and Vibration Specialist

EDUCATION
B.S., Meteorology, 1985, Rutgers University

CERTIFICATION
National Highway Institute, Highway Traffic Noise, September 2013
USEPA Quantitative PM2.5 Hot-spot Analysis Training, August 2011
FHWA MOVES2010a Training, December 2010
AERMOD Training, September 2009
FHWA PM2.5 Training, February 2004
FHWA CAL3QHC Transportation Air Quality Dispersion Modeling Training, February 2004
FHWA Traffic Noise Model (TNM2.0) Training, 32 hrs conducted by Bowlby & Associates, Inc., Nov. 2002

PUBLICATIONS
"Deviation from a Standard State Noise Wall Policy", Sharon Paul Carpenter, Paul Carpenter Associates, Inc., Jane Burns, Paul Carpenter Associates, Inc., Edward Tomaszewski, New Jersey Department of Transportation, Transportation Research Record: **Journal of the Transportation Research Board**, No. 2001; Environmental Issues 2007

KEY QUALIFICATIONS
Sharon Paul Carpenter, president of Paul Carpenter Associates, Inc., possesses 30 years of air emissions, noise and vibration assessment experience. Ms. Paul Carpenter is fluent in noise and vibration level documentation utilizing state-of-the-art monitoring equipment. As project manager, she has extensive mobile-source modeling experience with FHWA's Traffic Noise Model (TNM2.5). In just over the past 10 years, Ms. Paul Carpenter has performed final noise wall designs totaling $35.6M in construction costs for public agencies such as New Jersey Department of Transportation and New Jersey Turnpike Authority.

- **Air Quality and Noise Assessments, Final Noise Study; NJDOT I-295 / I-76 / Route 42 Direct Connection, Camden and Gloucester Counties** – Project manager completed air quality and noise Technical Environmental Studies (TESs) which were summarized within the NEPA Final Environmental Impact Statement (FEIS). Also completed final noise study detailing $13.9M in noise walls and performed stationary-source noise analyses for generators associated with pump stations. Currently performing compliance noise monitoring assistance under construction contracts 1 and 2. (2000-present)

- **Noise and Vibration Assessments; Lincoln Tunnel Helix Deck Rehabilitation, Hudson County, NJ** – Project manager completed background noise monitoring within the vicinity of proposed deck rehabilitation activities. Construction-related noise criteria was developed and included within contract noise specifications. Deployed remote monitoring system utilizing one vibration and three noise monitoring terminals. Currently responsible for deploying Noise Control Officers during overnight construction activities to ensure contractor meets noise criteria. (2011-present)

- **Air Quality and Noise Assessments, Final Noise Study; NJDOT Route 3, Route 46, Valley Road and Notch/Rifle Camp Road Interchange, Passaic and Bergen Counties, NJ** – Project manager performed air quality and noise assessments which were detailed within a CED. Also completed final noise study detailing $5.5M in noise walls. (2013)

- **HUD Noise Assessments; City of Elizabeth Housing Authority, Union County** – Project manager performed HUD Site Acceptability studies for several sites throughout Elizabethport (158-168 First Street, 212-214 Third Street and 200-206 Third Street). (2012)

- **Air Quality and Noise Assessments, Final Noise Study; NJDOT Route 3 at the Passaic River Bridge Crossing, Passaic and Bergen Counties** – Project manager performed air quality and noise assessments which were detailed within the Environmental Assessment (EA). Also completed final noise study detailing $3.3M in noise walls. (2009)

Section 5: DBE Participation

Disadvantaged Business Enterprise Participation

Firm Name	Participation	Role
Subconsultants		
Fitzgerald & Halliday Inc. 416 Asylum Street, Hartford, CT 06103 860.247.7200	3.4%	Stakeholder outreach
Paul Carpenter Associates, Inc. 23 Vreeland Road, Florham Park, NJ 07932 973.822.8221	1.2%	Air quality and noise studies
Scape Landscape Architecture PLLC 277 Broadway, Suite 1606, New York, NY 10007 212.462.2628	2.4%	Landscape architecture
Techniquest Corporation 4105 US Route 1, Suite # 10. Monmouth Jct., NJ 08852 732.274.9500	0.4%	Traffic data collection
Subcontractors		
Jersey Boring & Drilling Co., Inc. 36 Pier Lane West, Fairfield, NJ 07004 973.287.6857	2.4%	Geotechnical drilling contractor

Dewberry

www.dewberry.com

ADDENDUM TO AGREEMENT No. 13-002D

BETWEEN

DEWBERRY ENGINEERS, INC.
("Consultant")

AND

THE NEW JERSEY TRANSIT CORPORATION

ADDITIONAL PROVISIONS APPLICABLE TO
COMMUNITY DEVELOPMENT BLOCK GRANT FUNDED PROJECTS

The purpose of this Addendum is to set forth requirements and procedures in addition to those set forth in Agreement No. 13-002D between the New Jersey Transit Corporation ("NJ TRANSIT") and Dewberry Engineers, Inc. (hereinafter the "Consultant") for Professional Services related to the Rebuild by Design ("RBD") project (as more particularly described in the Task Order(s)), pursuant to the terms of a Memorandum of Agreement ("MOA") between NJ TRANSIT and the Department of Environmental Protection ("DEP") and supported in whole or in part by Community Development Block Grant Disaster Recovery ("CDBG-DR") funds. This Addendum also modifies Agreement No. 13-002D with respect to the designation of certain parties and/or persons listed therein.

I. BACKGROUND

In the aftermath of Superstorm Sandy, the United States Congress, through the Disaster Relief Appropriations Act of 2013, Public Law 113-2, appropriated approximately sixteen billion dollars ($16,000,000,000) to HUD to be allocated as disaster recovery community development block grants among states, including the State of New Jersey ("State"), to provide crucial funding for recovery efforts ("Program" or "Activity") involving housing, economic development, infrastructure and the prevention of further damage to affected areas. Through the State's approved "Community Development Block Grant Disaster Recovery Action Plan" ("Action Plan") and Action Plan Amendments, it has received a U.S. Department of Housing and Urban Development ("HUD") Community Development Block Grant ("CDBG" or "CDBG-DR") for funding Superstorm Sandy ("Sandy") disaster recovery and other eligible events in calendar years 2011, 2012, and 2013.

Pursuant to FR-5696-N-01 (March 5, 2013) the State received a first allocation of $1,829,520,000; pursuant to FR-5696-N-06 (November 18, 2013) the State received a second allocation of $1,463,000,000; pursuant to FR-5695-N-11 (October 16, 2014) the State received a third allocation of $501,909,000 and an additional $380,000,000 RBD award, a portion of which will provide funding for the work completed hereunder.

Pursuant to 24 CFR 570.501, the New Jersey Department of Community Affairs ("DCA") has been designated to administer the State's CDBG-DR Program, which is subject to the federal statutes and regulations governing CDBG grants, as modified by exceptions and waivers previously granted and which may hereinafter be granted by HUD. CDBG-DR funds are allocated by DCA for approved programmatic activity carried out by other state agencies. Oversight of specific programs covered by this agreement, including the redistribution of CDBG-DR funds to CDBG-DR-eligible entities, is implemented by the DEP.

As specified in the MOA, the DEP shall assume certain contract administration responsibilities in connection with Task Orders supported by CDBG-DR RBD funds.

II. AMENDMENT REGARDING DESIGNATED PARTIES AND/OR PERSONS

Agreement No. 13-002D is modified as follows: Wherever NJ TRANSIT is referenced in Agreement 13-002D, NJ TRANSIT is replaced with "NJ TRANSIT and DEP" or "NJ TRANSIT or DEP" or "NJ TRANSIT in consultation with DEP," as appropriate. In addition, "Contracting Officer" shall be replaced with "Contracting Officer, in consultation with DEP."

III. AMENDMENT CONFIRMING APPLICABILITY OF CDBG-DR REQUIREMENTS

Agreement No. 13-002D is further modified to confirm that the work to be done will be funded in whole or in part with CDBG-DR funds and to confirm the applicability of CDBG-DR requirements. Consultant and any agents, employees, assigns, Consultants, subconsultants, subcontractors or other third parties receiving funds for CDBG-DR Programs under this agreement shall be responsible for complying with all applicable CDBG-DR Program and CDBG regulations, guidelines and standards in a manner satisfactory to the State and HUD, including all administration and compliance requirements set forth by this addendum. Consultant shall be responsible for requiring that all of its subcontractors and subconsultants adhere to all applicable State and Federal laws and regulations, and to conduct all necessary monitoring for such compliance.

Consultant agrees to comply with all applicable Federal CDBG-DR and cross-cutting statutes and regulations, including but not limited to 24 CFR Part 570, subject to waivers cited in the Federal Register / Vol. 78, No. 43 / Tuesday, March 5, 2013, Department of Housing and Urban Development, [Docket No. FR–5696–N–01] Allocations, Common Application, Waivers, and Alternative Requirements for Grantees Receiving Community Development Block Grant Disaster Recovery Funds in Response to Hurricane Sandy, and which may hereafter be granted by HUD.

If two or more applicable rules, regulations, or procedures related to this agreement, incorporated into or otherwise referenced herein are in conflict with one another, the most proscriptive rule, regulation, or procedure shall apply. For example, whereas Agreement 13-002D requires retention of financial records for three years following completion of work and this Addendum provides that records must be retained for five years, this five-year requirement shall supersede the three-year requirement.

The parties acknowledge and agree that CDBG-DR requirements shall apply to the RBD project, including the following general requirements:

A. CDBG-DR Programs using CDBG-DR funds must be implemented so as to give maximum feasible priority to activities to benefit low- and moderate-income families in accordance with the HUD-approved CDBG-DR Action Plan for the State of New Jersey and Action Plan Amendments.

B. Section 312 of the Stafford Act and 76 FR 71060 (November 16, 2011), imposes various requirements to ensure no duplication of benefits in the use of CDBG-DR funds. A duplication of benefits occurs when a beneficiary receives assistance, from multiple sources, where the

assistance amount exceeds the need for a particular recovery purpose; under such circumstances, repayment is required.

C. Safeguards must be implemented and enforced to prohibit employees from using positions for a purpose that is or gives the appearance of being motivated by a desire for private gain for themselves or others, particularly those with whom they have family, business, or other ties, in accordance with CDBG regulations.

D. Conflict of interest rules, as set forth in 24 CFR 570.489, 24 CFR 570.611, and 2 CFR 200.112, apply. Dewberry shall disclose in writing any potential conflict of interest to NJ TRANSIT and DEP.

E. Under provisions of the Hatch Act that limit the political activity of employees and HUD regulations governing political activity (24 CFR 570.207), CDBG funds shall not be used to finance the use of facilities or equipment for political purposes or to engage in other partisan political activities, such as candidate forums, voter transportation, or voter registration. However, a facility originally assisted with CDBG funds may be used on an incidental basis to hold political meetings, candidate forums, or voter registration campaigns, provided that all parties and organizations have access to the facility on an equal basis, and are assessed equal rent or use charges, if any.

F. No federally appointed funds shall be used for lobbying purposes regardless of level of government.

G. HUD rules prohibit the use of CDBG funds for inherently religious activities, as set forth in 24 CFR 570.200(j), except for circumstances specified in the Department of Housing and Urban Development Allocations, Common Application, Waivers, and Alternative Requirements for Grantees Receiving CDBG Disaster Recovery Funds in Response, 78 FR 14329 (March 5, 2013).

H. Consultant shall comply with the drug-free workplace requirements in Subpart B of 2 CFR part 2429, which adopts the government-wide implementation (2 CFR Part 182) of sections 5152-5158 of the Drug-Free Workplace Act of 1988, and will endeavor to ensure that subcontractors, subconsultants, and any third parties providing CDBG-funded services are in compliance therewith.

I. Citizens will be provided with an appropriate address, phone number, and times during which they may submit complaints regarding activities carried out utilizing these CDBG-DR funds. The State will provide a written response to every citizen complaint within fifteen (15) working days of the complaint.

IV. AMENDMENT REGARDING COMPLIANCE WITH SPECIFIC REQUIREMENTS

To the extent applicable, Consultant agrees to comply with the following provisions:

A. **PERSONALLY IDENTIFIABLE INFORMATION:** To the extent Consultant receives personally identifiable information, Consultant agrees to comply with the Privacy Act of 1974 and HUD rules and regulations related to the protection of personally identifiable information. The term "personally identifiable information" refers to information which can be used to distinguish or trace an individual's identity, such as their name, social security number, biometric records, etc., alone or when combined with other personal or identifying information which is

linked or linkable to a specific individual, such as date and place of birth, mother's maiden name, etc. See 2 CFR 200.79 & OMB M-07-16.

B. FINANCIAL MANAGEMENT AND PROCUREMENT

1. *To the extent applicable*, Consultant shall adhere to the principles and standards governing federal grant distribution set forth in the OMB Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards (2 CFR Part 200).

2. It shall comply with 2 CFR Part 180 and 24 CFR Part 2424, which prohibit the making of any award or permitting any award (sub grant or contract) at any tier to any party that is debarred or suspended or is otherwise excluded from or ineligible for participation in federal assistance programs. It shall search the System for Award Management (https://www.sam.gov/portal/public/SAM/) and certify that it, and all subcontractors and subconsultants, are not on Excluded from Federal Procurement or Nonprocurement Programs in accordance with OMB Guidelines at 2 CFR Part 180, Executive Orders 12549 and 12689 (Debarment and Suspension), and 24 CFR Part 2424.

3. *To the extent applicable*, it shall comply with 24 CFR Part 570 regarding the management and disposition of cash, real and personal property acquired with CDBG-DR funds.

4. *To the extent applicable*, it shall comply with 24 CFR 570.489(j) regarding change of use of real property. These standards apply to real property within its control (including activities undertaken by subcontractors, subconsultants and third parties). These standards apply from the date CDBG-DR funds are first spent until five years after the closeout of the Program.

    a. It cannot change the use or planned use of any such property (including the beneficiaries of such use) from that for which the acquisition or improvement was made, without first providing citizen review and comment and either:
        i. The new use meets one of the national objectives (see 24 CFR 570.482) and is not a building for the general conduct of government;
        ii. The requirements of 24 CFR 570.489(j) are met.

    b. If the change of use does not qualify, Consultant may retain or dispose of the property if the CDBG-DR Program is reimbursed for the fair market value of the property, less any portion of the value that is attributable to non-CDBG-DR funds. Following the reimbursement the property shall no longer be subject to any CDBG-DR requirements.

C. RECORDS AND RECORDS RETENTION

1. DEP and NJ TRANSIT shall each be responsible for maintaining certain records, as specified in the MOA.

2. Consultant shall maintain all Program records required by 24 CFR 570.506 for five years following termination or expiration of the Agreement. These records shall include the following as applicable:

    - The executed Agreement and this Addendum;
    - Personnel files;
    - Property management files;

- HUD monitoring correspondence;
- Fair Housing and Equal Opportunity records;
- Citizen Participation Compliance documentation;
- Environmental review and regulatory compliance documents; and

  Documentation of compliance with other federal requirements (e.g., Davis-Bacon, Uniform Relocation Act, and Lead-Based Paint).

Consultant shall also maintain financial records, in accordance with the applicable requirements listed in 24 CFR § 570.506 and § 570.502, including but not limited to source documentation (such as purchase orders, invoices, canceled checks), procurement files (such as bids, contracts), invoices, schedules containing comparisons of budgeted amounts and actual expenditures, construction progress schedules signed by appropriate parties (e.g., general contractor and/or a project architect), and/or other documentation appropriate to the nature of the activity (e.g., payroll records and reports including timesheets or timecards, as applicable), financial and other reports prepared or received by Consultant during the term of the contract, and relevant correspondence.

3. **LITIGATION/CLAIMS:** If any litigation, claim, negotiation, audit, monitoring, inspection or other action has been started before the expiration of the required five-year record retention period, records must be retained until completion of the action and resolution of all issues which arise from it, or until the end of the required period, whichever is later.

D. FEDERAL LABOR STANDARDS: For an overview of applicability and requirements of federal labor standards, see: Introduction to the Labor Standards Statutes Coverage, www.dol.gov/whd/recovery/pwrb/Tab2Coverage.pdf. *To the extent applicable*, Consultant shall comply with Federal Labor Standards, including:

1. The labor standards requirement set forth in 24 CFR 570.603 and any other regulations issued to implement such requirements. This includes payment of prevailing wages to laborers and mechanics employed in the performance of construction work, except that these requirements do not apply to the rehabilitation of residential property if such property contains less than 8 units;
2. Section 110 of the Housing and Community Development Act of 1974, 42 U.S.C. § 5310, and the requirements set forth in 24 CFR 570.603 to ensure that all laborers and mechanics employed by Consultant, including its subcontractors and subconsultants for CDBG-related services, are paid wages at rates not less than those prevailing on similar construction in the locality as determined by the Davis-Bacon Act, as amended, except that these requirements do not apply to the rehabilitation of residential property if such property contains less than 8 units;
3. The Davis-Bacon Act, as amended (40 U.S.C. 3141 et seq.). Davis-Bacon applies to all construction contracts over $2,000 involving CDBG funds. Davis-Bacon requires that all laborers and mechanics, as defined at 29 CFR 5.2, be paid at least the minimum wages provided by the Department of Labor and also requires compliance with state prevailing wage rules;
4. The Contract Work Hours and Safety Standards Act (40 U.S.C. 3701 et seq.), requiring that mechanics and laborers (including watchmen and guards) employed on federally assisted contracts of $100,000 or greater be paid wages of not less than one and one-half times their basic wage rates for all hours worked in excess of forty in a work-week;

5. The Federal Fair Labor Standards Act (29 U.S.C. 201 et seq.), requiring that covered nonexempt employees be paid at least the minimum prescribed wage, and also that they be paid one and one-half times their basic wage rate for all hours worked in excess of the prescribed work-week;
6. The Copeland "Anti-Kickback" Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR 3), which requires payment of wages once a week and allows only permissible payroll deductions;
7. HUD regulations and/or guidance:
    a. 24 CFR 570.489(l): Debarment and suspension
    b. 24 CFR 570.603: Labor standards
    c. 24 CFR 570.609: Use of debarred, suspended, or ineligible Consultants or subrecipients
    d. HUD Handbook 1344.1 Federal Labor Standards Requirements in Housing and Urban Development Programs, as revised;
8. Department of Labor regulations in parallel with HUD requirements above:
    a. 29 CFR 1: Procedures for Predetermination of Wage Rates
    b. 29 CFR 5: Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction (Also, Labor Standards Provisions Applicable to Non-construction Contracts Subject to the Contract Work Hours and Safety Standards Act)
    c. 29 CFR 6: Rules of Practice for Administrative Proceedings Enforcing Labor Standards In Federal and Federally Assisted Construction Contracts and Federal Service Contracts
    d. 29 CFR 7: Practice Before the Administrative Review Board With Regard to Federal and Federally Assisted Construction Contracts.

E. FAIR HOUSING AND NON-DISCRIMINATION

1. Any act of unlawful discrimination committed by Consultant or failure to comply with the following obligations when applicable shall be grounds for termination of this agreement or other enforcement action.
2. Consultant shall agree to comply with:
    b. Title VI of the Civil Rights Act of 1964 and as amended in 1988, 42 U.S.C. §200d et seq., as amended, and the regulations issued pursuant thereto (24 CFR 1), which provide that no person in the United States shall on the grounds or race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which it receives federal financial assistance and shall immediately take any measures necessary to effectuate this assurance. If any real property or structure thereon is provided or improved with the aid of federal financial assistance extended to it this assurance shall obligate it , or in the case of any transfer of such property, and transferee, for the period during which the property or structure is used for another purpose involving the provision of similar services or benefits.
    c. Fair Housing Act (Title VIII of the Civil Rights Act of 1968, as amended, 42 U.S.C. 3601–3619), which requires administering all programs and activities relating to housing and community development in a manner to affirmatively further fair housing. Title VIII further

prohibits discrimination against any person in the sale or rental of housing, or the provision of brokerage services, including in any way making unavailable or denying a dwelling to any person, because of race, color, religion, sex, national origin, handicap or familial status.

d. Title II of the Civil Rights Act of 1968 (25 U.S.C. 1301-1303).
e. Architectural Barriers Act (ABA) of 1968, 42 U.S.C. 4151 et seq. The ABA requires access to buildings designed, built, altered, or leased by or on behalf of the federal government or with loans or grants, in whole or in part, from the federal government. As used in the ABA, the term "building" does not include privately owned residential structures not leased by the government for subsidized housing programs.
f. Title IX of the Education Amendments Act of 1972, 20 U.S.C. 1681 et seq., which prohibits discrimination on the basis of sex in any federally funded education program or activity.
g. Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. 794, which provides that no otherwise qualified individual shall, solely by reason of his or her handicap be excluded from participation, denied program benefits or subjected to discrimination under any program or activity receiving federal funding assistance.
h. Section 508 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. 794d, which requires Federal agencies to make their electronic and information technology (EIT) accessible to people with disabilities, and applies to all federal agencies when they develop, procure, maintain or use electronic and information technology.
i. Section 109 of Title I of the Housing and Community Development Act of 1974, and the regulations issued pursuant thereto (24 CFR 570.602), which provides that no person in the United States shall, on the grounds of race, color, national origin, or sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under, any program or activity funded in whole or in part with funds provided under that Part. Section 109 further prohibits discrimination to an otherwise qualified individual with a handicap, as provided under Section 504 of the Rehabilitation Act of 1973, as amended, and prohibits discrimination based on age as provided under the Age Discrimination Act of 1975. The policies and procedures necessary to ensure enforcement of section 109 are codified in 24 CFR 6.
j. Section 104(b)(2) of the Housing and Community Development Act of 1974, 42 U.S.C. 5304(b), which requires communities receiving community development block grants to certify that the grantee is in compliance with various specified requirements.
k. Age Discrimination Act of 1975, 42 U.S.C. 6101 et seq., which prohibits discrimination on the basis of age in programs and activities receiving federal financial assistance.
l. Title II of the Americans with Disabilities Act of 1990, 42 U.S.C. 12131 et seq., which prohibits discrimination against people with disabilities by public entities, which includes any state or local government and any of its departments, agencies or other instrumentalities.
m. Housing for Older Persons Act of 1995 ("HOPA") (see 42 U.S.C. 3607), which governs housing developments that qualify as housing for persons age 55 or older
n. It shall require every newly constructed or altered building or facility (other than a privately owned residential structure, and certain other limited exceptions) to comply with any accessibility requirements required by Title III of the Americans with Disabilities Act of 1990 (42 U.S.C.A. § 12181 et seq.), and shall be responsible for conducting inspections to ensure compliance with these specifications by any subcontractor or subconsultant.

F. SECTION 3 REQUIREMENTS

1. The intent of Section 3 of the Housing and Urban Development Act of 1968, as amended, is to encourage recipients of HUD funding to direct new employment, training, and contracting

opportunities to the greatest extent feasible to low- and very low-income persons, and to businesses that employ these persons, within their community. Section 3 applies to grantees and subrecipients that receive assistance exceeding $200,000 in certain types of HUD funding, including CDBG funding, and to contractors and subcontractors that enter into contracts in excess of $100,000 funded by certain types of HUD funding, including CDBG funds, for any activity that involves housing construction, rehabilitation, and demolition, or other public construction. A guide to Section 3 applicability and compliance requirements is located at HUD's website, http://portal.hud.gov/hudportal/HUD?src=/program_offices/fair_housing_equal_opp/section3/section3, under Frequently Asked Questions (FAQs).

2. Consultant shall comply with the statutory and regulatory requirements of Section 3 in its own operations and those of subcontractors and subconsultants or third parties with regard to covered contracts or subcontracts. If Consultant has the need to hire new persons to complete the Section 3 covered contract, or needs to subcontract portions of the work to another business, Consultant must direct its newly created employment and/or subcontracting opportunities to Section 3 residents and business concerns. The same numerical goals (see below) apply to subcontractors and subconsultants.

3. Consultant's responsibilities include:

   a. Making efforts to meet the minimum numerical goals found at 24 CFR 135.30;
   b. Complying with the specific responsibilities at 24 CFR 135.32; and
   c. Submitting Annual Summary Reports in accordance with 24 CFR 135.90 to DEP.

4. For purposes of CDBG-DR funds received in response to Superstorm Sandy, an individual is eligible to be considered a Section 3 resident if the annual wages or salary of the person are at, or under, the HUD-established income limit for a one-person family for the jurisdiction. See 78 FR 14329, 14346 (March 5, 2013).

5. Pursuant to 24 CFR 135.38, the following language shall be included in all contracts and subcontracts:

   a. *The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.*
   b. *The parties to this contract agree to comply with HUD's regulations in 24 CFR 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with 24 CFR 135.*
   c. *The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and shall post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and*

location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

d. *The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR 135. The contractor shall not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR 135.*

e. *The contractor shall certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR 135.*

f. *Noncompliance with HUD's regulations in 24 CFR 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.*

g. *With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).*

G. <u>NONDISCRIMINATION AND FAIR HOUSING</u>: In delivering programmatic activity supported by CDBG funds, or in contracting with third parties for services supported by CDBG funds, Consultant shall comply with the following:

1. Executive Order 11063: Equal Opportunity in Housing, November 20, 1962, as amended by Executive Order 12259, and the regulations issued pursuant thereto, which pertains to equal opportunity in housing and non-discrimination in the sale or rental of housing built with federal assistance.

2. Executive Order 11246: EEO and Affirmative Action Guidelines for Federal Contractors Regarding Race, Color, Gender, Religion, and National Origin, September 25, 1965 and Executive Order 11375: Amending Executive Order No. 11246, October 13, 1967, which provide that no person shall be discriminated against on the basis of race, color, religion, sex, or national origin in all phases of employment during the performance of federal or federally assisted construction contracts. Further contractors and subcontractors on federal and federally assisted construction contracts shall take affirmative action to insure fair treatment in employment, upgrading, demotion, or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training and apprenticeship.

3. Executive Order 12086: Consolidation of contract compliance functions for equal employment opportunity, October 5, 1978.

4. Executive Order 12892: Leadership and Coordination of Fair Housing in Federal Programs: Affirmatively Furthering Fair Housing, January 17, 1994.

5. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations, February 11, 1994.

6. Executive Order 13166: Improving Access To Services For Persons With Limited English Proficiency, August 11, 2000.

7. Executive Order 13217: Community-Based Alternatives for Individuals with Disabilities, June 19, 2001.

8. Executive Order 13330: Human Service Transportation Coordination, February 24, 2004.

Consultant also affirms it shall comply with implementing regulations for the above:

a. 24 CFR 1: Nondiscrimination in Federally Assisted Programs of HUD.

b. 24 CFR 3: Nondiscrimination on the Basis of Sex in Education Programs or Activities receiving Federal Financial Assistance.

c. 24 CFR 5.105: Other Federal Requirements.

d. 24 CFR 6: Nondiscrimination in Programs, Activities Receiving Assistance under Title I of the Housing and Development Act of 1974.

e. 24 CFR 8: Nondiscrimination Based on Handicap in Federally Assisted Programs and Activities of the Department of Housing and Urban Development.

f. 24 CFR 50.4(l) and 58.5 (j): Environmental Justice.

g. 24 CFR 91.225(a)(1): Affirmatively Furthering Fair Housing.

h. 24 CFR 91.325(a)(1): Affirmatively Furthering Fair Housing.

i. 24 CFR 91.325(b)(5): Compliance with Anti-discrimination laws.

j. 24 CFR 91.520: Performance Reports.

k. 24 CFR 100-125: Fair Housing.

l. 24 CFR 107: Non-discrimination and Equal Opportunity in Housing under Executive Order 11063 (State Community Development Block Grant Grantees).

m. 24 CFR 121: Collection of Data.

n. 24 CFR 135: Economic Opportunities for Low- and Very Low-Income Persons.

o. 24 CFR 146: Non-discrimination on the Basis of Age in HUD Programs or Activities Receiving Federal Financial Assistance.

p. 24 CFR 570.206(c): Fair Housing Activities.

q. 24 CFR 570.487(b): Affirmatively Furthering Fair Housing.

r. 24 CFR 570.487(e): Architectural Barriers Act and Americans with Disabilities Act (State Community Development Block Grant Grantees).

s. 24 CFR 570.490(a)-(b): Recordkeeping requirements.

t. 24 CFR 570.491: Performance Reviews and Audits.

u. 24 CFR 570.495(b): HCDA Section 109 nondiscrimination.

v. 24 CFR 570.506(g): Fair Housing and equal opportunity records.

w. 24 CFR 570.601: Affirmatively Further Fair Housing.

x. 24 CFR 570.608 and Part 35: Lead-Based Paint.

y. 24 CFR 570.614: Architectural Barriers Act and Americans with Disabilities Act.

z. 24 CFR 570.904: Equal Opportunity and Fair Housing Review

aa. 24 CFR 570.912: Nondiscrimination compliance

H. Contracting with Small and Minority Firms and Women's Business Enterprises

Pursuant to 49 CFR §26.3(d), NJ TRANSIT's Disadvantaged Business Enterprise (DBE) goals are not applicable to projects funded through Community Development Block Grant-Disaster Relief. However, Consultant shall take affirmative steps and use its best efforts to afford small and disadvantaged businesses, minority business enterprises, and veteran and women's business enterprises the maximum practicable opportunity to participate in the performance of this contract. As used in this contract, the terms "small business" means a business that meets the criteria set forth in section 3(a) of the Small Business Act, as amended (15 U.S.C. 632), and "minority and women's business enterprise" means a business that is at least fifty-one percent (51%) owned and controlled by minority group members or women. For purposes of this definition, "minority group members" are Afro-Americans, Spanish-speaking, Spanish surnamed or Spanish-heritage Americans, Asian-Americans, and American Indians. Consultant may rely on written representations by businesses regarding their status as minority and women business enterprises in lieu of an independent investigation.

IN WITNESS WHEREOF, the Parties hereto have caused this Addendum to be executed by their duly authorized representatives to be effective as of the date NJ TRANSIT issues a Notice to Proceed.

Dewberry Engineers, Inc.

By: [signature]
Name: Craig R Johnson
Title: President, Northeast
Date: June 2, 2015

New Jersey Transit Corporation

By: [signature] 06.10.15
Name:
Title:
Date:

JAMES SCHWORN
CHIEF OF PROCUREMENT
NJ TRANSIT CORPORATION

New Jersey Department of Environmental Protection

By: [signature]
Name: David Rosenblatt
Title: Director
Date: 6-3-15