PROPOSAL

FOR INFORMATIONAL PURPOSES ONLY - DO NOT USE FOR BIDDING

TO BE COMPLETED BY CONTRACTOR SUBMITTING
A BID ON GENERAL CONSTRUCTION
CONTRACT NO. S35109-03G

ITEM NO.	APPROXIMATE QUANTITIES	ITEMS WITH UNIT PRICE WRITTEN IN WORDS				
1	Lump Sum	Base Bid for furnishing all Labor, Materials and Equipment required for all Construction work at Pearsalls Hassock and South Black Banks Hassock, Town of Hempstead, NY as specified and shown on the Contract Documents complete and ready for operation.	N/A	N/A		
2	Allowance	For work due to Unforeseen Field Conditions. Two Hundred and Fifty Thousand DOLLARS No CENTS	N/A	N/A	$250,000	00
3	Allowance	For removing, handling, management, characterization, transportation, and off-site disposal of Unsuitable Materials Two Hundred Thousand DOLLARS No CENTS	N/A	N/A	$200,000	00
4	500 Ton	For Unforeseen importing, placing and grading of clean sand backfill materials.			N/A	N/A

PROPOSAL

FOR INFORMATIONAL PURPOSES ONLY - DO NOT USE FOR BIDDING

TO BE COMPLETED BY CONTRACTOR SUBMITTING A BID ON GENERAL CONSTRUCTION
CONTRACT NO. S35109-03G

ALLOWANCES: It is expressly understood and agreed that the total Bid presented in this Proposal is the basis for establishing the amount of the Bid Security and includes the following allowances:

1. Item No. 2: An allowance of two hundred and fifty thousand dollars ($250,000) for unforeseen field conditions.

2. Item No.3: An allowance of two hundred thousand dollars ($200,000) for removal, hauling, management, characterization, and off-site disposal of unsuitable materials.

All in accordance with the requirements of Division 1, Special Conditions; Section 01010, Summary of Work; Section 01020, Allowances; and Section 01150, Measurement and Payment.

Final Contract Payment for allowance items shall be based upon actual payments, and not on the approximate amounts cited herein.

DETERMINATION OF LOW BID: Determination of low Bid will be made by comparing the total Bid which shall include the lump sum Base Bid price, unit price totals and allowances.

COUNTY OF NASSAU
DEPARTMENT OF PUBLIC WORKS

CONTRACT S35109-03G
HEMPSTEAD BAY – HASSOCKS RESTORATION PROJECT

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+ + END OF SECTION + +

SECTION 01010

SUMMARY OF WORK

PART 1 – GENERAL

1.1 SCOPE OF WORK

A. The Work to be done under this Contract and in accordance with these Contract Documents consists of furnishing of equipment, superintendence, labor, skill, material and all other items necessary for enhancing the natural resiliency function of the tidal marshes and restoring areas disturbed by prior actions in Hempstead Bay on South Black Banks Hassock and Pearsalls Hassock. The Contractor shall perform all Work required for the Hempstead Bay Hassocks Restoration project in accordance with the Contract Documents and subject to the terms and conditions of the Contract, complete and ready for use.

B. The principal features of the Work to be performed and equipment to be provided for this Project under this Contract includes:

1. All labor, equipment, fees, permits, and other related costs necessary to provide for the restoration of South Black Banks and Pearsalls Hassock located in Hempstead Bay, as shown on the Contract Documents including but not limited to the following:

   a. **South Black Banks Hassock Ditch Remediation** –

      i. Filling of historic mosquito ditches with biodegradable materials, such as coir logs or mowed grass clippings, to promote sediment accretion within the ditches.

      ii. Creation of natural tidal channels (runnels) to enhance tidal hydrologic processes within the marsh.

      iii. Low-lying marsh areas most vulnerable to flooding from sea-level rise will be targeted with the objective of establishing more stable marsh platforms.

   b. **Pearsalls Hassock Former Sludge Tank Area Restoration and Former Sludge Dock Removal** –

      i. Removing abandoned facilities, as necessary to support the restoration efforts.

      ii. Restoring the former sludge tank area located on Pearsalls Hassock.

      iii. Stabilizing the shoreline and restoring the low marsh behind the existing bulkhead to establish a long-term, sustainable shoreline and marsh habitat in this area.

      iv. Using the material from the bank stabilization effort to regrade the remaining upland area.

      v. Planting and seeding the upland area to establish a mosaic of native maritime shrubland and meadow.

      vi. Removing the existing sludge dock structure, and overhead piping by the sludge tank area.

c. There will be additional work by others in the area of work. Coordination with the Long Beach WPCP Consolidation – Force Main contract, S35109-01S will be needed for Coordination with the Long Beach WPCP – Force Main contract on the access to South Black Banks and Pearsalls Hassock. The access to Pearsalls Hassocks is south of the existing sludge dock. Any vessels used for the demolition of the dock must not interfere with the construction at Pearsalls Hassock as part of the S35109-01S contract.

d. All other work as set forth in the Contract Documents.

2. The foregoing is a general description only and shall not be construed as a complete description of the Work to be performed for this Project.

3. The Contractor shall provide parking for work force off site at the Contractor's expense.

C. Contracting Method

1. The Project will be implemented as a single prime construction Contract.

D. Delays due to lack of available labor, supervision, equipment, or other resources necessary for the work are not grounds for changes in the Contract Price or Contract times. Delays attributed to Contractor's action or inaction and to the action or inaction by Subcontractors and Suppliers are not grounds for a change in the contract times or contract price.

E. Additional details concerning storm water permit compliance and pollution prevention plans can be found in the Federal Regulations 40 CFR 122 & 123.

1.2 GENERAL

A. The Instructions to Bidders, Agreement, General Conditions, and Division 1, General Requirements, specifications shall apply to all Work under the Contract for this Project.

B. Where articles of the Instructions to Bidders, Agreement, and General Conditions are repeated in the Sections of Division 1, General Requirements, it is intended to elaborate or qualify such articles. It is not intended that other articles of the above documents shall be omitted or that additional requirements set forth in the above documents and noted herein shall be excluded from Contract requirements unless specifically noted as such hereinafter.

C. Where the words "Contract" and "Contractor" are used in Sections of Division 1, General Requirements, they shall apply equally to all parties entering into agreements with the County to perform Work specified herein and to all Contracts derived from said agreements.

1.3 CONTRACT DOCUMENTS

A. The Contract Documents consist of the Notice and Instructions to Bidders, Bid Bond, Proposal, Agreement, General Conditions, the Technical Specifications, and the Contract Drawings.

1.4 GENERAL ARRANGEMENT

A. The Contract Drawings indicate the extent and general scope of the Work. The specific equipment proposed for use by the Contractor on the Project may require changes in the construction detailed on the Contract Drawings, and all such changes shall be performed in accordance with the requirements of the General Conditions, Article GC 17, "Materials and Equipment, Approvals, Substitutions and Deviations", and shall be made without additional cost to the County and shall include the increase in costs of the other Contracts.

B. In the preparation of the revised plans, the project objectives and restored site features shall be equal to those shown on the original Plans. All materials involved in the redesign shall conform to the applicable provisions of the Technical Specifications.

1.5 TIME OF WORK

A. Overtime work by the Contractor necessary to conform to the requirements of Division 1, General Requirements shall be considered as normal procedure under this Contract, and the Contractor shall make no claims for extra compensation as a result thereof. The Contractor shall be prepared to work around the clock and supply multiple work crews as necessary to complete the Work including testing and acceptance as specified, within the specified time frame and the time of completion set forth in the Contract Documents.

B. The allowable working hours for the project are between 7:00 AM and 6:00 PM Monday through Friday. When required to meet the Contract Completion dates, the Contractor is advised that they shall submit a work schedule for overtime or second shifts as needed to the County and Town of Hempstead for approval. The Contractors shall have sufficient construction materials, labor, equipment, tools and supervision to support scheduled overtime or second shifts when required.

C. It is understood that the Contractor has reviewed the schedule and has included in their bid sufficient monies to meet the schedule and will make no claim for extra compensation because of additional costs to meet scheduled dates.

D. The Contractor is advised that they will be directed to take remedial action as necessary to recover lost time on any critical items as determined from the Construction Schedule.

E. Unless otherwise specifically permitted, all Work that would be subject to damage shall be stopped during inclement, stormy or freezing weather. Only such work that will not cause injury to workmanship or materials will be permitted. The Contractor shall carefully protect his Work against damage or injury from the

weather, and when Work is permitted during freezing weather, he/she shall provide and maintain approved facilities for heating the materials and for protecting the finished Work.

F. The Contractor shall require permission, in writing, to perform contractual work outside the regular working hours of 7:00 AM to 6:00 PM, Monday through Friday, or on official County holidays. This written request should be received by the County 24 hours in advance of beginning the work. The Contractor is responsible for coordination with the County Engineer and/or his duly authorized representative, prior to the start of the work to determine the dates of observance of the official County holidays that may occur during the course of the Contract. The official County holidays are:

- New Year's Day
- Martin Luther King, Jr. Day
- Lincoln's Birthday
- Washington's Birthday
- Memorial Day
- Independence Day
- Labor Day
- Columbus Day
- Election Day
- Veteran's Day
- Thanksgiving Day
- Friday after Thanksgiving Day
- Christmas Day

Failure of the Contractor to consider official County holidays during the preparation of their work plans and schedules shall not be cause for a delay claim against the County.

G. Contractor shall obtain permission from Owner, Owner's Representative and Town of Hempstead prior to prosecuting any portion of the Work beyond the allowable working days or hours which are specified in 1.5.B. Should circumstances arise during the course of the Contract, where the Contractor works outside of the County's regular working hours (7:00 am to 3:30 pm, or as otherwise established for the project) or on weekends or official County holidays, regardless if this work is performed as a result of the Contractor's request or as required by the contract documents, or as required by the approved baseline schedule (resource loaded); the Contractor will reimburse the County for the cost of providing inspection and/or plant assistance, at the rate of $175 per hour per staff member. The County, County's Representative will review the scope of the operations and determine on a case-by-case basis the extent of construction oversight that may be required. Furthermore, failure of the Contractor to have considered such contingency cost in his bid price shall not be cause for an additional cost claim to the County.

1.6 WORK BY OTHERS

A. The following contract will be ongoing in the vicinity of this contract:
   1. Contract S35109-01S Long Beach WPCP Consolidation – Force Main.

1.7 REGULATORY AGENCY ACCESS TO CONSTRUCTION SITE

A. Whenever construction work is in progress or preparation, the Contractor shall permit access and inspection and shall provide proper and necessary facilities to the representatives of the County, Engineer and Regulatory Agencies including, but not limited to, the New York State Department of Environmental Conservation, U.S. Army Corps of Engineers, and the Town of Hempstead.

1.8 SITE INFORMATION

A. The Bay Park Sewage Treatment Plant (STP) has been renamed to South Shore Water Reclamation Facility (WRF). Any references to Bay Park STP or Bay Park WPCP in the specifications and drawings shall mean South Shore WRF.

B. The following documents are distributed with the Contract Documents (unless noted otherwise) for the convenience of the Contractor for information only. These documents are:

Item No.	Agency/Firm	Contract	Year	Title
1	Arcadis of New York, Inc./Hazen and Sawyer	S35109-03G	2022	Hazardous Materials Survey and Building Material Characterization, Hempstead Bay – Pearsalls Hassocks Restoration report
2	Hazen and Sawyer, P.C. Engineers	S3B088G	1984	Bay Park Water Pollution Control Plant Sewage Disposal District No. 2, Modifications to Sludge Loading Facilities drawing
3	Hazen and Sawyer, P.C. Engineers	Bay Park WPCP Phase III Additions & Modifications	1984	Bay Park WPCP Sludge Docking Facilities Study report
4	Consoer, Townsend & Associates Consulting Engineers	Contract No. 1002-2P-70 & 64	1978	Bay Park Water Pollution Control Facility Improvements, Division A – Sludge Transmission Facilities, Contract No. 1002-2P-70 & 64 As-Built Drawings
5	Greeley and Hansen Engineers	N/A	1976	Bulkhead Repair at Sludge Dock, Pearsalls Hassock memo

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

+ + NO TEXT ON THIS PAGE + +

SECTION 01020

ALLOWANCES AND UNIT PRICES

PART 1 – GENERAL

1.1 DESCRIPTION

A. General: The Allowances and Unit Prices described below shall be included in the Contractor's total bid. Any amounts not expended prior to completion of the Project shall be deducted from the final payment made to the Contractor.

1.2 SCHEDULE OF ALLOWANCES AND UNIT PRICES

A. General Construction Contract Allowances:

1. Item No. 2: An allowance of two hundred fifty thousand dollars ($250,000) for costs associated with work due to Unforeseen Field Conditions.
2. Item No. 3: An allowance of two hundred thousand dollars ($200,000) for costs associated with work for removing, handling, management, characterization, transportation, and off-site disposal of Unsuitable Materials.

B. Unit Price Construction Contract Allowances:
1. Item No. 4: Unit price for Unforeseen Importing and Placing and Grading of Clean Sand Backfill Materials

1.3 BASIS FOR PAYMENT

A. General Construction Contract:
1. Item No. 2: The amount of compensation to be paid to the contractor under the allowance for work due to Unforeseen Field Conditions, as directed or authorized by the County, shall be determined by the actual cost of labor, materials, equipment, and incidentals, plus overhead and profit, to be determined as the work progresses in the manner specified in Agreement Article XXII, ("Extra Work"), paragraph C. Any funds remaining at the end will be eliminated by a credit change order.
2. Item No. 3: The amount of compensation to be paid to the contractor under the allowance for work due to unsuitable materials, as directed or authorized by the County, shall be determined by the actual cost of labor, materials, equipment, and incidentals, plus overhead and profit, to be determined as the work progresses in the manner specified in Agreement Article XXII, ("Extra Work"), paragraph C. Any funds remaining at the end will be eliminated by a credit change order.
3. Item No. 4: The amount of compensation to be paid to the contractor under the unit price allowance for providing and placing clean sand backfill will be based on actual documented per ton value of clean sand actually imported and placed by the Contractor. The unit price will include all labor, equipment, testing, handling, moving, transporting, placing and grading of clean imported

backfill. The payment amount to be determined as the work progresses in the manner specified in Agreement Article XXII, ("Extra Work"), paragraph C. Any funds remaining at the end will be eliminated by a credit change order.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01040

REGULATORY REQUIREMENTS

PART 1 – GENERAL

1.1 DESCRIPTION

A. The items listed in this Section are a summary of the regulatory requirements for the work in this contract including but not limited to relevant agencies, work permits, disposal requirements, and inspection requirements.

B. In general, the Contractor shall keep themselves informed of all current local, state and federal laws, rules, regulations and ordinances. The work shall be performed by the Contractor, in all respects, in strict conformity with all such laws, rules, regulations, requirements and ordinances of the local, state, and federal governments and all departments and bureaus thereof.

C. Permits and approvals listed in this Section are for reference. It is the responsibility of the Contractor to determine and obtain what permits they need for their work.

D. This is a CDBG-DR and NFWF funded project and must adhere to the conditions outlined in Exhibit E and Exhibit BB respectively.

1.2 REGULATORY AGENCY ACCESS TO CONSTRUCTION SITE

A. The Contractor shall during the course of the Work permit access and provide assistance to the County, their representatives, and any other entities as requested by the County onto the project site(s). Representatives of the County and agencies that may need access include, but are not limited to, the Hazen and Sawyer/Arcadis Joint Venture, Town of Hempstead, New York State Department of Environmental Conservation, U.S. Army Corps of Engineers, and New York State Office of Resilient Homes and Communities.

1.3 WORK PERMITS AND APPROVALS

A. The Contractor shall obtain, pay for and comply with the terms and conditions of all necessary permits, licenses, approvals, certificates of inspection, and controlled inspection reports, and shall give all notices and pay all legal fees in connection with the work of this Contract. They include, but are not limited to the following:
   1. New York State Department of Environmental Conservation (NYSDEC) – Solid Waste Management Facilities Permit for facility where materials is to be disposed.
   2. New York State Department of Environmental Conservation (NYSDEC) – Waste Transporter Permit

3. United States Coast Guard (USCG) – Notice to Mariners.
4. Nassau County Department of Health – Rodent Free Certificate
5. Town of Hempstead Department of Buildings – Demolition Permit

B. All work performed under the Contract shall conform to the rules and regulations of the Town of Hempstead and State and Federal Departments having jurisdiction.

C. Upon completion of the various stages of construction, the Contractor shall schedule inspections and obtain certificates of approval and/or acceptance from the various agencies and Departments having jurisdiction and shall deliver these certificates to the Engineer.

D. The Contractor shall also comply with the conditions and regulations of the permits (Attachment 01040-A) that are obtained by the County or its Engineer. These permits include, but are not limited to, the following:

1. United States Army Corps of Engineers (USACE) – Section 10/404 Permit NAN-2022-00368-EMI. Issued Date: 4/17/2023; Expiration Date: 4/17/2028. Verification Expiration Date: 3/14/2026.
2. National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA NMFS) – Essential Fish Habitat Consultation Reinitiation Letter Received: 6/28/2022. Section 7 Endangered Species Act (ESA) Letter Received: 6/30/2022.
3. United States Fish and Wildlife Service (USFWS) Section 7 Consultation Code: 05E1LI00-2022-SLI-0329. Letter Date: 2/1/2022. Acknowledgement of Receipt: 4/6/2022.
4. New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) – Consultation & No Effects Letter – Issued 6/3/2022.
5. Office of Resilient Homes and Communities (ORHC) (formerly the Governor's Office of Storm Recovery (GOSR)) National Environmental Policy Act (NEPA) Finding of No Significant Impact (FONSI)/SEQR Type II Determination. Issued 7/10/2023.
6. New York State Department of State (NYSDOS) – Concurrence with Consistency Certification. Issued Date: 10/13/2022.
7. New York State Department of Environmental Conservation (NYSDEC) – Tidal Wetlands Permit 1-2820-05050/00013. Effective Date: 4/18/2023; Expiration Date: 4/17/2028.
8. NYSDEC Water Quality Certification 1-2820-05050/00014. Effective Date: 4/18/2023; Expiration Date: 4/17/2028.
9. NYSDEC Excavation & Fill in Navigable Waters. 1-2820-05050/00015. Effective Date: 4/18/2023; Expiration Date: 4/17/2028.
10. NYSDEC State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction – Activity GP-0-20-001 Notice of Intent (NOI) and Stormwater Pollution Prevention Plan (SWPPP) submitted 6/2022.
11. Town of Hempstead – Stormwater Pollution Prevention Plan (SWPPP) MS4 Signed Acceptance Form Date: 7/27/2022.

E. The Contractor shall renew and maintain all permits for the life of the contract, as necessary.

1.4 EXISTING UTILITIES

A. All utility and structure information shown on the Contract Drawings were obtained from various plans and maps and field investigations; however they are not guaranteed to be complete or accurate. It shall be the Contractor's responsibility to locate all such necessary utilities or structures by the digging of test pits prior to the start of construction.

B. During the progress of the work, the Contractor shall protect from damage any existing utilities or services within the work areas until they have been re-routed, disconnected or capped off.

1.5 DISPOSALS

A. Water from open cut and/or sheeted excavations, manholes, structures, trenches, or from whatever source, shall be disposed of strictly in accordance with applicable laws, rules and regulations; requirements included in other specification sections; and using methods approved by the Engineer.

B. Solid materials and other waste materials will be managed and disposed in accordance with applicable laws, rules and regulations; requirements included in other specification sections; and using methods approved by the Engineer.

1.6 CONFORMANCE TO INDUSTRIAL CODE

A. The Contractor's attention is directed to requirements of the Industrial Code of the State of New York, Department of Labor, Board of Standard and Appeals, latest edition and amendments or supplements thereto. All mechanical equipment with respect to manufacture, fabrication, and safety devices for protection of personnel from electrical parts and mechanically moving parts such as belts, shafts, couplings, and other apparatus, appliances or equipment, all floors, stair surfaces, ladders, equipment, access stairs and platforms, all exit enclosures, vertical openings and stairs, shall comply with this code; and all provisions therein shall be deemed included in and required by these specifications and shall be detailed for approval and furnished without additional cost; the price thereof considered to be included in the applicable prices bid for the various Contract Items in the Contracts.

1.7 NON-COMPLIANCE

A. All fees/penalties incurred by the Contractor, County, Engineer or other such entity, resulting from non-compliance by the Contractor with permits or approvals obtained by the Contractor, permits obtained by the County or Engineer, conformance to the Industrial Code or conformance to other codes or standards

governing the performance of this Contract will be paid for by the Contractor or deducted from the final payment.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 SPECIAL CONDITIONS STIPULATED IN REGULATORY PERMITS / COORDINATION LETTERS

A. The following special conditions stipulated in regulatory permits / regulatory coordination letters shall be followed as it pertains to project activities on Pearsalls Hassock.

1. Woody vegetation clearing will be completed between November 1 and March 31 to be protective of protected bat species and migratory birds.
2. If the contract procurement process prevents the selected Contractor from being able to clear woody vegetation between November 1 and March 31, then the following steps will be implemented prior to clearing trees outside of the November 1 to March 31 window to minimize and avoid impacts to protected bats and migratory birds:
   i. Formal nesting survey of vegetation in area to be cleared, with documented absence of nesting birds within 24 hours of clearing. The nesting survey is to be completed by a qualified ecologist with past avian nesting survey experience.
   ii. Bat emergence surveys, consistent with FWS guidance (Attachment 01040-B), to be completed within 24 hours of clearing and supervised by personnel that have received FWS training or have previous experience conducting bat emergence surveys. Clearing would be allowed the following day with a documented absence of emerging bats from mature, suitable trees to be cleared. A documented presence of bats would require vegetation clearing only between November 1 and March 31.
   iii. Results of emergence surveys would be required to be submitted to County within 5 working days following surveys.
3. Upland construction associated with demolition will not be restricted following vegetative clearing.
4. Construction in-water and within tidal wetlands will not occur between January 1 and May 31 consistent with NOAA NMFS consultations.
5. Construction in-water and within tidal wetlands from July 15 to September 1 will require implementation of a red knot monitoring program (see Section 01590 Red Knot Monitoring) consistent with the USFWS consultations.

B. The following special conditions stipulated in regulatory permits / regulatory coordination letters shall be followed as it pertains to project activities on South Black Banks Hassock.

   i. The mosquito ditch remediation aspect of the Project, which is authorized exclusively in tidal wetlands, aims to maintain the construction window of December 1 to March 15 and remain consistent with previous NYSDEC coordination.

ii. Consultation and written approval by NYSDEC.

iii. Formal nesting survey of Project area and documented absence of nesting within 24 hours of initiating construction within tidal wetlands. Surveys to be completed by qualified ecologist with past avian nesting survey experience. Documented presence of active nesting birds (i.e., egg or young in nest) within Project area would require project schedule hold to December 1 to March 15.

iv. Implementation of a red knot monitoring program during active construction consistent with the Consolidation Project (see Section 01590 Red Knot Monitoring).

3.2 ATTACHMENTS

A. The attachments listed below, following the "End of Section" designation, are a part of this Specification section.
   1. Attachment 01040-A, Permits
   2. Attachment 01040-B, Bat Emergence Survey

PART 4 – PAYMENT

A. All work specified in this section shall be included in the Lump Sum Bid unless otherwise noted.

+ + END OF SECTION + +

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ATTACHMENT 01040-A

PERMITS

NO TEXT ON THIS PAGE

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW YORK DISTRICT
JACOB K. JAVITS FEDERAL BUILDING
26 FEDERAL PLAZA
NEW YORK NEW YORK 10278-0090

REGULATORY BRANCH **April 17, 2023**

SUBJECT: Department of the Army Permit Application File Number NAN-2022-00368-EMI by Nassau County Department of Public Works for Wetland Enhancement and Restoration Activities in Hempstead Bay, in the Town of Hempstead, Nassau County, New York

1. PERMITTEE:
Nassau County Department of Public Works
Attn: Kenneth G. Arnold
1194 Prospect Avenue
Westbury, New York 11590
(516) 571-9607

2. On April 14, 2022, the New York District of the U.S. Army Corps of Engineers received a request for Department of the Army authorization to conduct wetland enhancement and restoration activities including the following:

Pearsall's Hassock Enhancement/Restoration:
Demolition and removal of an existing sludge loading dock and associated inland infrastructure including two steel tanks. The existing bulkhead is proposed to be left in place. Approximately 194 linear feet of 3-foot-long by 1.5-foot-wide by 1.5-foot-high gabion baskets will be installed parallel with the bulkhead on the landward side. Approximately 25 cubic yards of clean native sand material will be beneficially reused from the upland during removal of the sludge dock and discharged below the plane of Spring High Water over approximately 0.07 acres to fringe marsh habitat. Approximately 0.01 acres of high marsh will be established and planted with *Distichlis spicata, Spartina patens*, and *Iva frutescens* and approximately 0.05 acres of low marsh will be established and planted with *Spartina alterniflora*. Additional maritime meadow and maritime shrubland will be established in the upland following the sludge tank removals.

South Black Banks Hassock Enhancement/Restoration:
To restore existing marsh on South Black Banks Hassock, ditch remediation and runnel creation is proposed to improve elevations. Approximately 1,157 cubic feet (42 cubic yards) of material will be removed over a total of 1,157 square feet to create a series of approximately one-foot-wide by one-foot deep runnels. The approximately 48,475 cubic feet (1,795 cubic yards) of clean fill and/or biodegradable materials will be discharged over approximately 24,237 square feet to fill six (6) existing mosquito ditches. Additionally, approximately 1,883 cubic feet (68 cubic yards) of clean fill would be discharged over approximately 2,995 square feet of pooling areas to reach an elevation of 1.7 feet NAVD88. The approximately 1,157 cubic feet of excavated material will be beneficially reused to fill the ditches and pooling areas.

The project is located in Hempstead Bay at Pearsalls Hassock and South Black Banks

Hassock in Hempstead Bay within the Town of Hempstead, Nassau County, New York.

3. The specific applicant-provided details are as shown on the attached permit drawings titled “Hempstead Bay – Hassocks Restoration Project” dated June 2022, prepared by Arcadis.

4. This determination covers only the work described in the submitted material. Any major changes in the project may require additional authorizations from the New York District of the U.S. Army Corps of Engineers.

5. Based on the information submitted to this office and accomplishment of any required notification in accordance with the applicable federal requirements, our review of the subject work indicates that an individual Department of the Army permit is not required. It appears that the activities within the jurisdiction of this office could be accomplished under Department of the Army Nationwide General Permit Number 3 – MAINTENANCE and Number 27 – AQUATIC HABITAT RESTORATION, ENHANCEMENT AND ESTABLISHMENT; in accordance with Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344). The nationwide permits are prescribed at Reissuance and Modification of Nationwide Permits in the Federal Register dated December 27, 2021 (86 FR 73522). The subject work may be performed without further authorization from this office provided it complies with Number 3 – MAINTENANCE and Number 27 – AQUATIC HABITAT RESTORATION, ENHANCEMENT AND ESTABLISHMENT; New York District regional conditions; the following work- specific Special Conditions listed below; and any applicable regional conditions added by the State of New York.

6. Other than the work-specific Special Conditions listed below, the 2021 nationwide general permits in the State of New York, including their final regional conditions, water quality certifications, and coastal zone concurrence statements are available at:

https://www.nan.usace.army.mil/Missions/Regulatory/Nationwide-Permits/

If you require a specific paper copy, please contact our Regulator-of-the-Day at 917-790-8511 to request one be mailed to you. Please be sure to have the above eighteen-character file number readily available when you call.

7. Work-specific Special Conditions:

A. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free

navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

B. The permittee shall sign and submit the attached compliance certification form to this office **within 30 days of COMPLETION** of the regulated activity authorized by this permit and any mitigation work required by Special Condition.

C. The permittee, and their agents, shall take actions to prevent construction materials, including debris, from entering any waterway to become drift or pollution hazards.

8. This verification is valid until March 14, 2026, unless the nationwide general permits are modified, reissued, or revoked before then. This verification will remain valid until March 14, 2026, if the subject work activity complies with the terms of any subsequent modifications of the nationwide general permits. If the nationwide general permits are suspended, revoked, or modified in such a way that the subject activity would no longer comply with the terms and conditions of a nationwide general permit, and the proposed work activity has commenced, or is under contract to commence, the permittee will have twelve (12) months from the date of such permit action to complete the regulated work.

9. In order for us to better serve you and others, please complete our Customer Service Survey located at:

http://www.nan.usace.army.mil/Missions/Regulatory/CustomerSurvey.aspx

10. Any inquiries should be directed to our Regulator-of-the-Day at 917-790-8511. Please be sure to have the above eighteen-character file number readily available when you call.

Christopher Minck 2023.04.17 14:30:25 -04'00'

Christopher Minck
Project Manager, Eastern Section

Enclosures (2)
1. Dated Permit Drawings
2. Completion Form

Copies Furnished:
Governor's Office of Storm Recovery (GOSR)
Town of Hempstead

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

June 28, 2022

James McAllister
Bureau of Environmental Review and Assessment
New York State Governor's Office of Storm Recovery
25 Beaver Street, 5th Fl.
New York, NY 10004

RE: Long Beach Water Pollution Control Plant Consolidation Project, Nassau County, NY
Essential Fish Habitat Consultation Reinitiation

Dear Mr. McAllister:

We have reviewed the revised essential fish habitat (EFH) assessment provided with your February 23, 2022, letter regarding changes to the Long Beach Water Pollution Control Plant (WPCP) Consolidation Project (the Project) in Nassau County, New York. Nassau County, in partnership with the City of Long Beach proposes to eliminate the existing wastewater discharge into western Hempstead Bay from the Long Beach WPCP by connecting the sewer system currently serving Long Beach to the newly rebuilt Bay Ridge Sewerage Treatment Plant (STP) in East Rockaway. In a revision to the overall plan, the Hempstead Bay - Hassocks Restoration Project (Hassock Restoration Project) is to be incorporated as a component of the Project. Details of this modification were presented to us and members of the US Army Corp of Engineers New York District in a pre-application meeting on December 17, 2021. The proposed project is being implemented using US Department of Housing and Urban Development's (HUD) Community Development Block Grant-Disaster Recovery (CDBG-DR) funding, as well as other state and federal funding sources. The Governor's Office of Storm Recovery (GOSR) in cooperation with the New York State Housing Trust Fund Cooperation (HTFC) is responsible for the direct administration of the HUD CDBG-DR program in the State and is HUD's non-federal representative for the purposes of environmental review of this project, including consultation with us under the Magnuson Stevens Fishery Conservation and Management Act (MSA).

MSA consultations for this project were completed in March 2020 and reinitiated in August 2020. Pursuant to 50 CFR 600.920(j), GOSR is requesting another reinitiation of the consultation because additional revisions have been made to the project that affects the basis for our essential fish habitat (EFH) determination and our EFH conservation recommendations. The initial March 2020 project proposal evaluated:

1) the conversion of the Long Beach WPCP's headworks and effluent pump to a diversion pump station;

2) the installation of a 24-inch force main via horizontal directional drilling from the diversion pump station to Bay State Park STP; and
3) the connection from the force main to the Bay State Park's STP's 64-inch effluent header.

The August 2020 reinitiation included:

1) the hardening of all of City pump stations, including 3 satellite pump station facilities, to a 0.2 percent annual chance (500-year) flood elevation;
2) a channel crossing of the proposed 24-in force main between the between North and South Black Banks Hassock; and
3) compensatory mitigation of 1.5 acres along the north side of Pearsalls Hassock and 0.97 acres on South Black Banks Hassock to offset the temporary impacts associated with the project.

The new proposed revisions to the project include the demolition of historic infrastructure (i.e., old sludge dock and platform), restoration of native habitats, and ditch remediation to restore tidal hydrology to the existing marsh platform. In-water activities on Pearsalls Hassock include the removal of a platform and approximately 75-100 timber piles (12- to 18-inches in diameter) associated with the former sludge dock, the modification of an existing timber bulkhead (i.e., cutting of existing wood panels) to promote better hydrologic flushing behind the bulkhead, and the restoration of low marsh. In-water activities on South Black Banks Hassock include the filling of mosquito ditches and constructing of runnels within existing tidal wetland areas.

As discussed in your letter and pre-application meeting, the goal of the Hassock Restoration Project is to improve ecological function and services within Hempstead Bay and the removal of the former infrastructure will restore open water and wetland habitat. Best management practices adopted by the project for piling removal include:

- The use of a turbidity curtain.
- Striking or vibrating piles prior to removal to loosen from sediment and minimize pile breakage.
- Removing piles with the least energy necessary (i.e. physically pulling or using vibratory hammer).
- Slowly removing piles to reduce sediment sloughing off into the water column.
- Cutting piles to the mudline if breakage occurs during removal.

Timber bulkhead modification will reintroduce tidal hydrology and restore low marsh habitat through the strategic cutting of holes into the bulkhead to allow for tidal flushing behind the structure. Approximately 25 cubic yards of beneficially reused soils from the site will be placed and planted over an 0.07-acre area below mean high water to raise the elevation behind the bulkhead to restore coastal salt marsh. Additionally, ditch remediation will improve water quality and promote marsh resiliency by filling old mosquito ditches to the marsh platform using biodegradable material and digging runnels to help drain expanding salt pannes.

Site construction activities are anticipated to take place between December 1, 2022, and March

15, 2023.

Essential Fish Habitat Conservation Recommendations

In our previous letters, we recommended the following EFH conservation recommendations pursuant to Section 305(b)(4)(A) of the MSA to avoid, minimize, and otherwise offset adverse impacts to EFH.

- Develop a frack out plan outlining the measures to be taken if there is an accidental release of drilling muds during the HDD process.
- Develop the proposed compensatory mitigation plan in accordance with the 2008 federal mitigation rule (33 CFR Section 332.3(b)(1)) and coordinate the development of this plan with us.
- Do not temporarily anchor a barge to the bottom of the channel for continuous pullback of the pipeline segment because water depths do not allow the barge to float at all stages of the tide.
- Use buoys or other inflatables to float the pipe across the channel, provided the floats and pipe float at all stages of the tide.
- If buoys and floats have the potential to rest on the bottom at some stages of the tide, and the temporary trestle alternative is selected instead, avoid pile driving and removal and other sediment and noise generating activities between January 1 and May 31 to minimize impacts to winter flounder early life stage EFH.

On August 25, 2020 we received a response adopting all of our conservation recommendations with the exception of a waiver request for trestle construction to occur between January and March 15, 2022. You provided a number of best management practices for avoiding and offsetting the impact of the project on winter flounder EFH, such as working during low tide, vibratory methods for pile removal and installation, and the use of a bubble curtain for work in high tide where depths allow. We agreed with your waiver request via email on August 26, 2020. Additionally, a mitigation plan and frack out plan were developed for the project and provided to us on December 29, 2020.

Please note that the time of year waiver was specific to the construction window anticipated to take place between 2021 and 2022. Should you anticipate an additional waiver of this conservation recommendation to be needed, you will need to provide us with a justification and measures intended to avoid, minimize, mitigate, or offset such effects.

We have reviewed the revised EFH assessment provided and agree with your conclusion that the adverse effects of this project on EFH will not be substantial. Based upon all of the information provided, we do not have any objections to the proposed project modifications and provide the following additional EFH conservation recommendations to minimize or offset adverse impacts on EFH resulting from the project revisions.

1. Perform pile removal activities and minor grading associated with the wetland restoration behind the bulkhead during low tide, as practicable.

2. Use best management practices during the dock demolition to avoid pieces of former infrastructure from falling into the water.
3. Ensure all in-water equipment (i.e., barges) that may be used during demolition activities have the ability to float during all stages of the tide.
4. Revise the Mitigation Plan to incorporate monitoring details for the Hassock Restoration Project and provide us with copies of the annual monitoring reports.

Please note that Section 305(b)(4)(B) of the MSA requires you to provide us with a detailed written response to these EFH conservation recommendations, including a description of measures adopted by you for avoiding, mitigating, or offsetting the impact of the project on EFH. In the case of a response that is inconsistent with our recommendations, Section 305(b)(4)(B) of the MSA also indicates that you must explain your reasons for not following the recommendations. Included in such reasoning would be the scientific justification for any disagreements with us over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects pursuant to 50 CFR 600.920(k). This response must be provided within 30 days after receiving our EFH conservation recommendations and at least 10 days prior to final approval of this action. Further EFH consultation must be reinitiated pursuant to 50 CFR 600.920(j) if new information becomes available, or if the project is revised in such a manner that affects the basis for the above determination.

As always, we appreciate the coordination between your staff on this project and look forward to seeing how this project progresses. If you have any questions or need additional information, please contact Jessie Murray in our Highlands, NJ field office at 978-678-2175 or email at Jessie.Murray@noaa.gov.

Sincerely,

Louis A. Chiarella
Assistant Regional Administrator
for Habitat and Ecosystem Services

cc: HUD: – D. Mahon
NYD ACOE – S. Ryba, C. Minck
NMFS PRD – E. Carson-Supino
NYDEC – D. McReynolds, E. Scott
FWS – S. Papa

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930

June 30, 2022

James McAllister
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
60 Broad Street, 27th Floor
New York, New York 10004

Re: Long Beach Water Pollution Control Plant Consolidation Project: Hempstead Bay - Hassocks Restoration Project, Nassau County, New York

Dear Mr. McAllister:

We have completed our consultation under section 7 of the Endangered Species Act (ESA) in response to your emails received on January 26, 2022, February 23, 2022, and June 8, 2022, regarding the above-referenced proposed project. We reviewed your consultation request document and related materials. Based on our knowledge, expertise, and your materials, we concur with your conclusion that the proposed action is not likely to adversely affect any National Marine Fisheries Service ESA-listed species or designated critical habitat. Therefore, no further consultation pursuant to section 7 of the ESA is required.

We would like to offer the following clarifications to complement your incoming request for consultation. In your biological assessment, the proxy project noise data you provided for your noise effects analysis were from projects located in Norfolk, Virginia (for the vibratory hammer data) and Benicia, California (for the impact hammer data). Also, in your noise effects analysis, you make the determination that the effects are insignificant and discountable. The effects of noise are rather too small to be meaningfully measured or detected, and are, thus, insignificant.

Reinitiation of consultation is required and shall be requested by the lead federal agency or by us, where discretionary federal involvement or control over the action has been retained or is authorized by law and: (a) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation; or, (c) If a new species is listed or critical habitat designated that may be affected by the identified action. No take is anticipated or exempted. If there is any incidental take of a listed species, reinitiation would be required. Should you have any questions about this correspondence please contact Edith Carson-Supino at (978) 282-8490 or by email (Edith.Carson-Supino@noaa.gov).

For questions related to Essential Fish Habitat, please contact Jessie Murray with our Habitat and Ecosystems Services Division at (978)-675-2175 or Jessie.Murray@noaa.gov.

Sincerely,

Jennifer Anderson

Jennifer Anderson
Assistant Regional Administrator
for Protected Resources

ec: Murray, NMFS/HESD; Parker, HUD
ECO: GARFO-2022-01424
File Code: H:\Section 7 Team\Section 7\Non-Fisheries\HUD\2022\HUD GOSR Long Beach WPCP Consolidation - Hempstead Bay Hassocks Restoration

Governor's Office of
Storm Recovery

KATHY HOCHUL
Governor

February 1, 2022

Mr. Steven T. Papa
United States Fish and Wildlife Service
Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967

Re: Section 7 Project Review/Update
Long Beach Water Pollution Control Plant Consolidation Project:
Hempstead Bay - Hassocks Restoration Project, Nassau County, New York
FWS Consultation Code: 05E1LI00-2022-SLI-0329

Dear Mr. Papa:

The Governor's Office of Storm Recovery (GOSR) submits the below request and analysis regarding additions to the scope of work for the Long Beach Water Pollution Control Plant Consolidation Project (the Project) to be implemented by Nassau County, in partnership with the City of Long Beach. The Hempstead Bay - Hassocks Restoration Project (Hassock Restoration Project) would be incorporated as part of the Project, which is receiving federal funding through the Department of Housing and Urban Development (HUD) Community Development Block Grant – Disaster Recovery (CDBG-DR) Rebuild by Design (RBD) Program and the Federal Emergency Management Agency (FEMA) HMGP. Operating under the auspices of the New York State Homes and Community Renewal's Housing Trust Fund Corporation (HTFC), a public benefit corporation and subsidiary of the New York State Housing Finance Agency, GOSR is responsible for the direct administration of the HUD CDBG-DR program in New York State and is overseeing the environmental review for the Project.

The purpose of this letter is to provide the U.S. Fish and Wildlife Service (FWS) notice of the Hassock Restoration Project and to document continued compliance with Section 7 of the Endangered Species Act (ESA), as well as the Migratory Bird Treaty Act (MBTA), the Bald and Golden Eagle Protection Act (BGEPA), and the Fish and Wildlife Coordination Act. As discussed below, GOSR reviewed the overall Project, incorporating the addition of the Hassocks Restoration Project, and found that the Project does not jeopardize the continued existence of ESA species or destroy or adversely modify their critical habitat. This letter requests acknowledgement from the FWS indicating that it has received GOSR's determination and has no objections to the determination. This Section 7 consultation will also address any U.S. Army Corps of Engineers (USACE) consultation requirements for their Section 404 Clean Water Act and Sect-

ion 404 Clean Water Act and Section 10 Rivers and Harbors permitting.

PROJECT DESCRIPTION

The Project area occurs primarily within Pearsalls and Black Banks Hassocks within the Western Bays (see **Attachment 1**). The Hassocks are primarily low-lying salt marsh islands. Historically, portions of both islands were utilized for dredge disposal, which converted salt marsh habitats to upland habitats. Existing habitats present within the Hassocks Restoration Project area include low salt marsh, high salt marsh, salt shrub, salt panne, maritime shrubland, sandy beach, intertidal mudflats, and subtidal bottom habitat. The area surrounding the bay is densely urban with both residential and light industrial land uses.

The overall Project includes the following components: (1) conversion of the Long Beach WPCP's headworks and influent pump to a resilient diversion pump station; (2) installation of a 24-inch force main from the diversion pump station to the Bay Park STP; (3) connection from the force main to the existing 66-inch sewer main located west of the Bay Park STP; and (4) hardening of all of City pump stations, including 3 satellite pump station facilities, to a 0.2 percent annual chance (500-year) flood elevation. The Project would leverage existing infrastructure, reduce flood risk, mitigate the City's entire wastewater collection system to FEMA standards for critical infrastructure, help to improve both water quality and the natural and beneficial resiliency function of the marshlands which include wave and flood attenuation. A detailed description of the Project was provided in GOSR's July 27, 2020 Revised – Section 7 Review Letter, included here as **Attachment 2**.

This letter focuses on the additional Hassocks Restoration Project to be implemented as a component of the overall Project and includes three overall interventions to improve ecological function and services within Hempstead Bay. Each intervention will also reduce risk of future direct physical damage and public health impacts in a flood event.

Two interventions are located on Pearsalls Hassock to strategically demolish historic sludge operation infrastructure and subsequently restore native maritime habitats. Demolition activities are anticipated to include dock demolition, removal and capping of all above ground piping, removal of three above ground structures associated with pumping activities, removal and/or cutting (below the soil surface) of sludge tank foundations, removal of all perimeter fencing, and removal of any other structure or materials associated with historic activities at the site. The exception is the existing bulkhead will be left in place to prevent continued erosion of the shoreline following removal of the dock structure. However, the bulkhead will be modified (i.e., cutting of existing wood panels) to promote better hydrologic flushing behind the bulkhead to support salt marsh habitat restoration. Following all demolition activities, the project will strategically aim to restore up to 1.5 acres of native wetland and upland habitats. The flat upland areas proximate to tank foundations will be restored as a maritime shrubland and meadow. The design process is currently evaluating if existing soils will require amendment with fertilizers or soils to restore these habitats. The eroding portions of the shoreline will be regraded to reduce slopes, stabilized with erosion control matting, and revegetated as a maritime shrubland. Soils excavated to lay back these slopes will be beneficially re-used to raise the elevation behind the bulkhead to support restoration of a coastal salt marsh (i.e., low and high marsh).

The third intervention occurs on South Black Banks Hassock and will focus on mosquito ditch remediation to restore tidal hydrology and future sediment accretion to the tidal marsh platform. The work builds upon

original FWS restoration activities at Rachel Carson and Parker River National Wildlife Refuge Areas. This intervention aims to reverse the adverse effects of historic mosquito ditching, which have been compounded by historically poor water quality, in order to improve tidal hydrology on the marsh platform in a way that promotes maintenance of marsh platform elevation, increased sediment accretion, and in turn promotes greater natural resiliency to sea level rise. Proposed activities will fill mosquito ditches with biodegradable material (i.e., mowed grass clippings) and potentially natural soils/sediments re-used from runnel creation. Proposed runnels (i.e., small nature-based tidal channels) will be constructed within the marsh platform to pro-actively address anticipated ponding in existing salt pannes that could result from filling of mosquito ditches.

Site construction activities associated with the Hassock Restoration Project would occur between December 1 and March 15 only, minimizing disturbance to existing habitat and wildlife, including ESA-listed species and migratory birds, during the spring and summer months. The only project activities that may occur after March 15 are anticipated to be planting activities, which are not anticipated to impact wildlife species.

Attachment 1 provides conceptual schematics, aerial overlays, photographs, and mapping that depict the locations and interventions of the Hassock Restoration Project.

ENDANGER SPECIES ACT

The FWS, Long Island Ecological Services Field Office was contacted through the Information, Planning, and Conservation System (IPaC) regarding the potential presence of species under the jurisdiction of the FWS within the area of the Project. The FWS Official Species List is included as **Attachment 3**. The FWS indicates that six threatened and endangered species may occur within the Project area: northern long-eared bat (*Myotis septentrionalis* – threatened); piping plover (*Charadrius melodus* – threatened); red knot (*Calidris canutus rufa* - threatened); roseate tern *(Sterna dougallii* – endangered); sandplain geradia (*Agalinis acuta* – endangered); and seabeach amaranth (*Amaranthus pumilus* – threatened). There are no critical habitats for these or any other species within the vicinity of the Project. Descriptions of each species and their habitats are summarized below based on the New York State Department of Environmental Conservation (NYSDEC) fact sheets[i] and FWS species profiles[ii] unless otherwise referenced.

The northern long-eared bat is a medium-sized bat that is distinguished by its long ears, particularly as compared to other bats in its genus. The northern long-eared bat is found across much of the eastern and north central United States. White-nose syndrome is the predominant threat to this bat, especially throughout the northeast where the species has declined by up to 99 percent from pre-white-nose syndrome levels at many hibernation sites. Summer habitat of the northern long-eared bat typically includes mature, closed-canopy, upland and riparian forest within heavily forested landscapes[iii iv]. The long-eared bat is considered to be an interior forest-dependent species that requires large tracts of unbroken forest for both foraging and breeding[v vi vii]. During summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees, using tree species based on suitability to retain bark or provide cavities or crevices. They emerge at dusk to fly through the understory of forested hillsides and ridges feeding on moths, flies, leafhoppers, caddisflies, and beetles or by gleaning insects from vegetation and water surfaces. Northern long-eared bats spend winter hibernating in caves and mines.

Northern long-eared bats are more likely to be found in mature, closed-canopy, upland and riparian forests that are not found within the Project area. However, bats may potentially forage within the Project area, and trees on the marsh islands within the vicinity of the Project may potentially serve as roosts during the active season.

The piping plover is a small shorebird that is listed as federally threatened and state endangered. Habitat is only found at the shore, on barrier islands, sandy beaches, and dredged material disposal islands. The piping plover diet consists principally of marine worms, insect larvae, beetles, crustaceans, and mollusks and is obtained by foraging on beaches, dunes, and in tidal wrack. In New York, this species breeds on Long Island's sandy beaches, from Queens to the Hamptons, in the eastern bays and in the harbors of northern Suffolk County. Piping plovers arrive to the New York area in early to mid-March and establish nesting territories by early April. Nests are usually placed well above the high tide line on open sandy beaches or in areas that have been filled with dredged sand, often near dunes in areas with little or no beach grass. By early September, most have departed for their wintering areas.

This species may occur in the Project area as an occasional transient, foraging on mudflats or sandy beach areas. However, the preferred wide, open expanses of unvegetated or sparsely vegetated sandy beach breeding and foraging habitat for piping plover is not present within the Project area.

The red knot is a large, bulky sandpiper that is listed as federally threatened. Red knots feed on invertebrates, especially small clams, mussels, and snails, but also crustaceans, marine worms, and horseshoe crab eggs. Red knots breed in the Canadian Arctic and winter at the southern tip of South America, flying more than 9,300 miles from south to north every spring and repeat the trip in reverse every autumn, making this bird one of the longest-distance migrants in the animal kingdom. Habitat in the northeastern U.S. includes Atlantic and bay beaches and mudflats with abundant horseshoe crab egg food source that are free from human disturbance. A major stopping point on the spring migration is the Delaware Bay where red knot feed heavily on horseshoe crab eggs to replenish fat supplies before continuing. In New York, red knot may occur along the salt meadows and mudflats of the south shore of Long Island in both spring and fall.

Red knot breeding habitat is not present within the Project area because this species breeds in the Canadian arctic region. This species may occur as an occasional transient, foraging on mudflats within the Project Area. However, wide sandy beaches or mudflats with an abundant horseshoe crab egg food source are not present within the Project area.

The roseate tern is a waterbird listed as federally and state endangered. Foraging habitat includes shallow coastal waters, inlets, and offshore seas. Roseate terns feed primarily on the American sand lance, a small marine fish. In the northeastern U.S., roseate tern nest on beaches, barrier islands, and offshore islands. Open sandy beaches isolated from human activity are its optimal nesting habitat. Roseate terns arrive on the breeding grounds in late April or early May and begin nesting one month later. The nest is usually placed in dense grass clumps or even under boulders or rip-rap, and may be only a depression in sand, shell, or gravel and may be lined with bits of grass and other debris. In New York, this species breeds only at a few Long Island colonies and is always found nesting with common terns. The majority of the

population in New York nests on Great Gull Island off the eastern end of Long Island, with only a few nesting attempts documented elsewhere. Migration to wintering grounds begins in late summer.

Roseate terns are not known to breed within the Project area and are expected to occur only as occasional transients.

The only Federally Endangered plant species in New York State, sandplain gerardia is a small annual plant with delicate pink blossoms. Six of the twelve known natural populations in the world can be found in coastal grassland areas on Long Island. It now survives in remnant grasslands in pine barrens with broad, grassy swaths; remnants of the Hempstead Plains dominated by grasses and composites with scattered shrubs and bare areas scraped by a bulldozer; and other remnant grasslands of the South Fork including those around golf courses, and along roadsides and railroads.

Suitable habitat for sandplain gerardia is not present within the Project area, as it only occurs in coastal grasslands. This species was not observed during a wetland delineation and habitat mapping field effort conducted within the Project area in 2019.

Seabeach amaranth is an annual plant that is listed as federally endangered and state threatened. The plant grows on a nearly pure sand substrate above the high tide line on barrier island beaches and is intolerant of even occasional flooding during its growing season. Seabeach amaranth does not compete well in areas of established growth but will potentially stabilize in disturbed areas. The habitat is sparsely vegetated with annual herbs and, less commonly, perennial herbs, and scattered shrubs. Flowering and seed production usually start in July and continue until the plants die in the fall. It is only known from Long Island, ranging from Coney Island to near the east end of the South Fork along the southern shore[viii]. Beaches where seabeach amaranth is known to occur are usually over 20 meters wide protected from vehicle use and excessive trampling.

Suitable habitat for seabeach amaranth is not present within the Project area as it only occurs in the upper beach zone of wide barrier island beaches. This species was not observed during a wetland delineation and habitat mapping field effort conducted within the Project area in 2019.

A request for species records within the Project area was sent to the New York State Natural Heritage Program (NYSNHP) during the preparation of permits for geotechnical studies. A response was received on August 1, 2019 (included as **Attachment 4**) indicating that there are no records of the any federally protected species in the vicinity of the Project, although several state-listed birds have been documented breeding or foraging within the vicinity of the Project area. An updated request for species records to support the additional Hassock Restoration Project was submitted to the NYSNHP on December 22, 2021.

GOSR conducted avian field surveys in the Project area, including a breeding bird survey of the proposed limits of disturbance (LOD) in 2020. No federally listed species were observed. **Attachment 5** contains a memo reporting the observations made during the 2020 field surveys.

The additional Hassock Restoration Project does not include removal of trees that have characteristics necessary to support summer roosting of the northern long-eared bat. In addition, the additional project area is not located within the vicinity of known or assumed northern long-eared bat hibernacula or maternity roosts. Finally, vegetation clearing activities would only occur between December 1 and March 15 which would avoid the active season/roosting season (April 1 – October 31). Outside of the active season, northern long-eared bats are in hibernation in caves and mines and would not be directly affected by tree removal activities, thereby avoiding any prohibited incidental take. Tree removal will be minimized in the design to the greatest extent practicable, and approximately 147 acres of successional forested habitat on the marsh islands would remain undisturbed during construction.

The Hassock Restoration Project area may provide minimal suitable foraging habitat for piping plover, red knot, and roseate tern. Review of NYSNHP, eBird, and the Breeding Bird Atlas data do not indicate records of these species occurring within the Project area, and none were observed during the 2020 survey within the Project area. None of these species are known to breed within the proposed project area, and they are only expected to occur as occasional transients due to lack of preferred habitat. Although the Hassock Restoration Project area does not provide the preferred breeding habitat for piping plover and red knot, the area may contain minimal mudflat habitat that may provide foraging habitat for these species. Sandplain gerardia and seabeach amaranth are not expected to occur within the Project area due to a lack of suitable habitat and were not observed during initial field surveys.

While piping plover and red knot have not been documented within the overall Project area, construction associated with the Hassock Restoration Project could temporarily impact potentially suitable foraging habitat for ESA bird species. Any potential impact would be minimal since ESA species would not likely be present within the region during the seasonal work window, the project will restore higher functioning native habitats, and similar suitable habitat would be available to species during construction. Pre-construction surveys will not be conducted due to the fact all work is anticipated to be completed in the winter and by March 15, 2023.

Based on this analysis, including consideration of proposed avoidance measures, GOSR has determined that the Project, including the addition of the Hassocks Restoration Project, would have no effect on sandplain gerardia, seabeach amaranth, and northern long-eared bat, and may affect, but is not likely to adversely affect, piping plover, red knot, and roseate tern. Specific to the additional Hassock Restoration Project, the proposed activities would have no effect on all identified ESA species of concern.

MIGRATORY BIRD TREATY ACT

The Project would take place within the Atlantic Flyway. The FWS IPaC was accessed to obtain a Migratory Bird Resource List for the Project area. The list of migratory species is provided in the FWS Trust Resource List, included as **Attachment 6**. The list comprises thirty-eight FWS Birds of Conservation Concern (BCC) and other species that may warrant special attention. Of the thirty-eight species, eighteen species are designated as BCC, which includes migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the highest conservation priorities. BCC species include nongame birds, gamebirds without hunting seasons,

subsistence-hunted nongame birds in Alaska; and ESA candidate, proposed endangered or threatened, and recently delisted species. The remaining twenty bird species are identified as "non-BCC vulnerable," meaning they warrant attention because of the BGEPA or for potential susceptibilities in offshore areas from certain types of development or activities. Project sponsors are required to prevent any harm or taking of the identified species.

Attachment 5 contains a memo reporting the observations made during the 2020 field surveys, and which were further summarized in GOSR's July 27, 2020 Revised – Section 7 Review Letter,

Although not included on the FWS Migratory Bird Resource List for the Project area, osprey (*Pandion haliaetus*), a state Special Concern species, are known to nest on the Hassock Islands. Three human-made osprey nesting towers are present on Black Banks Hassock. Nine osprey nests were observed in the overall Project area during 2020 surveys. Specific to the Hassock Restoration Project, an old osprey nest is located on the existing dock structure associated with historic sludge management on Pearsalls Hassock. This nest on the old dock structure was not observed to be active in 2021 during multiple site visits within Hempstead Bay and was noted to be in significant disrepair in January 2022. Due to the proposed construction schedule, ospreys are not expected to be present.

With respect to the Hassock Restoration Project, the project is not anticipated to have a disturbance to migrating bird species due to all construction activities occurring before March 15, 2023. In addition, site restoration activities as part of these additional interventions are intended to enhance ecological habitat complexity important to wildlife species.

GOSR has determined that the Project is not likely to jeopardize the continued existence of any migratory birds, and it would not result in the destruction or adverse modification of designated critical habitat of any such species.

THE BALD AND GOLDEN EAGLE PROTECTION ACT SPECIES

Bald eagles (*Haliaeetus leucocephalus*) were removed from the federal list of threatened and endangered species on August 9, 2007 and are no longer protected under the ESA. Bald eagles, along with golden eagles (*Aquila chrysaetos*), are federally protected under the BGEPA and the MBTA. The BGEPA, originally passed in 1940, provides for the protection of the bald eagle and the golden eagle (as amended in 1962) by prohibiting the take, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit.

Bald eagle is included on the Migratory Bird list for the Project area (see **Attachment 6**). One juvenile bald eagle was observed on North Black Banks Hassock during the spring 2020 survey. There are no records of bald eagles nesting within the vicinity of the Project area, and this species is expected to occur only as an occasional transient. Golden eagles may occur in New York during migration, but they do not breed in the region. Golden eagles are not included on the Migratory Bird list for the Project area and are not likely to occur within the vicinity of the Project area.

There are no records of bald eagle nesting within the vicinity of the Project area, therefore, no adverse impacts to breeding bald eagles are expected. This species is expected to occur only as an occasional

transient. As with other migratory birds, foraging bald eagles may temporarily avoid the area during construction due to noise and disturbance. Golden eagles are not likely to occur within vicinity of the Project area and would not be affected by the Project.

GOSR has determined that the Project would not result in "taking" bald or golden eagles. The Project would not substantially interfere with normal breeding, feeding, or sheltering behavior that may cause injury, decrease in productivity, or nest abandonment. If a bald eagle nest is identified within 330 feet of the Hassock Restoration Area prior to construction, then Nassau County recognizes that further coordination with USFWS will be necessary.

FISH AND WILDLIFE COORDINATION ACT

The Fish and Wildlife Coordination Act authorizes FWS to provide assistance to, and cooperate with, federal, state, and public or private agencies and organizations in the development, protection, rearing, and stocking of all species of wildlife, resources thereof, and their habitat, in controlling losses of the same from disease or other causes, in minimizing damages from overabundant species, and in providing public shooting and fishing areas, including easements across public lands for access thereto. The amendments enacted in 1946 require consultation between FWS and state fish and wildlife agencies where the "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted . . . or otherwise controlled or modified" by any agency under a federal permit or license. Consultation is to be undertaken for the purpose of "preventing loss of and damage to wildlife resources." The purpose of the FWCA is to give fish and wildlife resources equal consideration during the project planning process, while at the same time accomplishing the objectives of the proposed action.

Existing fish and wildlife habitat present within the Project area includes salt marsh, salt shrub, salt panne, maritime shrubland, sandy beach, intertidal mudflats, and the open waters of Hempstead Bay.

Implementation of the Project would not result in the modification to waters, such as impoundment, diversion, channel deepening, or any other control or modification to natural streams or bodies of water. Therefore, coordination with FWS with respect to FWCA is not necessary. Site clearing would only occur December 1 through March 15 to minimize disturbance to existing habitat and wildlife. Fish and wildlife habitat that would be temporarily impacted during Project construction would be restored to pre-existing conditions.

CONCLUSION

There is no designated critical habitat for any species within the Project area. The Project is not expected to result in a "taking" of any listed species. Project implementation is conditioned upon issuance of applicable federal and state permits and would be constructed in accordance with federal and state permit conditions. For purposes of consultation under Section 7(a)(2) of the ESA, GOSR maintains its prior determination that the Project, including the addition of the Hassocks Restoration Project, would have no effect on sandplain gerardia, seabeach amaranth, and northern long-eared bat; and may affect but is not likely to adversely affect piping plover, red knot, and roseate tern. The Project is not likely to jeopardize the continued existence of vulnerable migratory birds or BCC, nor the destruction or adverse modification their designated critical habitat. The Project would not result in "taking," injury, decrease

in productivity, or nest abandonment of bald or golden eagles. Implementation of the Project would not require coordination with FWS under the FWCA as the Project would not result in the control or modification of any natural stream or body of water. Accordingly, GOSR requests acknowledgement from FWS that they have no objections to this determination.

If you have any questions, please feel free to contact me via telephone number (212) 480-6265 or email: Matt.Accardi@stormrecovery.ny.gov. Thank you for your consideration and cooperation.

Sincerely,

Matt Accardi
Associate General Counsel and Certifying Environmental Officer
Bureau of Environmental Review and Assessment Governor's Office of Storm Recovery
60 Broad Street, 26th Floor, New York, New York 10004

Attachments:

1) Project Location, Figures, Conceptual Schematics
2) July 27, 2020 Revised – Section 7 Review
3) FWS Official Species List
4) NYSNHP Response
5) 2020 Field Surveys Memo Report
6) FWS Trust Resource List

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[i] http://www.dec.ny.gov/animals/7494.html; http://acris.nynhp.org/animals.php
[ii] http://ecos.fws.gov/ecp/
[iii] Ford, W.M., M.A. Menzel, J.L. Rodrigue, J.M. Menzel, and J.B. Johnson. 2005. Relating bat species presence to simple habitat measures in a central Appalachian forest. Biological Conservation 126: 528-539.
[iv] Henderson, L.E., L.J. Farrow, and H.G. Broders. 2008. Intra-specific effects of forest loss on the distribution of the forest-dependent northern long-eared bat (Myotis septentrionalis). Biological Conservation 141:1819-1828.
[v] Foster, R.W. and A. Kurta, A. 1999. Roosting ecology of the northern bat (Myotis septentrionalis) and comparisons with the endangered Indiana bat (Myotis sodalis). Journal of Mammalogy 80: 659-672.
[vi] Broders, H.G., G.J. Forbes, S. Woodley, and I.D. Thompson. 2006. Range extent and stand selection for forest-dwelling northern long-eared and little brown bats in New Brunswick. Journal of Wildlife Management 70: 1174-1184.
[vii] Henderson, L.E., L.J. Farrow, and H.G. Broders. 2008. Intra-specific effects of forest loss on the distribution of the forest-dependent northern long-eared bat (Myotis septentrionalis). Biological Conservation 141:1819-1828.
[viii] NYSDEC Natural Heritage Program. Plant Guides.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Long Island Field Office
3 Old Barto Road
Brookhaven, NY 11719
Phone: (631) 776-1401 Fax: (631) 776-1405
http://www.fws.gov/northeast/nyfo

To: James MacAllister Date: April 6, 2022

USFWS File No:

Regarding your: ☐ letter ☐ FAX ☒ E-mail dated: February 25, 2022

For project: Long Beach Water Pollution Control Plant Consolidation Project

Located:

In Town/County: Nassau County

Pursuant to the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), the U.S. Fish and Wildlife Service:

☐ Acknowledges receipt of your "no effect" determination. No further ESA coordination or consultation is required.

☒ Acknowledges receipt of your determination. Please provide copy of your determination and supporting materials to any involved Federal agency for their final ESA determination.

☐ Is taking no action pursuant to ESA or any other legislation at this time but would like to be kept informed of project developments.

As a reminder, until the proposed project is complete, we recommend that you check our website (http://www.fws.gov/northeast/nyfo/es/section7.htm) every 90 days from the date of this letter to ensure that listed species presence/absence information for the proposed project area is current. Should project plans change or additional information on listed or proposed species or critical habitat become available, this determination may be reconsidered.

Pursuant to the Fish and Wildlife Coordination Act (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*),

☐ Requests additional time for review.

☐ Is providing FWCA comments (see attached).

☐ Will provide FWCA comments separately.

☐ Is taking no action pursuant to FWCA due to lack of funding.

☐ Has no objection pursuant to the FWCA.

☐ Is taking no action pursuant to the FWCA at this time but would like to be kept informed of project developments.

USFWS Contact(s): Steve Papa Date_____

Supervisor:_____ Date_____

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

June 03, 2022

James McAllister
Director – Certifying Officer
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
500 Bi-County Boulevard, Suite 300
Farmingdale, NY 11735

Re: GOSR
Long Beach Water Pollution Control Plant Consolidation
19PR04299

Dear James McAllister:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York State Environmental Conservation Law Article 8).

We have reviewed the materials regarding the demolition of the sludge loading dock and associated infrastructure on Pearsalls Hassock, Hempstead. The SHPO continues to recommend that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking.

If further correspondence is required regarding this project, please refer to the SHPO Project Review (PR) number noted above. If you have any questions, please contact me via email.

Sincerely,

Tim Lloyd, Ph.D.
Scientist - Archaeology
timothy.lloyd@parks.ny.gov

via e-mail only

KATHY HOCHUL
Governor

RUTHANNE VISNAUSKAS
Commissioner/CEO

MEMORANDUM

To:	Environmental Review Record File – Long Beach Water Pollution Control Plant Consolidation
From:	James McAllister, Certifying Officer, Office of Resilient Homes and Communities (ORHC)
Date:	July 10, 2023
Subject:	Re-evaluation of Environmental Assessment under 24 C.F.R. 58.40

On behalf of the Grantee, the State of New York, the Office of Resilient Homes and Communities (ORHC) (formerly the Governor's Office of Storm Recovery), acting under the auspices of the New York State Homes and Community Renewal's Housing Trust Fund Corporation, serves as the Responsible Entity with respect to regulations at 24 C.F.R. 58, and in cooperation with other involved, cooperating, and interested agencies, prepared an Environmental Assessment (EA) to analyze potential impacts of the Long Beach Water Pollution Control Plant (WPCP) Consolidation Project. The August 27, 2020, EA documented a Finding of No Significant Impact (FONSI) for the Long Beach WPCP Project. On August 28, 2020, ORHC issued a combined Notice of FONSI and Notice of Intent to Request Release of Funds (FONSI/NOIRROF) and Final Notice and Public Review of a Proposed Activity in a Floodplain and Wetland. Pursuant to the U.S. Department of Housing & Urban Development's (HUD) National Environmental Policy Act (NEPA) implementing procedures, ORHC, as responsible entity, must certify that it has complied with the related laws and authorities identified by 24 C.F.R. 58 and must consider the criteria, standards, policies, and regulations of these laws and authorities.

The Long Beach WPCP Project Consolidation was classified as a Type II Action and was therefore exempt from New York State Environmental Quality Review (SEQR) review. The Hassocks Restoration Project is being included in the County's Bay Park Agreement with NYSDEC (CO1-20170626-244) and, as such, is a Type II Action under SEQR regulations (6 NYCRR Section 617.5 (c)(35).

PURPOSE

The Long Beach WPCP Consolidation Project will eliminate the antiquated WPCP plant and its discharge into Reynolds Channel. Sewage from the Long Beach barrier island would be conveyed via a storm-resilient pumping facility to the newly upgraded and storm-hardened Nassau County Bay Park Sewage Treatment Plant (STP) located in the hamlet of Bay Park adjacent to the mouth of Mill River. The following elements are included in the Long Beach WPCP Consolidation project as analyzed in the 2020 EA:

- Constructing a new 24-inch force main connection from the Long Beach Wastewater Consolidation Project to the Bay Park STP to convey untreated sewage
- Converting the existing influent pump building at the Long Beach Wastewater Consolidation Project into a new flow diversion pump station
- Hardening the new flow diversion pump station to protect it from future storm events and sea-level rise

Based on additional funding availability, ORHC has chosen to add the Hempstead Bay - Hassocks Restoration Component (hereafter referred to as the "Hassocks Restoration") to the Long Beach WPCP Consolidation Project. The Hassocks Restoration is additional project scope within the same general geographic area previously analyzed, and it entails the demolition of unused sludge operation infrastructure and subsequent wetland restoration in the Pearsalls Hassock, as well as mosquito ditch remediation to restore tidal hydrology and future sediment accretion to the tidal marsh platform in the South Black Banks Hassock. Construction activity for the Hassocks Restoration would last approximately four months and would take place concurrent with construction of the Long Beach WPCP Consolidation Project, which is expected to commence in spring 2024 and be completed by December 2025.

A responsible entity must re-evaluate its environmental findings to determine if the original findings are still valid, when there are new circumstances and environmental conditions which may affect the project or have a bearing on its impact, such as concealed or unexpected conditions discovered during the implementation of the project or activity which is proposed to be continued (24 C.F.R. 58.47(a)(2)). If the original findings are still valid but the data or conditions upon which they were based have changed, the responsible entity must affirm the original findings and update its Environmental Review Record by including this re-evaluation and its determination based on its findings. Under these circumstances, if a Findings of No Significant Impact (FONSI) notice has already been published, no further publication of a FONSI notice is required.

The purpose of this memorandum is to document compliance with the HUD NEPA regulations at 24 C.F.R. 58.47(a)(2) regarding the proposed additional scope for the Hassocks Restoration, which includes demolition and removal of sludge operation infrastructure and restoration of marsh habitat at Pearsalls Hassock and South Black Banks Hassock (**Attachment 1**).

HEMPSTEAD BAY - HASSOCKS RESTORATION COMPONENT

Pearsalls and South Black Banks Hassocks are situated within the Western Bays and owned by the Town of Hempstead (see **Attachment 1**). Pearsalls and South Black Banks Hassocks are classified as low-lying salt marshes. Between the years of 1974 and 2005, approximately 13% of the native estuarine marsh habitat across Long Island's estuaries was lost[1]. Within the Town of Hempstead, approximately 1,060 acres were lost over this interval, representing the highest rate of loss within Long Island. It is also recognized that both Pearsalls Hassock and South Black Banks Hassock have been impacted by the construction of the existing Bay Park STP and associated outfall and by processes related to sewage transport, storage, and treatment.

The overall objective of the Hassocks Restoration is to support restoration and enrichment of the Western Bays as a recreational, economic, social, and environmental resource to Long Island and the State of New York. The component was developed in coordination with both the New York State Department of Environmental Conservation (NYSDEC) and Nassau County to identify strategic restoration efforts that could be implemented within the proposed timeline, and which would have direct benefits to the ecological functions and services provided by the Western Bays. The component directly addresses historic anthropogenic disturbances within the Western Bays and is specifically intended to remove abandoned infrastructure and promote the natural resilience of shorelines and native marsh habitats on both Pearsalls and South Black Banks Hassock. Specific actions proposed on Pearsalls and South Black Banks Hassock are described below.

Pearsalls Hassock

Restoration activities on Pearsalls Hassock specifically aim to remove historical and decommissioned infrastructure associated with Nassau County's discontinued sludge operations and to restore appropriate native maritime habitats. Generally, the sludge operation structures are in poor condition and pose a potential risk to public health and safety. This

[1] Cameron Engineering and Associates (CEA) (2015) Long Island tidal wetland trends analysis. Prepared for the New England Interstate Water Pollution Control Commission, p 207, http://www.dec.ny.gov/lands/5113.html

component also includes stabilization of failing shoreline banks and restoration of native habitats on Pearsalls Hassock, including a fringe low marsh habitat behind an existing bulkhead. All work on the marsh surface will take place b beginning in the Spring of 2024, in compliance with all permits and requirements.

The former sludge loading dock and associated in-water and shoreline infrastructure will be demolished to restore open water habitat. It is anticipated that the selected contractor will complete all in-water demolition from a construction barge anchored in place for as long as needed over the project duration. Demolition of the sludge dock will include removal of all piping, decking, and associated supports from the piles. A former pier landing, which was used during construction of the sludge tanks and is situated at the northernmost portion of the project area, will not be demolished as part of the project. Based on analysis completed during design of the project, it was determined that removal of this pier landing could jeopardize the long-term structural integrity of the existing bulkhead, and its removal could result in scouring of sand along the northern end of the bulkhead.

Inland infrastructure related to historic sludge storage and transfer (i.e., sludge tank concrete foundation rings, control structure, generator building, terminal and odor control vault, pig releasing chamber, various abandoned above ground piping, and perimeter fencing) will be demolished. Equipment required to complete the demolition of upland structures will be operated from the work barge where feasible or, alternately, from an upland position above the mean high water line.

The existing upland banks immediately west of an existing bulkhead will be graded to provide a more gradual slope, and native shoreline vegetation will be restored through plantings. To secure sand on the waterward side of the proposed grading, the low marsh will be protected by a marsh sill constructed of approximately 72 gabion baskets, each filled with stone, which will be placed immediately behind the existing bulkhead. The gabion baskets will be stacked and secured to achieve a suitable elevation to support placement of smooth cordgrass (*Spartina alterniflora*).

All disturbed vegetated areas on Pearsalls Hassock will be restored with native maritime plant species. Disturbed areas will be seeded with a native seed mixture representative of the anticipated hydrologic conditions. Following seeding, target areas will be planted with appropriate shrubs and herbaceous plugs. Specifically, the site restoration targets the following communities: (1) low salt marsh dominated by smooth cordgrass and (2) maritime shrubland dominated by eastern baccharis (*Baccharis halimifolia*) and northern bayberry (*Morella pensylvanica*) with a diverse understory of herbaceous grasses and forbs.

South Black Banks Hassock

Restoration activities on South Black Banks Hassock aim to promote coastal resiliency of a large salt marsh that was historically impacted by mosquito ditching and has shown recent signs of marsh downing. Restoration consists of mosquito ditch remediation and targeted runnel construction to address future marsh subsidence and promote natural ability to compensate for sea level rise. All work on the marsh surface will take place beginning in Spring 2024 in compliance with all permits and requirements.

Ditch remediation will involve filling man-made mosquito ditches with biodegradable material, mainly mowed grass clippings from an approximate 10-foot buffer on either side of the ditches to be filled. Mowing will occur in the winter, likely by handheld weed trimmers, to avoid disturbance to vegetation and wildlife that utilize the vegetated habitats during the growing season. Ditch remediation will begin by constructing downgradient barriers in the ditches to prevent downgradient transport of material during outgoing tides. These barriers will consist of 12-inch coir logs and untreated hardwood stakes to support and secure the placement of fill material. Following barrier construction, the biodegradable material (e.g., grass clippings, weed-free straw, additional coir logs, etc.) will be placed in the mosquito ditches, extending from bank to bank and from channel bottom to elevation +2 NAVD. All biodegradable material will be secured using natural fiber rope and untreated hardwood stakes.

Runnels will be constructed to facilitate the flow of water from low-lying areas within existing depressions (i.e., pools, ditches) through the marsh and ultimately to the surrounding bay waters. Runnels are classified as small channels with an approximate depth of 1 foot and width of 1 foot. Runnels will be constructed using hand tools or light, low-impact equipment. All materials excavated during runnel construction will be beneficially reused to restore greater low marsh vegetation in the vicinity of the runnels.

PERMIT AUTHORIZATIONS AND DETERMINATIONS

A Joint Permit Application (JPA) for the Hempstead Bay – Hassocks Restoration Project was submitted to the United States Army Corps of Engineers (USACE), the NYSDEC, and the New York State Department of State (NYSDOS) in April 2022. A Nationwide Permit 27 (NP27) under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S. Code 403) and Section 404 of the Clean Water Act (33 U.S. Code 1344) was requested from the USACE to authorize aquatic habitat restoration, establishment, and enhancement activities in waters and wetlands of the United States; the application received approval and USACE issued permits on April 17, 2023. A Tidal Wetlands Permit under Article 25, Excavation & Fill in Navigable Waters under Article 15, and Water Quality Certification under Section 401 of Clean Water Act was requested from the NYSDEC; the application received NYSDEC approval and permits were issued on April 18, 2023. NYSDOS issued a Concurrence with Consistency Certification on October 13, 2022 (see Attachment 2).

ENVIRONMENTAL REVIEW OVERVIEW

In re-evaluating the Long Beach WPCP Consolidation Project for conformance with the NEPA Records, ORHC analyzed the revised scope of work and its potential environmental impacts. Potential changes to the original environmental review record are related to:

- Plants and Animals, Threatened and Endangered Species
  Endangered Species Act of 1973, particularly Section 7; 50 CFR Part 402
- Floodplain and Wetlands Management
  Executive Order 11990; Executive Order 11988; 24 CFR Part 55
- National Historic Preservation Act of 1966, particularly sections 106 and 110

Documentation of compliance with the above federal law and authorities is provided below. All other federal laws and authorities provided by 24 C.F.R. 58.5 and all other requirements of 24 C.F.R. 58.6 not specifically updated below have been re-evaluated. It was determined that no further consultation or documentation is needed; thus, the original FONSI for the Long Beach WPCP Consolidation Project remains valid and applicable.

Plants and Animals, Threatened and Endangered Species

The USFWS Information for Planning and Consultation (IPaC) system was accessed for updated data regarding the potential presence of species under USFWS jurisdiction in the Hassocks Restoration project area, which is within the greater Long Beach Consolidation project area. According to IPaC, the following six species may occur in the proposed project area: northern long-eared bat (*Myotis septentrionalis* - threatened), piping plover (*Charadrius melodus* - threatened), red knot (*Calidris canutus rufa* - threatened), roseate tern (*Sterna dougallii* - endangered), monarch butterfly (*Danaus plexippus* - candidate), and seabeach amaranth (*Amaranthus pumilus* - threatened) (see **Attachment 3**). Sandplain gerardia (*Agalinis acuta* – endangered) was included on the list of for the Long Beach WPCP Consolidation EA, but was not listed as occurring in the Hassock Restoration project area. Monarch butterfly was not on the IPaC list for the Long Beach WPCP Consolidation so impacts to this species was not considered in the EA. Monarch butterfly is currently a candidate species and is not yet listed or proposed for listing; therefore, consultation with USFWS under Section 7 of the Endangered Species Act is not required. Regardless, direct impacts to monarch butterfly are not anticipated since construction activities for the Hassock Restoration and site clearing activities for the Long Beach WPCP Consolidation project are anticipated to take place between December 1 and March 15, when monarch butterflies would

not be present in New York. Additionally, the project would not adversely affect potential habitat utilized by monarch butterfly.

In the 2020 EA, ORHC determined that the Long Beach WPCP Consolidation Project would have no effect on sandplain gerardia, seabeach amaranth, or northern long-eared bat; while the project may affect, but is not likely to adversely affect, piping plover, red knot, and roseate tern. The proposed Hassocks Restoration is within the area previously considered as part of the Long Beach WPCP Consolidation Project and the activities and construction time frame conform to those already analyzed for potential impacts to the identified species. Therefore, ORHC has determined that the proposed project change does not change the effect determination for federally listed species. On April 6, 2022, USFWS acknowledged receipt of ORHC's determination for the updated proposed actions and closed the Section 7 consultation (see **Attachment 2**). No additional consultation or determination is required.

The NOAA Endangered Species Act Section 7 Mapper was accessed for updated data regarding the potential presence of species under NOAA jurisdiction in the Hassocks Restoration project area. According to the mapper, the project area is within the range of waters used by Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus* – threatened), green sea turtle (*Chelonia mydas* – threatened), Kemp's Ridley sea turtle (*Lepidochelys kempii* – endangered), leatherback sea turtle (*Dermochelys coriacea* – endangered), and loggerhead sea turtle (*Caretta caretta* – threatened). Based on the conclusion that all potential effects of the project would be insignificant and/or discountable, ORHC determined that the proposed project, incorporating the additional Hassocks Restoration Project, may affect but is not likely to adversely affect any listed species or critical habitat under NMFS jurisdiction. On June 30, 2022, NOAA stated their concurrence with ORHC's conclusion that the proposed action is not likely to adversely affect any National Marine Fisheries Service ESA-listed species or designated critical habitat (see **Attachment 2**). Therefore, no further consultation is required.

ORHC also determined that the proposed project changes do not change the determination that proposed activities would not result in a substantial adverse effect on Essential Fish Habitat (EFH). In a letter dated June 28, 2022, NOAA stated that they agree with ORHC's conclusion that the adverse effects of the project on EFH will not be substantial (see **Attachment 2**). No additional consultation or determination is required.

ORHC also accessed the NYSDEC Environmental Resource Mapper, an interactive mapping application that can be used to identify some of New York State's natural resources and environmental features that are state or federally protected or of conservation concern. According to the NYSDEC Environmental Resource Mapper, the Hassocks Restoration project area is not in the vicinity of any confirmed observations of state or federal listed species. Pearsalls Hassock is in the vicinity of glossy ibis (*Plegadis falcinellus*) occurrences and South Black Banks Hassock is in the vicinity of barn owl (*Tyto alba*) and rare wading bird occurrences (see **Attachment 3**). While glossy ibis and barn owl are not listed as threatened or endangered, these species are federally protected under the Migratory Bird Treaty Act and are Protected Birds by New York State law. Wading birds such as egrets and herons were observed foraging in the project area during field surveys in 2020, however, there were no signs of rookeries on the hassock islands.

Osprey (*Pandion haliaetus*), a state Species of Special Concern, was observed breeding on both Pearsalls and South Black Banks Hassock in 2020, including on the sludge dock on Pearsalls Hassock. Active osprey nesting was not detected on the sludge dock during 2020-2021 survey efforts; however, nest remains were present with associated nesting materials (e.g., sticks) scattered across the dock. This nest location will be revisited during the pre-clearing survey and will be observed during project work for presence of ospreys or other raptors. In accordance with the Bald and Golden Eagle Protection Act, if the nest is found to be reclaimed by a bald eagle, the County will consult with USFWS to remove the nest under an emergency nest removal permit. As described in the EA, measures will be taken to discourage osprey nesting near the project area during construction activity. Nesting deterrents would be installed on osprey platforms within 250 feet of the limit of disturbance and an equal number of replacement platforms would be located in other suitable habitat on the hassock islands. Because ospreys are also nesting on flat structures such as concrete blocks and wood boxes in the project area, deterrents would also be placed on flat structures near the proposed temporary access paths. For each deterrent installed, a raised replacement platform would be placed in an area of the island that would not be disturbed during construction. All

replacement platforms would be erected before or at the time of nest removal. Construction activities for the Hassocks Restoration and site clearing activities for the Long Beach WPCP Consolidation project are anticipated to take place beginning in Spring 2024 in conformance with all permit requirements. On South Black Banks Hassock, creation of the ditches will be done during non-growing season and planting of wetland vegetation could be done during the growing season and would not require the use of heavy equipment. Additionally, a qualified wildlife observer will survey the project area for nests or protected birds immediately prior project activities that may occur during the breeding season. ORHC maintains that the project, with the inclusion of the Hassocks Restoration, is not likely to jeopardize the continued existence of any migratory birds, and it would not result in the permanent loss of habitat or adverse modification of their behaviors.

Floodplain and Wetland Management

An 8-step Floodplain and Wetland Management Process, prepared according to 24 C.F.R. 55, was completed in August 2020 to support the FONSI. The 8-step Floodplain and Wetland Management Process was revised in February 2023 to reflect the updated scope of work; however, the final determination did not change (**Attachment 4**). The direct and indirect impacts associated with the Hassocks Restoration would be minimal and consistent with those previously considered for the Long Beach WPCP Consolidation project.

Historic Preservation

The proposed Hassocks Restoration is within the area reviewed by New York State Office of Parks, Recreation, and Historic Preservation Office (SHPO) for the Long Beach WPCP Consolidation Project. ORHC has determined that the proposed changes to the project would not adversely affect any significant archaeological resources. In a letter dated June 3, 2022, the SHPO stated that they reviewed the activities associated with the Hassock Restoration and that no historic properties, including archaeological and/or historic resources, will be affected by the project (see **Attachment 2**). No additional consultation is required.

CONCLUSIONS

In response to the abovementioned project revision and pursuant to 24 C.F.R. 58.47, “Re-evaluation of environmental assessments and other environmental findings,” the CDBG-DR Certifying Officer has conducted a re-evaluation of the findings associated with the original Long Beach WPCP Consolidation Project EA. The original findings remain valid, and, accordingly, a new Notice of Intent/Request of Release of Funds (NOI/RROF) are not necessary.

LONG BEACH WPCP CONSOLIDATION AND HEMPSTEAD BAY HASSOCKS RESTORATION PROJECT RE-EVALUATION MEMORANDUM

This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize federal funding. Any change to the approved scope of work will require re-evaluation by the Certifying Officer for compliance with NEPA and other laws and Executive Orders.

If there is any unanticipated discovery of endangered or threatened species, cultural resources, soils contamination, or any other conditions affecting the factors, executive orders, stipulations, and/ or regulations discussed within this assessment, work shall be halted immediately, and the appropriate agency will be consulted before work can be resumed.

Certifying Officer Signature:

Name/Title: James McAllister, Certifying Officer, ORHC

Date: 7/10/2023

1 – Design Plan
2 – Permit Authorizations and Agency Determinations
3 – Threatened and Endangered Species Lists
4 – Floodplain and Wetland Management 8-Step Process

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

STATE OF NEW YORK
DEPARTMENT OF STATE
ONE COMMERCE PLAZA
99 WASHINGTON AVENUE
ALBANY, NY 12231-0001
HTTPS://DOS.NY.GOV

KATHY HOCHUL
GOVERNOR

ROBERT J. RODRIGUEZ
SECRETARY OF STATE

October 13, 2022

Richard Gilmour
Arcadis
17-17 Route 208 North
Fair Lawn, NJ 07410

Re: F-2022-0309
U.S. Army Corps of Engineers/New York District
Permit – Nassau County DPW
NYS DEC Region 1 Permit Application – **Hassock Restoration Project**, Removal of abandoned sewage infrastructure and restoration of deteriorated marsh habitat. Additional low marsh habitat would be created behind an existing bulkhead at Pearsalls Hassock, and mosquito ditches on South Black Banks Hassock would be strategically filled to improve tidal hydrology and facilitate marsh resiliency.
Pearsalls Hassock and South Black Banks Hassock, West Hempstead Bay
Town of Hempstead, Nassau County
Concurrence with Consistency Certification

Dear Richard Gilmour:

The Department of State has completed its review of your consistency certification regarding the consistency of the above-referenced activity with the New York Coastal Management Program which was received on April 13, 2022.

Pursuant to 15 CFR § 930.62, and based upon the project information submitted, the Department of State concurs with your consistency certification for this activity. This concurrence is without prejudice to and does not obviate the need to obtain all other applicable licenses, permits, or other forms of authorization or approval that may be required pursuant to existing State statutes.

When communicating with us regarding this matter, please refer to our file #F-2022-0309.

Sincerely,

Matthew P. Maraglio
Director, Development Division
Office of Planning, Development and Community Infrastructure

MM/tl

ecc: COE/New York District
DEC Region 1 – Elyssa E Scott (App# 1-2820-05050/00013-15)

NEW YORK STATE OF OPPORTUNITY. | Department of State

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 1
SUNY @ Stony Brook, 50 Circle Road, Stony Brook, NY 11790
P: (631) 444-0365 I F: (631) 444-0360
www.dec.ny.gov

April 18, 2023

Kenneth G Arnold
Nassau County DPW
1194 Prospect Ave.
Westbury, NY 11590

Re: Application #1-2820-05050/00013
Hempstead Bay Hassock Restoration

Dear Permittee:

In conformance with the requirements of the State Uniform Procedures Act (Article 70, ECL) and its implementing regulations (6NYCRR, Part 621) we are enclosing your permit. Please carefully read all permit conditions and special permit conditions contained in the permit to ensure compliance during the term of the permit. If you are unable to comply with any conditions please contact us at the above address.

Also enclosed is a permit sign which is to be conspicuously posted at the project site and protected from the weather.

Sincerely,

Elyssa Scott
Environmental Analyst

cc: R. Gilmour – Arcadis
T. Doheny – Town of Hempstead
J. McAllister - GOSR
BMHP
File

PERMIT

Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
TOWN OF HEMPSTEAD
TOWN HALL PLZ
1 WASHINGTON ST
HEMPSTEAD, NY 11550
(516) 812-3488

NASSAU COUNTY
1 WEST ST
MINEOLA, NY 11501

Facility:
HEMPSTEAD BAY MARSH ISLANDS
MARSH ISLANDS WEST OF ISLAND PARK
HEMPSTEAD, NY 11550

Facility Application Contact:
ARCADIS US INC
17-17 Route 208 N
Fair Lawn, NJ 07410
(201) 398-4327

Facility Location: in HEMPSTEAD in NASSAU COUNTY
Facility Principal Reference Point: NYTM-E: 612.6 NYTM-N: 4497.2
Latitude: 40°37'04.7" Longitude: 73°40'07.7"

Authorized Activity: South Black Banks Hassock: Fill approximately 24,237 square feet of historic mosquito ditches on South Black Banks Hassock with appropriate material including clean, upland fill and coir logs. Excavate ditches to restore tidal flow to pools of standing water on the hassock.

Pearsalls Hassock: Remove remnants from a decommissioned wastewater treatment plant including the existing dock, sludge tanks, the pump control structure, pump vault and fencing. Install gabion baskets and grade shoreline and banks with clean, upland fill and vegetate with native, salt-tolerant vegetation.

All work must be done according to the plans prepared by Hazen Arcadis, dated April 2022 and stamped NYSDEC approved 4/18/2023. EES.

Permit Authorizations

Tidal Wetlands - Under Article 25
Permit ID 1-2820-05050/00013
New Permit Effective Date: 4/18/2023 Expiration Date: 4/17/2028
Water Quality Certification - Under Section 401 - Clean Water Act
Permit ID 1-2820-05050/00014
New Permit Effective Date: 4/18/2023 Expiration Date: 4/17/2028
Excavation & Fill in Navigable Waters - Under Article 15, Title 5
Permit ID 1-2820-05050/00015
New Permit Effective Date: 4/18/2023 Expiration Date: 4/17/2028

NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: KEVIN A KISPERT, Deputy Regional Permit Administrator
Address: NYSDEC Region 1 Headquarters
SUNY @ Stony Brook|50 Circle Rd
Stony Brook, NY 11790 -3409

Authorized Signature: _____ Date ___/____/____

Distribution List

ARCADIS US INC
Bureau of Marine Habitat Protection
Wildlife
Elyssa E Scott

Permit Components

NATURAL RESOURCE PERMIT CONDITIONS

WATER QUALITY CERTIFICATION SPECIFIC CONDITION

GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

NATURAL RESOURCE PERMIT CONDITIONS - Apply to the Following Permits: TIDAL WETLANDS; WATER QUALITY CERTIFICATION; EXCAVATION & FILL IN NAVIGABLE WATERS

1. **Post Permit Sign** The permit sign enclosed with this permit shall be posted in a conspicuous location on the worksite and adequately protected from the weather.

2. **Notice of Commencement** At least 48 hours prior to commencement of the project, the permittee and contractor shall sign and return the top portion of the enclosed notification form certifying that they are fully aware of and understand all terms and conditions of this permit. Within 30 days of completion of project, the bottom portion of the form must also be signed and returned, along with photographs of the completed work.

3. **Conformance With Plans** All activities authorized by this permit must be in strict conformance with the approved plans submitted by the applicant or applicant's agent as part of the permit application. Such approved plans were prepared by Hazen Arcadis, dated April 2022.

4. **Materials Disposed at Upland Site** Any demolition debris, excess construction materials, and/or excess excavated materials shall be immediately and completely disposed of in an authorized solid waste management facility. These materials shall be suitably stabilized as not to re-enter any water body, wetland or wetland adjacent area.

5. **Storage of Equipment, Materials** The storage of construction equipment and materials shall be confined to the upland area landward of the bulkhead or on a barge.

6. **Clean Fill Only** All fill shall consist of clean sand, gravel, soil, coir material or mowed vegetation (not asphalt, slag, flyash, broken concrete or demolition debris).

7. **Maintain Erosion Controls** All erosion control devices shall be maintained in good and functional condition until the project has been completed and the area has been stabilized.

8. **Low Pressure Ground Equipment for Work in Wetland Areas** All ground and heavy equipment used for this project shall be low ground pressure equipment with a ground pressure of 2 psi or less on the marsh surface. Storage of equipment and materials when not in operation, shall be limited to upland areas of the project site.

9. **Fueling Areas** Fueling of equipment is strictly prohibited within tidal wetlands and within 100 feet of the tidal wetland boundary. Fueling areas must be approved by the department and contained by haybales or other approved containment devices. Spills must be prevented from entering tidal wetlands and/or waterways. Should a spill occur, the permittee shall notify the office of Regional Habitat - TW immediately and shall provide a plan for containment, clean-up and restoration of the impacted area for the approval of the department.

10. **Invasive Species Monitoring** The permittee must have a qualified biologist or botanist monitor the disturbed restoration/work areas for invasive plant species during the first two growing seasons. Any non-native or invasive plants can be removed by hand, or using approved equipment, during the life of the permit. Use of herbicides would require a modification of the permit and may require additional approvals. At the conclusion of two growing seasons an invasive species monitoring report should be provided to:

Region 1 Natural Resource Supervisor
SUNY @ Stony Brook
50 Circle Road, NY 11790

11. **Ditch and Salt Pan Fill Monitoring** The permittee should monitor all areas of fill placement, including ditches and salt pans, for subsidence during the first two years following project completion. Areas of subsidence should be filled back to design specifications to avoid creating new salt pans.

12. **Seeding Disturbed Areas** All areas of soil disturbance resulting from the approved project shall be stabilized as per the specifications of the approved plans immediately following project completion or prior to permit expiration, whichever comes first. If the project site remains inactive for more than 48 hours or planting is impractical due to the season, then the area shall be stabilized with straw or hay mulch or jute matting until weather conditions favor germination.

13. **Long Term Plant Survival** The permittee shall ensure a minimum of 85% survival of plantings by the end of 5 growing seasons. If this goal is not met, the permit holder shall re-evaluate the restoration project to determine how to meet the mitigation goal. The permittee must submit these re-evaluation plans to the department for review along with the annual report for that respective calendar year. The report must be submitted by January 15th of each calendar year and sent to:
NYS DEC - Region 1
Bureau of Marine Habitat Protection, Attention Compliance
50 Circle Road
Stony Brook, NY 11790

14. **Activities Consistent with Approved Plans** All activities and marsh alterations must be consistent with the approved plan. Activities or alterations beyond the scope of the approved project and/or not explicitly authorized by the permit will require further written approval of the Regional Habitat - TW office prior to commencement.

15. **No Interference With Navigation** There shall be no unreasonable interference with navigation by the work herein authorized.

16. **Precautions Against Contamination of Waters** All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate or any other environmentally deleterious materials associated with the project.

17. **State Not Liable for Damage** The State of New York shall in no case be liable for any damage or injury to the structure or work herein authorized which may be caused by or result from future operations undertaken by the State for the conservation or improvement of navigation, or for other purposes, and no claim or right to compensation shall accrue from any such damage.

18. State May Order Removal or Alteration of Work If future operations by the State of New York require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Department of Environmental Conservation it shall cause unreasonable obstruction to the free navigation of said waters or flood flows or endanger the health, safety or welfare of the people of the State, or cause loss or destruction of the natural resources of the State, the owner may be ordered by the Department to remove or alter the structural work, obstructions, or hazards caused thereby without expense to the State, and if, upon the expiration or revocation of this permit, the structure, fill, excavation, or other modification of the watercourse hereby authorized shall not be completed, the owners, shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may require, remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable and flood capacity of the watercourse. No claim shall be made against the State of New York on account of any such removal or alteration.

19. State May Require Site Restoration If upon the expiration or revocation of this permit, the project hereby authorized has not been completed, the applicant shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may lawfully require, remove all or any portion of the uncompleted structure or fill and restore the site to its former condition. No claim shall be made against the State of New York on account of any such removal or alteration.

WATER QUALITY CERTIFICATION SPECIFIC CONDITIONS

1. Water Quality Certification The authorized project, as conditioned pursuant to the Certificate, complies with Section 301, 302, 303, 306, and 307 of the Federal Water Pollution Control Act, as amended and as implemented by the limitations, standards, and criteria of state statutory and regulatory requirements set forth in 6 NYCRR Section 608.9(a). The authorized project, as conditioned, will also comply with applicable New York State water quality standards, including but not limited to effluent limitations, best usages and thermal discharge criteria, as applicable, as set forth in 6 NYCRR Parts 701, 702, 703, and 704.

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. Facility Inspection by The Department The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. **Relationship of this Permit to Other Department Orders and Determinations** Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. **Applications For Permit Renewals, Modifications or Transfers** The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Regional Permit Administrator
NYSDEC Region 1 Headquarters
SUNY @ Stony Brook|50 Circle Rd
Stony Brook, NY11790 -3409

4. **Submission of Renewal Application** The permittee must submit a renewal application at least 30 days before permit expiration for the following permit authorizations: Excavation & Fill in Navigable Waters, Tidal Wetlands, Water Quality Certification.

5. **Permit Modifications, Suspensions and Revocations by the Department** The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

a. materially false or inaccurate statements in the permit application or supporting papers;

b. failure by the permittee to comply with any terms or conditions of the permit;

c. exceeding the scope of the project as described in the permit application;

d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;

e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

6. **Permit Transfer** Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification
The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit
The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits
The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights
This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

NEW YORK STATE | Department of Environmental Conservation

NOTICE

The Department of Environmental Conservation (DEC) has issued permit(s) pursuant to the Environmental Conservation Law for work being conducted at this site. For further information regarding the nature and extent of work approved and any Departmental conditions on it, contact the Regional Permit Administrator listed below. Please refer to the permit number shown when contacting the DEC.

Permit Number: 1-2820-05050/13

Expiration Date: 4/17/2023

Regional Permit Administrator
SHERRI AICHER

NYSDEC Region 1 Environmental Permits
50 Circle Road
Stony Brook, NY 11790-3409
Email: dep.r1@dec.ny.gov

Note: This notice is **NOT** a permit

NOTICE OF COMMENCEMENT OF CONSTRUCTION

RETURN THIS FORM TO: COMPLIANCE
Marine Habitat Protection - NYSDEC
SUNY at Stony Brook
50 Circle Road
Stony Brook, NY 11790-3409

Or Fax to: 631-444-0272
E-Mail: dec.sm.R1MHP-BEH@dec.ny.gov

PERMIT NUMBER: _____ EXPIRATION DATE: _____

PERMITTEE NAME & PROJECT ADDRESS: _____

_____

CONTRACTOR NAME & ADDRESS: _____

_____ TELEPHONE: _____

Dear DEC:
Pursuant to the special conditions of the referenced permit, you are hereby notified that the authorized activity shall commence on _____. We certify that we have read the referenced permit and approved plans and fully understand the authorized project and all permit conditions. We have inspected the project site and can complete the project as described in the permit and as depicted on the approved plans. We can do so in full compliance with all plan notes and permit conditions. The permit, permit sign, and approved plans will be available at the site for inspection in accordance with General Condition No. 1. (Both signatures required)

PERMITTEE: _____ DATE_____

CONTRACTOR: _____ DATE_____

*THIS NOTICE MUST BE SENT TO THE ABOVE ADDRESS **AT LEAST TWO DAYS PRIOR TO COMMENCEMENT OF THE PROJECT** AND /OR ANY ASSOCIATED ACTIVITIES. FAILURE TO RETURN THIS NOTICE, POST THE PERMIT SIGN, OR HAVE THE PERMIT AND APPROVED PLANS AVAILABLE AT THE WORK SITE FOR THE DURATION OF THE PROJECT MAY SUBJECT THE PERMITTEE AND/OR CONTRACTOR TO APPLICABLE SANCTIONS AND PENALTIES FOR NON-COMPLIANCE WITH PERMIT CONDITIONS.*

Cut along this line X X X X X X X

NOTICE OF COMPLETION OF CONSTRUCTION

RETURN THIS FORM TO: COMPLIANCE
Marine Habitat Protection - NYSDEC
50 Circle Road
Stony Brook, NY 11790-3409

Or Fax to: 631-444-0272
E-Mail: dec.sm.R1MHP-BEH@dec.ny.gov

PERMIT NUMBER: _____ EXPIRATION DATE: _____

PERMITTEE NAME & PROJECT ADDRESS: _____

_____

CONTRACTOR NAME & ADDRESS: _____

_____TELEPHONE: _____

Pursuant to special conditions of the referenced permit, you are hereby notified that the authorized activity was completed on _____. We have fully complied with the terms and conditions of the permit and approved plans. (Both signatures required)

PERMITTEE: _____ DATE_____

CONTRACTOR: _____ DATE_____

*THIS NOTICE, WITH PHOTOGRAPHS OF THE COMPLETED WORK AND/OR A COMPLETED SURVEY, AS APPROPRIATE, **MUST BE SENT TO THE ABOVE ADDRESS WITHIN 30 DAYS OF COMPLETION OF THE PROJECT.***

Nassau County Department of Public Works

Hempstead Bay – Hassocks Restoration Project

Stormwater Pollution Prevention Plan

For Compliance with:

New York State Department of Conservation SPDES General Permit for Stormwater Discharges from Construction Activity

Permit No. GP-0-20-001

June 2022

Hazen ARCADIS
A JOINT VENTURE

Hempstead Bay – Hassocks Restoration Project

Stormwater Pollution Prevention Plan

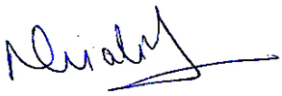
June 2022

Prepared By:
Arcadis CE, Inc.
27-01 Queens Plaza North, Suite 800
Long Island City
New York 11101
Phone: 718 446 0116
Fax: 718 446 4020

Hazen and Sawyer
498 Seventh Avenue
New York
New York 111010018
Tel 718 446 0116

Prepared For:
Nassau County Department of Public Works
1194 Prospect Avenue
Westbury
New York 11590
Phone: 516 571 9607

Our Ref:
30110715



Nirali Desai, PE
SWPPP Preparer

Version Control

Issue	Revision No.	Date Issued	Page No.	Description	Reviewed By
1		June 2022			
2					
3					

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Appendix A Pearsalls Hassock and South Black Banks Hassock Site Drawings
Appendix B Notice of Intent for coverage under GP-0-20-001 (copy of eNOI)
Appendix C NOI Acknowledgement Letter from NYSDEC
Appendix D Erosion and Sediment Controls
Appendix E Construction Site Inspection and Maintenance Logbook Template
Appendix F MS4 SWPPP Acceptance Form
Appendix G USDA Web Soil Survey

1 Background

1.1 Introduction

The *Stormwater Pollution Prevention Plan* (SWPPP) has been developed by the Hazen and Arcadis Program Management Joint Venture ("PM-JV") on behalf of Nassau County Department of Public Works ("County") to describe the two planned efforts to restore historic site conditions within the Western Bays to enhance ecological functions and services to this tidal estuary. This SWPPP and supporting attachments describe the proposed construction activities and the associated controls and best management practices (BMPs) to be implemented to manage stormwater during construction.

1.2 Project Description

The Nassau County Department of Public Works (the County) is proposing two projects – collectively referred to as the Hempstead Bay – Hassocks Restoration Project – with the joint goal of supporting restoration and enrichment of the Western Bays as a recreational, economic, social, and environmental resource to Long Island and the State of New York. The two projects include the removal of abandoned, aging sewage infrastructure on Pearsalls Hassock and to promote the natural resilience of coastal marshes on South Black Banks Hassock. Pearsalls and South Black Banks Hassocks are situated within the Western Bays and owned by the Town of Hempstead.

Additional improvements are also proposed on the Pearsalls and South Black Bank Hassocks as part of a separate project with a separate SWPPP (Long Beach Consolidation). Construction activities associated with this project will not coincide with the construction activities that are part of the Long Beach Consolidation project.

At any given time, there will be no more than 5 acres of disturbance at Pearsalls or South Black Bank Hassocks sites.

1.2.1 Pearsalls Restoration Project

The Pearsalls Restoration Project (Site-1), specifically, aims to remove remaining historical and decommissioned infrastructure associated with sludge operations and to restore the area with appropriate native maritime habitats. Demolition of a former sludge loading dock and associated inland infrastructure related to historic sludge storage will be completed. The project also encompasses stabilization of failing shoreline banks and restoration with native habitats, including a fringe low marsh habitat behind an existing bulkhead. Disturbed vegetated areas will be restored with native maritime plant species. The Pearsalls Restoration Project includes the following elements:

- Demolition of sludge dock and associated in-water and shoreline infrastructure (with exception of bulkhead and former pier landing);
- Demolition of above-grade portions of remaining upland infrastructure associated with historic sludge storage and transfer, including sludge tank foundation rings, control structure, generator building, terminal and odor control vault, pig releasing chamber, various abandoned above ground piping, and perimeter fencing to the extent necessary to support the restoration efforts;
- Restoration of the upland area by regrading the area and planting native maritime plant species; and
- Restoration of eroding shoreline banks and creation of tidal salt marsh habitat landward of the existing bulkhead.

1.2.2 South Black Banks Restoration Project

The South Black Banks Restoration (Site-2) aims to promote coastal resiliency of a large salt marsh that was historically impacted by mosquito ditching and has shown recent signs of marsh downing. The proposed ditch remediation is intended to address future marsh subsidence and promote its natural ability to compensate for sea level rise. The South Black Banks Restoration Project includes the following elements:

- Filling of secondary, man-made ditches (i.e., mosquito ditches) with biodegradable material; and
- Runnel construction to alleviate any additional prolonged inundation of marsh surface from ditch remediation efforts.

2 Stormwater Management Planning

Total soil disturbance associated with activities at Site-1 and Site-2 is approximately 1.91 acres. To be eligible for coverage under the New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit No. GP-0-20-001 (general permit) for Stormwater Discharges from Construction Activities, a SWPPP is required for this project.

Stormwater discharges from Site-1 and Site-2 flows into the Broad Channel of Hempstead Bay and Hog Island Channel which borders the hassocks on their east side. Erosion and sediment controls and best management practices (BMP) will be used to minimize the effect of the construction and post-construction stormwater runoff.

2.1 Project Permitting and Compliance

2.1.1 State Pollution Discharge Elimination System General Permit Requirements

This SWPPP has been prepared in accordance with the requirements of the NYSDEC SPDES GP-0-20-001. Activities included in this SWPPP will require coverage under the general permit. A copy of the Notice of Intent (NOI) submitted to obtain coverage under the general permit is provided in Appendix B.

2.1.2 Town of Hempstead, NY Requirements

This SWPPP also conforms to the requirements of the Town of Hempstead (Town), New York. The Town is the MS4 and is required to review and approve the SWPPP for compliance with the general permit. This SWPPP will be provided to the Town for review and approval and a copy of the MS4 SWPPP acceptance form will be kept with the SWPPP documents at Site-1 and Site-2 during construction.

2.2 Stormwater Pollution Prevention Goals and Objectives

The goal of a Stormwater Pollution Prevention Plan (SWPPP) is to document the means and methods by which the proposed project will comply with state and local rules and regulations related to storm water management. Specific stormwater management objectives include:

- Minimize the potential for erosion of soil/sediment and conveyance of sediment-laden surface runoff to downgradient offsite areas, such that there is no increase in turbidity that will cause a significant and visible contrast to naturally occurring conditions.
- Minimize the accumulation of sediment-laden stormwater within the work area.
- Minimize the potential for tracking of sediments onto offsite areas.
- Identify all potential pollutants and their sources and either eliminate, control, or treat each potential pollutant or its source using BMPs.
- Minimize or eliminate the potential for an unwanted release of vehicle and equipment fluids (e.g., gasoline, diesel, grease, oil, coolant).
- Minimize potential post-construction stormwater runoff impacts onsite and offsite by using stormwater management BMPs that will enhance the quality of stormwater runoff and prevent water quality degradation in receiving waters.

2.3 SWPPP Updates

This SWPPP will be updated if and when:

- The provisions are proven inadequate in reducing sediments in stormwater discharges during the construction.
- There is a change in the design, construction or operation that could potentially affect stormwater discharge quality and quantity.
- Deficiencies are identified by a qualified inspector or regulatory agency.

The SWPPP is intended to be a “living” document. The document should be revised and updated by a qualified professional whenever site conditions dictate. Proposed modifications shall be in accordance with the NYSDEC technical standards. NYSDEC and the Town will be provided with written notification of such updates.

2.4 Site Description

This section provides a detailed a discussion of the pre-development conditions of Site-1 and Site-2, and a discussion of the post-construction conditions of the sites. The hassocks are a set of low-lying salt marsh islands situated in the Western Bays. Under 6 NYCRR Part 885 and the final 2018 New York State 303(d) listings, the Hempstead Bay Broad Channel is designated as a Class SA water and Hog Island Channel is designated as a Class SB water. Federal and state jurisdictional wetlands, as identified and mapped by USFWS and NYSDEC respectively, exist within the Site-1 and Site-2 project areas.

2.4.1 Pre-Construction Condition

This section describes pre-construction conditions for Pearsalls Hassock and South Black Banks Hassock.

Pearsalls Hassock: The site area is characterized by a sandy beach shoreline that is partially protected by an existing bulkhead. Further landward, there are maritime upland communities characterized by scattered grasses and forbs, with concentrations of native shrubs (e.g., northern bayberry [*Myrica pensylvanica*]) and some invasive trees (e.g. tree of heaven).
Stormwater runoff flows overland into Broad Channel of Hempstead Bay and Hog Island Channel.

South Black Banks Hassock: The site area consists primarily of a complex of low and high marsh habitats with interspersed mosquito ditches and salt pannes/ pools. Shorelines are generally characterized by shallow intertidal mudflats.
Stormwater runoff from this area flows overland into the Broad Channel of Hempstead Bay and Hog Island Channel.

2.4.1.1 Soils

Based on the United States Department of Agriculture Natural Resources Conservation Service (USDA - NRCS), Web Soil Survey (websoilsurvey.sc/egov.usda.gov), the following soil types are identified within the project area. Field surveys performed by Arcadis (i.e., hand dug soil test pits from 24 to 36” in depth) throughout the two restoration areas confirmed the soil types. A description of the soil series is provided below.

- Ip – Ipswich mucky peat: “This soil is very deep and very poorly drained. It is near the ocean in tidal marshes that are inundated by saltwater twice daily. The areas are round or irregular in shape and range

from 3 to several hundred acres. The larger areas are separate islands in the bays adjacent to the Atlantic Ocean. The slope is less than 1 percent." (Soil Survey of Nassau County, New York; USDA NRCS 1987). This soil series has a hydric rating of 100%.

- Ue – Udipsamments, wet substratum: "This unit consists mainly of nearly level low areas that have been filled with sandy material dredged primarily from adjacent waterways. The fill consists of sand 3.5 to 8 feet thick mostly over organic tidal marsh sediments and a few inland freshwater marshes. These soils are well-drained or moderately well-drained and are very deep. Most areas are long and narrow and range from 5 to 100 acres. The Slope ranges from 0 to 3 percent." (Soil Survey of Nassau County, New York; USDA NRCS 1987). This soil series is not known to contain hydric soils.

See Appendix G for USDA NRCS Web Soil Survey report for the Consolidation Project.

2.4.2 Post-Construction Condition

This section describes post-construction conditions for Site-1 and Site-2. The restoration of native tidal marsh habitats in both project areas will have direct, long-term benefits on water quality within the Western Bays by preserving and increasing the total acreage of wetlands. It will also support the long-term resiliency of these habitats, and have direct benefits to the diversity of terrestrial and aquatic wildlife that rely on these habitats.

Pearsalls Hassock:

The Pearsalls Hassock Restoration Project involves the removal of abandoned, aging sewage infrastructure on Pearsalls Hassock and restoration of native maritime plant communities. The Pearsalls Restoration Project includes the following elements:

- Demolition of sludge dock and associated in-water and shoreline infrastructure (with exception of bulkhead and former pier landing);
- Demolition of above-grade portions of remaining upland infrastructure associated with historic sludge storage and transfer, including sludge tank foundation rings, control structure, generator building, terminal and odor control vault, pig releasing chamber, various abandoned above ground piping, and perimeter fencing to the extent necessary to support the restoration efforts;
- Restoration of the upland area by regrading the area and planting native maritime plant species; and
- Restoration of eroding shoreline banks and creation of tidal salt marsh habitat landward of existing bulkhead.

Demolitions described above will result in a reduction in impervious area in post-construction condition compared to pre-construction condition.

South Black Banks Hassock:

The South Black Banks Restoration Project includes the following elements:

- Remediation of secondary, man-made ditches (i.e., mosquito ditches) with biodegradable material; andRunnel construction to alleviate any additional prolonged inundation of marsh surface from ditch remediation efforts.

A significant portion of the overall project area is characterized as a special flood hazard area. The entirety of the work area on Site-2 is within the floodplain of Broad Channel of Hempstead Bay and Hog Island Channel. Site-1 is largely outside the floodplain.

Wetland impacts at both project areas will result in out-of-kind restoration due to conversion of mudflat habitat to vegetated low marsh habitat. The increase in salt marsh from converting mudflats, which have developed largely from historic shoreline erosion and mosquito ditching, will directly benefit the preservation, protection, and enhancement of tidal wetland complexes in the area.

The project will not alter site grades or hydrologic conditions in a manner that will impact the stormwater runoff pattern in post-construction condition compared to pre-construction condition.

3 Construction Sequence

A detailed construction sequence for the proposed project is described in the following sections. Specific construction activity sequencing may change depending on field conditions and revegetation conditions. The Contractor will verify that any changes to the sequence will be protective of stormwater quality.

The sequence of activities is anticipated to include the following items:

3.1 Pearsalls Hassock (Site-1)

The Pearsalls Restoration Project includes demolition and restoration activities in both the upland portion of the site and in the water adjacent to the site. Below is the anticipated construction sequence. It should be noted that some items may be performed simultaneously or in a different order to facilitate the safe and timely completion of the project.

- Obtain appropriate permits and approvals from regulatory agencies (e.g. NYSDEC and Town of Hempstead).
- Hold a pre-construction meeting prior to mobilization.
- Establish material and equipment storage areas. Contractor should not store materials, equipment, or support facilities below the mean high water elevation in the upland area.
- Begin Contractor mobilization. The upland portion of the site will be accessed via barge and small craft for offloading of materials, equipment, and personnel. The anticipated temporary barge landing location along the shoreline, the anticipated access path to the temporary upland area, and the Limit of Disturbance is shown on the Site Preparation Plan and Utilization drawing. The in-water work to remove the sludge dock structure and associated above grade piping will be accessed via barges with equipment and materials on the barges and the use of small craft to transport personnel. The Limit of Disturbance for the in-water work is also presented on the Site Preparation Plan and Utilization drawing.
- Conduct a pre-construction topographic and physical features survey (upland area) and physical features survey (in-water area).
- Establish work areas and limits of clearing.
- Identify and mark critical site features to be protected.
- Complete a review of the structures to be demolished and conduct material characterization activities as necessary.
- Install erosion and sediment controls (ESC) per the requirements of this SWPPP prior to demolition, clearing, grubbing or grading operations. See design drawings provided in Appendix A for the ESC practice location and Section 5 of this SWPPP for additional details.
- Perform pre-construction site assessment to confirm all appropriate erosion and sediment controls are in place and properly installed.
- All ESC measures should remain in place and be maintained until construction is completed and/or stabilized.
- Clearing and Grubbing. Perform clearing and grubbing only within the project area to facilitate the proposed demolition and site restoration activities. Clearing should be limited to within the Limits of Disturbance. Perform clearing and grubbing during an approved window of December 1 through March 15.
- Manage cleared and grubbed materials by sizing/chipping the materials into areas identified in the field by the Engineer.
- Complete an environmental sweep of the structures to remove items such as loose paint and paint chips, asbestos, universal/regulated materials, or other environmental conditions that need to be addressed to facilitate the demolition of the structures.

- Demolish Sludge Dock (in-water demolition). The demolition includes removal of the dock structure, adjoining walkway, dolphins located adjacent to the dock structure, and associated piping and supports. See demolition plans provided in Appendix A. Demolition material should be temporarily staged on the barge and moved to the designated upland staging area at the conclusion of every workday.
- Demolish Sludge Tank Area Structures (upland work). The demolition includes removal of the control structure; generator building; terminal and odor control vault; sludge tank foundation rings; existing above ground piping and other debris associated with past activities; and perimeter fencing as necessary to facilitate the site restoration. See demolition plans provided in Appendix A.
- Hazardous and non-hazardous materials generated from demolition will be properly contained and secured prior to transportation off the hassock. The Contractor will be responsible for proper separation, sizing, handling, staging, transportation, and disposal of materials in accordance with the design documents.
- Demolition debris should be transported offsite for disposal. Offsite disposal should follow procedures described in the Joint Application Report and the design documents.
- Perform regrading activities along with shoreline restoration activities as per the design drawings and project specifications.
- In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven days from the date the current soil disturbance activity ceased.
- Perform at least two site inspections every seven calendar days, in accordance with this SWPPP, to confirm erosion and sediment controls are installed, being maintained, and are suitable to meet the objectives of the SWPPP.
- Once the site is regraded and shoreline restored, permanent seeding and landscaping should be completed as per the restoration plan. Plant species and composition percent should follow the restoration plan.
- Complete a post-construction topographic survey of the restoration areas above mean low water.
- All temporary erosion control devices should be removed, and the affected areas regraded, planted, or treated in accordance with the approved site plans.
- Demobilize from Pearsalls Hassock site by removing all equipment, materials, and debris from the project area. All final grading and site restoration should be completed prior to demobilization.

3.2 South Black Banks Hassock (Site-2)

- Obtain appropriate permits and approvals from regulatory agencies (e.g. NYSDEC and Town of Hempstead).
- Hold a pre-construction meeting prior to mobilization.
- Begin Contractor mobilization. The site will be accessed via barge and small craft for offloading of materials, equipment, and personnel. The barge landing is shown on the Existing Site Plan for Site-2.
- Contractors should utilize marsh mats where necessary to access work areas with selected equipment to protect existing vegetation and elevation of marsh platform. Work on marsh platform should occur between December 1 and March 15.
- Establish material and equipment storage areas.
- Establish work areas, stockpile/staging areas, and limits of clearing.
- Identify and mark critical site features to be protected.
- Conduct a pre-construction topographic and physical features survey.

- Install erosion and sediment controls per the requirements of this SWPPP prior to any soil disturbance activity. See Design Drawings provided in Appendix A for the ESC practice locations and Section 5 of this SWPPP for additional details.
- Perform site assessment to confirm all appropriate erosion and sediment controls are in place and properly installed.
- All ESC measures should remain in place and be maintained until construction is completed and/or stabilized.
- Ditch remediation should be performed as per the Design Plans (Appendix A) and associated restoration plan.
- Construct runnels as per the Design Plans provided in Appendix A and associated restoration plan.
- In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven days from the date the current soil disturbance activity ceased.
- Complete a post-construction topographic and physical features survey.
- Perform at least two site inspections every seven calendar days, in accordance with this SWPPP, to confirm erosion and sediment controls are installed, being maintained, and are suitable to meet the objectives of the SWPPP.
- Upon completion of proposed site activities and stabilizing the site as per the restoration plan, all temporary erosion control devices should be removed, and the affected areas regraded, planted, or treated in accordance with the approved site plans.
- Demobilize from South Black Banks Hassock site by removing all equipment, materials, and debris from the project area. All final grading and site restoration should be completed prior to demobilization.

4 Pollution Prevention

Pollution prevention measures shall be used to prevent construction materials and contaminated soils with the potential for polluting stormwater (e.g., litter, construction chemicals and construction debris) from coming into contact with runoff. Measures include good housekeeping and proper disposal of construction and demolition debris (C&D debris), restricting the storage of materials or equipment below the high tide elevation, establishing equipment re-fueling best practices, establishing requirements for cleaning of equipment to prevent materials from being tracked off-site by construction vehicles, and proper control of the non-stormwater flows on the site. In addition, the design requires that equipment use vegetable oil to minimize the impacts of a spill if it should occur as well as having spill response materials readily available at the work areas to facilitate timely deployment in the event of a spill.

4.1 Waste Disposal and Management

BMPs are schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. With regard to construction, these may include structural controls or nonstructural practices that are designed to prevent pollutants from entering water or to direct the flow of water away from potential sources of pollution.

4.1.1 Pearsalls Hassock

Demolition debris will be transported offsite for disposal, with additional treatment at the disposal facility if needed. Prior to transport, additional waste characterization samples will be collected by the Contractor as necessary to satisfy the requirements of the selected disposal facility or facilities. Initial sampling for regulated materials was completed in January 2022 to characterize potentially hazardous structure components (e.g., suspect asbestos containing materials) and ensure future management of these components in accordance with applicable regulations.

4.1.2 South Black Banks Hassock

The proposed project will move approximately 43 cubic yards of material to achieve the proper runnel depth. Biodegradable material will be used to fill/remediate the ditches. See design drawings (Appendix A).

4.1.3 BMPs

For construction sites, there are three main types of BMPs, those that prevent erosion, others that prevent pollutants from the construction materials from mixing with stormwater, and those that trap pollutants before they can be discharged.

Table 4-1 below presents many of the more common construction materials and wastes with the greatest potential for adversely affecting stormwater quality. Those that are applicable to this project have been selected and the appropriate BMPs and responsible parties have been identified.

Table 4-1 Potential Materials Located on Site

Material	Yes/No	Applicable BMPs(1)	Responsible Party
Construction Wastes:			

Trees and shrubs removed during clearing and grubbing or other phases of construction	Y	(1), (5)	Prime Contractor
Packaging materials (including wood, paper, plastic, etc.)	Y	(1)	Prime Contractor
Scrap or surplus building material, e.g., scrap metals, rubber, plastic and glass pieces, masonry products, and other solid waste materials	Y	(1), (5)	Prime Contractor
Paints and paint thinners	Y	(1), (2), (3)	Prime Contractor
Lead paint, asbestos, and PCBs	Y	(1), (2), (3)	Prime Contractor
Materials resulting from the demolition of structures (rubble)	Y	(1), (5)	Prime Contractor
Hazardous Products:			
Paints	Y	(2), (3)	N/A
Acids for cleaning masonry surfaces	N	(2), (3)	N/A
Cleaning solvents	Y	(2), (3)	Prime Contractor
Chemical additives used for soil stabilization (e.g., palliative such as calcium chloride)	N	(2), (3)	N/A
Concrete curing compounds and additives	N	(2), (3)	Prime Contractor
Contaminated soils	Y	(4), (5)	Prime Contractor
Concrete	Y	(5), (6)	Prime Contractor
Sandblasting grit	N	(5), (7)	N/A
Sanitary/Septic waste	Y	(8)	Prime Contractor
Potential Risk Materials:			
Pesticides	N	(9)	N/A
Petroleum products	Y	(10)	Prime Contractor
Fertilizers and detergents (nutrients)	Y	(11)	Prime Contractor
Natural Geologic Drainage	N	(12)	N/A
Contaminated Groundwater	Y		Prime Contractor

BMPs for each category are identified below:

(1) BMPs for Construction Wastes:

- Select a designated waste collection area on-site.
- Provide an adequate number of containers with lids or covers that can be placed over the containers prior to rainfall.
- When possible, locate containers in a covered area.
- Arrange for waste collection before containers overflow.
- If a container does spill, provide cleanup immediately.
- Plan for additional containers and more frequent pickups during the demolition phase of construction.
- Make sure that construction waste is collected, removed, and disposed of only at authorized disposal areas.
- Check with the local solid waste management agency for specific guidance.

(2) BMPs for Disposal of Hazardous Wastes:

- Check with local waste management authorities to determine what the requirements are for disposing of hazardous materials.

- Use all of the product before disposing of the container.
- Do not remove the original product label from the container, it contains important information.
- Do not mix products together unless specifically recommended by the manufacturer.
- The correct method of disposal of these products varies with the product used. Follow the manufacturer's recommended method, which is often found on the label.
- Coordinate with the County Department of Public Works and dispose hazardous wastes as per the project specifications.

(3) BMPs for Hazardous Products Management:

- Have equipment to contain and clean up spills of hazardous materials in the areas where these materials are stored or used.
- Contain and clean up spills immediately after they occur.
- Keep materials in a dry covered area.
- Coordinate with the County Department of Public Works and manage hazardous products as per the project specifications.

(4) BMPs for Contaminated Soils Disposal:

- Contact State or local solid waste regulatory agency concerning information and procedures necessary to treat or dispose of contaminated soils. Some landfills may accept contaminated soil; however, laboratory tests may be required prior to a final decision. Private firms can also be consulted concerning disposal options.
- Prepare and submit a Materials Handling Plan (MHP), at least 30-days prior to commencing any work in suspected contaminated areas of the project.
- Provide the location and design of the Contractor's on-site staging areas.
- Spoil materials from excavation will be safely disposed.
- Identify Contractor's proposed waste transporters, including commitment letter(s) from properly licensed and insured hauler/transporter(s) and disposal facilities.
- Coordinate with the County Department of Public Works and dispose contaminated soils as per the project specifications.

(5) BMPs for Off-site Disposal:

- Provide a certification that the receiving waste treatment, storage, or disposal facility has the necessary permits/approvals to receive such waste by the EPA, DEC and State or local regulatory agencies. The Contractor shall also submit copies of the complete manifest, signed and dated by the initial transporter, in accordance with Federal and State requirements. Completed and signed manifests from treatment or disposal facility shall be provided to the County within seven (7) days of disposal. Provide a USGS topographic map or equivalent showing the proposed location of off-site disposal.
- If applicable, the specific classification of waste shall be identified.
- No material shall be disposed of in a Federal or State wetlands.

(6) BMPs for Residual Concrete Disposal:

- Emptying or wash out of excess concrete may be allowed on-site, but should be minimized. Excess concrete and wash water must be disposed of in a manner that prevents contact between these materials and stormwater discharges from the site. For example, dikes could be constructed around the area to contain these materials until they harden, at which time they may be properly disposed. In addition, concrete washout will be covered with soil as part of the restoration efforts.

(7) BMPs for Sandblasting Grit Disposal:

- Sandblasting grits are hazardous waste if they were used to clean structures where lead, cadmium, or chromium-based paints were used. They must not be washed into the storm or sanitary sewer or allowed to come in contact with runoff.
- Sandblasting grits should be isolated and collected.
- A licensed waste management or transport and disposal firm shall be contacted to dispose of this type of used grit.

(8) BMPs for Sanitary/Septic Wastes:

- Sanitary or septic wastes that are generated on-site must be treated or disposed of in accordance with State or local requirements.
- If self-contained, temporary facilities are used, then domestic waste haulers shall be contracted to regularly remove the sanitary and septic wastes and to maintain the facilities in good working order.
- Wastes must be treated to an appropriate level before discharging.
- Facilities must be properly hooked into the sanitary sewer system to prevent illicit discharges.
- Untreated, raw sewage or septage shall never be discharged or buried on-site.
- Contact local government and State regulatory agencies to ensure the compliance with State or local requirements.
- If sewage is being discharged to the sanitary sewer, the local Publicly Owned Treatment Works (POTW) shall be contacted.

(9) BMPs for Pesticides:

- Store pesticides in a dry covered area.
- Provide curbs or dikes to contain the pesticide if it should spill.
- Have measures on-site to contain and clean up spills of pesticides.
- Strictly follow recommended application rates, recommended application methods (i.e., only apply the amounts necessary for the job).
- Only a Certified Applicator shall use pesticides.

(10) BMPs for Petroleum Products:

- Have equipment to contain and clean up petroleum spills in fuel storage areas, on-board maintenance and fueling vehicles, and in the vicinity of work areas.
- Where possible, store petroleum products and fuel vehicles in covered areas and construct dikes to contain any spills.
- Contain and clean up petroleum spills immediately.
- Use preventive maintenance for on-site equipment (e.g., check for and fix gas or oil leaks in construction vehicles on a regular basis).
- Site equipment will use vegetable oil.
- Proper application of asphaltic substances (see manufacturers' instructions) will also reduce the risk of a spill.
- Oversee all filling operations.
- The turbidity curtain (for in-water work) will be equipped with an oil absorbent boom as outlined in the design.

(11) BMPs for Fertilizers/Detergents:

- Limit the application of fertilizers to the minimum area and the minimum recommended amounts.

- Reduce exposure of nutrients to stormwater runoff by working the fertilizer deep into the soil (depth 4 to 6 inches).
- Apply fertilizer more frequently, but at lower application rates.
- Hydro seeding where lime and fertilizers are applied to the ground surface in one application shall be limited, where possible.
- Limit the use of detergents on-site: wash water containing detergents shall not be discharged to the stormwater system.
- Implement good erosion and sediment control to help reduce the amount of fertilizers that can leave the site as well as sediments.
- Apply fertilizers and use detergents only in the recommended manner and only in recommended amounts.

(12) BMPs for Natural Geologic Drainage:

- Seal fractures in the bedrock with grout and bentonite, this method will often reduce the amount of acid or alkaline seepage.

4.2 Spills Management

Construction site supervisors shall create and adopt a spill control plan that would include measures to:

- Stop the source of the spill.
- Contain the spill.
- Clean up the spill.
- Dispose of materials contaminated by the spill.
- Identify and train personnel responsible for spill prevention and control.

The following measures would be appropriate for a spill prevention and response plan:

- Store and handle materials to prevent spills.
  - Tightly seal containers.
  - Make sure all containers are clearly labeled.
  - Stack containers neatly and securely.
  - Where possible, store containers on pallets in a covered area.
- Reduce stormwater contact if there is a spill.
  - Have cleanup procedures clearly posted.
  - Have cleanup materials readily available.
  - Contain any liquid.
  - Stop the source of the spill.
  - Cover spill with absorbent material such as kitty litter or sawdust.
- Dispose of contaminated materials according to manufacturer's instructions or according to State or local requirements.
- Identify personnel responsible for responding to a spill of toxic or hazardous materials.
  - Provide personnel spill response training.
  - Post names of spill response personnel.
  - Post names and phone numbers of emergency response providers.

- Keep the spill area well ventilated.
- If necessary, use a private firm that specializes in cleanup.

4.3 Non-Stormwater Discharges

Stormwater permits for construction activities typically include a prohibition against non-stormwater discharges. However, permits may list some non-stormwater discharges that, when combined with stormwater discharges, may be authorized by the permit. These exemptions may be allowed provided they are addressed in the Stormwater Pollution Prevention Plan for the site. The following is a list of non-stormwater discharges that are typically permitted. Those that are applicable to this project are noted as such in Table 4-2 below.

Table 4-2 Potential Non-Stormwater Discharges

Non-Stormwater Discharges	Applicable (Y/N)
Discharges from firefighting activities	N
Fire hydrant flushings	N
Potable water sources (including waterline flushings)	N
Uncontaminated ground water (including dewatering ground water infiltration)	Y
Foundation or footing drains where flows are not contaminated with process materials such as solvents	N
Springs, riparian habitats, and wetlands	Y
Irrigation water	N
Exterior building washdown	N
Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred and where detergents are not used	N
Air conditioning condensate	N

Non-stormwater Discharge BMP Description:

- Contractor shall adhere to the applicable federal, state, and municipal regulations, including the NYSDEC SPDES permit if discharging to storm sewer or surface water.

4.4 Good Housekeeping

Good housekeeping practices are inexpensive, relatively easy to implement, and are often effective in preventing stormwater contamination. Specific activities that should be completed by the contractor include the following:

- Neat and orderly storage of any chemicals, pesticides, fertilizers, fuels, etc., that are being stored at the site;
- Regular disposal of garbage, rubbish, construction waste, and sanitary waste;
- Prompt cleanup of any spills of liquid or dry materials that have occurred;
- Prompt cleanup of sediments that have been tracked by vehicles or personnel or have been transported by wind or stormwater to other areas of the site, to adjacent properties, or onto adjacent roadways. This shall be done at regular intervals and whenever deemed necessary by the site engineer.

5 Erosion and Sediment Control

ESC practices shall be implemented for all construction activities where any excavation, stripping, filling, grading, or earth movement takes place. An Erosion and Sediment Control Management Program will be established for the proposed project, beginning at the start of construction, and continuing throughout its course, as outlined in the "New York State Standards and Specifications for Erosion and Sediment Control," dated November 2016. A continuing maintenance program will be implemented for the control of sediment transport and erosion control after construction and throughout the useful life of the project.

5.1 Basic Principles

Soil erosion is the removal of soil by water, wind, ice, or gravity. This plan deals primarily with the types of soil erosion caused by rainfall and surface runoff. Raindrop erosion causes particles of soil to be detached from the soil mass and splash into the air. After the soil particles are dislodged, they can be transported by surface runoff, which results when the soil becomes too saturated to absorb falling rain or when the rain falls at an intensity greater than the rate at which the water can enter the soil. Scouring of the exposed soil surface by runoff can cause further erosion. Runoff can become concentrated into rivulets or well-defined channels up to several inches deep. This advanced stage is called rill erosion. If rills and grooves remain unrepaired, they may develop into gullies when more concentrated runoff flows down slope.

Sediment deposition occurs when the rate of surface flow is insufficient for the transport of soil particles. The heavier particles, such as sand and gravel, transport less readily than the lighter silt and clay particles. Previously deposited sediment may be resuspended by runoff from another storm and transported farther down slope. In this way, sediment is carried intermittently downstream from its upland point of origin.

The erosion potential for a site is determined by five factors: soil erodibility, vegetative cover, topography, climate, and season. Although they are discussed separately in this document, the factors are interrelated as determinants of erosion potential.

5.1.1 Soil Erodibility

The vulnerability of a soil to erosion is known as erodibility. The soil structure, texture, and percentage of organic matter influence its erodibility. The most erodible soils generally contain high proportions of silt and very find sand. The presence of clay or organic matter tends to decrease soil erodibility. Clays are sticky and tend to bind soil particles together. Organic matter helps to maintain stable soil structure.

5.1.2 Vegetative Cover

Vegetation protects soil from the erosive forces of raindrop impact and runoff scour in several ways. Vegetation (top growth) shields the soil surface from raindrop impact while the root mass holds subsurface soil particles in place. Grass buffer strips can be used to filter sediment from the surface runoff. Grasses also slow the velocity of runoff and help maintain the infiltration capacity of a soil. The establishment and maintenance of vegetation are the most important factors in minimizing erosion during development.

5.1.3 Topography

Slope length and steepness greatly influence both the volume and velocity of surface runoff. Long slopes deliver more runoff to the base of slopes and steep slopes increase runoff velocity. Both conditions increase the potential for erosion to occur.

5.1.4 Climate

Climate also affects erosion potential in an area. Rainfall characteristics such as frequency, intensity, and duration directly influence the amount of runoff that is generated. As the frequency of rainfall increases, water has less

chance to enter the soil between storms. The soil will remain saturated for longer periods and stormwater runoff volume may increase. Therefore, erosion risks are high where rainfall is frequent, intense, or lengthy.

5.1.5 Season

Seasonal variation in temperature and rainfall defines periods of high erosion potential during the year. High erosion potential may exist in the spring when the surface soil first thaws and the ground underneath remain frozen. A low intensity rainfall may cause substantial erosion because the frozen subsoil prevents water infiltration. In addition, the erosion potential increases during the summer months due to more frequent, high intensity rainfall. However, this may be somewhat offset by the more active vegetative growth during summer months.

5.2 Erosion and Sediment Control Measures

An erosion and sediment control plan is required for all land development and construction activities when it is determined that soil erosion and sedimentation, if not controlled, may significantly affect the environment. Erosion and sediment control measures were selected for this project as a part of the ESC plan that best fit the unique characteristics of the sites. The proposed control measures should enable planned construction activities to occur without adversely affecting the surrounding water resources. All measures proposed conform to the New York State Standards and Specifications for Erosion and Sediment Control. Three basic methods are used to control erosion on construction sites: runoff and drainage control, soil stabilization, and sediment control. The following temporary and permanent control measures are identified for this project.

5.2.1 Temporary Control Measures

Temporary control facilities will be implemented to control on-site erosion and sediment transfer due to proposed activities at the sites. Topsoil stockpiles and disturbed portions of the site where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven days from the date the current soil disturbance activity ceased. Temporary erosion and sediment controls proposed at Site-1 and Site-2 are described below. Erosion and sediment control practices should be installed shown in the design drawings and should conform to the New York State Standards and Specifications for Erosion and Sediment Control (See Appendix D).

1. **Dust control** may include applying water to exposed soils, limiting travel speed, sweeping of roadways and other surfaces, and mulching bare soil areas on an as-needed basis during construction to reduce the potential for dust generation without causing soil erosion.
   Water for dust suppression will be applied such that runoff does not occur and excessive “water weight” is not added to the soil. The use of atomizing sprays is recommended so that excessively wet areas will not be created, but fugitive dust will be suppressed.

2. **Marsh mats**. Use of low-pressure, tracked equipment may be required at the sites within saturated soils and/or wetlands. If determined necessary by the Contractor and site engineer, such machinery will only be moved across the marsh platform over marsh mats.

3. **Perimeter control** such as silt fence or compost filter sock should be installed at Site-1 along the perimeter of all on-land work areas as shown on the Site-1 Design Drawings. Where soil disturbance will occur (e.g., excavation of runnels), the Contractor should evaluate the need for compost filter socks and install at Site-2. The perimeter controls should comply with the NYSDEC Standards and Specifications.

a. **Silt fence.** The fences should not be placed in areas which receive concentrated flows such as ditches, swales and channels nor should the filter fabric material be placed across the entrance to pipes, culverts, spillway structures, sediment traps or basins. Built-up sediment should be removed when it has reached one-third the height of the fence. Silt fence should be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.

b. **Compost filter socks.** Accumulated sediment should be removed when it reaches half the above ground height of the sock. Socks should be inspected weekly and after each runoff event. Damaged socks shall be repaired in the manner required by the manufacturer or replaced within 24 hours of inspection notification.

4. **Turbidity Curtain** should be installed at Site-1 surrounding the footprint of all in water structures to be removed. The extent of the area encompassed by the turbidity curtain will at minimum include the active sediment disturbing activities and as outlined in the design. Where soil disturbance will occur (e.g., excavation of runnels), the Contractor should evaluate the need for turbidity curtain at Site-2. Turbidity curtain should be used around the perimeter to limit turbid water from entering the water body, contain any sheens, and account for tidal fluctuations. See project specifications for additional details.

5. **Erosion control mats** should be utilized on the proposed steep slope areas on the easter side of Site-1 as shown in the design drawings.

6. **Coir Logs.** Runnel construction at Site-2 will result in excess material. This material will be used on top of the biodegradable as native soil replacement for ditch remediation. Biodegradable material and native soil will be secured using coir logs (natural fiber rope) and untreated hardwood stakes as shown in the design drawings.

7. **Wattle.** Straw wattle/fiber roll will be used at Site-2 to dissipate energy along channels and to reduce sheet flow on slopes.

8. **Check dams** are small barriers or dams constructed of straw bale, stone, bagged sand or gravel, or other durable materials across a drainageway to reduce erosion in a drainage channel by reducing the velocity of flow in the channel. Check dams will be used across the runnel drainage ways at Site-2 to reduce erosion.

9. **Contractor staging area** will store construction materials (such as fuels, fertilizers, BMP materials) in a designated area to prevent a potential release to stormwater. Construction materials (such as fertilizers, grass seed) and any fuel or fluids that could adversely impact stormwater must be properly covered, contained, or placed in a temporary shed or enclosure. The staging area will be located in accordance with the design.

10. **Temporary seeding** of select areas will be implemented to reduce the potential for erosion and sediment transport from disturbed areas, bare soil areas, or soil stockpile areas. This seeding will be applied to provide a temporary protective cover on disturbed areas when construction activities have temporarily ceased, such as when preparing for winter shutdown, or to provide cover when permanent seed growth is delayed due to mid-summer heat or drought. Temporary seeding or other controls will be used to the extent practicable if bare soil will be exposed for more than 7 days. Note that seeding should be performed promptly after completing the grading activities to minimize the need for surface roughening.

Runoff control measures (e.g., diversions) will be installed, as needed, prior to seeding to reduce the potential for erosion of the newly seeded area.

11. **Permanent seeding** will be implemented at Site-1 as per Design Drawings (Appendix A).

The contractor is responsible for maintaining the temporary sediment and erosion control measures throughout construction.

All erosion and sediment control measures and devices shall remain in place and shall be maintained by the contractor in accordance with the NYSDEC requirements and regulations until the site has been fully stabilized in accordance with NYSDEC regulations.

5.3 Specification of Soil Restoration

Prior to the final stabilization of the disturbed areas, soil restoration should be required for all vegetated areas to recover the original properties and porosity of the soil.
All disturbances to the hassocks from work activities will be temporary in nature. Disturbed areas will be restored in-kind where appropriate, or out-of-kind where the recreation of historic habitat composition will be most beneficial to addressing impaired ecological functions/services. Ultimately, the project will result in benefits such as marsh reestablishment and improved tidal hydrology, which will enhance the Western Bays as a recreational, economic, social, and environmental resource.

Soil restoration should conform to the requirements of the restoration plan.

6 Inspection, Reporting & Recordkeeping

Inspection and maintenance of all erosion and sediment control practices will follow the requirements of NYSDEC Standards and Specifications and GP-0-20-001.

6.1 Qualified Inspector

A qualified inspector will be contracted by the County to monitor the installation and maintenance of the sediment and erosion control plans. The qualified inspector will report inspection findings to the Contractor to facilitate compliance by the contractor with the sediment and erosion control plans.

The qualified inspector will conduct an assessment of the site prior to the commencement of significant soil disturbing activities and verify that the appropriate erosion and sediment controls, as shown on the Design Drawings (Appendix A), have been adequately installed to ensure overall preparedness of the sites for the commencement of construction.

The qualified inspector will also inspect all sediment and erosion control measures at least twice every seven calendar days. The two inspections shall be separated by a minimum of two full calendar days. In the event that there has been a variance with the design of the sediment and erosion control measures that may lessen or compromise the ability of the measures to adequately perform the intended function and/or the facilities are not adequately maintained, the qualified inspector will be required to report such variance to the Construction Manager (CM) and Contractor within one business day. The Contractor will begin implementing corrective actions within one business day of such notification and will complete the corrective actions in a reasonable time frame (e.g., prior to the next weekly inspection).

The qualified inspector will also be responsible for observing the adequacy of the vegetation growth (trees, shrubs, groundcovers, and turfgrasses) in newly graded areas.

6.2 Trained Contractor

Prior to the commencement of construction activity, the CM must identify the contractor(s) and/or subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in this SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in this SWPPP. The CM will instruct each of the contractors and subcontractors to identify at least one person from their company that will be responsible for implementation of this SWPPP. This person will be known as the “trained contractor”.

Each contractor and subcontractor will be required to sign a copy of the certification statement provided in Section 8 before they commence any construction activity.

The CM will have a trained contractor inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to verify that the measures are being maintained in effective operating condition at all times.

6.3 Temporary Shutdown

For areas where soil disturbance activities have been temporarily suspended (e.g., winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the trained contractor can stop conducting the maintenance inspections and the qualified inspector shall conduct a site inspection at least once every 30 calendar days. The trained contractor will begin conducting the maintenance inspections as soon as soil disturbance activities resume.

For areas where soil disturbance activities have been shut down with partial project completion, the trained contractor and the qualified inspector will stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved final stabilization as discussed in Section 6.6.

6.4 Recordkeeping

The following reporting and recordkeeping requirements will be followed for the project:

- *SWPPP (and related documents)* – A copy of this SWPPP, inspection reports, NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form, responsible contractor's or subcontractor's certification statement, and all documentation necessary to demonstrate eligibility with this permit will be retained at the Site (e.g., construction trailer or nearby office) from the date of initiation of construction activities to the date of final stabilization as described below in Section 6.6. These documents will be retained in a secured location readily available to individuals performing compliance inspections.

  A copy of the eNOI is provided in Appendix B. Appendix C is reserved for Acknowledgement letter from NYSDEC, which acknowledges the receipt of the NOI.

- *Weekly Inspections Reports* – In accordance with Section 6.2, erosion and sediment controls will be inspected, at a minimum of once every seven calendar days. Inspection reports will be used to document the results of the inspections and will include the following:
  - Date and time of inspection;
  - Name and title of person(s) performing the inspection;
  - A description of the weather and soil conditions (e.g., dry, wet, saturated) at the time of the inspection;
  - A description of the condition of the runoff at all points of discharge from the construction site, including any discharges of sediment and discharges from conveyance systems (i.e., pipes, culverts, and ditches) and over-land flow;
  - A description of the condition of all natural surface water bodies located within or immediately adjacent to the property boundaries of the construction site, which receive runoff from disturbed areas;
  - Identification of all erosion and sediment control measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
  - Record of sediment accumulation as a percentage of sediment storage volume for all sediment control practices;
  - Identification of all erosion and sediment control measures that need repair or maintenance;
  - A description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;
  - Current phase of construction of all post-construction stormwater management measure(s), and identification of all construction that is not in conformance with this SWPPP;
  - Corrective action(s) that must be taken to install, repair, replace, or maintain erosion and sediment control measures and correct deficiencies identified with the installation of the post-construction stormwater management measure(s); and
  - Digital photographs with date stamp that clearly show the condition of all measures that have been identified as needing corrective actions, as well as photographs showing the condition of the measure(s) after the corrective action has been completed.

All inspection reports will be signed by the qualified inspector and copies maintained onsite as described above.

A blank construction inspection log is provided in Appendix E

- *Records Retention* – Copies of this SWPPP and any reports submitted or prepared in conjunction with this SWPPP will be retained for a period of at least five years following completion of the work.
- *Updating the SWPPP* – This SWPPP will accurately document all erosion and sediment control practices being implemented at the Site. This SWPPP will be amended, at a minimum:
    - Whenever the current provisions prove to be ineffective in minimizing pollutants in stormwater discharges from the Site;
    - Whenever there is a change in design, construction, or operation at the Site that has the potential to affect discharge; and
    - To address issues of deficiencies identified during an inspection by the qualified inspector, or other regulatory authorities.

6.5 Final Stabilization and Inspection

At the completion of grading activities, all disturbed areas in Site-1 to be restored with vegetation will amended with fertilizer and/or lime (as required), and seeded. Areas of erosion control will also be covered with an erosion control mat. No vegetation planting is anticipated at Site-2.

A qualified inspector will perform a final site inspection. The inspector will certify that all disturbed areas have undergone final stabilization using either vegetative or structural stabilization methods and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational.

Final stabilization means that all soil-disturbing activities at Site-1, Site-2 have been completed and a uniform, perennial vegetative cover in non-wetland areas with a density of 80 percent has been established, or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures. Final stabilization will conform to the New York State Standard and Specifications included in Appendix D and Pearsall Hassock and restoration plan. A template for the final site inspection is included in Appendix E.

Following successful completion of the final site stabilization, the Contractor will remove all temporary erosion and sediment control features that are no longer needed.

6.6 Notice of Termination

When the site has been finally stabilized, the Town will submit a Notice of Termination (NOT) form to terminate coverage under the General Permit.

7 Post Construction Stormwater Management

Construction activities proposed at Site-1 will result in a reduction in the impervious area and no increase in impervious area at Site-2 as described in Section 2.4.2. Therefore, post construction stormwater management is not required for the proposed activity at the sites. The proposed remediation sites will be designed such that the quality and quantity of stormwater runoff during and after construction are not adversely altered or are enhanced when compared to pre-construction conditions.

8 Certifications

MADE PURSUANT TO THE STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM (SPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES FROM CONTRUCTION ACTIVITY (Permit No. GP-0-20-001).

8.1 Prime Contractor Certification

For Pearsalls Hassock site

"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations".

Name of the Construction Company	Address
Printed Name of Authorized Representative (Trained Contractor)	Title
Signature of Authorized Representative	Date Signed

8.2 Sub-Contractor Certification

For Pearsalls Hassock site

"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations".

Name of the Construction Company (Subcontractor)	Address
Printed Name of Authorized Representative (Trained Contractor)	Title
Signature of Authorized Representative	Date Signed

8.3 Prime Contractor Certification

For South Black Banks Hassock site

"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations".

Name of the Construction Company	Address
Printed Name of Authorized Representative (Trained Contractor)	Title
Signature of Authorized Representative	Date Signed

8.4 Sub-Contractor Certification

For South Black Banks Hassock site

"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations".

Name of the Construction Company (Subcontractor)	Address
Printed Name of Authorized Representative (Trained Contractor)	Title
Signature of Authorized Representative	Date Signed

9 References

The United States Department of Agriculture (USDA) Web Soil Survey of the site available on its website at http://websoilsurvey.nrcd.usda.gov.

The United States Department of Agriculture Natural Resources Conservation Service National Engineering Handbook, Section 4 - Hydrology", dated March 1985.

The United States Department of Agriculture Natural Resources Conservation Service Technical Report No. 55, Urban Hydrology for Small Watersheds (TR-55), dated June 1986.

The New York State Stormwater Management Design Manual, revised January 2015.

The FINAL New York State Section 303(d) List of Impaired Waters, November 2016.

New York Standards and Specifications for Erosion and Sediment Control, November 2016.

Nassau County Department of Public Works, Drainage Requirements.

Figures

Figure 1 Project Area Map

Legend

- TAX PARCEL CENTROID POINT
- PEARSALLS LOD
- SOUTH BLACK BANKS LOD

NOTES:
TAX PARCEL DATA OBTAINED FROM NYSDEC NYS GIS CLEARINGHOUSE

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS
HASSOCKS RESTORATION PROJECT
TOWN OF HEMPSTEAD

PROJECT LOCATION MAP

Figure 1

Legend

PEARSALLS LOD

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS
HASSOCKS RESTORATION PROJECT
TOWN OF HEMPSTEAD

PEARSALLS HASSOCK AERIAL MAP

Figure 2

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

SOUTH BLACK BANKS LOD

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS
HASSOCKS RESTORATION PROJECT
TOWN OF HEMPSTEAD

SOUTH BLACK BANKS HASSOCK AERIAL MAP

Figure 3

Appendix A

Pearsalls Hassock and South Black Banks Hassock Site Design Drawings

Appendix B

Notice of Intent for coverage under GP-0-20-001 (copy of eNOI)

NOI for coverage under Stormwater General Permit for Construction Activity

version 1.35

(Submission #: HPG-8BRJ-8R9FF, version 1)

Details

Originally Started By	Nirali Desai
Alternate Identifier	HEMPSTEAD BAY HASSOCKS RESTORATION
Submission ID	HPG-8BRJ-8R9FF
Submission Reason	New
Status	Draft

Form Input

Owner/Operator Information

Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)
NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
Arnold

Owner/Operator Contact Person First Name
Kenneth

Owner/Operator Mailing Address
1194 Prospect Avenue

City
Westbury

State
NY

Zip
11590

Phone
5165719607

Email
karnold@nassaucountyny.gov

Federal Tax ID
NONE PROVIDED

Project Location

Project/Site Name
HEMPSTEAD BAY HASSOCKS RESTORATION

Street Address (Not P.O. Box)
Pearsalls and South Black Banks Hassocks

Side of Street
North

City/Town/Village (THAT ISSUES BUILDING PERMIT)
Town of Hempstead

State
NY

Zip
11558

DEC Region
1

County
NASSAU

Name of Nearest Cross Street
NONE PROVIDED

Distance to Nearest Cross Street (Feet)
NONE PROVIDED

Project In Relation to Cross Street
NONE PROVIDED

Tax Map Numbers Section-Block-Parcel
42-S-19, 43-F-7

Tax Map Numbers
NONE PROVIDED

1. Coordinates

Provide the Geographic Coordinates for the project site. The two methods are:
- Navigate to the project location on the map (below) and click to place a marker and obtain the XY coordinates.
- The "Find Me" button will provide the lat/long for the person filling out this form. Then pan the map to the correct location and click the map to place a marker and obtain the XY coordinates.

Navigate to your location and click on the map to get the X,Y coordinates
40.612612,-73.667350

Project Details

2. What is the nature of this project?
Redevelopment with no increase in impervious area

3. Select the predominant land use for both pre and post development conditions.

Pre-Development Existing Landuse
Other: Municipal Facility and Open Land

Post-Development Future Land Use
Other: Demolition, grading, and restoration to natural conditions

3a. If Single Family Subdivision was selected in question 3, enter the number of subdivision lots.
NONE PROVIDED

---

4. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area.

*** ROUND TO THE NEAREST TENTH OF AN ACRE. ***

Total Site Area (acres)
11.6

Total Area to be Disturbed (acres)
1.91

Existing Impervious Area to be Disturbed (acres)
0.006

Future Impervious Area Within Disturbed Area (acres)
0

5. Do you plan to disturb more than 5 acres of soil at any one time?
No

---

6. Indicate the percentage (%) of each Hydrologic Soil Group(HSG) at the site.

A (%)
50

B (%)
0

C (%)
0

D (%)
50

7. Is this a phased project?
No

8. Enter the planned start and end dates of the disturbance activities.

Start Date
11/1/2022

End Date
5/1/2023

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.
Hempstead Bay Broad Channel and Hog Island Channel

9a. Type of waterbody identified in question 9?
Other Type Off Site (enter description below)

Other Waterbody Type Off Site Description
Channel

9b. If "wetland" was selected in 9A, how was the wetland identified?
NONE PROVIDED

10. Has the surface waterbody(ies in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001?
Yes

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001?
No

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters?
No

If No, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as D (provided the map unit name is inclusive of slopes greater than 25%), E or F on the USDA Soil Survey?
NONE PROVIDED

If Yes, what is the acreage to be disturbed?
NONE PROVIDED

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area?
Yes

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?
No

16. What is the name of the municipality/entity that owns the separate storm sewer system?
Town of Hempstead

17. Does any runoff from the site enter a sewer classified as a Combined Sewer?
No

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?
No

19. Is this property owned by a state authority, state agency, federal government or local government?
Yes

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.)
No

Required SWPPP Components

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?
Yes

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)?
No

If you answered No in question 22, skip question 23 and the Post-construction Criteria and Post-construction SMP Identification sections.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual?
NONE PROVIDED

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:
Professional Engineer (P.E.)

SWPPP Preparer
Arcadis

Contact Name (Last, Space, First)
Desai Nirali

Mailing Address
7550 Teague Road

City
Hanover

State
Maryland

Zip
21076

Phone
443-990-0763

Email
nirali.desai@arcadis.com

Download SWPPP Preparer Certification Form
Please take the following steps to prepare and upload your preparer certification form:

1) Click on the link below to download a blank certification form
2) The certified SWPPP preparer should sign this form

3) Scan the signed form
4) Upload the scanned document
Download SWPPP Preparer Certification Form

Please upload the SWPPP Preparer Certification
SWPPP_PreparerCert.pdf - 03/18/2022 12:34 PM
Comment
NONE PROVIDED

Erosion & Sediment Control Criteria

25. Has a construction sequence schedule for the planned management practices been prepared?
Yes

26. Select all of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural
Check Dams
Dust Control
Silt Fence
Turbidity Curtain

Biotechnical
Wattling
Brush Matting

Vegetative Measures
Seeding
Protecting Vegetation

Permanent Structural
Land Grading

Other
NONE PROVIDED

Post-Construction Criteria

*** IMPORTANT: Completion of Questions 27-39 is not required if response to Question 22 is No.**

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.
NONE PROVIDED

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).
NONE PROVIDED

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout). (Acre-feet)
NONE PROVIDED

29. Post-construction SMP Identification
Use the Post-construction SMP Identification section to identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity that were used to reduce the Total WQv Required (#28).

Identify the SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use the Post-Construction SMP Identification section to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29. (acre-feet)
NONE PROVIDED

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28)?
NONE PROVIDED

If Yes, go to question 36. If No, go to question 32.

32. Provide the Minimum RRv required based on HSG. [Minimum RRv Required = (P) (0.95) (Ai) / 12, Ai=(s) (Aic)] (acre-feet)
NONE PROVIDED

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?
NONE PROVIDED

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. SMPs
Use the Post-construction SMP Identification section to identify the Standard SMPs and, if applicable, the Alternative SMPs to be used to treat the remaining total WQv (=Total WQv Required in #28 - Total RRv Provided in #30).

Also, provide the total impervious area that contributes runoff to each practice selected.

NOTE: Use the Post-construction SMP Identification section to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question #29. (acre-feet)
NONE PROVIDED

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).
NONE PROVIDED

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)?
NONE PROVIDED

If Yes, go to question 36.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv required and provided or select waiver (#36a), if applicable.

CPv Required (acre-feet)
NONE PROVIDED

CPv Provided (acre-feet)
NONE PROVIDED

36a. The need to provide channel protection has been waived because:
NONE PROVIDED

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (#37a), if applicable.

Overbank Flood Control Criteria (Qp)

Pre-Development (CFS)
NONE PROVIDED

Post-Development (CFS)
NONE PROVIDED

Total Extreme Flood Control Criteria (Qf)

Pre-Development (CFS)
NONE PROVIDED

Post-Development (CFS)
NONE PROVIDED

37a. The need to meet the Qp and Qf criteria has been waived because:
NONE PROVIDED

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?
NONE PROVIDED

If Yes, Identify the entity responsible for the long term Operation and Maintenance
NONE PROVIDED

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). (See question #32a) This space can also be used for other pertinent project information.
NONE PROVIDED

Post-Construction SMP Identification

Runoff Reduction (RR) Techniques, Standard Stormwater Management Practices (SMPs) and Alternative SMPs
Identify the Post-construction SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

RR Techniques (Area Reduction)

Round to the nearest tenth

Total Contributing Acres for Conservation of Natural Area (RR-1)
NONE PROVIDED

Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)
NONE PROVIDED

Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
NONE PROVIDED

Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
NONE PROVIDED

Total Contributing Acres for Tree Planting/Tree Pit (RR-3)
NONE PROVIDED

Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)
NONE PROVIDED

Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)
NONE PROVIDED

RR Techniques (Volume Reduction)

Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)
NONE PROVIDED

Total Contributing Impervious Acres for Vegetated Swale (RR-5)
NONE PROVIDED

Total Contributing Impervious Acres for Rain Garden (RR-6)
NONE PROVIDED

Total Contributing Impervious Acres for Stormwater Planter (RR-7)
NONE PROVIDED

Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)
NONE PROVIDED

Total Contributing Impervious Acres for Porous Pavement (RR-9)
NONE PROVIDED

Total Contributing Impervious Acres for Green Roof (RR-10)
NONE PROVIDED

Standard SMPs with RRv Capacity

Total Contributing Impervious Acres for Infiltration Trench (I-1)
NONE PROVIDED

Total Contributing Impervious Acres for Infiltration Basin (I-2)
NONE PROVIDED

Total Contributing Impervious Acres for Dry Well (I-3)
NONE PROVIDED

Total Contributing Impervious Acres for Underground Infiltration System (I-4)
NONE PROVIDED

Total Contributing Impervious Acres for Bioretention (F-5)
NONE PROVIDED

Total Contributing Impervious Acres for Dry Swale (O-1)
NONE PROVIDED

Standard SMPs

Total Contributing Impervious Acres for Micropool Extended Detention (P-1)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Pond (P-2)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Extended Detention (P-3)
NONE PROVIDED

Total Contributing Impervious Acres for Multiple Pond System (P-4)
NONE PROVIDED

Total Contributing Impervious Acres for Pocket Pond (P-5)
NONE PROVIDED

Total Contributing Impervious Acres for Surface Sand Filter (F-1)
NONE PROVIDED

Total Contributing Impervious Acres for Underground Sand Filter (F-2)
NONE PROVIDED

Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)
NONE PROVIDED

Total Contributing Impervious Acres for Organic Filter (F-4)
NONE PROVIDED

Total Contributing Impervious Acres for Shallow Wetland (W-1)
NONE PROVIDED

Total Contributing Impervious Acres for Extended Detention Wetland (W-2)
NONE PROVIDED

Total Contributing Impervious Acres for Pond/Wetland System (W-3)
NONE PROVIDED

Total Contributing Impervious Acres for Pocket Wetland (W-4)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Swale (O-2)
NONE PROVIDED

Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Total Contributing Impervious Area for Hydrodynamic
NONE PROVIDED

Total Contributing Impervious Area for Wet Vault
NONE PROVIDED

Total Contributing Impervious Area for Media Filter
NONE PROVIDED

"Other" Alternative SMP?
NONE PROVIDED

Total Contributing Impervious Area for "Other"
NONE PROVIDED

Provide the name and manufaturer of the alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

Manufacturer of Alternative SMP
NONE PROVIDED

Name of Alternative SMP
NONE PROVIDED

Other Permits

40. Identify other DEC permits, existing and new, that are required for this project/facility.
Water Quality Certificate
Tidal Wetlands
Navigable Waters Protection/Article 15

If SPDES Multi-Sector GP, then give permit ID
NONE PROVIDED

If Other, then identify
NONE PROVIDED

41. Does this project require a US Army Corps of Engineers Wetland Permit?
Yes

If "Yes," then indicate Size of Impact, in acres, to the nearest tenth
0.68

42. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.
NONE PROVIDED

MS4 SWPPP Acceptance

43. Is this project subject to the requirements of a regulated, traditional land use control MS4?
Yes - Please attach the MS4 Acceptance form below

If No, skip question 44

44. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?
Yes

MS4 SWPPP Acceptance Form Download
Download form from the link below. Complete, sign, and upload.
MS4 SWPPP Acceptance Form

MS4 Acceptance Form Upload
> NONE PROVIDED
> **Comment**
> NONE PROVIDED

Owner/Operator Certification

Owner/Operator Certification Form Download
Download the certification form by clicking the link below. Complete, sign, scan, and upload the form.
Owner/Operator Certification Form (PDF, 45KB)

Upload Owner/Operator Certification Form
> NONE PROVIDED
> **Comment**
> NONE PROVIDED

Attachments

Date	Attachment Name	Context	User
3/18/2022 12:34 PM	SWPPP_PreparerCert.pdf	Attachment	Nirali Desai

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Owner/Operator Certification Form

SPDES General Permit For Stormwater Discharges From Construction Activity (GP-0-20-001)

Project/Site Name: HEMPSTEAD BAY HASSOCKS RESTORATION

eNOI Submission Number: HPG-8BRJ-8R9FF

eNOI Submitted by: **Owner/Operator** ✓**SWPPP Preparer** **Other**

Certification Statement - Owner/Operator

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Owner/Operator First Name	M.I.	Last Name
Kenneth	G.	Arnold

Signature

6/28/22

Date

Appendix C

NOI Acknowledgement Letter from NYSDEC

PERMIT APPLICATION DRAWINGS HAVE BEEN EXCLUDED FOR CLARITY.

REFER TO FINAL DESIGN DRAWINGS.

Appendix D

Erosion and Sediment Controls

- Select NYS Standards and Specifications for Erosion and Sediment Control
- See Project Specifications (not attached herewith)

STANDARD AND SPECIFICATIONS FOR DUST CONTROL

Definition & Scope

The control of dust resulting from land-disturbing activities, to prevent surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards, and traffic safety problems.

Conditions Where Practice Applies

On construction roads, access points, and other disturbed areas subject to surface dust movement and dust blowing where off-site damage may occur if dust is not controlled.

Design Criteria

Construction operations should be scheduled to minimize the amount of area disturbed at one time. Buffer areas of vegetation should be left where practical. Temporary or permanent stabilization measures shall be installed. No specific design criteria is given; see construction specifications below for common methods of dust control.

Water quality must be considered when materials are selected for dust control. Where there is a potential for the material to wash off to a stream, ingredient information must be provided to the NYSDEC.

No polymer application shall take place without written approval from the NYSDEC.

Construction Specifications

A. **Non-driving Areas** – These areas use products and materials applied or placed on soil surfaces to prevent airborne migration of soil particles.

Vegetative Cover – For disturbed areas not subject to traffic, vegetation provides the most practical method of dust control (see Section 3).

Mulch (including gravel mulch) – Mulch offers a fast effective means of controlling dust. This can also include rolled erosion control blankets.

Spray adhesives – These are products generally composed of polymers in a liquid or solid form that are mixed with water to form an emulsion that is sprayed on the soil surface with typical hydroseeding equipment. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations for the specific soils on the site. In no case should the application of these adhesives be made on wet soils or if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators and others working with the material.

B. **Driving Areas** – These areas utilize water, polymer emulsions, and barriers to prevent dust movement from the traffic surface into the air.

Sprinkling – The site may be sprayed with water until the surface is wet. This is especially effective on haul roads and access route to provide short term limited dust control.

Polymer Additives – These polymers are mixed with water and applied to the driving surface by a water truck with a gravity feed drip bar, spray bar or automated distributor truck. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations. Incorporation of the emulsion into the soil will be done to the appropriate depth based on expected traffic. Compaction after incorporation will be by vibratory roller to a minimum of 95%. The prepared surface shall be moist and no application of the polymer will be made if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators working with the material.

Barriers – Woven geo-textiles can be placed on the driving surface to effectively reduce dust throw and particle migration on haul roads. Stone can also be used for construction roads for effective dust control.

Windbreak – A silt fence or similar barrier can control air currents at intervals equal to ten times the barrier height. Preserve existing wind barrier vegetation as much as practical.

Maintenance

Maintain dust control measures through dry weather periods until all disturbed areas are stabilized.

STANDARD AND SPECIFICATIONS FOR SILT FENCE

Definition & Scope

A **temporary** barrier of geotextile fabric installed on the contours across a slope used to intercept sediment laden runoff from small drainage areas of disturbed soil by temporarily ponding the sediment laden runoff allowing settling to occur. The maximum period of use is limited by the ultraviolet stability of the fabric (approximately one year).

Conditions Where Practice Applies

A silt fence may be used subject to the following conditions:

1. Maximum allowable slope length and fence length will not exceed the limits shown in the Design Criteria for the specific type of silt fence used ; and
2. Maximum ponding depth of 1.5 feet behind the fence; and
3. Erosion would occur in the form of sheet erosion; and
4. There is no concentration of water flowing to the barrier; and
5. Soil conditions allow for proper keying of fabric, or other anchorage, to prevent blowouts.

Design Criteria

1. Design computations are not required for installations of 1 month or less. Longer installation periods should be designed for expected runoff.
2. All silt fences shall be placed as close to the disturbed area as possible, but at least 10 feet from the toe of a slope steeper than 3H:1V, to allow for maintenance and roll down. The area beyond the fence must be undisturbed or stabilized.
3. The type of silt fence specified for each location on the plan shall not exceed the maximum slope length and maximum fence length requirements shown in the following table:

		Slope Length/Fence Length (ft.)		
Slope	Steepness	Standard	Reinforced	Super
<2%	< 50:1	300/1500	N/A	N/A
2-10%	50:1 to 10:1	125/1000	250/2000	300/2500
10-20%	10:1 to 5:1	100/750	150/1000	200/1000
20-33%	5:1 to 3:1	60/500	80/750	100/1000
33-50%	3:1 to 2:1	40/250	70/350	100/500
>50%	> 2:1	20/125	30/175	50/250

Standard Silt Fence (SF) is fabric rolls stapled to wooden stakes driven 16 inches in the ground.
Reinforced Silt Fence (RSF) is fabric placed against welded wire fabric with anchored steel posts driven 16 inches in the ground.
Super Silt Fence (SSF) is fabric placed against chain link fence as support backing with posts driven 3 feet in the ground.

4. Silt fence shall be removed as soon as the disturbed area has achieved final stabilization.

The silt fence shall be installed in accordance with the appropriate details. Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. Butt joints are not acceptable. A detail of the silt fence shall be shown on the plan. See Figure 5.30 on page 5.56 for Reinforced Silt Fence as an example of details to be provided.

Criteria for Silt Fence Materials

1. Silt Fence Fabric: The fabric shall meet the following specifications unless otherwise approved by the appropriate erosion and sediment control plan approval authority. Such approval shall not constitute statewide acceptance.

Fabric Properties	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lbs)	110	ASTM D 4632
Elongation at Failure (%)	20	ASTM D 4632
Mullen Burst Strength (PSI)	300	ASTM D 3786
Puncture Strength (lbs)	60	ASTM D 4833
Minimum Trapezoidal Tear Strength (lbs)	50	ASTM D 4533
Flow Through Rate (gal/ min/sf)	25	ASTM D 4491
Equivalent Opening Size	40-80	US Std Sieve ASTM D 4751
Minimum UV Residual (%)	70	ASTM D 4355

2. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a minimum cross sectional area of 3.5 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot. Posts for super silt fence shall be standard chain link fence posts.

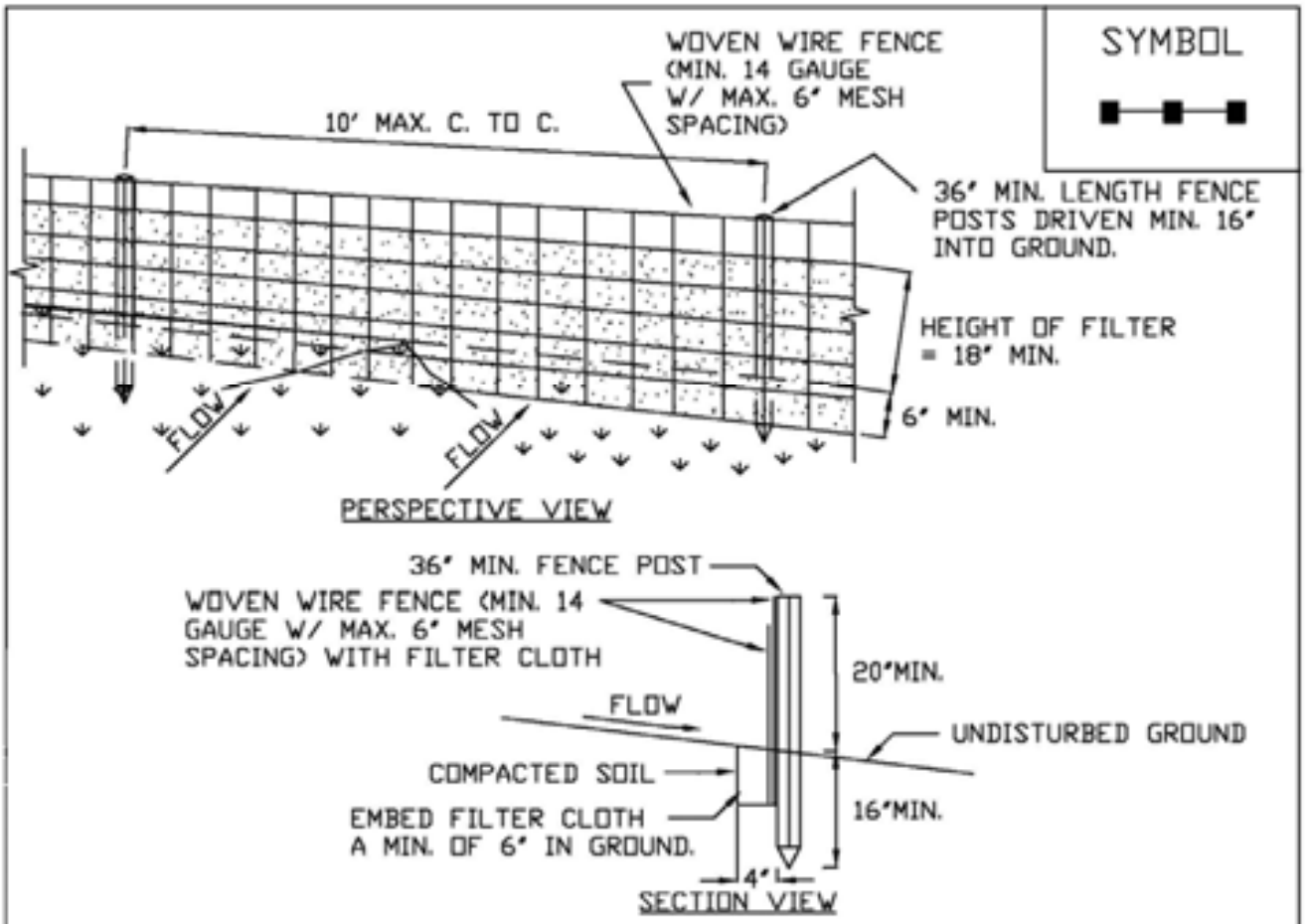
3. Wire Fence for reinforced silt fence: Wire fencing shall be a minimum 14 gage with a maximum 6 in. mesh opening, or as approved.

4. Prefabricated silt fence is acceptable as long as all material specifications are met.

Reinforced Silt Fence

Super Silt Fence

Figure 5.30
Reinforced Silt Fence



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL MEET THE MINIMUM REQUIREMENTS SHOWN.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

REINFORCED SILT FENCE

STANDARD AND SPECIFICATIONS FOR COMPOST FILTER SOCK

Definition & Scope

A **temporary** sediment control practice composed of a degradable geotextile mesh tube filled with compost filter media to filter sediment and other pollutants associated with construction activity to prevent their migration offsite.

Condition Where Practice Applies

Compost filter socks can be used in many construction site applications where erosion will occur in the form of sheet erosion and there is no concentration of water flowing to the sock. In areas with steep slopes and/or rocky terrain, soil conditions must be such that good continuous contact between the sock and the soil is maintained throughout its length. For use on impervious surfaces such as road pavement or parking areas, proper anchorage must be provided to prevent shifting of the sock or separation of the contact between the sock and the pavement. Compost filter socks are utilized both at the site perimeter as well as within the construction areas. These socks may be filled after placement by blowing compost into the tube pneumatically, or filled at a staging location and moved into its designed location.

Design Criteria

1. Compost filter socks will be placed on the contour with both terminal ends of the sock extended 8 feet upslope at a 45 degree angle to prevent bypass flow.

2. Diameters designed for use shall be 12” – 32” except that 8” diameter socks may be used for residential lots to control areas less than 0.25 acres.

3. The flat dimension of the sock shall be at least 1.5 times the nominal diameter.

4. The **Maximum Slope Length** (in feet) above a compost filter sock shall not exceed the following limits:

Dia. (in.)	Slope %						
	2	5	10	20	25	33	50
8	225*	200	100	50	20	—	—
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50
* Length in feet							

5. The compost infill shall be well decomposed (matured at least 3 months), weed-free, organic matter. It shall be aerobically composted, possess no objectionable odors, and contain less than 1%, by dry weight, of man-made foreign matter. The physical parameters of the compost shall meet the standards listed in Table 5.2 - Compost Standards Table. **Note: All biosolids compost produced in New York State (or approved for importation) must meet NYS DEC’s 6 NYCRR Part 360 (Solid Waste Management Facilities) requirements. The Part 360 requirements are equal to or more stringent than 40 CFR Part 503 which ensure safe standards for pathogen reduction and heavy metals content. When using compost filter socks adjacent to surface water, the compost should have a low nutrient value.**

6. The compost filter sock fabric material shall meet the

7. Compost filter socks shall be anchored in earth with 2” x 2” wooden stakes driven 12” into the soil on 10 foot centers on the centerline of the sock. On uneven terrain, effective ground contact can be enhanced by the placement of a fillet of filter media on the disturbed area side of the compost sock.

8. All specific construction details and material specifications shall appear on the erosion and sediment control constructions drawings when compost filter socks are included in the plan.

Maintenance

1. Traffic shall not be permitted to cross filter socks.

2. Accumulated sediment shall be removed when it reaches half the above ground height of the sock and disposed of in accordance with the plan.

3. Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired in the manner required by the manufacturer or replaced within 24 hours of inspection notification.

4. Biodegradable filter socks shall be replaced after 6 months; photodegradable filter socks after 1 year. Polypropylene socks shall be replaced according to the manufacturer’s recommendations.

5. Upon stabilization of the area contributory to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed in accordance with the stabilization plan. For removal the mesh can be cut and the compost spread as an additional mulch to act as a soil supplement.

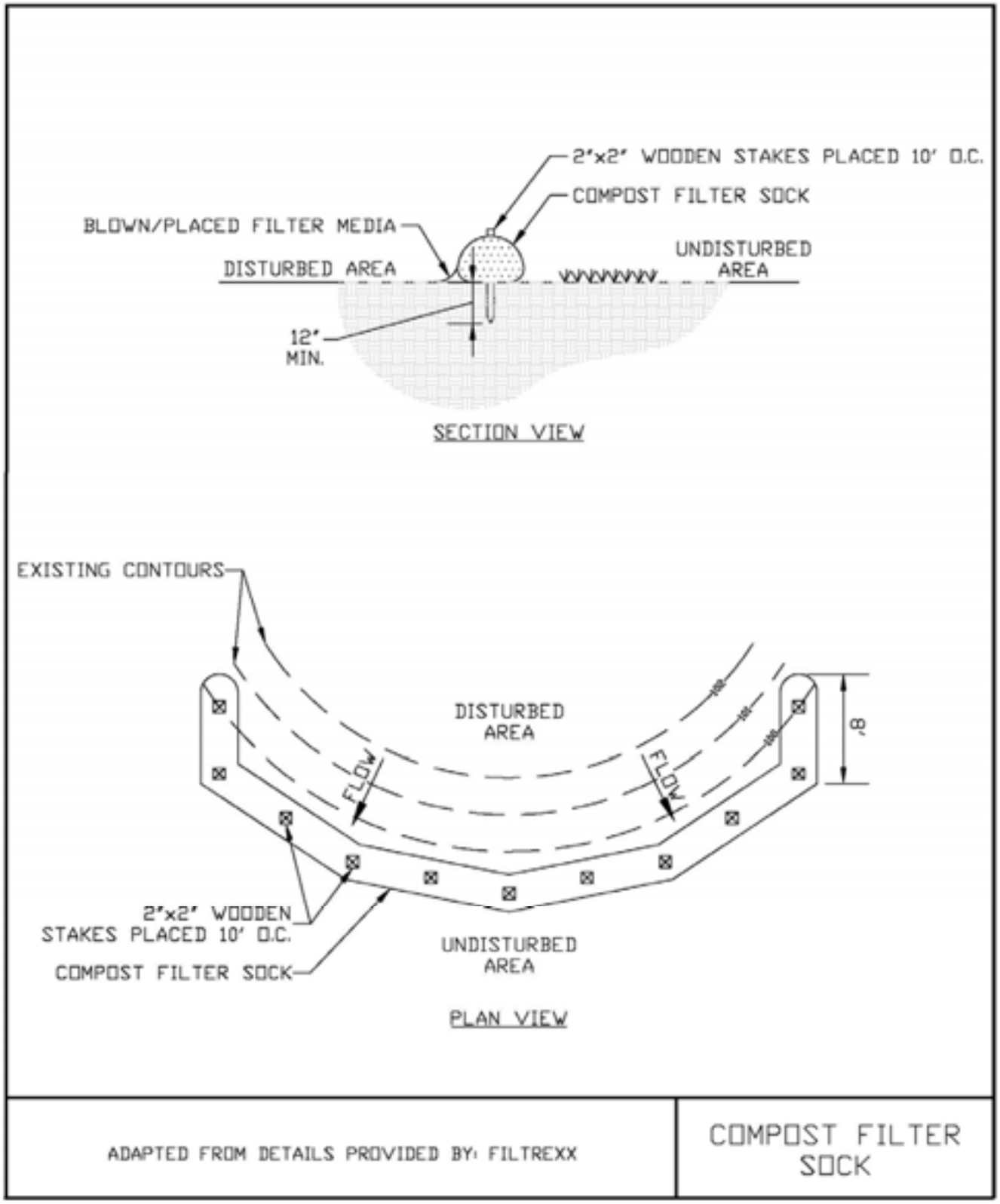
Table 5.1 - Compost Sock Fabric Minimum Specifications Table

Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMFPP)
Material Characteristics	Photodegradable	Photodegradable	Biodegradable	Photodegradable	Photodegradable
Sock Diameters	12” 18”	12” 18” 24” 32”	12” 18” 24” 32”	12” 18” 24” 32”	12” 18” 24” 32”
Mesh Opening	3/8”	3/8”	3/8”	3/8”	1/8”
Tensile Strength		26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years

Table 5.2 - Compost Standards Table

Organic matter content	25% - 100% (dry weight)
Organic portion	Fibrous and elongated
pH	6.0 – 8.0
Moisture content	30% - 60%
Particle size	100% passing a 1” screen and 10 - 50% passing a 3/8” screen
Soluble salt concentration	5.0 dS/m (mmhos/cm) maximum

Figure 5.2
Compost Filter Sock



STANDARD AND SPECIFICATIONS FOR TURBIDITY CURTAIN

Definition & Scope

A **temporary** flexible, impenetrable barrier used to trap sediment in water bodies. This curtain is weighted at the bottom to achieve closure while supported at the top through a flotation system and used to prevent the migration of silt from a work site in a water environment into the larger body of water. Top bar float has to support weight of curtain material. Bottom anchor has to be flexible so that it will lie along the contour of the water body bottom.

Condition Where Practice Applies

A turbidity curtain is generally used when construction activity occurs within a waterbody or along its shoreline and is of short duration, generally less than one month. Curtains are used in calm water surfaces and not in areas of flowing water. **Turbidity curtains are not to be used across flowing watercourses.**

Design Criteria

The turbidity curtain shall be located beyond the lateral limits of the construction site and firmly anchored in place. The alignment should be set as close to the work area as possible but not so close as to be disturbed by applicable construction equipment. The height of the curtain shall be 20 percent greater than the depth of the water to allow for water level fluctuations. The area that the turbidity curtain protects shall not contain large culverts or drainage areas that if flows occur behind the curtain would cause a breach or lost contact at the bottom surface.

If water depths at the design alignment are minimal, the toe can be anchored in place by staking.

See Figure 5.35 on page 5.66.

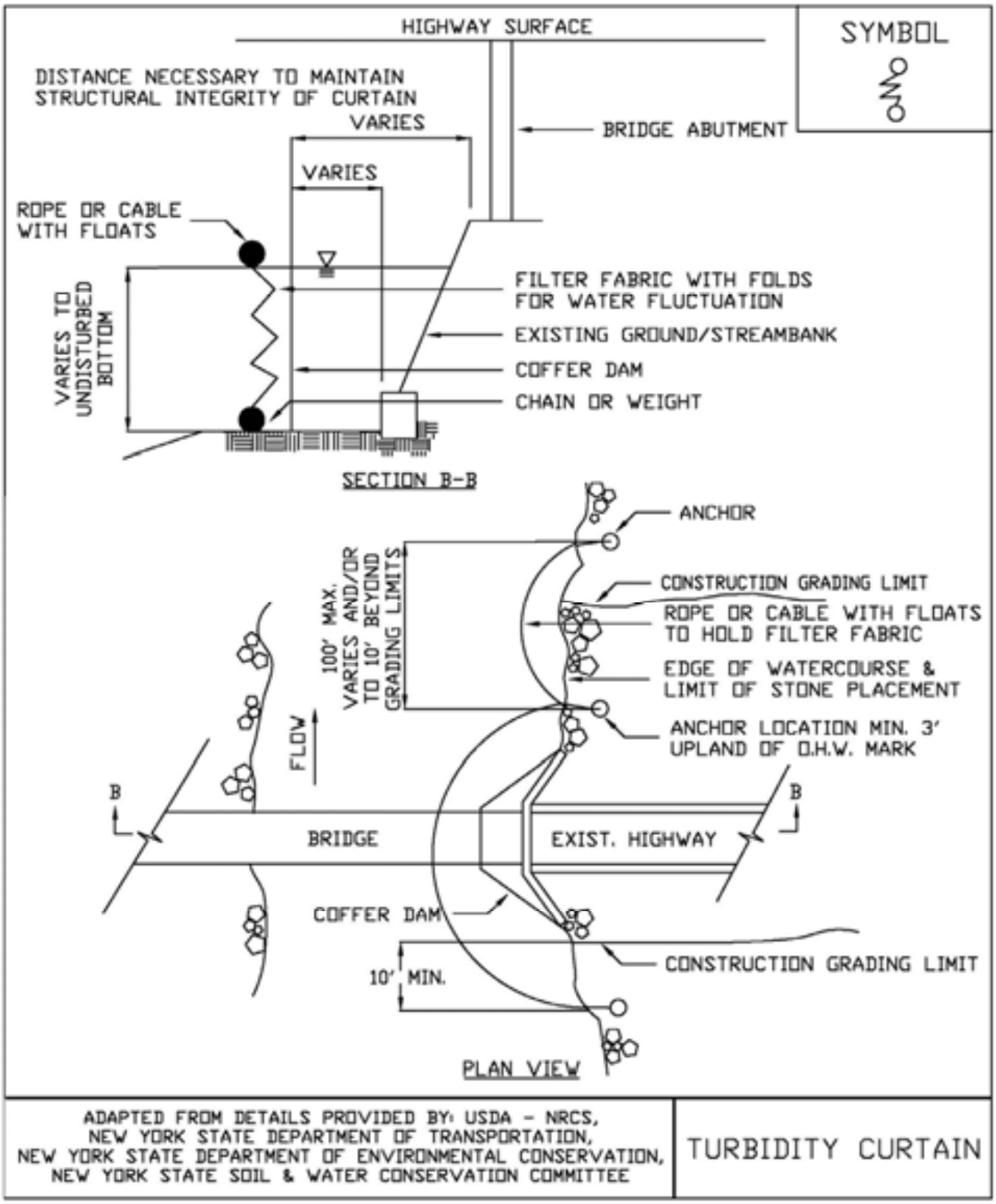
Construction Specifications

The area of proposed installation of the curtain shall be inspected for obstacles and impediments that could damage the curtain or impair its effectiveness to retain sediment. All materials shall be removed so they cannot enter the waterbody. Shallow installations can be made by securing the curtain by staking rather than using a flotation system. Supplemental anchors of the turbidity curtain toe shall be used, as needed, depending on water surface disturbances such as boats and wave action by winds.

Maintenance

The turbidity curtain shall be inspected daily and repaired or replaced immediately. It is not normally necessary to remove sediment deposited behind the curtain; but, when necessary, removal is usually done by hand prior to removal of the barrier. All removed silt is stabilized away from the waterbody. The barrier shall be removed by carefully pulling it toward the construction site to minimize the release of attached sediment. Any floating construction or natural debris shall be immediately removed to prevent damage to the curtain. If the curtain is oriented in a manner that faces the prevailing winds, frequent checks of the anchorage shall be made.

Figure 5.35
Turbidity Curtain



STANDARD AND SPECIFICATIONS FOR TEMPORARY CONSTRUCTION AREA SEEDING

Definition & Scope

Providing temporary erosion control protection to disturbed areas and/or localized critical areas for an interim period by covering all bare ground that exists as a result of construction activities or a natural event. Critical areas may include but are not limited to steep excavated cut or fill slopes and any disturbed, denuded natural slopes subject to erosion.

Conditions Where Practice Applies

Temporary seedings may be necessary on construction sites to protect an area, or section, where final grading is complete, when preparing for winter work shutdown, or to provide cover when permanent seedings are likely to fail due to mid-summer heat and drought. The intent is to provide temporary protective cover during temporary shutdown of construction and/or while waiting for optimal planting time.

Criteria

Water management practices must be installed as appropriate for site conditions. The area must be rough graded and slopes physically stable. Large debris and rocks are usually removed. Seedbed must be seeded within 24 hours of disturbance or scarification of the soil surface will be necessary prior to seeding.

Fertilizer or lime are not typically used for temporary seedings.

IF: Spring or summer or early fall, then seed the area with ryegrass (annual or perennial) at 30 lbs. per acre (Approximately 0.7 lb./1000 sq. ft. or use 1 lb./1000 sq. ft.).

IF: Late fall or early winter, then seed Certified 'Aroostook' winter rye (cereal rye) at 100 lbs. per acre (2.5 lbs./1000 sq. ft.).

Any seeding method may be used that will provide uniform application of seed to the area and result in relatively good soil to seed contact.

Mulch the area with hay or straw at 2 tons/acre (approx. 90 lbs./1000 sq. ft. or 2 bales). Quality of hay or straw mulch allowable will be determined based on long term use and visual concerns. Mulch anchoring will be required where wind or areas of concentrated water are of concern. Wood fiber hydromulch or other sprayable products approved for erosion control (nylon web or mesh) may be used if applied according to manufacturers' specification. Caution is advised when using nylon or other synthetic products. They may be difficult to remove prior to final seeding and can be a hazard to young wildlife species.

STANDARD AND SPECIFICATIONS FOR CHECK DAM

Definition & Scope

Small barriers or dams constructed of stone, bagged sand or gravel, or other durable materials across a drainageway to reduce erosion in a drainage channel by reducing the velocity of flow in the channel.

Conditions Where Practice Applies

This practice is used as a **temporary** and, in some cases, a **permanent** measure to limit erosion by reducing velocities in open channels that are degrading or subject to erosion or where permanent stabilization is impractical due to short period of usefulness and time constraints of construction.

Design Criteria

Drainage Area: Maximum drainage area above the check dam shall not exceed two (2) acres.

Height: Not greater than 2 feet. Center shall be maintained 9 inches lower than abutments at natural ground elevation.

Side Slopes: Shall be 2:1 or flatter.

Spacing: The check dams shall be spaced as necessary in the channel so that the crest of the downstream dam is at the elevation of the toe of the upstream dam. This spacing is equal to the height of the check dam divided by the channel slope.

Therefore:

$$S = \frac{h}{s}$$

Where: S = spacing interval (ft.)
h = height of check dam (ft.)
s = channel slope (ft./ft.)

Example:

For a channel with a 4% slope and 2 ft. high stone check dams, they are spaced as follows:

$$S = \frac{2\ \text{ft}}{0.04\ \frac{\text{ft}}{\text{ft}}} = 50\ \text{ft}$$

For stone check dams: Use a well graded stone matrix 2 to 9 inches in size (NYS – DOT Light Stone Fill meets these requirements).

The overflow of the check dams will be stabilized to resist erosion that might be caused by the check dam. See Figure 3.1 on page 3.3 for details.

Check dams should be anchored in the channel by a cutoff trench 1.5 ft. wide and 0.5 ft. deep and lined with filter fabric to prevent soil migration.

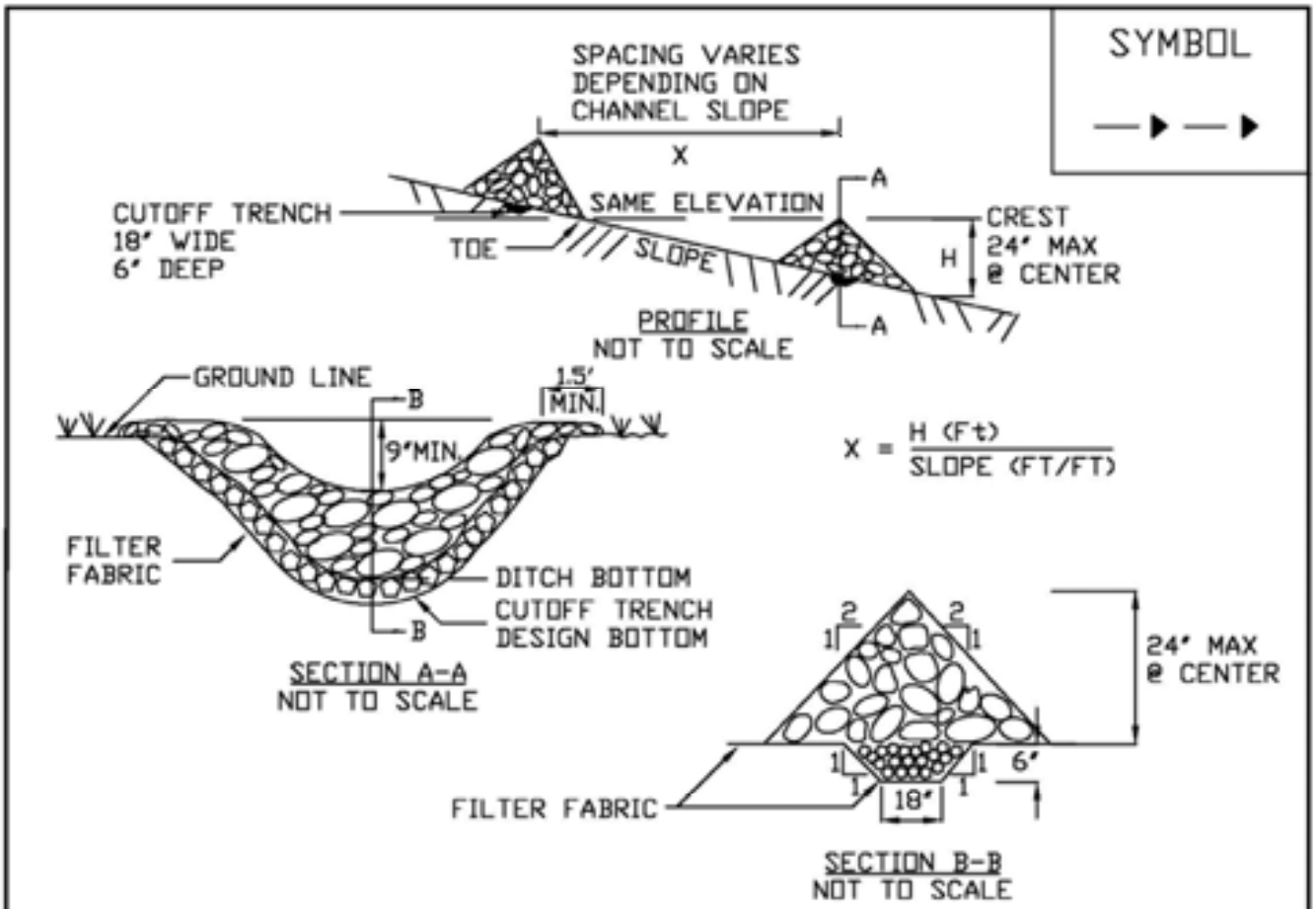
For filter sock or fiber roll check dams: The check dams will be anchored by staking the dam to the earth contact surface. The dam will extend to the top of the bank. The check dam will have a splash apron of NYS DOT #2 crushed stone extending a minimum 3 feet downstream from the dam and 1 foot up the sides of the channel. The compost and materials for a filter sock check dam shall meet the requirements shown in the standard for Compost Filter Sock on page 5.7.

Maintenance

The check dams should be inspected after each runoff event. Correct all damage immediately. If significant erosion has occurred between structures, a liner of stone or other suitable material should be installed in that portion of the channel or additional check dams added.

Remove sediment accumulated behind the dam as needed to allow channel to drain through the stone check dam and prevent large flows from carrying sediment over the dam.

Figure 3.1
Stone Check Dam Detail



CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
2. SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

MAXIMUM DRAINAGE AREA 2 ACRES.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	STONE CHECK DAM

STANDARD AND SPECIFICATIONS FOR ANCHORED STABILIZATION MATTING

Definition and Scope

A **temporary** or **permanent** protective covering placed on a prepared, seeded planting area that is anchored in place by staples or other means to aid in controlling erosion by absorbing rain splash energy and withstand overland flow as well as provide a microclimate to protect and promote seed establishment.

Conditions Where Practice Applies

Anchored stabilization mats are required for seeded earthen slopes steeper than 3 horizontal to 1 vertical; in vegetated channels where the velocity of the design flow exceeds the allowable velocity for vegetation alone (usually greater than 5 feet per second); on streambanks and shorelines where moving water is likely to erode newly seeded or planted areas; and in areas where wind prevents standard mulching with straw. This standard does not apply to slopes stabilized with sod, rock riprap or hard armor material.

Design Criteria

Slope Applications - Anchored stabilization mats for use on slopes are primarily used as mulch blankets where the mesh material is within the blanket or as a netting over previously placed mulch. These stabilization mats are NOT effective in preventing slope failures.

1. Required on all slopes steeper than 3:1
2. Matting will be designed for proper longevity need and strength based on intended use.
3. All installation details and directions will be included on the site erosion and sediment control plan and will follow manufactures specifications.

Channel Applications - Anchored stabilization mats, for use in supporting vegetation in flow channels, are generally a non-degradable, three dimensional plastic structure which can be filled with soil prior to planting. This structure provides a medium for root growth where the matting and roots become intertwined forming a continuous anchor for the vegetated lining.

1. Channel stabilization shall be based on the tractive force method.
2. For maximum design shear stresses less than 2 pounds per square foot, a temporary or bio-degradable mat may be used.
3. The design of the final matting shall be based on the mats ability to resist the tractive shear stress at bank full flow.
4. The installation details and procedures shall be included on the site erosion and sediment control plan and will follow manufacturers specifications.

Construction Specifications

1. Prepare soil before installing matting by smoothing the surface, removing debris and large stone, and applying lime, fertilizer and seed. Refer to manufacturers installation details.
2. Begin at the top of the slope by anchoring the mat in a 6” deep x 6” wide trench. Backfill and compact the trench after stapling.
3. In channels or swales, begin at the downslope end, anchoring the mat at the bottom and top ends of the blanket. When another roll is needed, the upslope roll

should overlay the lower layer, shingle style, so that channel flows do not peel back the material.

4. Roll the mats down a slope with a minimum 4" overlap. Roll center mat in a channel in direction of water flow on bottom of the channel. Do not stretch blankets. Blankets shall have good continuous contact with the underlying soil throughout its entire length.

5. Place mats end over end (shingle style) with a 6" overlap, use a double row of staggered staples 4" apart to secure mats.

6. Full length edge of mats at top of side slopes must be anchored in 6" deep x 6" wide trench; backfill and compact the trench after stapling.

7. Mats on side slopes of a channel must be overlapped 4" over the center mat and stapled.

8. In high flow channel applications, a staple check slot is recommended at 30 to 40 foot intervals. Use a row of staples 4" apart over entire width of the channel. Place a second row 4" below the first row in a staggered pattern.

9. The terminal end of the mats must be anchored in a 6"x6" wide trench. Backfill and compact the trench after stapling.

10. Stapling and anchoring of blanket shall be done in accordance with the manufactures recommendations.

Maintenance

Blanketed areas shall be inspected weekly and after each runoff event until perennial vegetation is established to a minimum uniform 80% coverage throughout the blanketed area. Damaged or displaced blankets shall be restored or replaced within 2 calendar days.

STANDARD AND SPECIFICATIONS FOR FIBER ROLL

Definition & Scope

A fiber roll is a coir (coconut fiber), straw, or excelsior roll encased in netting of jute, nylon, or burlap to dissipate energy along streambanks, channels, and bodies of water and to reduce sheet flow on slopes.

Conditions Where Practice Applies

Fiber rolls are used where the water surface levels are relatively constant. Artificially controlled streams for hydropower are not good candidates for this technique. The rolls provide a good medium for the introduction of herbaceous vegetation. Planting in the fiber roll is appropriate where the roll will remain continuously wet.

Design Criteria

1. The roll is placed in a shallow trench dug below baseflow or in a 4 inch trench on the slope contour and anchored by 2” x 2”, 3-foot long posts driven on each side of the roll (see Figure 4.8).

2. The roll is contained by a 9-gauge non-galvanized wire placed over the roll from post to post. Braided nylon rope (1/8" thick) may be used.

3. The anchor posts shall be spaced laterally 4 feet on center on both sides of the roll and driven down to the top of the roll.

4. Soil is placed behind the roll and planted with suitable herbaceous or woody vegetation. If the roll will be continuously saturated, wetland plants may be planted into voids created in the upper surface of the roll.

5. Where water levels may fall below the bottom edge of the roll, a brush layer of willow should be installed so as to lay across the top edge of the roll.

6. Where fiber rolls are used to reduce sheet flow on slopes they should be at least 12” in diameter and spaced according to the straw bale dike standard for sediment control.

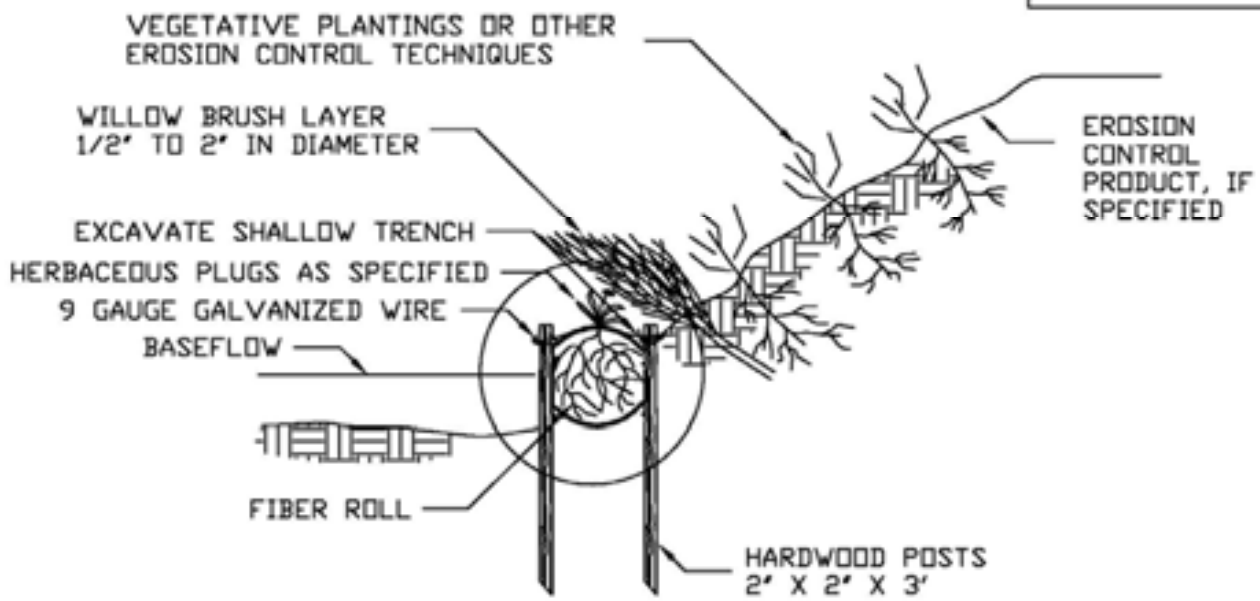
Maintenance

Due to the susceptibility of plant materials to the physical constraints of the site, climate conditions, and animal populations, it is necessary to inspect installations frequently. This is especially important during the first year or two of establishment. Plant materials missing or damaged should be replaced as soon as possible. Sloughs or breaks in drainage pattern should be reestablished for the site as quickly as possible to maintain stability.

Figure 4.8
Fiber Roll

SYMBOL

FR



CROSS SECTION
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. EXCAVATE A SHALLOW TRENCH SLIGHTLY BELOW BASEFLOW OR A 4" TRENCH ON SLOPE CONTOURS.
2. PLACE THE ROLL IN THE TRENCH AND ANCHOR WITH 2" x 2" POSTS PLACED ON BOTH SIDES OF THE ROLL AND SPACED LATERALLY ON 2' TO 4' CENTERS. TRIM THE TOP OF THE POSTS EVEN WITH THE EDGE OF THE ROLL, IF NECESSARY.
3. NOTCH THE POSTS AND TIE TOGETHER, ACROSS THE ROLL, WITH 9 GAUGE GALVANIZED WIRE OR 1/8" DIAMETER BRAIDED NYLON ROPE..
4. PLACE SOIL EXCAVATED FROM THE TRENCH BEHIND THE ROLL AND HAND TAMP. PLANT WITH SUITABLE HERBACEOUS OR WOODY VEGETATION AS SPECIFIED ELSEWHERE IN THE CONTRACT DOCUMENTS. VEGETATION SHALL BE PLACED IMMEDIATELY ADJACENT TO THE ROLL TO PROMOTE ROOT GROWTH INTO THE FIBER. HERBACEOUS VEGETATION, IF SPECIFIED, SHALL BE PLANTED INTO THE FIBER ROLL.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	FIBER ROLL

Appendix E

Construction Site Inspection and Maintenance Logbook Template

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:

Inspection Forms will be filled out during the entire construction phase of the project.

Required Elements:

1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and

6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

Inspector (print name)	**Date of Inspection**
Qualified Inspector (print name)	**Qualified Inspector Signature**

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA
[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions at the outfalls?
[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease at the outfalls?
[ ] [ ] [ ] All disturbance is within the limits of the approved plans.
[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA
[ ] [ ] [ ] Is construction site litter, debris and spoils appropriately managed?
[ ] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [ ] [ ] Is construction impacting the adjacent property?
[ ] [ ] [ ] Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA
[ ] [ ] [ ] Maximum diameter pipes necessary to span creek without dredging are installed.
[ ] [ ] [ ] Installed non-woven geotextile fabric beneath approaches.
[ ] [ ] [ ] Is fill composed of aggregate (no earth or soil)?
[ ] [ ] [ ] Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

3. Stabilized Construction Access

Yes No NA
[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

Runoff Control Practices

1. Excavation Dewatering

Yes No NA
[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.
[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.
[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

Runoff Control Practices (continued)

2. Flow Spreader

Yes No NA
[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
[ ] [ ] [ ] Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA
[ ] [ ] [ ] Installed per plan with minimum side slopes 2H:1V or flatter.
[ ] [ ] [ ] Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
[ ] [ ] [ ] Sediment-laden runoff directed to sediment trapping structure

4. Stone Check Dam

Yes No NA
[ ] [ ] [ ] Is channel stable? (flow is not eroding soil underneath or around the structure).
[ ] [ ] [ ] Check is in good condition (rocks in place and no permanent pools behind the structure).
[ ] [ ] [ ] Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA
[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA
[ ] [ ] [ ] Stockpiles are stabilized with vegetation and/or mulch.
[ ] [ ] [ ] Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA
[ ] [ ] [ ] Temporary seedings and mulch have been applied to idle areas.
[ ] [ ] [ ] 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. Silt Fence and Linear Barriers

Yes No NA
[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
Sediment accumulation is ___% of design capacity.

Sediment Control Practices (continued)

2. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated; Filter Sock or Manufactured practices)

Yes No NA
[ ] [ ] [ ] Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ] [ ] [ ] Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ] [ ] [ ] Drainage area is 1acre or less.
[ ] [ ] [ ] Excavated area is 900 cubic feet.
[ ] [ ] [ ] Excavated side slopes should be 2:1.
[ ] [ ] [ ] 2" x 4" frame is constructed and structurally sound.
[ ] [ ] [ ] Posts 3-foot maximum spacing between posts.
[ ] [ ] [ ] Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
[ ] [ ] [ ] Manufactured insert fabric is free of tears and punctures.
[ ] [ ] [ ] Filter Sock is not torn or flattened and fill material is contained within the mesh sock.
Sediment accumulation ___% of design capacity.

3. Temporary Sediment Trap

Yes No NA
[ ] [ ] [ ] Outlet structure is constructed per the approved plan or drawing.
[ ] [ ] [ ] Geotextile fabric has been placed beneath rock fill.
[ ] [ ] [ ] Sediment trap slopes and disturbed areas are stabilized.
Sediment accumulation is ___% of design capacity.

4. Temporary Sediment Basin

Yes No NA
[ ] [ ] [ ] Basin and outlet structure constructed per the approved plan.
[ ] [ ] [ ] Basin side slopes are stabilized with seed/mulch.
[ ] [ ] [ ] Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
[ ] [ ] [ ] Sediment basin dewatering pool is dewatering at appropriate rate.
Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design. All practices shall be maintained in accordance with their respective standards.

Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

Appendix F

MS4 SWPPP Acceptance Form

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information	
1. Owner/Operator Name:	Nassau County Department of Public Works
2. Contact Person:	Kenneth Arnold
3. Street Address:	1194 Prospect Avenue
4. City/State/Zip:	Westbury, NY 11590
II. Project Site Information	
5. Project/Site Name:	Hempstead Bay - Hassocks Resotration Project
6. Street Address:	Pearsalls and South Black Banks Hassocks
7. City/State/Zip:	Town of Hempstead, NY 11558
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information	
8. SWPPP Reviewed by:	Thomas Doheny
9. Title/Position:	Commissioner of Conservation & Waterways
10. Date Final SWPPP Reviewed and Accepted:	
IV. Regulated MS4 Information	
11. Name of MS4:	Town of Hempstead
12. MS4 SPDES Permit Identification Number: NYR20A	390
13. Contact Person:	Thomas Doheny
14. Street Address:	1401 Lido Boulevard
15. City/State/Zip:	Point Look, NY 11569
16. Telephone Number:	(516) 431-9200

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

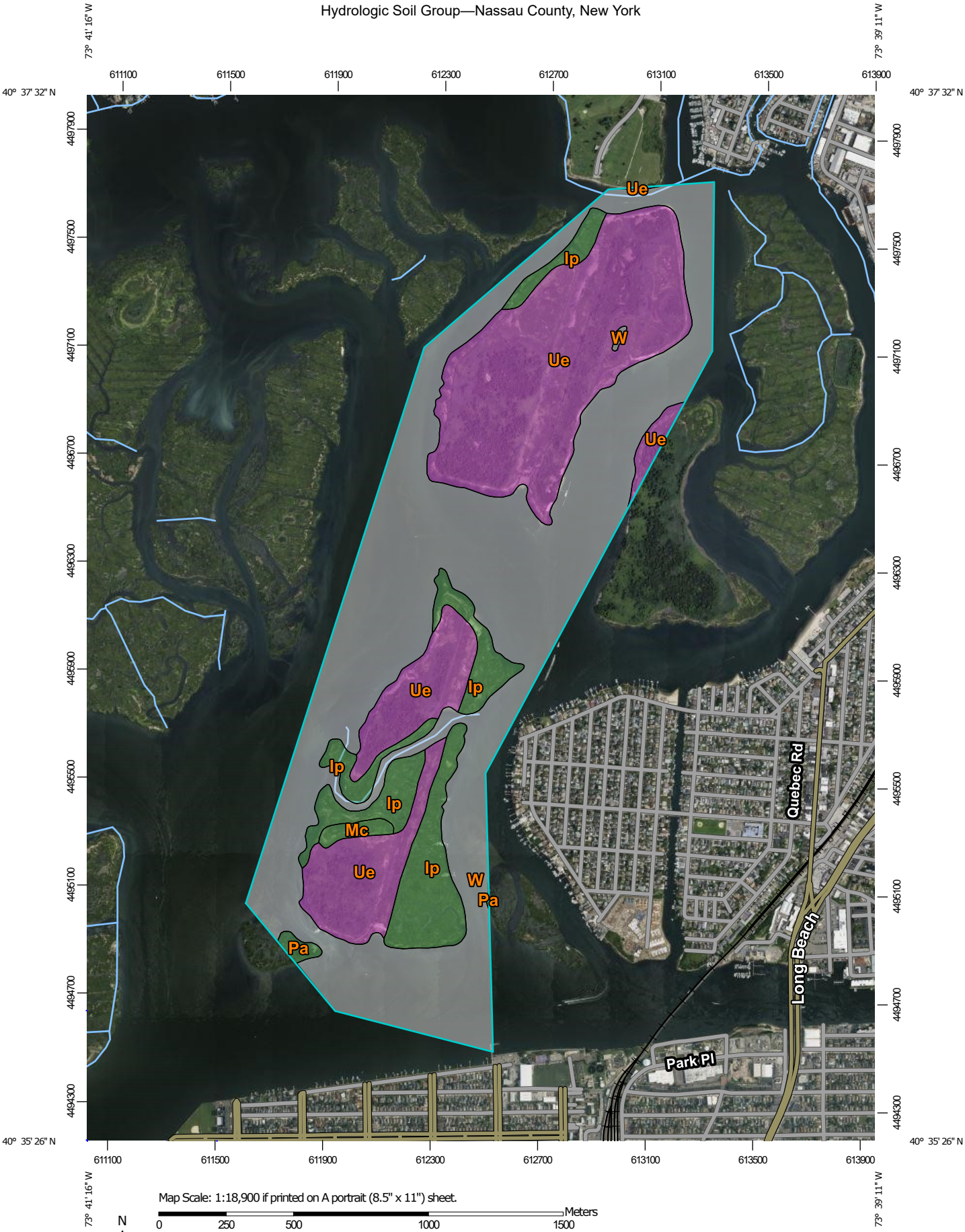
Date:

VI. Additional Information

(NYS DEC - MS4 SWPPP Acceptance Form - January 2015)

Appendix G

USDA Web Soil Survey



Map Scale: 1:18,900 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 250 500 1000 1500

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

Soil Survey Area: Nassau County, New York
Survey Area Data: Version 19, Oct 27, 2021

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

Date(s) aerial images were photographed: Mar 13, 2021—Sep 14, 2021

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ip	Ipswich mucky peat, 0 to 2 percent slopes, very frequently flooded	A/D	70.6	10.9%
Mc	Matunuck mucky peat, 0 to 2 percent slopes, very frequently flooded	A/D	4.0	0.6%
Pa	Pawcatuck mucky peat, 0 to 2 percent slopes, very frequently flooded	A/D	2.7	0.4%
Ue	Udipsamments, wet substratum	A	214.4	33.0%
W	Water		357.9	55.1%
Totals for Area of Interest			**649.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Nassau County, New York

Ip—Ipswich mucky peat, 0 to 2 percent slopes, very frequently flooded

Map Unit Setting

National map unit symbol: 2tyqj
Elevation: 0 to 10 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Ipswich and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ipswich

Setting

Landform: Tidal marshes
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Partially- decomposed herbaceous organic material

Typical profile

Oe - 0 to 42 inches: mucky peat
Oa - 42 to 59 inches: muck

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.14 to 99.90 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Very frequent
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to strongly saline (0.7 to 111.6 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Very high (about 26.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: A/D
Ecological site: R144AY001CT - Tidal Salt Low Marsh mesic very frequently flooded, R144AY002CT - Tidal Salt High Marsh mesic very frequently flooded
Hydric soil rating: Yes

Minor Components

Westbrook
Percent of map unit: 5 percent
Landform: Tidal marshes
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R144AY001CT - Tidal Salt Low Marsh mesic very frequently flooded, R144AY002CT - Tidal Salt High Marsh mesic very frequently flooded
Hydric soil rating: Yes

Pawcatuck
Percent of map unit: 5 percent
Landform: Tidal marshes
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R144AY001CT - Tidal Salt Low Marsh mesic very frequently flooded, R144AY002CT - Tidal Salt High Marsh mesic very frequently flooded
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Nassau County, New York
Survey Area Data: Version 19, Oct 27, 2021

Nassau County, New York

Mc—Matunuck mucky peat, 0 to 2 percent slopes, very frequently flooded

Map Unit Setting

National map unit symbol: 2tyqk
Elevation: 0 to 10 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 59 degrees F
Frost-free period: 140 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Matunuck and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Matunuck

Setting

Landform: Tidal marshes
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Partially- decomposed herbaceous organic material over glaciofluvial deposits and/or sandy marine deposits

Typical profile

Oe - 0 to 12 inches: mucky peat
Cg - 12 to 72 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.14 to 99.90 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Very frequent
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to strongly saline (1.0 to 112.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: A/D
Ecological site: R144AY001CT - Tidal Salt Low Marsh mesic very frequently flooded, R144AY002CT - Tidal Salt High Marsh mesic very frequently flooded
Hydric soil rating: Yes

Minor Components

Pawcatuck

Percent of map unit: 5 percent
Landform: Tidal marshes
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R144AY001CT - Tidal Salt Low Marsh mesic very frequently flooded, R144AY002CT - Tidal Salt High Marsh mesic very frequently flooded
Hydric soil rating: Yes

Ipswich

Percent of map unit: 5 percent
Landform: Tidal marshes
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R144AY001CT - Tidal Salt Low Marsh mesic very frequently flooded, R144AY002CT - Tidal Salt High Marsh mesic very frequently flooded
Hydric soil rating: Yes

Sandyhook

Percent of map unit: 5 percent
Landform: Back-barrier flats, back-barrier beaches
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R144AY001CT - Tidal Salt Low Marsh mesic very frequently flooded, R144AY002CT - Tidal Salt High Marsh mesic very frequently flooded
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Nassau County, New York
Survey Area Data: Version 19, Oct 27, 2021

Nassau County, New York

Ue—Udipsamments, wet substratum

Map Unit Setting

National map unit symbol: 9ttj
Elevation: 0 to 230 feet
Mean annual precipitation: 42 to 46 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 190 to 230 days
Farmland classification: Not prime farmland

Map Unit Composition

Udipsamments, wet substratum, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udipsamments, Wet Substratum

Typical profile

H1 - 0 to 72 inches: coarse sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

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

Minor Components

Unnamed soils

Percent of map unit: 10 percent
Hydric soil rating: No

Data Source Information

Soil Survey Area: Nassau County, New York
Survey Area Data: Version 19, Oct 27, 2021

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information	
1. Owner/Operator Name:	Nassau County Department of Public Works
2. Contact Person:	Kenneth Arnold
3. Street Address:	1194 Prospect Avenue
4. City/State/Zip:	Westbury, NY 11590
II. Project Site Information	
5. Project/Site Name:	Hempstead Bay - Hassocks Restoration Project
6. Street Address:	Pearsalls and South Black Banks Hassocks
7. City/State/Zip:	Town of Hempstead, NY 11558
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information	
8. SWPPP Reviewed by:	Thomas Doheny
9. Title/Position:	Commissioner of Conservation & Waterways
10. Date Final SWPPP Reviewed and Accepted:	07/27/2022
IV. Regulated MS4 Information	
11. Name of MS4:	Town of Hempstead
12. MS4 SPDES Permit Identification Number: NYR20A	390
13. Contact Person:	Thomas Doheny
14. Street Address:	1401 Lido Boulevard
15. City/State/Zip:	Point Look, NY 11569
16. Telephone Number:	(516) 431-9200

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:	THOMAS E. DOHENY JR
Title/Position:	COMMISSIONER.
Signature:	Thomas E Doheny Jr.
Date:	7-27-22

VI. Additional Information

(NYS DEC - MS4 SWPPP Acceptance Form - January 2015)

ATTACHMENT 01040-B

BAT EMERGENCE SURVEY

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APPENDIX E: PHASE 4 EMERGENCE SURVEYS

PERSONNEL

Qualified biologists[61], biological technicians, and any other individuals deemed qualified by a local USFWS FO may conduct emergence surveys for IBAT and/or NLEB by following the protocols below.

EMERGENCE SURVEYS FOR KNOWN IBAT AND/OR NLEB ROOSTS

The following protocols should begin as soon as feasible after identification of a diurnal roost (ideally that night):

NOTE: The emergence survey protocol should not be used for radio-tracked TCBs or emergence surveys of identified potential roosts given the variability in roosting locations typically used by the species (e.g., roosting in dead leaf clusters in the canopy of live trees) and difficulty observing bats emerging. An emergence count may be attempted on the rare occasion that the surveyor is able to discover the exact roosting location of a transmittered TCB and believes he/she can observe the bat(s) emerging.

1. Bat emergence surveys should begin one half hour before sunset[62] and continue until at least one hour after sunset or until it is otherwise too dark to see emerging bats. The surveyor(s) should be positioned so that emerging bats will be silhouetted against the sky as they exit the roost. Tallies of emerging bats should be recorded every few minutes or as natural breaks in bat activity allow. There should be at least one surveyor per roost. Surveyors must be close enough to the roost to observe all exiting bats but not close enough to influence emergence. That is, do not stand directly beneath the roost, do not make noise or carry on a conversation, and minimize use of lights (use a small flashlight to record data, if necessary). Do not shine a light on the roost as this may prevent or delay bats from emerging. Use of an infra-red, night vision, or thermal-imaging video camera or spotting scope is encouraged but not required. Likewise, use of an ultrasonic bat detector may aid in identifying the exact timing of bats emerging and may be used to help differentiate between low- and high-frequency bats species, and therefore, is strongly recommended. If multiple roosts are known within a colony, then simultaneous emergence surveys are encouraged to estimate population size. [NOTE: If a roost cannot be adequately silhouetted, then the local USFWS FO(s) should be contacted to discuss alternative survey methods].

2. Bat activity is affected by weather; therefore, emergence surveys should not be conducted when the following conditions exist: (a) temperatures that fall below 50 □F (10 □C); (b) precipitation, including rain and/or fog, that exceeds 30 minutes or continues intermittently during the survey period; and (c) sustained wind speeds greater than 9 miles/hour (4 meters/second; 3 on Beaufort scale).

3. Surveyors should use the attached (or similar) "Bat Emergence Survey Datasheet".

[61] A qualified biologist is an individual who holds a USFWS Recovery Permit (Federal Fish and Wildlife Permit) for federally listed bats in the state/region in which they are surveying and/or has been authorized by the appropriate state agency to mist-net for IBAT and/or NLEB. Several USFWS offices maintain lists of qualified bat surveyors, and if working in one of those states with authorizations in lieu of a Recovery Permits, the individual will either need to be on that list or submit qualifications to receive USFWS approval prior to conducting any field work.

[62] Surveys may need to start a little earlier or later than one half hour before official sunset times (i.e., before "dusk") in some settings such as deep/dark forested valleys or ridge tops, respectively. Sunset tables for the location of survey can be found at: https://sunrise-sunset.org

4. Surveyors should also complete an "IBAT and/or NLEB Roost Datasheet" for each roost known to be used by one or more IBAT and/or NLEB (see Appendix D for an example).

5. Completed datasheets should be included in reports prepared for the USFWS.

EMERGENCE SURVEYS FOR POTENTIAL IBAT AND/OR NLEB ROOSTS

In some limited cases (e.g., individual hazard tree removal during the active season[63]), surveyors may have the option of conducting emergence surveys for individual potential IBAT and/or NLEB roosts to determine use prior to removal. Evaluations whether potential roosts meet the criteria to conduct emergence surveys should be for each individual tree rather than groups of trees. The following protocol applies to these surveys:

1. Consult with the local USFWS FO(s) to determine whether a tree(s) that needs to be felled/ cleared may be potential roosting habitat for IBAT and/or NLEB and whether conducting an emergence survey is an appropriate means of avoiding take of IBAT and/or NLEB[64]. In general, the USFWS only approves of conducting emergence surveys as a means of avoiding direct take of bats for projects that only affect a very small number of potential roosts (e.g., less than or equal to 10)[65] in relatively small project areas. In addition, emergence surveys are only valid if all parts of the tree (limbs and trunk) can be observed by the surveyor. Therefore, trees within woodlands that are directly adjacent to other trees and whose canopy is blocked are not suitable for emergence surveys. An online directory of USFWS offices is available at: http://www.fws.gov/offices/.

2. If the USFWS FO(s) approves/concurs with Step 1, then follow the emergence guidelines for Emergence Surveys for Known IBAT and/or NLEB Roosts (above) to determine if any bats are roosting in the tree(s).

3. At the conclusion of the emergence survey:

    a. If **no** bats were observed emerging from the potential roost(s), then it maybe felled immediately. If safety concerns dictate that a tree cannot be felled immediately (i.e., in the dark), then the tree(s) should be felled as soon as possible after sunrise on the following day. If a tree is not felled during the daytime immediately following an emergence survey, then the survey must be repeated, because bats may switch roosts on a nightly basis. Immediately after the tree is felled, a visual inspection of the downed tree must be completed to ensure that no bats were present, injured, or killed. The USFWS FO should be contacted immediately if bats are discovered during this inspection.

    b. If **1 or more** bats (regardless of species, because species identification cannot reliably be made during visual emergence counts alone) are observed emerging from the roost, then it should **not** be felled, and the USFWS FO(s) should be contacted the next working day for further guidance.

SUBMISSION OF EMERGENCE SURVEY RESULTS

[63] The active season periods for IBat and NLEBs are available in Appendix L.

[64] If a potential bat roost tree poses an imminent threat to human safety or property, then emergency consultation procedures should be followed as appropriate. (50 CFR §402.05). If a hazard tree does not pose an imminent threat, then the USFWS requests that it be felled during the bat's inactive season. When possible, felling of potential roost/hazard trees should be avoided during the primary maternity period to avoid potential adverse effects to non-volant pups (see Appendix L for specific inactive and pup season dates for your area).

[65] Areas containing >10 hazard trees will be assessed by the USFWS on a case-by-case basis with the project proponent.

APPENDIX E: PHASE 4 EMERGENCE SURVEYS

Emergence survey results should be included with the mist-netting survey report, unless the survey was completed as an evaluation of potential roosts and should be submitted to the appropriate USFWS FO(s) for review. Each survey report should include the following information related to emergence survey efforts[66]:

1. Copy of prior phase reports (if not previously provided)
2. Explanation of any modifications from the Phase 4 emergence count study plan (e.g., number of potential roosts surveyed), if applicable
3. Summary of roost emergence data
4. Map identifying location of roost(s) identified during radio-tracking and/or emergence surveys for IBAT and/or NLEB(s) including GPS coordinates
5. Full names of personnel present during emergence survey efforts and who conducted emergence surveys of roosts
6. Photographs of each identified roost
7. Copies of all "Emergence Survey" and "IBAT and/or NLEB Roost" datasheets
8. Any other information requested by the local USFWS FO(s) where work was conducted
9. Copy of the pre-approved site-specific written authorization from USFWS and/or state natural resource agency (if required)

[66] In 2016, the USFWS implemented a new standardized approach for reporting of bat survey data. In addition to a traditional written report, federal permit holders are now required to submit their survey data using standardized permit reporting spreadsheets available on the USFWS website provided in the intro.

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SECTION 01050

FIELD ENGINEERING

PART 1 – GENERAL

1.1 GENERAL

A. The General Construction Contractor shall establish at least two bench marks for use by all Contractors, in accordance with the General Conditions, Article GC 28, "Layout and Levels" and the Agreement, Article XXIX, "Character and Competency" and Article XXX, "Superintendence". The Contractor shall comply with this article.

B. Contractor shall:
   1. Provide civil, structural or other professional engineering services specified, or required to execute Contractor's construction methods.
   2. Develop and make all detail surveys and measurements needed for construction including slope stakes, batter boards, piling and pier layouts and all other working lines, elevations and cut sheets.
   3. Keep a transit and leveling instrument on the Site at all times and a skilled instrument man employed or obtained whenever necessary for layout of the Work.
   4. Provide all material required for benchmarks, control points, batter boards, grade stakes, and other items.
   5. Be solely responsible for all locations, dimensions and levels. No data other than written orders of the Engineer shall justify departure from the dimensions and levels required by the Drawings.
   6. When requested by Engineer, provide such facilities as may be necessary for the Engineer to check line and grade points placed by the Contractor. The Contractor shall do no excavation, backfill or embankment Work until all cross sectioning necessary for determining pay quantities has been completed and checked by the Engineer.

1.2 CONTRACTOR'S FIELD ENGINEER

A. The Contractor shall employ and retain at the Site of the Work a field engineer capable of performing all engineering tasks required of the Contractor. Tasks included are:
   1. A projection of Work to be completed the following day must be submitted to the Construction Manager and Engineer by 4:00 PM of the preceding workday. This projection must include:
      a. Location of all areas in which construction will be done, including the Contractor and his Subcontractors.
      b. Major construction equipment utilized.
      c. Equipment and materials to be installed.
   2. Provide all surveying equipment required including transit, level, stakes and required surveying accessories.

3. Furnish all required lines and grades for construction. Check all formwork, reinforcing, inserts, structural steel, bolts, sleeves, piping, other materials and equipment.
4. Maintain field office files and drawings, Record Drawings, and coordinate engineering services with Subcontractors. Prepare Layout and Coordination Drawings for construction operations.
5. Check and coordinate Work for conflicts and interference and immediately advise the Engineer of all discrepancies noted.
6. Cooperate with the Construction Manager and Engineer in field inspections, as required

1.3 QUALIFICATIONS OF SURVEYOR OR ENGINEER

A. A qualified engineer or registered land surveyor, acceptable to the Engineer.

1.4 RECORDS

A. Maintain a complete, accurate log of all control and survey Work as it progresses.

B. On completion of all work, prepare a certified survey showing all dimensions, locations, angles and elevations of construction.

1.5 SUBMITTALS

A. When requested by the Engineer, submit a certificate signed by a registered Engineer or surveyor certifying that elevations and locations of Work are in conformance with the Contract Documents. Explain all deviations.
B. Pre- and post-construction surveys of habitat restoration areas addressed in Specification 02486. Each survey will be completed under the direction of a New York State Licensed Land Surveyor and all final surveys will carry the signature and seal of the Licensed Land Surveyor.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01072

REFERENCE STANDARDS

1.1 GENERAL

A. When a reference standard is specified, comply with the requirements and recommendations stated in that standard, except when they are modified by the Contract Documents, or when applicable laws, ordinances, rules, regulations or codes establish stricter standards. The latest provisions of applicable standards shall apply to the Work, unless otherwise specified. Reference standards include, but are not necessarily limited to, the following:

AMCA - Air Moving and Conditioning Association, Inc.

AASHTO - American Association of State Highway and Transportation Officials.

ABMA - American Boiler Manufacturers' Association.

ACI - American Concrete Institute.

ACIFS - American Cast Iron Flange Standards.

AFBMA - Anti-Friction Bearing Manufacturers Association.

AGA - American Gas Association.

AGMA - American Gear Manufacturers Association.

AIA - American Institute of Architects.

AISC - American Institute of Steel Construction.

AISI - American Iron and Steel Institute.

ANSI - American National Standards Institute.

APA - American Plywood Association.

API - American Petroleum Institute.

ASCE - American Society of Civil Engineers.

ASME - American Society of Mechanical Engineers.

ASTM - American Society for Testing and Materials.

AWPA - American Wood Preservers Association.

AWS - American Welding Society.

AWWA American Water Works Association.

CFR Code of Federal Regulations.

CGA - Compressed Gas Association.

CRSI - Concrete Reinforcing Steel Institute.

CMAA Crane Manufacturers' Association of America.

DIPRA - Ductile Iron Pipe Research Association.

EEI - Edison Electric Institute.

EJMA - Expansion Joint Manufacturers' Association.

Fed Spec - Federal Specifications.

FM - Factory Mutual.

HI - Hydraulic Institute

HMI - Hoist Manufacturers' Institute.

IEEE - Institute of Electrical and Electronic Engineers.

IPCEA - Insulated Power Cable Engineers Association.

NACE - National Association of Corrosion Engineers.

NB - National Board of Boiler Pressure Vessels.

NBS - National Bureau of Standards.

NEC - National Electric Code.

NEMA - National Electrical Manufacturers Association.

NFPA National Fire Protection Association.

NIOSH National Institute for Occupational Safety and Health.

NYCRR New York Codes, Rules, and Regulations.

NYSDEC New York State Department of Environmental Conservation laws, rules and regulations.

NYSDOL New York State Department of Labor including Code Rule 56.

NYSDOH New York State Department of Health.

NYSDOT - New York State Department of Transportation.

NYSSSESC Standards and Specification for Erosion and Sediment Control.

OSHA - Occupational Safety and Health Act.

PCA - Portland Cement Association.

PCI Pre-stressed Concrete Institute.

RCRA Resource Conservation and Recovery Act.

RMA - Rubber Manufacturers' Association.

SMACCNA - Sheet Metal and Air Conditioning Contractors National Association.

SPDES State Pollutant Discharge Elimination System.

SPI - Society of Plastics Industry.

SSPC - Steel Structures Painting Council.

STI Steel Tank Institute.

Town of Hempstead Code.

TSCA Toxic Substances Control Act.

USEPA United States Environmental Protection Agency.

USDOT United States Department of Transportation.

UL Underwriters' Laboratory.

USCG United States Coast Guard.

B. The Contractor shall, when required, furnish evidence satisfactory to the Engineer that materials and methods are in accordance with such standards where so specified.

C. In the event any questions arise as to the application of these standards or codes, copies shall be supplied on Site by Contractor.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01150

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.1 DESCRIPTION

A. The items listed below, beginning with Article 1.3, refer to and are the same pay items listed in the Bid Schedule. They constitute all of the pay items for the completion of the Work. No direct or separate payment will be made for providing miscellaneous temporary or accessory works, plant services, Contractor's field offices and support facilities, layout surveys, pre- and post-construction bathymetry and surveys, job signs, sanitary requirements, testing, safety devices, approval and Record Drawings, water supplies, power, maintaining traffic, removal and disposal of waste, watchmen, Bonds, insurance, and all other requirements of the Agreement, General Conditions and the Special Conditions. Compensation for all such services, items and materials shall be included in the prices stipulated for the lump sum and unit pay items listed herein. Unless otherwise specified, no separate payment will be made for stored equipment.The items listed below, beginning with Article 1.

1.2 RELATED PROVISIONS SPECIFIED ELSEWHERE

A. Payments to the Contractor: Refer to the Agreement and the General Conditions.

1.3 CONTRACT NO. S35109-03G – GENERAL CONSTRUCTION

A. Item 1 – General Construction Contract:
   1. Payment for Item 1 will be the lump sum bid under this item and will be full compensation for completing the Work described in Section 01010, Summary of Work, as shown on the Contract Drawings, and as specified under Divisions 1 through 2.

B. The Contractor shall include additional hazardous materials survey and testing of buildings, equipment, and structures to be demolished, removed and disposed, as necessary and as shown on the Contract Drawings, in the lump sum bid for Item 1.

C. Allowance Items 2, and 3, and Unit Price Item 4 inclusive are described in the Proposal Section and in Section 01020 Allowances. The total cost for these items shall be included in the total price.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

+ + NO TEXT ON THIS PAGE + +

SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

A. This Section specifies the general methods and requirements of submissions applicable to Shop Drawings, Product Data, Samples, Mockups, Construction Photographs, Construction or Submittal Schedules. Detailed submittal requirements are specified in the technical Sections.

B. All submittals shall be clearly identified by reference to Section Number, Paragraph, Drawing Number or Detail as applicable. Submittals shall be clear and legible and of sufficient size for presentation of data.

1.2 SHOP DRAWINGS, PRODUCT DATA, SAMPLES

A. Shop Drawings

1. Shop drawings as specified in individual Sections include, custom prepared data such as fabrication and erection/installation (working) drawings, analytical results, scheduled information, written plans, permits and notifications, safety plan and procedures, coordination drawings, individual system or equipment inspection and test reports including performance curves and certifications, as applicable to the work.
2. All shop drawings submitted by subcontractors shall be sent directly to the Contractor for checking. The Contractor shall be responsible for their submission at the proper time so as to prevent delays in delivery of materials.

3. Check all subcontractor's shop drawings regarding measurements, size of members, materials and details to make sure that they conform to the intent of the Drawings and related Sections. Return shop drawings found to be inaccurate or otherwise in error to the subcontractors for correction before submission thereof.

B. Product Data

1. Product data as specified in individual Sections include, standard prepared data for manufactured products (sometimes referred to as catalog data), such as the manufacturer's product specification and installation instructions, availability of colors and patterns, manufacturer's printed statements of compliances and applicability, roughing in diagrams and templates, catalog cuts, product photographs, production or quality control inspection and test reports and certifications, mill reports, and product operating and maintenance instructions.

C. Samples

1. Samples specified in individual Sections include, physical examples of the work such as sections of manufactured or fabricated work, small cuts or containers of materials, complete units of repetitively-used products, color/texture/pattern swatches and range sets, specimens for coordination of visual effect, graphic symbols and units of work to be used by the Engineer or Owner for independent inspection and testing, as applicable to the work. Submittal of Samples shall conform to the requirements of the General Conditions, Article GC 15, "Samples".

1.3 CONTRACTOR'S RESPONSIBILITIES

A. Review shop drawings, product data and samples, including those by subcontractors, prior to submission to determine and verify the following:

1. Field measurements
2. Field construction criteria
3. Catalog numbers and similar data
4. Conformance with related Sections

B. Each shop drawing, sample and product data submitted by the Contractor shall have affixed to it the following Certification Statement including the Contractor's Company name and signed by the Contractor: "Certification Statement: by this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements." The cover sheet shall fully describe the packaged data and include a listing of all items within the package. Provide to the Resident Project Representative a copy of each transmittal sheet for shop drawings, product data and samples at the time of submittal to the Engineer.

C. The Contractor shall utilize a 9 character submittal identification numbering system in the following manner:

1. The first five digits shall be the applicable Section Number.
2. The next three digits shall be the numbers 001 to 999 to sequentially number each initial separate item or drawing submitted under each specific Section Number.
3. The last character shall be a letter, A to Z, indicating the submission, or resubmission of the same Drawing, i.e., "A=1st submission, B=2nd submission, C=3rd submission, etc. A typical submittal number would be as follows:

03300-008-B		
03300	=	Section for Concrete
008	=	The eighth initial submittal under this section
B	=	The second submission (first resubmission) of that particular shop drawing

D. Notify the Engineer in writing, at the time of submittal, of any deviations in the submittals from the requirements of the Contract Documents. All cost associated with any deviations shall be borne by the Contractor.

E. The review and approval of shop drawings, samples or product data by the Engineer shall not relieve the Contractor from the responsibility for the fulfillment of the terms of the Contract. All risks of error and omission are assumed by the Contractor and the Engineer will have no responsibility therefor.

F. No portion of the work requiring a shop drawing, sample, or product data shall be started nor shall any materials be fabricated or installed prior to the approval or qualified approval of such item. Fabrication performed, materials purchased or on-site construction accomplished which does not conform to approved shop drawings and data shall not be permitted. The Owner will not be liable for any expense or delay due to corrections or remedies required to accomplish conformity.

G. Project work, materials, fabrication, and installation shall conform with approved shop drawings, applicable samples, and product data.

1.4 SUBMISSION REQUIREMENTS

A. Make submittals promptly in accordance with approved schedule and in such sequence as to cause no delay in the Work or in the work of any other contractor.

B. Contractor shall reference the General Conditions for additional submission requirements.

C. Number of submittals required:
   1. Shop Drawings: See Article 1.05 below.
   2. Product Data: See Article 1.05 below.
   3. Samples: Submit the number stated in the respective Sections.

D. Submittals shall contain:
   1. The date of submission and the dates of any previous submissions.
   2. The Project title and number.
   3. Contractor identification.
   4. The names of:
      a. Contractor
      b. Supplier
      c. Manufacturer
   5. Identification of the product, with the section number, page and paragraph(s).
   6. Field dimensions, clearly identified as such.
   7. Relation to adjacent or critical features of the work or materials.
   8. Applicable standards, such as ASTM or Federal Standards numbers.
   9. Identification of deviations from Contract Documents.
   10. Identification of revisions on resubmittals.

11. A blank space suitably sized for Contractor and Engineer stamps as defined in the General Conditions.
12. Where calculations are required to be submitted by the Contractor, the calculations shall have been checked by a qualified individual other than the preparer. The submitted calculations shall clearly show the names of the preparer and of the checker.

1.5 ELECTRONIC DATA SUBMITTAL FORMAT

A. Files shall be electronically searchable based on Owner and Engineer established standard file naming convention.

B. Quality and Legibility: Electronic submittal files shall be made from the original and shall be clear and legible. Do not provide scans of faxed copies. Electronic file shall be made at the full size of the original paper documents. All pages shall be properly oriented for reading on a computer screen without rotating.

C. Organization and Content:
   1. Each electronic submittal shall be one electronic file. Do not divide and submit individual submittals into multiple electronic files unless directed by Engineer.
   2. When submittal is large or contains multiple parts, provide PDF file with bookmark for each section of submittal.
   3. Submittal content shall include Contractor's letter of transmittal and Contractor's review and stamp.

D. Electronic file format:
   1. PDF (Portable Document Format): .pdf, Adobe PDF documents; created through electronic conversion rather than optically scanned whenever possible.

1.6 REVIEW OF SHOP DRAWINGS, PRODUCT DATA, WORKING DRAWINGS AND SAMPLES

A. The review of shop drawings, data and samples will be for general conformance with the design concept and Contract Documents. They shall not be construed:
   1. as permitting any departure from the Contract requirements;
   2. as relieving the Contractor of responsibility for any errors, including details, dimensions, and materials;
   3. as approving departures from details furnished by the Engineer, except as otherwise provided herein.

B. The Contractor remains responsible for details and accuracy, for coordinating the work with all other associated work and trades, for selecting fabrication processes, for techniques of assembly, and for performing work in a safe manner.

C. If the shop drawings, data or samples as submitted describe variations and show a departure from the Contract requirements which Engineer finds to be in the interest of the Owner and to be so minor as not to involve a change in Contract Price or

Contract Time, the Engineer may return the reviewed drawings without noting an exception.

D. Submittals will be returned to the Contractor under one of the following codes.

Code 1 - "APPROVED" is assigned when there are no notations or comments on the submittal. When returned under this code the Contractor may release the equipment and/or material for manufacture.

Code 2 - "APPROVED AS NOTED". This code is assigned when a confirmation of the notations and comments IS NOT required by the Contractor. The Contractor may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product.

Code 3 - "APPROVED AS NOTED/CONFIRM". This combination of codes is assigned when a confirmation of the notations and comments IS required by the Contractor. The Contractor may, at his own risk, release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product. This confirmation shall specifically address each omission and nonconforming item that was noted. Confirmation is to be received by the Engineer within 14 calendar days of the date of the Engineer's transmittal requiring the confirmation.

Code 4 - "APPROVED AS NOTED/RESUBMIT". This combination of codes is assigned when notations and comments are extensive enough to require a resubmittal of the package. This resubmittal is to address all comments, omissions and non-conforming items that were noted. Resubmittal is to be received by the Engineer within 14 calendar days of the date of the Engineer's transmittal requiring the resubmittal.

Code 5 - "NOT APPROVED" is assigned when the submittal does not meet the intent of the Contract Documents. The Contractor must resubmit the entire package revised to bring the submittal into conformance. It may be necessary to resubmit using a different manufacturer/vendor to meet the Contract Documents.

Code 6 - "COMMENTS ATTACHED" is assigned where there are comments attached to the returned submittal which provide additional data to aid the Contractor.

Code 7 - “SUBMITTED FOR THE RECORD” is assigned when the contractor has submitted information for record purposes.

Codes 1 through 5 designate the status of the reviewed submittal with Code 6 showing there has been an attachment of additional data.

E. Resubmittals will be handled in the same manner as first submittals. On resubmittals the Contractor shall identify all revisions made to the submittals, either in writing on the letter of transmittal or on the shop drawings by use of revision triangles or other similar methods. The resubmittal shall clearly respond to each comment made by the Engineer on the previous submission. Additionally, the Contractor shall direct specific attention to any revisions made other than the corrections requested by the Engineer on previous submissions.

F. Partial submittals may not be reviewed. The Engineer will be the only judge as to the completeness of a submittal. Submittals not complete will be returned to the Contractor and will be considered "Not Approved" until resubmitted. The Engineer may at his option provide a list or mark the submittal directing the Contractor to the areas that are incomplete.

G. Repetitive Review
   1. Shop drawings and other submittals will be reviewed no more than three times at the Owner's and Engineer's expense. All subsequent reviews will be performed at times convenient to the Owner and Engineer and at the Contractor's expense, based on the Owner's and Engineer's then prevailing rates. The Contractor shall reimburse the Owner and Engineer for all such fees invoiced to the Owner by the Engineer as defined in Article GC-18 of the General Conditions. Submittals are required until approved.
   2. Any need for more than one resubmission, or any other delay in obtaining Engineer's review of submittals, will not entitle Contractor to extension of the Contract Time.

H. If the Contractor considers any correction indicated on the shop drawings to constitute a change to the Contract Documents, the Contractor shall give written notice thereof to the Engineer at least 7 working days prior to release for manufacture. If such notice is not received within 7 day the Contractor will not be eligible for a claim against the County for additional compensation.

I. When the shop drawings have been completed to the satisfaction of the Engineer, the Contractor shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the Engineer.

1.7 DISTRIBUTION

A. Distribute reproductions of approved shop drawings and copies of approved product data and samples, where required, to the job site file and elsewhere as directed by the Engineer. Number of copies shall be as directed by the Engineer but shall not exceed six.

1.8 MOCK UPS

A. Mock Up units as specified in individual Sections, include but are not necessarily limited to, complete units of the standard of acceptance for that type of work to be used on the project. Remove at the completion of the work or when directed.

1.9 CONSTRUCTION PHOTOGRAPHS

A. Requirements for job photographs are provided in Article GC-37 “Photographs” of the General Conditions.

1.10 PROFESSIONAL ENGINEER (P.E.) CERTIFICATION FORM

A. If specifically required in other related Sections, submit a P.E. Certification for each item required, in the form attached to this Section, completely filled in and stamped.

1.11 ADDITIONAL SUBMITTAL REQUIREMENTS

A. Additional Contractor submission requirements are included in Article GC-14 “Contractor Submissions” of the General Conditions.

1.12 GENERAL PROCEDURES FOR SUBMITTALS

A. Coordination of Submittal Times: Prepare and transmit each submittal sufficiently in advance of performing the related work or other applicable activities, or within the time specified in the individual work of other related Sections, so that the installation will not be delayed by processing times including disapproval and resubmittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery and similar sequenced activities. No extension of time will be authorized because of the Contractor's failure to transmit submittals sufficiently in advance of the Work.

+ + END OF SECTION + +

P.E. CERTIFICATION FORM

The undersigned hereby certifies that he/she is a Professional Engineer registered in the State
of New York and that he/she has been employed by

_____ to design
(Name of Contractor)

_____
(Insert P.E. Responsibilities)

in accordance with Section _____ for the

_____
_
(Name of Project)

The undersigned further certifies that he/she has performed the design of the _____,
(Name of Project)

that said design is in conformance with all applicable local, state and federal codes, rules, and regulations, and that his/her signature and P.E. stamp have been affixed to all calculations and drawings used in, and resulting from, the design.

The undersigned hereby agrees to make all original design drawings and calculations available to the

Nassau County Department of Public Works
(Insert Name of Owner)

or Owner's representative within seven days following written request therefor by the Owner.

_____	_____
P.E. Name	Contractor's Name
_____	_____
Signature	Signature
_____	_____
Address	Title
	_____
	Address

SECTION 01311

CONSTRUCTION SCHEDULING

PART 1 - GENERAL

1.1 DESCRIPTION

A. The work shall consist of preparing, submitting, and maintaining a computerized CPM (Critical Path Method) progress schedule using Primavera P6 software.

B. The purpose of the computerized CPM progress schedule is to ensure timely completion of the contract and to establish a standard methodology for time adjustment analysis based on the principles of the Critical Path Method of Scheduling.

C. For this specification, 'Engineer' means County authorized Construction Manager.

D. The Contractor shall ensure that any and all computer files submitted to the Engineer are in a format that can be imported directly using Primavera P6 software, version 16.2 or later.

E. The Contractor shall retain a CPM Consultant, approved by the Engineer, to assist in the development and preparation of the CPM schedule, and in subsequent schedule updating. The CPM Consultant shall have acceptable certifications such as AACE's Planning & Scheduling Professional (PSP), Project Management Institute's PMI-SP, or approved equal. The CPM Consultant is required to attend the Monthly Schedule Update Meetings. The Contractor is deemed to have included in the Bid price sufficient monies to pay all expenses required to develop the CPM Schedule and to guarantee its successful operation, implementation and maintenance.

F. Construction scheduling shall maintain consistency with regulatory requirements outlined in Section 01040.

1.2 DETAILS

A. PRE CONSTRUCTION SCHEDULE MEETING

1. The Engineer will schedule and conduct a Pre-construction Scheduling Meeting with the Contractor within ten (10) working days after the contract has been awarded. The requirements of this specification will be reviewed at this meeting. Additionally, the following topics will be discussed:
   a. Specifics of any contract Time-Related Clauses.
   b. The representation in the schedule of the Time Related work.
   c. The calendar, activity coding, and resource definition requirements unique to and consistent with the contract.

d. The Contractor's schedule methodology employed, proposed work sequence and any proposed deviations of sequences from the contract plans.
e. The factors that the Contractor determines to control the completion of the project and any milestone completions contained therein.
f. Narrative content for Initial Baseline and Monthly Updates.
g. Schedule submission protocol for Initial Baseline and Monthly Updates.

2. The Contractors attendance at the Pre-construction Scheduling Meeting is mandatory. No field work will be allowed, with the exception of set up of the field office, until this meeting is held.

B. INITIAL BASELINE CPM CONSTRUCTION SCHEDULE

1. Within thirty (30) workdays following the Notice to Proceed, the Contractor shall prepare and submit to the Engineer the Initial Baseline CPM Construction Schedule for the entire project. This submission shall include the electronic Schedule file and paper reports as required and approved by the Engineer.
2. The Initial Baseline Schedule must be Cost and resource loaded and shall represent the Contractor's plan to construct the project. This schedule shall include all work and activities necessary to complete the project including but not limited to activities for the preparation, submittal, review, approval, fabrication, and delivery of all procurement related items. The Initial Baseline CPM Construction Schedule must be set up to conform to the staging/phasing and other requirements defined in or required by the contract.
3. The Initial Baseline Schedule shall meet all interim milestone dates and shall not extend beyond the contract completion date.

C. SCHEDULE REQUIREMENTS

1. The Contractors Initial Baseline CPM Construction Schedule shall meet the following requirements:
   a. CPM ACTIVITY NETWORK FORMAT - The schedule network shall use the Precedence Diagraming Method.
   b. PROJECT DEFINITIONS - The following project specific properties within the schedule shall be defined:
      1) CALENDAR - All calendars created shall encompass and account for the total duration of the contract time period. The standard calendar shall be 8-hour days, five days per week and shall account for holidays and non-working days as defined in the contract documents. Additional calendars shall be created and included as required for:
         a. Work week (5 or 6 day). (When or if the contractor elects to utilize a 6-day work week he shall be responsible for the county's overtime costs as applicable by the contract requirements)
         b. Seasonal restrictions (asphalt, landscape, etc.).
         c. Concrete curing/calendar days.
         d. Any project specifics as required by the Engineer.
         e. Expected and contemplated weather conditions shall be accounted for in the schedule and described in the narrative.

2. ACTIVITY CODE- As a minimum following activity codes shall be established:
    a. Responsibility - The party responsible for each activity. Only one party can be responsible for an activity. Include Values for “Nassau County Department of Public Works (NC)”, “Prime Contractor” and third parties to the contract as appropriate (utilities, etc).
    b. Phase- Phasing consistent with Contract plans where each activity is performed; Include Values for “None”, and “Project Wide”.
    c. Location - Location of activity work by Stationing; Include Value for “None”, and “Project Wide”.
    d. Type- The type of work for each activity; Include a Value for Administrative”
    e. Added Work- Work added to the Contract and incorporated into the schedule with the Engineers Approval.
    f. As Required by Project - Any coding unique to or as required by the Engineer to facilitate the use and analysis of the Schedule. This coding shall be established in consultation with the Engineer at the Pre-construction Scheduling Meeting.
3. RESOURCES - The Resource Dictionary shall be established as required by the Engineer. The Resource Dictionary shall be limited to Labor and Equipment. Labor may be represented by work crews. The composition of each crew must be detailed and included as an appendix to the Narrative Report. Sub-Contractors shall be represented as a labor crew(s).
4. COST LOADING – Basis of cost loading will be the approved Schedule of Values.
5. ACTIVITY DATA
    a. ACTIVITY IDENTIFICATION - Each activity shall have a unique identifier. The identifier may be alpha-numeric, but at a minimum must be a unique number.
    b. ACTIVITY DESCRIPTION - Each activity shall be unambiguously described. Descriptions such as "construct 30% of Y” are unacceptable. Activities shall be discrete to the extent necessary to accurately schedule the work.
    c. ACTIVITY DURATION - Durations of individual work activities shall not exceed twenty (20) working days. The minimum activity duration increment is one full day. Durations of individual shop drawing review activities may exceed fifteen working days and shall be consistent with Contract Requirements. Exceptions to this will be reviewed by the Engineer on an activity-by-activity basis. If requested by the Engineer, production rates or other supporting information shall be supplied justifying the reasonableness of any given activity time duration. A Method Statement including the labor, equipment, production rates and any additional information,

required to achieve a given activity shall be supplied within 5 working days when requested by the Engineer.

d. ACTIVITY RELATIONSHIPS – Activity relationships shall be finish-to-start with no lags unless directed otherwise by the Engineer. Contractor requests for exemptions will be made on a case by case basis. Each activity with the exception of the required "Project Notice To Proceed" and "Completion" activities shall have a predecessor and a successor activity relationship.

e. ACTIVITY START and FINISH DATES - The earliest start date, earliest finish date, latest start date, and latest finish date shall be calculated for each activity.

f. ACTIVITY TOTAL FLOAT - The total float shall be calculated for each activity. Total float is the full amount of time by which the start on an activity may be delayed without causing the project to last longer.

g. ACTIVITY CALENDARS - The appropriate calendar assignment shall be made to each activity

h. ACTIVITY CODES - Coding shall be assigned to each activity from the defined activity dictionary. Each code shall have a value assigned in a given activity.

i. ACTIVITY CONSTRAINTS - The start or completion of any activity shall not be constrained. Exceptions to this must receive prior approval in writing by the Engineer. A "Must¬ Finish-By" Date for the overall project is a constraint and must be pre-approved by the Engineer.

j. ACTIVITY RESOURCES- The schedule shall be "Resource" loaded as required by the Engineer. The resources required to accomplish each activity shall be assigned to that activity from the 'Resource Dictionary"

6. REQUIRED ACTIVITIES - The following activities shall be incorporated into the Schedule:

Activity ID	Activity Description	Activity Type	Logic Relationship
000010	Contract "Notice to Proceed"	Start Milestone	No Predecessors to this First Schedule Activity
999999	Completion	Finish Milestone	No Successors to this Last Schedule Activity

7. DATA DATE - The Data Date and Project Start Date in the Initial Baseline Schedule shall be the NOTICE TO PROCEED DATE. The Data Date for each Monthly Update shall be the first work day of the month.

D. REVIEW AND ACCEPTANCE OF THE INITIAL BASELINE CPM CONSTRUCTION SCHEDULE -

1. The Contractor shall submit to the Engineer the following items to facilitate review of the Initial Baseline CPM Construction Schedule:
   a. Narrative- A statement explaining the general sequence of work in the Contractor's schedule, a detailed definition of the work on the Critical Path, a statement regarding the meeting of any Time Restrictive Clause dates, and the explanation of any other ambiguities in the schedule.
2. The following Activity Reports generated from the software shall be provided or as required and approved by the Engineer:
   a. Critical Path Activity Sort - The activities that comprise the projects Critical Path. The list shall start with the first activity in the path and then ascend by Early Start date to the final activity in the path.
   b. Time Related Activity Sort - For the activities necessary to complete the work within each specific Time Frame provision in the contract, shall be listed. The list shall start with the first milestone activity and then ascend by Early Start date to the final milestone activity in the network comprising each Time Frame period. Include a Critical Path activity sort for each specific Time Frame in the contract.
   c. Constraint Activity Sort - Listing of Constrained Activities and type of constraint.
   d. Listing of Calendars and Activity Coding incorporated in the Schedule
3. Electronic copies of the Initial CPM Construction Schedule shall be provided in format approved by the Engineer.
4. The Engineer will review the Initial Baseline CPM Construction Schedule and forward any comments, revisions, or requests to the Contractor. Within ten (10) work days of the Engineer's reply, the Contractor shall make adjustment to the Initial Baseline CPM Construction Schedule in accordance with the Engineer's comments and resubmit copies for review consistent with the above directives.
5. Upon final revisions, the Contractor shall submit electronic file copies of the Initial Baseline CPM Construction Schedule to the Engineer. A sort of activities scheduled to start (ES) & finish (EF) in the next update period shall be included. The Logic Diagram shall be submitted as directed by the Engineer. The final submission shall be submitted for approval within five (5) work days of the Contractor's receipt of the final comments by the Engineer.
6. Approval of the Initial Baseline CPM Construction Schedule by the Engineer shall not be construed to imply approval of any particular method or sequence of construction or to relieve the Contractor of providing sufficient materials, equipment, and labor to guarantee completion of the project in accordance with the contract proposal, plans, and specifications. Approval shall not be construed to modify or amend the completion date. Completion dates can only be modified or amended by standard contractual means.
7. Failure to include in the Initial Baseline CPM Construction Schedule any element of work required for the performance of the contract shall not excuse the Contractor from completing all work required within the completion date(s) specified in the contract.

E. SCHEDULE UPDATES

1. MONTHLY PROGRESS UPDATES

   The Contractor shall update the schedule monthly. The schedule shall be updated to include all work and progress up to and including the last working day of the month. This will establish the “Data Date”. The Monthly update shall detail progress based on actual dates of activities started and completed, the percent of work completed to date on each activity started but not yet completed and the status of procurement of critical materials. The updated schedule data shall be submitted in an electronic file format acceptable to the Engineer.

2. A Narrative Report is required for each update and shall provide the following information:
   a. Contractor’s transmittal letter to the Engineer stating the update period and schedule "Data Date".
   b. Work started, completed and ongoing during the update period by activity with “Actual Dates”.
   c. Description of current Critical Path and any change from previous Critical Path.
   d. Any activities added or deleted and any proposed changes in Activity Logic (Engineer’s approval in writing is required).
   e. Current Delays or Advancements
      1) Delayed or Advanced Activities.
      2) Proposed corrective action and schedule adjustments to address any Delays.
      3) Impact of Delays or Advancement on other activities (duration, ES,EF,LS,LF), milestone and completion dates.
      4) Impact of Delays or Advancement on the Critical Path.
   f. Outstanding Items that effect the schedule and status thereof (including but not limited to):
      1) Permits.
      2) Shop Drawings.
      3) Change Orders.
      4) Reviews of submittals.
      5) Approvals.
      6) Fabrication and Delivery.
   g. Scheduled Completion Date Status
      1) Contract Completion.
      2) Interim Milestones / Time Frame if any.
3. The following Activity Reports generated from the Software shall be provided:
   a. Current Critical Path Activity Sort
   b. Near Critical Activities Sort
   c. Report of Activities scheduled to start (ES) & finish (EF) in the next Monthly update period.
   d. Any other “Report” as directed by the Engineer and/or as discussed in the pre-construction scheduling meeting.

4. The Monthly Progress Updates shall be submitted to the Engineer within five (5) work days of the "Data Date". The Engineer shall prepare a written response within five (5) work days of receipt of the Monthly Update approving, approving with comments, or returning for resubmission within five (5) work days.
5. If the Contractor fails to comply with the Monthly Progress Update submission requirements the Commissioner reserves the right to withhold any or all contract payments.
6. Monthly Schedule Meetings and Reports
   a. Monthly, on a date established by the Engineer prior to the Data Date, a CPM Progress Meeting will be held, at which time the schedule update will be reviewed. The meeting shall be attended by the Engineer and representative(s) of the Contractor including the scheduling consultant. The Contractor representative(s) at the meetings shall have the competence and authority to make any necessary decisions and their statement shall commit the Contractor to the agreed procedures, sequencing of Work, coordination and time schedules.
   b. Prior to the meeting, the CPM scheduling consultant shall obtain, through any required means including Site meetings, the necessary information to update the CPM schedule to reflect progress to date and to update/revise the schedule for the balance of the Project. The updated schedule and draft narrative report shall be furnished to the Engineer at least 48 hours prior to the meeting and be distributed by the Contractor in hard copy at the meeting for review. To update the CPM schedule, the Contractor shall:
      1. Enter actual start and completion dates for those Activities started and/or completed during the previous reporting period
      2. For Activities in progress, indicate the Remaining Duration correlating to an accurate forecasted completion date and physical percentage complete to date (Percent Complete is to reflect the actual quantity of Work completed, and is separate from any actual or Remaining Duration calculation). Review, and revise as necessary, the network logic for the Remaining Duration of the Work from the update to the estimated completion date
      3. For Activities not yet started, review, and revise as required, the necessary Logic, the Durations of Work and the estimated start and completion dates
      4. Enter, for each applicable Activity, actual installed quantities information
   c. The total Duration to be initially added to any schedule update reflecting the Change Order Activities from identification to the approval of any specific change order shall be in approved by the Engineer and shall be incorporated into the monthly schedule update following the identification of the changed in Work. The forecasted construction Activities shall be logically tied to the appropriate predecessor and successor base Contract Activities and contain all of the required Logic, Duration, Coding and Resource/Cost Loading specified for the detailed CPM schedule activities.

d. In the event the Contractor begins performance in the field of Extra Work during the update period, the monthly progress schedule update shall reflect the actual start date of the Work, and any predecessor Logic ties or restraints shall be broken in order to accurately forecast completion of the identified Extra Work Activity. This will allow for accurate forecasting of the successor Work Activities and completion Milestones.

e. Default progress data provided from the scheduling system is not allowed. Actual start and finish dates and Remaining Durations of Activities shall not be automatically updated by default mechanisms that may be included in CPM scheduling software systems. Actual start and finish dates on the CPM schedule shall match those dates provided from the Contractor's Daily Quality Control Reports. Failure of the Contractor to document the actual start and finish dates on the Contractor Daily Quality Control Report for every in-progress or completed Activity and ensure that the data contained on the Contractor Daily Quality Control Reports is the sole basis for schedule updating shall result in the disapproval of the Contractor's submittal.

f. Activities that have reported progress without predecessor Activities being completed (out-of-sequence progress) will not be allowed except on a case- by-case basis with the approval of the Engineer. A written explanation for each instance shall be included in the monthly submittal.

g. The Contractor shall not constrain the schedule with artificial Logic ties and/or constraint dates and/or any other scheduling techniques that may distort the Activity Float and Total Float associated with the critical path Activities and the schedule in general.

F. TOTAL FLOAT OWNERSHIP

Total Float belongs to the contract and shall not be considered as available for the exclusive use or benefit of either the County or the Contractor. Total Float is the number of days an activity may be delayed without extending the completion of either the project or an interim milestone. Float is available on a first-come, first-served basis to all identified "Responsible" parties in the schedule.

G. FLOAT MANIPULATION NOT PERMITTED

The Schedule shall not sequester float through such strategies as calendar manipulation, resource/labor manipulation or the extension of activity durations to fill up available float time. The Initial Baseline CPM Construction Schedule shall not attribute negative float to any activity.

H. CHANGES TO THE SCHEDULE

The Initial Baseline CPM Construction Schedule shall accurately reflect the manner in which the Contractor intends to proceed with the project. Changes to the schedule (the addition or deletion of activities, logic changes, and duration changes) shall be submitted in writing to the Engineer for approval and inclusion in the next Monthly Progress Update. The process of comparing the Schedule Update to Baseline shall be followed throughout the contract. Revision to any contract milestones, or

contractually mandated schedule provisions will not be permitted without written authorization from the Engineer.

I. CRITICAL ACTIVITIES AND BASIS FOR TIME ADJUSTMENTS
The measure for Time Adjustments in the schedule shall be based on the criticality, and responsibility of the delay or advancement. Criticality is defined as the presence of the delayed or advanced activity on the projects Critical Path. The Critical Path is defined to be the longest continuous chain of activities through the schedule network that establishes the minimum overall duration in the absence of constraints in the program software. Time adjustment does not mean an extension of time for this contract.

J. CHANGES TO THE CONTRACT
In the event a notice of a change to the contract is received the Contractor shall notify the Engineer in writing within 10 (ten) calendar days of the effect of such change to the schedule. Change to the contract includes, but is not limited to, extra work, change orders, work suspensions, changed condition, Value Engineering Change Proposal, etc. The effect of the change to the contract on the projects Critical Path shall be stated. Any proposed revisions to the Schedule to incorporate the change to the contract shall be stated. No changes shall be made to the Schedule without prior written approval of the Engineer. The approved changes shall be incorporated in the next Monthly Progress Update.

1.3 TIME IMPACT ANALYSIS

A. This analysis will be performed by the Engineer (CM's scheduler) based on schedule updates as accepted in monthly schedule updates.

B. Events, actions, and progress that cause delays or gains to the Project Schedule will be analyzed solely by the "Contemporaneous Period Analysis" method. The Contemporaneous Period Analysis evaluates delays or gains in the period in which it occurred. The analysis period for the purpose of this Specification shall be the period covered in each Monthly update to the schedule.

C. Impact of delay will be evaluated at the completion of the project. However, an interim extension of time for payment purposes only may be granted by the Commissioner at his or her sole discretion at the end of contractual completion date.

1.4 RECOVERY SCHEDULES

A. General Provisions for Recovery Schedules:
1. When updated Progress Schedule indicates and the Engineer determines that the ability to comply with the Contract Times falls behind schedule due to delay attributed to the CONTRACTOR, the Contractor shall prepare and submit a Progress Schedule demonstrating responsible Contractor's plan to

accelerate related work to achieve compliance with the Contract Times ("recovery schedule") for Engineer's acceptance.

2. Submit recovery schedule within 10 work days after submittal of updated Progress Schedule where need for recovery schedule is indicated or include in next update as directed by the Engineer.

B. Implementation of Recovery Schedule:

1. At no additional cost to OWNER, do one or more of the following: furnish additional labor, provide additional construction equipment, provide suitable materials, employ additional work shifts, expedite procurement of materials and equipment to be incorporated into the Work, and other measures necessary to complete the Work within the Contract Times.
2. Item 1 above is also applicable when the Contractor is required to accelerate their Work to recover lost time
3. Upon acceptance of recovery schedule by Engineer, incorporate recovery schedule into the next Progress Schedule update.

C. Lack of Action:

1. The Contractor's refusal, failure, or neglect to take appropriate recovery action, or the Contractor's refusal to submit a recovery schedule and take appropriate recovery action, shall constitute reasonable evidence that CONTRACTOR is not prosecuting the Work or separable part thereof with the diligence that will ensure completion within the Contract Times. Such lack of action shall constitute sufficient basis for OWNER to exercise remedies available to OWNER under the Contract Documents.

1.5 METHOD OF MEASUREMENT

The CPM (Critical Path Method) Progress Schedule will be measured for payment on a Lump Sum Basis.

1.6 BASIS OF PAYMENT

The lump sum price bid for the project shall include the cost of preparation and submission of the Initial Baseline Schedule and the preparation and submission of the monthly updates.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01313

PUBLIC RELATIONS AND COMMUNICATION

PART 1 – GENERAL

1.1 SUMMARY

A. The Public Relations and Communications function is critical to the success of the Hempstead Bay – Hassock Restoration project. This function provides for a two-way dialogue between project leadership and project stakeholders including residents, commercial businesses, municipalities, and local elected officials. The Owner and Owner's Representative (Hazen-Arcadis PM-JV) will engage a Public Relations and Communications organization that will use multiple channels to educate and inform members of the public regarding project progress and activities that are anticipated to temporarily affect the local roadway network, public amenities, and neighborhood conditions while also informing project leadership about community concerns and suggestions for construction activities. The Contractor shall support the outreach function by providing daily or weekly progress updates, as needed, and notifying the Owner and its Representative of planned construction work in accordance with Section No. 01040 Regulatory Requirements and other applicable specifications; this schedule shall be disseminated by the Public Relations and Communications organization to the public through various outreach activities.

1.2 STANDARDS

A. The Contractor shall provide adequate notice of construction activities per Specification Section 01040 Regulatory Requirements and as required by any permits obtained by the Contractor and communicate updates to the Owner and Owner's Representative in compliance with the guidelines specified herein so that the project team may perform the outreach activities.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 PUBLIC OUTREACH

A. The Contractor shall communicate and notify the Owner and its Representative of scheduled closures or limited access to roads, parks, waterways, and amenities and the anticipated duration of each, Project milestones, and Project construction-related activities that have the potential to affect the general public and/or residents in proximity to the Project area. This Section applies to the following stages of the Project which include but are not limited: to the visible start of construction

activities; traffic pattern changes (including on waterways and roadways); significant Project accomplishments, and construction completion.

B. The Contractor shall be aware that outreach to the public is a critical component to the successful completion of the Project. In an effort to offset potential concerns with the Project, the Contractor is expected to provide daily or weekly construction progress updates, as needed, so that information can be shared with the public by the Public Relations and Communications organization contracted by the Owner's Representative.

C. Initial Public Outreach: The Contractor shall be prepared to meet with Nassau County, appropriate Stakeholders, elected officials, and the general public within thirty (30) days following the issuance of the Notice to Proceed. The Contractor shall be prepared at the time of these meetings to discuss the construction means and methods, the detailed schedule of construction activities, the time periods of the day during which the work will occur, and how movement by motorists, and pedestrians will be accommodated. The Contractor must also relay to the project team any concerns expressed by the public so that informed decisions can be made regarding project execution and required communications on matters of concern to specific communities, businesses, or neighborhoods. This will all be coordinated with the Owner, the Owner's Representative, and the Construction Manager.

3.2 STAKEHOLDER COMMUNICATION

A. The Contractor shall assist with the public relations and communications effort by performing the following activities:

1. Relay any complaints, concerns, and suggestions from the public that may arise during construction to the Owner and the Owner's Representative.

2. Inform the Owner and the Owner's Representative of scheduled Construction Work that may impact the public, including but not limited to road and park closures.

For disruption to road or water access/usage:

a. At least two (2) weeks advance notification of any disruptive work or work-related closures so that the project team may relay the information to the affected emergency services providers, residents, businesses, and municipalities. As part of the notification, provide a summary of the scope of the closure or disruption and a schedule indicating the duration of closure or disruption to the Owner's Representative.

b. Continue communication during the period of disruption or closure with information on anticipated restoration to normal conditions.

3.3 MEDIA RELATIONS

A. All media inquiries, requests for interviews from local print or broadcast news media, trade magazines, or other media outlets must be referred to the Owner. The Owner will coordinate and respond to all media requests. The Contractor shall alert all project personnel about this policy and strictly adhere to it.

+ + END OF SECTION + +

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SECTION 01355

HAZARDOUS MATERIALS CONTROL

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope
   1. This section describes the minimum health, safety, and emergency response requirements for the activities at the site. Site activities may involve worker exposure to potentially hazardous materials.
   2. Contractor shall implement health and safety criteria and practices sufficient to protect onsite personnel, the public, and the environment from physical and chemical hazards particular to each site.
   3. The Contractor shall furnish all labor, materials, equipment and incidentals to remediate any hazardous materials discovered during the performance of the work in this Contract.

B. References: Where conflicts arise between requirements of the regulatory requirements listed below, the most restrictive of the requirements shall be followed.
   1. 29 CFR 1910 OSHA Standards; General Industry
   2. 29 CFR 1910.120 OSHA Standards; Hazardous Waste Operations and Emergency Response
   3. 29 CFR 1926 OSHA Standards; Construction Industry
   4. 40 CFR Part 261; Identification and Listing of Hazardous Materials
   4. DOT Standards and Regulations 49 CFR 171 Hazardous Materials Regulations; General Information, Regulations, and Definitions
   5. DOT Standards and Regulations 49 CFR 172 Hazardous Materials Tables and Military Standards
   6. Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, ACGLH
   7. Guide to Occupational Exposure Values, ACGIH

C. Related Specifications

   1. Section 01356, Safe and Healthful Working Conditions.
   2. Section 01500, Temporary Facilities and Controls.
   3. Section 02050, Demolition, Removals, and Modifications

1.2 REMEDIAL ACTION FOR UNFORESEEN HAZARDOUS MATERIAL

A. The project involves remediation, handling, and disposal of hazardous materials. The Contractor will engage a County approved certified hazardous material remediation specialist and include the specialist as a subcontractor. All remediation work shall be performed by the certified remediation specialist. All remediation work shall be performed by the certified remediation specialist.

B. When remedial action is necessary for additional, unforeseen hazardous materials, the Engineer will submit the scope of work in writing to the Contractor. The Contractor shall then obtain proposals for the work, including prices, from three separate County approved certified hazardous material remediation specialists, and submit them in writing to the Engineer within ten (10) consecutive calendar days of receiving the scope of work. The Engineer may select one proposal and direct the Contractor to engage the selected remediation specialist as a Subcontractor. Remediation work shall not commence until the Contractor receives written notice from the Engineer to proceed with the work. All remediation work shall be performed by the certified remediation specialist.

C. The remediation work may be critical to maintaining construction schedules. When this occurs, a time of completion shall be indicated in the scope of work submitted to the Contractor by the Engineer, and the work shall be subject to liquidated damages as set forth in the Agreement, Article XIV, "Liquidated Damages."

D. Disposal of wastes generated by remediation work will be based on the results of the testing performed by the Contractor. Disposal of regulated or hazardous waste must be at a site approved by the County and applicable state/federal agency to accept such waste. The Contractor shall notify the Engineer at least fourteen (14) days prior to removal of the containers of hazardous/regulated waste to allow for inspection of the containers and the hazardous waste manifest.

E. The Contractor shall submit written evidence that the receiving waste treatment, storage, or disposal facility to receive such waste is permitted by the EPA, DEC and State or local regulatory agencies. The contractor shall coordinate with the PMJV Site Safety Officer, who represents the County, and is authorized to sign hazardous waste manifests. The Contractor shall also submit copies of the complete manifest, signed by the PMJV Site Safety Officer, and dated by the initial transporter, in accordance with Federal and State requirements. Completed and signed manifests from the treatment or disposal facility shall be provided to the PMJV Site Safety Officer within seven (7) days of disposal.

PART 2 – SUBMITTALS

2.1 HEALTH AND SAFETY PLAN

1. The Contractor shall have a site-specific Health and Safety Plan (HASP) prepared, prior to the start of any construction. The HASP shall be available to workers on site and be submitted to the Engineer, PMJV Site Safety Officer, and the County at least two weeks before the beginning of any field work. Copies of the plan shall be provided to the Contractors' insurers and their risk managers, if any, by the Contractor.
   a. The Contractor will abide by the work specific Health and Safety requirements as directed by the County.

b. The provisions of the site HASP in no way relieves the Contractor of his primary obligation to provide for the safety of his employees and to ensure that all operations under this Contract are carried to protect persons and property on the site and in the surrounding work area.

2. These minimum health and safety requirements are based on the potential for physical, biological, and chemical hazards associated with the work activities, including the potential exposure to hazardous materials that may be present. The HASP shall be prepared by Board of Safety Professionals Certified Safety Professional (CSP) who is qualified by training and experience to perform this work. The HASP shall be submitted to the Engineer, PMJV Site Safety Officer, and the County for review. The purpose of the HASP is to establish site-specific health and safety requirements for protecting the health and safety of the Contractor and subcontractor personnel and visitors during all activities conducted on-site.
   a. Construction activities which need to be addressed in the HASP include, but are not limited to:
      a. Soil excavation and grading.
      b. Asbestos abatement.
      c. Regulated material removal.
      d. Demolition.
      e. Equipment installation.
   b. The HASP shall include as a minimum the following items tabulated in Paragraph 2.1.E through Paragraph 2.1.W, below.

3. The Contractor shall identify an individual who shall serve as the Site Safety Representative for this project. The individual shall:
   a. Have a working knowledge of pertinent federal, state, and local health and safety regulations, program development and implementation, and air monitoring techniques.
   b. Be knowledgeable in tank cleaning procedures and protocols required by this project.
   c. Be certified as having completed training in First Aid and CPR by a recognized, approved organization, such as the American Red Cross.
   d. Be continuously onsite during all operations covered by this Contract.
   e. Be familiar with the Site Health and Safety Plan and its requirements and be responsible for the Plan's implementation.
   f. The Site Safety Representative may designate an alternate to assist him, provided his alternate meets all of the above requirements. The Contractor shall submit the name, qualifications (education summary and documentation), and work experience of the Site Safety Representative, and any alternates to the Engineer prior to commencement of work at the site.

4. Personnel Qualifications (CSP): The Contractor shall identify an individual who shall serve as the (CSP) for this project. This individual shall:
   a. Have a minimum of three (3) years experience in the excavation, demolition or hazardous waste field.
   b. Be familiar with all applicable OSHA, USEPA, and NYSDEC standards.

5. Standards and Regulations: The HASP shall be developed in accordance with the Occupational Safety and Health Administration (OSHA) Standards and Regulations contained in Title 29, Code of Federal Regulations, Parts 1904, 1910, and 1926 and all pertinent laws, rules, and regulations existing at the time of the work, including, but not limited to:
   a. Hazardous Waste Management System, Title 40 CFR 261-264.
   b. OSHA Standards, Hazardous Waste Operations and Emergency Response, Title 29 CFR 1910.120.
   c. OSHA Standards, Asbestos Regulations, Title 29 1910.1001.
   d. OSHA Standards, Subpart Z, Toxic and Hazardous Substance, Title 29 CFR 1926.1100.
   e. OSHA Standards, Title 29, Lead in Construction, 1926.62.
   f. EPA National Emission Standard for Hazardous Air Pollutants, National Emission Standard for Asbestos, Title 40 CFR, Part 51, Subpart M.
   g. Subpart M, OSHA Standards, Hazard Communication, Title 29 CFR 1926.59.
   h. OSHA Standards, Access to Employee Exposure and Medical Records, Title 29 CFR 1910.1020.
   i. OSHA Standards, Personal Protective Equipment, Title 29 CFR 1910.132.
   j. OSHA Standards, Record Keeping, Title 29 CFR 1904.
   k. OSHA Standards, Respiratory Protection, Title 29 CFR 1910.134.
   l. The American National Standard Institute (ANSI) Practices for Respiratory Protection, ANSI Z88.2.
   m. OSHA Standards, Ventilation, Title 29 CFR 1910.94.
   n. ANSI Fundamentals Governing the Design and Operation of Local Exhaust System, ANSI Z9 2.
   o. Hazardous Waste Management System, Title 6 NYCRR Parts 370-375.
   p. Asbestos Safety Program Requirements, NYCRR Chapter 11, Title 10, Part 73.q. Industrial Code Rule 56, NYCRR Title 12, Part 56.
   q. Transportation Act, Title 49 CFR Parts 106, 107, 171-179.
   r. New York State Solid Waste Hauling and Disposal Regulations, NYCRR Title 6, Parts 360 and 364.
   s. United States Coast Guard (USCG) regulations.
   t. New York State Department of Labor Part 23 Protection in Construction, Demolition and Excavation Operations.

6. Identification of Key Health and Safety Personnel and Alternates:
   a. List key personnel and alternates for site health and safety on a project responsibility chart, which includes phone numbers.
   b. Identify roles and responsibilities of key personnel.

7. Project Task/Operation Health and Safety Risk Analysis (Job Safety Analysis/JHA):
   a. Identify and describe the project tasks.
   b. Provide a hazard assessment of each project task, which shall include descriptions of potential chemical, biological, and physical hazards associated with the performance of the activity.
   c. Provide a description of health and safety mitigative actions for each project task which shall include, but not be limited to, first, administrative controls,

second, engineering controls, third, safe work practice controls and lastly, personal protective equipment.

8. Personnel Training Requirements:
   a. Confirm that personnel are adequately trained to conduct their job responsibilities and handle the specific hazardous situations they may encounter during the project.
   b. Provide, as required, certification of personnel training and First Aid/Cardio-Pulmonary Resuscitation (CPR).
   c. Establish procedures and training for Hazard Communication Program in accordance with 29 CFR 1910.1200.
   d. Provide information regarding training and experience of the person(s) who will oversee excavation activities and be responsible as the project's OSHA defined Competent Person(s).
   e. Provide copies of training cards demonstrating that employees have completed the OSHA 10 Hour Construction Safety Course.

9. Personnel Protective Equipment (PPE) and PPE Reassessment Program:
   a. Describe the protective clothing and equipment to be worn by personnel during task-specific operations of the project.
   b. Describe the PPE reassessment program for the upgrading/downgrading of PPE levels associated with the task-specific operations of the project.
   c. Provide a written respiratory protection program and reassessment program, which shall be implemented during task-specific operations. The written program must include the procedure for proper section and use of respirators, instructions on proper cleaning, storage, and inspection of respirators.

10. Medical Surveillance:
    a. Describe the program for medical monitoring for each task-specific activity.
    b. Confirm and provide documentation, as applicable, that all project personnel are currently under a medical surveillance program.
    c. Provide documentation, as applicable, that all project personnel have respiratory clearance.

11. Site Control Measures:
    a. Define site control methods and site communications and include a site map delineating the control areas, if appropriate.
    b. Delineate the work area, including an exclusion zone (EZ), contamination reduction zone (CRZ) and the support zone, and describe the activities allowed in each zone.

12. Engineering Control Measures:
    a. Identify methods to control the generation of airborne particulates and volatile organic vapors during excavation of potentially contaminated soils.
    b. Identify engineering control of generation of lead-containing airborne particulates when impacting materials coated with lead paint.

c. Identify engineering controls (e.g., tent enclosure, wetting of surfaces) to control generation of dusts when conducting dust-generating activities indoors (e.g., demolition of concrete and roadways).

13. Decontamination Program:
    a. Establish decontamination procedures for personnel and equipment.
    b. The decontamination plan shall include provisions for hand wash facilities, and lunch/break areas, and a description of proper housekeeping practices.

14. Air Monitoring Program:
    a. Describe the area air monitoring program to be conducted during all intrusive site work, soil handling, and below-grade equipment installation, when workers may be exposed to potentially contaminated soils. Minimum air monitoring requirements must include continuous real time measurements for oxygen, hydrogen sulfide, dust, carbon monoxide and LEL (methane).
    b. Describe the area air monitoring program to be conducted during equipment removal and demolition affecting materials coated with lead paint when airborne dusts may be generated.
    c. The air monitoring programs shall identify the analytical methodology required for each task-specific activity to ensure regulatory compliance.

15. Emergency Response/Contingency Plan:
    a. Describe instructions and procedures for evacuation of personnel.
    b. Describe instructions and procedures for methods of reporting fires. If the Contractor will be conducting activities such as welding, hot cutting or burning, grinding, or working with flammable materials such as paints, glues, and solvents, or any activity that could cause sparks, the Contractor shall provide a minimum of two Class ABC fire extinguishers (minimum 10 pounds) in the work area. The Contractor shall obtain a "Hot Works Permit" from the PMJV Site Safety Officer and submit copies to him upon daily verification of completion of hot work activities.
    c. Describe instructions and procedures for medical emergencies, including emergency notification and response procedures and a description of the route to the hospital.
    d. The medical emergency contingency plan shall include provisions for a minimum of two first aid kits (minimum 24-unit industrial first aid kit).
    e. Describe procedures addressing emergencies and equipment failures and barrier failures during work activities.

16. Surveillance Methods:
    a. Describe safety surveillance methods.
    b. Provide schedules of both walk-through surveys and in-depth safety audits to be performed on site.

17. Safety Inspection Sheets:
    a. Provide safety inspection check list sheets to be used on a daily basis in evaluation the site work and methods.

18. Safety Evacuation Drill: A quarterly evacuation drill shall be held in coordination with the alarm signal under the control of the Plant Chief. Conducting the safety drill shall be coordinated during regular scheduled work hours, and timed to minimize disruption of major contract work. Upon evacuation, the Contractor shall immediately notify the PMJV Site Safety Officer that all personnel have evacuated.

19. Accident Prevention: An Accident Prevention Plan and description of work-phase safety plan shall be developed and written by the CSP. Each phase of the Accident Prevention Plan shall include a description of the work activity, probable hazards related to the work, and positive precautionary measures to be taken to safeguard against and reduce or eliminate each particular hazard. In the event of an accident/injury, the Contractor shall immediately notify the PMJV Site Safety Officer. Within two working days of any reportable accident or incident, the Contractor shall complete and submit to the PMJV Site Safety Officer an Accident (Incident) Report.

20. Water Operations Safety Program: A Water Operations Safety Program shall be developed and written by the Contractor. The program shall include lifesaving and safety equipment, emergency rescue plans, pollution control equipment and procedures for fueling vessels, lighting, restrictions due to weather or sea state, inspection and maintenance of vessels, and other standard operating procedures for marine construction and work on or over water.

21. Crane, Hoist, and Rigging Safety Program: A Crane, Hoist, and Rigging Safety Program shall be developed and written by the Contractor. The program shall include roles and responsibilities, training requirements, lifting safety requirements, slings/rigging safety requirements, and inspection, testing, and maintenance.

22. Critical Lift Plan: A separate plan shall be submitted for each critical lift. Each plan shall be certified by a professional engineer licensed and registered in the State of New York and possessing not less than five years of relevant experience. The plan shall include identification of the item to be moved, equipment capacity and description, rigging sketches, operating procedures, personnel roles, step by step instructions, and compliance with Owner's safety programs.

23. COVID Mitigation and Continuity Plan:
    a. Safe work practices (e.g., masks, social distancing, office trailer occupancy limits, etc.) in accordance with publicly available guidance and COVID contact tracing procedures.
    b. Procedures for communicating COVID cases and monitoring/tracing COVID cases within the on-site project team.

PART 2 – PRODUCTS (NOT USED)
PART 3 – EXECUTION

3.1 HAZARDOUS MATERIALS

A. There may be materials present at the project site that may pose chemical hazards to site workers during construction activities.

B. The Contractor shall be responsible for identifying suspect hazardous materials prior to and as they are encountered. Indication of the presence of hazardous materials, including odorous or stained soils and liquids, shall be immediately reported to the Engineer and PMJV Site Safety Officer. If it is determined that the presence of hazardous material is not a threat to the health and safety of County or to Contractor personnel, the Contractor shall continue planned work activities. Otherwise, the Contractor will take additional health and safety precautions as appropriate.

C. All non-disposable equipment that has been in contact with contaminated soils, lead-containing debris, asbestos, or other hazardous materials, shall be cleaned prior to leaving the site. Equipment decontamination shall be performed in an area to be directed by the Engineer and as approved in various Contractor submittals. The Contractor shall be responsible for containing all resulting decontamination waste within the perimeter of the designated decontamination area.
   1. The solid materials and rinse water collected as the result of the decontamination procedures shall be stored in appropriate containers on-site prior to disposal. Disposal of the wastes will be based on the results for testing performed by the Contractor, and will be classified as non-hazardous or hazardous waste.
   2. Rinse water that does not meet the criteria for discharge to a POTW, shall be disposed of at an appropriate treatment and/or disposal facility.

3.2 MEDICAL SURVEILLANCE

A. Physical examinations for personnel working onsite shall be provided prior to project start-up. The examinations shall address the chemical and physical hazards to which the employees will be exposed. The medical examination results shall be evaluated by a physician practicing occupational medicine to determine that the individual is medically qualified to wear a respirator and is physically fit for the work to be performed. The physician must certify that no physical condition or disease could be aggravated by exposure to the identified hazards. The results of the medical surveillance program shall be provided to the Engineer upon request.

B. The Contractor’s medical surveillance program will comply with applicable laws and regulations that apply to the work being performed.

3.3 PERSONNEL TRAINING

A. Personnel and supervisors employed to perform hazardous materials remediation, handling, and/or management shall be trained and thoroughly familiar with the safety precautions, procedures, and equipment required for controlling the potential hazards associated with this project. This training shall be documented in detail and recorded in the project's records.

B. The Contractor will maintain training documentation for personnel at the site and will be made available for review upon request.

3.4 FIRST AID AND EMERGENCY RESPONSE EQUIPMENT AND PROCEDURES

A. The Contractor shall provide for appropriate emergency first aid equipment (including ANSI-approved eye wash stations, a portable stretcher, and an industrial-type first aid kit) suitable for treatment of exposure to site physical and chemical hazards. Additionally, a minimum of two ABC-rated fire extinguishers shall be maintained on site at each work area (each hassock and for on-land and water-based work areas) as well absorbent material of sufficient quantity to contain and collect any spill which might occur during this project. Access to emergency equipment and spill response materials will be located such that it is readily available near active work activities and can be deployed in a timely manner. A listing of emergency phone numbers and of contact for fire, hospital, police, ambulance, and other necessary contacts shall be posted at readily accessible locations (including being retained by the Contractor in their site office areas) by the Contractor. A route map detailing the directions to the nearest hospital also shall be posted.

3.5 HEAT AND COLD STRESS

A. The Contractor shall monitor all personnel for signs of heat or cold stress, as dictated by weather conditions. In addition, all field personnel shall be instructed to observe for symptoms of heat or cold stress in themselves and fellow workers and methods to control them. The Contractor shall adhere to guidelines provided in the Threshold Limit Values and Biological Exposure Indices published by the ACGIH for heat and cold extremes.

3.6 ILLUMINATION

A. Work areas shall be illuminated to a minimum of 10 foot-candles. Lighting shall be sufficient to determine whether material spills have occurred.

B. The Contractor will provide temporary power and illumination for as necessary to allow activities to be safely completed.

3.7 ELECTRICAL SAFETY

A. All electrical services must be grounded and cord and plug equipment shall be used with ground fault circuit interrupter (GFCI) protected outlets. Where applicable, portable lights shall be suitable for hazardous locations and shall be connected to extension cords equipped with connectors or switches approved for hazardous locations. Such equipment, when used, shall be inspected to ensure it will not be a source of ignition. All air monitoring instrumentation shall be rated as intrinsically safe for Class I, Division I, Group D atmospheres.

B. The Contractor will provide temporary power necessary to complete the project. Temporary power sources will be in good working condition and will be operated

and maintained in accordance with the manufacturer’s literature and applicable codes.

3.8 SITE CONTROL AND WORK ZONES

A. Personnel not directly involved with this project shall not be permitted to enter the work zone. For purposes of this Contract, the "Work zone" and Contractor's staging areas shall be considered within limits of disturbance as shown on the drawings. The initial minimum level of PPE shall be in accordance with these Specifications. The boundary of the work zone shall be demarcated and posted clearly by the Contractor.

3.9 COMBUSTIBLE GAS/OXYGEN MONITORING

A. All tanks shall be monitored for the presence of combustible vapors prior to the start of project operations. Such monitoring shall be conducted both in the tanks and in the areas surrounding the tanks, especially in excavations.

B. If combustible gas monitoring shows that explosive levels within the tanks are less than 10% Lower Explosive Limit (LEL), those tanks may be removed and purged on the surface. However, if readings are at or above 10% LEL, the tank shall be monitored and purged in the ground, as outlined elsewhere in these Specifications.

C. Purging shall continue until monitoring shows readings below 10% LEL. Any reading above 10% LEL outside the tanks shall result in the suspension of operations until the situation is resolved and retesting indicates the space is "safe" (explosive levels less than 10% LEL).

D. Oxygen levels shall be monitored in trenches and excavations prior to allowing workers to enter, and continuously during the time the workers are present in these spaces. Any reading less than 19.5% or greater than 23% oxygen shall prevent the workers from entering until the situation is resolved and retesting indicates the space is safe for entry.

E. Resolution of these hazardous situations may require forced ventilation of the space. Any combustible gas/oxygen monitor, provided it complies with these Specifications, may be selected.

F. The combustible gas indicator shall be calibrated, checked, and maintained daily as per manufacturer's directions.

3.10 AIR MONITORING AND SURVEILLANCE

A. When personnel are working on or near tanks or within trenches/excavations, the Contractor shall implement routine air surveillance and monitoring for LEL and oxygen levels. Air monitoring and surveillance shall be required whenever personnel enter a trench/excavation, every 15 minutes during tank decontamination, or whenever site conditions indicate that fuel vapors are present.

Air monitoring, when conducted, shall be performed in the breathing zone of the personnel. Air monitoring and surveillance equipment shall be described in the Health and Safety Plan.

B. Contractor will conduct air monitoring at upwind and downwind areas when soil disturbance or demolition activities are taking place to document dust levels at the perimeter of the work zone.

3.11 ACTION LEVELS

A. Based upon published results of air monitoring and surveillance for combustible gas/oxygen monitoring for similar projects, the following action levels are recommended.
   1. Combustible Gas Monitoring
      a. 0 to 10% LEL: Normal operations, continue monitoring
      b. Greater than 10% LEL: Shut down operations and equipment; ventilate area
   2. Oxygen Monitoring
      a. 19.5% to 23% Oxygen: Normal operations, continue monitoring
      b. Less than 19.5% oxygen: Shut down operations and ventilate area
      c. Greater than 23% oxygen: Shutdown operations and ventilate area

B. The Contractor will be responsible for identifying and implementing applicable monitoring within the worker breathing zone based on the work activity. At minimum all activities will include dust monitoring.

3.12 EXCAVATION SAFETY

A. All demolition and excavating work shall be conducted in strict conformance with, at a minimum, 29 CFR 1926.650 through 29 CFR 1926.653, including requirements for sloping or shoring found in 29 CFR 1926.652. If the excavation must remain open during periods when the work site is unoccupied (i.e., overnight, over a weekend, and other similar off periods) barricades shall be placed around the excavation in such a manner to alert personnel to the danger and prevent them from falling into the trench (i.e. using road plates and barriers.)

3.13 CONFINED SPACE ENTRY

A. If any person is required to enter a tank or vault an excavation greater than 4 feet, it is considered a confined space entry. The medical surveillance shall ensure that the worker is capable of entering a confined space. Workers required to enter confined space shall have the specialized training required under 29 CFR 1926 subpart AA – confined spaces in construction.

3.14 EATING, DRINKING, SMOKING

A. No eating, drinking, smoking, chewing of tobacco or gum, or other hand-to-mouth activities shall be permitted in any of the work areas during the course of this project.

3.15 IGNITION SOURCES

A. Ignition sources (e.g., cigarette lighters, matches, or other flame producing items) not required for the completion of the project, shall not be permitted in the work zones. Before any work is done that might release vapors, work areas shall be barricaded and posted, and burning or other work shall be eliminated from the area where flammable vapors may be present or may travel. No work shall be done if the direction of the wind might carry vapors into areas where they might produce a hazardous condition, or when an electrical storm is threatening the site of work. Sparks caused by friction of electrostatic effects also may be a source of ignition in flammable atmospheres, especially at low humidity. Proper grounding of metal objects and/or electrical equipment, together with the use of sparkless tools and localized adjustment of humidity, may reduce this hazard.

3.16 BREAK AREA AND SUPPORT ACTIVITIES

A. All eating, drinking, smoking, and break facilities, as well as the Contractor's equipment storage, parking, and office shall be located outside the work zones as determined by the Contractor Site Safety Representative and approved by the Engineer.

3.17 SANITATION

A. The Contractor shall ensure that all onsite personnel have ready access to soap and clean water for washing and toilet facilities. In light of COVID 19, all sanitary facilities will be cleaned at least daily.

3.18 UNFORSEEN HAZARDS

A. Should any unforeseen or site-specific safety-related threat, hazard, or condition become evident during the performance of work at this site, it shall be the Contractor's responsibility to bring such conditions to the attention of the Engineer both verbally and in writing as quickly as possible, for resolution. In the interim, the Contractor shall take prudent action to establish and maintain working conditions and to safeguard employees, the public, and the environment.

3.19 TERMINATION

A. Any disregard for the provisions of these Specifications shall be deemed just and sufficient cause for termination of the Contractor or any Subcontractor without compromise or prejudice to the rights of the Contractor.

3.20 COVID PROTECTION PLAN

A. The Contractor shall develop and implement a plan to protect employees and visitors from the hazards of COVID 19. The plan shall include daily checklists to confirm employees do not show symptoms of COVID 19, have not been exposed to others who have either tested positive or show symptoms, or have

travelled outside of the local areas. The plan shall also address visitors who infrequently visit the Plant and how to track their information as well.

3.21 SILICA

A. The Contractor shall address the hazards of silica in accordance with OSHA 29 CFR 1926.1153 - Respirable crystalline silica. Select controls according to a hierarchy that emphasizes engineering solutions (including elimination or substitution) first, followed by safe work practices, administrative controls, and finally personal protective equipment will be implemented. The Contractor shall avoid selecting controls that may directly or indirectly introduce new hazards.

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SECTION 01356

SAFE AND HEALTHFUL WORKING CONDITIONS

PART 1 – GENERAL

1.1 DESCRIPTION

A. This section describes the requirements for safe and healthful working conditions.

1.2 RELATED SPECIFICATIONS

A. Section 01355, Hazardous Materials Control

1.3 PAYMENT

A. No separate payment for the item "Safe and Healthful Working Conditions" will be made. The costs of same will be included in the Base Bid.

1.4 DEFINITIONS

A. Safety staff shall mean the safety professional and his safety representative(s) or the safety person.

1.5 SPECIAL CONDITIONS

A. In prosecuting the work of this Contract, the Contractor shall provide working conditions for each operation that shall be as safe and healthful as the nature of that operation permits. The various operations connected with the work shall be so conducted that they will not be unsafe or injurious to health; and the Contractor shall comply with all regulations and published recommendations of the New York State Department of Labor and all provisions, regulations and recommendations issued pursuant to the Federal Occupational Safety and Health Act of 1970 and the Construction Safety Act of 1969, as amended, and with laws, rules, and regulations of other authorities having jurisdiction, with regard to all matters relating to safe and healthful working conditions. Compliance with governmental requirements is mandated by law and considered only a minimum level of safety performance. All work shall also be performed in accordance with safe work practice.

B. The Contractor shall be responsible for the safety of the Contractor's employees, the public, and all other persons at or about the site of the work. The Contractor shall be solely responsible for the adequacy and safety of all construction methods, materials, equipment and the safe prosecution of the work.

C. The Contractor shall employ a Board of Safety Professionals (BCSP) Certified Safety Professional (CSP) familiar with all work under this contract whose duties shall be to develop the Health and Safety Plan and initiate, review and cause implementation of measures for the protection of health and prevention of

accidents. The Contractor shall also employ full- time safety representative(s) whose sole duties shall be to work under the direct supervision of the safety professional, to implement the safety program for the work under this Contract.

D. The safety staff shall be provided with an appropriate office space on the job site to maintain and keep available safety records, monitoring records, surveillance records, certifications, up-to-date copies of all pertinent safety rules, regulations and governing legislation, material safety data sheets, and the site safety plan including information concerning foreseeable emergency conditions, location of emergency and telephone contacts for supportive actions.

E. The Contractor shall stop work whenever a work procedure or a condition at a work site is deemed unsafe by the safety staff.

F. The Contractor and subcontractors shall be required to issue Photo Identification badges for each employee required to be on site. Badge shop drawings and updated logs showing employee names and badge numbers shall be issued to the Engineer for approval.

1.6 SUBMITTALS

A. Within 30 days of receiving a Notice to Proceed, the Contractor shall submit the name of a CSP, employed by the Contractor, responsible for project safety management, and of the safety representative(s) who will work under his direction.

B. A resume, along with other qualifications, of the CSP and the safety representative(s), must be submitted to the Engineer for review and approval. The resume shall include such items as: experience, education, special safety courses completed, safety conferences attended and certification and registrations. Documentation and/or personal references confirming the qualifications may also be required. The persons proposed as CSP or safety representative(s) may be rejected by the Engineer for failure to have adequate qualifications or other cause.

HEALTH AND SAFETY PLAN

A. The Contractor shall commit to writing a site-specific health and safety plan before the start of any construction in accordance with Section 01355, Hazardous Materials Control.

ACCIDENT REPORTS

A. The Contractor shall promptly report to the Engineer and the PMJV Site Safety Officer all accidents involving injury to personnel or damage to equipment and structures, investigate these accidents and prepare required reports, and submit a monthly summary of these accidents. The Contractor must submit a preliminary accident report to the Resident Engineer and the PMJV Site Safety Officer by the following day at the latest.

1. The summary report, due by the 10th day of the following month, shall include descriptions of corrective actions to reduce the probability of similar accidents.
2. In addition, the Contractor shall furnish to the Engineer a copy of all accident and health or safety hazard reports received from OSHA or any other government agency within one day of receipt.

B. In addition to the reports which the Contractor is required to file under the provision of the Workmen's Compensation Law, he shall submit to the Engineer on or before the 10th day of each month a report giving the total force employed on his Contract in man-days during the previous calendar month, the number and character of all accidents resulting in loss of time or considered recordable by OSHA, and any other information on classification of employees, injuries received on the work, and disabilities arising therefrom that may be required by the Engineer.
   1. The submittal shall also contain an audit report for the prior month, including the safety training conducted, the above equipment logs, records of the condition of the work areas, safety and health records, OSHA and ANSI Z16.1 incidence rates for frequency and severity of recordable accidents, and an evaluation of the effectiveness of the HASP with any changes necessary.
   2. The CSP or safety representative and the Contractor shall sign this audit report. The Engineer will review these reports for Contractor's compliance with the safety provisions of the Contract.

1.7 QUALIFICATIONS

A. CSP: Recognition as a safety professional shall be based on a minimum of: Certification by the Board of Certified Safety Professionals as a Certified Safety Professional and five years of professional safety management experience in the types of construction and conditions expected to be encountered on the site.

B. Safety Representative: Qualifications of the safety representative(s) shall include a minimum of: five years of relevant construction experience, three years of which were exclusively in construction safety management, successful completion of a 30 Hour OSHA Construction Safety and Health training course, 40 Hour OSHA Hazardous Waste Operations training course, Confined Space training, and at least one year membership in the American Society of Safety Engineers.

C. The safety staff shall be completely experienced with and knowledgeable of all applicable health and safety requirements of all governing laws, rules and regulations as well as of good safety practice. The safety staff shall not include the project manager, engineer, or superintendent, or anyone else working on the project. The safety staff shall have no other duties except those directly related to safety.

PART 2 – PRODUCTS

2.1 SAFETY AND RESCUE EQUIPMENT

A. The Contractor shall have proper safety and rescue equipment, adequately maintained and readily available, for any foreseeable contingency. This equipment shall include such applicable items as: proper fire extinguishers, first aid supplies, safety ropes and harnesses, stretchers, water safety devices, communication devices, oxygen breathing apparatus, resuscitators, gas detectors, oxygen deficiency indicators, combustible gas detectors, etc.

B. This equipment should be kept in protected areas and checked at scheduled intervals. A log shall be maintained indicating who checked the equipment, when it was checked, and that it was acceptable. This equipment log shall be updated monthly and be submitted with the monthly report. Equipment that requires calibration shall have copies of dated calibration certificates on site.

C. Substitute safety and rescue equipment must be provided while primary equipment is being serviced or calibrated.

2.2 PROTECTIVE EQUIPMENT

A. All personnel employed by the Contractor or his subcontractors or any visitors whenever entering the job site shall be required to wear appropriate personal protection equipment required for that area. The Contractor shall continuously provide all necessary personal protective equipment as requested by the Engineer for his designated representatives. Provide USCG-approved life jacket or buoyant work vests and ring buoys in accordance with OSHA Regulations – Working Over or Near Water (29 CFR 1926.106).

2.3 IDENTIFICATION BADGES

A. The Contractor shall submit shop drawings of Identification Badge to the Engineer for approval.

2.4 HOT WORK PERMIT

A. All hot work shall be in accordance with NFPA 51B.

B. The Contractor shall complete and submit the Nassau County Hot Work Permit included in this Section as Attachment 01356-A, located after the "End of Section" designation.

PART 3 – EXECUTION

3.1 SAFETY STAFF DUTIES

A. The CSP shall visit and audit all work areas as frequently as necessary (a minimum of once a week) and shall be available for consultation whenever necessary. The safety staff shall have full authority to implement and enforce the health and safety plan to take immediate action to correct unsafe, hazardous or unhealthful conditions.

B. A member of the safety staff must be at the job site full time (a minimum of 8 hours per working day) whenever work is in progress. When multiple shift work is in progress more than one safety representative may be required.

C. The safety staff shall as a minimum:
   1. Schedule and conduct safety meetings and safety training programs as required by law, the safety plan, and good safety practice. A specific schedule of dates of these meetings and an outline of materials to be covered shall be provided with the safety plan. The Engineer shall be advised in advance of the time and place of such meetings. County personnel shall be invited to attend the meetings. All employees shall be instructed on the recognition of hazards, observance of precautions, of the contents of the safety plan and the use of protective and emergency equipment.
   2. Determine that operators of specific equipment are qualified by training and/or experience before they are allowed to operate such equipment.
   3. Develop and implement emergency response procedures. Post the name, address and hours of the nearest medical doctor, name and address of nearby clinics and hospitals, and the telephone numbers of the appropriate ambulance service, fire, and the police department.
   4. Post all appropriate notices regarding safety and health regulations at locations, which afford maximum exposure to all personnel at the job site.
   5. Post appropriate instructions and warning signs in regard to all hazardous areas or conditions, which cannot be eliminated. Identification of these areas shall be based on experience, on site surveillance, and severity of hazard. Such signs shall not be used in place of appropriate workplace controls.
   6. Ascertain by personal inspection that all safety rules and regulations are enforced. Make inspections at least once a shift to ensure that all machines, tools and equipment are in a safe operating condition; and that all work areas are free of hazards. Take necessary and timely corrective actions to eliminate all unsafe acts and/or conditions, and submit to the Engineer each day a copy of his findings on the inspection check list report forms established in the safety plan.
   7. Submit to the Engineer, copies of all safety inspection reports and citations from regulating agencies and insurance companies within one working day of receipt of such reports.
   8. Provide safety training and orientation to authorized visitors to ensure their safety while occupying the job site.
   9. Perform all related tasks necessary to achieve the highest degree of safety that the nature of the work permits.

3.2 VISITORS

A. All non-County personnel visitors that visit and tour the site shall sign the Visitors Log, and sign waivers as directed by the County. The Resident Engineer must be aware of all tours/visits in conjunction with the Safety Evacuation Plan Protocol notification. All efforts should be made not to schedule site tours/visits at the time of scheduled evacuation drills.

3.3 ATTACHMENTS

A. The attachments listed below, following the "End of Section" designation, are a part of this Specification section.
   1. Attachment 01356-A, Hot Work Permit.

+ + END OF SECTION + +

Nassau County Sewage Treatment Plant
Hot Work Permit

Hot Work Permit Job Information

Contractor Name: _____ Location of Hot Work: _____
Permit Authorizing Individual: _____ Phone: _____
Permit Issued (Date) _____ (Time) _____ AM/PM
Permit Expires (Date) _____ (Time) _____ AM/PM

Type of hot work to be used (Source of ignition): ❑ Grinding ❑ Cutting ❑ Brazing or Soldering ❑ Welding/Burning ❑ Heating ❑ Other_____

PPE to be Used by Person Performing Hot Work: _____

Describe the Hot Work Job and Materials to be Worked on: _____

Any special hazards and/or special precautions to be taken: _____

Fire Watch Required? ☐ **Yes** ☐ **No** **Number of Fire Watches Required:**

Acknowledgement of Permit Review by Person Performing Work or Crew Supervisor

Acknowledgment: I participated in the work site preparation, coordinated with the PAI, reviewed this Hot Work Permit and I fully understand the work to be performed and my responsibilities. The person(s) performing the hot work understand that this permit is valid only so long as work conditions existing at the time of issuance do not change. They will stop the work and notify the PAI of any change in work area conditions which adversely affects safety. I or the person(s) performing the work are adequately trained in the safe handling and use of their equipment and applicable regulatory requirements.

Worker/Supervisor: _____ **Signature:** _____
Company: _____ **Date:** _____

Permit Authorizing Individual (PAI) Authorization

I completed the site inspection, notified the person performing the work or their crew supervisor about flammable materials or hazardous conditions which may not be obvious, and verified that the person performing (or directly supervising the crew performing) hot work has reviewed the permit and signed the acknowledgment above. (If no, hot work is not permitted)

Signature: _____ **Date:** _____

Notice: Post this permit in Hot Work Permit area until permitted operations are complete. Upon Completion return permit to the PAI.

Final Inspection (Fire Watch, or PAI if No Fire Watch Was Required)

I completed final inspection at the required times after completion of Hot Work and observed no signs of smoldering or combustion.

Signature: _____ **Date:** _____ **Time:** _____ (Day 1)

Day	PAI Signature	Date/Time	Acceptable		Final Insp./ Initials	Comments
			Yes	No		
2						
3						
4						
5						
6						
7						

- Permit Authorizing Individual (PAI) - The individual designated by management to authorize hot work
- Conducts inspection to verify that safeguards are in place based on site-specific conditions of flammable/ combustible materials, hazardous processes, or other potential fire hazards in the work location.
- Ensure fire protection and extinguishing equipment are available and properly located at the site.
- Verify a fire watch is at the site, if required.
- Issues a Hot Work Permit (HWP), when required.

Hot Work Required Precautions Checklist

1) Inspect work area and confirm that applicable precautions have been taken in accordance with NFPA 51B (by PAI After Coordination With & Setup By Person Performing Hot Work; initially and when revalidating):
2) All sprinkler and/or other fire suppression systems in the Hot Work Permit area operational.
3) Cutting/welding equipment in good repair, free of damage or defects.
4) Persons conducting hot work have been trained.
5) All facility employees or other parties that may be potentially affected by the hot work have been notified.

REQUIREMENTS WITHIN 35 FEET OF WORK (HORIZONTAL & VERTICAL)

1) Flammable liquids and combustible dust/lint/oil deposits/trash removed or shielded with fire-retardant material.
2) Flammable vapor sources removed or flammable vapor properly tested and found to be well below the LEL.
3) Combustible flooring properly wetted, wet sanded or shielded.
4) Combustible walls, ceilings, partitions or roofing properly shielded.
5) Covers under work to keep sparks from lower levels and shielding/partitions to protect passer-by.

WORK ON WALLS OR CEILINGS

1) Combustibles have been moved away from opposite side. (If no, hot work is not permitted)
2) No combustible covering, interior (for sandwich-type panel) or other combustible content.
3) Danger from conduction of heat to adjacent rooms eliminated.

WORK ON ENCLOSED EQUIPMENT (Tanks, Containers, Ducts, Dust Collectors, etc.)

1) All duct and conveyor systems properly protected or shut down.
2) Equipment is cleaned of all combustibles, flammable vapors, liquids, or dusts. (If a flammable vapor source, conduct vapor monitoring)

FIRE WATCH

1) Required for the following: (a) Torch work (b) Combustibles within 35' (c) Combustibles >35', but easily ignited, (d) Wall/floor openings expose adjacent/concealed combustibles, (e) Conduction through metal can ignite other side (f) Potential for more than a minor fire.
2) Charged, inspected, operational fire extinguishers of an appropriate type are present.
3) Fire Watch trained in extinguisher and emergency alarms (fire alarm, telephone, or radio).

OTHER PRECAUTIONS

1) Work in a confined space requires Confined Space Entry Permit prior to hot work permit approval.
2) Is continuous atmospheric monitoring, smoke detection or heat detection warranted?
3) Ample ventilation exists or provisions made for continuous ventilation to remove smoke/vapor from work area
4) Process equipment/piping purged, disconnected and blanked in accordance with Lockout/Tagout procedures.
5) Do conditions require Re-Validation more than every 24 hr.?

SECTION 01370

SCHEDULE OF VALUES

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. Submit a Schedule of Values allocated to the various portions of the work, within 21 days after the effective date of the Agreement.

B. Upon request of the Engineer, support the values with data which will substantiate their correctness.

C. The accepted Schedule of Values shall be used only as the basis for the Contractor's Applications for Payment.

1.2 RELATED REQUIREMENTS

A. General Conditions of the Construction Contract

1.3 FORM AND CONTENT OF SCHEDULE OF VALUES

A. Type schedule on an 8-1/2-in by 11-in or 8-1/2-in by 14-in white paper furnished by the Owner; Contractor's standard forms and automated printout will be considered for approval by the Engineer upon Contractor's request. Identify schedule with:
   1. Title of Project and location.
   2. Engineer and Project number.
   3. Name and Address of Contractor.
   4. Contract designation.
   5. Date of submission.

B. Schedule shall list the installed value of the component parts of the work in sufficient detail to serve as a basis for computing values for progress payments during construction.

C. Identify each line item with the number and title of the respective Section.

D. For each major line item list sub-values of major products or operations under the item.

E. For the various portions of the work:

1. Each item shall include a directly proportional amount of the Contractor's overhead and profit.
2. For items on which progress payments will be requested for County approved stored materials, break down the value into:
   a. The cost of the materials, delivered and unloaded, with all taxes paid. Paid invoices are required for materials upon request by the Engineer.
   b. The total installed value.

F. The sum of all values listed in the schedule shall equal the total Contract Sum.

1.4 SUBSCHEDULE OF UNIT MATERIAL VALUES

A. Submit a sub-schedule of unit costs and quantities for:
   1. Products on which progress payments will be requested for County approved stored products.

B. The form of submittal shall parallel that of the Schedule of Values, with each item identified the same as the line item in the Schedule of Values.

C. The unit quantity for bulk materials shall include an allowance for normal waste.

D. The unit values for the materials shall be broken down into:

   1. Cost of the material, delivered and unloaded at the site with all taxes paid.
   2. Copies of invoices for component material shall be included with the payment request in which the material first appears.
   3. Paid invoices shall be provided with the second payment request in which the material appears or no payment shall be allowed and/or may be deleted from the request.

E. The installed unit value multiplied by the quantity listed shall equal the cost of that item in the Schedule of Values.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01400

PROTECTION OF UTILITIES

PART 1 – GENERAL

1.1 WORK INCLUDES

A. Work includes all labor, materials, equipment and incidentals required to mark out and protect all public or private utilities, including concrete encased piping, within or adjacent to the Contract area.

B. The Contractor is specifically directed to become familiar with the existence of aerial, surface or subsurface structures of municipal and other public or private service corporations within the construction site.

C. A careful search has been made, in good faith, and known public or private utilities within or adjacent to the Contract area are shown in their approximate locations on the Contract Plans. However, there is no guarantee that all existing utilities have been found. All utilities may not be shown on the Contract Drawings.

D. The Contractor’s attention is also directed to the fact that Nassau County or the Town of Hempstead may make changes in the Contractors' work zone or limits of disturbance.

E. The Contractor shall determine the exact locations and elevations of all pertinent structures, utilities and facilities before construction work commence.

F. Conflict between existing structures, utilities and facilities and new work shall be ascertained by the Contractor and called to the attention of the Engineer.

G. The Contractor shall cooperate with the County and public utility corporations whose structures (aerial, surface or subsurface) are within the limits of or along the outside of the construction areas to make it possible for them to maintain uninterrupted service.

H. The Contractor shall conduct operations in such a way as to delay or interfere as little as practicable with the work of utility corporations.

I. The Contractor shall give the County and public utility corporations involved reasonable notice, but not less than 48 hours in advance of operations, which may or will affect their structures.

J. The Contractor shall protect, in a suitable manner, all utilities encountered, including concrete encased piping, and shall repair any damage to structures, utilities and facilities caused by operations. If the nature of the damage is such as to endanger the satisfactory functioning of the utilities and necessary repairs are not immediately made by the Contractor, the work may be done by the respective

owning companies and the cost thereof charged against the Contractor.

K. The Contractor shall take these conditions into consideration in making up the bid.

L. It is understood and agreed that the Contractor has considered in his bid all of the permanent and temporary utility appurtenances and that no additional compensation will be allowed for any delays, inconveniences or damage sustained by him due to any interference from the utility appurtenances.

1.2 PUBLIC AND PRIVATE UTILITY MARKOUTS

A. The Contractor shall be required to provide utility markouts for all private and public utilities. The limits for these markouts shall be the project limit shown on the Engineering Drawings. The Contractor shall submit the proposed utility subcontractor for approval.

1.3 MEASUREMENT AND PAYMENT

A. No separate payment for the items “Protection of Utilities” will be made. The costs of same shall be included in the Base Bid.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01410

JOB PHOTOGRAPHS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope of Work:
   1. The Contractor shall take color job photographs (both land-based and aerial) to document the progression of construction as detailed under these specifications.
   2. The Contractor will be required to take land/water based and aerial photographs of the site as outlined herein.
   3. The quantities of job photographs specified herein supersede the quantities specified in the General Conditions, Article GC-37, Photographs.

B. Image Quality:
   1. Photographic documentation shall be in color.
   2. Photographic images shall be suitably staged and set up ("framed"), focused, and shall have adequate lighting.
   3. For still photographs, use camera with minimum 10.0-megapixel resolution.

1.2 MEASUREMENT AND PAYMENT

A. No separate payment for the item "Job Photographs" will be made. The costs of same shall be included in the Base Bid.

1.3 SUBMITTALS

A. Submittal Format:
   1. Submit photographs via USB Flash Drive and file transfer portal.
   2. For each photograph taken, furnish high-quality digital image in "JPG" file format compatible with Microsoft Windows 7 and higher operating systems.
   3. Image resolution shall be sufficient for clear, high-resolution prints. Minimum resolution shall be 300 dots per inch. Minimum size of digital images shall be 5 inches by 7 inches.
   4. Imprint date in each image. Do not imprint time.
   5. Submittal shall contain:
      a. A label with the Project Name and Contract Number
      b. A directory with the Sequential Photograph Numbers, and the following for each photograph:
         i. Date Taken.
         ii. View and description, indicating location of camera, general description of what the photograph represents and indication of the timing of the photograph relative to the construction phase (pre-construction, during construction or post-construction).

iii. The digital files shall be named sequentially with the contract number as the prefix, e.g. S35109-03G-001 followed by the sequential number of the photograph.
iv. Within the photo file directory, a summary table shall be provided listing all photos with the descriptions as listed above, with hyperlinks to the individual photo files.

6. Time lapse of aerial photographs as outlined below in Section 2.

B. Informational Submittals:
1. Pre-Construction Photographic Documentation: Submit acceptable pre-construction photographic documentation prior to mobilizing to and disturbing the Site. Provide pre-construction photographic documentation no later than first Application for Payment, unless other schedule is accepted by Engineer.
2. Construction Progress Photographic Documentation: Submit acceptable construction progress photographic documentation on a monthly basis.
3. Closeout Submittals:
4. Final Photographic Documentation: Submit acceptable final photographic documentation prior to submitting final Application for Payment.

PART 2 – PRODUCTS

2.1 PHOTOGRAPHS

A. A photograph shall be defined as one digital photograph that is of acceptable quality as defined herein and based on review of the photograph by the County and Engineer.

B. The County shall reserve the right to reject any photograph that is not clear or definitive.

C. Land/water based photographs of sites (i.e. Pearsalls Hassock and South Black Banks Hassock) will be taken as follows:
1. A minimum of 50 photographs in total with different views of the sites prior to construction.
2. A minimum of 30 photographs in total each week during construction.
3. A minimum of 50 photographs in total following completion of construction.

D. Aerial photographs shall be taken with 6 different views, at 1-month intervals throughout the duration of construction at all ongoing construction sites, including at the beginning of construction prior to site disturbance, as determined by the Engineer. An additional 12 aerial views of the final construction shall also be taken by the Contractor in coordination with the Engineer. The Contractor shall combine the images from each perspective into a timelapse video and provide it to the Owner and Engineer in digital format. Aerial photographs can be taken using fixed wing, low altitude aircraft or unmanned aerial systems. All personnel will be adequately trained and will follow Federal Aviation Administration and other agencies with jurisdiction standards.

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

+ + NO TEXT ON THIS PAGE + +

SECTION 01495

SPILL PREVENTION AND CONTROL

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. This section covers the Contractor's responsibilities with respect to spill prevention and control.

B. References: Where conflicts arise between requirements of the above-listed regulatory requirements, the most restrictive of the requirements shall be followed.
   1. USEPA Remedial Action at Waste Disposal sites EPA/625/6-B5/006
   2. 40 CFR Part 300 National Oil and Hazardous Substances Pollution Contingency Plan
   3. 40 CFR Protection of Environment
   4. ASTM E119 Fire Resistance Directory

1.2 SUBMITTALS

A. A Spill Prevention and Control Plan shall be provided to the Engineer.

1.3 GENERAL REQUIREMENTS

A. The Contractor shall prepare and implement a Spill Prevention and Control Plan and maintain appropriate containment and/or diversionary structures, materials and equipment to prevent and control the maximum spillage of any specific item within the Scope of Work. All materials and equipment used in connection with this project shall be included. The plan shall include inspection and test procedures performed to ensure compliance.

B. Laws and Regulations: The Contractor shall not pollute any area with any manmade or natural harmful materials. It is the sole responsibility of the Contractor to investigate and comply with all applicable Federal, State, County and municipal laws and regulations concerning the Spill Prevention and Control Plan.

C. A Project Telephone Directory shall be incorporated into the plan.

D. Written Discussions: In addition to the minimal prevention standards listed, the Plan shall include a complete discussion of conformance with the following applicable guidelines, other effective spill prevention and containment procedures, or if more stringent, with the State rules, regulations and guidelines.
   1. Facility Drainage
   2. Bulk Storage

3. Facility Transfer operations, pumping, and conveying materials
4. Truck loading/unloading rack

E. Design and Specifications: The Contractor shall provide a Spill Prevention and Control Plan with the following designs and specifications:
1. Appropriate containment and/or diversionary structures or equipment to prevent discharge of materials to the environment
2. Dikes sufficiently impervious to contain spill materials
3. Curbing
4. Culverts, gutters, or other drainage systems
5. Weirs, booms, or other barriers
6. Sorbent materials
7. Curbing drip pans
8. Sumps and collection systems

F. Inspections and Records: Inspections shall be in accordance with written procedures developed by the Contractor. These written procedures and a record of the inspections, signed by the appropriate supervisor or inspector, shall be part of the Spill Control and Prevention Plan, and shall be maintained during the project and submitted to the Engineer for final closeout.

G. Facility Lighting: Facility lighting shall be commensurate with the type and location of the facility. Consideration shall be given to the following:
1. Discovery of spills, occurring during hours of darkness, both by operating personnel, if present, and by non-operating personnel (security personnel, the general public, local police, etc.)
2. Prevention of spills occurring through acts of vandalism.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 GENERAL

A. If materials are released, the Contractor shall provide a written description of the event, corrective action taken, and plans for preventing a recurrence, as well as a written commitment of manpower, equipment, and materials required to expedite control and removal of any harmful quantity of materials released.

B. The Contractor shall notify the New York State Department of Environmental Conservation, Nassau County Department of Health, Nassau County Department of Public Works, and the Engineer within two hours of the release or spill.

C. The Contractor will provide and maintain spill response materials in the vicinity of all work activities to allow timely response to spills to enable timely containment and removal of spilled materials.

3.2 TRAINING

A. Personnel Training and Spill Prevention Procedures: The Contractor shall be responsible for properly instructing his personnel regarding applicable pollution control laws, rules, and regulations; and in the operation and maintenance of equipment to prevent the discharge of materials.

B. Briefings: The Contractor shall schedule and conduct Spill Prevention Briefings for its operating personnel at intervals frequent enough to assure adequate understanding of the Spill Prevention and Control Plan for this project. Such briefings shall highlight and describe known spill events or failures, malfunctioning components, and recently developed precautionary measures.

C. Evacuation Routes shall be established at the project site.

3.3 TESTING

A. Communication or alarm systems and/or procedures and spill control equipment must be tested and maintained by the Contractor as necessary to assure proper operation in time of emergency.

+ + END OF SECTION + +

+ + NO TEXT ON THIS PAGE + +

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

PART 1 – GENERAL

1.1 GENERAL REQUIREMENTS

A. Temporary facilities and controls shall be provided in the manner designated hereinafter. These temporary facilities shall be provided at the Hassocks worksite.

B. Contractor shall coordinate and install all temporary facilities and controls in accordance with the requirements of the local authorities or utility companies having jurisdiction and in accordance with all state, federal and local codes and regulations.

C. At the completion of the Work, or when the temporary facilities and controls are no longer required, subject to the approval of the County, the temporary facilities and controls shall be removed and the facilities prepared as specified in the contract document by the Contractor.

D. Costs in connection with the temporary electric, lighting, heating and ventilation, and other miscellaneous temporary facilities and controls including but not limited to, installation, maintenance, relocation and removal shall be borne by the Contractor.

E. The Contractor will be responsible for securing a mainland-based area and facilities and providing temporary facilities at the hassocks to support the timely and safe implementation of the project. As part of this, the Contractor will also be required to secure any required federal, state, or local permits or approvals.

1.2 RELATED SPECIFICATIONS

A. Section 01356, Safe and Healthful Working Conditions

1.3 TEMPORARY WATER FACILTIIES

A. The Contractor shall provide and pay all costs for sanitary facilities, fire protection, Contractor's field offices, obtaining potable water, and for cleaning by all Contractors, Subcontractors and their workmen. The Contractor shall make all arrangements for the provision and use of potable water for purposes of supplying the work area.

B. The Contractor is responsible for his own bottled water needs.

C. The Contractor shall furnish water and other temporary facilities to complete the project. The Contractor and Subcontractors shall provide their own hoses, valves

and containers as required to service their own work force. The Contractor shall inspect the site and assess the existing conditions. The cost for designing and installing a temporary water system shall be included in the lump sum price.

D. The Contractor shall take measures as necessary to protect temporary water system(s) from freezing.

E. The Contractor shall provide any and all equipment and measures necessary to obtain potable water, including , but not limited to, backflow prevention devices as required by the County when connecting the temporary water system to the County's water system, or any other requirements necessary to provide potable water.

F. The Contractor shall secure any permits necessary to obtain potable water.

G. The Contractor shall remove all temporary equipment and measures used to obtain potable water in its entirety at the end of the project.

1.4 TEMPORARY SANITARY FACILITIES

A. The Contractor shall provide and pay all costs for temporary toilet facilities in sufficient numbers, for the Contractor's and Subcontractors' personnel on this Project.

B. The Contractor will be responsible for the cleaning and maintenance of all temporary sanitary facilities.

1.5 TEMPORARY ELECTRICAL FACILITIES

A. The Contractor shall furnish and install temporary electrical facilities as necessary to provide temporary general lighting , security lighting, safety lighting, power tools, and service any temporary facilities such as the Contractor's field office. The Contractor shall inspect the site and assess the existing conditions. The cost for designing and installing a temporary electrical system shall be included in the lump sum price.

B. The Contractor shall submit a drawing showing the proposed temporary electrical facilities system layout for approval by the Engineer prior to installation.
   1. Work Included: Temporary work shall include the following:
      a. Furnish and pay for all labor, material, and equipment for the installation of the temporary electrical facilities system. The installation shall comply with all applicable requirements of the National Electric Code and any other codes or bodies having jurisdiction.
      b. Furnish and pay for all labor material and equipment for the maintenance of the temporary electrical facilities system.
      c. Furnish and pay for labor, materials and equipment for removing all temporary facilities.

C. Requirements:
   1. Temporary electrical facilities system shall be as herein specified and required for the contractor's use and shall be provided no later than thirty days after the date of Notice to Proceed.

1.6 TEMPORARY HEATING FACILITIES

A. Temporary construction heating shall be provided by the Contractor responsible for the Work involved for all cold weather protection of his own equipment, Work, and his employee's comfort at all times.

B. The Contractor shall provide all temporary building heat for heating the interior of all structures and building areas, which is necessary for the protection of all Work and equipment of the Contract for the comfort of his employees or his Subcontractor's employees, after the building or structure is temporarily enclosed. Hot water or steam from the existing plant system will not be available for use as temporary heating. The following requirements shall apply:
   1. All temporary heating methods proposed by Contractor shall be submitted to the County for approval and must comply with all federal, state and county rules and regulations.
   2. Temporary construction heat for "cold weather protection" shall be provided by Contractor responsible for the Work involved. "Cold weather protection" shall be considered to include both temporary heat and protective covers or enclosures required during the construction period prior to the enclosure of new buildings or buildings and structures being remodeled. "Cold weather protection" shall be provided as necessary until all construction requirements under the Contracts are complied with.

C. No salamanders or other direct fired equipment will be allowed in areas of existing buildings, or in new construction areas where the use of such equipment will damage or deteriorate the construction or finishes or is harmful to employees working in the area.

D. The Contractor shall provide and pay for all electric wiring and electrical accessories required for any temporary heating.

E. Temporary heating equipment shall not be located so as to interfere with the new construction Work. Heating system equipment shall not cause undue noise or fumes and shall be enclosed by wire fencing, or other means to provide protection to personnel.

1.7 PROTECTION OF WORK AND MATERIALS

A. Protection Requirements:
   1. During the progress of the Work and up to the date of Final Payment, the Contractor shall be solely responsible for the care and protection of all Work

and materials covered by the Contract. In order to prevent damage, injury or loss, actions shall include, but not be limited to, the following:

a. Store apparatus, materials, supplies, and equipment in an orderly, safe manner that will not unduly interfere with the progress of the Work or the work of any other contractor or utility service company.
b. Provide suitable storage facilities for all materials, which are subject to injury by exposure to weather, theft, breakage, or otherwise.
c. Place upon the Work or any part thereof only such loads as are consistent with the safety of that portion of the Work.
d. Clean up frequently all refuse, rubbish, scrap materials, and debris caused by his operations, to the end that at all times the Site of the Work shall present a safe, orderly and workmanlike appearance.
e. Provide barricades and guard rails around openings, for scaffolding, for temporary stairs and ramps, around excavations, elevated walkways and other dangerous areas as deemed necessary by Engineer.

2. The Contractor shall protect the existing Work and material from damage by his workmen and shall be responsible for repairing any such damage at no additional cost to the County.
3. The Contractor shall protect trees, shrubbery and other natural features or structures from being cut, trimmed or injured in his areas of Work. Trees adjacent to the Site of Work shall be protected and temporary supports provided for long branches. Stored materials and equipment shall be in cleared spaces, away from all trees and shrubs, and confined to areas as directed by the Engineer.

a. Temporary fences or barricades shall be installed to protect trees and plants in areas subject to traffic.
b. No fires will be permitted on Pearsalls Hassock or South Black Banks Hassock.
c. Within the limits of the Work, water trees and plants that are to remain, in order to maintain their health during construction operations.
d. Cover all exposed roots with burlap that shall be kept continuously wet. Cover all exposed roots with earth as soon as possible. Protect root systems from mechanical damage and damage by erosion, flooding, run off or noxious materials in solution.
e. If branches or trunks are damaged, prune branches immediately and protect the cut or damaged areas with emulsified asphalt compounded specifically for horticultural use in a manner approved by Engineer.
f. All damaged trees and plants that die or suffer permanent injury shall be removed when ordered by the Engineer and replaced by a specimen of equal or better quality.
g. Coordinate Work in this Section with requirements of Sections 02200, Earthwork, and 02486 Habitat Restoration.

4. All Work and materials shall be protected in accordance with the requirements of the Agreement, Article VI, "Protection"; General Conditions, Articles GC 17, "Materials and Equipment, Approvals

Substitutions and Deviations", GC 21, "Protection Requirements", and GC 24, "Barricades, Warning Signs and Lights".

B. Maintenance of Egress:

1. During the course of demolition and construction Work of this Project, the Contractor shall maintain and keep free of debris, materials or equipment points of required egress in accordance with the requirements of the Nassau County Fire Commissioner and Fire Safety Regulations.
2. The Contractor in his particular area of Work shall maintain egress as herein specified.
3. In active process areas, the Contractor shall not be permitted to store or stockpile material. Debris or other material shall be removed daily which may obstruct plant personnel from operating or maintaining active equipment and piping.

C. Temporary Construction Fencing:

1. The Work areas of the Project Site shall be enclosed at all times by temporary fencing for the Pearsalls Hassock to ensure security.
2. Temporary fencing shall not be less than six feet in height. Fabric shall be ten-gauge minimum, electrically welded wire, forming a rectangular mesh with opening two by four inches and three rows of double barb ten-gage wire on angle brackets measuring two feet vertically. Fabric shall be mounted on heavy duty steel tee spaced at intervals not exceeding ten feet.
3. The Contractor shall furnish, erect, relocate and maintain all temporary fencing. Upon completion of the Project all temporary fencing shall be removed and disposed of.
4. All Work in connection with the temporary fencing shall be done at no additional cost to the County.

D. Protection of Existing Structures:

1. Underground Structures:
   a. Underground structures are defined to include, but not be limited to, all sewer, water, gas, and other piping, and manholes, chambers, electrical and signal conduits, tunnels and other existing subsurface work located within or adjacent to the limits of the Work.
   b. All underground structures known to the Engineer, except water, sewer, electric and telephone service are shown on the Drawings. This information is shown for the assistance of the Contractor in accordance with the best information available but is not guaranteed to be correct or complete.
   c. The Contractor shall explore ahead of his demolition, trenching, grading and excavation Work and shall uncover all obstructing underground structures sufficiently to determine their location, to prevent damage to them and to prevent interruption of the services which such structures provide. If the Contractor damages an underground structure not scheduled for removal, he shall restore it to original condition at his expense.

d. Necessary changes in the location of the Work may be made by the Engineer, to avoid unanticipated underground structures.

e. If permanent relocation of an underground structure or other subsurface facility is required and is not otherwise provided for in the Contract Documents, the Engineer will direct the Contractor in writing to perform the Work, which shall be paid for under the provisions of the Agreement.

2. Surface Structures:

a. Surface structures are defined as all existing buildings, structures and other facilities above the ground surface. Included with such structures are their foundations or any extension below the surface. Surface structures include, but are not limited to, buildings, tanks, walls, bridges, roads, dams, channels, open drainage, piping, piles, wires, posts, signs, markers, curbs, walks and all other facilities that are visible above the ground surface.

3. Protection of Underground and Surface Structures:

a. The Contractor shall sustain in their places and protect from direct or indirect injury all underground and surface structures not scheduled for demolition or alteration that are located within or adjacent to the limits of the Work. Such sustaining and supporting shall be done by the Contractor in a careful manner and as required by the County.

b. The Contractor shall assume all risks attending the presence or proximity of all underground and surface structures within or adjacent to the limits to the Work. The Contractor shall be responsible for all damage and expense for direct or indirect injury caused by his Work to any structure. The Contractor shall repair immediately all damage caused by his Work to the satisfaction of the owner of the damaged structure.

4. All other existing surface facilities, including but not limited to guard rails, posts, guard cables, signs, poles, markers, and curbs, which are temporarily removed to facilitate installation of the Work shall be replaced and restored to their original condition at Contractor's expense.

E. Protection from Flood:

1. The hassocks are susceptible to flooding and include areas located below the tide elevation. The Contractor will not store equipment or materials below the high tide elevation. In addition, the Contractor will be prepared to remove any equipment or materials as necessary to avoid loss or damage to the environment resulting from a flood event or storm condition.

F. Surface Water Control

1. General

a. Provide methods to control surface water to prevent damage to the Work, the site, and adjoining properties.

b. Control fill, grading, and ditching to direct surface water away from disturbed areas, excavations, pits, tunnels, and other construction areas, and to direct drainage to proper run-off courses to prevent erosion, damage, or nuisance.

2. Equipment and Facilities for Surface Water Control
   a. Provide, operate, and maintain equipment and facilities of adequate size to control surface water.
3. Discharge and Disposal
   a. Dispose of surface water in a manner to prevent flooding, erosion, and other damage to any and all parts of the site and adjoining areas, and that complies with Federal, State and Local laws and regulations.

1.8 ACCESS PATHS, PARKING, STAGING, STORAGE AND WORK AREAS

A. Contractor's Staging and Storage Area
   1. The Contractor shall construct a Contractor's Staging Area as shown on the Contract Drawings. The Staging Area shall be leveled, graded and seeded after completion of the Contract.
   2. The Staging Area shall be drained so that no ponding of runoff water shall occur in the Staging Area or adjacent areas.
   3. The Contractor shall erect six-foot high galvanized chain link fencing and gates around the Staging Area on Pearsalls Hassock as specified in Paragraph 1.06.C.
   4. The Contractor shall maintain all sections of the Staging Area in a suitable manner, including preventing the accumulation of debris. The Contractor shall provide electrical utilities in the Staging Area.
   5. At the completion of the project, the Contractor shall remove all debris not limited to gravel, grout, wood, etc., from the Staging Area off-site. The Contractor shall also grade and restore the Staging Area.

B. Access Paths:
   1. Access paths will be provided by the Contractor in accordance with the requirements of the Drawings and the applicable Technical Specifications.

   2. Following completion of the project, the Contractor shall remove access paths which were installed by the Contractor including any materials of construction.

C. Parking, Storage and Work Areas:
   1. The Contractor will be responsible for securing an adequate mainland-based area to support temporary facilities such as employee parking, equipment and material loading and unloading, office facilities, sanitary facilities, access to transportation to get personnel to and from the hassocks, and other access to the mainland.
   2. The Contractor shall construct and maintain suitable storage areas for his use .
   3. Storage of equipment or materials below the high tide elevation is not permitted.

D. Storage of Hazardous Materials and Non-hazardous Materials
   1. Hazardous Materials containers will bear applicable hazard diamond(s).
   2. Container Labeling:

a. Properly label each container of consumable materials, whether or not classified as Hazardous Materials under this section.
b. Stencil Contractor's name and, as applicable, Subcontractor's name, on each vessel containing Hazardous Material and, for non-Hazardous Materials, on each container over five-gallon capacity. Containers must bear securely-attached label clearly identifying contents. Label containers that are filled from larger containers.
c. If Owner becomes aware of unlabeled containers at the site, Owner will notify Contractor. Properly label container(s) within one hour of receipt of notification or remove container from the site.

3. To the greatest extent possible, store Hazardous Materials off-site until required for use in the work.

E. Hazardous Materials Storage Area:
1. Maintain designated storage area for Hazardous Materials that includes secondary containment. Storage area will include barriers to prevent construction equipment from colliding with storage containers and will include protection from environmental factors such as weather.
2. Provide signage in accordance with Laws and Regulations, clearly identifying the Hazardous Materials storage area.

1.9 CONTRACTOR'S FIELD OFFICE

A. The Contractor shall furnish, equipment and maintain a field office for his use at the Site during the period of construction. The Contractor shall provide his own telephone service and shall have readily accessible, at the field office, copies of the Contract Documents, latest approved Shop Drawings and all Project related correspondence, Change Orders, sign-in and out sheets and documentation, etc.

B. Contractor's field office shall be located at the South Shore Water Reclamation Facility at Bay Park.

C. The Contractor shall provide a Contractor's field office with the minimum facilities specified. Provide all required storage and work sheds.
1. Field Office and Furnishings:
a. Acceptable appearance, weatherproof building or trailer with lockable door.
b. Telephone service.
c. Six protective helmets for visitor's use.
d. Exterior identifying sign.
e. Company sign no larger than 4 feet by 8 feet.
2. Remove office and sheds upon Final Acceptance unless otherwise approved by the Engineer.

1.10 NOISE CONTROL

A. Wherever possible, Contractor shall locate all equipment as far away from residential areas as possible. The Contractor shall limit noise from his activities so

that overall noise leaving the plant, as measured at the plant property line, is 65 dB(A) measured for any one hour from 7 am – 10 pm and to 55 dB(A) measured for any one hour from 10 pm – 7 am.

B. Contractor shall provide noise suppression enclosures around the equipment. When the noise from equipment is greater than 80 dB at a distance of 5 feet from the noise source, the enclosures shall be provided with internal acoustic insulation.
   1. Enclosures shall be constructed of a minimum of 3/8-inch plywood.

   2. The sound panels shall be minimum 4-inch thick, rated at STC-60, as manufactured by Industrial Acoustics Co. or approved equal.

   3. The area shall remain operational during construction. Partitions provided by the Contractor to isolate the construction area shall provide internal acoustical isolation as define in the paragraphs above.

1.11 SECURITY

A. It shall be the responsibility of the Contractor to make whatever provisions he deems necessary to safely guard all Work, materials, equipment and property from loss, theft, damage and vandalism. The Contractor's duty to safely guard property shall include the County's property and other private property from injury or loss in connection with the performance of the Contract.

B. The Contractor may make no claim against the County for damage resulting from trespassing.

C. The Contractor shall repair all damage to the property of the County and others arising from failure to provide adequate security.

D. If existing fencing or barriers are breached or removed for purposes of obstruction, the Contractor shall provide and maintain temporary security fencing equal to the existing one, in a manner satisfactory to the Engineer and the County.

E. Security measures taken by the Contractor shall be at least equal to those usually provided by the County to protect his existing facilities during normal operation.

F. Maintain the security program throughout construction until the date of Substantial Completion and occupancy precludes need for Contractor's security program.

G. The Contractor's employees shall be issued identification badges, which shall be displayed at all times, as per Section 01356, Safe and Healthful Working Conditions.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01516

TEMPORARY FIRE PROTECTION

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. The Contractor shall provide temporary fire protection at all areas associated with the project site throughout the Project.
   2. The Contractor shall comply with Section 901.7 and 1404.5 of the Fire Code of New York State (2010).
   3. The Contractor shall pay all costs associated with temporary fire protection, including installation, maintenance, and removal.
   4. The Contractor shall conform to provisions of this Section and Laws and Regulations.

B. Reference Standards and Regulatory Requirements:
   1. Comply with applicable provisions of:
      a. NFPA Standard No. 10, Portable Fire Extinguishers.
      b. NFPA Standard No. 241, Safeguarding Building Construction and Demolition Operations.
      c. Fire Code of New York State, Section 901.7.
      d. Fire Code of New York State, Section 1404.5
   2. Temporary fire protection shall conform to Laws and Regulations.

1.2 REQUIRED TEMPORARY FIREFIGHTING EQUIPMENT

A. Provide portable fire extinguishers, rated not less than 2A or 5B in accordance with NFPA Standard No. 10 for each temporary building and for every 3,000 square feet of floor area under construction.

B. Provide portable fire extinguishers 50 feet maximum from all points in protected area.

1.3 FIRE PREVENTION AND SAFETY MEASURES

A. Prohibit smoking on watercraft and within the Limits of Disturbance, in hazardous areas and inside of the County's buildings. Provide visible, suitable warning signs in areas that are continuously or intermittently hazardous.

B. Storage of Flammable and Combustible Products:
   1. Use metal safety containers for storing and handling flammable and combustible liquids and materials.

   2. Do not store flammable or combustible liquids and materials in or near stairways or exits.

C. Maintain clear exits from all points at the Site.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01590

RED KNOT MONITORING

1. GENERAL

1.1. SECTION INCLUDES

A. Provide labor, equipment, and materials as necessary to execute the following tasks relative to the monitoring for the presence of red knot (Calidris canutus rufa) in chronologic order:

1. Spring database monitoring between March 15 and April 15.
2. Spring field monitoring between April 15 and June 1 to occur every Monday and Wednesday. Additional surveys shall be required if positive observation is made.
3. Summer database monitoring between July 1 and July 15.
4. Summer field monitoring between July 15 and September 1 to occur every Monday and Wednesday. Additional surveys shall be required if positive observation is made.

B. All monitoring for tasks identified above will remain consistent with the approved Red Knot Monitoring Plan for the Long Beach WPCP Consolidation Project (Red Knot Monitoring Plan).

C. This specification shall be initiated as required by special conditions defined in regulatory permits as identified in Section 01040 Regulatory Requirements.

1.2. OBJECTIVE

A. The objective of this specification is to mitigate the potential impact to foraging red knot within 984 feet (300 meters) of the project area (see definition below) that could impact the overall construction and project schedule.

1.3. RELATED SECTIONS

A. Section 01040 REGULATORY REQUIREMENT.

1.4. ASSUMPTIONS

Red knot presence in proximity to the project area is expected to occur between April 15 and June 1, and July 15 to September 1 and consistent with Regulatory Requirements.

A. The specification is specific only to red knot, and addresses expected red knot foraging within 984 feet of the project area.

1.5. QUALIFICATIONS

A. The Contractor shall provide a qualified ecologist to perform required red knot monitoring associated with active construction during defined periods (i.e., April 15 through June 1, and July 15 through September 1). A qualified ecologist is defined as having a degree in biological sciences, and at least 10 years of experience in avian biology or similar ecological field of study.

1.6. SUBMITTALS

A. The Contractor shall prepare and submit a plan to the Engineer that outlines the following details for the work planned prior to Construction.

1. Identification of qualified ecologist(s) to support the red knot monitoring.
2. Equipment necessary to support monitoring (i.e., boating plan), and access locations for each hassock.
3. Outline of proposed red knot monitoring protocols (if different from the Red Knot Monitoring Plan) and schedule to support the planned construction activities. The plan should include anticipated monitoring locations based upon expected construction activities identified in project schedule.
4. Specific plan for database monitoring that includes frequency and schedule for weekly tracking, and public databases to be utilized.
5. Communication plan in event of red knot observation within 984 feet (300 meters) of project activities.

1.7. DEFINITIONS

A. Critical construction actions: Those construction activities identified in the Red Knot Monitoring Plan that require exceptions or alternative monitoring strategies and which are defined in the Plan.

B. Project area is defined as those areas within the limits of disturbance shown on design sheets.

C. Proximity: Within 984 feet (300 meters) of project area.

1.8. SCHEDULE

A. Spring database monitoring (see Section 2.2) shall begin on March 15 and continue through April 15.

B. Spring field monitoring (see Section 2.3) shall begin on April 15 (depending upon database monitoring) and continue to at least June 1.

C. Summer database monitoring (see Section 2.4) shall begin on July 1 and to continue through as least July 15.

D. Summer field monitoring (see Section 2.5) shall begin on July 15 (depending upon database monitoring) and to continue through September 1.

2. EXECUTION

2.1. OVERALL

A. The Contractor shall conduct monitoring outlined herein consistent with the Red Knot Monitoring Plan and any revisions approved by Engineer (Section 1.6).

2.2. SPRING DATABASE MONITORING

A. Spring database monitoring to be initiated on March 15, and to continue through April 15, or dependent upon database results, for observations of red knot in Chesapeake estuary.

B. Contractor shall prepare weekly email communication to Engineer describing activities documented in the database within Delaware Estuary, and expected start date for spring field monitoring.

2.3. SPRING FIELD MONITORING

A. Spring field monitoring shall begin on April 15 (depending upon database monitoring) and to continue to at least June 1.

B. Access to hassocks outside of construction limits require approval by Engineer based upon location and approach to avoid impacts to hassock shoreline or tidal marsh.

C. Monitoring activities to occur every Monday and Wednesday from ½ hour before sunrise to no later than 10:30 am. Monitoring will occur at pre-determined locations (Section 1.7) that are in proximity to on-going construction activities.

D. If positive observation is made, construction activities shall be ceased within 984 feet (300 meters) of observation consistent with protocols outlined in Red Knot Monitoring Plan. Work to be stopped is assumed to include activities that utilize motorized equipment or power tools with comparable noise level (e.g., greater than 80 dB) that have the potential to cause auditory disturbance to foraging individuals. This excludes the use of pumping equipment required to dewater active work areas. The Contractor shall immediately contact the Engineer and follow additional monitoring protocols outlined in Red Knot Monitoring Plan.

E. Construction activities shall resume within 984 feet (300 meters) of observation following determination of absence during subsequent monitoring efforts as outlined in the Red Knot Monitoring Plan.

F. If positive observations for red knot are made in three consecutive days, then Contractor shall formally notify the Engineer that regulatory consultation is required. The Engineer shall be responsible for all regulatory coordination (Section 3).

G. Contractor shall prepare weekly email communication to Engineer describing monitoring performed and any results or observations from the monitoring.

2.4. SUMMER DATEBASE MONITORING

A. Spring field monitoring shall begin on July 1 and continue through July 15 or dependent upon database results.

B. Will mirror spring database monitoring (Section 2.2).

2.5. SUMMER FIELD MONITORING

A. Summer field monitoring shall begin on July 15 (depending upon database monitoring), and continue to at least September 1.

B. Summer field monitoring to mirror protocols and specifications for spring field monitoring (Section 2.3).

C. If pipe pull-back process occurs within summer field monitoring period, then field monitoring will occur on two consecutive days at the pre-determined monitoring location proximate to the pull back site. The pipe pull-back process which normally takes upwards of 48 consecutive hours will be initiated only after two consecutive days of native findings (i.e., no observations). Biological monitoring will not be required during this pipe-pull day process. Protocols for this process are also outlined in the Red Knot Monitoring Plan.

2.6. REGULATORY COORDINATION

A. If positive observation is made, construction activities shall be ceased within 984 feet (300 meters) of observation consistent with protocols outlined in Red Knot Monitoring Plan. Work to be stopped is assumed to include activities that utilize motorized equipment or power tools with comparable noise level (e.g., greater than 80 dB) that have the potential to cause auditory disturbance to foraging individuals. This excludes the use of pumping equipment required to dewater active work areas.

B. The Engineer should be notified within 12 hours of any positive identification.

C. If positive observations for red knot are made in three consecutive days from the same monitoring location, then Contractor shall formally notify the Engineer.

D. The Engineer shall manage all regulatory coordination after three consecutive days of positive observations from field monitoring. The Contractor will support this process through identification of field conditions that should be considered when evaluating return to work strategies (i.e., other acoustic disturbances, frequency and/or abundance of observations, current construction activities, proximity to construction activities).

3. PAYMENT

A. All work specified in this section shall be included in the Lump Sum Bid.

++END OF SECTION++

LONG BEACH WPCP CONSOLIDATION PROJECT

Red Knot Monitoring Plan

Joint Application:
United States Army Corps of Engineers
Individual Permit

NYS Department of Environmental Conservation
Excavation & Fill in Navigable Waters, Tidal Wetlands, and Section 401 Water Quality Certification

August 2021

Hazen ARCADIS
A JOINT VENTURE

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Table 1. eBird Observation Data for All Years of Recorded Data (in text)

APPENDICES

Appendix A Regulatory Correspondence Pertaining to Red Knot

1 INTRODUCTION

This Red Knot Monitoring Plan (Plan) has been prepared in support of the Joint Application associated with the Long Beach Water Pollution Control Plant (WPCP) Consolidation Project (the Project). The Project is an essential part of a series of projects to meet the goal of restoring and enriching the Western Bays as a recreational, economic, social, and environmental resource to Long Island and the State of New York. Project background and details of the proposed construction activities have been provided as part of the Joint Application.

The Governor's Office of Storm Recovery (GOSR) recently completed an informal consultation with U.S. Fish and Wildlife Service (USFWS) pursuant to the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq) for the Project. As part of that consultation, in a letter dated August 20, 2020, USFWS recommended additional conservation measures be incorporated in the Project as it relates to the potential presence of red knot (*Calidris canutus rufa*; threatened). Recommended conservation measures specifically identified were summer (early fall) surveys and buffer zones. To support the concurrence determination, GOSR responded to USFWS in a letter dated August 26, 2020 and committed to the recommended summer (early fall) surveys and buffer zones. Regulatory correspondence pertaining to the red knot is included as **Appendix A**.

While the August 26, 2020 letter to USFWS outlined the framework for red knot conservation measures, this Plan has been developed to detail a comprehensive monitoring framework to avoid and/or minimize impact to the federally listed species. In addition, it specifically addresses two construction concerns identified by the design team. By identifying two potential construction issues associated with biological monitoring, Nassau County's goal in submitting this plan is to document how these concerns will be addressed by the selected contractor in the field. The attached Plan is not intended to impact the informal consultation completed with USFWS or alter the determination of effect, but to provide additional detail as part of the U.S. Army Corps of Engineers Joint Application review.

The Plan remains consistent with *Section 10590 Red Knot Monitoring* as part of the Construction Specifications.

2 LIFE HISTORY

The red knot is one of the longest distance migrating animals, traveling from the wintering areas in South America to the northern breeding grounds in the Canadian arctic. The primary stopover location for these long-migrating birds is the Delaware Bay where they feed heavily on horseshoe crab eggs before moving north to the Canadian arctic. A secondary stop over location for the subspecies *Calidris canutus rufa* occurs on the south shore of Long Island (NYSDEC 2014). Critical secondary stop over location for the red knot occurs to the south and southeast of the project areas along the Atlantic coastline of Long Beach, as well as portions of Jamaica Bay to the west of the project area (Niles et al. 2008).

The red knots tendency to concentrate at migratory stop over locations, as well as wintering locations, may increase the vulnerability of this species due to loss of critical habitat (Myers et al 1987). For example, the Delaware Bay is the primary spring stop-over location where individuals rely almost entirely on horseshoe crab eggs to increase fat and protein reserves necessary to sustain a 3,000 kilometer (km) flight to the artic breeding grounds. The decline in horseshoe crabs and crab eggs has been shown to be concurrent with declines in red knot population numbers (Clark et al. 1993, Niles et al. 2008). Red knot

was listed as a federally 'threatened' species in 2014 due to declines in horseshoe crab populations, as well as challenges resulting from climate change and coastal development.

While the red knot is known to occur in southern Long Island throughout the year (NYSDEC; eBird data (**Table 1**), the focus of this Plan is to protect long-range migrating birds that depend upon food resources to sustain long-distance migrations. Review of the Seatuck Mill River Corridor survey, NYSNHP, eBird, and the Breeding Bird Atlas data indicate that the red knot has **not** been observed in or proximate to the project area. In addition, 2020 site specific surveys performed by WSP, under contract to GOSR for this project, did not identify the red knot. The consultation completed with USFWS recognized that the species may occur as an occasional transient. Large concentrations for the red knot are not expected, as wide sandy beaches or mudflats with an abundant horseshoe crab egg food source are not present within the project area. This Plan focuses on transient individuals during peak migratory periods to ensure critical foraging behavior is not significantly impacted and which could have a direct impact on an individual's ability to complete a long-distanced migration.

The USFWS Supplement to the Endangered and Threatened Wildlife and Plants; Final Threatened Status Rufa Red Knot (2014) identifies the following critical stop over time periods for long-range migrating individuals along the U.S. Atlantic coast:

- Spring migrants throughout May
- Summer (early fall) migrants starting in mid-July and mostly departed by late September

A review of publicly available data on eBird for all available years at Long Beach and Jamaica Bay show the regional abundance of observations occurring throughout a calendar year (**Table 1**)[1]. Data collected in Jamaica Bay, which represents back bay habitats similar to the project area, demonstrate the seasonality of long migrating individuals. Peak observations are documented in May and August as the region is used by individuals as a critical stop over during long migrations. It is also worth noting that the earliest observation within Jamaica Bay is on April 6. In contrast, the observations at Long Beach along wide and long sandy beaches associated with Atlantic shoreline appear to include transient individuals associated with shorter migrations, and/or year-round residents. Most of these observations reported in **Table 1** are not proximate to the project area and are due east of the Wreck Lead Channel along the eastern extent of the Long Beach Island.

Table 1. eBird Observation Data for All Years of Recorded Data.

Month	Number of Observations	
	Long Beach	Jamaica Bay
January	77	0
February	49	0
March	18	0
April	9	8
May	26	332
June	29	12

[1] Data include all available years as documented in eBird database.

July	9	17
August	22	389
September	27	54
October	22	32
November	21	28
December	23	4

This Plan identifies five pre-determined monitoring locations based upon potential suitable foraging habitat proximate to the proposed project activities (**Figure 1**). Suitable habitat for purposes of this Plan is assumed to be sandy beaches and larger mudflat areas.

3 RED KNOT MONITORING PLAN

A four-step monitoring plan is outlined below that is intended to accurately evaluate the potential presence of migrating red knots within or proximate to the project area at critical periods of the migration period. This Plan has been developed to detail a comprehensive monitoring framework to avoid and/or minimize impact to the foraging behavior of migrating red knots. The time frames for each step are informed by the life history considerations outlined in **Section 2**. The Plan pertains to all periods of the anticipated construction schedule, with the exception of two critical construction considerations outlined in **Section 4**.

Step 1. Database Monitoring of Active Spring Migration

- Occurs from March 15 through April 15.
- Weekly tracking of digital records for spring migratory arrival in the Delaware Estuary (i.e., eBird)
- While recognizing a typical 2- to 4-week foraging period within the Delaware Estuary, utilize real-time records to adjust the start date for Step 2 (Spring Migration Biological Monitoring).

Step 2. Spring Migration Biological Monitoring

- Site monitoring to occur from April 15 through June 1. Start date to be adjusted based on Step 1.
- Includes morning bird surveys every Monday and Wednesday.
- Red knot observation surveys at pre-determined monitoring locations (**Figure 1**) but tailored daily to on-going construction activities. Specifically, pre-determined monitoring locations will be excluded from a daily monitoring event if not proximate to on-going construction activities. Access to monitoring locations will occur by boat.[2]
- Surveys shall take place from ½ hour before sunrise to no later than 10:30 am. Surveys will not delay daily construction activities unless as outlined below.
- At each survey location, the biologist will conduct a 10-minute observation (after an initial 2-minute silent period) to record all visual location specific to red knot or other federal listed species. Data records should include number of individuals observed and behavior observed specific to observed species.

[2] Consistent with previous ecological surveys on the hassocks.

- Photograph documentation of listed bird species as possible.
- Results of surveys to be communicated directly to construction team in field upon completion of surveys and summarized in email by end of each day in which a survey occurs.

Step 3. Summer Migration Biological Monitoring

- Database monitoring (i.e., eBird) to occur from July 1 through July 15
- Site monitoring to occur from July 15 through September 1. Start and concluding date to be adjusted as needed.
- Includes morning bird surveys every Monday and Wednesday. Methods consistent with Step 2.

Step 4. Construction Response if Red Knot Observed

- If a positive observation is made during a monitoring event, then work will be stopped for a minimum of 4 hours within 300-meters of the observed location[3]. For purposes of this Plan, "work" to be stopped is assumed to include activities that utilize motorized equipment or power tools with comparable noise level (e.g., greater than 80 dB) that have the potential to cause auditory disturbances to foraging individuals. This excludes the use of pumping equipment required to dewater active work areas. It also considers the level of ambient background noise in this urban setting (i.e., JFK airport, frequent recreational motorboat traffic).
- Following a positive observation, complete an additional 10-minute survey between 10:30 am to 12:00 pm of same day from the location of observation(s). Surveys will not delay construction activities.
- If positive observation occurs again, then work will be ceased for the day within that 300-meter buffer area. If no observation is made, then work will be continued for the day.
- Site monitoring will occur the following morning at all locations where an observation was made the following day.
- If a positive observation is made at the same location as preceding day, then 300-meter buffer will be maintained for 24 hours. If no observations are made, then work will continue, and monitoring schedule will return to every Monday and Wednesday.
- If any two days of consecutive observation have been made, USACE and USFWS will be notified by email. A call will be tentatively schedule for 3 days from the first observation. A call would be required only if observations are made for 3 consecutive days.
- Site monitoring will occur on the third morning if two consecutive days of positive observations have occurred. If a positive observation is made on the third consecutive morning, then the survey will be extended as necessary (i.e., up to 1 hour) to adequately characterize the frequency and behavior of red knots utilizing this habitat.
- If a positive observation is made on the third consecutive morning, then a 300-meter buffer will be maintained for 24 hours. If no observation is made, then work will continue, and monitoring schedule will return to every Monday and Wednesday.
- On afternoon of day three of consecutive observations, a call with USFWS and USACE will be held to address work stoppages and coordinate with USFWS on potential impacts to red knot. Goal is to identify BMPs or a modification of construction means and methods to minimize and/or avoid impacts, with objective of developing a plan to re-start work activities. The biological monitoring team will provide description of observations to date, as well as other observations. The monitoring team will also summarize planned activities in relationship to the observation locations, expected noise levels associated with these activities, seasonal background noise/activities, and anticipated line of site from construction activities to utilized foraging habitat.

[3] This maximum buffer distance was provided to GOSR by USFWS and used herein. However, future discussions with USACE and USFWS may be appropriate to discuss type of expected activities throughout the long duration project, and potential alternative buffer distances.

- Monitoring and construction will proceed as agreed upon during call with USFWS and USACE, and subsequently documented in email format.

4 CRITICAL CONSTRUCTION ACTIONS

Recognizing a construction schedule that is constrained by the September 2022 federal expenditure deadline, two critical actions have been identified that are specifically addressed by this Plan. Each is summarized below.

Site Laydown and Preparation

Nassau County has committed to installation of marsh mats and any required clearing on the hassocks to occur between December 1 to March 15 consistent with ongoing consultation with New York State Department of Environmental Conservation (NYSDEC). Work stoppages within this initial period would have ramifications for conservation commitments (with respect to tidal wetlands) to NYSDEC as well as overall project schedule. Given the peak spring migratory period for red knot traveling from South America does not occur till May (USFWS 2014, Niles et al. 2008), biological field monitoring will not occur during this time.

Pipe Pull-Back

The pipe pull-back process which typically takes upwards of 48 consecutive hours cannot be halted at any time once started. As such, biological monitoring as described in Step 2 in the monitoring plan will occur on two consecutive mornings prior to initiating the pipe pull-back process if activities are to occur during the defined spring and summer monitoring periods (i.e., April 15 - June 1, and July 15 – October 1). To ensure protection of the red knot, the pipe pull-back process will be initiated only after two consecutive days of negative findings (i.e., no observation of foraging red knots). Biological monitoring will not be completed during the approximate 48-hour pipe pull-back process.

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LEGEND:
- RED KNOT MONITORING LOCATION
- PROPOSED HDD ALIGNMENT
- PROPOSED ACCESS PATH
- PROPOSED PULLBACK AND LAYDOWN AREA
- PROPOSED DRILL SITES

NOTES:
1. AERIAL IMAGERY PROVIDED BY ARCGIS ONLINE 2016 IMAGERY

0 375 750 1,500 Feet

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS
LONG BEACH WATER POLLUTION CONTROL
PLANT CONSOLIDATION PROJECT
CITY OF LONG BEACH AND TOWN OF HEMPSTEAD

RED KNOT MONITORING LOCATIONS

FIGURE
1

APPENDIX A

REGULATORY CORRESPONDENCE PERTAINING TO RED KNOT

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, New York 13045

August 20, 2020

Mr. Matthew Accardi
Assistant General Counsel and Certifying Environmental Officer
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
25 Beaver Street, 5th Floor
New York, NY 10004

Dear Mr. Accardi:

This is in response to the Governor's Office of Storm Recovery's (GOSR) July 27, 2020, request for informal consultation pursuant to the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq) for the proposed project entitled, "Long Beach Water Pollution Control Plant Consolidation Project, Nassau County, NY" and its impacts on piping plover (*Charadrius melodus*; threatened), red knot (*Calidris canutus rufa*; threatened), roseate tern (*Sterna dougallii*; endangered), northern long-eared bat (*Myotis septentrionalis*; threatened), seabeach amaranth (*Amaranthus pumilus*; threatened), and sandplain gerardia (*Agalinis acuta*; endangered). The project is being funded through the Housing and Urban Development Community Development Block Grant – Disaster Recovery as well as other public, State, and Federal funding sources. As noted in your letter, the project is the subject of an Environmental Assessment which is currently being prepared. Federal Emergency Management Agency funding is also being pursued to support implementation of the project in coordination with the New York State Division of Homeland Security and Emergency Services. We understand that GOSR has been designated HUD's non-federal representative for the purposes of completing informal consultation pursuant to Section 7(a)(2) of the ESA.

Project Description

A more detailed project description is provided in your July 27 correspondence and is incorporated by reference here. In summary, the project includes the following components: (1) conversion of the Long Beach Water Pollution Control Plant's headworks and influent pump to a resilient diversion pump station; (2) installation of a 24-inch force main from the diversion pump station to the Bay Park Sewage Treatment Plant (STP); (3) connection from the force main to the existing 66-inch sewer main located west of the Bay Park STP; and (4) hardening of all of Long Beach pump stations, including three satellite pump station facilities, to a 0.2 percent annual chance (500-year) flood elevation.

The project includes hydraulic directional drilling under Black Banks and Pearsalls Hassocks, with equipment set up on the Hassocks and a trestle to span from the mainland to Pearsalls Hassocks in Middle Bay. The portion of this area where construction activities are anticipated to occur is approximately 6 acres (ac), including approximately 4.3 ac of intertidal wetland and 0.5 ac of open water habitat. Construction of the project would last approximately 3 years and is expected to commence in early 2021 and end in late 2023. Installation of the main pipe across the Hassocks would be performed using hydraulic directional drilling and is anticipated to last approximately 17 - 18 months.

GOSR Threatened and Endangered Species Determinations

The GOSR has determined that the proposed project would have no effect on seabeach amaranth, sandplain gerardia, and northern long-eared bats due to lack of supporting habitat and no records of these species being observed in the project area.

The GOSR has determined that the project may affect, but is not to adversely affect, the piping plover, red knot, and roseate tern. While there are mudflats and intertidal areas are present in the proposed project area, the GOSR reports that there are currently no records of these species using the shores around the Hassocks based on limited temporal surveys. The proposed project description includes shorebird monitoring along with a 300 meter buffer zone for red knots during the spring migration period.

U.S. Fish and Wildlife Service Comments

The U.S. Fish and Wildlife Service (Service) acknowledges GOSR's determination that the proposed project would likely have no effect on seabeach amaranth, sandplain gerardia, and northern long-eared bats as described above. Therefore, no further consultation is required for these species.

The Service concurs with the GOSR's determination that the proposed project is not likely to adversely affect the piping plover and roseate tern. However, we recommend that the conservation measures for red knot be expanded to also include fall surveys and buffer zones, if necessary, so we can support a concurrence determination for that species. As noted in the effects analysis, habitat in the project area is present for all three species. Therefore, should new information about these species, or project plans change, additional consultation may be necessary.

The most recent compilation of federally listed and proposed endangered and threatened species in New York is available for your information. Until the proposed project is complete, we recommend that you check our website regularly to ensure that listed species presence/absence information for the proposed project is current.*

Any additional information regarding the proposed project and its potential to impact listed species should be coordinated with both this office and with the New York State Department of Environmental Conservation.

Thank you for the opportunity to coordinate with your office on this consultation. We look forward to working with you to conclude informal consultation for red knots. If you have any questions or require further assistance, please contact Steve Papa of the Long Island Field Office at 631-286-0485 or steve_papa@fws.gov.

Sincerely,

David A. Stilwell
Field Supervisor

*Additional information referred to above may be found on our website at: https://www.fws.gov/northeast/nyfo/es/section7.htm.

Governor's Office of
Storm Recovery

ANDREW M. CUOMO
Governor

August 26, 2020

Mr. Steven T. Papa
United States Fish and Wildlife Service
Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967

Re: Section 7 Project Review
Long Beach Water Pollution Control Plant Consolidation Project, Nassau County, NY
USWFS Consultation Code: 05E1LI00-2020-SLI-0088

Dear Mr. Papa:

The Governor's Office of Storm Recovery (GOSR) submits the below response to your letter dated August 20, 2020 regarding the subject project. Nassau County, in partnership with the City of Long Beach, proposes the Long Beach Water Pollution Control Plant (WPCP) Consolidation Project (the Project). The purpose of the Project is to improve the ecosystems within Nassau County's Western Bays and reduce risk of future direct physical damage and public health impacts in a flood event by eliminating the current discharge from the antiquated WPCP, hardening the remaining pump station as well as the City's three satellite pump stations against storm impacts, and connecting the sewer system serving Long Beach to Nassau County's newly rebuilt Bay Park Sewage Treatment Plant (STP) in Bay Park, for enhanced treatment. The Project would be implemented using Community Development Block Grant – Disaster Recovery (CDBG-DR) funding as well as other public State and Federal funding sources. GOSR, in cooperation with the New York State Housing Trust Fund Corporation (HTFC), is responsible for the direct administration of the HUD CDBG-DR program in New York State and is overseeing the environmental review for the Project. The Project is the subject of an Environmental Assessment (EA) currently being prepared. Federal Emergency Management Agency (FEMA) funding is also being pursued to support implementation of the project in coordination with the New York State Division of Homeland Security and Emergency Services (DHSES).

GOSR originally submitted an informal consultation request letter to U.S. Fish and Wildlife Service – Long Island Ecological Services Field Office (USFWS) on January 15, 2020 to document Project compliance with Section 7 of the Endangered Species Act (ESA), as well as the Migratory Bird Treaty Act (MBTA), the Bald and Golden Eagle Protection Act (BGEPA), and the Fish and Wildlife Coordination Act. GOSR provided more detailed project descriptions in a letters submitted to USFWS on July 27, 2020.

GOSR reviewed the Project's potential to impact the following threatened and endangered species that may occur within the Project area: northern long-eared bat (*Myotis septentrionalis* – threatened); piping plover (*Charadrius melodus* – threatened); red knot (*Calidris canutus rufa* - threatened); roseate tern *(Sterna dougallii* – endangered); sandplain geradia (*Agalinis acuta* – endangered); and seabeach amaranth (*Amaranthus pumilus* – threatened). GOSR acknowledges USFWS's concurrence, as stated in their August 20, 2020 letter, with our determination that the Project would have no effect on sandplain gerardia, seabeach amaranth and northern long-eared bat; and may affect but is not likely to adversely affect piping plover and roseate tern. USFWS's August 20, 2020 letter

recommended that proposed conservation measures for red knot be expanded to include fall surveys and buffer zones, if necessary. The Project will comply with these conservation measures. Surveys for red knot will be conducted in August during the peak of fall migration. Additionally, a qualified wildlife observer would be on-site during construction throughout the spring (February 16th to June 1st) and fall (July 2nd to November 15th) to evaluate the presence of the red knot within the Project Area. These time frames are consistent with the timeframes that the USFWS use for evaluating red knot presence at sites along the entire Atlantic Coast. Should a red knot be observed within the Project area, a 300 meter buffer would be established around all Project-related construction activity near potential foraging habitat to avoid Project-related construction disturbance to red knot until the end of the migration period.

Of note, GOSR recently completed field surveys for listed species within the Project area. No federally listed species, including red knot, were observed during field surveys conducted over four days in April-May 2020 and over two days in mid-August 2020.

With the addition of these conservation measures, GOSR has the determined that the Project may affect, but is not likely to affect red knot. This letter requests acknowledgement from USFWS that they have no objections to this determination. If you have any questions, please feel free to contact me via telephone number (212) 480-6265 or email: Matt.Accardi@stormrecovery.ny.gov. Thank you for your consideration and cooperation.

Sincerely,

Matt Accardi
Assistant General Counsel and Certifying Environmental Officer
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
25 Beaver Street, 5th Floor, New York, New York 10004

SECTION 01610

TRANSPORTATION AND HANDLING OF MATERIALS AND EQUIPMENT

PART 1 – GENERAL

1.1 GENERAL

A. The Contractor shall make all arrangements for transportation, delivery and handling of equipment and materials required for prosecution and completion of the Work.

B. Shipments of materials to the Contractor or Subcontractors shall be delivered to the Site only during regular working hours. Shipments shall be addressed and consigned to the proper party-giving name of the Project, street number and city. Shipments shall not be delivered to the County except where otherwise directed.

C. If necessary to move stored materials and equipment during construction, the Contractor shall move or cause to be moved materials and equipment without any additional compensation.

1.2 RELATED SPECIFICATIONS

A. Section 01620, In-Water Work
B. Section 01500, Temporary Facilities and Controls
C. Section 02050, Demolition, Removals and Modifications
D. Section 02486, Habitat Restoration

1.3 DELIVERY

A. Scheduling and Timing of Deliveries:
   1. Arrange deliveries of materials and equipment in accordance with the accepted Progress Schedule and in ample time to facilitate inspection prior to installation.
   2. Schedule deliveries to minimize space required for and duration of storage of materials and equipment at the site or delivery location, as applicable.
   3. Coordinate deliveries to avoid conflicting with the Work and conditions at the site, and to accommodate the following:
      a. Work of other contractors and Owner.
      b. Storage space limitations.
      c. Availability of equipment and personnel for handling materials and equipment.
      d. Owner's use of premises.
   4. Deliver materials and equipment to the site during regular working hours.
   5. Deliver materials and equipment to avoid delaying the Work and the Project, including work of other contractors, as applicable.

B. Coordinate deliveries to avoid conflict with Work and conditions at site and to accommodate the following:
   1. Work of other contractors, or the County.
   2. Limitations of storage space.
   3. Availability of equipment and personnel for handling products.
   4. County's use of premises.
   5. Site conditions.

C. Do not have products delivered to the Project Site until:
   1. Related Shop Drawings, Samples, and other submittals have been reviewed or accepted (as applicable) by Engineer, including, but not necessarily limited to, all Action Submittals associated with the materials and equipment being delivered.
   2. Manufacturer’s instructions for handling, storing, and installing the associated materials and equipment have been submitted to and accepted by the Engineer in accordance with the Specifications.
   3. Results of source quality control testing (factory testing), when required by the Contract Documents for the associated materials or equipment, have been reviewed and accepted by Engineer.
   4. Facilities required for handling materials and equipment in accordance with manufacturer’s instructions are in place and available.
   5. Required storage facilities have been provided.

D. Have products delivered to the Site in manufacturer's original, unopened, labeled containers. Keep the Engineer informed of delivery of all equipment to be incorporated in the Work.

E. Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment, to permit easy accumulation of parts and to facilitate assembly.

F. Inspection of Deliveries:
   1. Immediately upon delivery, inspect shipment to verify that:
      a. Materials and equipment comply with the Contract Documents and reviewed or accepted (as applicable) submittals.
      b. Quantities are correct.
      c. Materials and equipment are undamaged.
      d. Containers and packages are intact and labels are legible.
      e. Materials and equipment are properly protected.
   2. Promptly remove damaged materials and equipment from the site and expedite delivery of new, undamaged materials and equipment, and remedy incomplete or lost materials and equipment to furnish materials and equipment in accordance with the Contract Documents, to avoid delaying progress of the Work.
   3. Advise Engineer in writing when damaged, incomplete, or defective materials and equipment are delivered, and advise Engineer of the associated impact on the Progress Schedule.

1.4 PRODUCT HANDLING

A. Provide equipment and personnel necessary to handle products by methods to prevent soiling or damage to products or packaging.

B. Provide additional protection during handling as necessary to prevent scraping, marring or otherwise damaging products or surrounding surfaces.

C. Handle products by methods to prevent bending or overstressing.

D. Lift heavy components only at designated lifting points.

E. Materials and equipment shall at all times be handled in a safe manner and as recommended by manufacturer or supplier so that no damage will occur to them. Do not drop, roll or skid products off delivery vehicles. Hand carry or use suitable materials handling equipment.

1.5 REMOVING, HAULING, AND INSTALLING EQUIPMENT AND MATERIALS

A. The Contractor shall inspect all items including all boxes, crates and packages containing equipment and materials for damage that may have occurred during shipment prior to its removal from the truck or other conveyance. Any damage shall immediately be reported to the Engineer. The Contractor shall then carefully remove the equipment and materials from the truck or trucks on which it is shipped. The equipment and materials shall then be transported to the place of installation at the job Site. The Contractor shall be liable for loss or damage that the equipment and materials may receive while being unloaded, transported, stored or installed. The Contractor shall employ competent mechanics experienced in the installation of the types of equipment and materials to be furnished, and shall ensure that all equipment and materials are installed in accordance with the recommendations of the manufacturer. Bolts, nuts and other fastenings shall be furnished by the Contractor, and shall comply with the applicable requirements as specified. Equipment that arrives at the job site during normal working hours shall be unloaded as soon as practicable.

1.6 COORDINATE STORAGE AND INSTALLATION

A. The Contractor shall coordinate storage and installation of new equipment and materials with construction schedule.

B. Store all equipment and materials above the high tide elevation, outside of designated wetland areas and outside of other low-lying areas prone to accumulation of water.

C. Uncovered Storage

1. The following types of materials may be stored outdoors without cover on supports so there is no contact with the ground: reinforcing steel, pre-cast concrete materials, structural steel, Contractor's equipment used to implement the

project, metal stairs, handrails and railings, grating, checker plate, metal access hatches, castings, fiberglass products, rigid electrical conduit, and piping, except polyvinyl chloride (PVC) or chlorinated PVC (CPVC) pipe.

D. COVERED STORAGE

1. The following materials and equipment may be stored outdoors on supports and completely covered with covering impervious to water: grout and mortar materials, masonry units, rough lumber, soil materials and granular materials such as aggregate, PVC and CPVC pipe, sedimentation and erosion control measures, and filter media.
2. Tie down covers with rope or anchor with sandbags, and slope covering to prevent accumulation of water.
3. Store imported loose soil materials and granular materials, with a covering impervious to water, in well-drained area or on solid surfaces to prevent mixing with foreign matter. Place, grade, and shape stockpiles for proper drainage. Install appropriate sediment and erosion control measures around storage of materials.

E. FULLY-PROTECTED STORAGE

1. Store all materials and equipment not named on supports in buildings, trailers or other enclosures that have concrete, wooden, or other appropriate material flooring, roof, and fully closed walls on all sides. Covering with visquine plastic sheeting or similar material in space without floor, roof, and walls is not acceptable. Comply with the following:
    a. Provide heated storage for materials and equipment that could be damaged by low temperatures or freezing.
    b. Provide air-conditioned storage for materials and equipment that could be damaged by high temperatures.
    c. Protect mechanical and electrical equipment from being contaminated by dust, dirt, and moisture.
    d. Maintain humidity at levels recommended by manufacturers for electrical and electronic equipment.

F. HAZARDOUS PRODUCTS

1. Prevent contamination of personnel, storage area, and the site. Comply with Laws and Regulations, manufacturer’s instructions, and Section 01355 Hazardous Materials Control.

G. MAINTENANCE OF STORAGE

1. On a scheduled basis, periodically inspect stored materials and equipment to ensure that:
    a. Condition and status of storage facilities is adequate to provide required storage conditions.
    b. Required environmental conditions are maintained on a continuing basis.
    c. Materials and equipment exposed to elements are not adversely affected.

H. RECORDS

1. Keep up-to-date account of materials and equipment in storage.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

+ + NO TEXT ON THIS PAGE + +

SECTION 01620

IN-WATER WORK

PART 1 - GENERAL

1.1 DESCRIPTION

The project area or work area is defined as within the Limits of Disturbance (LOD) Pearsalls Hassock and South Black Banks Hassock, as noted on the Contract Documents and approved plans, including the Town of Hempstead property landward of the bulkhead along East Rockaway Channel, and the other waterways adjacent the Hassocks. In-water work will be considered work performed in waterways at or below the high tide elevation. Contractor shall provide and maintain methods, equipment, materials, and temporary construction as required to control environmental conditions at the work area and adjacent areas as described in the Contract Drawings and Specifications. Prevent environmental pollution and reduce environmental impacts during, and because of, construction operations during in-water work. Other Sections may also contain specific requirements for environmental protection and best management practices. Those specific requirements are in addition to the requirements presented in this Section. If a conflict arises between the various requirements of the Specifications, the more stringent requirements will apply. Environmental protection requires consideration of potential impacts to water, mudflats, land, fish, wildlife, vegetation, and humans.

1.2 RELATED SECTIONS

1. Section 01040 – Regulatory Requirements
2. Section 01355 – Hazardous Materials Control
3. Section 01356 – Safe and Healthful Working Conditions
4. Section 01500 – Temporary Facilities and Controls
5. Section 02050 – Demolition, Removal, and Modifications
6. Section 02276 – Erosion and Sedimentation Control
7. Section 02486 – Habitat Restoration
8. Section 01590 – Red Knot Monitoring

1.3 REFERENCES

1. Code of Federal Regulations, Title 40 – Protection of the Environment (40 CFR).
   Part 110 – Discharge of Oil
   Part 117 – Determination of Reportable Quantities for Hazardous Substances
   Part 302 – Designation, Reportable Quantities, and Notification.
2. New York State Department of Transportation Standard Specifications (2016).

3. New York State Standards and Specifications for Erosion and Sediment Control (2019).

1.4 QUALITY ASSURANCE

1. Regulatory Requirements: Comply with applicable provisions and recommendations of the following permits:
   a. United States Army Corps of Engineers (USACE) – Section 10/404 Permit NAN-2022-00368-EMI. Issued Date: 4/17/2023; Expiration Date: 4/17/2028. Verification Expiration Date: 3/14/2026.

   b. National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA NMFS) – Essential Fish Habitat Consultation Reinitiation Letter Received: 6/28/2022. Section 7 Endangered Species Act (ESA) Letter Received: 6/30/2022.

   c. United States Fish and Wildlife Service (USFWS) Section 7 Consultation Code: 05E1LI00-2022-SLI-0329. Letter Date: 2/1/2022. Acknowledgement of Receipt: 4/6/2022.

   d. New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) – Consultation & No Effects Letter – Issued 6/3/2022.

   e. Office of Resilient Homes and Communities (ORHC) (formerly the Governor's Office of Storm Recovery (GOSR)) National Environmental Policy Act (NEPA) Finding of No Significant Impact (FONSI)/SEQR Type II Determination. Issued 7/10/2023.

   f. New York State Department of State (NYSDOS) – Concurrence with Consistency Certification. Issued Date: 10/13/2022.

   g. New York State Department of Environmental Conservation (NYSDEC) – Tidal Wetlands Permit 1-2820-05050/00013. Effective Date: 4/18/2023; Expiration Date: 4/17/2028.

   h. NYSDEC Water Quality Certification 1-2820-05050/00014. Effective Date: 4/18/2023; Expiration Date: 4/17/2028.

   i. NYSDEC Excavation & Fill in Navigable Waters. 1-2820-05050/00015. Effective Date: 4/18/2023; Expiration Date: 4/17/2028.

   j. NYSDEC State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction – Activity GP-0-20-001 Notice of Intent (NOI) and Stormwater Pollution Prevention Plan (SWPPP) submitted 6/2022.

k. Town of Hempstead – Stormwater Pollution Prevention Plan (SWPPP) MS4 Signed Acceptance Form Date: 7/27/2022.

1.5 SITE CONDITIONS

1. The in-water work area includes the waters adjacent South and North Black Banks Hassocks and Pearsalls Hassock, including waters in East Rockaway Channel.

1.6 SUBMITTALS

1. Access and Site Preparation Plan: At least 60 days prior to scheduled mobilization, the Contractor shall submit an Access and Site Preparation Plan, which may be a standalone submittal or included as a part of the Contractor's Construction Work Plan. The Access and Site Preparation Plan, at a minimum, will include the following:
   a. Proposed access strategy, including daily launch and mooring locations on the mainland and the two (2) barge landing areas at South Black Banks and Pearsalls Hassocks access path entries.
   b. Proposed plan for the pre- and post-construction bathymetric survey of all construction areas within the limits of disturbance, including where the barges will be temporarily moored at the Hassocks.
   c. Location of temporary access paths and product details on mats used for the access paths.
   d. Proposed support area strategy, including office and sanitary facilities.
   e. Mobilization, preparation, and installation of the onsite controls
   f. Equipment type, size, dimensions, and materials of construction for all system components.
   g. Manufacturer's data and specifications that indicate the type, vendor information, alignment, installation and attachment methods, and inspection plans for each material to be used, including the turbidity curtain.
   h. Maintenance Plan to discuss monitoring and maintenance requirements for system components, inspection schedules, including visual inspection of controls, and care and cleaning of surfaces.
   i. Winterization plan and cold weather/winter operation procedures, as necessary.
   j. Sketch showing the location of the support operations for each hassock and the sequencing of the movement of the support operations (including turbidity curtain) as the work progresses.
   k. A contingency plan for securing or moving operations and support facilities in the event of an upset event (severe storm, flood, etc) that if not implemented could otherwise result in the uncontrolled

discharge of materials to the environment or result in unsafe conditions.

l. Items required by the Project Operations Plan outlined in Section 02050 - Demolition, Removal, and Modifications

2. Results of pre- and post-construction bathymetric surveys.
3. Alternative methods for removing and/or installing piles if such methods become necessary. Contractor will not implement alternative pile installation or removal methods without written approval of the Engineer. If proposed alternative methods become necessary, the Contractor will identify the basis for such request, the number of piles proposed to be removed using the alternative method, procedures to be implemented to mitigate turbidity and disturbance of the sediment, and information regarding equipment to be used in support of the alternative method.
4. The Contractor shall also describe the environmental protection program in submittals required by other sections of the Specifications.

PART 2 PRODUCTS

2.1 TURBIDITY CURTAIN SYSTEM

1. Materials shall meet the following requirements:
   a. Manufacturer's instructions
   b. Design Drawings
   c. New York State Department of Transportation Standard Specifications
   d. New York State Standards and Specifications for Erosion and Sediment Control
2. The detailed components of the turbidity curtain will be the responsibility of the Contractor based on site conditions and operations.

2.2 OIL ABSORBENT BOOM

1. Oil absorbent booms shall be anchored/secured in place inside of the work area and installed such that there are no gaps to allow the potential migration of oils/sheens beyond the boom. Additionally, absorbent booms shall also be used around work vessels transferring sediment and/or debris outside the work area.
2. Oil absorbent booms shall be five (5) to eight (8) inches in diameter.
3. Contractor shall maintain and replace oil absorbent booms as necessary to prevent migration of oils/sheens beyond the boom.

2.3 POLLUTION CONTROLS

1. Provide spill kits and oil-absorbent pads, rolls, and booms (and john boat for measure deployment) as required to contain spills, should they occur, and prevent the potential migration of pollutants in accordance with all

applicable Laws and Regulations. Spill kits shall be located within work areas and dispersed around the site near equipment.

2. Equipment operating on or near the water shall use vegetable oil in place of typical hydraulic fluid to minimize the environmental impacts of spills should they occur.

PART 3 EXECUTION

3.1 SPECIAL CONDITIONS STIPULATED IN REGULATORY PERMITS

1. Construction in-water and within tidal wetlands on Pearsalls Hassock will not occur between January 1 and May 31 consistent with NOAA NMFS consultations..

2. Construction in-water and within tidal wetlands from July 15 to September 1 will require implementation of a red knot monitoring program (Long Beach WPCP Consolidation Force Main, Section 01590 Red Knot Monitoring).

3.2 GENERAL

1. Contractor shall perform pre- and post-construction bathymetric survey of all areas where the construction barges will be temporarily moored at the Hassocks and at least 50-feet beyond where demolition activities are scheduled to occur. The Contractor's pre- and post-construction bathymetric survey will also at minimum include the extent of the limits of disturbance (LOD). Following completion of the work the disturbed areas must be restored to the pre-construction conditions.
2. Contractor shall handle, transfer, dewater, and load excavated material in a manner that is protective of the environment and public health and safety.
3. Contractor shall install all temporary controls required prior to earth disturbing activities in accordance with Section 01500, Temporary Facilities and Controls.
4. Contractor will install the turbidity curtain and the oil absorbent boom around the area to be disturbed and support facilities. The Contractor will be responsible for identifying the location and limits of the turbidity curtain area. The intent is to minimize the area contained by the turbidity curtain during the project to the extent practicable. The Contractor will be responsible for laying out the demolition sequencing, barge movements and supporting facility movement (including the turbidity curtain) to accommodate an efficient demolition of the dock structure and operation of in-water support facilities.
5. Location of temporary support areas shall be subject to review by the Engineer. Contractor's operations and location of temporary support areas shall not interfere with other construction activities within the work area.
6. Any material stored on the Hassocks shall be stored within the limits of disturbance identified on the plans approved by the NYSDEC and USACE

and in accordance with the conditions of the permits issued by those agencies. Storage of material on the Hassocks should be minimized to the extent practicable. Storage of material or equipment below the high tide elevation is prohibited.

7. Any sediment handling on the hassocks for handling, dewatering, and staging the excavated sediment and other construction-related debris/waste material, in accordance with Section 01610 Transportation and Handling of Materials and Equipment, must occur within the LOD identified on the contract drawings.
8. Implement demolition activities in a logical sequential manner that prevents the uncontrolled discharge of hazardous materials or debris to the environment and surface waters. The Contractor will be responsible for the recovery of any debris or materials that enter water bodies. Such recovery will not disturb sediment and will not rely on the use of mechanical dredging techniques.
9. Contractor will use adequately sized equipment to complete the Work. If equipment is not adequate to complete the work, the Contractor will replace the equipment as necessary at no additional cost to the Owner.
10. Install and remove piles in a manner that minimizes disturbance of sediment. Use vibratory methods to install and remove piles rather than by direct pull or clamshell. Remove piles slowly to reduce sediment sloughing off into the water column. If necessary, strike or vibrate the pile to break the bond between the sediment and the pile to minimize potential for pile breakage, and reduce the amount of sediment sloughing off the pile during removal. If a pile breaks above the existing mudline, the pile will be cut-off by the Contractor at the existing mudline. Alternative methods for removing piles will be subject to Engineer's and Regulatory Agency's approval.
11. Place removed piles on a barge equipped with a basin to contain attached sediment and runoff water. The Contractor will be responsible for subsequent characterization and disposal of the attached sediment and runoff water.
12. All in-water equipment (i.e., barges) that may be used during demolition activities will have the ability to keep equipment/materials above the elevation of all stages of the tide (i.e., by remaining afloat).
13. Hollow piles can be used for work barges to tie up for delivery of equipment and supplies. Reduce daily spudding and un-spudding, and disturbance to sediments by using less spuds.
14. Pile installation and low marsh restoration behind existing bulkhead will occur during low tide whenever feasible.

3.3 MARSH OR SWAMP MATS

1. Mats should only be allowed to be placed in NYSDEC permitted areas.
   a. Where feasible, place mats in a location that would minimize the amount needed for the wetlands crossing.

b. Minimize impacts to wetland areas during installation, use, and removal.

c. Minimize number of open water/wetland crossings. Where feasible, locate crossing site where channel is narrow for the shortest possible clear span and where banks are stable and well defined.

2. Install adequate erosion and sediment controls at approaches to mats to promote a smooth transition to, and minimize sediment tracking onto, swamp mats.
3. Mats should be placed so that they maintain and do not restrict the natural flow of the open water channels.
4. More than one layer of mats may be necessary in areas which are inundated or have deep organic wetland soils.
5. Matted wetland crossings should be monitored to assure correct functioning of the mats. Inspect mats after use. Look for any defects or structural problems. Mats which become covered with soils or construction debris should be cleaned and the materials removed and disposed of in an upland location. The material should not be scraped and shoveled into the wetland, channel, or adjacent area. Mats which become imbedded must be reset or layered to prevent mud from covering them or water passing over them.
6. Matting should be removed by "backing" out of the site, removing mats one at a time. Any rutting or significant indentations identified during mat removal should be regraded immediately, taking care not to compact soils.
7. Special precautions should be taken to promptly stabilize areas of disturbed soil located near wetlands and open water channels. Matted areas within wetlands shall be restored to their pre-construction condition and elevation.
8. Restoration of areas where marsh mats are placed within the LOD shall be performed in accordance with Section 02486 – Habitat Restoration
9. Access paths, material storage, pipe laydown and all other areas shown within the LOD on permit plans shall be constructed of swamp mats, crane mats or similar. Size of the mats shall be determined by the Contractor based on selected equipment size and on-site traffic patterns.
10. Mats should be in good condition to ensure proper installation, use and removal.
11. Mats should be interlocking and anchored to prevent movement outside the LOD due to tidal or other forces.
12. Mats should be placed so that they maintain and do not restrict the natural flow of the open water channels.
13. More than one layer of mats may be necessary in areas which are inundated or have deep organic wetland soils.
14. Contractor to provide submittal type of marsh or swamp mats proposed.

3.4 COORDINATION AND NOTIFICATIONS

1. At the pre-construction meeting, the Resident Engineer and the Contractor shall discuss the Contractor's construction operations to develop mutual understandings relative to the environmental provisions required before, during, and after the work.

2. During daily meetings, the Resident Engineer and the Contractor shall discuss daily work items related to the administration of the environmental protection controls. In addition, the weather forecast will be monitored and discussed to identify events that may require implementation of contingency measures.
3. In the event that discharge to a waterway occurs, the Contractor must immediately shut down the operation, determine the extent, and contact the DEC Bureau of Marine Habitat Manager (Andrew.Walker@dec.ny.gov; 631-444-0277) to determine what remedial actions must be taken to contain and clean up the released material. Work can resume only with the authorization of the Marine Habitat Manager.
4. Contractor shall be responsible for coordination with the United States Coast Guard (USCG), Nassau County, and local officials regarding water vessel traffic and bridge operations. Contractor shall also coordinate and maintain communications with local officials, local marinas, and shipping traffic during construction activities for updates on anticipated activities, vessel traffic, bridge openings, and similar.
5. Contractor shall manage in-water activities so as not to obstruct the navigational channel, except as permitted by the USCG in accordance with any safety zone prepared and published in 33 Code of Federal Regulations (CFR) Part 147 and be able to move operations with little notice while eliminating turbidity and sheens transport outside of the work area. Buoys may be installed through the work area to create temporary transit channels and shall be relocated as construction progresses. On-water staging shall be beyond the navigation channel, and the limits of the staging area shall be marked with lighted buoys.
6. Notify Engineer of Record, CM and Nassau County 4 weeks in advance of any planned activity in East Rockaway Channel that would result in a temporary blockage of the navigation channel.
7. Submit Notice to Mariners to USCG at least 14 days prior to start of work that will require in-water work, including the transport of materials, equipment, personnel, etc. Provide a copy of Notice to the Owner and Resident Engineer.

3.5 DELIVERY, STORAGE, AND USE OF EQUIPMENT

1. The barge required for the delivery and storage of equipment and materials must be transported to and from the work area without the need for excavation or dredging within the waterway.
2. The storage of equipment and materials when not in operation shall be limited to on top of marsh mats within the limit of disturbance as shown on the approved plans, on a barge, or upland areas greater than 50 feet from the tidal wetland boundary.
3. Operating heavy equipment in wetlands shall be minimized.
4. Excavation equipment shall be satisfactory for carrying out the work in accordance with the requirements specified. Excavation near sensitive structures such as existing shoreline features or utilities may require use of

low ground pressure equipment or excavation around such features may have to be performed under restricted or limited access conditions immediately adjacent to the feature to avoid excessive surcharge loading on the feature. Hand excavation of material around sensitive features may be required to obtain a satisfactory, undisturbed subgrade.

3.6 ENVIRONMENTAL MEASURES

1. The Contractor shall consider protection of the environment to be of prime importance during the work and shall immediately address spills and releases because of the work.
2. Contractor and Subcontractor employees shall be familiar with and understand the environmental protection program, including the spill prevention and response procedures.
3. The Contractor shall maintain temporary pollution control features installed as part of the work.

3.7 WATER POLLUTION CONTROL

1. The Contractor shall install and operate equipment as outlined in Section 02276 – Erosion and Sedimentation Control to control sheens, turbidity, and resuspension during the in-water work.
2. The Contractor shall control activities, including maintenance procedures, to prevent the entry of petroleum products, debris, rubble, concrete, or other deleterious substances into the waterways.
3. The Contractor shall store oil booms and absorbent materials at the work area for use, as required, to collect and retain oils, grease, and other deleterious substances that may be spilled or released during the work.
4. The Contractor shall not dispose of wastes in storm or sanitary drains. Disposal of wastes into streams or waterways is also prohibited.

3.8 REFUELING

1. The Contractor shall review proposed construction areas to plan access routes and fueling areas.
2. Exercise care in handling fuels to minimize the potential for fuel spills.
3. Areas of equipment refueling, and maintenance shall have double containment and be equipped with adequate containers for the disposal of wastes produced from upkeep and repair.
4. All refueling activities shall comply with United States Coast Guard (USCG) regulations for on-water fuel distribution and storage.
5. Equipment operation shall be suspended during fueling of that piece of equipment. Contractor shall not leave fueling operations unattended.
6. Inspect vessels, vehicles, and equipment each day for leaks. Complete repairs immediately or remove leaking vessels, vehicles, or equipment from the work area.

7. Fueling of equipment must be done in upland areas greater than 100 feet from the tidal wetland boundary whenever feasible. Fueling of equipment may occur in the tidal wetlands within the limits of disturbance inside the project area or on a barge provided the fueling area is contained by hay bales or other approved containment devices. Spills must be prevented from entering the tidal wetlands and/or waterway, and spill protection materials must be available during refueling operations. Should a spill occur, the permittee shall notify the Construction Manager and NYSDEC office of Regional Habitat immediately and shall provide a plan for containment, clean up and restoration of the impacted area for the approval of the department. Fuel storage on the Hassocks will not be permitted.

3.9 SPILL PREVENTION AND CONTROL

1. The Contractor shall adhere to controls as outlined in Section 01495 – Spill Prevention and Control to minimize and control spills during the in-water work.
2. The Contractor shall be always prepared to intercept, clean up, and dispose of any spills that may occur on land or water.
3. The Contractor shall keep materials required to clean up spills (spill kits) readily accessible onsite. At a minimum, spill kits shall be maintained on each piece water-based vessel, at the transloading area, and at the material processing area.
4. The Contractor shall immediately contain and clean up spills of oil, fuel, dredged sediment, and other deleterious substances in accordance with local and federal regulations. Materials used to clean up such spills shall be properly disposed of. Project standdown or delays associated with responding to spills and identifying mitigative measures to prevent the recurrence of a spill will not be considered a project delay or force majeure event.
5. Releases more than reportable quantities established under 40 Code of Federal Regulations 110, 117, and 302 must be reported to the National Response Center (800.424.8802) within 24 hours.
6. The Contractor shall immediately report any spills to the Owner and Engineer and will support reporting the spill to the NYSDEC spill reporting hotline.
7. The Contractor is responsible for any cleanup or repair resulting from spills in a timely manner and at no additional cost to the County.

3.10 FISH AND WILDLIFE PROTECTION

1. In-water work (e.g., backfilling, bank restoration) for protection of fish and wildlife shall be conducted in accordance with the USACE and NYSDEC Permit requirements.

3.11 WASTE MANAGEMENT AND DISPOSAL

1. The Contractor shall comply with applicable local, state, and federal regulations, standards, and guidelines for handling and disposal of solid and hazardous waste.
2. The Contractor shall designate one or more construction waste collection areas onsite and shall have an adequate number of containers with lids or covers for waste. Waste shall be collected from the containers before they overflow.
3. Waste shall be transported and disposed of at an offsite facility approved by the governing authorities in accordance with Section 01610 – Transportation and Handling of Materials and Equipment and 02050 – Demolition, Removals, and Modifications.

3.12 TURBIDITY CONTROL

1. Install turbidity curtain in accordance with:
   a. Manufacturer's instructions
   b. Design and approved shop drawings
   c. New York State Department of Transportation Standard Specifications
   d. As otherwise directed by the Engineer.
2. A filter fabric (turbidity) curtain weighted at the bottom and suspended at the top by floats shall be positioned as close to the site of disturbance as possible without interfering with site activities. . The curtain shall remain in place and in functional condition during all phases of the operation and remain in place until at least 24 hours after sediment disturbing activities within the work area are completed or no visible turbidity is observed inside the area encompassed by the curtain (whichever is longer).
3. Install the turbidity curtain in a manner that adequately encompasses active sediment disturbing activities. The extent of the area encompassed by turbidity curtain will be limited to the extent practicable based on the Contractor's proposed project sequencing and approach.
4. Contractor will adequately anchor and secure the turbidity curtain in a manner that allows it to resist forces during the sediment disturbing activities and project.

3.13 POLLUTION CONTROL

1. Spills and Containment: Provide equipment and personnel to perform emergency measures required to contain spills and or mitigate (e.g., equipment leaks) and to remove impacted soil, sediments, and water.
2. Provide means, methods, and facilities required to prevent contamination of soil, sediment, and water caused by potential discharge of noxious substances from construction operations within work area.

3. No Discharge of Liquids Measures must be put in place to prevent the discharge of any liquid during transportation and temporary storage of the excavated material.
4. Protection of Wetlands. Implement special measures to prevent harmful substances from entering surface waters. Prevent disposal of wastes, effluents, chemicals, and other such substances in or adjacent to surface waters and open drainage routes.
5. Sheen Controls. Provide equipment and personnel to contain sheens that occur outside of the Work Area, adjacent to equipment/vessels staged outside the Work Area, and/or near the gate in the turbidity curtain prior to opening the gate (e.g., via use of oil absorbent booms/pads).
6. Precautions Against Contamination of Waters. All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate, or any other environmentally deleterious materials associated with the project.

3.14 RESTORATION AND MITIGATION

1. Restoration of all disturbed areas must be completed immediately following project completion. Mitigation must also be done to compensate for the temporary and permanent disturbance to the tidal wetlands because of the permitted activity. All mitigation and restoration must be done according to the plans stamped NYSDEC approved.
2. Restore the bay bottom to pre-construction conditions at barge landing locations and other disturbed areas.
3. Restoration and mitigation shall be performed in accordance with Section 02486 – Habitat Restoration; and in accordance with approved plans.

3.15 PROHIBITED CONSTRUCTION PROCEDURES

1. Prohibited construction procedures include, but are not limited to, the following:
   a. Dumping or disposing of spoil material, cleared vegetation, debris, or other waste material in any surface waters, drainage ways, or other unauthorized locations.
   b. Indiscriminate, arbitrary, or capricious operation of equipment in any surface waters, drainage ways, or other unauthorized locations.
   c. There shall be no disturbance to vegetated tidal or protected buffer areas outside of the LOD as delineated on the Contract Documents.
   d. Do not de-stabilize or damage existing bulkheading and/or other shoreline stabilization structures. Ensure that all excavated material is suitably contained and prevented from entering surface waters.
   e. During construction, no wet or fresh concrete or leachate shall be allowed to escape into any wetlands or waters of New York State, nor shall washings from ready-mixed concrete trucks, mixers, or other devices be allowed to enter any wetland or waters. Only

watertight or waterproof forms shall be used. Wet concrete shall not be poured to displace water within the forms.

f. No Interference with Navigation. There shall be no unreasonable interference with navigation by the work herein authorized.

g. During demolition activities, the uncontrolled discharge or entry of debris into the water will not be permitted.

3.16 MISPLACED MATERIALS AND EQUIPMENT

1. If during execution of the Work, Contractor loses, dumps, throws overboard, sinks, or misplaces any material or equipment, promptly recover, and remove the same. Contractor shall give immediate verbal notice, followed by written confirmation, of the description, location, and quantity of such materials to the Owner and Engineer, and shall promptly remove such materials or equipment or mark such obstructions until material or equipment can be removed.

+ + END OF SECTION + +

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SECTION 01710

CLEANING

PART 1 – GENERAL

1.1 GENERAL

A. Execute cleaning, during progress of the Work, at completion of the Work, and as required by the General Conditions, Article GC33, "Cleaning".

B. Requirements of Regulatory Agencies:
   1. In addition to the requirements herein, maintain the cleanliness of the Work and surrounding premises within the Work limits so as to comply with federal, state, and local fire and safety laws, ordinances, codes and regulations.
   2. Comply with all federal, state and local anti-pollution laws, ordinances, codes and regulations when disposing of waste materials, debris and rubbish.

C. Scheduling of Cleaning and Disposal Operations:
   1. So that dust, wash water or other contaminants generated during such operations do not damage or mar painted or finished surfaces.
   2. To prevent accumulation of dust, dirt, debris, rubbish and waste materials on or within the Work or on the premises surrounding the Work.

D. Waste Disposal:
   1. Dispose of all waste materials, surplus materials, debris and rubbish off the Site in accordance with Division 1, 02050, Demolition, Removals, and Modifications.
   2. Do not burn or bury rubbish and waste materials on the Site.
   3. Do not dispose of volatile or hazardous wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
   4. Do not discharge wastes into streams or waterways.

E. Cleaning Materials:
   1. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
   2. Use each type of cleaning material on only those surfaces recommended by the cleaning material manufacturer.
   3. Use only materials which will not create hazards to health or property.

F. During Construction:
   1. Keep the Work and surrounding premises within work limits free of accumulations of dirt, dust, waste materials, debris, and rubbish, in accordance with the General Conditions, Article GC33, "Cleaning."
   2. Keep dust generating areas adequately wetted down to prevent generation of visible dust.

3. Provide suitable containers for storage of waste materials, debris and rubbish until time of disposal.
4. Dispose of waste, debris, and rubbish off Site at legal disposal areas.

G. When Project is Completed:
1. The Contractor shall clean and maintain the Site in accordance with Division 1, Section 01760, Project Closeout.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 01720

PROJECT RECORD DOCUMENTS

PART 1 – GENERAL

1.1 GENERAL

A. The Contractor shall maintain and provide the Engineer with Project record documents as specified below except where otherwise specified or modified in the Specifications or in the General Conditions, Article GC-5, "Drawings and Specifications" and Article GC-36, "Record Drawings."

1.2 MAINTENANCE OF DOCUMENTS

A. Maintain the Contractor's field office in clean, dry, legible condition, complete sets of the following: Contract Drawings, Specifications, Addenda, approved Shop Drawings, Samples, photographs, Change Orders, other Modifications of Contract, test records, survey data, Field Orders, and all other documents pertinent to Contractor's Work.

B. Provide files and racks for proper storage and easy access. File in accordance with the filing format of the Construction Specification Institute (CSI) unless otherwise approved by the Engineer.
   1. Make documents available at all times for inspection by the Engineer and the County representative.
   2. Record documents shall not be used for any other purpose and shall not be removed from the office without the Engineer's approval.

1.3 RECORDING UPDATED INFORMATION

A. General:
   1. Label each document "PROJECT RECORD" in 2-inch high printed letters.
   2. Keep record documents current, and updated at least monthly.
   3. Do not permanently conceal any Work until required information has been recorded.

B. Contract Drawings: Legibly mark to record actual construction including:
   1. Depths of various elements of foundation in relation to datum.
   2. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
   3. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
   4. Field changes of dimensions and details.
   5. Changes made by Change Order or Field Order.
   6. Details, not on original Contract Drawings.

C. Specifications and Addenda: Legibly mark up each Section to record:
   1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
   2. Changes made by Change Order or Field Order.
   3. Other matters, not originally specified.

D. Shop Drawings: Maintain as record documents and legibly annotate Drawings to record changes made after review.

1.4 FINAL SUBMISSION OF RECORD DOCUMENTS

A. Record Drawings:
   1. At the completion of the Work, Contractor shall furnish to the Engineer record drawings two (2) full size paper and on USB one (1) electronic bound AutoCAD drawing set in Release 2012 or later and one (1) compiled PDF set showing the actual in place installation of these items installed under this Contract. The AutoCAD drawings shall conform to the Bay Park Program and specific contract CAD Plans. The Contract Drawings shall be used as a starting point in developing these Drawings. Drawings shall show the Work in plan and sections as required for clarity with reference dimensions and elevations for complete Record Drawings. All Drawings must be submitted for approval of the Engineer. Documentation shall be furnished not later than 30 days after completion of the Work and prior to Final Payment.
   2. Within sixty (60) days of projected substantial completion, the Contractor shall provide a list of as built shop drawings that will be provided as record drawings that show details not provided on the updated Contract Drawings. The list is subject to the approval of the Engineer. The as built shop drawings shall at a minimum as applicable cover:
      a. Schematic (Elementary) Diagrams.

   3. As built shop drawings shall at a minimum be submitted in the same manner as described in Specification Section 01300 Submittals with the following variations:
      a. Submittal number shall have the prefix AB and revision suffix shall restart at A, e.g. AB-15111-001-A.
      b. As built submittals shall be returned only Approved or Not Approved.

B. Submittal:
   1. At completion of Project, deliver record documents to the Engineer.
   2. Accompany submittal with transmittal letter containing:
      a. Date.
      b. Project title and number.
      c. Contractor's name and address.
      d. Title and number of each record document.
      e. Certification that each document as submitted is complete and accurate.
      f. Signature of the Contractor, or his authorized representative.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

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SECTION 01760

PROJECT CLOSEOUT

PART 1 – GENERAL

1.1 FINAL CLEANING

A. At the completion of the Work, the Contractor shall remove temporary structures, facilities, access paths installed by the Contractor, construction signs, tools, scaffolding, materials, supplies and equipment which he or any of his Subcontractors may have used in the performance of the Work.

B. The Contractor shall broom clean paved surfaces and rake clean other surfaces of grounds.

C. The Contractor shall thoroughly clean all materials, equipment and structures; all marred surfaces shall be touched up to match adjacent surfaces; repair damaged structure or facilities to remain as required.

D. The Contractor shall remove dirt, debris, rubbish, construction equipment and tools and unused materials.

E. The Contractor shall maintain cleaning until Project final completion.

1.2 INSPECTIONS

A. At the time of substantial completion an inspection shall be held in accordance with the requirements of the Agreement, Article XXXVI, "Substantial Completion Payment". At this time the Contractor shall also provide all necessary documentation as required by the above referenced Article.

B. At the time of completion of all the Work a final inspection shall be held in accordance with the requirements of the Agreement, Article XXXVII, "Final Payment". The Contractor shall also provide all necessary documentation as required by the above referenced Article and comply with all the requirements of the General Conditions, Article GC-38, "Project Closeout".

C. Follow-up Inspection:
   1. At the time of the completion of the guarantee period as specified in the Agreement, Article XX, "Maintenance and Guarantee," the Engineer will make arrangements with the County and the Contractor for a follow-up inspection and will send a written notice to said parties to inform them of the date and time of the inspection.
   2. After the inspection, the Engineer will inform the Contractor of any corrections required.
   3. When the corrections have been satisfactorily completed, the Engineer will forward a certificate for the release of Bonds.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

+ + END OF SECTION + +

SECTION 02050

DEMOLITION, REMOVALS, AND MODIFICATIONS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. Provide all supervision, labor, materials, tools, and equipment, including incidentals, necessary for the demolition work specified herein. The demolition work generally consists of:
      a. Removing and disposing of existing structures as shown on the Design Drawings.
      b. Segregating, processing, downsizing, stock piling/staging, handling, labeling, and containerizing for off-site disposal of building demolition debris/other waste materials and recyclable metals generated as a result of the demolition/removal activities.
      c. Separately removing, handling, and staging all materials identified as potentially asbestos-containing material (ACM), PCB-impacted, TSCA-regulated, and/or RCRA hazardous for subsequent waste characterization sampling (if necessary) and to facilitate proper offsite disposal.

   2. Acquire all applicable licenses, permits, and provide all applicable notifications required for performance and completion of the Work specified in this section.

   3. Perform all work in accordance with all federal, state, and local codes, permits, approvals, and requirements (Section 01040).

   4. Design and implement best management practices, approved by the Owner and Engineer, and in accordance with applicable laws and regulations, that are intended to prevent demolition debris from impacting adjacent water bodies, protect site workers and avoid impacting the hassock.

B. Coordination:
   1. Review procedures under this and other Sections and coordinate Work that must be performed with or before demolitions and removals.

   2. Confirm that other environmental monitoring and protection measures are in place prior to initiating demolition activities.

1.2 QUALITY ASSURANCE

A. Regulatory Requirements:
   1. Laws and Regulations applying to the Work under this Section include, but are not limited to, the following:

a. 29 CFR 1910.251 through 29 CFR 1910.255, Subpart Q – Welding, Cutting, and Brazing.
b. 29 CFR 1926.350 through 29 CFR 1926.354, Subpart J – Welding and Cutting.
c. 29 CFR 1926.850 through 29 CFR 1926.860, Subpart T – Demolition.
d. 12 NYCRR 23-1.25, Welding and Flame Cutting Operations.
e. 12 NYCRR 23-3.1 through 12 NYCRR 23-3.3, Subpart 23-3 – Demolition Operations.
f. 16 NYCRR 753, Protection of Underground Utilities.
g. 17 NYCRR Chapter V, New York Supplement

2. Permits and approvals for demolition, removal, abandonment, and disposal Work.
3. Comply with requirements of authorities having jurisdiction.

1.3 SUBMITTALS

A. Action Submittals

1. Demolition Plan: Submit a Demolition Plan to the Design Engineer of Record for review not less than 21 days prior to starting demolition Work. The Demolition Plan must detail the approach for performing a safe and controlled demolition in a manner that meets the project objectives in accordance with applicable laws and regulations and must be of sufficient detail to allow for a meaningful evaluation of the proposed building demolition methods. The Demolition Plan must, at a minimum, include the following:
   a. Discussion and drawings of site preparation including location(s) and layout for hassock-based operations and land-based support and operations; material staging areas; locations and methods for protecting underground and overhead utilities; on-site and off-site signage, or other devices for the control and protection of traffic and workers; material laydown areas; decontamination areas; employee parking and site access; location and details regarding temporary support facilities (e.g., trailers and temporary sanitary facilities, generators, etc); temporary barricades/fences to be used to protect the public from site activities; tree and brush clearing procedures/equipment; hassock landing details and disturbance; and personnel, equipment and material movement. A site figure will be included to show the site layout and these features.
   b. Identify pre-demolition activities including:
      1) Approach for collecting survey data of the existing site topography and features and any proposed material characterization to accommodate offsite disposal.
      2) Approach and equipment to be used to remove existing chain link fence and clear trees and/or vegetation to accommodate the demolition activities.
      3) Approach and equipment to be used to install and maintain protection of utilities, temporary facilities and controls, securing the site, and environmental controls.
      4) Approach and equipment to be used for demolition activities.

5) Measures to be deployed to prevent demolition debris from entering the adjacent waterbodies or impacting the environment during demolition activities and during upset events (such as large storm/flooding events). Include manufacturer cut sheets, sketches, and descriptions of the system (including materials), pre-engineered systems, or other systems proposed. Include a detailed description of the means and methods for deploying and implementing protective measures.
6) Approach, procedures, and materials to existing site features not included in project activities.

c. Description of the removal, handling, management, and disposal methods for ACM, RCRA hazardous material, TSCA-regulated material, and debris.

d. Detailed discussion (identifying the means and methods) of proposed phasing/ sequencing of the demolition activities including the identification of and supporting rationale and calculations for establishing Active Demolition Zones (ADZs) for each phase of demolition. ADZs are intended to represent areas that cannot be safely occupied by personnel and may change as the demolition efforts are advanced. Clearly identify the ADZ and when changes to the ADZ would occur (if changes to the ADZ are expected during the project). Account for the conditions observed during the engineering survey, conducted in Part 3.02.A of this Section.
1) Include details regarding the sequential demolition of the structures in a controlled, logical manner that maintains structural integrity, achieves the project objectives, protects facilities to remain (such as the existing wooden bulkhead) and effectively allows for the removal and segregation different waste streams.
2) Identify measures and best management practices to prevent debris from entering adjacent water bodies or impacting the environment.
3) Identify approach to minimize quantity, occurrence of, and time associated with debris accumulation on concrete floor slabs.
4) Include a description and manufacturer's information regarding equipment and attachments.
5) Identify approach to gaining temporary access to the hassock.
6) Identify approach for demolishing structures over water, including providing a detailed layout of the demolition sequencing, on-water support facilities, limits of turbidity curtain during project phases, and material handling and management approach.
7) Provide details for any materials, equipment, and approaches to be used (including temporary bracing).
8) Identify control systems/measures to mitigate the generation of visible airborne dust and debris.
9) Discussion of measures to be used to protect adjacent structures/features that are not scheduled for demolition under the Contract Documents and that must be protected.
10) Description of approach to demolish the Powerhouse main floor slab/foundation and penstock outfall pipes (if necessary). Include a

description of equipment/ attachments, means of access, and material demolition/removal approach.

2. Demolition Waste Management Plan presenting a detailed discussion of procedures regarding waste management including:
   a. List of anticipated waste streams, projected volumes, and required characterization sampling to facilitate disposal.
   b. Detailed description of methods, materials, equipment to be used to separately segregate, handle, stage, and containerize waste to facilitate proper disposal while maximizing recycling.
   c. Description of methods and materials to be used to construct staging areas and a figure showing the location and configuration of staging areas.
   d. Description of methods and a figure showing the handling and transfer of materials for offsite recycling and disposal.

B. Information Submittals
   1. The names, qualifications, and certifications of personnel involved in the demolition and waste handling activities.
   2. Copies of all permits and notifications.

PART 2 – PRODUCTS (NOT USED)

PART 3– EXECUTION

3.1 SPECIAL CONDITIONS STIPULATED IN REGULATORY PERMITS

A. All special conditions associated with regulatory permits/coordination letters as documented in Section 01040 shall be adhered to by selected Contractor.

3.2 GENERAL

A. Inspect all equipment used for demolition or handling/processing of debris on a daily basis and address any noted issue prior to use. All equipment operating on the hassocks or on or near water will use vegetable oil.

B. Protect all existing site features not scheduled for demolition (including utilities) from damage.

C. Secure all necessary permits and provide necessary notifications prior to initiating demolition activities.

D. Contractor will be responsible for providing adequate means of transporting project personnel (including the Owner, Engineer, and regulators) to and from the hassocks and the mainland.

E. Contractor will maintain radio communication with the mainland, Owner and Engineer at all times during the project.

F. Maintain all equipment and attachments in accordance with the manufacturer's recommendations and retain copies of equipment maintenance logs at the site.

G. Provide dedicated spotters for all equipment movement and operation including tipping of boxes and lifting or rigging loads throughout the project.

H. Provide traffic control, as necessary.
   1. Traffic control may consist of furnishing, installing, maintaining, and/or relocating necessary traffic signs, barricades, lights, signals, pavement markings, and other traffic control devices necessary to ensure the safety of the general public and project personnel. The Work will include flagging to guide traffic on public roads near the site that are used by trucks associated with the project (e.g., equipment being delivered, waste transport away from the site).
   2. Conduct operations to achieve minimal interruption in the use of the roads, highways, and waterways utilized for project activities. If necessary, coordinate with local police and municipal agencies.
   3. Coordinate all Work with the local and state transportation agencies, as appropriate, and perform in accordance with the Contract Documents, the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD; United States Department of Transportation 2009), and 17 NYCRR Chapter V (New York Supplement to the MUTCS; New York State Department of Transportation 2010).

3.3 DEMOLITION

A. Prior to initiating demolition operations, conduct an engineering survey of the structure and all adjacent areas that may be affected by Work activities using a competent person to determine structural integrity and the condition of the buildings/structures/areas and the possibility of unplanned collapse. Consider the structural integrity of the building/structure and of adjacent structures/areas at all times during the Project taking into account, without limitation, changes to the structural support of the building as demolition activities proceed and potential changes in dead and live load conditions (e.g., vibration, impact, hydraulic, wind, snow, rain).

B. Do not commence demolition operations until all hazardous, TSCA-regulated, and/or ACM abatement work has been completed and all other prerequisite work has been completed including utility disconnects, installing protective measures to manage debris, erosion and sediment control and protect existing facilities, etc.

C. Take all necessary and appropriate precautions to establish a safe working environment.

D. Install temporary protective measures using best management practices. Such measures will include systems to prevent debris from falling into adjacent water bodies or otherwise impacting the environment.

E. Proceed with demolition work only upon receipt of written approval from the Engineer.

F. Conduct demolition activities in accordance with:
   1. The Contract Documents including the Demolition Plan to be prepared by the Contractor and approved by the Engineer.
   2. OSHA regulations contained in 40 CRF 1926 Subpart T – Demolition, which includes requirements for conducting a pre-demolition engineering survey.
   3. All applicable laws and regulations.
   4. Project permits.

G. Wrecking balls or explosives of any type are not permitted.

H. Demolish and remove the existing structures in a controlled and sequential manner to prevent debris falling or otherwise migrating outside the limits of disturbance or into adjacent water bodies.

I. Projectiles
   1. Implement demolition activities in a sequence and using methods as necessary to dissipate excessive energy/tension that may be stored/created in structural components, including structural steel, support timbers, and other components prior to cutting or otherwise separating such components; and to ensure that the structure components do not move outside of the work area or do not move in an unanticipated or uncontrolled manner. Furnish temporary bracing or other means necessary to provide a safe and controlled demolition of the structure. Minimize the potential for a "spring action" response and, in turn, minimize the potential for demolition-related projectiles (e.g., pieces of steel, brick, wood, or other material being ejected as a result of releasing excessive energy from a structural member being cut/demolished) or otherwise put in motion beyond the work area limits.
   2. Calculate and implement ADZ(s) to prevent property and/or equipment damage and personal injury from demolition-related projectiles.
   3. Utilize appropriate shields or barriers (to the satisfaction of the Owner and Engineer) for any operations where the potential for demolition-related projectiles cannot be eliminated.

J. Conduct demolition activities at a rate to safely and fully control and perform all related support activities (e.g., material sizing, processing, staging, loading, transport, stockpiling, etc.). Should the rate of building demolition exceed the Contractor's ability to perform the necessary support activities, the Owner or Engineer may direct the Contractor to take one or more mitigating steps including, but not limited to: extended work hours; mobilizing additional equipment to process and transport materials; reducing the rate of building demolition, etc.

K. Implement demolition activities and deploy measures in a manner that prevents debris from falling into adjacent water bodies or otherwise impacting the environment in accordance with the Contractor's approved Demolition Plan and to the satisfaction of the Owner, Engineer, and regulators with jurisdiction.

L. Implement demolition activities in a manner that minimizes, or avoids storage of materials on the hassocks and allows for the timely removal of any materials and equipment prior to potential upset events (such as storms, floods, etc). Such measures are necessary to protect the environment during the demolition activities.

3.4 DEMOLITION MATERIAL HANDLING

A. Transport demolished material to designated material staging areas as necessary prior to transport to transfer facilities for subsequent offsite disposal and recycling. Segregate clean material, ACM, RCRA hazardous, and/or TSCA-regulated materials.

B. Downsize demolition debris as necessary for off-site transportation and disposal/recycling purposes, place into Contractor-provided waste containers for movement to a land-based transfer facility for placement into a Contactor-provided vehicles or waste containers and manage in accordance with the Specifications and applicable Laws and Regulations. Manage demolition debris in a manner which prevents airborne particulates and migration of water that comes into contact with demolition debris beyond any temporary material staging area limits. Cover and secure all waste containers and staging areas (using covers/tarps appropriate for each roll-off/container) when not actively managing material staging areas, during non-working hours, weekends, and holidays.

C. Take provisions to prevent and address, to the satisfaction of the Owner and Engineer, any tracking of materials off-site. All equipment leaving the site at all times must be cleaned on the decontamination pad, as needed, and in accordance with the Contractor's HASP, to prevent mud, dirt, and/or debris marks in roads beyond the site limits. If any mud, dirt, and/or debris are identified on roads or any offsite areas in the immediate vicinity of the site, clean the area upon notification at no additional cost to the Owner.

3.5 DEMOLITION DEBRIS RECOVERY

A. Any debris that falls into the water, will be recovered by the Contractor at no additional cost. If directed by the Owner and Engineer, the Contractor will conduct post-demolition video reconnaissance to document and confirm the debris recovery efforts. Any debris recovery efforts will minimize disturbance of sediment, will include encompassing the area with a turbidity curtain, and will be conducted to the satisfaction of the Owner, Engineer, and regulatory agencies with jurisdiction.

3.6 PROTECTION OF EXISTING FACILTIES

A. Perform all Work in a manner so as not to cause damage to existing site features or the public in general.

B. Provide measures as necessary to protect neighboring structures and features.

C. Promptly repair all damaged utilities/structures (above-, at-, or below-grade) that are not scheduled for demolition under the Specifications to the satisfaction of the Owner at no additional cost to the Owner.

D. Furnish all signs, railings, barricades, and other items as necessary to meet safety regulations. Adequate protection of persons and property must be provided at all times.

3.7 NUISANCE CONTROL

A. Erosion and Sediment Controls
   1. Implement temporary erosion and sedimentation controls in accordance with Section 02276—Erosion and Sedimentation Controls, the Stormwater Pollution Prevention Plan, and the Contract Drawings.
   2. Demolition debris must not migrate beyond the work area limits.
   3. If debris does migrate beyond the work area limits, the Contractor must collect the debris without disturbance to the area at no additional cost to the Owner.

B. Dust
   1. Implement dust controls in accordance with Section 01355 Hazardous Materials Control, Section 01356 Safe and Healthful Working Conditions, Section 1500 Temporary Facilities and Controls, the Contract Drawings, and as otherwise required by the design. —

C. Noise
   1. Implement noise controls in accordance with Section 01355 Hazardous Materials Control, Section 01356 Safe and Healthful Working Conditions, Section 1500 Temporary Facilities and Controls, the Contract Drawings, and as otherwise required by the design.

3.8 DEMOLITION DEBRIS CONTROL

A. General:
   1. Provide means, methods, and facilities required to prevent demolition debris generated during the Work from leaving the limits of disturbance.
   2. If Contractor's means, methods, and facilities are unsuccessful in preventing demolition debris from leaving the limits of disturbance as specified in this Section, work will be suspended until appropriate corrective actions are taken by the Contractor to remedy the situation to Engineer's satisfaction. Owner will not be liable for any expense or delay resulting from Contractor's failure to control demolition debris in accordance with this Section.
   3. Include appropriate means and methods for transporting debris and materials over water using appropriate containers and methods to avoid debris from falling from transport boats and barges.

B. Overwater Demolition:
   1. Implement overwater demolition activities in a manner that prevents debris from falling into the water.
   2. Provide, install, and maintain debris capture systems (such as bridge netting, etc) as necessary to provide secondary measures to prevent debris from falling into the water.

3.9 RESTORATION

A. Upon completion of the demolition and removal Work, perform regrading and backfill activities in accordance with Section 02486—Habitat Restoration.
B. Remove temporary systems and controls pursuant to the design documents and permit requirements.

+ + END OF SECTION + +

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SECTION 02050A

REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING MATERIALS

PART 1 – GENERAL

1.1 DESCRIPTION

A. As described in the Hazardous Materials Survey and Building Characterization Report,, asbestos-containing material (ACM) containing greater than 1% asbestos was observed in the Control Structure, Generator Building, and Terminal and Odor Control Vault. ACM containing less than 1% asbestos was observed in the Control Structure and Terminal and Odor Control Vault. Exterior siding, door caulk, and window glazing in the Control Structure were identified as friable.

B. Scope:
   1. Provide all labor, equipment, materials, services, training, insurance, regulatory notifications (including permits, work plans, etc.) and services necessary for the removal, segregation, handling, containerization, and proper disposal of all ACMs at the Site. Work shall be performed in accordance with all applicable Laws and Regulations.
   2. Verify all existing field conditions including, but not limited to, type, condition, quantities, and locations of ACMs present. No additional compensation or contract time shall be granted to the Contractor for the abatement of ACM included in the survey and within 10% of the quantity stated in the asbestos surveys.
   3. Conduct all personal air monitoring during asbestos abatement activities.
   4. Conduct all abatement Work in accordance with this Section and applicable federal, state, and local regulations.

C. Coordination:
   1. Notify the Engineer and the Owner prior to applying for any project-specific variance associated with abatement of ACM.

1.2 QUALITY ASSURANCE

A. Qualifications:
   1. The Contractor performing the asbestos abatement work shall be licensed to perform asbestos removal operations in the State of New York.
   2. The Contractor's Asbestos Supervisors and/or Asbestos Workers shall have a current certification by the New York State Department of Labor.

B. Regulatory Requirements:
   1. USEPA National Emissions Standards for Hazardous Air Pollutants (NESHAP) Asbestos (Part 61 Subpart M of Title 40 of the Code of Federal Regulations [40 CFR 61 Subpart M]).

2. OSHA Safety and Health Regulations for Construction – Asbestos (29 CFR 1926.1101), OSHA Occupational Safety and Health Standards – Asbestos (29 CFR 1910.1001).
3. Asbestos Worker Protection (40 CFR Part 763), and New York State Department of Labor regulations presented in 12 NYCRR Part 56.

1.3 SUBMITTALS

A. Action Submittals:
1. Asbestos Abatement Plan: Include the following information:
   a. A detailed approach for completing asbestos abatement activities based on all available information and all applicable laws and regulations.
   b. A list of equipment and materials.
   c. Detailed methods for removal of ACMs.
   d. Control systems/methods for prevention of visible emissions to be implemented during abatement and removal activities, including but not limited to dust and flying debris.
   e. The methods to be used for on-site management and off-site disposal of ACM removed as part of the Work.
   f. Manufacturer's certification that all respirators to be used are National Institute for Occupational Safety and Health (NIOSH)-approved.
   g. Product specifications for all other ACM abatement supplies and equipment to be used.
   h. A contingency plan for removing any ACMs that may be encountered during implementation of the Work.
   i. Proposed waste transporter and disposal facility.
   j. Copy of the Contractor's Respiratory Protection Program.
2. Notifications: Fourteen (14) working days prior to proceeding with asbestos abatement, submit the following documents:
   a. Copy of the State of New York Notification of an Asbestos Abatement Project, as required, and a copy of the certified check associated with the notification fee.
   b. Copy of the State of New York Notification of an Asbestos Abatement Project , in accordance with 40 CFR Part 61.145(b).

B. Informational Submittals:
1. Subcontractor information:
   a. Name of any Subcontractors to be used for the Work, including their qualifications, licenses, locations of origin and descriptions of the project assignments. Provide proof of identity and U.S. Employment Eligibility for each employee.
   b. The names, qualifications, and certifications of the designated on-site asbestos abatement supervisor responsible for on-site supervision of the abatement work and the primary contact during performance of the Work.
   c. Copies of valid asbestos worker and/or asbestos supervisor certificates and/or licenses for all personnel engaged in the ACM abatement activities.

d. Proof of appropriate employee training or accreditation acceptable to agencies with jurisdiction over the Site.
e. Copies of licenses and certifications for any ACM laboratory that may be used to analyze any additional ACM sampling by the Contractor.
f. Copies of respirator fit test records and if negative pressure respirators are to be utilized, verification that workers have been medically cleared for their use.

2. Disposal documentation: Contractor will provide the County and Engineer with final waste disposal documentation. Such documentation will comply with Federal, State and Local requirements.

PART 2 – PRODUCTS

2.1 MATERIALS AND EQUIPMENT

A. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the work area in a manner which will not interfere with the operation of others at the Site, or employee's access and safety.

B. Damaged or deteriorated materials shall not be used and shall be promptly removed from the premises. Materials that become contaminated with asbestos-containing material shall be thoroughly cleaned, or sealed in plastic bags or sheeting, labeled, and legally disposed of in an approved waste handling and disposal facility.

C. All materials and equipment shall comply at a minimum with all sections of this specification, applicable federal, state, and local codes, and industry standards.

2.2 ABATEMENT EQUIPMENT AND SUPPLIES

A. Provide United States Department of Transportation- (USDOT) -approved containers for containerization of materials generated during the ACM removal Work.

B. Larger containers must meet applicable New York State and UUSDOT requirements and be lined with two (2) six-mil (0.006 inch thick) pre-formed polyethylene liners, or equivalent, by the Contractor. Liners must also be of sufficient size do that they can be sealed across the top of the load when full. Each container must be in good condition with no holes or rusted areas. Containers must be hard wall, water-tight, and lockable with no visible emissions. No open containers will be permitted on-site (e.g., open with canvas cover, etc.). While on-site, mark containers with danger labels.

PART 3 – EXECUTION

3.1 GENERAL

A. At a minimum, provide all workers with a full or half face piece respirator which is approved by NIOSH/MSHA for protection against airborne asbestos and meets the requirements of the OSHA Asbestos Standard. Minimum respiratory protection required shall be compliant with current OSHA regulations including Title 29 CFR 1926.1101.

B. Personnel shall wear and utilize protective clothing and equipment. Eating, using chewing tobacco, drinking, chewing gum, smoking, or applying cosmetics in the regulated area(s) is not permitted. Personnel of other trades shall not be exposed at any time to airborne asbestos at regulated concentrations.

C. Bear all costs associated with training, licensing, notifications and all other fees related to the Contractor's ability to perform the Work specified under this task.

3.2 REMOVAL

A. The Contractor shall remove all friable and non-friable ACM present at the Site. Perform the abatement Work in accordance with all applicable Laws and Regulations governing asbestos removal work in effect at the time of Contract award.

B. During and following the removal activities, the Contractor containerize and place the removed ACMs into a temporary staging area(s) or USDOT-approved containers. Construct staging area(s), if used for ACM debris, in accordance with all applicable local, state, and federal regulations, standards and codes to shelter the asbestos-containing waste from the elements (e.g., wind, precipitation, and surface water runoff).

C. Contractor will minimize the amount and duration of ACM storage on the Hassocks to the extent practicable. The Contractor will be solely responsible for adequately protecting any ACM being staged and/or stored.

D. The Contractor shall be responsible for all demolition work required to properly access and abate all ACMs including all means and methods for proper dismantling of, building components, and other structures as necessary to complete the abatement. The Contractor shall be responsible for properly moving all non-asbestos demolition debris out of the work area to allow for asbestos abatement to be properly performed. All asbestos waste shall be disposed of off-site immediately following removal.

3.3 AIR QUALITY MONITORING

A. Conduct all personal air monitoring as described in the Asbestos Abatement Plan to be prepared by the Contractor and as required by applicable Laws and Regulations in place at the time of Contract award.

B. If during removal activities, air quality regulatory levels, as defined in the Contractor's Asbestos Abatement Plan are exceeded, immediately notify the Engineer and take all appropriate measures to reduce the concentration of airborne asbestos (e.g., wetting), as described in the Asbestos Abatement Plan, at no additional cost to the Owner.

C. Provide electrical power and water as required to support implementation of the abatement and air monitoring activities.

3.4 QUALITY CONTROL

A. The Contractor shall be responsible for achieving post-abatement clearance criteria (where applicable).

B. Should the work area fail the clearance testing, the Contractor shall perform additional cleaning and decontamination of the work area at no additional cost to the Owner. The Contractor shall pay for all additional cleaning, testing, and inspections until the clearance is achieved.

3.5 WASTE TRANSPORTATION AND DISPOSAL

A. The Contractor shall be responsible for proper storage, loading, rigging, transportation and disposition of all asbestos-containing waste generated during implementation of the Work. Dispose of all asbestos-containing waste at disposal facilities subject to review and approval by the Owner and/or Engineer.

+ + END OF SECTION + +

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SECTION 02050B

REMOVAL AND DISPOSAL OF PAINT CONTAINING LEAD,OTHER HEAVY METALS AND/OR PCBS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
1. Provide all labor, materials, equipment, and incidentals as specified and required to remove from the site and dispose of loose paint-containing debris associated with the structures subject to demolition. The Work will be performed in accordance with laws and regulations and includes, but is not limited to, removing, handling, segregating, temporary storage (as necessary), loading, transporting, and disposing of all loose, flaking, peeling, and or separated paint/primer from all interior and exterior surfaces at the Site. Material shall be properly containerized and disposed of at approved facilities.
2. Assume all paint, painted surfaces, and painted materials/equipment contain heavy metals (i.e., lead, cadmium, chromium) and handle and dispose of as specified herein. Paint chips and debris, unless tested for heavy metals and PCBs, is assumed to contain greater than or equal to 100 milligrams per kilogram (mg/kg) lead, and to contain greater than or equal to 50 mg/kg PCBs and is considered to be a PCB hazardous waste and a hazardous waste for lead, until Contractor testing results provide clarity. Requirements of Specification Section 02050C – Removal and Disposal of Material Containing PCBs must also be met.
3. All loose and/or flaking paint or paint chips (if any) will be removed and containerized prior to demolition. in accordance with Parts 3.1 and 3.2 of this Section.
4. The Work includes handling, segregating, temporary storage as necessary, loading, transporting, and disposing of loose paint, dust, dirt debris, and all other materials that contain loose paint at appropriate facilities in accordance with federal, state, and local regulations.

B. Coordination:
1. Review procedures under this and other Sections and coordinate Work that must be performed with or before paint handling, removal, and disposal Work.
2. Contractor shall coordinate with all other Work associated with the Project in accordance with the Technical Drawings and Specifications.

1.2 DEFINITIONS

A. Loose paint – flaking, peeling, separated paint that is not properly adhered to a substrate to which it was originally applied. This includes peeling/flaking paint

that is partially attached to substrate surface(s), and paint that has been separated from substrate surfaces(s) to which it was originally applied.

B. PCB Hazardous Waste is defined as any waste material that contains 50 mg/kg or greater PCBs or that must be managed as if the material contains 50 mg/kg or greater PCBs.

1.3 QUALITY ASSURANCE

A. Qualifications
   1. Contractor and all Contractor Parties shall be required to comply with all aspects of OSHA 29 CFR 1926.62 “Lead in Construction Regulations” with regards to disturbance of these materials when performing their Work.

B. Regulatory Requirements:
   1. RCRA and TSCA regulate the generation, usage, storage, transport, treatment and disposal of lead-containing and PCB waste materials. The New York State Department of Environmental Conservation (NYSDEC) also regulates PCBs through its Hazardous Waste Management System, pursuant to the New York State Environmental Conservation law.
   2. NYSDEC regulations have classified waste material that contains 50 mg/kg or greater of PCBs (or that must be managed as if the material contains 50 or greater PCBs) as a PCB hazardous waste, excluding small capacitors and drained PCB articles, that is, oil filled electric equipment that contained between 50 and 500 mg/kg PCBs before draining. NYSDEC has designated PCB wastes (including certain types of scrap PCB filled equipment) as hazardous waste and requires that PCB hazardous waste be managed as any other type of hazardous waste. The USDOT regulations also apply to the shipment of PCB wastes from generators to disposal facilities.

1.4 SUBMITTALS

A. Loose Paint Waste Disposal Plan: Submit a plan for disposing of loose paint waste within 14 days prior to removing any loose paint from the site. The plan shall include the following:
   1. Contractor’s proposed equipment, materials, and methods.
   2. Methods for on-site management of PCB and/or lead-containing wastes.
   3. Procedures for separating lead-containing waste, including sizes of containers, container labeling, and designated location at the site where materials will be separated and stored.
   4. Personnel and equipment decontamination methods.
   5. Facility(ies) proposed for disposal of materials and documentation of their ability to accept the waste.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 GENERAL

A. Due to the age of the building and previous waste characterization, Contractor shall assume all painted surfaces subject to demolition to be lead containing with elevated levels of PCBs and shall comply with this Work Task and OSHA Regulations accordingly. The Contractor shall review available characterization data and implement appropriate worker safety precautions and engineering controls to protect its workers, the building, and environment in accordance with all applicable federal, state, and local regulations.

B. During and following completion of loose paint removal activities, and prior to demolition, the Contractor shall collect and containerize removed paint, debris, and residual materials from the surrounding floor areas and affected surfaces to minimize the potential for such materials to become airborne during demolition and to prevent co-mingling of demolition debris. The Contractor shall remove these materials to the satisfaction of the Owner and Engineer. All loose paint, and dust, dirt, debris, and all material that contains loose paint, shall be containerized in USDOT approved metal drums or USDOT equivalent plastic drums for off-Site disposal at an Owner-approved disposal facility.

3.2 LOOSE PAINT REMOVAL

A. Perform work that involves lead (or other potential heavy metals) in accordance with all applicable federal, state, and local requirements. The Contractor is responsible for identifying and evaluating these requirements.

B. Paint removal activities shall occur in specific areas identified by the Contractor in consideration of the planned demolition sequence and safety. Paint removal activities shall occur for each structure prior to the initiation of demolition of that structure. Following completion of paint removal activities and prior to demolition, the Owner or Engineer will inspect each structure to confirm the adequacy of paint removal. Loose paint that remains on surfaces at the time of demolition of that structure is unacceptable, even if the Contractor has previously conducted paint removal efforts. The Contractor will be required to complete additional removal, as directed by the Owner or Engineer, at no additional expense to the Owner.

C. Conduct paint removal activities (if loose paint is observed) in a manner that minimizes generation of airborne dust (e.g., vacuuming painted surfaces with peeling paint with high-efficiency particulate air [HEPA] vacuums, air filtration, using wet methods). The use of burning and/or open flame devices will not be allowed.

D. Implement engineering controls and barriers to mitigate release of loose paint beyond the work limits.

E. Implement dust suppression measures, as needed, to reduce airborne dust emissions to acceptable levels.

F. Collect all loose paint removed. The loose paint, dust, dirt, debris, and all material generated by loose paint removal activities must be collected and containerized in USDOT-approved containers for off-site disposal.
   1. While paint waste is being accumulated on the job site, the Contractor must follow all federal, state, and local hazardous waste regulations, including container labeling, describing the contents of the container on the label, and dating the container (accumulation start date).

G. Lead and or PCB-containing waste materials are to be disposed of as a hazardous waste and must be transported to an approved Treatment/Storage/Disposal Facility. Shipment must be by an approved licensed transporter that possesses a valid New York State Transporter permit. In addition, a properly completed New York State hazardous waste manifest and Land Disposal Restriction (LDR) form is also required.

+ + END OF SECTION + +

SECTION 02050C

REMOVAL AND DISPOSAL OF MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
1. Provide all labor, materials, equipment, and incidentals as specified and required to separately remove from the site and dispose of polychlorinated biphenyl- (PCB-) containing materials associated with the structures and ancillary items, materials, and debris subject to demolition. Perform the Work in accordance with applicable federal, state, and local laws and regulations and includes, but is not limited to separately removing, handling, and segregating (following or concurrent with active demolition), temporarily storing (as necessary), loading, transporting, and disposing of all PCB-containing materials as appropriate at facilities with jurisdiction to accept the material.
2. Used oil, which could potentially contain PCBs, is potentially contained within equipment at the Site. When the concentrations are unknown, and pending any testing, Contractor shall assume that the PCB content is between 50 and 499 milligrams per kilogram (mg/kg) and properly label until results are returned. If the PCB concentrations are determined to be less than 50 mg/kg, Contractor shall label the material and storage container as non-hazardous and dispose of the waste material as non-hazardous waste..
3. The Work includes separately removing, handling, segregating, temporary storage as necessary, containerizing, labeling/placarding, loading, transporting, disposing, and recordkeeping of PCB-impacted and potentially PCB-impacted materials at appropriate, approved facilities in accordance with applicable federal, state and local laws and regulations. PCB-impacted or potentially PCB-impacted materials include, but are not limited to, building construction materials and mechanical/electrical equipment.

B. Coordination:
1. Review procedures under this and other Sections and coordinate Work that must be performed with or before lead-containing material removal and disposal Work.
2. Contractor shall coordinate with all other Work associated with the Project in accordance with the Technical Drawings and Specifications.

1.2 DEFINITIONS

A. PCBs – Polychlorinated biphenyl chemical compounds, which are toxic, persistent (i.e., do not break down in the environment) chemicals used in

transformers, capacitors, and other electrical equipment for insulating purposes, and in gas pipeline systems as a lubricant. The sale of PCBs was banned by law in 1979.

B. PCB Article: Any manufactured article, other than a PCB container, that contains or must be assumed to contain 50 ppm or greater PCBs and whose surfaces have been in direct contact with such PCBs. Examples include, but are not limited to, capacitors, transformers, electric motors, circuit breakers, reclosers, voltage regulators, switches (including sectionalizers and motor starters), electromagnets, Paper Insulated Lead Covered cable (PILC), hydraulic machines, pumps, and pipes.

C. PCB Container: Any package, e.g., can, bottle, bag, barrel, drum, or tank, that contains or must be assumed to contain 50 mg/kg or greater PCBs, or PCB articles and whose surfaces have been in direct contact with such PCBs.

D. PCB-Contaminated Electrical Equipment: Any electrical equipment, including but not limited to transformers, capacitors, circuit breakers, reclosers, voltage regulators, switches, and cable, that contains 50 mg/kg or greater PCBs, but less than 500 mg/kg PCBs. Oil-filled electrical equipment, other than circuit breakers, reclosers, and cable, whose PCB concentration is unknown must be assumed to be PCB-contaminated electrical equipment. Circuit breakers, reclosers, and cable may be assumed to contain less than 50 mg/kg PCBs, unless the equipment nameplate indicates that the equipment was designed to contain concentrated PCBs (e.g., Askarel), or unless there is a reason to believe that the equipment is filled with dielectric fluid containing 50 mg/kg or greater PCBs.

E. PCB electrical equipment – Contains or must be assumed to contain 500 mg/kg or greater PCBs.

F. PCB Equipment: Any manufactured item, except for a PCB container or PCB article container that contains a PCB article. Examples of PCB equipment include microwave ovens, electronic equipment, and fluorescent light ballasts and fixtures.

G. PCB Hazardous Waste: Any waste material that contains 50 mg/kg or greater PCBs or that must be managed as if the material contains 50 mg/kg or greater PCBs because of the Anti-Dilution Provision. Wastes that may be classified as PCB hazardous wastes include, but are not limited to the following: dielectric fluids, contaminated solvents, used oil, heat transfer fluids, hydraulic fluids, dredge spoils, soil, and materials contaminated as a result of spills (clean up materials).

H. PCB Item: Any PCB article, PCB article container, PCB container, or PCB equipment that contains PCBs.

1.3 QUALITY ASSURANCE

A. Regulatory Requirements:
   1. The Federal Toxic Substance Control Act (TSCA) regulates the generation, usage, storage, transport, treatment and disposal of PCB-filled equipment and PCB waste. The NYSDEC also regulates PCBs under RCRA through its Hazardous Waste Management System, pursuant to the New York State Environmental Conservation law.
   2. NYSDEC regulations have classified waste material that contains 50 mg/kg or greater of PCBs (or that must be managed as if the material contains 50 mg/kg or greater PCBs) as a PCB hazardous waste, excluding small capacitors and drained PCB articles, that is, oil-filled electric equipment that contained between 50 and 500 mg/kg PCBs before draining. NYSDEC has designated PCB wastes (including certain types of scrap PCB filled equipment) as hazardous waste, and requires that PCB hazardous waste be managed as any other type of hazardous waste. The United States Department of Transportation regulations also apply to the shipment of PCB wastes from generators to disposal facilities.

1.4 SUBMITTALS

A. PCB Waste Disposal Plan: Submit a plan for managing PCB containing materials within 14 days prior to the commencement of removing any PCB-containing materials from the Site. The Plan shall include the following:
   1. Contractor's proposed equipment, materials, and methods.
   2. Procedures to be used for identification and demarcation of PCB-impacted materials prior to demolition.
   3. Methods for on-site management and segregation of PCB-containing, and suspected PCB-containing materials.
   4. Procedures for separating PCB containing materials, including size and type of containers, container labeling, and designated location at the site where materials will be separated and stored.
   5. Personnel and equipment decontamination methods.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 GENERAL

A. The Contractor is responsible for the identification, demarcation, and isolation of PCB-impacted and potentially PCB-impacted materials prior to initiating demolition activities to avoid co-mingling with demolition debris and cross contamination of other debris.

B. Execute work involving the PCB Hazardous Waste in accordance with the accepted PCB Waste Disposal Plan. If issues or concerns arise which were not

anticipated, stop work activity, take appropriate precautions, and contact the Engineer. The Engineer will consult with the Owner for further guidance.

C. Handle and manage PCB waste (other than debris) and equipment, in drums when possible/ practicable, where it is not known whether the waste materials are classified as PCB Hazardous Waste, in accordance with all applicable federal, State, and local laws and regulations.

D. Sample and handle PCB waste and equipment in accordance with all applicable federal, State, and local laws and regulations.

E. Label and mark PCB waste and equipment in drums, with 50 mg/kg or greater PCBs; that contain waste that has come into contact with materials containing 50 mg/kg or greater PCBs; or that contain waste where PCBs are suspected but the PCB concentration is unknown, in accordance with all applicable federal, State, and local laws and regulations.

F. Separately containerize PPE, absorbent pads, disposables, etc. that may contact potentially PCB-containing electrical/mechanical equipment and potentially PCB-containing building materials.

G. Label, mark, store, document and dispose of drums containing PCB waste according to federal, state, and local laws and regulations. Labels must identify the waste as a hazardous waste containing PCBs, must describe the contents, and must display the accumulation start date for the waste. Other important information, such as the PCB concentration and the origin of the waste, must also be marked on the drum.

H. Prepare, store and ship all PCB waste and equipment in accordance with all applicable federal, State, and local laws and regulations.

I. Do not store PCB waste more than 30-days from the accumulation/generation date. Contractor will minimize to the extent practicable the duration such waste is stored on the Hassocks.

+ + END OF SECTION + +

SECTION 02050D

REMOVAL AND DISPOSAL OF UNIVERSAL/LIQUID WASTE

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. Provide all labor, materials, equipment, and incidentals as specified and required to remove from the site and dispose of universal and liquid wastes.
   2. The Work includes handling, segregating, temporary storage as necessary, loading, transporting, and disposing of materials at appropriate, approved facilities in accordance with all federal, State, and local laws and regulations.

B. Coordination:
   1. Coordinate disposing of waste as specified under this and other Sections.
   2. Contractor shall coordinate with all other Work associated with the Project in accordance with the Technical Drawings and Specifications.

1.2 DEFINITIONS

A. The following items are defined for this Section and supplement the terms defined in the General Conditions:
   1. Universal Waste: Items including but not limited to hydraulic fluid, oil, lights, lamps, ballasts, capacitors, biological hazards, batteries, and mercury-containing equipment.
   2. Liquid Waste: Water, groundwater, stormwater, and non-aqueous phase liquids (NAPL) within piping, tanks, pits, sumps, high-water-content solids, sediment, sludges, and other residuals that are present within piping, tanks, pits, or sumps.

1.3 SUBMITTALS

A. Informational Submittals:
   1. Location and construction details of temporary staging areas for universal and liquid waste materials prior to off-site disposal. Staging areas must comply with the applicable requirements for hazardous materials.
   2. Oil/Liquid Removal Tracking Form to be used during implementation of the Work. The form must include the following information:
      a. Equipment description.
      b. Equipment identification.
      c. Container number.
      d. Date.
      e. Building.
      f. Manufacturer.
      g. Serial number.

h. Model number.
i. Liquid type.

PART 2 – PRODUCTS

2.1 CONTAINERS

A. Provide United States Department of Transportation- (USDOT-) approved containers for containerization of universal and liquid waste.

B. Provide USDOT-approved containers for containerization of oil and other liquid wastes.

C. All containers will be appropriately labeled by the Contractor in accordance with all federal, State, and local laws and regulations.

PART 3 – EXECUTION

3.1 GENERAL

A. Verify existing conditions, including, but not limited to, the type, location, quantity, and condition of the universal and liquid wastes.

B. Containerize and relocate universal and liquid wastes to a designated temporary storage area. Contractor will not relocate or remove any equipment from which oils/liquids were drained unless authorized by the Engineer. Contractor shall minimize the duration hazardous waste is stored on the Hassocks to the extent practicable.

C. Remove universal and liquid wastes in a manner that includes, but is not limited to:
   1. Ensuring the system or device is de-energized and depressurized.
   2. Identifying equipment access points in which to drain or remove oils from the system or device.
   3. Implementation of spill control and counter measures around areas where removal activities are planned.

D. Collect a representative sample of liquid from the equipment to be drained or from the received container once the equipment has been drained.

E. Maintain all documentation in a manner that allows the Engineer to track the origin and location of equipment and for which analytical results are received.

3.2 NON-AQUEOUS PHASE LIQUIDS (INCLUDING HYDRAULIC FLUID AND OIL)

A. Collection, containerization, and management of hydraulic fluids and/or oils must proceed in compliance with all applicable federal, State, and local laws and regulations.
   1. If leaking, identify, remove, collect, segregate, process, and containerize all liquids and/or products, fluids, and oils that may be present within individual equipment.
   2. Select pieces of equipment may need to be dismantled to access free liquids/products, fluids, oils, and NAPL.

B. Different types of free liquids/products, fluids, oils, or NAPL must be managed separately in separate containers and must not be mixed. Liquid product, fluid, oils, or NAPL must be separately containerized, and the container must be labeled to correspond to the reservoir/equipment from which it was removed. Repeat draining activities may be needed to fully drain equipment. Following removal from reservoir(s), absorbent materials must be placed within the former reservoir(s) to absorb any residual liquid that may be present and included in the equipment disposal.

C. After removal is complete, properly label each reservoir or equipment/pipe from which liquid/product, fluid, or oil is removed.

D. Exercise caution and provide all appropriate spill containment when inspecting and/or removing drains, tarps, or other low points within the piping systems or reservoirs in equipment to prevent the risk for, and capture any potential spillage, leakage, or personal exposure to constituents. It is possible that chemicals, cleaning agents, hazardous substances, hydraulic fluids, oils, or other constituents (including NAPL) have collected in low spots. If there is a spill or release of liquid/product, fluids, oils, or NAPL, the Contractor is responsible for any cleanup from leaking equipment and for all notifications to regulatory agencies that may be required as a result of such releases.

E. Document all removed product/liquid, fluids, oils, and NAPL.

F. Disposal of equipment carcasses will be completed by the Contractor.

G. For material subject to off-site transportation and disposal, provide USDOT-approved containers for storage of materials.

3.3 MERCURY-CONTAINING DEVICES

A. This section applies to all mercury-containing equipment including, without limitation, thermostats, thermometers, switches, gauges, and other appurtenances/devices containing elemental mercury, but excluding batteries and lamps, which are covered by other sections of this Work.

B. The Contractor shall locate, identify, remove, collect, and containerize all mercury-containing equipment at the Site. Prior to removal, every piece of equipment shall be visually inspected by the Contractor for potential presence of mercury-containing devices.

C. If the mercury-containing device is damaged or leaking, the Contractor shall remove all elemental mercury and mercury buildup from impacted surfaces and shall containerize these materials into USDOT-approved containers.

D. The Contractor may elect to manage the mercury-containing equipment at the Site as a Universal Waste if allowed under USEPA's Universal Waste Rule (40 CFR 273). Otherwise, it shall be managed as a RCRA Hazardous Waste due to assumed mercury toxicity, and in compliance with other applicable laws.

3.4 FLUORESCENT LIGHT BULBS AND HIGH-INTENSITY DISCHARGE LAMPS

A. Each fluorescent light bulb and other lamp shall be carefully removed/collected to prevent breakage, segregated by type, and containerized. For purposes of this Project, a "lamp" shall be defined as any lamp that whether intact or if broken could be classified as a Hazardous Waste for any reason (e.g., because it has a potential to exceed the toxicity characteristics for mercury and/or lead), and shall include, but not be limited to, high-intensity discharge (HID), neon, mercury vapor, high-pressure sodium, and metal halide lamps.

B. The following containers and handling methods shall be used to pack the fluorescent light bulbs and lamps:
   1. Whole bulbs/lamps shall be packed in cardboard boxes, fiber drums, steel drums, and/or plastic drums, with the opening of the containers secured prior to relocation, movement, and transportation off-site to prevent breakage. Such containers and packages must remain closed when full and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.
   2. Waste from crushed or broken bulbs/lamps shall be collected and packed in USDOT-approved metal drums or USDOT-equivalent plastic drums, with the top of the containers adequately secured. Containers must be closed, structurally sound, and must lack evidence of leakage, spillage, or damage that could cause a release of mercury or other hazardous constituents to the environment under reasonable foreseeable conditions.

C. The Contractor shall not use crushing or other destructive means to process fluorescent bulbs and lamps.

D. The Contractor may elect to manage the fluorescent bulbs and lamps as a Universal Waste if allowed under the USEPA's Universal Waste Rule (40 CFR 273). Otherwise, the fluorescent bulbs and lamps (whether intact or broken/smashed) shall be managed as a RCRA Hazardous Waste due to

assumed mercury and lead toxicity, and in compliance with other applicable federal, State, and local laws and regulations.

3.5 LIGHT BALLASTS AND CAPACITORS

A. Each ballast and small capacitor shall be removed/collected and segregated into one of the following two groups: PCB-containing and No PCBs. Unless the ballasts/capacitors are clearly labeled "No PCBs," the Contractor shall assume that they contain PCBs in accordance with 40 CFR 761.2.

B. The ballasts and small capacitors shall be placed into USDOT-approved metal drums or USDOT-equivalent plastic drums for disposal.

C. Leaking ballasts, capacitors and material that comes in contact with leaking material (e.g., oil or potting material contained within the ballasts) shall be placed into separate USDOT-approved metal drums. If oil or potting material has leaked from the ballast/capacitor onto the light fixture, the Contractor shall also containerize the light fixture under this Section.

3.6 REFRIGERANT

A. The Contractor shall identify the location of all air conditioning units and other equipment containing Chlorofluorocarbons (CFCs) and other refrigerants. The Contractor shall be responsible for contracting directly with an approved and properly licensed and certified technician to disconnect CFC-containing equipment and to evacuate and dispose of the CFCs into containers approved for that purpose, in accordance with 40 CFR Part 82.161 and all other applicable laws. The management and disposal of CFCs evacuated from air conditioning units and other equipment containing CFCs shall be in accordance with 40 CFR Part 82, Subpart F.

3.7 BATTERIES

A. The Contractor shall identify the locations of, remove, collect, segregate, handle, and manage all batteries in a manner that prevents releases of any waste (e.g., electrolyte) to the environment, or causes and/or produces any rupture of the battery case or short circuit of all batteries. The Contractor shall also segregate all batteries by type (e.g., lead-acid, nickel-cadmium). Lead-acid batteries shall not be handled or managed in the same containers with other battery types.

B. The Contractor shall place all batteries in sealable, non-leaking, USDOT-approved containers compatible with the contents of the batteries. The Contractor shall separate leaking batteries into separate containers from non-leaking batteries.

C. Battery collection, containerization and management activities shall be performed in accordance with, as applicable: 40 CFR 266.80; the Mercury-

Containing and Rechargeable Battery Management Act (Public Law 104-142); as Universal Waste under 40 CFR 273; and in compliance with all other applicable federal, State, and local laws and regulations.

3.8 SMOKE DETECTORS

A. Contractor shall inspect all smoke detectors to determine if the detectors have the potential to contain radioactive material (Americium 241). Contractor shall remove these ionization-based smoke detectors and place in properly labeled, USDOT-approved containers for management as low-level radioactive waste in accordance with all applicable laws.

B. Batteries, if any, shall be removed from the smoke detectors and handled in accordance with Section 3.7 of this Work Task.

3.9 EXIT SIGNS

A. Inspect all EXIT signs (if any) to determine if the signs have the potential to contain radioactive material (tritium gas). If the sign has a totally enclosed void space/chamber that could contain gas, such sign must be assumed to contain radioactive material, unless otherwise specified on a sign label.

B. Remove all EXIT signs that have potential to contain radioactive gas and place these signs in properly labeled, USDOT-approved containers.

C. The EXIT signs that have the potential to contain radioactive gas must be managed as a low-level radioactive waste due to the assumed presence of radioactive material (tritium) in accordance with all applicable federal, State, and local laws and regulations.

3.10 FIRE EXTINGUISHERS

A. The Contractor shall collect, containerize, and stage fire extinguishers in a designated temporary storage area for off-site disposal.

3.11 CONTAINERIZED CHEMICALS

A. Containerized chemicals or liquids encountered by the Contractor must be collected. Contractor must exercise all reasonable and due caution when handling containerized chemicals, as their contents may not correspond to the label on the container or may otherwise be unknown.

3.12 BIO-HAZARD SUBSTANCES

A. Remove and containerize all existing biological hazards (including, without limitation, bird feces, debris, and animal carcasses) located throughout the interior of the work area, included all such material(s) on horizontal and vertical surfaces, existing equipment, interior ductwork openings, mechanical equipment, or miscellaneous crevasses or opening located throughout each

room and/or area where such droppings exist. In addition, all deceased bird carcasses or nests and associated debris must be removed. All carpet or other porous materials contaminated by the bird droppings and associated debris must be removed intact and disposed of as outlined below.

B. The disturbance or dislocation of pigeon/bird feces or contaminated debris may cause particulate containing *Histoplasma Capsulatum* to be released into the atmosphere, thereby creating a potential health hazard to workers or others. Contractor will be responsible for providing all PPE required for performance of this work. Personal protection, including coveralls and National Institute for Occupational Safety and Health (NIOSH)-approved respirators, is required for all workers entering the work area during removal and cleaning operations. The minimum respiratory protection for the work will be half-face negative pressure respirators equipped with High Efficiency Particulate Air (HEPA) cartridges. These details must be referenced in the Contractor's Health and Safety Plan.

C. Collect bird feces and/or carcasses using wet-methods (e.g., water sprays and/or misting) or using a HEPA vacuum system.

D. Once the bird feces and/or carcasses are wetted, collect into double 6-mil polyethylene bags or 55-gallon drums for disposal. Segregate feces and associated debris into a separate waste stream from carcasses.

3.13 NON-OIL AND NON-ASBESTOS-CONTAINING CIRCUIT BREAKERS AND SWITCHES

A. All non-oil and non-asbestos containing breakers and switches must be removed and placed into USDOT-approved containers.

3.14 LIQUID WASTES/WASTEWATER

A. Piping, tanks, and vessels may contain liquid wastes that require removal. These liquids may include solids and other contaminants.

B. Prior to removal of piping, tanks, and vessels, conduct a pre-draining assessment to establish locations, areas, and sections of the vessels to be drainer, and the corresponding volume and characteristics of water contained within the vessel.

C. Confirm that the portion of the vessel subject to draining is inactive and no longer in operation, isolate the portion of the vessel, relieve internal water pressure in a controlled manner, and drain the vessel into appropriate containers using gravity and/or other extraction/pumping methods.

D. Remove high-water-content residuals and place in appropriately sized containers. Remove the liquid-phase portion of the containerized residuals. The remaining materials must be managed for off-site disposal.

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SECTION 02050E

DECONTAMINATION

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
1. Furnish all materials, equipment, accessories, appurtenances and labor necessary to construct decontamination areas and maintain decontamination areas for the duration of the Work.
2. Decontaminate all vehicles, equipment, and personnel that come into contact with demolition debris or impacted material at the Site. Work includes decontaminating equipment, tracking and reporting equipment decontamination status, and transporting and disposing of all decontamination waste.

1.2 QUALITY ASSURANCE

A. Regulatory Requirements:
1. Laws and Regulations applying to the Work under this Section include, but are not limited to, the following:
a. 40 CFR 761.79, Decontamination Standards and Procedures.
b. Occupational Safety and Health Administration (OSHA) regulations.
c. United States Coast Guard (USCG) regulations.
d. United States Environmental Protection Agency (USEPA) regulations.
2. Comply with the applicable provisions and recommendations of the following:
a. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (October 1985), as prepared by the National Institute of Occupational Safety and Health (NIOSH).

1.3 APPLICABLE CODES, STANDARDS, AND SPECIFICATIONS

A. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (October 1985), as prepared by the National Institute of Occupational Safety and Health (NIOSH), Occupational Safety and Health Administration (OSHA), United States Coast Guard (USCG), and United States Environmental Protection Agency (USEPA).

1.4 SUBMITTALS

A. Action Submittals:
1. Equipment Decontamination Plan. Submit an Equipment Decontamination Plan that includes, at a minimum, the following information:
a. Description of the decontamination procedures and equipment to be used to decontaminate equipment, including:

1) Location of decontamination activities.
2) Procedures to inspect and document decontamination.

3) Management of any waste, in accordance with applicable federal, State, and local laws and regulations, generated by the decontamination activities.

b. Description of the location(s) where equipment and personnel decontamination will be conducted, including materials of construction and methods for containment and collection of decontamination fluids (where wet decontamination methods are used).
c. A plan (drawn to scale) showing the proposed layout of equipment and personnel decontamination stations along with construction details for equipment decontamination stations and collection of decontamination fluids.
d. A list of all equipment (or portions of equipment) and vessels that are expected to come in contact with PCB-containing or hazardous materials.
e. A list of all materials and equipment planned for disposal as a result of decontamination activities including planned disposal locations.
f. A description of methods to track and report the daily decontamination status of all equipment.
g. Documentation that equipment being mobilized to the Site has been adequately cleaned and decontaminated prior to arriving at the site.
h. Safety Data Sheets (SDS) for all cleaning/decontamination solutions prior to import to the Site. A copy of the SDS shall also be maintained with the Contractor's Health and Safety Plan.

2. Equipment Decontamination Documentation Summary and Certification. Submit an Equipment Decontamination Summary and certification to the Engineer prior to the demobilization of any equipment that has contacted or is reasonably believed to have come in contact with PCB-containing or hazardous materials. The Equipment Decontamination Summary shall at minimum identify the piece of equipment (make, model, and serial number or other unique identifying number), include the date of the decontamination activities and inspection, include a description of decontamination procedures and the results of the equipment inspection, and include photographs of the cleaned equipment. The Certification will be included at the end of the summary; will state that the decontamination efforts comply with all regulatory requirements, the Contract Documents, and the approved Equipment Decontamination Plan; and will be signed by the Contractor's Superintendent.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 GENERAL

A. All equipment arriving to or leaving the site will be clean, subject to a visual inspection by the Engineer and cleaned to the satisfaction of the Engineer. Any equipment arriving to the site that is not clean or appears to be in a poorly maintained condition will be rejected by the Engineer.

B. During non-working hours, or when equipment is not being used, prevent water accumulation in or surface water runoff to the ground from non-contaminated equipment during a precipitation event. Such mitigation measures may include:
   1. Covering haul truck beds with a solid tarp.
   2. Parking equipment in an appropriate material staging or decontamination area.
   3. Other methods approved by the Engineer.

C. Stage equipment on polyethylene sheeting at the end of each workday (or when equipment is not actively being used).

3.2 PREPARATION

A. Equipment Decontamination Areas:
   1. Construct and maintain decontamination area(s) to accommodate all loads, vehicles, equipment, and migration scenarios.
   2. Location of decontamination area(s) shall be approved by the Owner/Engineer prior to construction. Establish equipment decontamination location(s) to decontaminate equipment in a timely manner and collect and contain any decontamination fluids generated.
   3. The Engineer will review/approve decontamination area configuration/construction prior to construction.

B. Personnel Decontamination Areas:
   1. Construct and maintain appropriately-sized decontamination areas for personnel.
   2. Locate personnel decontamination areas within the contamination reduction zone and include those facilities necessary to decontaminate personnel upon exiting the work area (exclusion zone), in accordance with the Contractor's HASP, and in accordance with local, state, and federal laws and regulations.
   3. At a minimum, personnel decontamination areas shall include run-on/run-off controls.

3.3 Decontamination Requirements:

A. General:
   1. Decontaminate all equipment (or portions of equipment such as attachments) that comes in contact with known or potential PCB-containing or hazardous material prior to handling clean materials or prior to demobilization from the Site.

2. Decontaminate equipment in accordance with applicable federal, State, and local laws and regulations and the procedures described below, as well as in the Contractor's approved Equipment Decontamination Plan, and any additional vendor requirements.
3. Take precautions to limit contact between the vehicle/equipment, personnel performing the decontamination activities, and any decontamination liquids that may accumulate in the decontamination area. Use PPE, including disposable clothing for personnel engaged in decontamination activities, as required by the Contractor's HASP.
4. Surfactants shall not be used to decontaminate equipment.
5. Methods that limit the generation of liquids, such as wiping down equipment or attachments with cleaning solutions for minimally impacted equipment may be acceptable if such approach complies with regulatory requirements and results in cleaning the equipment or attachment to the satisfaction of the Engineer.
6. Visible soil and sediment will be removed from all equipment (regardless of weather or not the soil or sediment is considered potentially contaminated) prior to demobilization for the site to the satisfaction of the Engineer.

B. Vehicles:
1. Wash all vehicles requiring decontamination sufficiently to remove all visible soil/sediment from the vehicle body, undercarriage, and tires. Ensure no visible tracking of material onto roadways or adjacent properties occurs, as visually confirmed by the Engineer.

C. Equipment – Demobilization:
1. For equipment that will no longer be used on at the Site:
   a. Remove all visible material on the surface of the equipment to satisfaction of the Owner and/or Engineer.
2. Provide Engineer with Decontamination Summary and Certification.

D. Personnel:
1. Perform personnel decontamination in accordance with the Contractor's HASP.

3.4 Decontamination Procedures

A. Perform the decontamination process in such a manner wastes generated during decontamination are captured and contained from contact with adjacent surfaces and waterways.

B. Remove decontamination solids and water captured as operationally necessary, or as required by the Engineer.

C. Equipment decontamination procedure shall, at a minimum, include the following actions by the Contractor unless otherwise specified:

1. Decontaminate equipment at locations approved by the Engineer.
2. Remove remaining material from equipment surfaces using shovels, brooms, and other hand tools, as necessary.
3. Wash equipment surfaces using pressure washers and related supplies (e.g., equipment for scrubbing and plastic sheeting), where appropriate, to remove any additional soil/sediment that may remain.
4. Visually inspect equipment surfaces to verify the removal of all visible sediment.
5. Collect wipe samples (as required) from equipment surfaces to verify proper decontamination.
6. Re-clean and re-test equipment if proper decontamination is not achieved.
7. Collect and transport all decontamination-related solids, liquids, and personal protective equipment for disposal in accordance with Section 02050E – Decontamination
8. Maintain a daily log for equipment designated for impacted material handling versus backfilling/clean material handling. Equipment shall be appropriately marked as designated for impacted material or clean material to prevent the potential for cross-contamination.
9. Submit an Equipment Decontamination Documentation Report to the Engineer to certify decontamination has been completed on equipment before it is demobilized.

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SECTION 02110

CLEARING

PART 1 – GENERAL

1.1 DESCRIPTION

A. Scope:
   1. Contractor shall provide all labor, materials, equipment, and incidentals required to perform clearing and grubbing as shown and specified in the Contract Documents.
   2. The Work includes removing from the Site and disposing of trees, stumps, brush, roots, shrubs, vegetation, logs, rubbish, and other objectionable material. The disposal and transportation of Emerald Ash Borer (EAB), if necessary, shall follow NYSDEC regulations.
   3. Limits of Clearing and Grubbing: Clear and grub the areas shown or indicated on the Design Drawings.

B. Related Sections:
   1. Section 01040, Regulatory Requirements
   2. Section 02050, Demolitions, Removals, and Modifications.

1.2 SUBMITTALS

A. Action Submittals: Submit the following
   1. Shop Drawings:
      a. Plan for removing trees and shrubs not explicitly shown or indicated for removal in the Contract Documents.
      b. Plan showing proposed limits of clearing and grubbing, if different from clearing and grubbing limits shown or indicated in the Contract Documents.
      c. Identify equipment and provide a written approach for conducting clearing and where necessary grubbing activities.

1.3 WARRANTY

A. Contractor shall warrant that Work performed under this Section will not permanently damage trees, shrubs, turf, and plants designated to remain, or other adjacent work, facilities, or property. If damage resulting from Contractor's operations becomes evident during the correction period, Contractor shall replace damaged items and property at no additional cost to Owner.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 SPECIAL CONDITIONS STIPULATED IN REGULATORY PERMITS

A. All special conditions associated with regulatory permits/coordination letters as documented in Section 01040 shall be adhered to by selected Contractor. Specifically, Woody vegetation clearing will be completed between November 1 and March 31 to be protective of protected bat species and migratory birds.

B. If the contract procurement process prevents the selected Contractor from being able to clear woody vegetation between November 1 and March 31, then the following steps will be implemented prior to clearing trees outside of the November 1 to March 31 window to minimize and avoid impacts to protected bats and migratory birds:
   1. Formal nesting survey of vegetation in area to be cleared, with documented absence of nesting birds within 24 hours of clearing. The nesting survey is to be completed by a qualified ecologist with past avian nesting survey experience.
   2. Bat emergence surveys, consistent with FWS guidance (Refer to Section 01040 Regulatory Requirements, Attachment 01040-B), to be completed within 24 hours of clearing and supervised by personnel that have received FWS training or have previous experience conducting bat emergence surveys. Clearing would be allowed the following day with a documented absence of emerging bats from mature, suitable trees to be cleared. A documented presence of bats would require vegetation clearing only between November 1 and March 31.
   3. Results of emergence surveys would be required to be submitted to County within 5 working days following surveys.

C. Upland construction associated with demolition will not be restricted following vegetative clearing.

D. Mowing of salt marsh vegetation as part of Mosquito Ditch Remediation (South Black Banks Hassock) shall be completed between December 1 and March 15, unless otherwise consistent with Section 01040.

3.2 PREPARATION

A. Protection:
   1. Protect existing site improvements to remain (if any). Repair damage caused by Contractor to original condition or replace in kind, to satisfaction of the Engineer, at no additional cost to Owner.
   2. Protect trees, shrubs, vegetation, and grassed areas to remain by providing temporary fencing, barricades, wrapping, or other methods shown, specified, or accepted by Engineer. Correct, at Contractor's expense, damage caused by the Contractor outside the limits of clearing Work.
   3. Do not remove trees without approval of Engineer, unless shown or indicated for removal.

4. Do not locate construction equipment, stored materials, or stockpiles within drip line of trees and vegetation to remain.

B. Site Preparation:
   1. Obtain, and comply with applicable permits required for clearing and grubbing Work.
   2. Delineation of Clearing and Grubbing Limits:
      a. Locate and clearly flag trees and vegetation to remain, and other materials to remain in the clearing and grubbing limits. Locate and clearly flag salvable vegetation to be relocated (if necessary).
      b. Provide flagging to delineate limits of areas to be cleared or grubbed. Review at Site with Engineer before commencing removal of trees, vegetation, and other materials to be removed.
      c. Replace flagging that is lost, removed, or destroyed, until clearing and grubbing Work is complete and Engineer allows removal of flagging.
   3. Erosion and Sediment Controls:
      a. Provide temporary erosion and sediment controls in accordance with Section 02276 – Erosion and Sedimentation Controls.
      b. Continue providing erosion and sediment controls as clearing and grubbing Work progresses to previously uncleared, ungrubbed areas of the Site.

3.3 CLEARING AND GRUBBING

A. Chip and if too large to chip, size all trees, shrubs, stumps, roots, brush, and within limits of clearing and grubbing in an area designated in the field by the Engineer.

B. Burning of cleared items will not be permitted.

C. Trees and Shrubs Improperly Destroyed or Damaged:
   1. For each tree or shrub to remain that is destroyed or damaged beyond repair by Contractor, provide two replacements of the same species at locations to be designated by Engineer.

D. Trees and shrubs to remain that have been damaged or require trimming shall be treated and repaired. Trees and shrubs intended to remain, that are damaged beyond repair or that are removed, shall be replaced by Contractor at no additional cost to Owner.

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SECTION 02200

EARTHWORK

PART 1 - GENERAL

1.1 DESCRIPTION

A. Scope:
   1. The Contractor shall perform all excavating, backfilling and disposing of earth materials as shown, specified, and required for the purpose of site preparation, erosion control, grading, and other facilities.
   2. Also included is earthwork necessary for grading, structures and other facilities as required to complete the Work as shown and specified. All materials necessary for fill and backfill are included.
   3. This Section also includes providing all approved backfill materials and the satisfactory disposal of surplus and unacceptable materials.
   4. All necessary preparation of subgrade is included.

B. Sources of Materials:
   1. Sand, except for sand stripped from the Work areas that meets the requirements specified under Section 02486, shall be obtained from offsite sources.

C. Related Sections:
   1. Section 02050, Demolition, Removals and Modifications.
   2. Section 02110, Clearing.
   3. Section 02276, Erosion and Sedimentation Control
   4. Section 02486, Habitat Restoration

1.2 QUALITY ASSURANCE

A. Permits and Regulations:
   1. The Contractor shall perform excavation work in compliance with applicable federal, State, and local laws and regulations.

B. Design Criteria:
   1. If necessary, all steel work for sheeting, shoring, bracing and other related Work shall be in accordance with the provisions of the AISC "Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings," except that field welding will be permitted.
   2. The Contractor shall be wholly responsible for installing and operating the system used to accomplish sheeting and bracing.

C. Reference Standards: When necessary, the Contractor shall comply with applicable provisions and recommendations of the following except as otherwise shown or specified.
   1. ASTM A 36, Structural Steel.

2. ASTM A 328, Steel Sheet Piling.
3. ASTM D 422, Particle-Size Analysis of Soils.
4. ASTM D 698, Moisture-Density Relations of Soils, using 5.5 lb (2.5 kg) Rammer and 12-inch (304.8 mm) Drop.
5. ASTM D 1556, Density of Soil in Place by the Sand-Cone Method.

D. Tests:
1. The Owner will determine acceptability of the fill or material as listed below.
2. Required Tests:
a. Imported Sand Fill Samples:
i. Gradation, ASTM D 422.
ii. Laboratory analytical analysis for imported fill required by NYSDEC DER-10 as required by Section 02486 – Habitat Restoration.

1.3 SUBMITTALS

A. When necessary, the Contractor shall prepare drawings for sheeting and bracing, or other protective system(s) if necessary to complete the project. Drawings shall be prepared by a Professional Engineer licensed in the State of New York and recognized as expert in the specialty involved. Drawings shall be submitted to Engineer for record purposes only. Calculations shall not be submitted. Drawing submittals will not be checked and will not imply approval by Engineer of the Work involved. Contractor shall be solely responsible for designing, installing, operating and maintaining whatever system is necessary to satisfactorily accomplish all necessary sheeting, bracing, protection, underpinning and dewatering.

B. Physical and chemical testing results of imported sand material.

C. A written description of the proposed equipment and approach for placing and compacting material.

1.4 JOB CONDITIONS

A. Existing Structures:
1. Shown on the Drawings are certain utilities, surface and underground structures located on or adjacent to the Work. This information has been obtained from existing records. It is not guaranteed to be correct or complete and is shown for the convenience of the Contractor. The Contractor shall explore, in advance of completing any subsurface work, the exact location of all structures and utilities. They shall be supported and protected from injury by the Contractor. If they are broken or injured, they shall be restored immediately by the Contractor at no additional cost to the Owner.
2. Prior to execution of the Work, the Contractor shall check and verify governing dimensions and elevations. The Contractor and Engineer and the Owner shall jointly survey the condition of adjoining structures. Photographs and records shall be made of any prior settlement or cracking of structures, pavements, and the like, that may become the subject of possible damage claims.

3. The Contractor shall establish benchmarks on all existing structures and submit the benchmark elevations to the Owner. The Contractor shall monitor elevations prior to dewatering and installation of sheet piling, and continue daily monitoring during the dewatering period and until sheet piling is removed or until directed to do so by the Engineer. The Contractor shall retain the services of a Licensed Land Surveyor, registered in the State of New York, to perform the monitoring work. All data shall be recorded and furnished to the Engineer daily. The Contractor shall immediately stop work and notify the Owner if any changes in benchmark elevations, additional cracking, sagging or other noticeable damage occurs. Work shall not proceed until the Contractor has the approval of the Owner.

B. Existing Utilities:
   1. Locate existing underground utilities in the areas of Work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.
   2. Should uncharted or incorrectly charted piping or utilities be encountered during excavation, consult Owner in keeping respective services and facilities in operation. Repair damaged utilities to the satisfaction of the Engineer.
   3. Do not interrupt existing utilities serving facilities occupied and used by the Owner or others, except when permitted in writing by the Engineer and then only after acceptable temporary utility services have been provided.
   4. Demolish and completely remove existing underground utilities indicated to be removed. Coordinate with the Owner for shut-off of services if lines are active.

C. Dust Control: The Contractor shall conduct all of his operations as described in Section 02050 – Demolition, Removals, and Modifications.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. Provide clean sand as outlined in Section 02486 – Habitat Restoration.

2.2 SHEETING, SHORING, AND BRACING

A. Wood Sheeting:
   1. Temporary Work: New or used timber meeting the requirements for Douglas Fir Dense Construction grade or Southern Pine No. 2 Dense S3.
   2. Permanent Work: New pressure treated (CCA).

B. Steel Sheeting:
   1. Temporary Work: Steel conforming to ASTM A 328. Steel for soldier piles, wales and braces may be new or used and shall conform to ASTM A 36.
   2. Permanent Work: New or used rolled steel sections of the continuous inter-locking type, conforming to ASTM A 328.

C. Used materials shall be in good condition, capable of interlocking for entire length, not damaged or excessively pitted and acceptable to the Owner.

PART 3 - EXECUTION

3.1 INSPECTION

A. The Contractor shall provide the Engineer with sufficient time and means to examine the areas and conditions under which excavating, filling, and grading are to be performed. Work shall not proceed until all unsatisfactory conditions have been corrected in a manner acceptable to the Engineer.

3.2 SITE PREPARATION

A. The portions of the site on which the Work is to be constructed shall be cleared of all objectionable materials and debris (see Section 02110, Clearing).

3.3 EROSION AND SEDIMENT CONTROL

A. Erosion and sediment controls shall be installed and maintained as outlined in Section 02276, Erosion and Sedimentation Control.

3.4 EXCAVATION

A. General:
   1. The Contractor shall perform all excavation required to complete the Work as shown and specified.
   2. When necessary, excavations shall be open type, shored and braced to prevent injury to workmen and to new and existing structures or pipelines.
   3. Excavations shall be made in the dry. Stockpile satisfactory excavated materials in areas approved by the Engineer, until required for backfill. Place, grade and shape stockpiles for proper drainage. Storage of excavated material below the high tide elevation will not be allowed.

B. Structure Excavation:
   1. Excavation shall be made to the grades shown on the Drawings and as necessary to complete the project.
   2. Excavation shall be accomplished by methods which minimize disturbance of subgrade soils.
   3. Excavation equipment shall be satisfactory for carrying out the work in accordance with the Specifications.
   4. When excavation has reached final depths, the Engineer shall be notified and will inspect conditions. If materials and conditions are not satisfactory to the Engineer, the Engineer will issue instructions as to the procedures.

C. Unsuitable or Over Excavation:
   1. If any over-excavation occurs through error of the Contractor or for Contractor's convenience, it shall be refilled at the Contractor's expense with material that meets the satisfaction of the Owner and Engineer.
   2. If the Contractor fails to conduct the excavation work in a manner that provides the surface of the subgrade in proper condition for construction, the Contractor shall remove all disturbed material and replace it with approved material at his own expense. The condition of the subgrade shall meet with the approval of the Engineer before any work is placed thereon.

3.5 SHEETING, SHORING AND BRACING

A. General:
   1. Sheeting, shoring and bracing shall be used where necessary to prevent injury to workmen, structures, or pipe lines. Jetting for sheeting installation is prohibited.
   2. All federal, State, and local ordinances, codes, regulations and laws shall be observed. All trenches shall be shored with the minimal protection of sheeting listed in OSHA Regulations, 29 CFR, Part 1926, Subpart P - Excavations, Trenching and Shoring. The Contractor shall comply with latest revisions of all OSHA regulations for all excavations, sheeting, shoring, and bracing whether they are individually listed here or not.
   3. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.
   4. Unless otherwise shown, specified, or ordered, all materials used for temporary sheeting shall be removed when work is completed. Such removal shall be made in a manner not injurious to the structure or its appearance or to adjacent Work.
   5. The clearances and types of the temporary sheeting, insofar as they affect the character of the finished Work, will be subject to the approval of the Engineer but the Contractor shall be responsible for the adequacy of all sheeting, shoring, bracing and other related Work.
   6. Safe and satisfactory installation of the sheeting shall be the entire responsibility of the Contractor.

B. Removal of Sheeting and Bracing:
   1. Removal of sheeting and/or bracing shall be done so as to not cause damage to the Work. Earth pressure shall be equal on both sides of excavation to ensure no unequal loads on pipe or structure. Use of vibratory extractors is prohibited.

3.6 BACKFILL AND COMPACTION

A. Fill excavations as promptly as Work permits, but not until completion of the following:
   1. Acceptance by the Engineer of all Work within the excavation.

2. Inspection, testing approval, and recording of locations of underground utilities, connections, branches, structures and other facilities.
3. Removal of temporary shoring and bracing, and backfilling of voids with satisfactory materials.
4. Removal of trash and debris.

B. Excavation shall be kept dry during backfilling operations. Backfills around piping and structures shall be brought up evenly on all sides.

C. Backfilling and grading of material shall be completed as outlined in Section 02486, Habitat Restoration.

D. The Contractor shall repair any damage, at no additional cost to the Owner, after-settlement that occurs. He shall make all repairs and replacements necessary within 30 days after notice from the Engineer.

3.7 GRADING

A. Grade areas within limits of the Work as outlined in the Design Drawings.

B. Vegetated Areas: Finish areas as per Section 02486, Habitat Restoration.

C. Compaction: As outlined in 02486 – Habitat Restoration

+ + END OF SECTION + +

SECTION 02276

EROSION AND SEDIMENTATION CONTROL

PART 1 – GENERAL

1.1 – DESCRIPTION

A. The Contractor is responsible for implementing Best Management Practices (BMP's) to prevent and minimize erosion and resultant sedimentation in all cleared and grubbed areas during and after construction. This item covers the work necessary for the installation of structure and measures for the prevention and control of soil erosion. The Contractor shall furnish all material, labor and equipment necessary for the proper installation, maintenance, inspection, monitoring, reporting, and removal (where applicable) of erosion prevention and control measures and to cause compliance with the New York State Pollutant Discharge Elimination System (SPDES) for Stormwater Discharges from Construction Activities (Permit No.GP 0-20-001), for any land disturbance or construction activity of one (1) acre or more, under this Section 02276, Nassau County Department of Public Works, Drainage Requirements, and Town of Hempstead stormwater regulations per the Town Code.

B. All excavations shall be in conformity with the lines, grades, and cross sections shown on the Drawings or established by the Engineer.

C. The Contractor shall provide a Sedimentation, Stormwater, and Soil Erosion Control Plan that addresses measures to prevent migration of contaminated stormwater, sediment and to prevent erosion of features of the work.

D. It is the intent of this Specification that the Contractor conducts the construction activities in such a manner that erosion of disturbed areas and offsite sedimentation be absolutely minimized.

E. All work under this Contract shall be done in conformance with, and subject to, the limitations of the New York State Standards and Specification for Erosion and Sediment Control (NYSSSESC) and Nassau County Department of Public Works, Drainage Requirements, Town of Hempstead Stormwater regulations, and permits and approvals listed in 01040 Regulatory Requirements.

F. Due to the nature of the work required by this Contract, it is anticipated that the location and nature of the erosion and sedimentation control devices will be adjusted on several occasions to reflect the current phase of construction. The construction schedule adopted by the Contractor will impact the placement and need for specific devices required for the control of erosion. The Contractor shall develop and implement such additional techniques as may be required to minimize erosion and off-site sedimentation. The location and extent of erosion and sedimentation control devices shall be revised at each phase of construction

that results in a change in either the quantity or direction of surface runoff from constructed areas. All deviations from the erosion and sedimentation control provisions shown on the Design Drawings shall have the prior acceptance of the Engineer.

1.2 – RELATED SPECIFICATIONS

A. Section 01040 – Regulatory Requirements

B. Section 01620 - In-Water Work

C. Section 02100 – Clearing

D. Section 02200 – Earthwork.

E. Section 02486 – Habitat Restoration.

1.3 – REFERENCES

A. Without limiting the generality of other requirements of these specifications, all work hereunder shall conform to the applicable requirements of the referenced portions of the following documents, to the extent that the requirements therein are not in conflict with the provisions of this Section.

1) New York Standards and Specifications for Erosion and Sediment Controls, latest edition.

2) New York State Department of Environmental Conservation (NYSDEC) Permits

3) New York State Pollutant Discharge Elimination System for Stormwater Discharges from Construction Activities (Permit No. GP-0-20-001), for any land disturbance or construction activity of one (1) acre or more.

4) Stormwater Pollution Prevention Plan (SWPPP)

5) Nassau County Department of Public Works, Drainage Requirements.

6) Town of Hempstead stormwater regulations

B. See Section 01072 – Reference Standards.

1.4 – SUBMITTALS

A. Prior to the start of the work, the Contractor shall prepare and submit a plan for applying the temporary and permanent erosion and sediment control measures as described in the NYSSSESC and the Stormwater Pollution Prevention Plan (SWPPP). Construction work shall not commence until the schedule of work and the methods of operations have been reviewed and approved.

B. In accordance with the procedures and requirements set forth in the General Conditions Division 01 and Section 01300 – Submittals, submit the following:

   1) Name and location of all material suppliers.

   2) Certificate of compliance with the standards specified above for each source of each material.

   3) List of disposal sites for waste and unsuitable materials and all required permits for use of those sites.

1.5 – QUALITY ASSURANCE

A. All restoration and re-vegetation work shall be subject to the one-year guarantee period of the Contract as specified in the General Conditions.

B. The Contractor shall hold the Owner harmless as to any violations of Federal, State, Nassau County or any local environmental regulations or codes due to untimely or faulty installation or maintenance of control measures.

1.6 – SEQUENCING AND SCHEDULING

A. Construction sequence and schedule shall conform to the SWPPP.

B. Implement soil erosion and sediment control measures, prior to disturbance of pavement and soil, within the drainage basin of the construction site.

C. Remove temporary soil erosion and sediment control measures, except permanent vegetation measures, upon completion of work and stabilization of all areas.

1.7 – REGULATORY COMPLIANCE

A. Land disturbance activities are not authorized to begin until after all required erosion and sediment control permits are obtained.. The Contractor is the Co-Operator under the provisions of the SPDES Permit. As such, the Contractor will be required to sign certain certifications as described in the Permit. The Contractor shall comply with requirements specified in the Contract Documents or by the Engineer and also comply with all federal, State, and local laws, rules, regulations, ordinances, guidelines, and requirements concerning soil erosion and sediment controls. The following documents and the documents referenced therein define the regulatory requirements for this Section. .

1. SPDES PERMIT: The New York State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities governs land disturbance or construction activities of one (1) acre or more in New York State.
2. Contractor shall follow Standards and Specifications of the New York State Department of Environmental Conservation's (NYSDEC's) Standards and Specifications for Erosion and Sediment Control, latest edition.
3. Storm Water Pollution Prevention Plans (SWPPP)

1.8 – EROSION AND SEDIMENTATION CONTROL DEVICES

A. The following erosion and sedimentation control devices shall be incorporated into the work. Other devices, as necessary and acceptable to the Engineer shall be installed as required.

1) Measures such as silt fence, and/or straw wattle/compost filter sock shall be constructed at the locations shown on the Drawings, and at other locations indicated by the Engineer. Measures shall not be installed across streams, ditches, or waterways unless shown on the drawings or directed by the Engineer. Measures shall be designed, installed and maintained in accordance with the requirements of Section 5.54 and 5.7 of the New York State SSESC.

2) Storm drain inlet protection measures shall be constructed at the locations near active mainland support areas (if any storm drain inlets are present) and at other locations indicated by the Engineer. Storm drain Inlet protection measures shall be designed, installed and maintained in accordance with the requirements of the NYSSSESC.

3) Geotextile Filter Bags shall be installed for treatment of trench dewatering water before discharge from the construction site to a local storm sewer,

upland of a stream or roadside swale or at other locations indicated by the Engineer. Filter bag shall be installed, and maintained in accordance with the requirements of Section 5 of NYSSSESC.

PART 2 – PRODUCTS

2.1 – MATERIALS

A. Materials for use in erosion and sedimentation control devices shall be in accordance with New York State Standards and Specifications for Erosion and Sediment Control.

B. Silt Fence:

1) Silt Fence shall be a woven geotextile filter fabric made specifically for sediment control. Filter fabric shall not rot when buried and shall resist attack from soil, chemicals, alkalis and acids in the pH range from 2 to 13, and shall resist damage due to prolonged ultraviolet exposure. Filter fabric shall be listed as a woven, Silt Fence type geotextile on the NYSDOT Approved Materials List for Geosynthetics for Highway Construction. The cost of Silt Fence shall include the fabric, posts, wire fabric, and other materials, excavation, backfilling and all maintenance and restoration activities required.

2) Posts for silt fence shall be steel and shall have the following properties:

ASTM Designation:	ASTM A 702
Length:	5-feet long (T-type)
Weight:	1.25 pounds/foot (minimum)
Area of Anchor Plate:	14 square inches

Note: Five T-fasteners shall be furnished with each post.

2-inch square hardwood posts are acceptable as an alternative to steel.

3) Welded wire fabric for the silt fence shall have the following properties:

Wire Fabric Opening Size:	4-inches by 4-inches
Class 1 Designation:	ASTM A 116
Width:	32-inches
Number of Line Wires:	8
Stay Wire Spacing:	12-inches
Line and Stay Wires:	6.0 Ga.
Top and Bottom Wires:	6.0 Ga.
Wire Coating:	ASTM Class 1 Zinc Coating

4) Silt fence shall be installed and maintained in accordance with Part 3 of this Section, and Section 5 of the NYSSSESC, to the satisfaction of the Engineer throughout the duration of the contract. The cost of Silt Fence shall include the fabric, posts, wire fabric, and other materials, excavation, backfilling and all maintenance and restoration activities required.

C. Storm Drain Inlet Protection:
Storm drain inlet protection shall be constructed as shown on the Design Drawings and as specified herein. Inlet Protection shall be constructed at all the drop inlets and maintained in accordance with Section 5 of NYSSSESC.

D. Geotextile Filter Bag/Dewatering Silt Control System:

1) Provide a nonwoven fabric bag which is sewn with a double needle matching using a high strength thread.

2) Provide bag seams with an average wide width strength per ASTM D-4884 of 100 lbs. per inch.

3) Provide bag with fill spout large enough to accommodate a 4" discharge hose; straps to secure the hose and prevent pumped water from escaping without being filtered; and, lifting straps of strong design to lift full bag without bag rupturing.

4) Provide nonwoven geotextile fabric following the properties:

Properties	**Test Method**	**Units**	**Nonwoven**
Weight	ASTM D-3776	OZ/YD	10
Grab Tensile	ASTM D-4632	LBS.	250
Puncture	ASTM D-4833	LBS.	165
Flow Rate	ASTM D-4491	GAL./MIN.FT2	70
Permittivity	ASTM D-4491	SEC.-1	1.3

Properties	**Test Method**	**Units**	**Nonwoven**
Mullen Burst	ASTM D-3786	LBS. IN2	380
UV-Resistant	ASTM D-4355	%	70
AOS % Retained	ASTM D-4751	%	100
Size	-	FT.	10’ x 15’
-	-	FT.	12.5’ x 15’
-	-	FT.	15’ x 15’
Nominal Pumping Rate	-	GAL./MIN.	1,500

5) Provide underlayment of gravel bed 2 inches thick, a straw mat 4 inches thick, or a vegetated filter strip to allow water to flow out of the bag to the hose to prevent back flow.

E. Straw Wattle/ Compost Filter Sock

1) Supply and install straw wattle and required staking as described in the Design Drawings.

F. Erosion Control Matting

1) Provide rolled erosion control matting (Coconut). Matting shall be machine produced temporary mat with 100 percent coconut coir fiber encapsulated between two biodegradable nets. Temporary matting shall have a functional longevity of at least 36 months, with a permissible shear stress rating of at least 2.25 pounds per square foot. Reference: FHWA FP-03 and ECTC Specifications Type 4.A and 4.B rolled erosion control product.

2) Staples shall be metal stapled, wooden stakes, live stakes, or biodegradable plastic stakes, as recommended by the manufacturer and in the Contract Drawings, and of no less than 6 inches length. Unless specified or required by ground conditions, staple spacing for temporary erosion control matting shall be as follows. If tighter spacing is required by the manufacturer’s installation guidelines or the Contract Drawings, the more stringent requirements shall apply.

STAPLE FREQUENCIES AND ANCHORING REQUIREMENTS FOR ROLLED EROSION CONTROL PRODUCTS	
LOCATION	STAPLE FREQUENCY AND/OR ANCHORING DIMENSIONS
Center of blanket*	1.7 per square yard (18 inch O.C.)
Anchor Trench	6 foot by 6 foot trench. 12 inch O.C. within bottom of trench. Overlap trench and secure terminal end at 12 inch O.C.
Edge of Roll Seams	Overlap 2 to 4 inches (shingle in downslope direction). Staple at same spacing as center of blanket.
End of Roll Seams	Overlap 4 to 6 inches (shingle in direction of flow). Staple spacing at 12 inch O.C..
Check Seam	At approximately every 30 foot spacing, install two staggered rows of staples 4 inches apart at 4 inch O.C.
Check Slot	Secure terminal (downslope/downstream) ends of installation with Anchor Trench or Check Seam.

*Significantly higher anchor rates and/or longer staples may be necessary in sandy, loose, or wet soils and in severe applications.

G. Turbidity Curtain

1) Provide turbidity curtain system as described in Section 01620—In-Water Work.

2.2 – MANUFACTURERS

A. Filter Bag/Dewatering Silt Control System:

a. ACF Environmental, Inc., Richmond, VA, 800-644-9223; DirtBag 55
b. Or equal as approved by the Engineer.

PART 3 – EXECUTION

3.1 - PREPARATION

A. Erosion and sedimentation control devices shall be established prior to the clearing operations in a given area. Where such practice is not feasible, the erosion and sedimentation control device(s) shall be established immediately following completion of the clearing operation.

B. Include proposed stockpile areas and installation of temporary erosion control devices, ditches, or other facilities in Work phasing plans.

C. Areas designated for Contractor's use during Project may be temporarily developed as specified to provide working, staging, and administrative areas.

D. The Contractor shall provide adequate means to prevent sediment from entering storm drains, curb inlets, ditches, streams, or bodies of water downstream of any area disturbed by construction. Excavation materials shall be placed upstream of trench or other excavation to prevent sedimentation of offsite areas. In areas where a natural buffer area exists between the Work area and the closest stream or water course, this area shall not be disturbed.

E. The Engineer may direct the Contractor to place additional sediment and erosion control devices at other locations not shown on the Drawings.

F. The Contractor agrees to hold the Owner or any of its agents harmless from any and all liability, loss or damage that may arise out of a violation to the Erosion and Sediment Control Ordinance.

G. The Contractor shall monitor and take precautions to control dust, including, but not limited to, use of water or chemical dust palliative, limiting the number of vehicles allowed on site, and minimizing the operating speed of all vehicles.

H. Prior to the commencement of construction activity, the owner or operator must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The owner or operator shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the trained contractor. The owner or operator shall ensure that at least one trained contractor is on site on a daily basis when soil disturbance activities are being performed.

3.2 – INSTALLATION

A. Control measures shall be erected as shown on the Design Drawings and specified herein. Silt fence shall be erected and maintained to the satisfaction of the Engineer until a vegetative ground cover has been established. Replacement of the filter fabric, if required by the Engineer, will be at the Contractor's expense.

1) Construction of control measures shall be adequate to handle the stress due to sediment loading. Posts shall be installed at least 16 in. deep into the ground. When a 16 in. depth is not feasible to achieve, the posts should be adequately secured to prevent overturning of the fence due to sediment loading.

2) The Contractor shall maintain the control measures until they are removed, and shall remove and dispose of soil accumulations at the silt fence when so directed by the Owner.

3) It is the Contractor's responsibility to maintain the integrity of control measures as long as necessary to contain sediment runoff. The Contractor shall inspect all control measures immediately after each rainfall and at least daily during prolonged rainfall Any deficiencies shall be immediately corrected by the contractor. In addition, the Contractor shall make a daily review of the location of control measures and their anchorage in areas where construction activities have changed the natural contour and drainage runoff to ensure that the control measures are properly located for effectiveness. Where deficiencies exist, additional control measures or anchorage shall be installed as directed by the Owner. The control measures should be promptly repaired or replaced should it become damaged or otherwise ineffective.

4) Sediment deposits shall either be removed when the deposit reaches approximately one-half of the height of the control measure or a second control measure shall be installed as directed by the Owner. Control measures that have been removed shall become the property of the Contractor. Upon removal of a control measure, the Contractor shall remove and dispose of excess soil accumulations, restore the area and vegetate all bare areas in accordance with the Contract Documents.

B. Storm Inlet protection: Install inlet protection at locations near mainland support areas where project operations may impact the quality of stormwater at the inlet. Install inlet protection prior to beginning land disturbance activities in the drainage area of the inlet.

C. Rolled Erosion Control Blanket. Following seeding of restored slopes on Pearsalls Hassock, rolled erosion control blanket shall be installed consistent with contract drawings.

D. Straw Wattle /Compost Filter Sock. Straw wattle shall be installed consistent with contract drawings.

E. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased.

1) Reseed and mulch temporary seeding areas where seedling emergence is poor, or where erosion occurs, as soon as possible. Do not mow. Protect from traffic as much as possible.

2) Generally, a stand of vegetation cannot be determined to be fully established until soil cover has been maintained for one full year from planting. Inspect seeded areas for failure and make necessary repairs and reseedings within the same season, if possible.

3) Reseeding – If a stand has inadequate cover, re-evaluate choice of plant materials and quantities of lime and fertilizer. Re-establish the stand after seedbed preparation or over-seed the stand. Consider seeding temporary, annual species if the time of year is not appropriate for permanent seeding.

4) If vegetation fails to grow, soil must be tested to determine if acidity or nutrient imbalance is responsible.

5) Fertilization – On the typical disturbed site, full establishment usually requires re -fertilization in the second growing season. Fine turf requires annual maintenance fertilization. Use soil tests if possible or follow guidelines given for the specific seeding mixture.

F. Additional Requirements

1) All storm sewer piping shall be blocked at the end of every working day until the inlet is constructed above grade.

2) All streets around the construction area shall be scraped as necessary to prevent accumulation of dirt and debris.

3) The Contractor shall provide adequate means to prevent any sediment from entering any storm drains, curb inlets (curb inlet filter box), ditches, streams, or bodies of water downstream of any area disturbed by construction. These measures shall be cleaned of accumulated sediment once the sediment storage volume of the measure is half full or as otherwise directed by the Engineer. Excavation materials shall be placed upstream of any trench or other excavation to prevent sedimentation of offsite areas. In areas where a natural buffer area exists between the work area and the closest stream or water course, this area shall not be disturbed.

4) The Engineer may direct the Contractor to place any additional sediment and erosion control devices at other locations not shown on the Drawings.

G. General Requirements

1) Institute and maintain Soil Erosion and Sediment Control measures to prevent silt and fines from migrating from the area of construction.

2) Install silt fencing in the locations shown on the Contract Documents.

3) Clean and maintain silt fences after each and every rainfall.

4) Repair of any soil erosion and sediment control measured damaged during the life of the project.

5) Provide temporary vegetative cover and mulch by the end of next business day of construction or disturbance.

6) Provide permanent vegetative cover, mulch, and mulch netting on the disturbed areas.

7) Removal of soil erosion and sediment control measures (i.e. silt fence).

8) The Contractor shall hold the Owner harmless as to any violations of Federal, State, Nassau County or any local environmental regulations or codes due to untimely or faulty installation or maintenance of control measures.

H. Removal

1) Upon the establishment of final vegetative cover and landscaping, the Contractor shall carefully, without injury to new established growths of vegetation, remove all Soil Erosion and Sediment Control structures, measures and devices. This shall mean to also include all silt and mulch netting.

2) At such time that temporary erosion and control structures are no longer required under this item, the Contractor shall notify the Engineer of its intent and schedule for the removal of the temporary structures, and obtain the Engineer's approval in writing prior to removal. Once the Contractor has received such written approval from the Engineer, the Contractor shall remove, as approved, the temporary structures and all sediments accumulated at the removed structure shall be returned upgrade. In areas where temporary control structures are removed, the site shall be left in a condition that will restore original drainage. Such areas shall be evenly graded and seeded as specified in Section 02200 Earthwork and - Section 02486 – Habitat Restoration.

3.3 – INSPECTION

A. For construction sites where soil disturbance activities are on-going, the *qualified inspector shall conduct a site inspection at least twice every seven (7) calendar days. The following areas are to be inspected:

1) Disturbed areas of the Site that have not undergone final stabilization.

2) Erosion and sediment control structures.

3) All locations where vehicles enter or exit the Site.

4) Material storage and construction laydown areas that are exposed to precipitation and have not been finally stabilized.

B. Within one business day of the completion of an inspection, the qualified inspector shall notify the owner or operator and appropriate contractor or subcontractor of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

C. The Qualified Person shall follow the practices of inspection and maintenance requirements described in the SWPPP. All appropriate records required by the SWPPP shall be maintained on site.

D. Immediate action will be taken to correct deficiencies to BMP's. The State reserves the right to stop all construction activities not related to maintaining BMP's until such deficiencies are repaired.

E. For construction sites where soil disturbance activities have been temporarily suspended and temporary stabilization measures have been applied to all disturbed areas, the qualified inspector shall conduct a site inspection at least once every thirty (30) calendar days.

F. During inspections the following will be observed, and appropriate maintenance procedures taken:

1) The conformance to specifications and current condition of all erosion and sediment control structures.

2) The effectiveness and operational success of all erosion and sediment control measures.

3) The presence of sediments or other pollutants in storm water runoff at all runoff discharge points.

4) If reasonably accessible, the presence of sediments or other pollutants in receiving waters.

5) Evidence of off-site tracking at all locations where vehicles enter or exit the site.

G. Inspect control measures once every 14 days and within 48 hours after each runoff producing rainfall event. Check for any bulges in the silt fence.

H. Inspect temporary storm drain inlet protection following each period of significant rainfall. Remove sediment and restore it to its original dimensions when the sediment has accumulated to one-half the design depth of the trap or basin. Place the sediment that is removed in a designated disposal area and replace the contaminated part of the gravel facing.

I. Filtering device shall be inspected frequently and repaired or replaced once the sediment build-up prevents the structure from functioning as designed.

*Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder.

3.4 – MAINTENANCE AND REPAIRS

A. The Contractor shall furnish the labor, materials and equipment required for routine maintenance of all erosion and sedimentation control devices. Maintenance shall be scheduled as required for a particular device to maintain the removal efficiency and intent of the device. Maintenance shall include but not be limited to

   1. The removal and satisfactory disposal of trapped sediments from traps or silt barriers and

   2. Replacement of filter fabrics used for silt fences. Sediment removed from erosion and sedimentation control devices shall be disposed of in locations that will not result in off-site sedimentation as acceptable to the Engineer, at no additional cost to the Owner.

   3. The erosion and sediment control measures described in this specification are minimum requirements for anticipated Site conditions. During the construction period, upgrade these measures as needed to comply with all applicable local, state, and federal erosion and sediment control regulations.

B. Silt Fence/control measures shall be maintained to the satisfaction of the Engineer until a vegetative cover is established. Replacement of the filter fabric, if required by the Engineer, will be at the Contractor's expense.

   1. Should the fabric of a silt fence collapse, tear, decompose or become ineffective, replace it promptly.

   2. When sediment deposits reach approximately one-half the height of the silt fence, remove and stabilize deposits.

   3. Remove sediment deposits as necessary to provide adequate storage volume for the next rain and to reduce pressure on the fence. Take care to avoid undermining the fence during cleanout.

C. Street Cleaning:

   1. Use self-propelled pickup street sweepers whenever required by Engineer to prevent transport of sediment and other debris off Project Site. Provide street sweepers designed and operated to meet air quality standards. Street washing with water shall require approval by Engineer. Intentional washing

of sediment into storm sewers or drainage ways must not occur. Vacuuming or dry sweeping and material pickup must be used to cleanup released sediments.

2. Provide and maintain inlet protection where pavement milling and inlay work is planned. Remove milling debris and dust prior to removing inlet protection.

3. All streets around the construction area shall be scraped as necessary to prevent accumulation of dirt and debris.

D. Inlet Protection:

1. Geotextile: When depth of accumulated sediment and debris reaches approximately one-half the height of an internal device or one-third the height of external device (or less when so specified by the manufacturers) or as designated by Engineer, remove deposits and stabilize onsite.

2. Remove sediment and restore the inlet protection to its original dimensions when the sediment has accumulated to one half the design depth. Place the sediment that is removed in a designated disposal area and replace the contaminated part of the gravel facing.

3. Check the structure for damage from erosion or piping. Stone or riprap displaced from the berm must be replaced immediately.

4. All storm sewer piping shall be blocked at the end of every Working day until the inlet is constructed above grade.

E. At end of each work day, stabilize or cover soil stockpiles or implement other BMPs to prevent discharges to surface waters or conveyance systems leading to surface waters.

F. Temporarily stabilize soils at end of shift before holidays and weekends, if needed. Ensure soils are stable during rain events at all times of year.

3.5 – FIELD QUALITY CONTROL

A. Monitoring and Reporting

1. Monitoring: The qualified inspector shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved final stabilization, all points of discharge to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site, and all points of discharge from the construction site.

2. Reporting: The qualified inspector shall prepare an inspection report subsequent to each and every inspection as per the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (Permit No. GP-0-20-001). The inspection reports shall be maintained on site with the SWPPP.

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SECTION 02486

HABITAT RESTORATION

PART 1 – GENERAL

1.1. SECTION INCLUDES

A. The Contractor is responsible to provide labor, equipment, and materials and execute activities necessary to complete restoration grading and planting as shown on the contract drawings. This specification covers all on-site restoration associated with the Hempstead Bay – Hassocks Restoration Project. One restoration project will occur on Pearsalls Hassock and the other on South Black Banks Hassock.

B. The Contractor is responsible to provide labor, equipment, and materials and execute activities necessary to maintain the plantings for the warranty period and replace plants as required.

1.2. RELATED SECTIONS

A. Section 01040 – REGULATORY REQUIREMENTS
B. Section 02050 – DEMOLITION, REMOVALS AND MODIFICATIONS
C. Section 02110 – CLEARING
D. Section 02200 – EARTHWORK
E. SECTION 02276 – EROSION AND SEDIMENT CONTROL
F. SECTION 01590 - RED KNOT MONITORING

1.3. REFERENCES

A. AASHTO M 85, Standard Specification for Portland Cement, American Association of State Highway and Transportation Officials, Washington D.C., 2020.

B. AASHTO M 157, Standard Specification for Ready-Mixed Concrete, American Association of State Highway and Transportation Officials, Washington D.C., 2013.

C. American Nursery Stock Standard Z-60.1 (AmericanHort 2014)

D. ASTM D4972-19, Standard Test Methods for pH of Soils, ASTM International, West Conshohocken, PA, 2019.

E. ASTM D6103, Standard Test Method for Flow Consistency of CLSM, ASTM International, West Conshohocken, PA, 2017.

F. New York State Department of Environmental Conservation (NYSDEC). 2010. DER-10/Technical Guidance for Site Investigation and Remediation.

G. United States Department of Agriculture (USDA). 1996. Soil Survey Laboratory Methods Manual. Soil Survey Investigations Report No. 42. Version 3.0. January 1996.

1.4. QUALIFICATIONS

A. Surveyor. Individual that is licensed as a land surveyor in New York State, with a minimum of 5 years of experience completing similar projects.

B. Planting Stock Supplier: Established company specializing in growing native plant species with a minimum of 5 years of experience in growing native species and demonstrated ability to supply quantities and quality levels adequate to complete the project. Supplier must be within 250 miles of project site, or upon approval from Engineer.

C. Planting Installer: Company specializing in ecological restoration installation with a minimum 5 years of experience in planting and establishing wetland communities with documented references. Personnel used to perform the installation of plant materials must have occupational experience in wetland restoration projects.

D. Qualifications of Manufacturers: Products used in the work presented in this Section will be produced by manufacturers and/or growers regularly engaged in the manufacture and growing of similar items and with a history of successful production.

1.5. SUBMITTALS

A. Prepare and submit a plan for completion of pre and post construction topographic surveying of both restoration project areas.

B. Prepare and submit a plan for all planting activities to occur at each restoration site. A plan should be divided to separately address the two distinct projects. Details for the work planned should include the following:

1. Certificates from plant stock supplier(s) for each species required, stating botanical name, common name, origin, age, date of packaging, and name and address of supplier. Provide documentation from each source that the proposed quantities are available and will be provided when needed, based on the installation schedule.

2. Certificates from native seed supplier(s) for each seed mix required, stating biological name, common name, percentage by weight and percentages of purity, germination and weed seed for each species.

3. Supplier information and quantities for biodegradable fill ditch fill material, fertilizer and erosion control materials. Provide documentation from each source that the proposed quantities are available and will be produced and provided when needed, based on the installation schedule.

4. Supplier information and quantities for gabion baskets and rock fill materials. Provide documentation from each source that the proposed quantities are available and will be produced and provided when needed, based on the installation schedule.

5. Supplier information for controlled low-strength material (CLSM):

   a. Description of Contractor's proposed CLSM mixture design, including sources and proportions of CLSM ingredients.

   b. CLSM producer's certification that the mixture design will achieve the strength specified in this Section.

   c. Contractor's proposed method of placement for CLSM.

   d. Certified batch reports for CLSM delivered to the site providing documentation that the CLSM was prepared in accordance with the approved mixture design.

6. Plan for transportation to planting sites and storage of all products detailed herein and approach for maintenance of plant stock if held longer than 24 hours, including watering and providing shade (if necessary).

7. Drawing illustrating proposed herbivory deterrent for protection of plantings as determined necessary to support the warranty period.

8. Plan for any required vegetative maintenance during the warranty period to ensure survival requirements associated with specified plants are achieved.

9. Plan for monitoring and control of invasive species during the warranty period (as needed), including means and methods, timing, and frequency of control activities.

C. Following the conclusion of the warranty period(s), prepare and submit a Vegetated Wetlands Planting Completion Report(s) documenting achievement of the requirements for each planting area. The report(s) must include an as-built survey plan identifying the location and makeup of plant clusters,

photographic documentation, and tables summarizing the plant survival results and any plant replacements conducted.

1.6. DEFINITIONS

A. Warranty Period: Period that Contractor must maintain and guarantee plant survival. The warranty period for each planting area is one calendar year beginning after the Engineer inspects and confirms plant installation in that planting area meets Restoration Plan Drawings and Specifications. One-year warranty period may be different years for the different plantings areas, and dependent upon final planting schedule(s).

B. Project area is defined as those areas within the limits of disturbance shown on contract drawings for both Pearsalls and South Black Banks Projects.

1.7. QUALITY ASSURANCE

A. All restoration work will be completed under oversight of the Design Engineer. A wetland ecologist familiar with the Restoration Plan will conduct oversight on behalf of the Design Engineer.

B. Pre-Restoration Inspection: Conduct a site inspection and meeting with Engineer at the two project areas a minimum of one week prior to commencing grading. Multiple inspections may be required, depending upon final grading and planting schedule. An inspection will include the following:

1. Tour, inspect, and discuss existing site conditions.
2. Review pre construction topographic surveys as it relates to required grading on Pearsalls Hassock, and ditch remediation activities on South Black Banks Hassock.
3. Review ditch remediation and runnel construction on South Black Banks Hassock.
4. Review anticipated construction schedule as it relates to daily tidal fluctuations.
5. Review planting schedule, required inspections, and maintenance.
6. Review work restrictions, health and safety plan, and environmental procedures.

C. Pre-Conditioning of Plant Material

1. Plant stock supplier will pre-condition all plugs, containerized plants, and root stocks which are to be placed in saturated or flooded soil

conditions by holding them in a wet environment at the nursery prior to shipment to Site.

2. Plant stock supplier will pre-condition all saltmarsh plugs to water salinities that are comparable to planting site conditions.

D. Post-Warranty Planting Inspection: Conduct a site inspection with the Engineer following completion of the warranty period to verify that the plant survival and replacement requirements have been met. The post-warranty inspection will include the following:

1. Inspect each planting area to confirm dead plants and plants with 25 percent or more dead branches have been replaced
2. Inspect herbivory controls to confirm no repairs are necessary.

1.8. DELIVERY, STORAGE, AND HANDLING

A. Deliver all branched plants with branches tied and exposed branches covered with material that allows air circulation. Prevent damage of branches, trunks, root systems, and desiccation of leaves.

B. Deliver plants with durable waterproof labels in weather-resistant ink. Provide labels stating the correct botanical and common plant name and variety as applicable and size as specified in the list of required plants. Attach to plants, bundles, and containers of plants. Groups of plants may be labeled by tagging one plant. Labels will be legible for a minimum of 90 days after delivery to the planting site.

C. Plants not installed on the day of delivery will be stored and protected as follows:

1. Protect plants from wind and direct sunlight until planted.
2. Keep storage areas dry.
3. Keep plants in a moist condition until planted by watering with a fine mist spray.
4. Do not store plant material directly on concrete or bituminous surfaces.
5. Store plants on top of weed control fabric as necessary to prevent spread of invasive species to the plants.

D. Handle all nursery grown plants carefully to avoid damaging or breaking the earth ball or root structure. Do not drop or dump plants from vehicles. Avoid damaging plants being moved from nursery or storage area to planting site. Do not handle plants by the trunk or stem. Remove damaged plants from the site and replace immediately at Contractor's own expense.

E. Contractor will install plants within less 90 days from receipt of plants from the supplier.

1.9. SCHEDULE

A. The project will comply with regulatory requirements as it pertains to schedule provided in Section 01040.

B. Plants shall be installed between March 15 to June 1 or October 1 to November 15, dependent upon nursery availability and seasonal climatic conditions.

1.10. WARRANTY

A. All plants will be guaranteed for the warranty period irrespective of the reason for mortality (e.g., herbivory, herbicide drift, plant disease or any other cause).

1. During the warranty period, remove and replace dead planting materials immediately upon observation during the planting season, or during the subsequent planting season if observed outside of the planting season at Contractor's expense.

2. At end of warranty period, meet or exceed 95 percent survival of all plants. If survival is less than 95 percent, replace planting materials that die or have 25 percent or more dead branches at Contractor's expense.

PART 2 – PRODUCTS

2.1. DITCH FILL BARRIER

A. Provide twelve-inch diameter coir logs consisting of biodegradable coir mattress fiber and provided in either 10- or 20-foot lengths. The weight will be a minimum of 5.5 pounds (lbs) per foot and have a density that is either 7 lbs per cubic foot or 9 lbs per cubic foot. Coir logs will be cut as needed to match the size of the channel width.

B. Provide anchor stakes for coir log which consist of hardwood material with a size of 2-inch x 2-inch square and a minimum of 48-inches long with a point at one end.

C. Provide natural fiber (coir, hemp) rope with a minimum diameter of 0.25 inches.

2.2. DITCH REMEDIATION FILL

A. Provide biodegradable materials as required to fill identified historic mosquito ditches. Biodegradable materials could include mowed grass clippings from adjacent marsh platform. Other suitable materials could include weed free

straw, coir fiber logs, or similar materials to be approved by engineer. Excavated soil material from runnel construction, or clean sand could also be used upon approval by Engineer.

B. Mowing of grass to be used as ditch remediation fill can only occur during December 1 and March 15. Other biodegradable materials shall be used as ditch remediation fill if construction schedule does not align with this work restriction window.

C. Stakes and natural fiber rope consistent with ditch fill barrier products described above.

2.3. HABITAT FILL

A. Provide clean sand for elevation enhancement at two identified pools on South Black Banks, and low marsh restoration as needed on Pearsalls. Sand shall have a dominant particle size (>70%) of 0.1 millimeter (mm) to 0.5 mm in diameter. Sand shall have limited fines (<10%) silt or clay particles 0.05 mm to 0.0002 mm in diameter. pH of sand shall be 5 to 8. The pH shall be tested in accordance with ASTM D4972.

B. The Contractor shall perform particle size distribution analyses of the clean sand per ASTM D6913 and D7928. The Contractor shall provide particle size distribution test results of the sand for review and approval by the Engineer. The Contractor must supply information detailing the source and location of clean sand from off site and provide a sample of the sand to be used for inspection by the Engineer prior to delivery of sand to the project site. The Contractor must supply a report that shows the geographic location of the sand stockpile, the sampling locations within the sand stockpile, describes the sampling methodology, and a provides a summary of the sampling results in both graphic and tabular format.

C. Sand shall be substantially free of subsoil, clay clumps, stones or other objects over 0.5 inches in diameter, and without weeds, roots, and other objectionable material.

D. Imported material shall be collected in accordance with NYSDEC DER-10/Technical Guidance for Site Investigation and Remediation and shall meet the requirements for Unrestricted Use.

2.4. GABION BASKETS

A. Furnish marine gabion baskets by DURA-GUARD, or similar product upon approval. Gabions are constructed of durable, non-corrosive co-polymer geo grid panels. Dimensions of gabion baskets shall be 3 feet by 1.5 feet by 1.5

feet. If additional depth is determined to be required by pre-construction survey, then Contractor should consider 4 feet by 2 feet by 2 feet baskets. Contractor shall submit proposed product specifications and sizing for approval.

B. Gabion baskets shall be filled with stone meeting the following gradation:

1. 6 inch (Dmax) = 95 to 100%
2. 4 inch (D50) = 40-50%
3. 2 inch (Dmin) = 0-5%

2.5. PLANTS

A. Furnish nursery stock in accordance with American Nursery Stock Standard Z-60.1, except as otherwise specified or indicated. Furnish plants grown under climatic conditions similar to those in the locality of the project site. Plants of the same specified size will be of uniform size and character of growth. All plants will comply with all federal and state laws requiring inspection for plant diseases and infestation.

B. Plant quantities and sizes will be consistent with the Landscape Restoration contract drawings. Plants larger in size than specified may be provided for Engineer review and acceptance.

C. Plants will be well-branched, well-formed, sound, vigorous, healthy planting stock free from disease, sunscald, windburn, abrasion, and harmful insects or insect eggs and having a healthy, normal, and undamaged root system. Plants will be symmetrically developed and of uniform habit of growth, with straight boles or stems, and free from objectionable disfigurements.

D. Handle and place each species consistent with good trade practice to insure the arrival of the plants at the site in good condition. Plants that arrive dried out, exposed to excessive heat, or that have been in storage for extended periods of time, will not be accepted. If, upon inspection, the plants or root stocks display mold or decay, the material will not be accepted.

E. Before shipment, inoculate root systems for specified shrubs with mycorrhizal fungi inoculum.

2.6. SEED

A. Provide seed of the latest season's crop delivered in original sealed packages, bearing producer's guaranteed analysis for percentages of mixtures, purity, germination, weed seed content, and inert material. Label in conformance with

AMS Seed Act and applicable state seed laws. Wet, moldy, or otherwise damaged seed will be rejected.

B. A temporary, sterile cover crop shall be applied and should be submitted for approval 15 days prior to seeding.

C. Seed mixture and application rates will be consistent with contract drawings.

D. Permanent seed must be 75% Pure Live Seed (PLS) minimum. The specified seed application rate shall be adjusted based on the percentage of PLS of each species. Weed content of seed lots must not exceed 0.25 percent. All seed must be free of noxious weeds. Provide fresh, clean, new-crop seed complying with the tolerance for purity and germination established by the Official Seed Analysts of North America.

2.7. FERTILIZER

A. Provide fertilizer to fertilize all seeded areas and container plants at planting in accordance with contract drawings. Chemical fertilizers are not permitted. Fertilizers containing petrochemical additives or that have been treated with pesticides or herbicides are not permitted.

B. Fertilizer will be organic, granular controlled release fertilizer containing the following minimum percentages, by weight, of plant food nutrients:

1. 10 percent available nitrogen
2. 10 percent available phosphorus
3. 10 percent available potassium

2.8. CONTROLLED LOW-STRENGTH MATERIAL (CLSM)

A. Type I or II Portland Cement conforming to the chemical and physical requirements of those respective types as specified in AASHTO M 85.

B. Clean (potable) water free from oil, salts, acid, strong alkalis, vegetable matter, and other impurities that would have an adverse effect on the quality of the CLSM.

C. Mix CLSM ingredients to produce a uniform product with a flow of 4 to 8 inches prior to placement (as determined by ASTM D6103) and capable of achieving a 28-day unconfined compressive strength between 50 and 150 psi.

D. Ready mixed concrete supplier should proportion CLSM ingredients based on field experience and/or laboratory trial mixtures to produce a cohesive and non-segregating mixture meeting the specified properties.

E. Material shall have gradation by weight as specified Table 02486-01:

TABLE 02486-01

GRADATION REQUIREMENTS FOR CLSM AGGREGATE

U.S. Sieve Size	Percentage by Weight Passing Sieve
No. 10 (2.0 mm)	100
No. 200 (0.075 mm)	0-20

PART 3 – EXECUTION

3.1. PRE-CONSTRUCTION SURVEY

A. A topographic survey of both Pearsalls and South Black Banks Hassock project areas shall be completed by a New York licensed surveyor. Topographic survey shall be completed to accuracy of at maximum 1 foot contours, with spot elevations every 50 feet in habitats to be restored.

3.2. PREPARATION

A. At the Pre-Restoration inspection, the Contractor and Engineer will review and evaluate site conditions at both restoration areas and address inspection topics. The Engineer reserves the right to adjust location, depth, and length of proposed runnels based upon pre construction survey. It is assumed contract drawing identify the maximum extent of proposed runnels. Site access to minimize impacts to marsh platform on South Black Banks hassock shall be evaluated. The Contractor will immediately address recommendations or modifications, and work will not proceed until completed and approved by the Engineer.

3.3. EROSION CONTROL

A. Contractor will establish erosion and sedimentation control devices consistent with contract drawings and Section 02276. Control devised shall be established prior to any clearing or earthwork activities.

3.4. DITCH REMEDIATION – SOUTH BLACK BANKS HASSOCK

A. The Contractor shall construct ditch barriers and subsequently place biodegradable fill within identified mosquito ditches as shown on contract drawings and specified.

B. Placement of fill in mosquito ditches shall be done in low tide conditions, or when water is not present within the ditch.

C. Biodegradable fill material shall be secured as shown on contract drawings and specified.

D. All work shall be done under supervision of wetland ecologist familiar with restoration design.

3.5. RUNNEL CONSTRUCTION – SOUTH BLACK BANKS HASSOCK

A. The contractor shall construct proposed runnels as shown on contract drawings and specified. The contractor is responsible for identification and proposing proper equipment necessary to excavate runnels.

B. The location and length of runnels shall be modified from contract drawings as necessary based upon pre-construction survey. A runnel shall not exceed a depth of 12 inches. Runnels shall only be constructed from pools where proper tidal flushing to a downgradient water is practicable. All work shall be done under supervision of wetland ecologist.

C. Excavated vegetative material shall be salvaged and replanted in adjacent pools at direction of wetland ecologist.

D. Excavated soil material shall be distributed evenly in low lying pool locations to provide elevation enhancement for natural recovery of pool or fill material for ditch remediation efforts. Distribution of fill material shall be done under direction of wetland ecologist.

E. All work shall be done in tidal conditions that will not cause turbidity in downgradient waters. It is assumed runnel excavation will occur in low tide conditions.

3.6. CLSM PLACEMENT– PEARSALLS HASSOCK

A. Batch and deliver CLSM in accordance with AASHTO M 157.

B. CLSM may be transported in open haul units provided the material is placed within 30 minutes of the end of mixing. Use a rotating drum unit capable of 2 to 6 rotations per minute to transport CLSM that cannot be placed within 30 minutes after the end of mixing.

C. Place CLSM at a uniform rate using methods identified by the Contractor and approved by the Engineer.

D. Do not place CLSM on frozen ground. Do not place CLSM at an ambient temperature below 35°F.

E. Adequately protect CLSM from freezing temperatures following placement.

F. Mix and deliver CLSM to readily fill subsurface voids and spaces.

3.7. RESTORATION GRADING – PEARSALLS HASSOCK

A. The contractor shall place and fill all gabion baskets parallel to the existing bulkhead prior to any shoreline grading on Pearsalls Hassock consistent with contract drawings and specifications.

B. Gabion baskets shall be placed as close to existing bulkhead as possible and under direction of wetland ecologist familiar with restoration design.

C. Grading shall be performed consistent with contract drawings and specifications.

D. Compaction of spoil material (and imported sand if necessary) in the upland area will be placed in maximum 12-inch loose lifts and compacted by tracking the material in place to the satisfaction of the Engineer. The compaction effort will extend over the entire surface of the placed backfill and will result in a uniformly placed backfill surface.

E. Based upon preconstruction topographic survey, Contractor will determine if clean sand consistent with specifications for Habitat Fill is required to achieve required elevations.

F. If additional excavation is required as part of demolition and hazardous materials remediation, then Contractor will determine if clean sand consistent with specifications for Habitat Fill is required to achieve required elevations.

G. Rolled erosion control matting consistent with Section 02276 shall not be installed till following application of soil amendments (fertilizer) and seed.

3.8. SEEDING

A. Prior to seed application, the soil surface shall be tilled to a depth of at least 2 inches by disking, harrowing, or other acceptable means if surface is uneven, glazed, or crusted. No seeding shall be done during windy weather. Seeding shall be done in two directions at right angles to each other. Sow seed evenly by hand or with an approved mechanical seeding device in the proportions and at the rate per unit area specified. The sown seed shall be covered with a straw mulch, if recommended, as specified herein.

B. Straw mulch, to be used in seeded areas on Pearsalls Hassock not covered by rolled erosion control blanket, shall be spread to form a continuous blanket over the seed bed at an application rate of approximately 2 tons/acre. Excessive amounts or bunching of mulch will not be permitted.

1. Mulch shall be anchored as necessary by an acceptable method (e.g,. pinning, crimping, tackifier).

2. Unless otherwise specified, mulch shall be left in place and allowed to disintegrate.

3. Alternative biodegradable erosion control blanket for short term seeding applications can be proposed by Contractor.

C. Native seeding, including an acceptable cover crop, should be completed between March 15 to June 1 or October 1 to November 15.

3.9. PLANT INSTALLATION

A. All planting areas shall be staked out by a New York licensed surveyor consistent with contract drawings.

B. Notify the Engineer immediately if conditions are encountered that are detrimental to installation or plant growth.

C. Construction and planting at low tide and “in-the-dry” to the greatest extent possible.

D. Do not plant when the temperature may drop below 35 Fahrenheit or rise above 90 Fahrenheit.

E. Do not plant when wind velocity exceeds 30 mph.

F. Install plants, including placement of granular fertilizer at time of planting in accordance with contract drawings.

G. Move plant materials only by supporting the root ball or container. Remove non-biodegradable containers prior to planting. Set plants on hand compacted layer of prepared backfill soil mixture 6 inches thick and hold plumb in the center of the pit until soil has been tamped firmly around root ball. Set plant materials to elevation equal to surrounding finish grade. Replace plant material whose root balls are cracked or damaged either before or during the planting process.

H. Remove wastes or excess materials from the Work Area and manage in accordance with Section 02050 – DEMOLITION, REMOVALS AND MODIFICATIONS.

3.10. HERBIVORY CONTROL

A. Install herbivory control materials immediately following installation of plant materials.

B. Replace plant materials damaged following planting due to absence of herbivory controls immediately at Contractor’s expense.

C. At the end of the warranty period, leave herbivory controls in-place.

3.11. MAINTENANCE

A. Maintain all plant stock and herbivory controls through the warranty period.

B. Maintain location and stability of all coir logs for the warranty period. Movement or loss of coir logs will be repaired immediately, and surrounding grades restored, as necessary.

C. Provide control of invasive species within the planting areas during the warranty period.

3.12. POST CONSTRUCTION SURVEY

A. Following conclusion of all grading and planting, the Contractor will complete a post-construction topographic survey of all areas to support preparation of as-built plans.

3.13. WARRANTY PERIOD COMPLETION

A. Following the conclusion of the warranty period, the Contractor will conduct a site survey of the planting areas, replace any plants as needed to meet the plant survival and replacement requirements, and submit a Vegetated Wetlands Planting Completion Report documenting achievement of the requirements.

B. Following submittal of the report, the Engineer will conduct a final inspection with the Contractor to verify that the plant survival and replacement requirements have been met. After the Engineer confirms that the plant survival and replacement requirements have been met, the Engineer will issue a release of the warranty to the Contractor for the applicable planting area.

+ + END OF SECTION + +